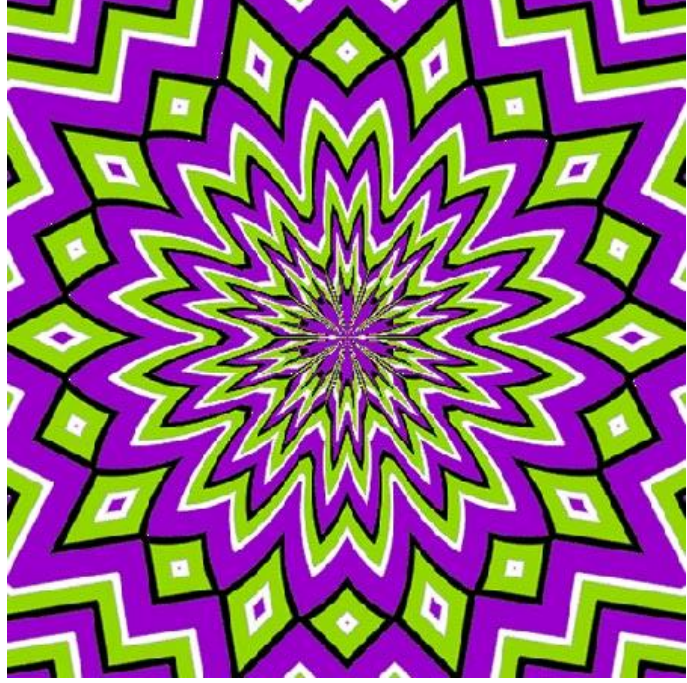


# **OPTICAL ILLUSIONS**

*The Art of Seeing*

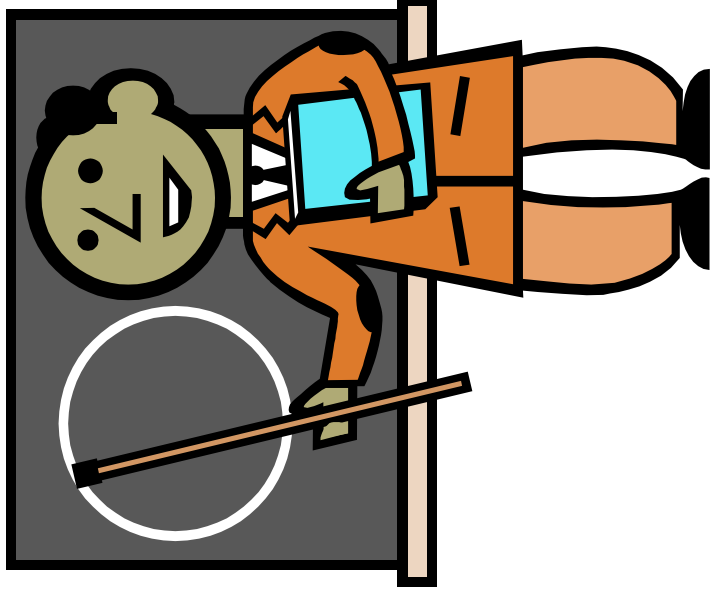
*Instructor: Patricia Sullivan*

# Daily Objective



- Students will explore the art of perception and experience its subjectivity by viewing optical illusions and sharing the effect that they have on them.

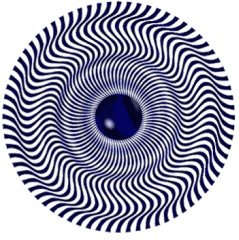
# Instructions



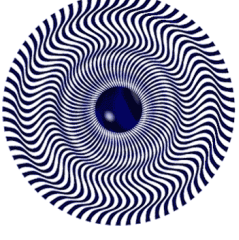
- Read the information included in this PPT presentation.
- Print out the Optical Illusions Worksheet & respond to the drill in your drill notebooks.
- View each of the optical illusions & write your responses on the worksheet. The Homework should be answered on the back, and it will be turned in tomorrow.

# ***What Are Optical Illusions?***

- **Warm-up:** We've all seen them, although you may not have even realized what they are. When you hear the phrase "Optical Illusion," what do you think of?



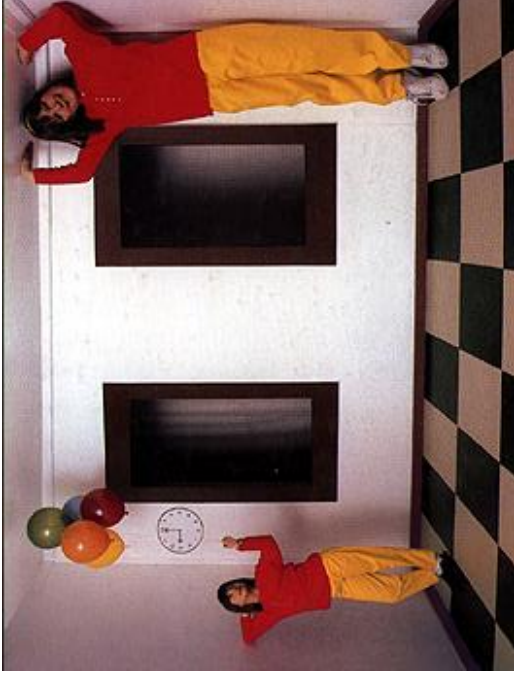
## Definition



- Involves an apparently inexplicable discrepancy between the appearance of a visual stimulus and its physical reality
- Visually perceived images that are deceptive or misleading

# *The Ames Room*

- Observe this room.  
Take special note of the size, shape, color and details of the room.
- Can one girl really be that much bigger than the other?

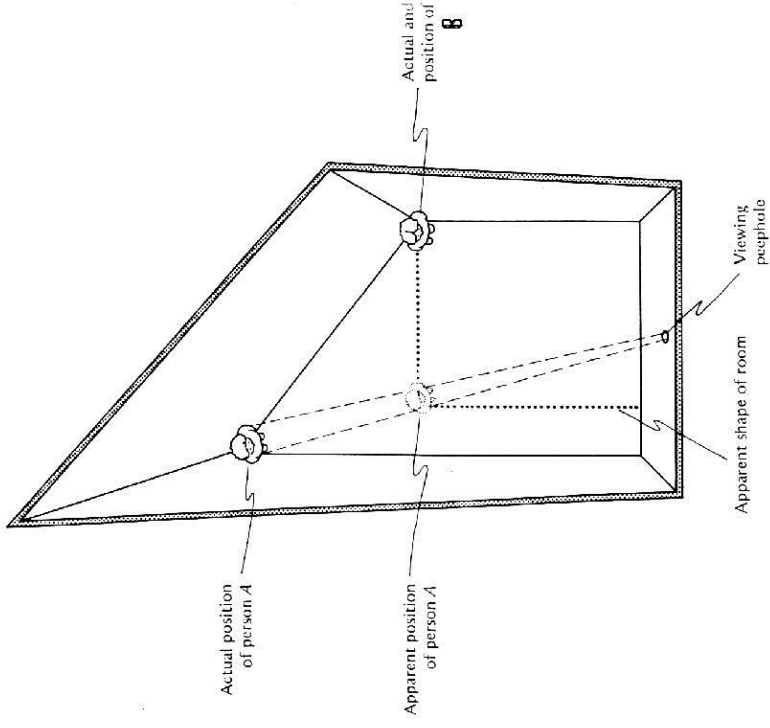


# The Ames Room

Viewer assumes room is rectangular and the image cast onto the retina is consistent with this hypothesis

- Naïve viewers conclude that one girl is larger, when in fact she is just closer

- Further Reading: [http://psylux.psych.tu-dresden.de/i1/kaw/diverses%20Material/www.illusionworks.com/html/ames\\_room.html](http://psylux.psych.tu-dresden.de/i1/kaw/diverses%20Material/www.illusionworks.com/html/ames_room.html)



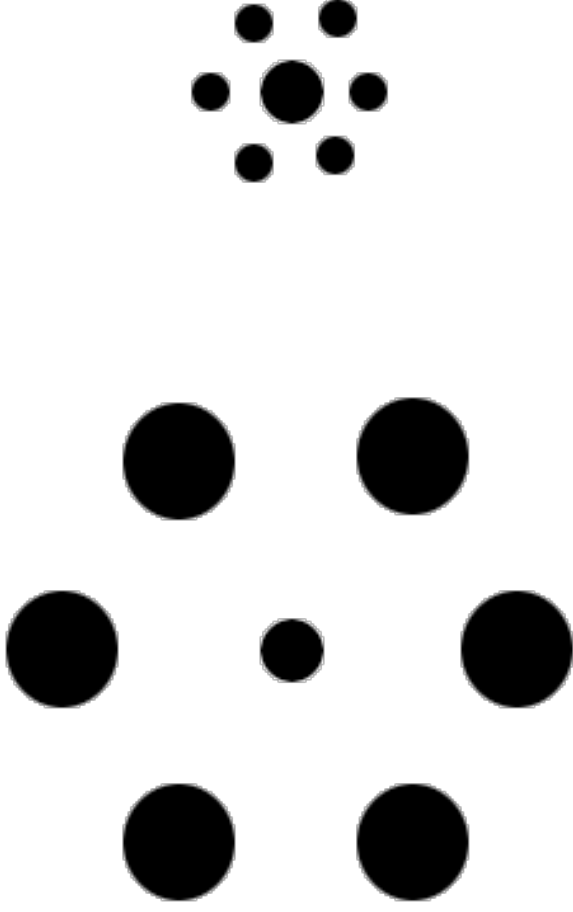
# Optical Illusions

- The perceptual hypotheses that we create become especially striking when they are wrong
- Proximity, Depth Cues, Similarity, and Figure Ground perception affect the hypotheses that we make
- Human perceptions are HIGHLY SUBJECTIVE

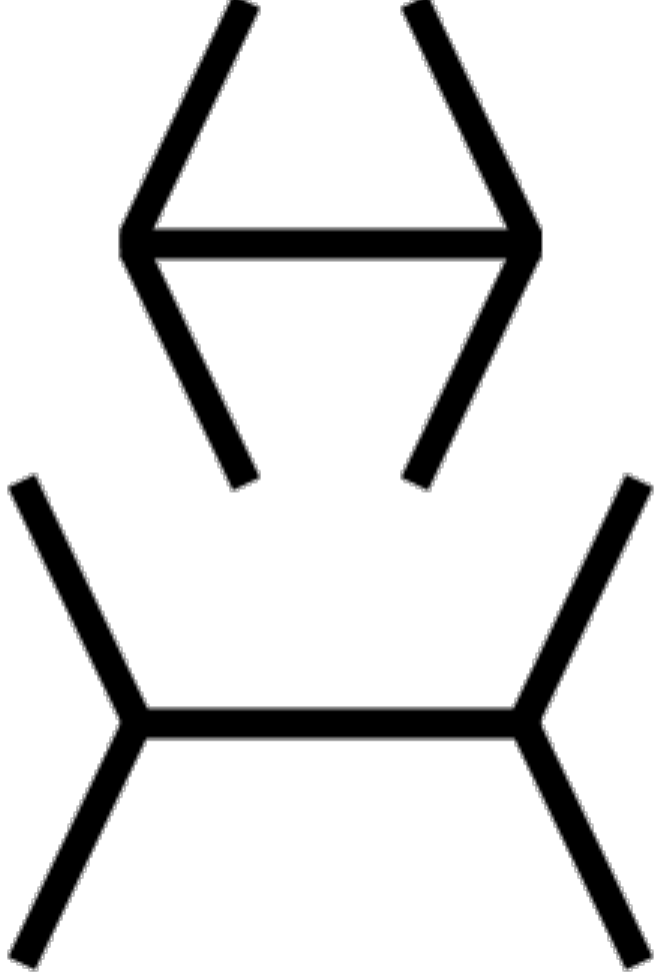
## Let's Try a Few

- On the chart provided for you (see `optical_illusion_chart.rtf`) describe your perceptions for the following illusions. Be sure to submit this form along with your responses to the homework tomorrow at the beginning of class.

**Illusion #1**  
**Which center circle is bigger?**

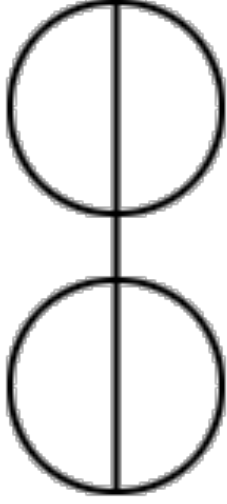


**Illusion #2**  
**Which line is longer?**



# Illusion #3

Which line is longer?



## Illusion #4

Water goblet or two faces?



## Illusion #5

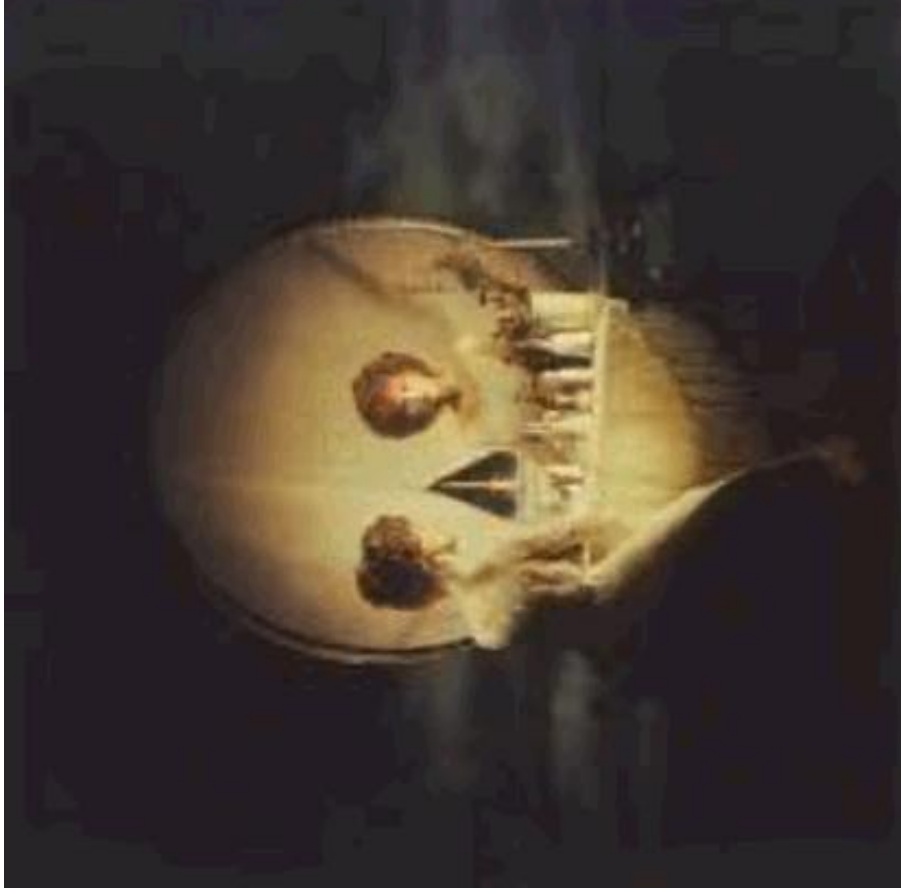
Old woman or young woman?



Another version!



**Illusion #6**  
**Skull or woman in a mirror?**



**Illusion #7**  
**Eskimo or Native American head?**



**Illusion #8**  
**Face or musician?**



**Illusion #9**  
**A face? A word?**



## Illusion #10

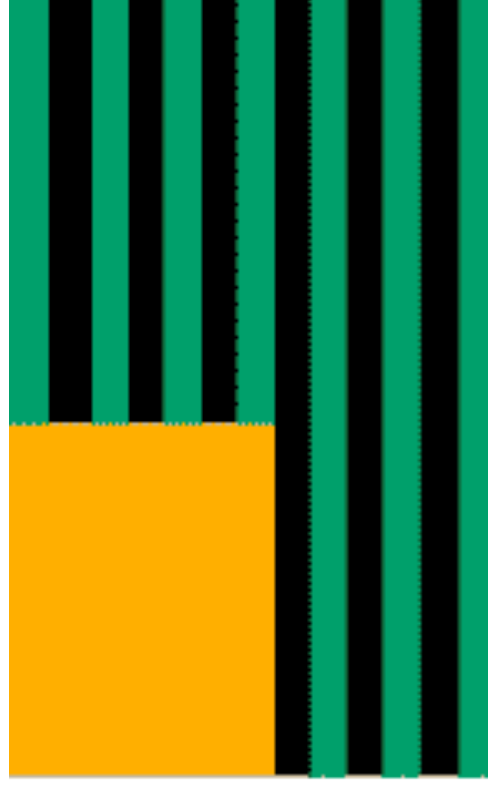
(4) Which word do you see first?





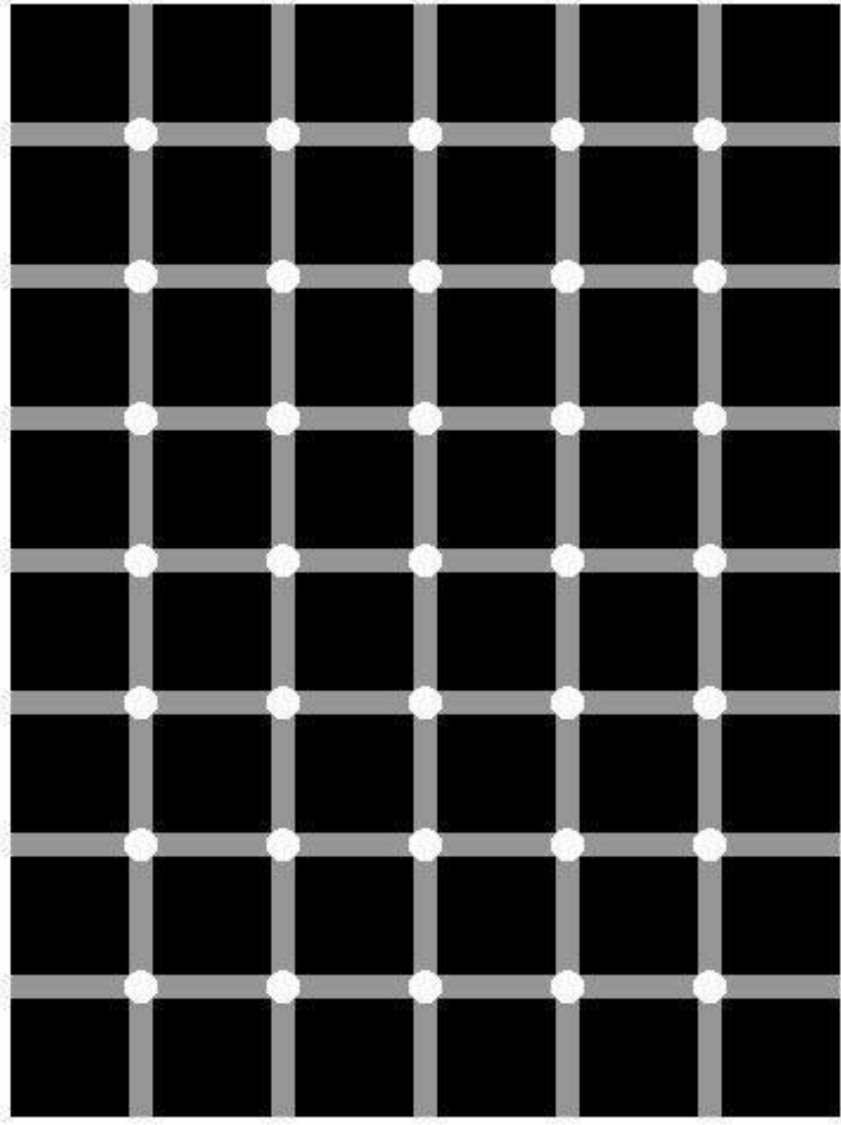
## Illusion #12

Stare at the center for 15 sec and  
then look up – what do you see?



## Illusion #13

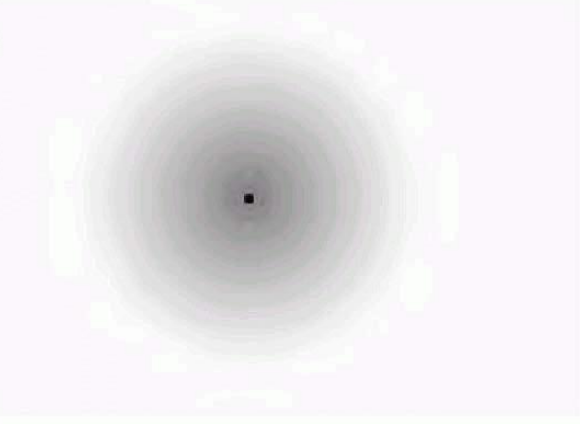
How many black dots are there?



# Illusion #14

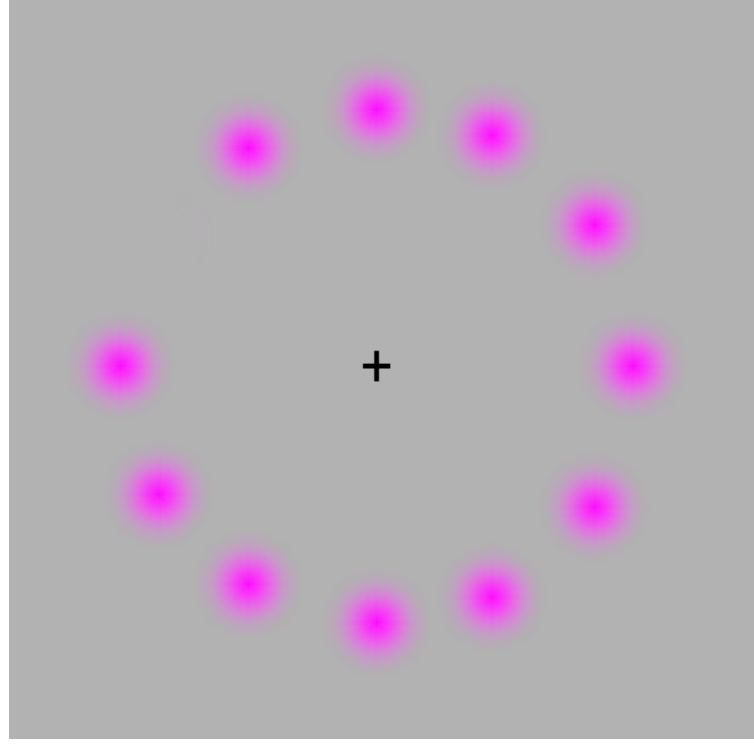
## Follow directions below

Keep staring at the black dot. After a while the gray haze around it will appear to shrink.



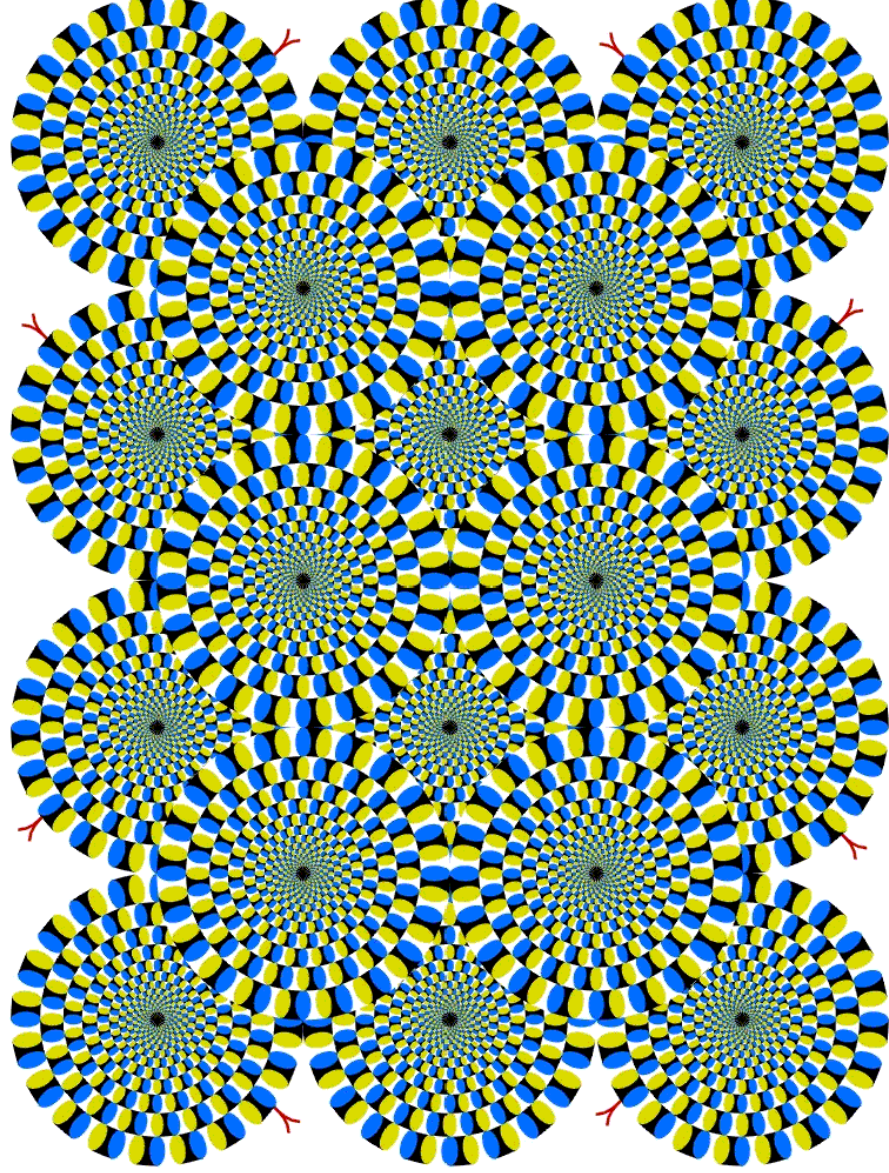
## Illusion #15

Stare at the center – what color do  
the dots become?

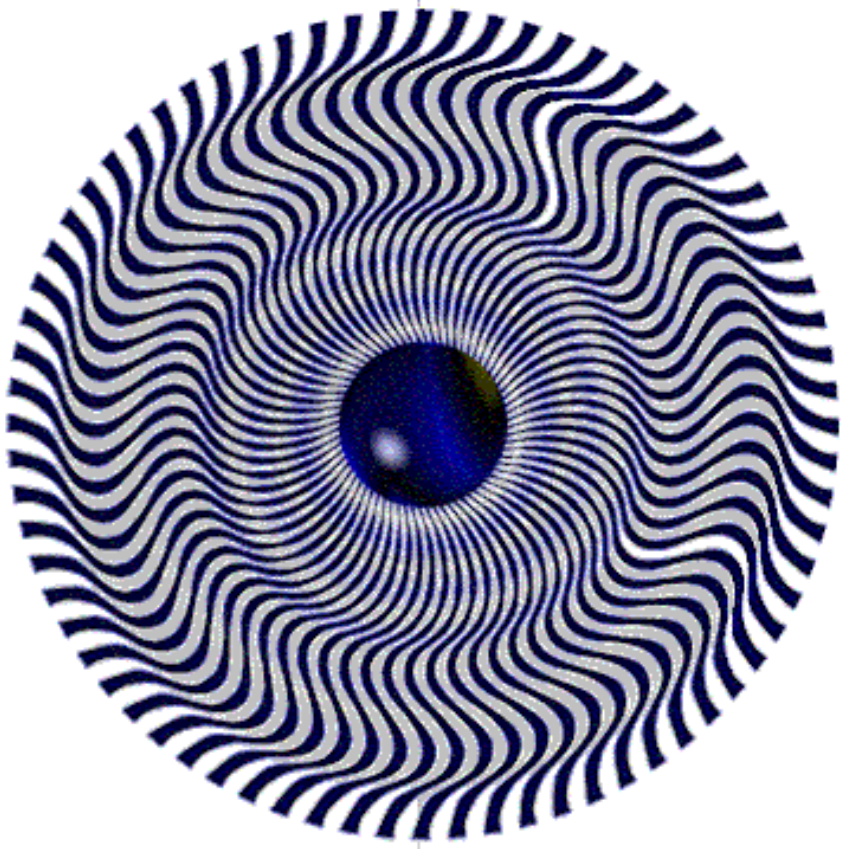


# Illusion #16

## Mind Warp



Illusion #17  
How does it move?

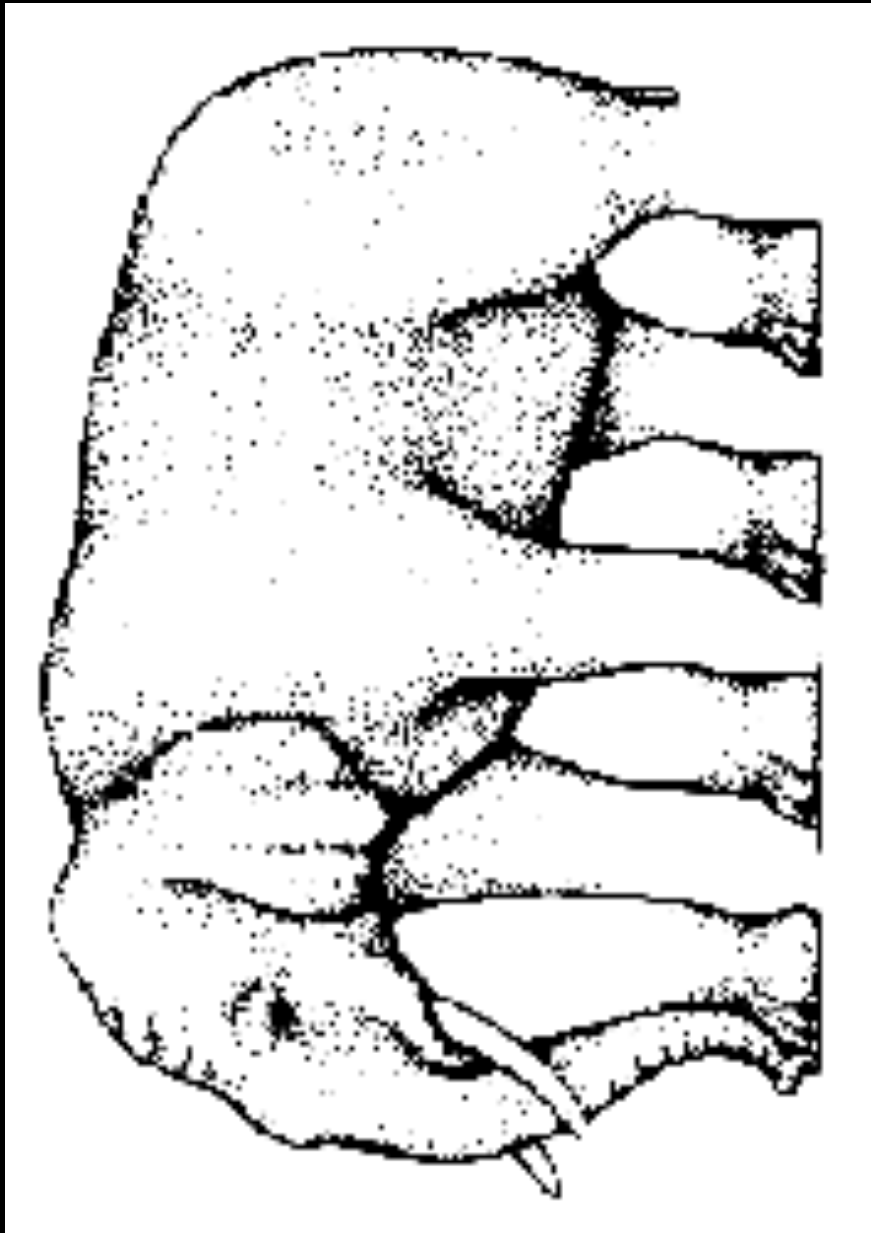


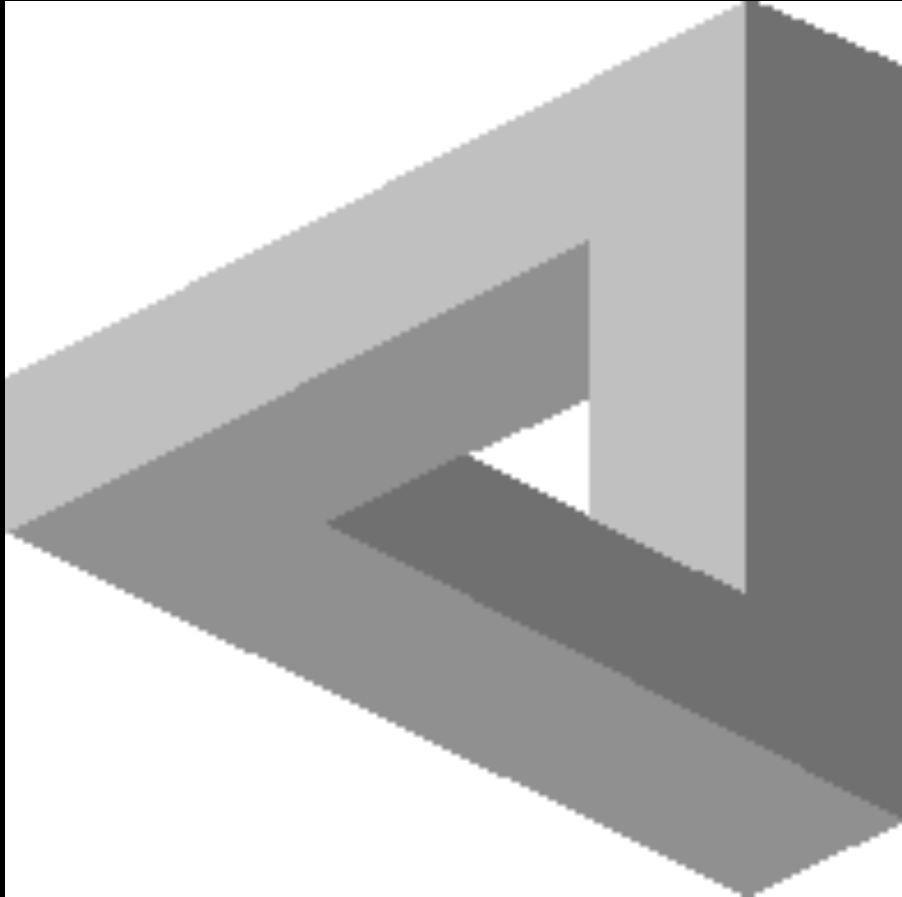
# **Illusion #18**

## **Impossible Figures (3)**

- objects that can be represented in two-dimensional pictures but cannot exist in three-dimensional space







# Playing with Words

Perception of letters, words and  
phrases

## Illusion #19

Read the following out-loud – now read it again slowly and see if you fell for the trick



## Illusion #20

How many F's does the following passage contain?

Finished files are the result  
of years of scientific study  
combined with the experience  
of years...

## Illusion #21

### What do you think?

- Aoccdrnig to a rscheearch at an Elingsh uinervtisy, it deosn't mttaer in waht oredr the ltteers in a wrod are, the olny iprmoetnt tihng is taht frist and lsat ltteer is at the rghit pclae. The rset can be a toatl mses and you can sitll raed it wouthit porbelm. Tihis is bcuseae we do not raed ervey lteter by it slef but the wrod as a wlohe.

# Illusion #22

## The Stroop Effect

Time yourself saying the word – then time yourself saying the color of the ink. What is the difference?

**BLUE**   **GREEN**   **YELLOW**

**PINK**   **RED**   **ORANGE**

**GREY**   **BLACK**   **PURPLE**

**TAN**   **WHITE**   **BROWN**

# The Stroop Effect

- The words themselves have a strong effect over your ability to say the color
- There is an interference in the information your brain receives - and this causes a problem
- **Speed of Processing Theory**
  - Words read faster that colors are named
- **Selective Attention Theory**
  - Naming colors requires more attention than reading the word
- For Further Reading:

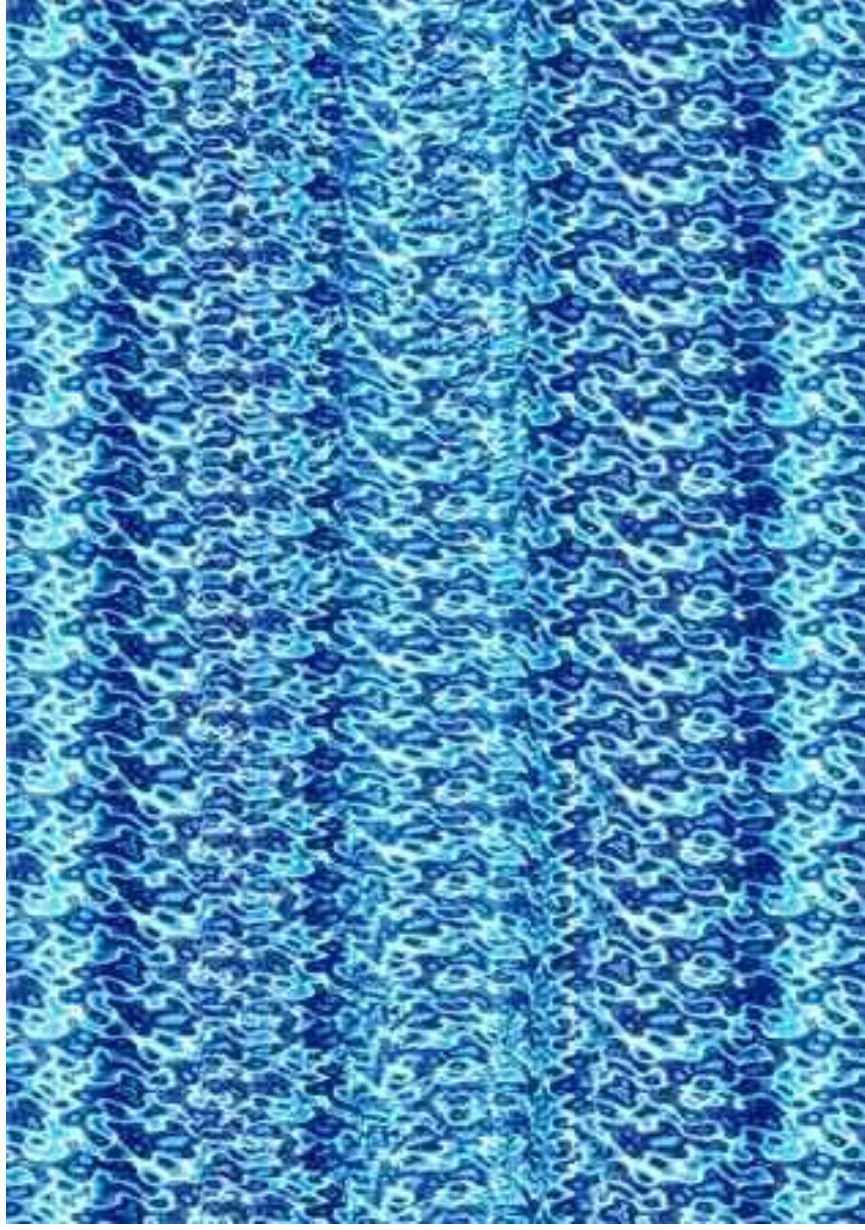
<http://www.snre.umich.edu/eplab/demos/st0/stroopdesc.html>

# Stereograms

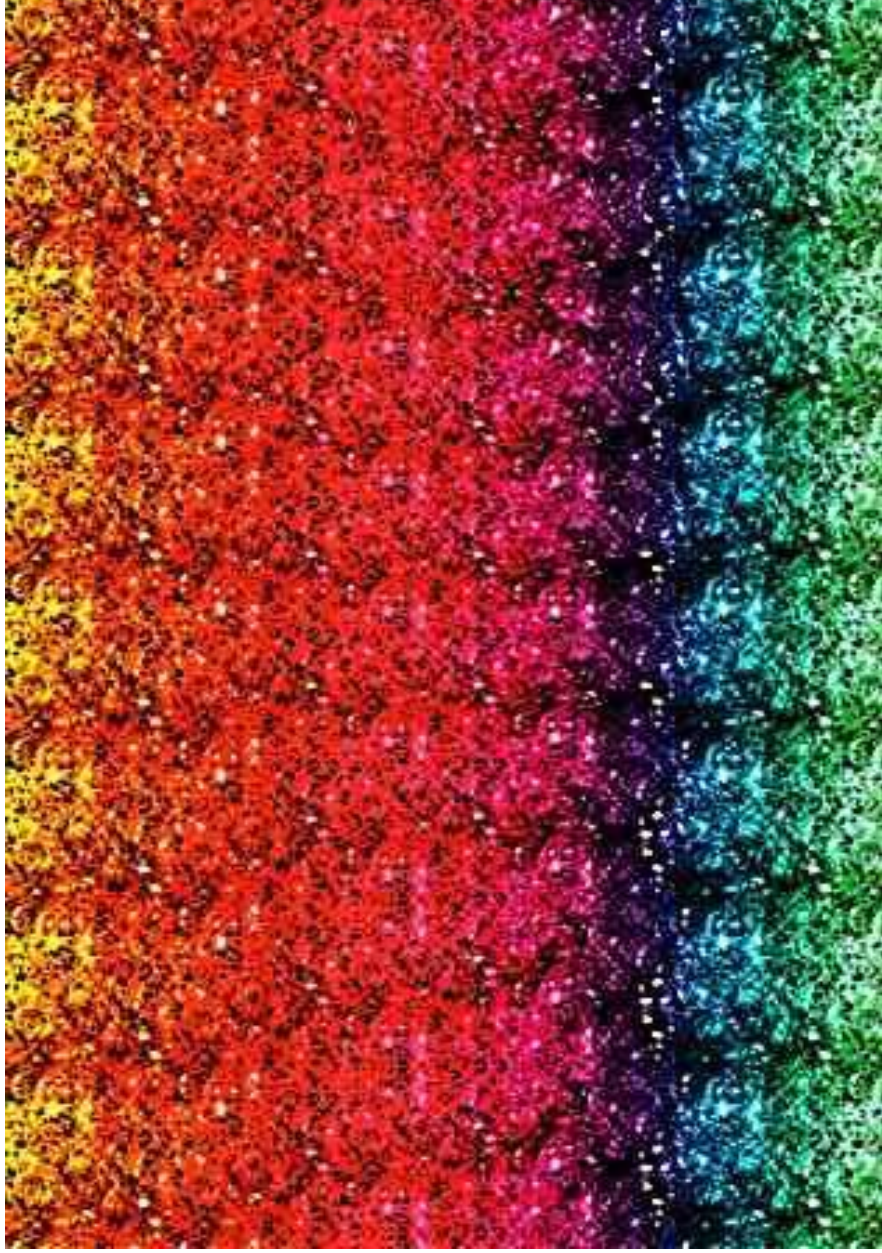
Bring your eyes close to the screen.  
As you slowly move your head away  
from the screen, take your eyes out of  
focus and a picture will pop out.

## Illusion #23

Try your best – what do you see?



**Illusion #24**  
**And another?**



## Illusion #25

Do you see something floating?



# Homework

- Describe how a person's perceptions affect that person's point of view. What are some examples of this bias? What role does subjectivity have in your perceptions?