

# Art 1201

## Unit 1: Perception, Art, and Technology

# Optical Illusions

Unit 1: Perception, Art,  
and Technology

# Introduction and Prerequisites

- Artists are actually working with illusions all the time when they are painting and drawing on flat surfaces; making an illusion of real space, objects and people.
  - How are optical illusions really **errors in perception**?
  - How are illusions used to **communicate and entertain**?
  - Can artists make these 'eye-tricks' work for them?
- It would be helpful to know the following:
  - that people don't always see things the same way others see them
  - artists are in the business of creating types of illusions

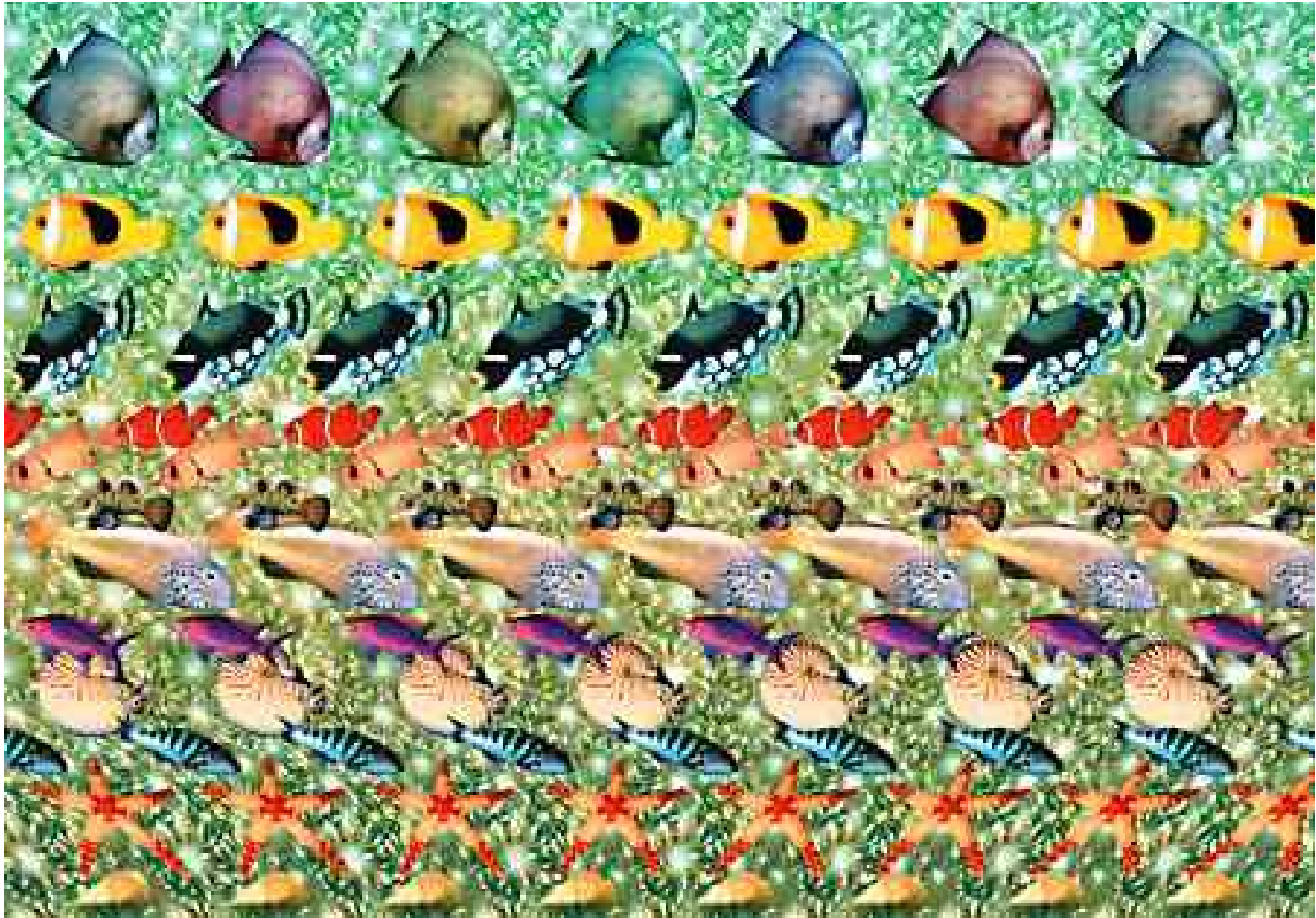
# Optical Illusions

- The nature of our vision and the working relationship between the eyes and brain cause optical illusions to occur.
- Our sense of vision is able to be fooled over and over, even when we know how an illusion works.

# Optical Illusions

- Artists work with illusions all the time; think about it...they spend so much of their time representing what they see in the real 3-D world on a flat surface, such as paper or canvas. They **create** illusions of reality. As we move further into digital creations, the illusions get harder to spot!

- Try staring at the picture below; do you see the fish floating in the image? If you don't, try to stare 'past' the picture; let your focus relax. This is a digitally created illusion.



# Optical Illusions

- Most people enjoy optical illusions.
- To some, they are vision-tricks; they are really just "**errors in perception**"; *mistakes in our visual perception*.
- There are lots of different kinds of illusions.

# Types of Optical Illusions:

## *Refraction of Light*

- Have you noticed how something like a straw or spoon leaning in a glass of water appears to break or bend at the surface of the water?
- This illusion is caused by the ability of light to bend. We call this the "**refraction of light**" illusion.
- Artists who include images of water in their work use this idea to make the water in their pictures more realistic.



# Types of Optical Illusions:

## *Refraction of Light*



# Types of Optical Illusions:

## *Closure Illusion*

- Our eyes and brain have the ability to get together and fill in the missing details of an image.
- In the same way, our vision allows us to see movies as continuous motion rather than a jerky series of still pictures.

# Types of Optical Illusions:

## *Closure Illusion*

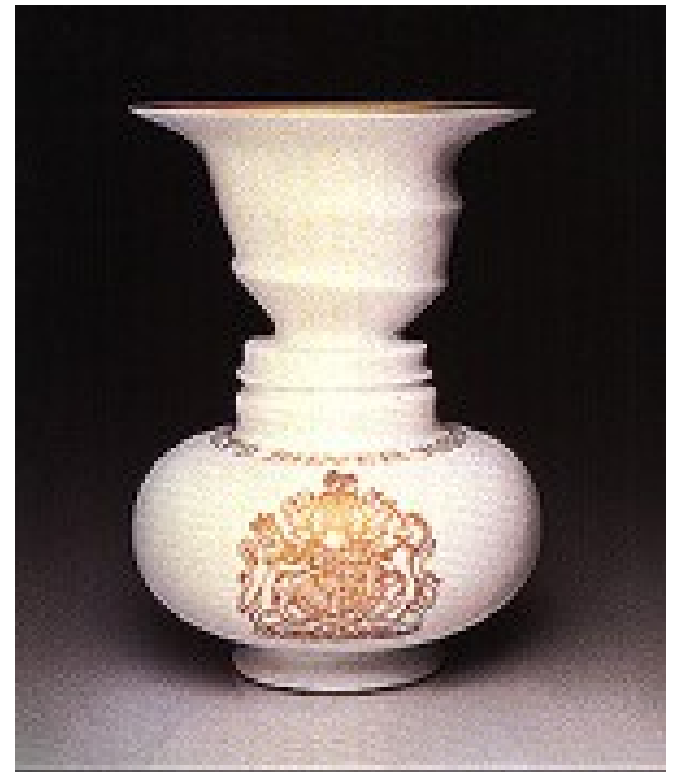


# Types of Optical Illusions:

## *Figure/Ground Illusion*

- With this kind of illusion we end up asking ourselves, "Which part of the picture is the **subject** and which is the **background**?"
- There is often more than one way for us to understand the image given in this kind of illusion.

# Types of Optical Illusions: *Figure/Ground Illusion*



# **Types of Optical Illusions:**

## ***Linear Perspective Illusions***

- **Linear perspective illusions** are common in art.
- By making what should be parallel lines appearing to come together in the distance artists make a flat surface appear to have depth.

# **Types of Optical Illusions:**

## ***Linear Perspective Illusions***

- 1-point perspective and 2-point perspective in works of art are powerful optical illusions.
- When you look at a road receding into the distance, the lines appear to get narrower, the further away they are from the eye.
- By duplicating what we see in nature on a piece of paper or canvas, an artist can fool your eye into thinking that there is depth in the picture.

# Optical Illusions

- Illusions are common but useful for communication and entertainment.
- They surround us every day in magazines, on TV and movie screens, online, etc.
- The optical illusion you see the most is probably television. TV doesn't really move. Television is really lots of still pictures that are shown to us very quickly.



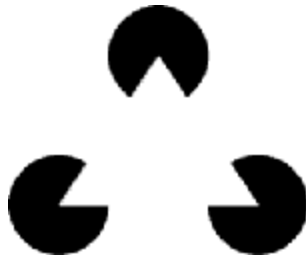
# Optical Illusions

- Learning how to create and manipulate optical illusions is one of the key skills of the artist, craftsman, or designer.
- There are many different types of optical illusions.
  - Simultaneous Contrast
  - Negative Afterimage
  - And many more...

# Quiz

1. Optical illusions are really errors in ( sensation / perception ).

2. The following image is an example of a ( closure / refraction ) illusion:



3. Linear perspective illusions make use of ( lines / shapes ).

# *Discussion*

- What kinds of optical illusions do we encounter everyday?
  - What kinds of illusions are present?
  - How do they work?
  - Are they effective?