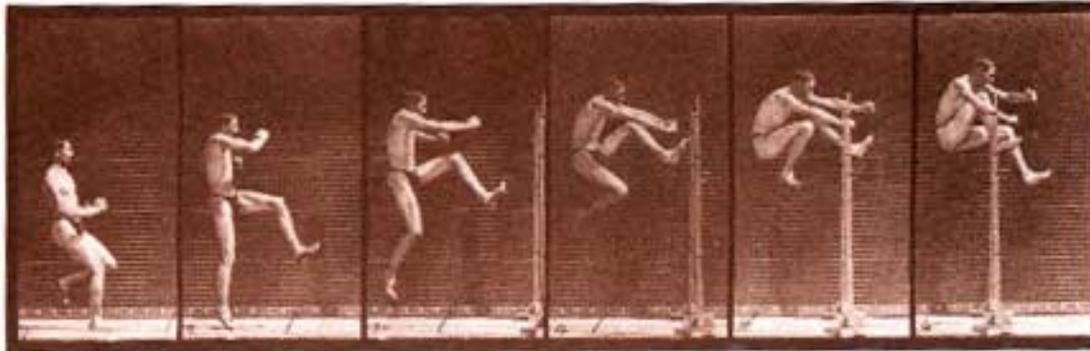# History of Animation
(a quick synopsis)

In the Beginning...

Edweard MuyBridge "Humans in Motion" stop motion photos - studied the dynamics of animal movement this way.

Zoetrope (series of sequential images in a revolving drum) when the drum is revolved the slits in the drum creates the illusion of motion and becomes first movie- similarly film creates this illusion by having one image then black then image then black again.

Thaumatrope (disk with one image on each side) twirl it and the two images superimpose on each other. two frame animation.
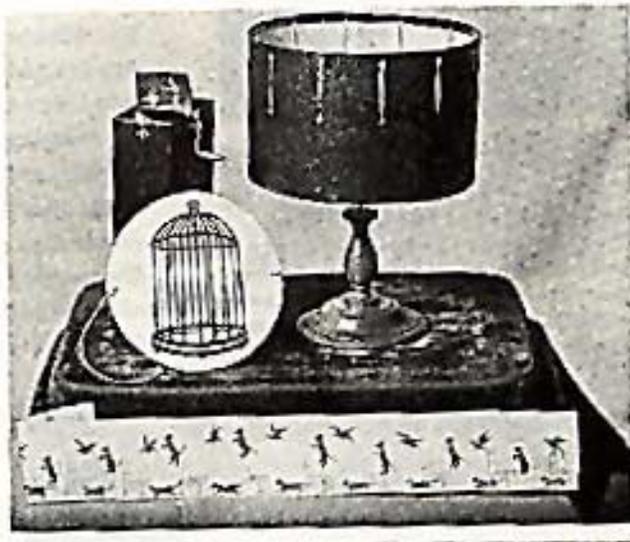
French Brothers Auguste and Louis Lumiere
Technology for recording of sequential images on a flexible film base. (1895)

- most of the first films were French and released in America...

Norman McLaren - Canadian - organized the National Film Board of Canada.

Cel and Paper Animation Technique
By mid-1910s animation production in US already dominated by the techniques of cel and paper.

cell animation was more popularized in America than in Europe because of assembly line Taylorism that had taken America by storm. Cell Animation was most appropriate to the assembly-line style of manufacturing because it took a whole line of persons working on very specific and simple repetitive duties. On the other hand, in Europe where the assembly-line style of work was not encouraged, clay animation and other forms of animation that required only a few individuals working on the set at a time was more popularized. Because the actual set could only afford a limited amount of individuals working at one time together and no more this style and other alternative forms of animation became more widely accepted.

Disney - cell animation - draw each image one at a time using onion-skinning technique.


Early Disney where mechanical techniques still used. Arms literally extend not stretch...

Cell Animation Process
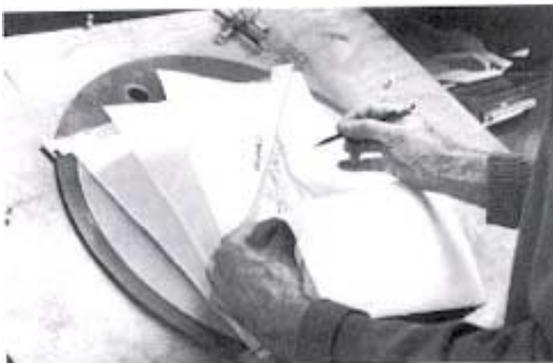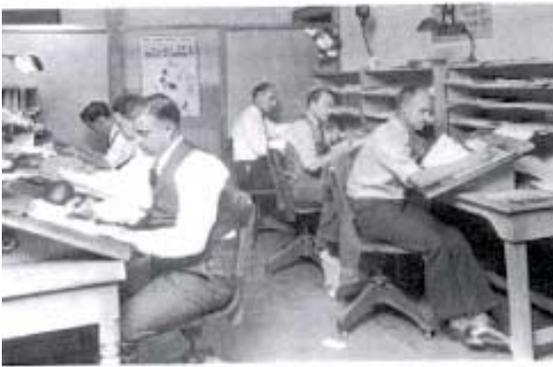
Traditional cell animation - drawings created one by one animators create the keyframe and assistances create inbetweens; onion skinning process used to make easier the reference drawing of each additional image.

Synched Sound: Steamboat Willie - released November 18, 1928 - Disney
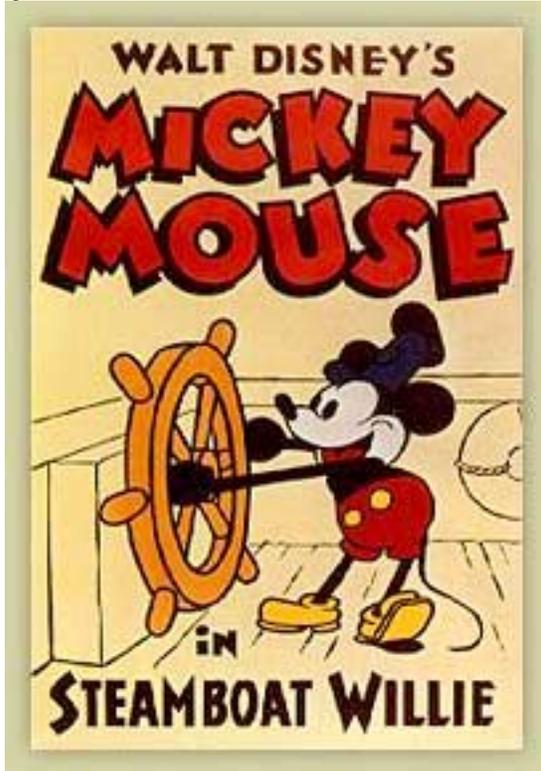
Disney created the first cartoon synchronized with sound entitled 'Steamboat Willie'

At first Disney tried to reach a deal with RCA or Western Electric to record the soundtrack but were turned down. Instead Walt contracted with bootleg Powers Cinephone process and even with a disastrous first recording finally in a session recorded the soundtrack with a 15-piece band and his very own Mickey squeaks.
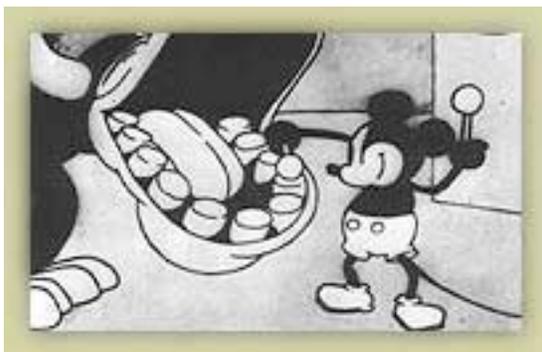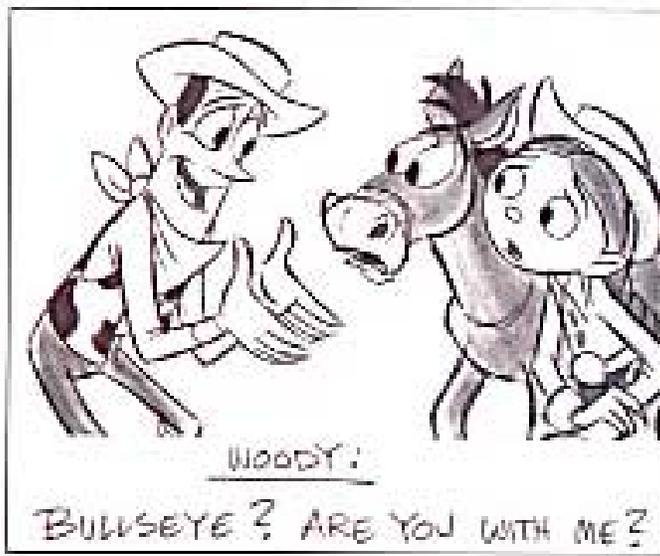
The Future of Animation

3d Animation

Toy Story - released November 22, 1995
On entrance of computers and 3d driven software... feature length films of high polish can be created virtually in 3d. Toy Story is considered to be a first animated feature ever generated completely on computers. Disney and Pixar partnered up to create this film.

From storyboard to final render - the many steps in creation of digital imagery

Combination of 3d and 2d

Iron Giant - released 1999

Even if Iron Giant looks as if it were completely drawn the traditional way - cell by cell - the big giant robot is actually designed in 3d and output as a 2d image using Maya with the added help of proprietary software. One of the drawbacks of this method is the perfect and rigid quality of the line rendered out of a 3d package. The perfect line is what separated it from 2d techniques so the solution was to "simplifying the design somewhat and not having too many surface shading areas", says Brad Bird director of The Iron Giant. Secondly, Brian Gardner created a program that caused line imperfections on the Giant randomly. They called it Wobble.

Most of the backgrounds although 2d in look were also 3d renderings. The backgrounds were stretched a bit so that it appeared as if you were going around something.

Fishing - released 1999 -Pacific Data Images
use of non-realistic photo realistic rendering in 3d - water color effects

The fisherman in different color treatments, testing his appearance.

"Character Animation is all about what the character is thinking...At times, he was getting lost. Is he happy or sad? So we punched it up. Rather than having him just look up at the sky, we had him jump off the ground just a bit. That touch better communicates what he's thinking, what he's feeling. That's all I do all day long as a character animator-move 3d models to look like they're thinking."
- *David Gainey*

Dinosaur - released 2000
With each new step into the next generation of computer graphics comes new and more believable CGI characters such as those found in Dinosaur. In Dinosaur the creation and implementation of realistic digital hair on the lemurs is included.