

## Design History and Fundamentals

Survey of Design and Media Art

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## What is Design

- The logical arrangement of elements to meet a specific goal
- Common goals:
  - Make life easier
  - Make something more appealing

## Design Terms

- **Aesthetics:**
  - The study, philosophy, or arrangement of elements to create something of “beauty”
- **Usability:**
  - The study and organization of elements to create something that is easy to use.

## Design Topics

- Architectural and Product Design
  - Buildings and Consumer Products
- Graphic Design –
  - Print and Print Advertising
- Interactive and Interface Design
  - Human Computer Interaction
- Marketing Design
  - Psychology and Mass Media

## History of Design

- Delimited by:
  - Social
  - Political
  - And technological milestones
- The tasks of designers evolved

## Architectural Design

- What are your “design goals” in designing a building?

## Architectural Design Goals

1. Provide a safe structure that provides shelter

May also want to:

- Provide a certain impression: *big, traditional, safe, new, rich*
- Consider the inhabitant’s needs: Medical building, arena, bank, house

## Design Considerations

- Universal Traveler (*accept limitations*):
  - Acceptance and Definition
    - May also need to:
      - Meet local building codes
      - Use certain materials (locally available)
      - Consider the location and the building’s relationship to other buildings
      - Meet guidelines provided by the commissioner of the building
      - Respect physics
      - Respect existing technology

## Architectural Goals: Sears Tower



*The stepback geometry of the 110-story tower was developed in response to the interior space requirements of Sears, Roebuck and Company. The configuration incorporates the unusually large office floors necessary to Sears' operation along with a variety of smaller floors. The building plan consists of nine 75 x 75 foot column-free squares at the base. Floor sizes are then reduced by eliminating 75 x 75 foot increments at varying levels as the tower rises. A system of double-deck express elevators provides effective vertical transportation, carrying passengers to either of two skylobbies where transfer to single local elevators serving individual floors occurs. —*

from Bruce Graham, SOM by Stanley Tigerman.

## Architectural Goals

- Universal Traveler Model: Implementation Details
- “The Sears Tower is an example of the revolutionary bundled-tube structural design. Tube buildings gain most of their structural support from a rigid network of beams and columns in their outer walls. The rigid outer walls act like the walls of a hollow tube. The Sears Tower is actually a bundle of nine tubes, and is considered one of the most efficient structures designed to withstand wind . . . as the building climbs upward, the tubes begin to drop off, reducing the wind forces on the building.”\*

\* [http://www.pbs.org/wgbh/buildingbig/wonder/structure/sears\\_tower.html](http://www.pbs.org/wgbh/buildingbig/wonder/structure/sears_tower.html)

## Design Fundamentals

- Problem
  - Build the tallest building in the world (1974-1999)
- Solution
  - Build a bundled tube, step back building

## Graphic “Design”: B.C.



Ice Age Horse Engraving on Pelvic Bone



Animal skin or Papyrus Scroll

**Early written communication**