

Computer Graphics -History

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<http://jjcao.github.io/ComputerGraphics/>

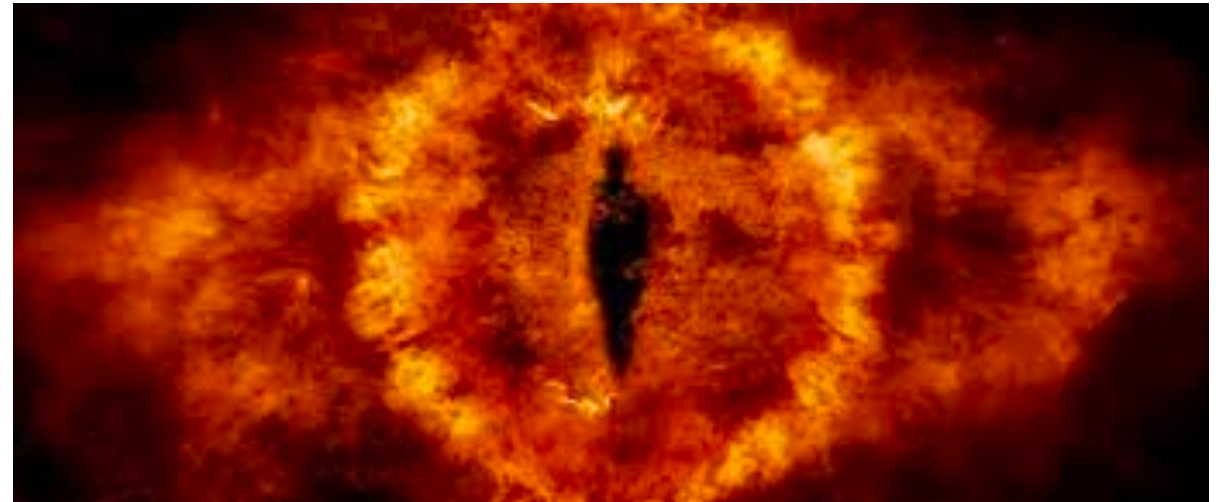
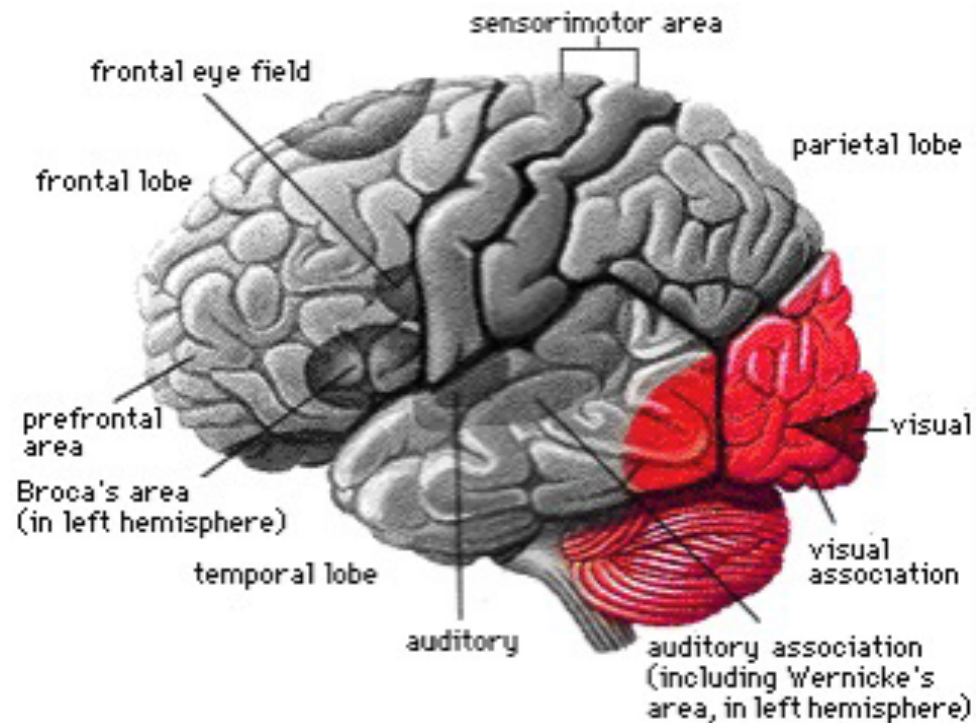
What is computer graphics?

- The use of computers to synthesize and manipulate **visual information**.

Why visual information?

-- Humans are visual creatures!

- About 30% of brain dedicated to visual processing...



- ...eyes are highest-bandwidth port into the head!

History of visual depiction



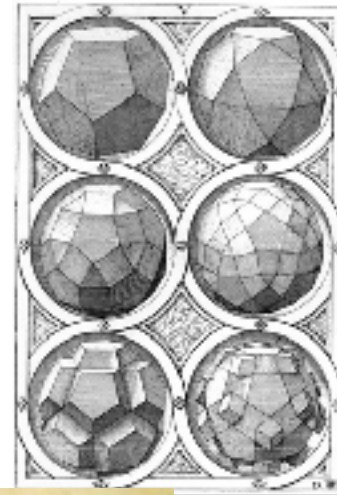
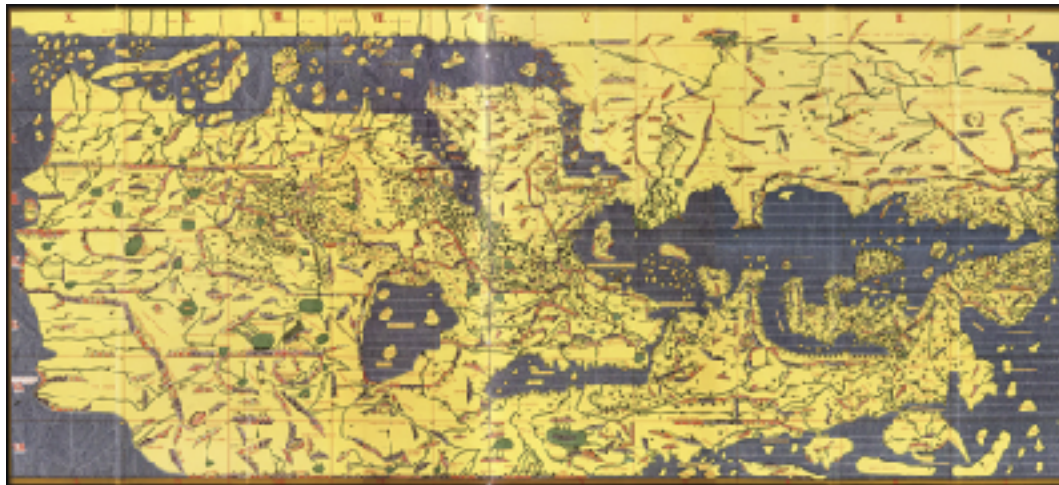
Indonesian cave painting (~38,000 BCE)



A human handprint made about 30k years ago, on the wall of the Chauvet-Pont-d'Arc Cave in southern France. Somebody tried to say, 'I was here!'

Visual technology: painting / illustration

- **Not purely representational: ideas, feelings, data, ...**



Visual technology: carving / sculpture



Visual technology: photography / imaging

- **Processing of visual data no longer happening in the head!**



Joseph Niépce, “View from the Window at Le Gras” (1826)

Visual technology: photography / imaging

1826 -- now



Visual technology: digital imagery

- **Intersection of visual depiction & computation**



Ivan Sutherland, “Sketchpad” (1963)

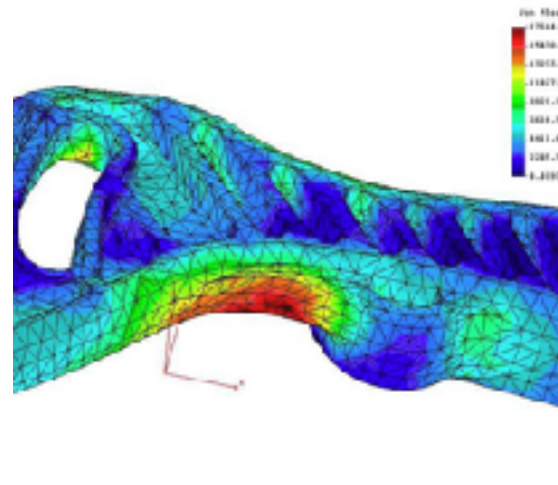


1. pop-up menus
2. constraint-based drawing
3. hierarchical modeling



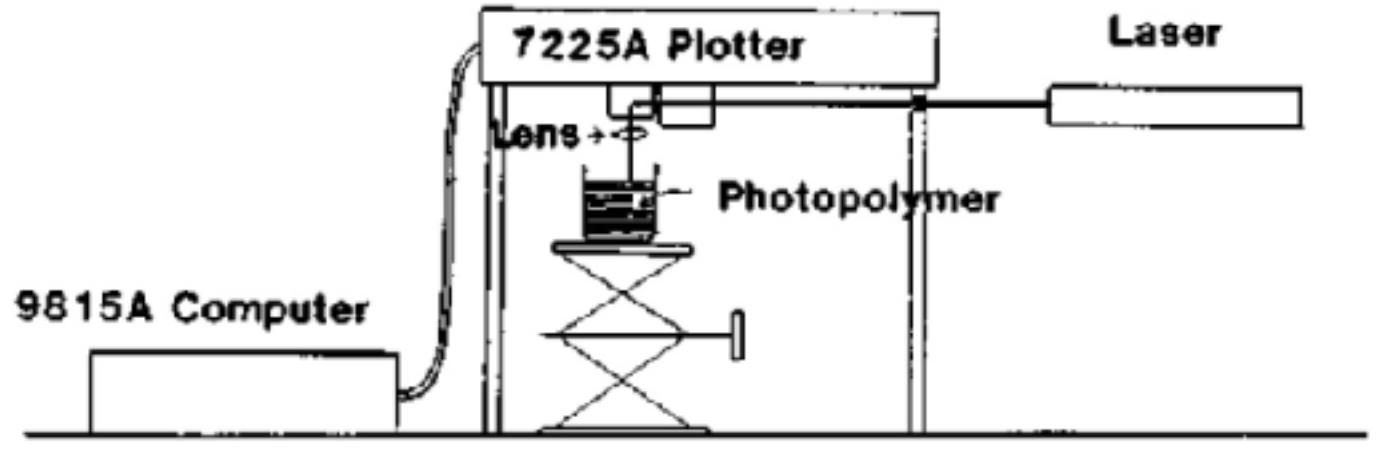
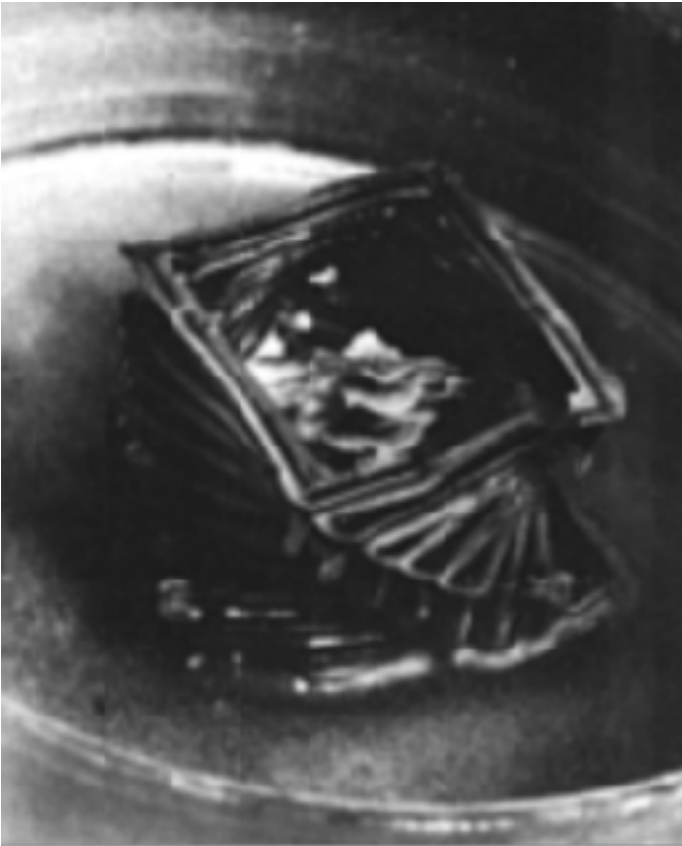
- [Turing Award](#), 1988
- [human-computer interaction](#) (HCI)
- a major breakthrough in the development of [computer graphics](#) in general.
 - For example, the graphical user interface (GUI) was derived from the Sketchpad as well as modern **object oriented programming**.
- PhD thesis

Visual technology: digital imagery



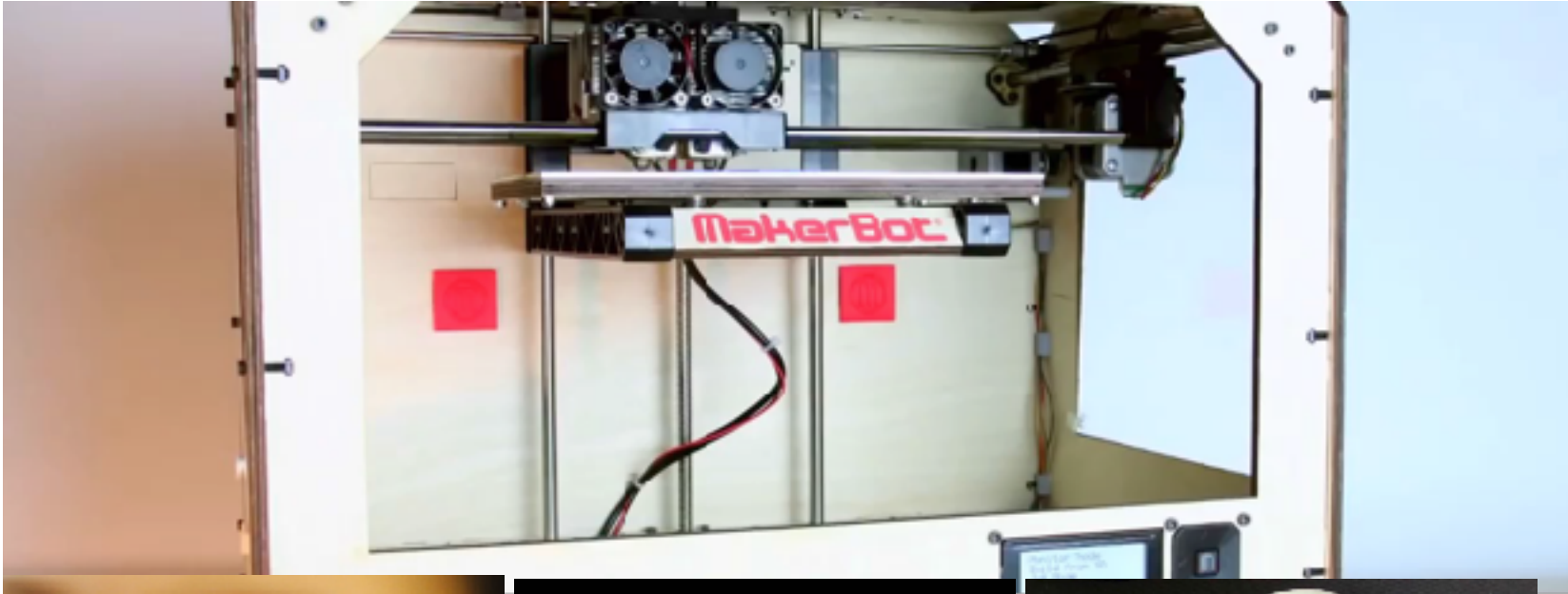
Visual technology: 3D fabrication

- **Create physical realization of digital shape**



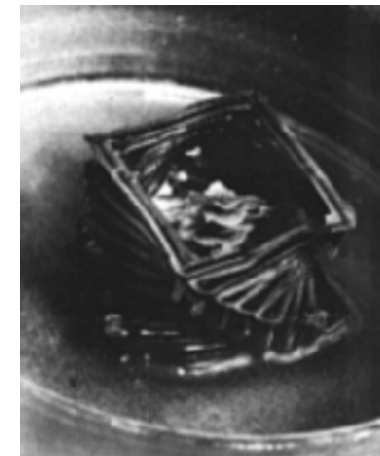
A.J. Herbert / 3M (1979)

Visual technology: 3D fabrication



Technologies for visual depiction

- Drawing/painting/illustration (~40,000 BCE)
- Sculpture (~40,000 BCE)
- Photography (~1826)
- Digital Imagery (~1963)
- 3D Fabrication (~1979)



What is computer graphics?

- The use of computers to synthesize and manipulate **visual information**.



- The u
infor



(sound)



(touch)

Computer graphics is everywhere!