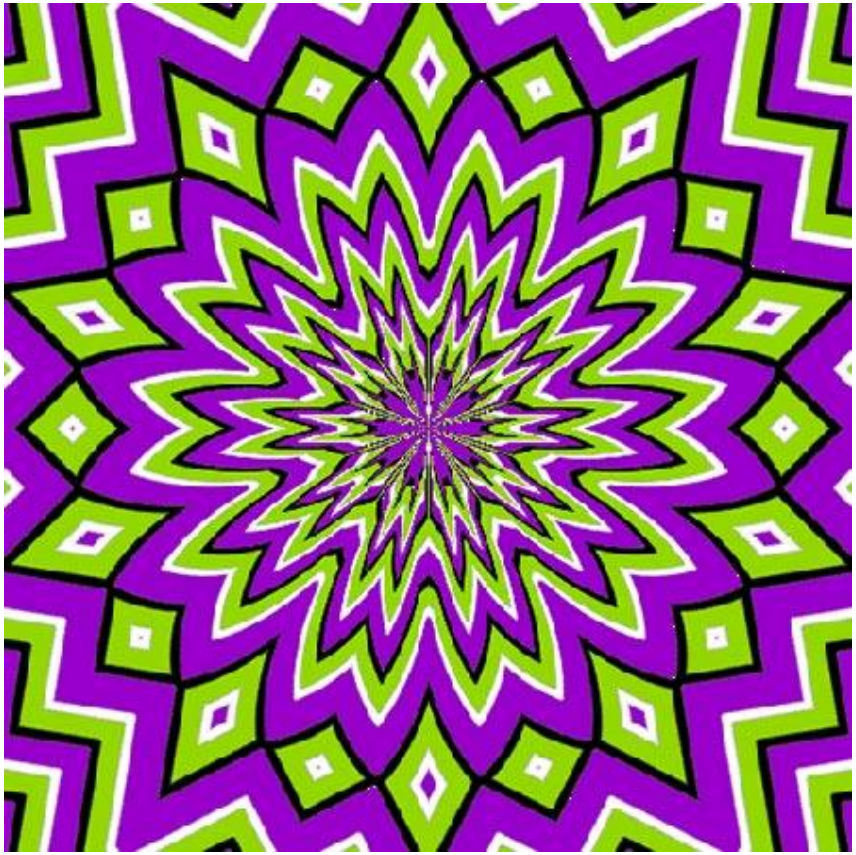
OPTICAL ILLUSIONS

The Art of Seeing

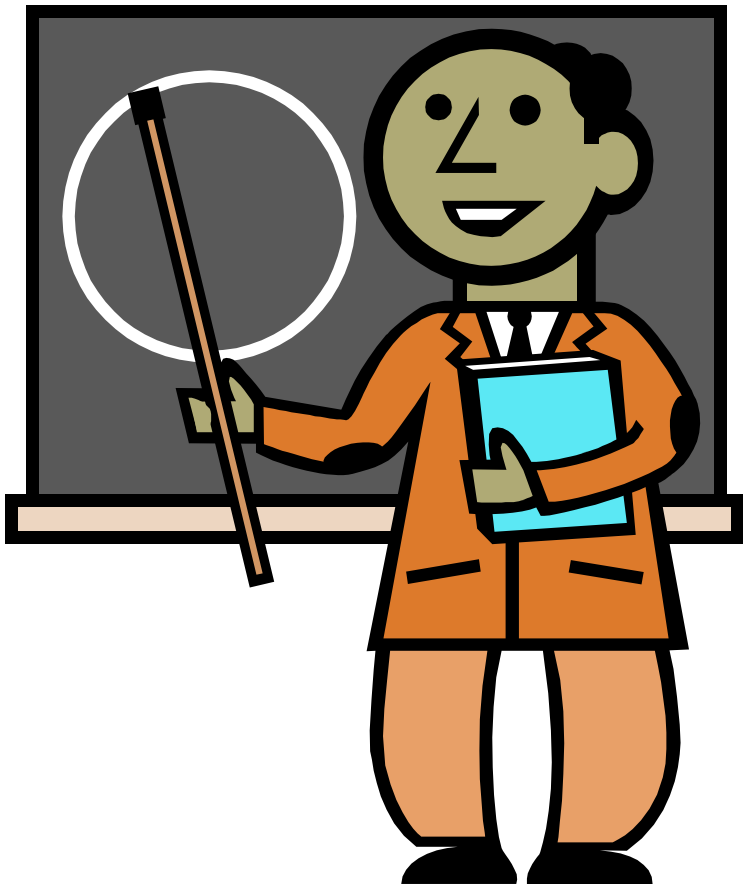
Instructor: Patricia Sullivan

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.

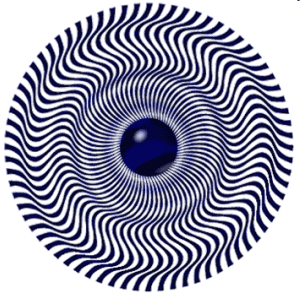
Instructions



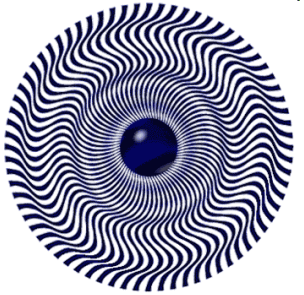
- **Read the information included in this PPT presentation.**
- **Print out the Optical Illusions Worksheet & respond to the drill in your drill notebooks.**
- **View each of the optical illusions & write your responses on the worksheet. The Homework should be answered on the back, and it will be turned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

What Are Optical Illusions?

- **<u>Warm-up</u>:** 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



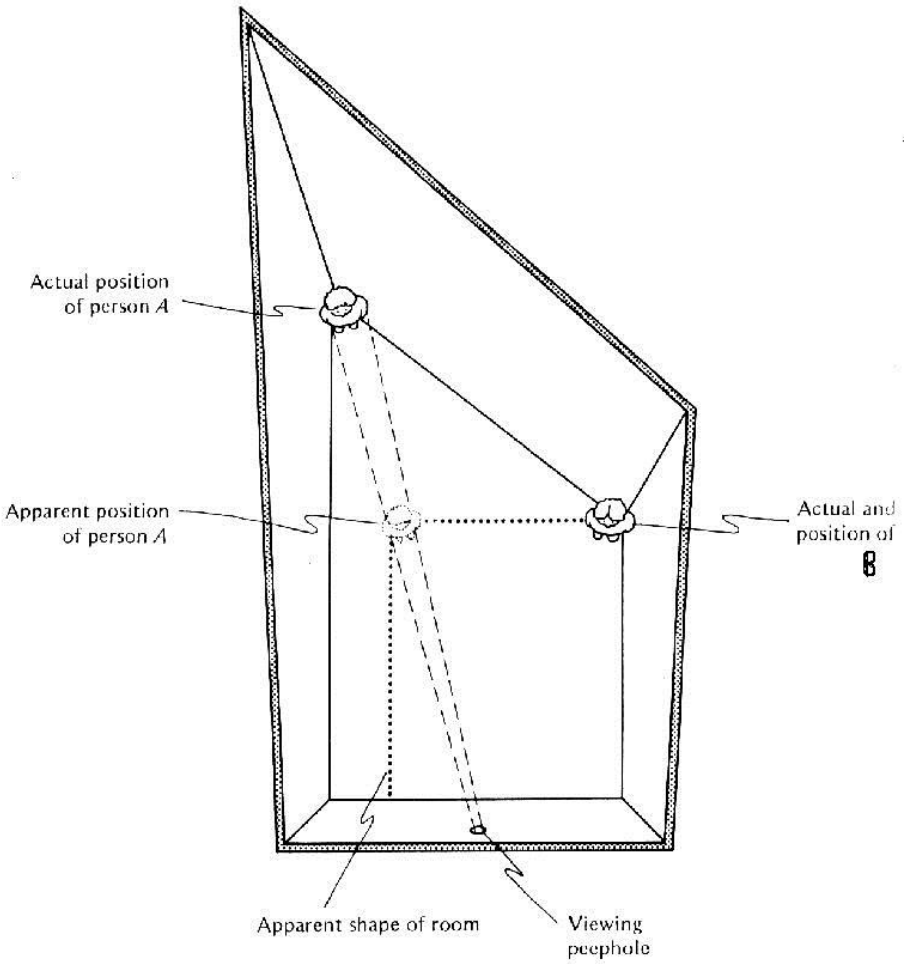
- Involves an apparently inexplicable discrepancy between the appearance of a visual stimulus and its physical reality

- 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

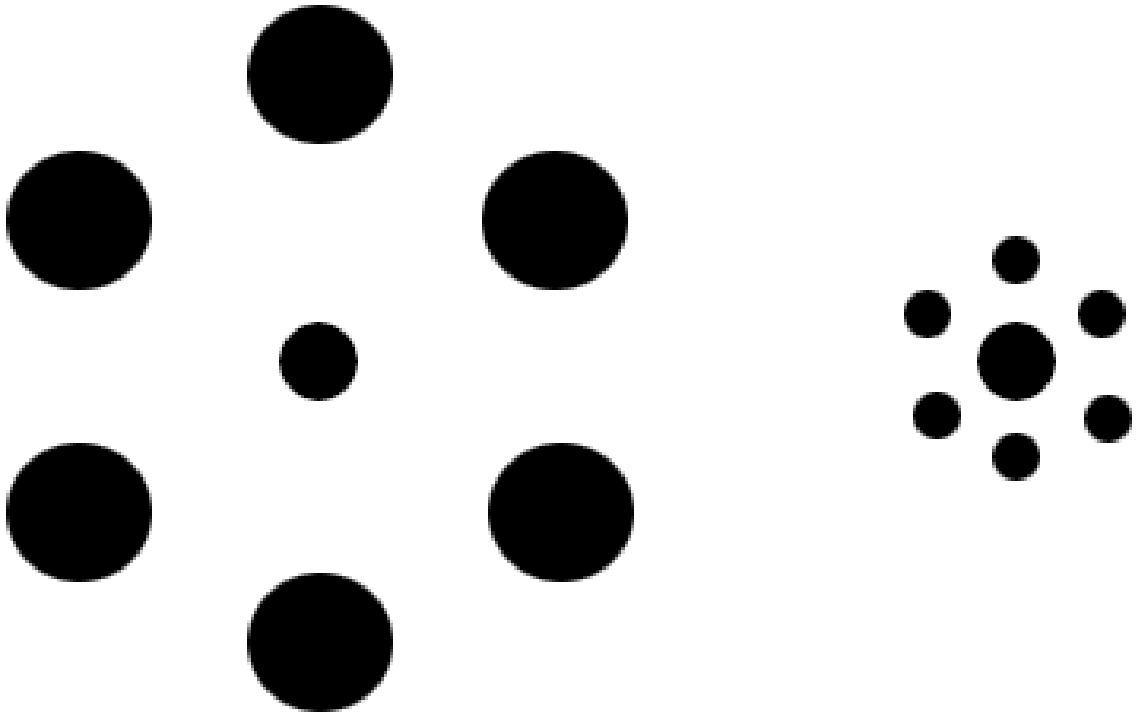
Optical Illusions

- 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

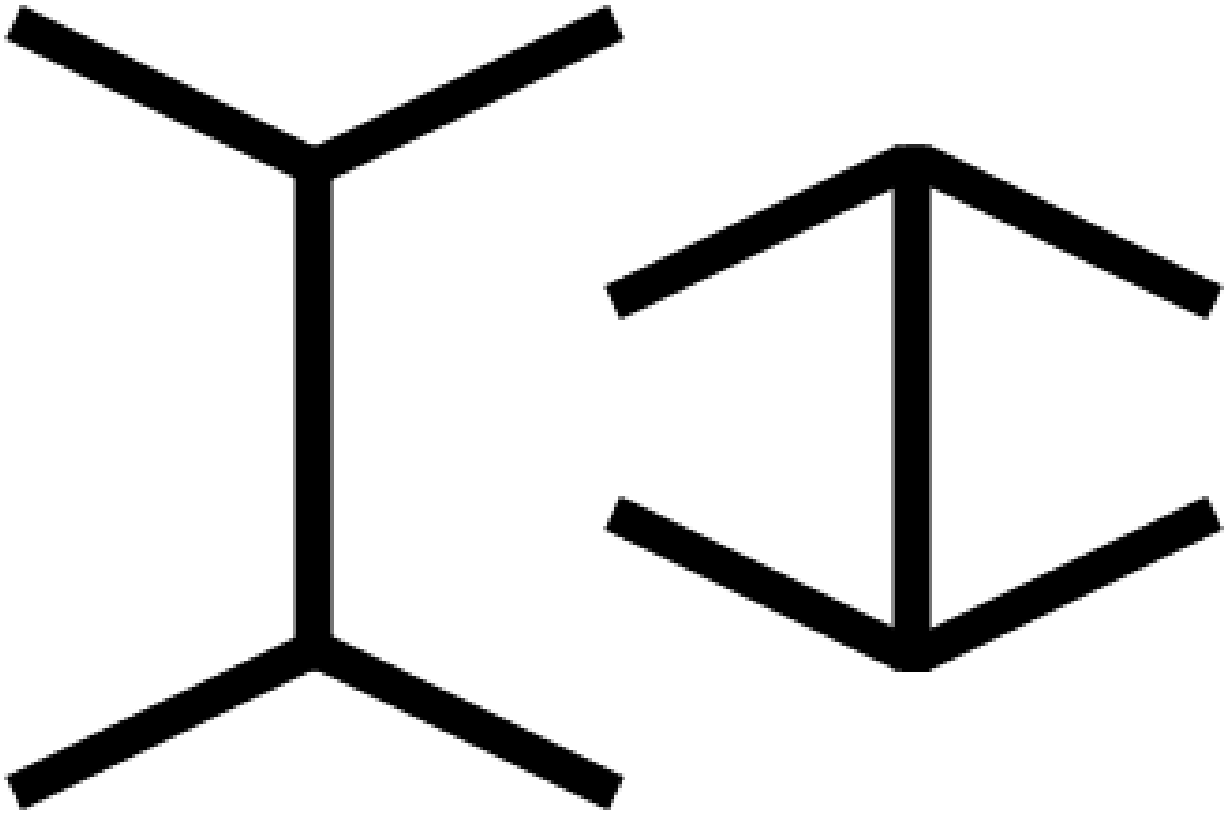
Let's Try a Few

- 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.

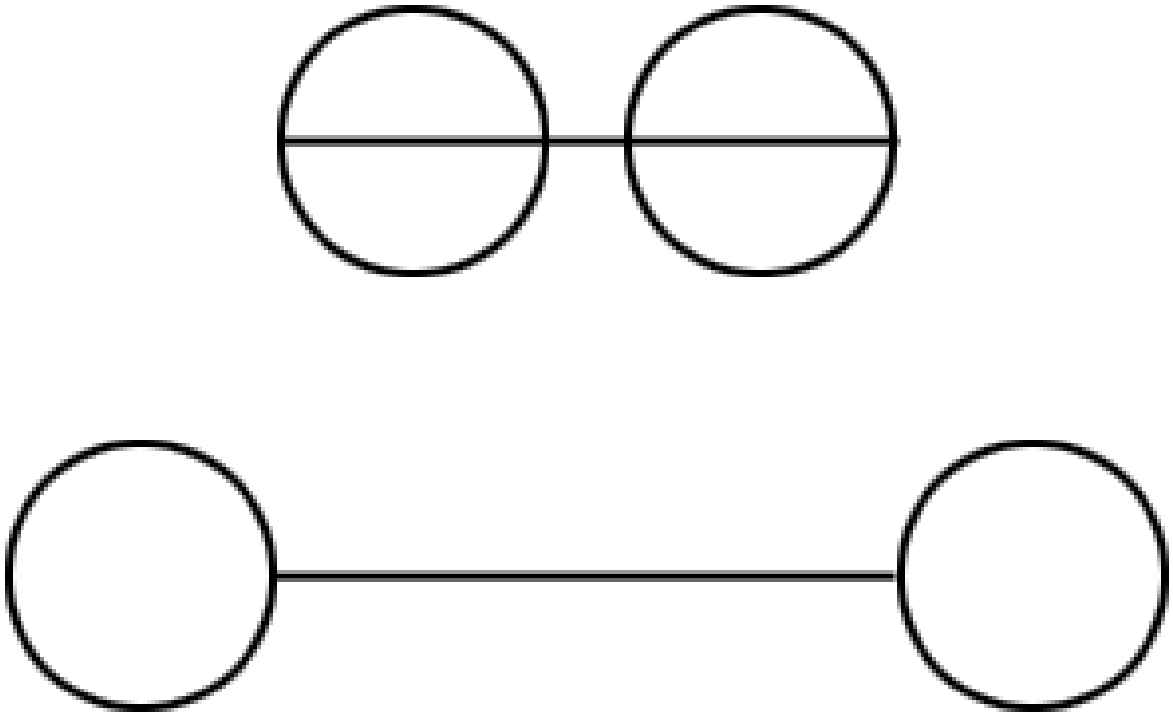
Illusion #1
Which center circle is bigger?



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?

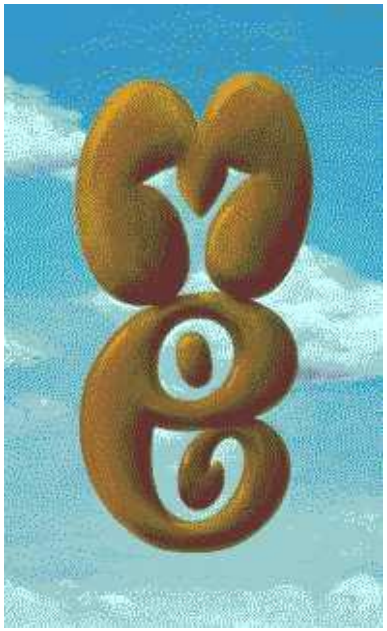
Illusion #7
Eskimo or Native American head?

Illusion #8
Face or musician?

Illusion #9
A face? A word?

Illusion #10

(4) Which word do you see first?

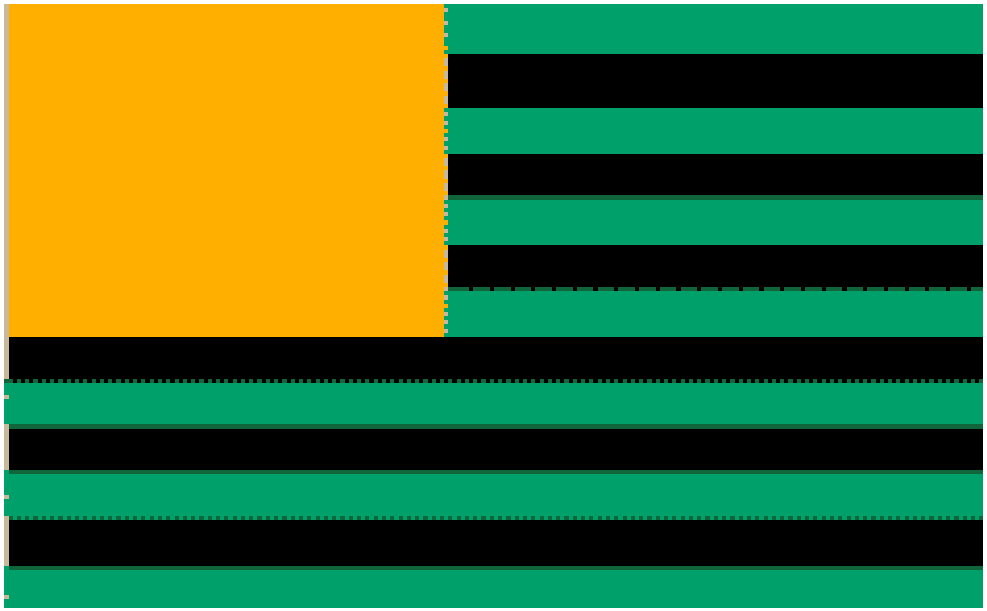


Illusion #11

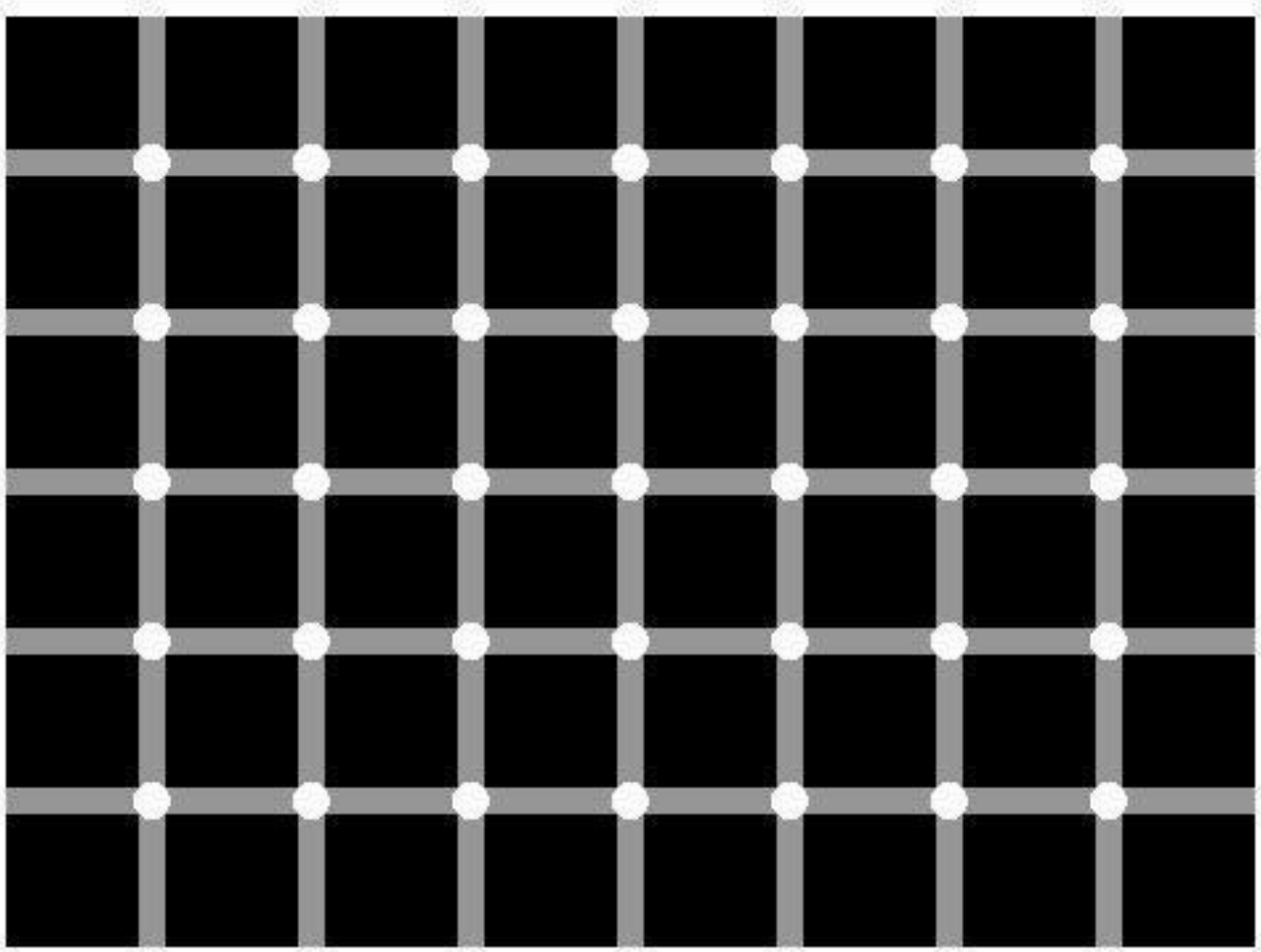
Stare at the center for 15 sec and then look up – what do you see?

Illusion #12

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

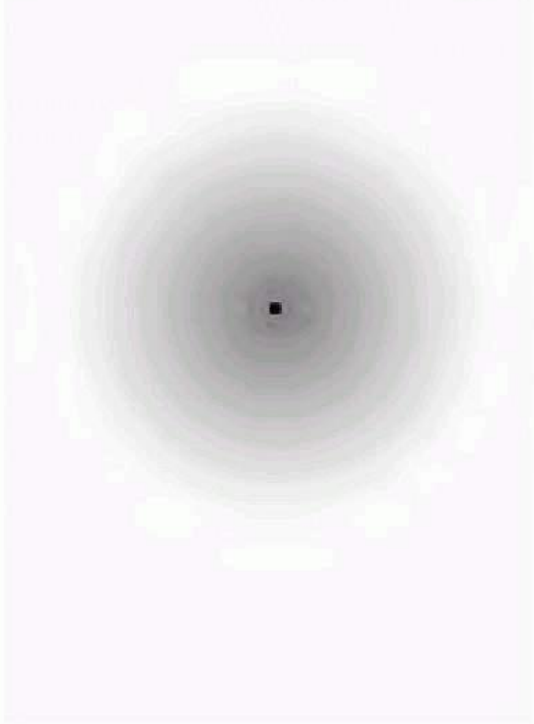


Illusion #13
How many black dots are there?



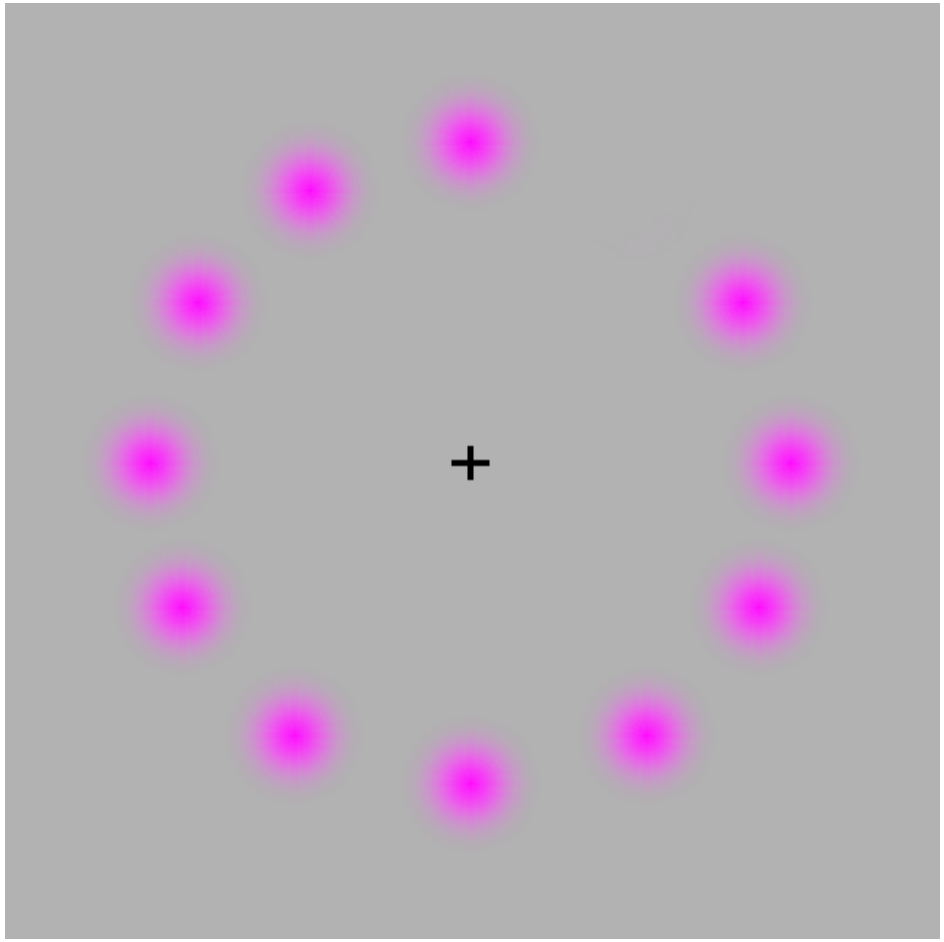
Illusion #14
Follow directions below

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

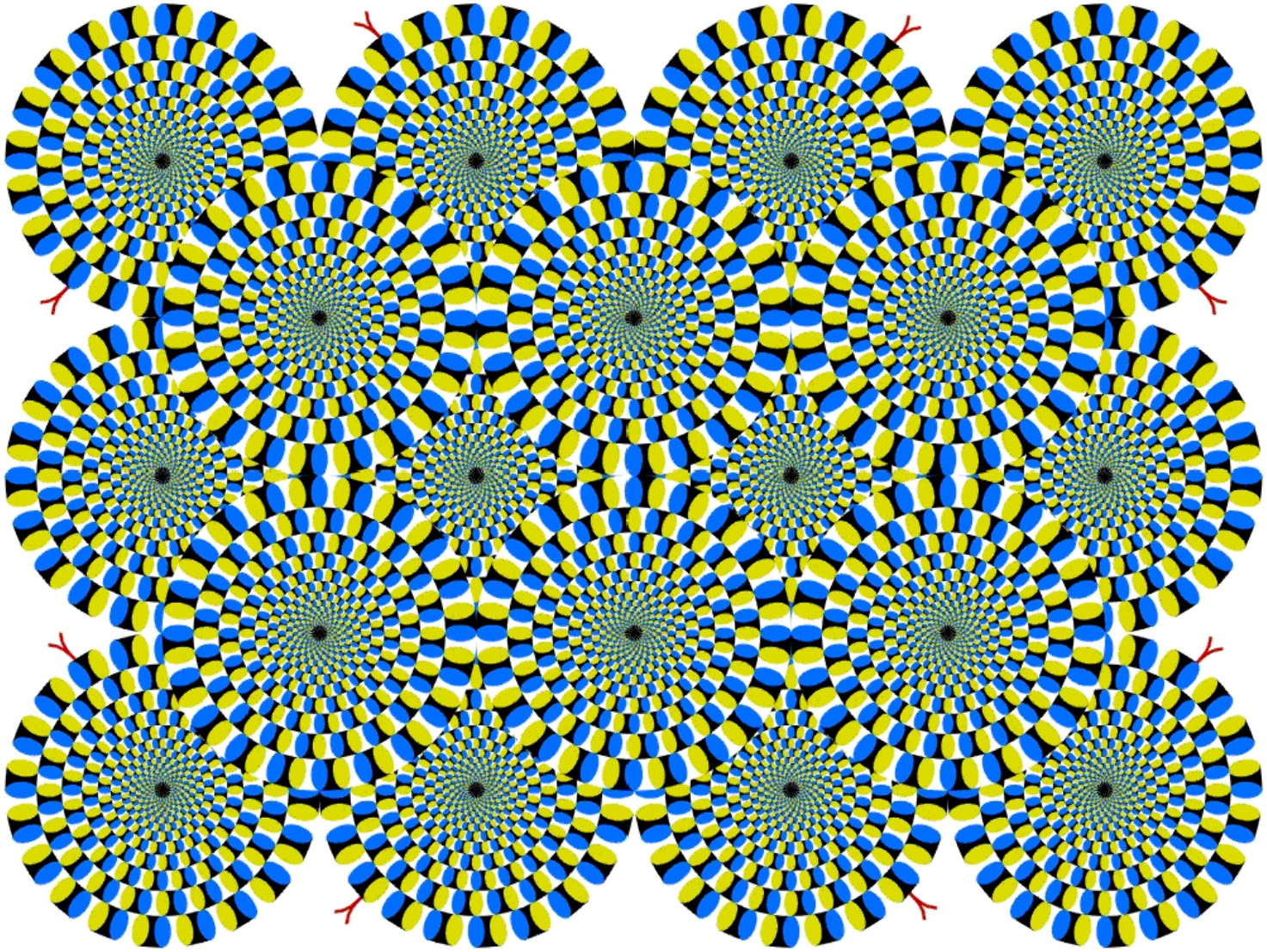


Illusion #15

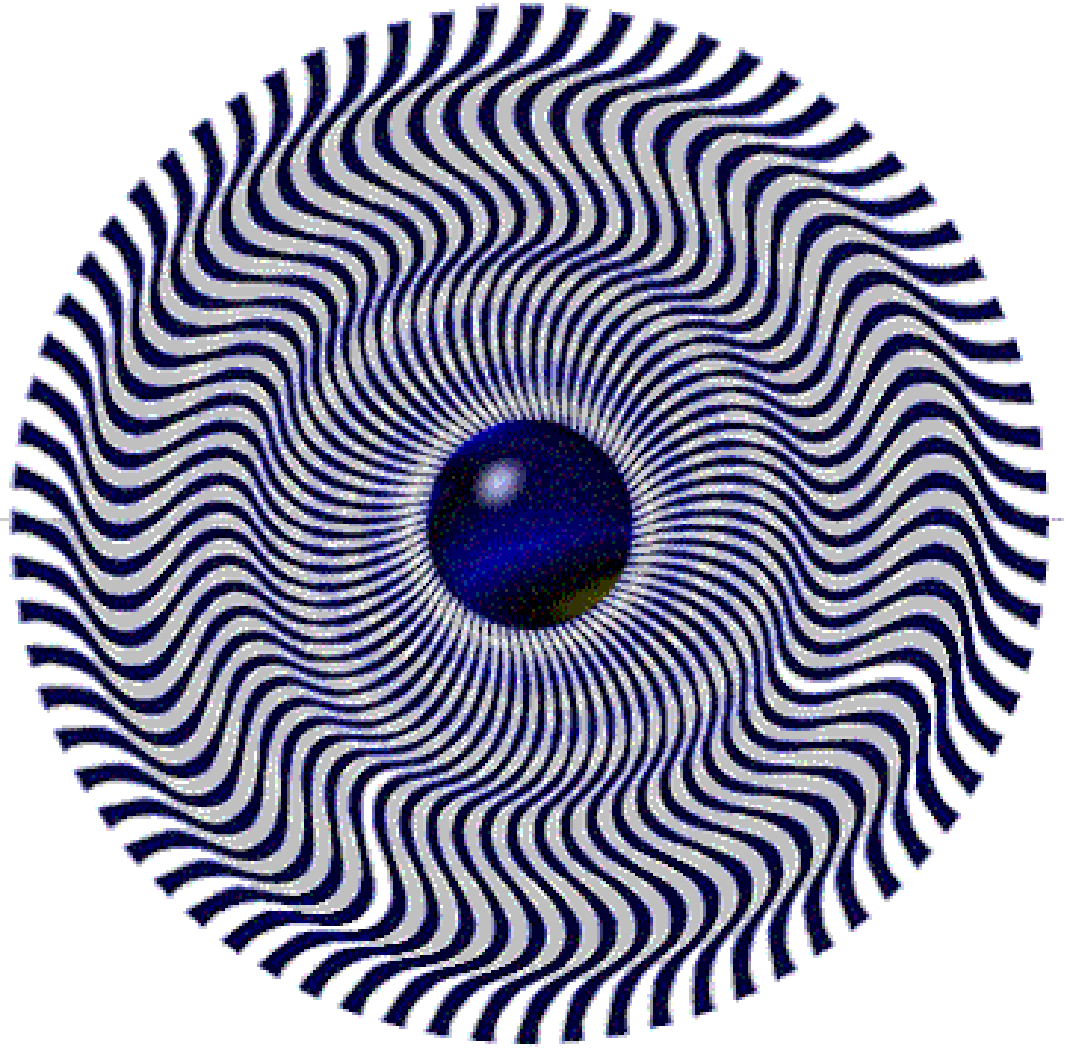
Stare at the center – what color do the dots become?



Illusion #16
Mind Warp

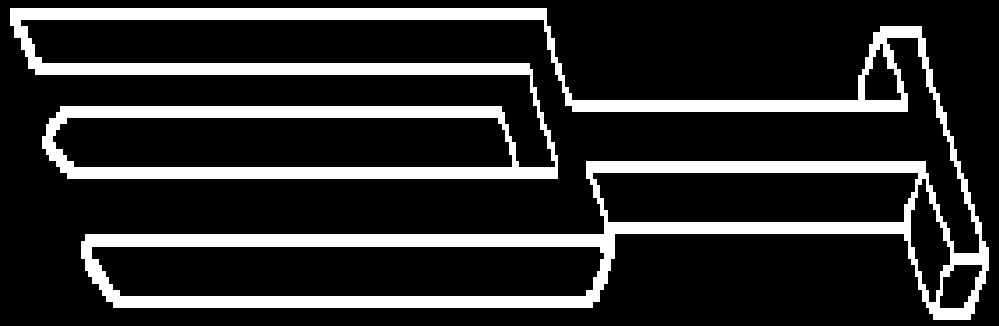


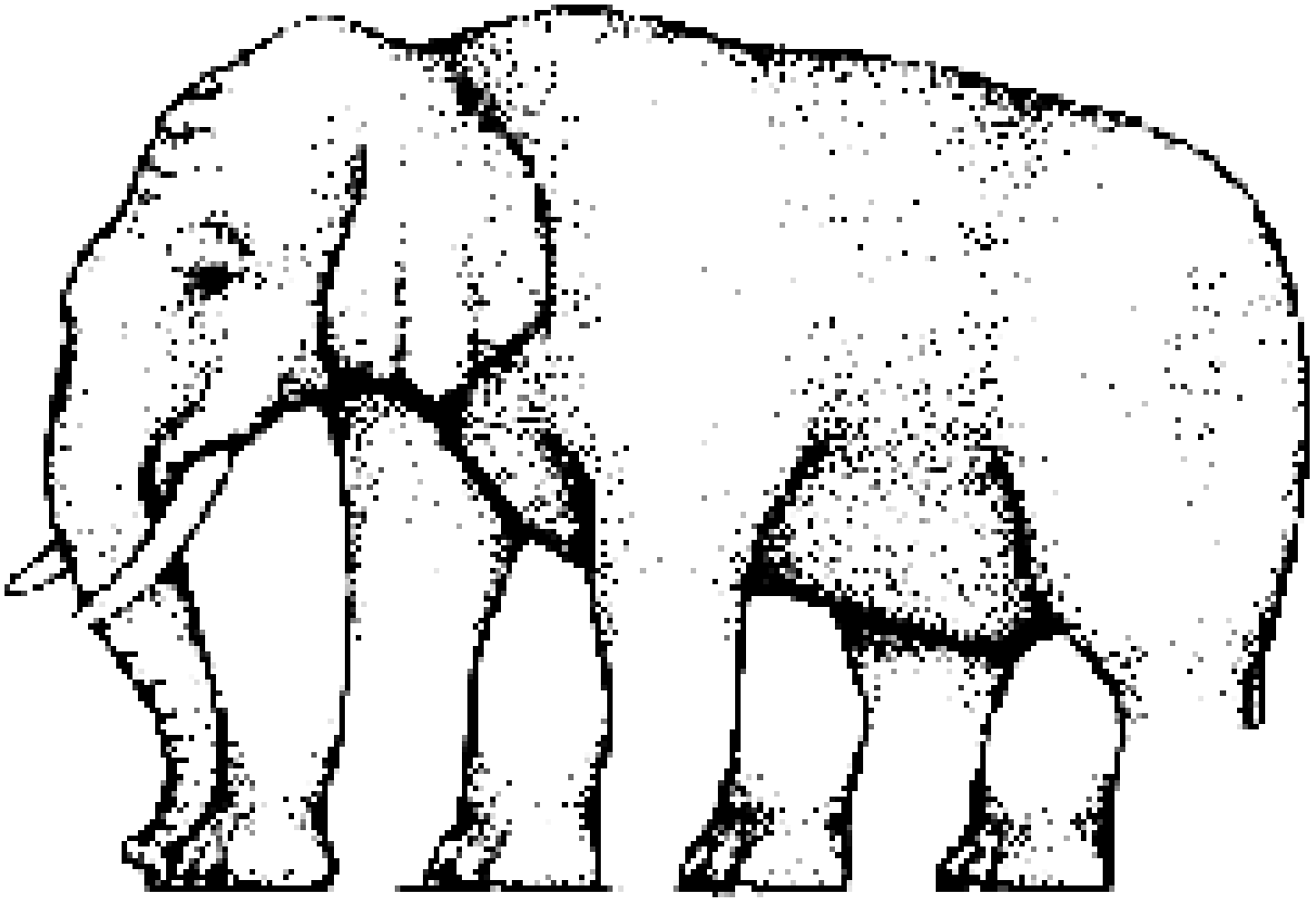
Illusion #17
How does it move?

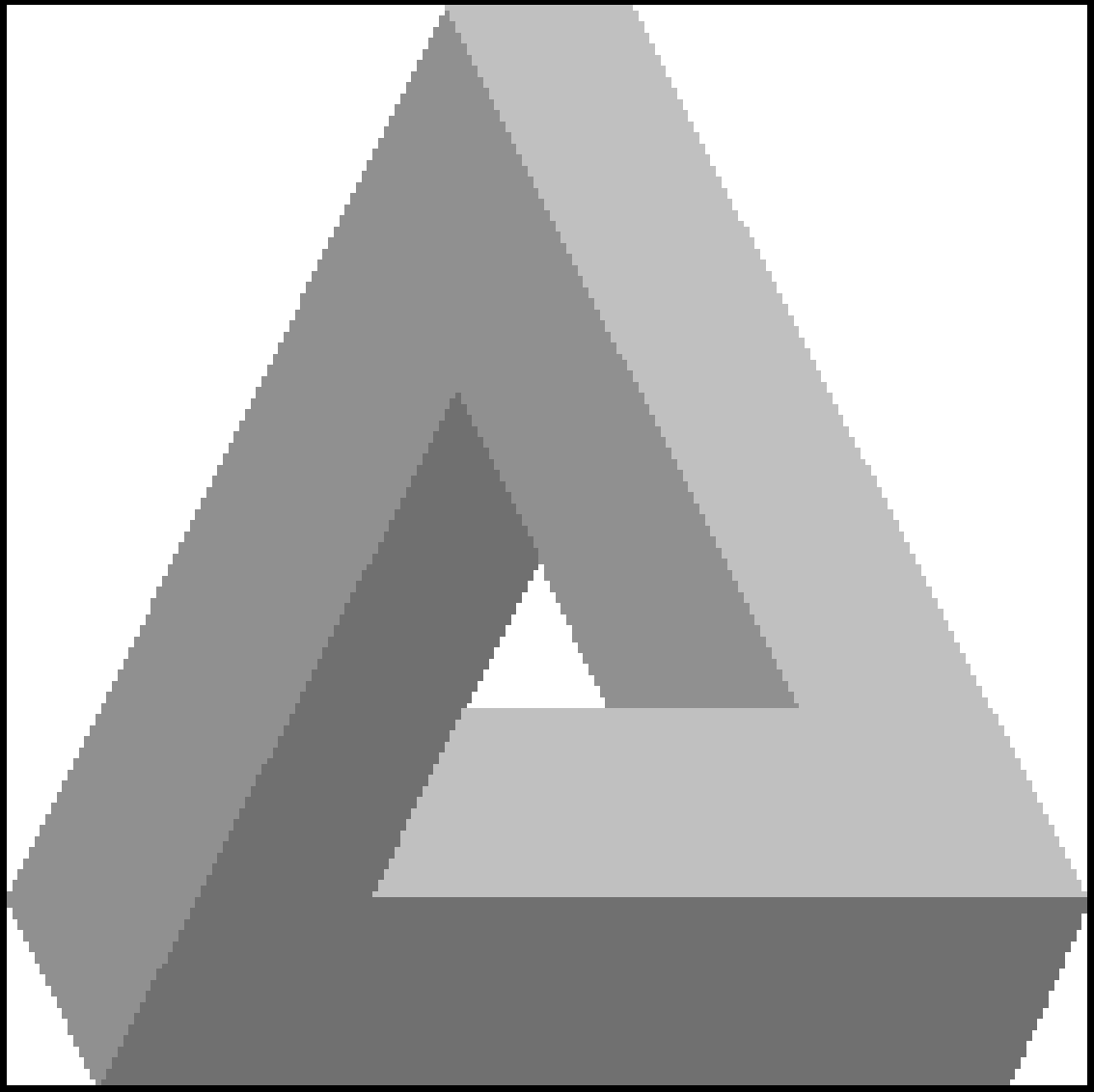


Illusion #18
Impossible Figures (3)

- 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. Tihs 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

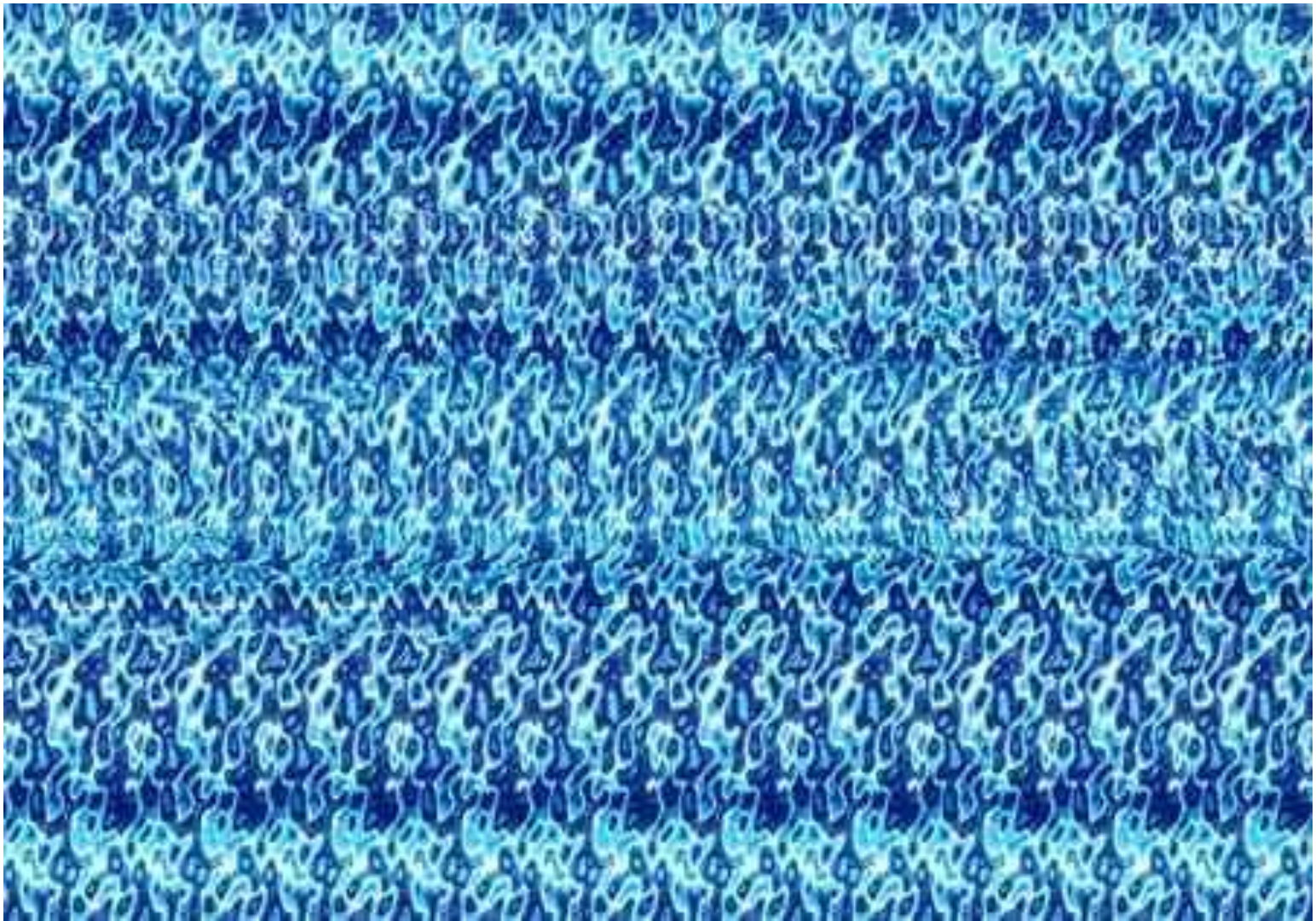
- The words themselves have a strong effect over your ability to say the color
- There is an interference in the information your brain receives - and this causes a problem
- **Speed of Processing Theory**
  - Words read faster that colors are named
- **Selective Attention Theory**
  - Naming colors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

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

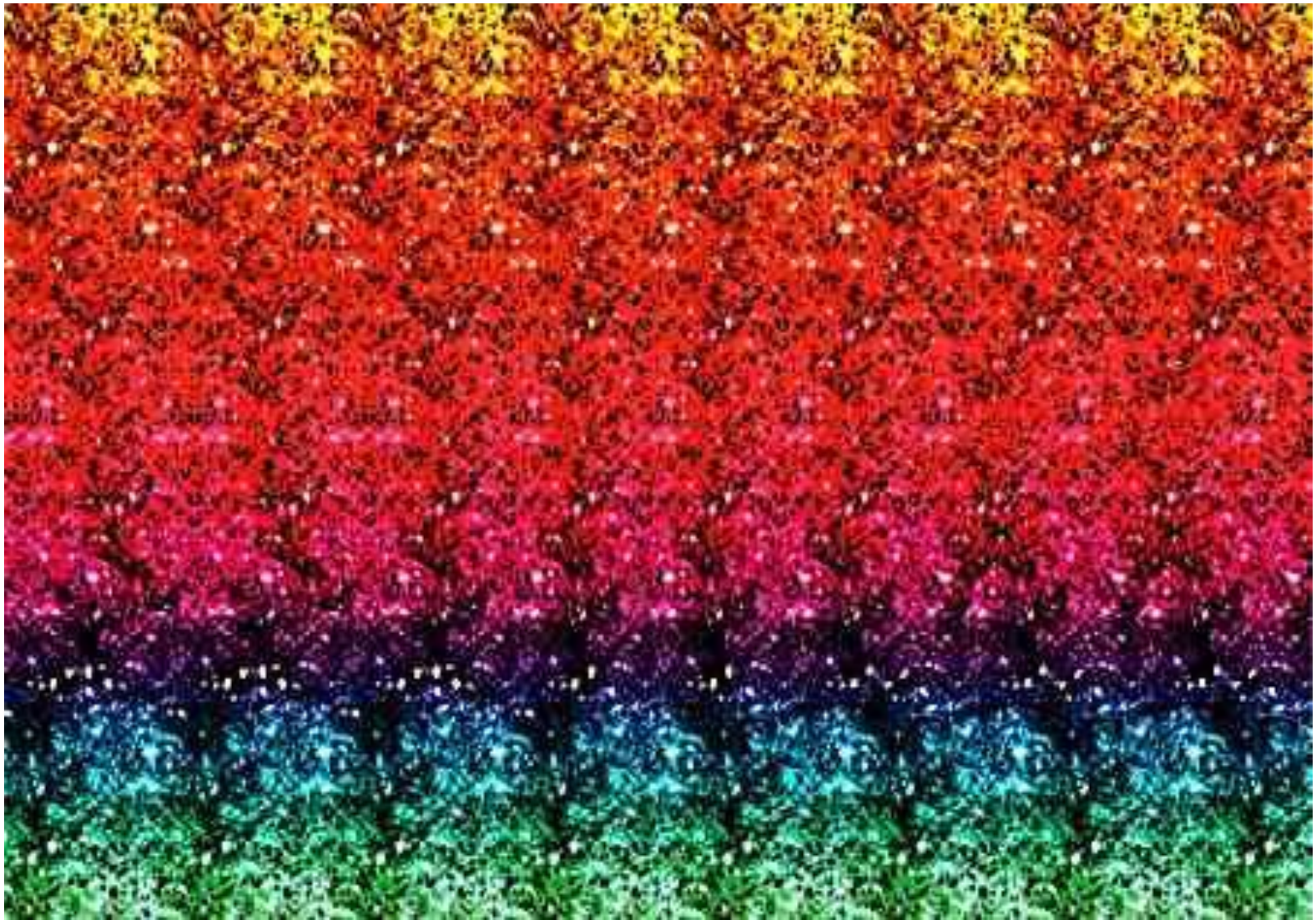
Stereograms

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.

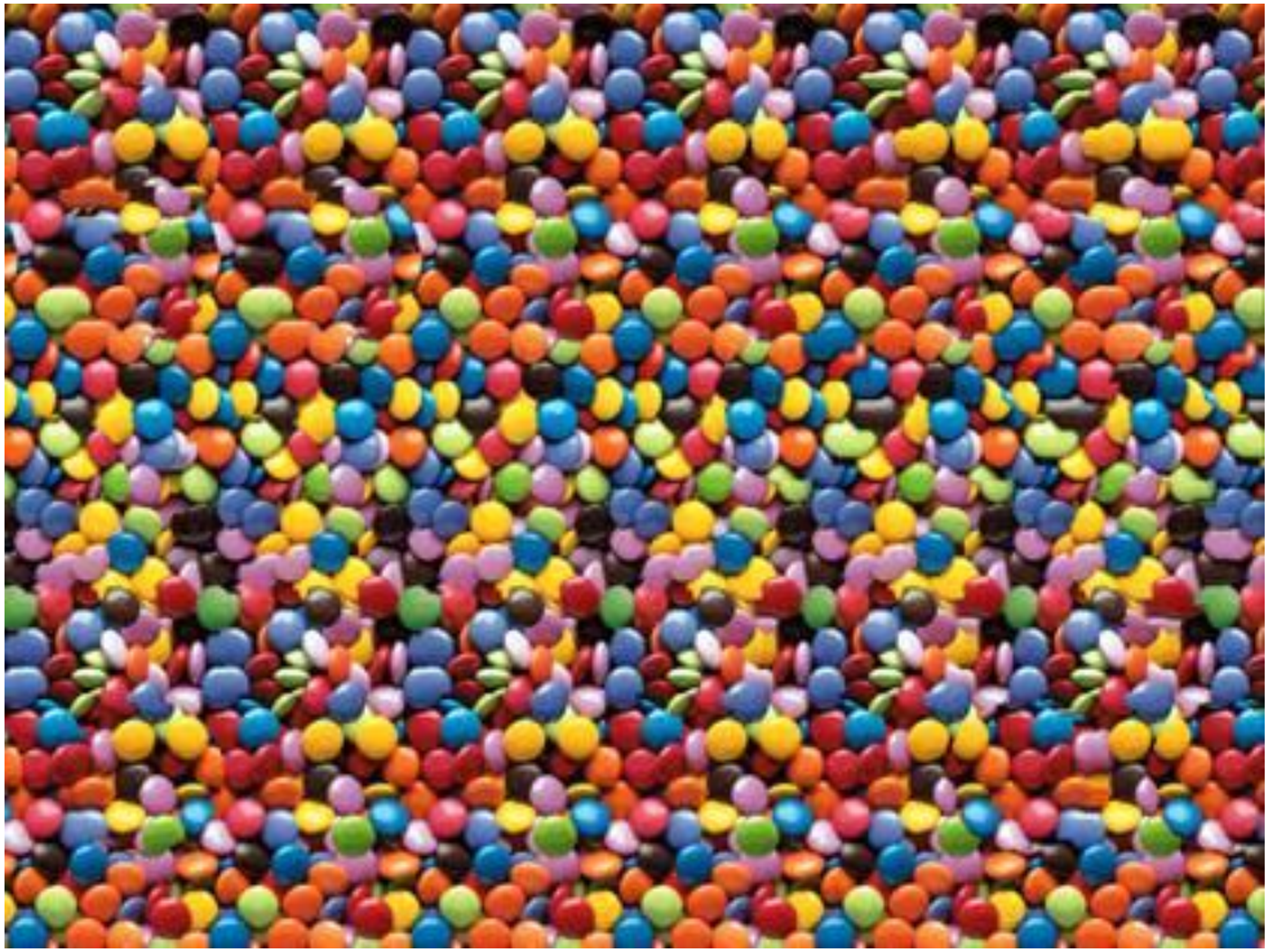
Illusion #23
Try your best – what do you see?



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?