

ENG 004 Lecture 3, Oct 4, 2012

Announcements

- Studios start today!
- Bring Sketchbooks to studio!
- Lecture HW #1 due Tuesday
- Wait listed students please be a patient
- Read Chapter #2

Topics

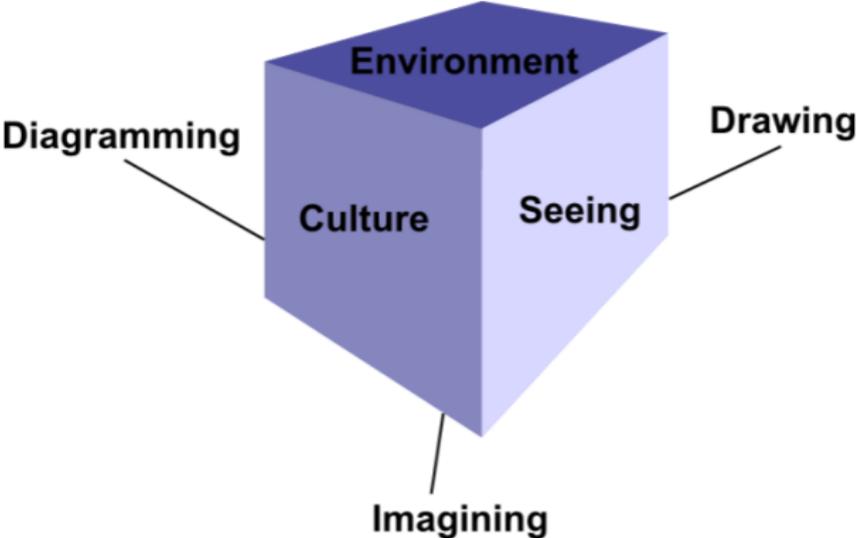
Visual Culture/Thinking: Seeing, Imagining, Drawing/Sketching, Diagramming, Environment, Culture

Graphics in Design: Visualization, Communication, Documentation

Sketches vs Drawings

Conventions

Visual Thinking



Environment

Physical Workspace to encourage visual ability:

- Lighting
- Surface to work on
- Sound/music/silence
- Art/models/mobiles/etc

Looking for inspiration

Culture

Understanding visualization culture and the tools to do so

The way we relate to others:

- Brainstorming
- Sketching
- Idea logs, Sketchbooks
- Physical Design, Prototypes
- Critiquing

Seeing

Visual exercises to stretch your visual ability.

Tune-up your seeing skills

- Be aware of how you see
- Unblock your visual stereotypes
- Translate motion into form
- Notice detail
- Sort, categorize, and group elements
- View from other's perspectives

Drawing/Sketching

Does not require and artistic ability. It is a skill.

Enlivens the imagination

- Used to enhance seeing
- Use basic techniques: shading, perspective, etc
- Learn how to create basic objects and shapes

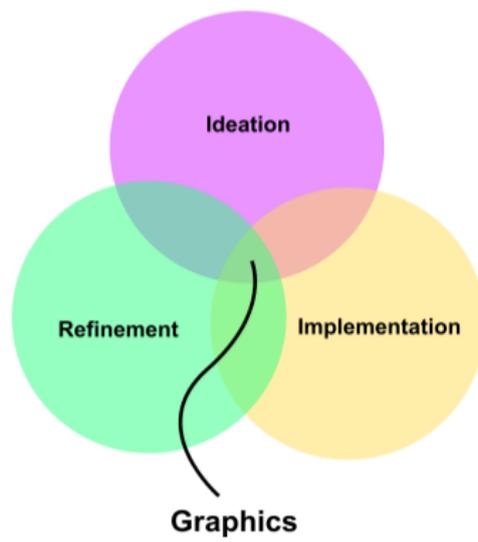
Diagramming

- Make the abstract concrete
- Pictorial conversation to describe and illustrate ideas
- Use symbols
- Flow charts, free body diagrams, Sankey diagrams, Venn diagrams, etc

Imagining

- Enhance inner visualization
- Using mental imagery to generate ideas
- Recognize your own imaginative abilities
- Use words, sounds, images to articulate ideas

Role of Graphics in Design



Role of Graphics in Design

Visualization

Communication

Documentation

Visualization

The ability to see objects in your mind

- Mentally seeing things that don't exist or that need modification
- Sketches are the first physical capture of your mental image
- Mentally fly through of objects
- Ability to see relative motion

Communication

Refine drawings and models to improve communication of ideas

Assist others to visualize what you see

Clear way to relay information to others

Documentation

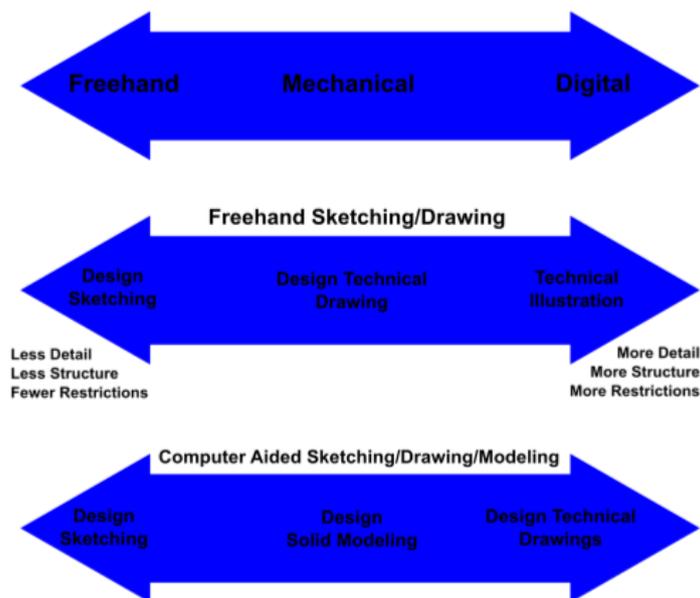
Create a permanent record of a design

Detailed 2D/3D drawings

Contains all information needed to create/use objects

Provides communication for manufacturing, service, sales, etc

Sketching Vs Drawing



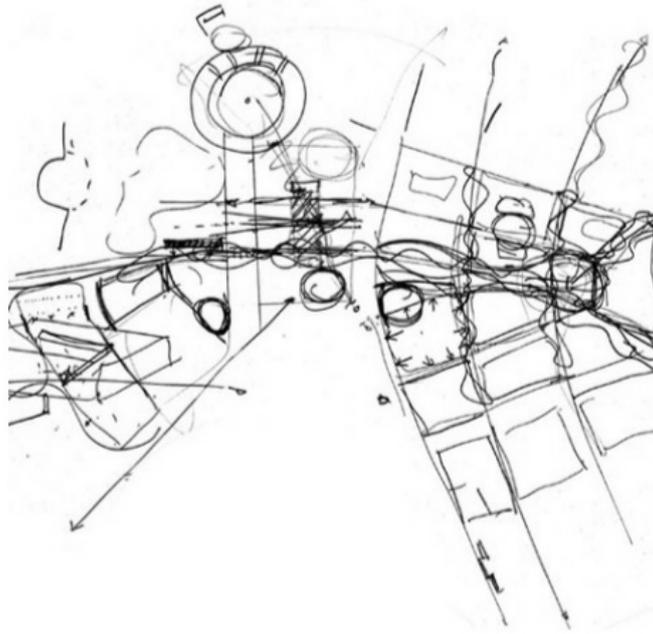
Sketching Vs Drawing

Sketching

Transferring of ideas or concepts onto paper or in a computer to quickly capture them graphically.

Drawing

Transferring of an object's shape, size, proportion and/or main features onto paper or computer.



<http://ikastika.files.wordpress.com/2008/10/elephant-sketch500.jpg>

Contour Sketch

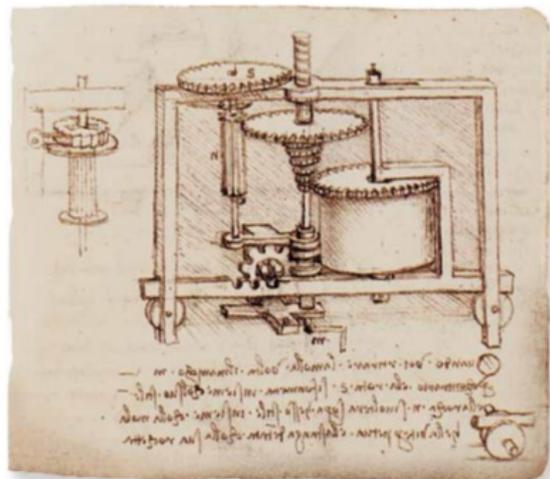
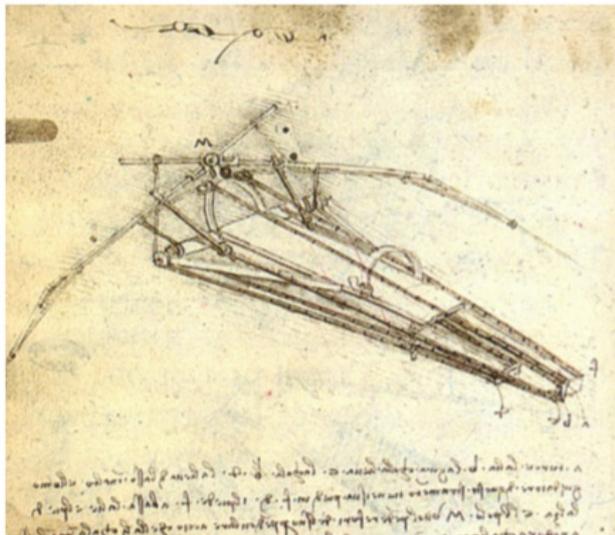
Emphasize mass and volume rather than detail.



http://en.wikipedia.org/wiki/File:Schiele_-_Mutter_mit_Kind_-_1910.jpg

Technical Drawing

Emphasize technical details



http://www.odec.ca/projects/2007/viva7s2/DaVinci_CVP_illustration.jpg

http://en.wikipedia.org/wiki/File:Design_for_a_Flying_Machine.jpg

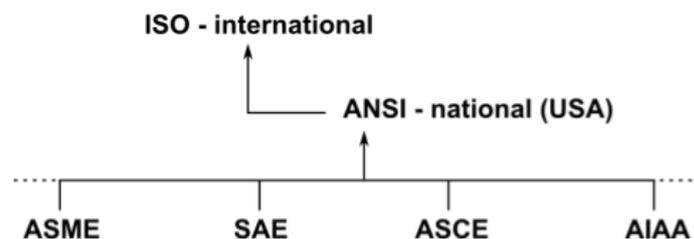
Design Standards and Conventions

ANSI (American National Standards Institute)

- Governing body in the United States that generates and publishes standards and conventions for science, technology, and engineering.
- NGO (non-governmental organization) comprised of professionals from various technical fields.

ISO (International Standards Organization)

The ISO is a standards body for the global level



Line Types

See Chapter 5 page 232

- Construction lines: light, erasable guide lines used to start sketches
- Center Line: indicates symmetry, paths of motion, centers of circles or circular arcs.
- Break Line: shows where an object is broken to reveal the interior or to save drawing space. Two forms: freehand thick line and long ruled thin line with zig zags.
- Dimension, extension, and leader lines: used to indicate the size of location of a feature
- Section lines: represents surfaces cut by the cutting plane
- Cutting Plane lines: show the locations of the cutting plane
- Visible lines (object lines): shows features visible in the current projection
- Hidden lines: represents features that cannot be seen in the current projection
- Phantom lines: are used to represent a movable feature in its different positions.
- Stitch lines: are used to indicate a sewing or stitching process.
- Chain lines: are used to indicate that a surface is to receive additional treatment.
- Symmetry lines are used as an axis of symmetry for a particular view

Proportions and Construction Lines

