The Art and Science of Depiction

Limitations of the Medium, compensation or accentuation

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Plan of the next sessions

• The picture is flat
• The viewpoint is unique
• The image is finite, it has a frame
• The picture is static
• The contrast is limited
• The gamut (palette) is limited

The image is flat

Surface-based

• Visible surfaces, organization
• Distance, orientation

Depth cues

• Binocular
• Monocular
• Dynamic
• Pictorial
• Unconscious inference

Depth cues

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**Convergence**
- Few meters

**Stereovision**
- Different image left/right eye

**Panum fusion**
- Double Images (Uncrossed Disparity)
- Double Images (Crossed Disparity)
- Panum's Area
- Horopter

**Stereopsis**
- Both Eyes
- Left Eye Only
- Neither Eye
- Right Eye Only

**Stereo**

**Random dot stereogram**
**Pseudoscope**

- Pictorial cues are stronger than stereo

**Accommodation**

- Close distance (< 3 meters)

**Accommodation**

- Blurriness
- But no proprioceptive information
- Related to aerial perspective

**Parallax**

- Movement

**Pictorial cues**

- Occlusion
- Size
- Position relative to the horizon
- Convergence of parallels, linear perspective
- Shading, shadow
- Texture gradient
- Aerial perspective
Occlusion

- Figure-ground...

Relative size
Limitations: Flatness

**Familiar size**

- Magritte

**Position relative to the horizon**
Position relative to the horizon

• Bruegel

Convergence of parallels

• Caillebotte

Linear perspective
Shading
- Chiaroscuro
- Da Vinci

Shading
- Make up

Lighting assumption & reversal
- We assume that the light is above

Lighting assumption & reversal
- faces

Lighting assumption & reversal
- Lucien Clergue, Camargue, 1940
Limitations:

**Shadow**
- David

Limitations: Flatness

**Shadow**
- Caravaggio

Limitations: Flatness

**Texture gradient**
- Constable

Limitations: Flatness

**Aerial perspective**
- Leonardo Da Vinci

Limitations: Flatness
Limitations: Flatness 55

**Planes of light**

- Goya
- Darker colors usually recede
- Makes picture dynamic

Limitations: Flatness 56

**Planes of light**

- Lighting

Limitations: Flatness 57

**Planes of light**

- Vermeer

Limitations: Flatness 58

**Grouping**

- Aerial perspective
- Depth of field
- Relative size
- Grouping with respect to one property results in grouping by distance

Limitations: Flatness 59

**Perspective**

Limitations: Flatness 60

**Monet**
Limitations: Flatness

Occlusion & horizon

Counter-example

Limitations: Flatness

Counter-example

• De Chirico

Limitations: Flatness

Depth cues and art history