

Animation

Crédits :

Estelle Duveau, Marie-Paule Cani, Lionel Revert, François Faure,

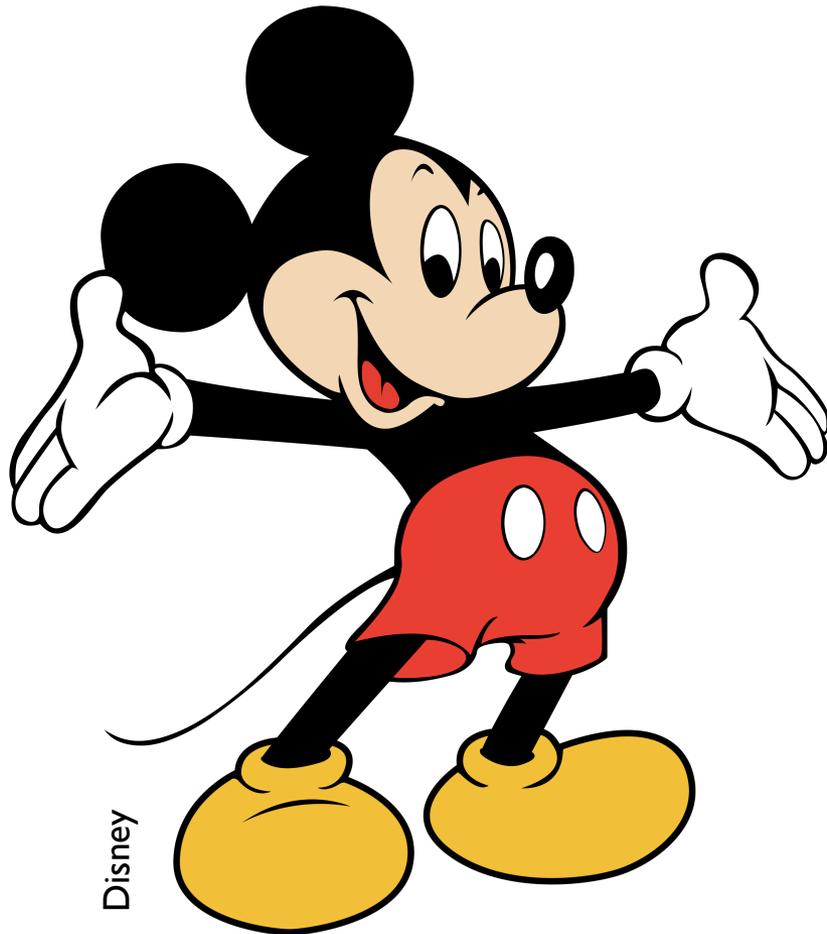
Ravi Ramamoorthi, Ronen Barzel, Bill Baxter <http://billbaxter.com/courses/290/html/>

Plan

1. **Introduction**
2. Cinématique
3. Déformation de surfaces

Double héritage

Dessin animé

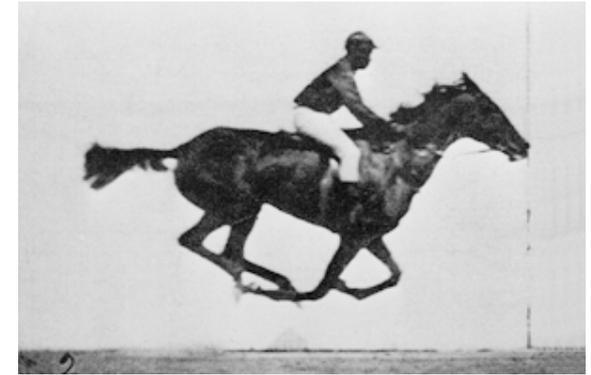
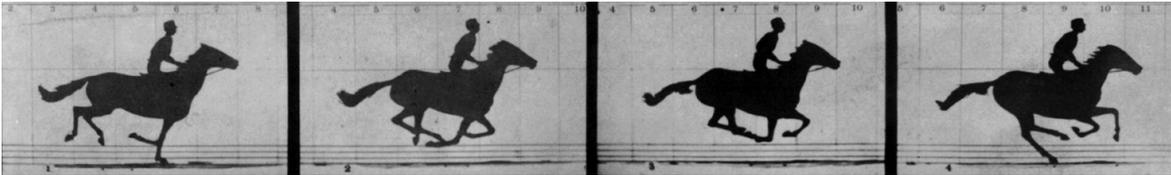


Robotique

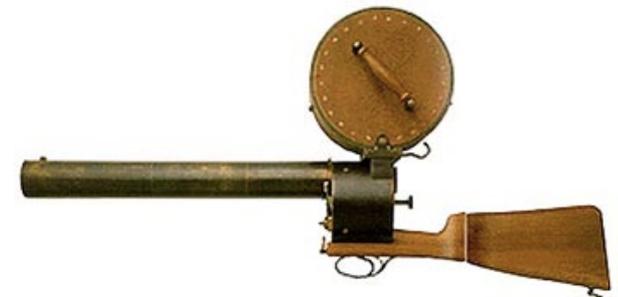
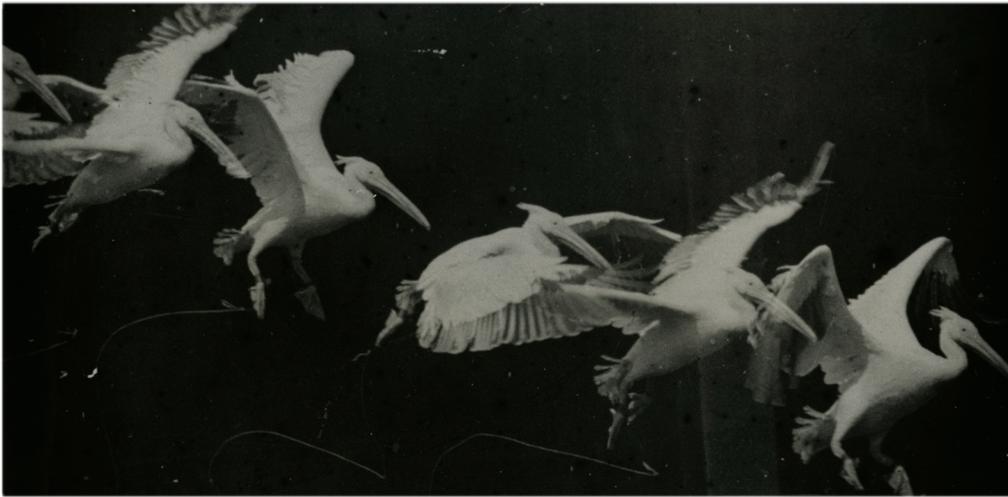


Origines de la cinématique

Eadweard Muybridge (1830-1904)



Etienne-Jules Marey (1830-1904)



fusil photographique

Phénakistiscope (1831)



Muybridge, 1839

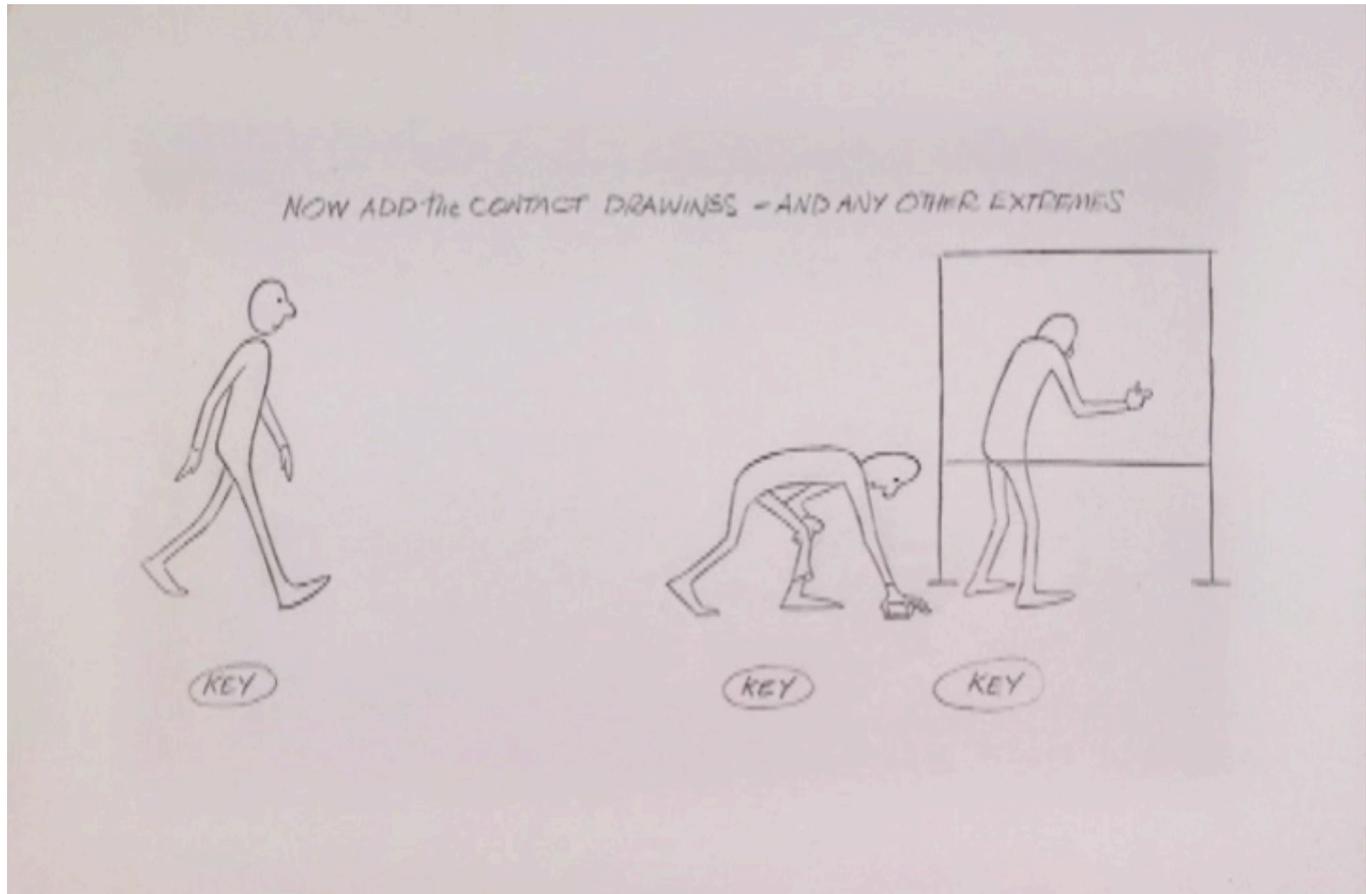
Gertie le dinosaure (1914)

Windsor McCay (1869-1934)



1^{er} dessin animé par image clés

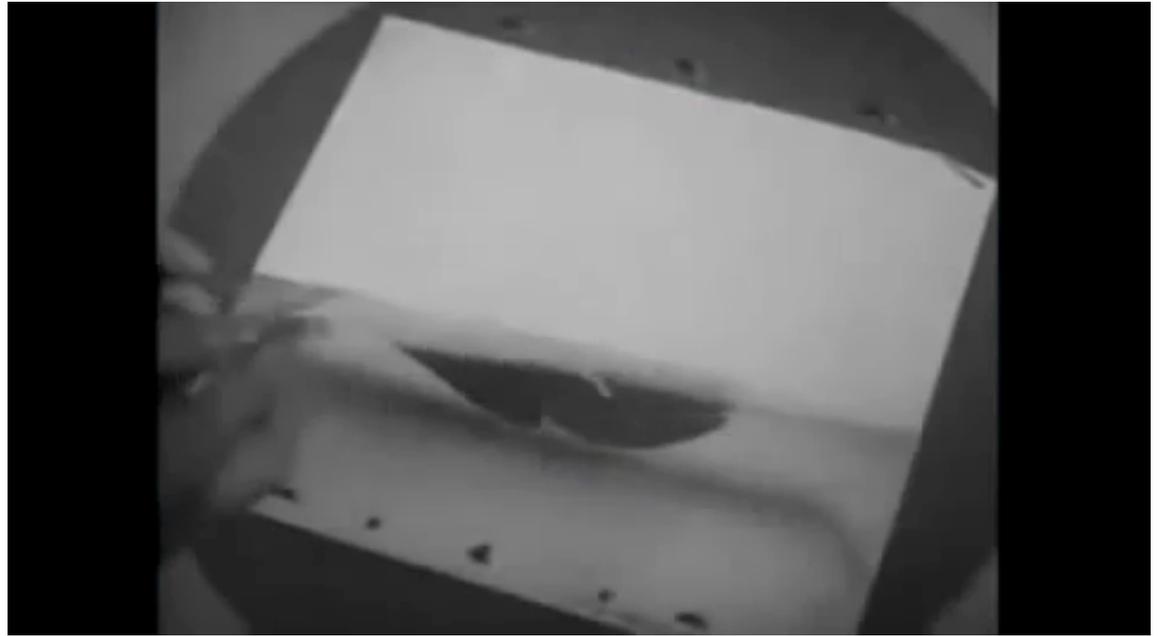
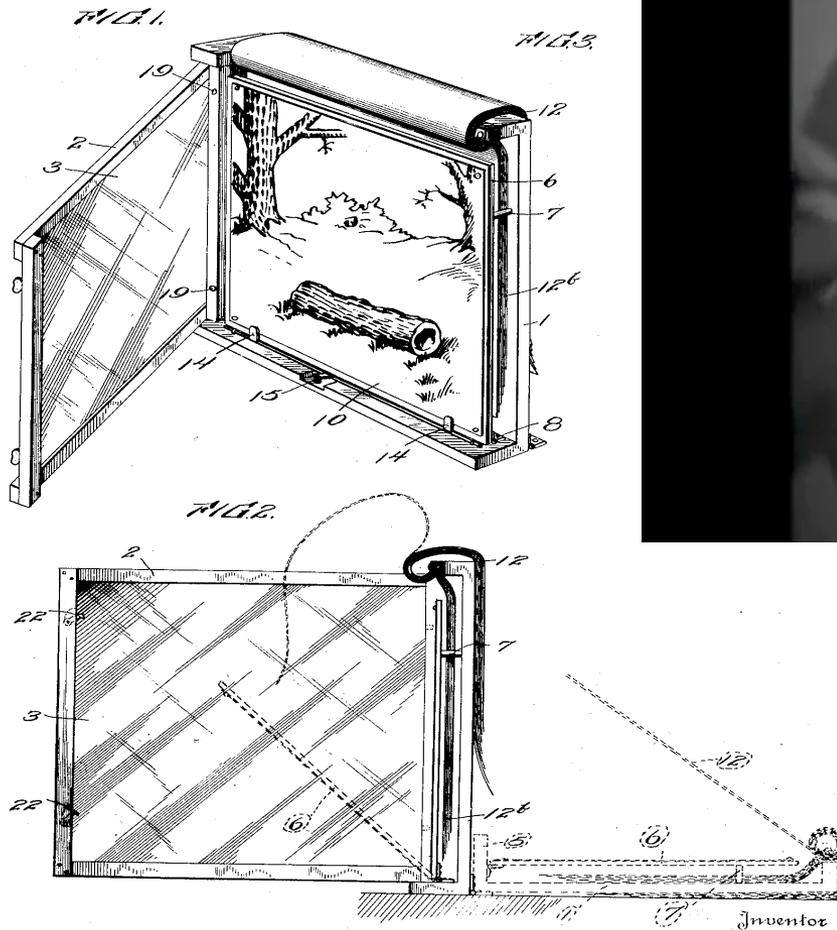
Animation par images clés



Richard Williams, *The Animator's Survival Kit*

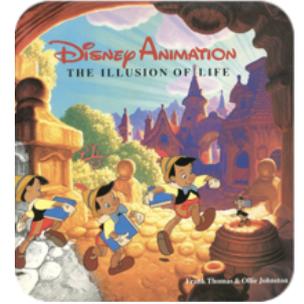
Animation sur celluloïd (1915)

J.R. Bray & Earl Hurd
(1879-1978) (1880-1940)



12 principes de Disney

1937 : premier long-métrage d'animation
« *Snow White and the Seven Dwarfs* »



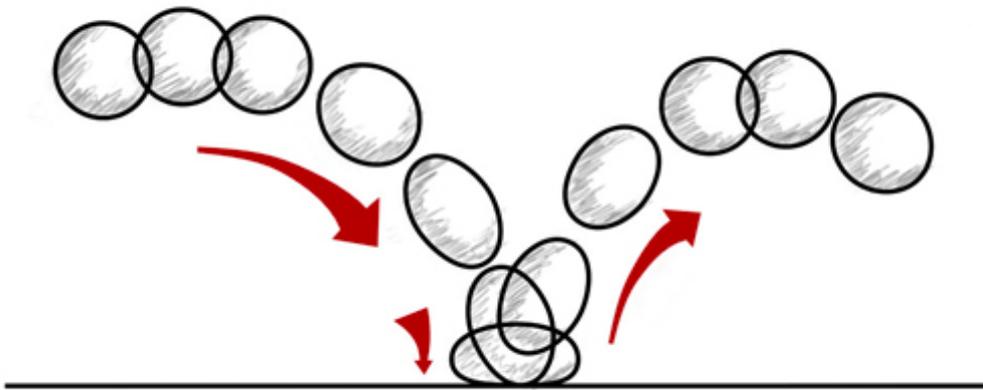
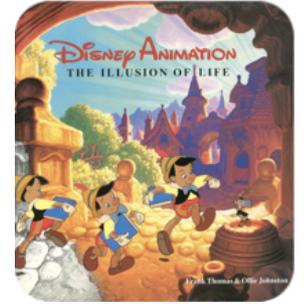
Disney Studios, 1930s : **12 principes d'animation**
⇒ **toujours valables**



© Disney

I. Squash and stretch

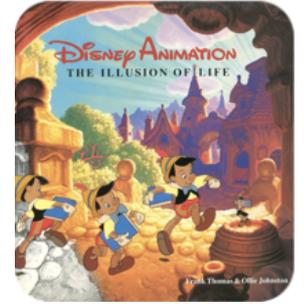
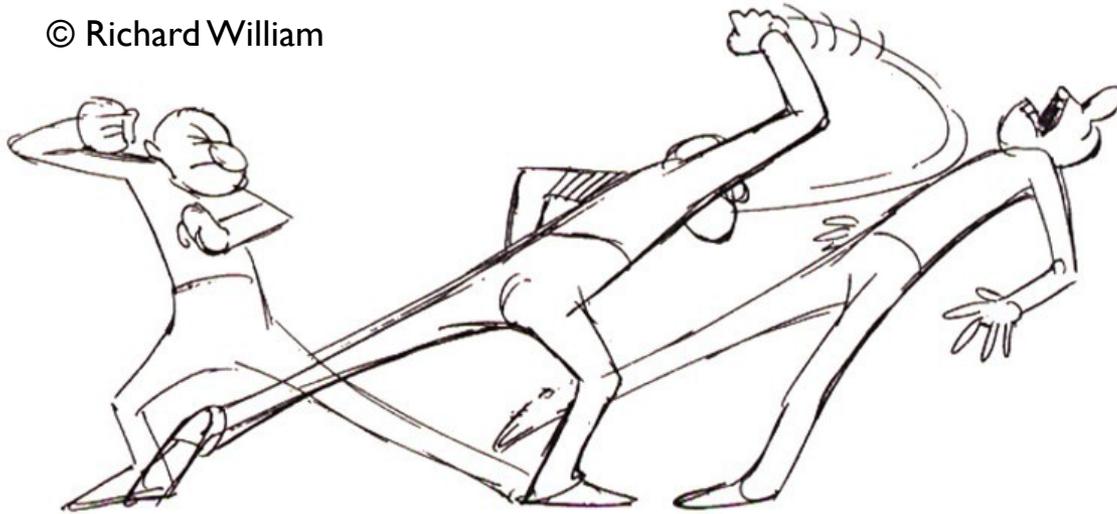
Distorsion de la forme pour accentuer le mouvement (avec préservation du volume)



4. Anticipation

Action inverse au mouvement pour l'accentuer

© Richard William

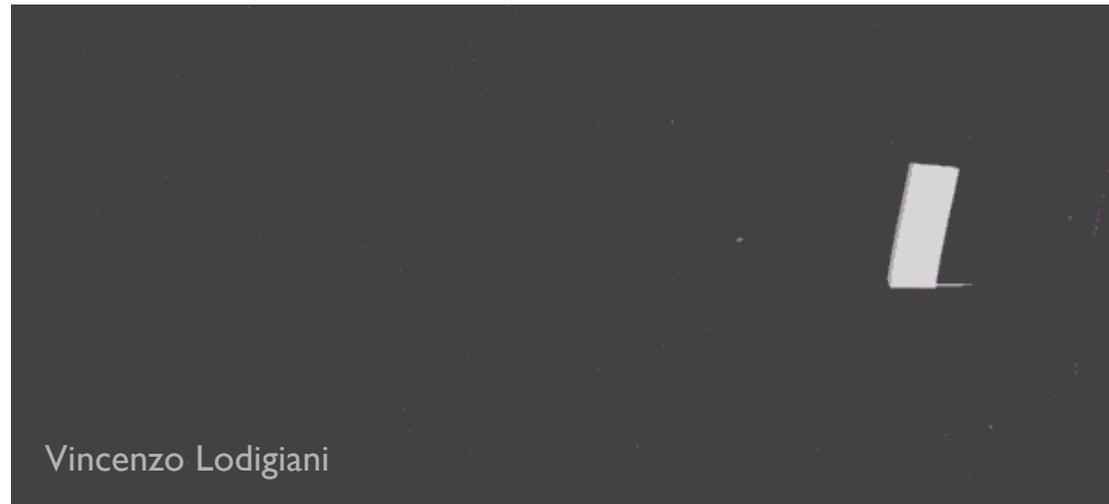
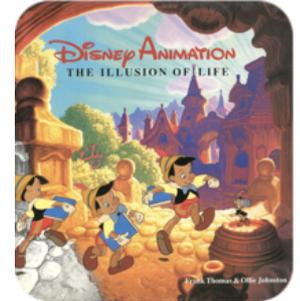
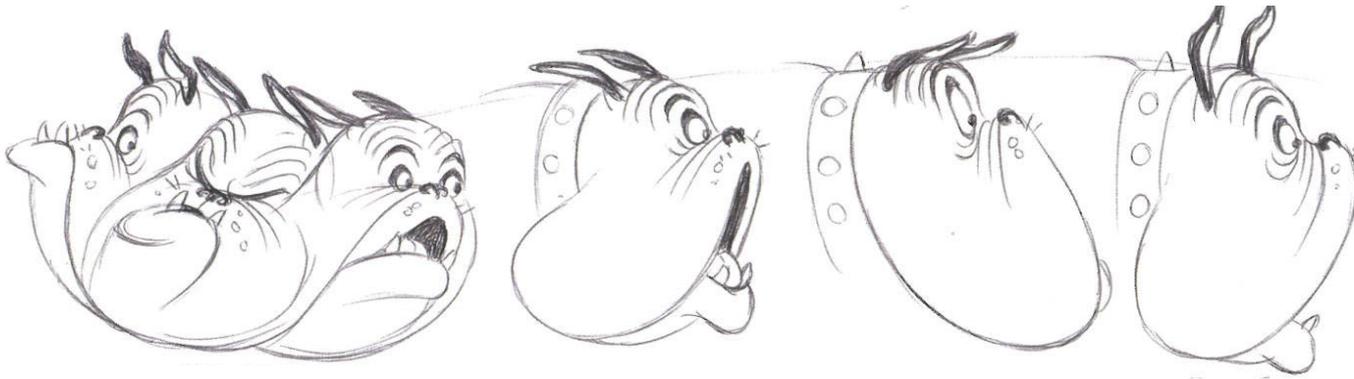


Vincenzo Lodigiani

5. Follow through & Overlapping

Retards et anticipations de certaines parties de la forme

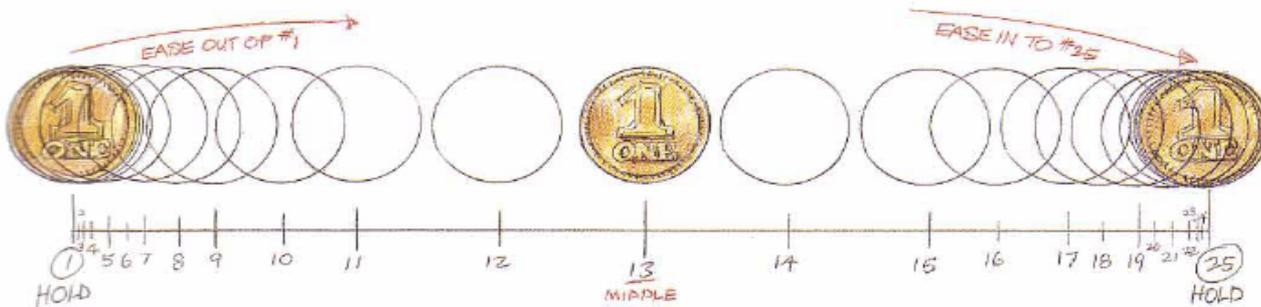
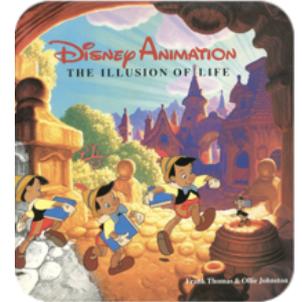
© Richard William



Vincenzo Lodigiani

6. Slow in, slow out

Exagération de l'accélération et de la décélération aux extrémités de la trajectoire

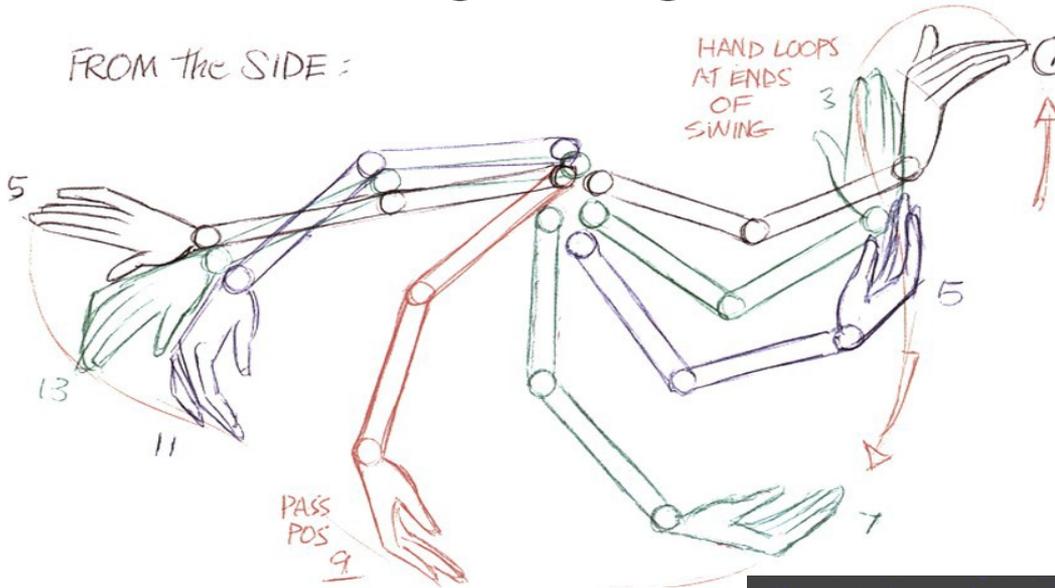
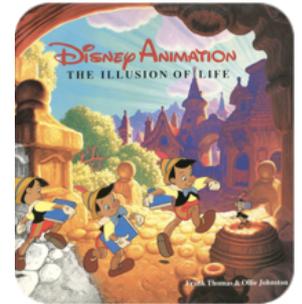


© Richard William

Vincenzo Lodigiani

7. Arcs

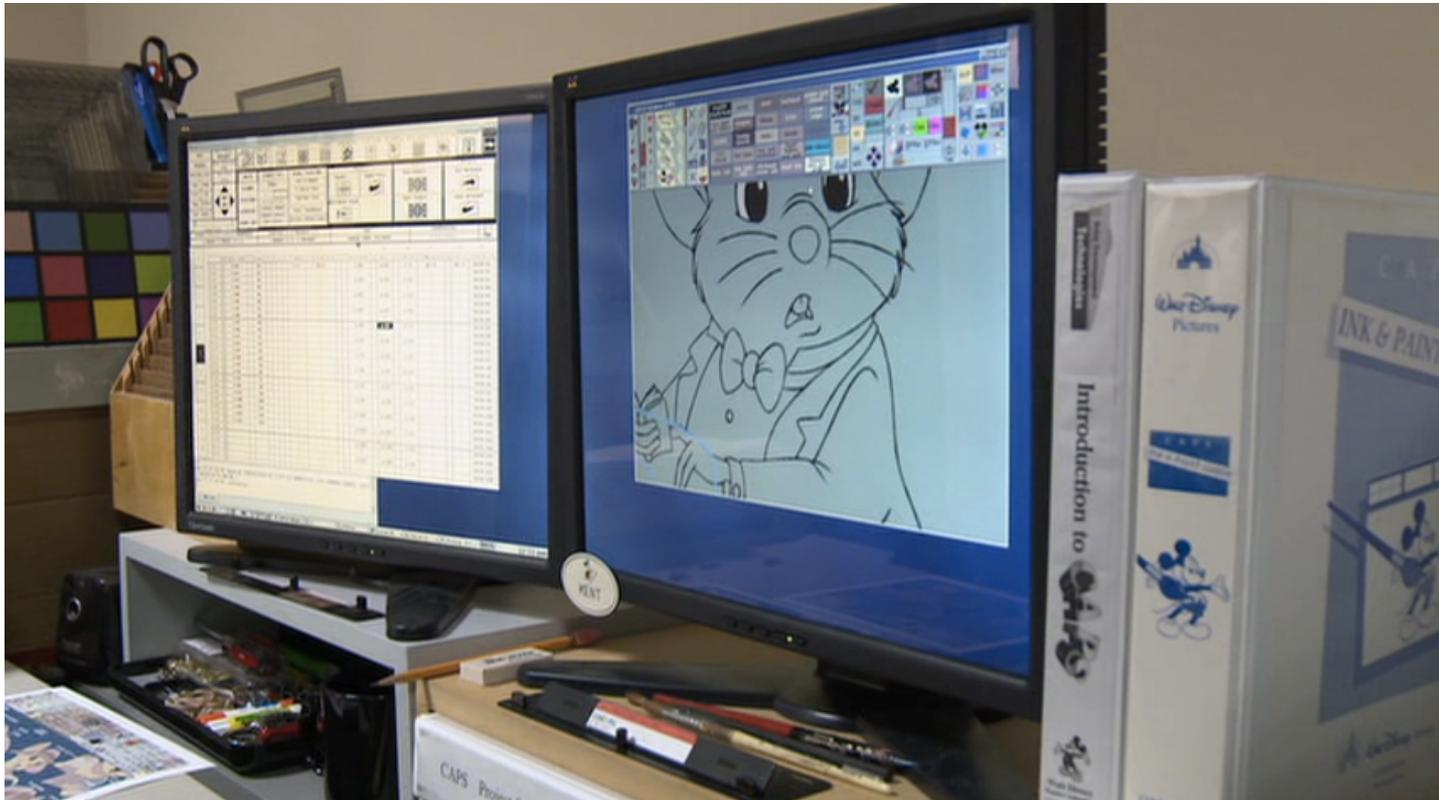
Rien ne bouge en ligne droite mais selon un arc



© Richard William

Vincenzo Lodigiani

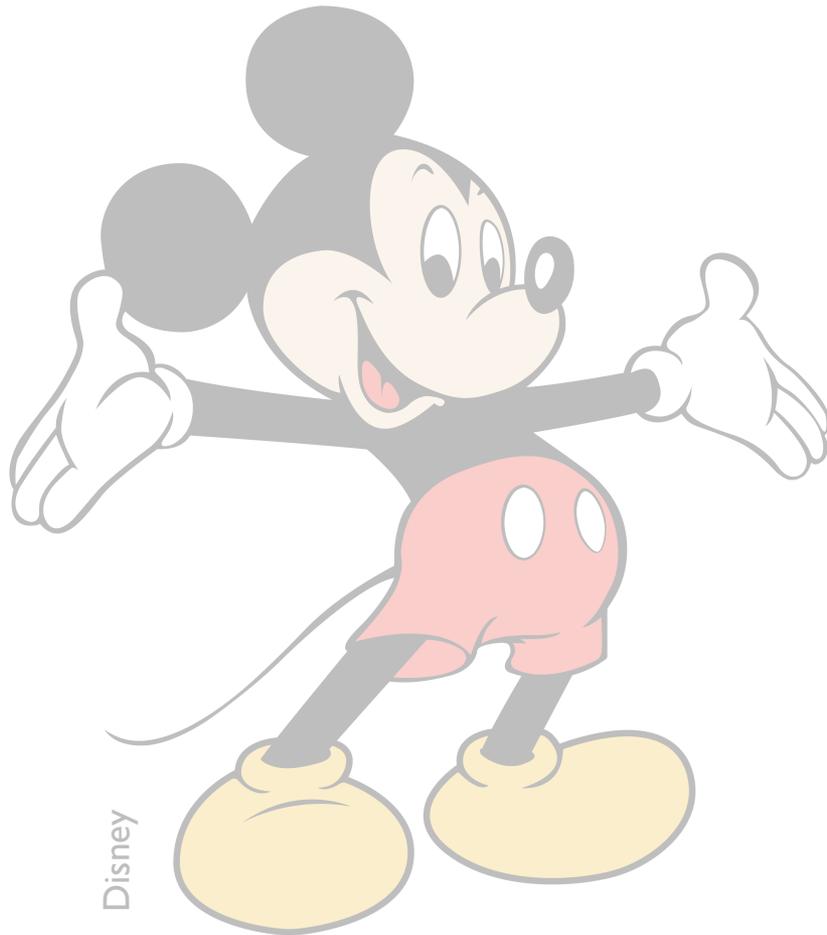
Encrage et remplissage digital



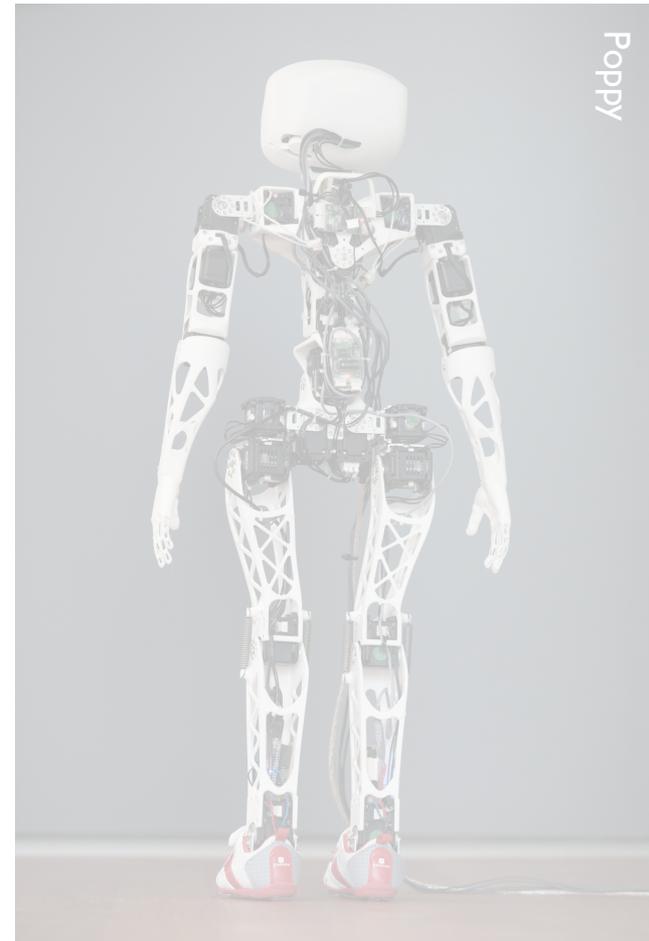
CAPS, LucasFilm - Pixar - Disney
(1989-2006)

Double héritage

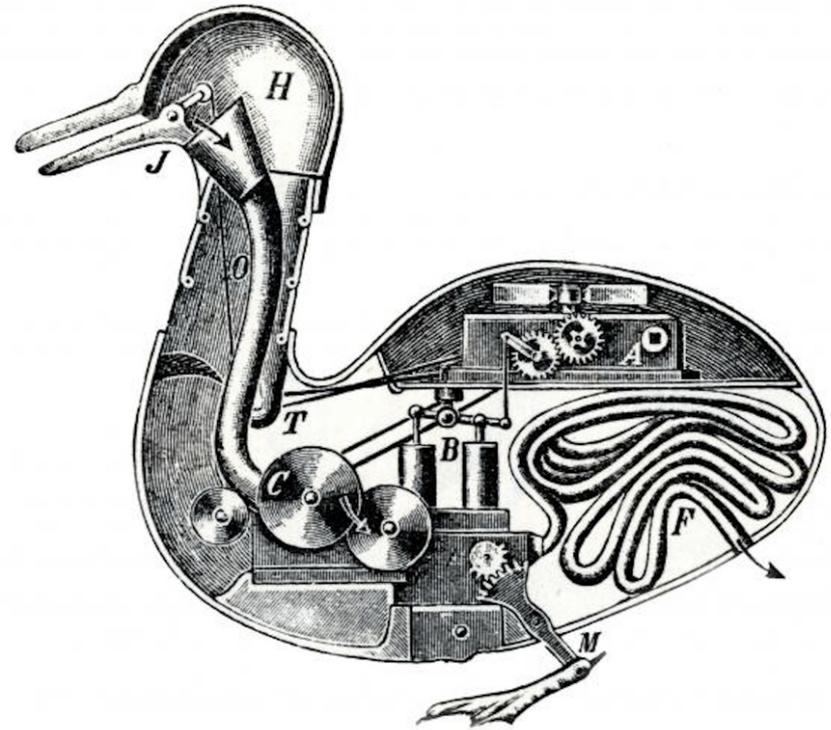
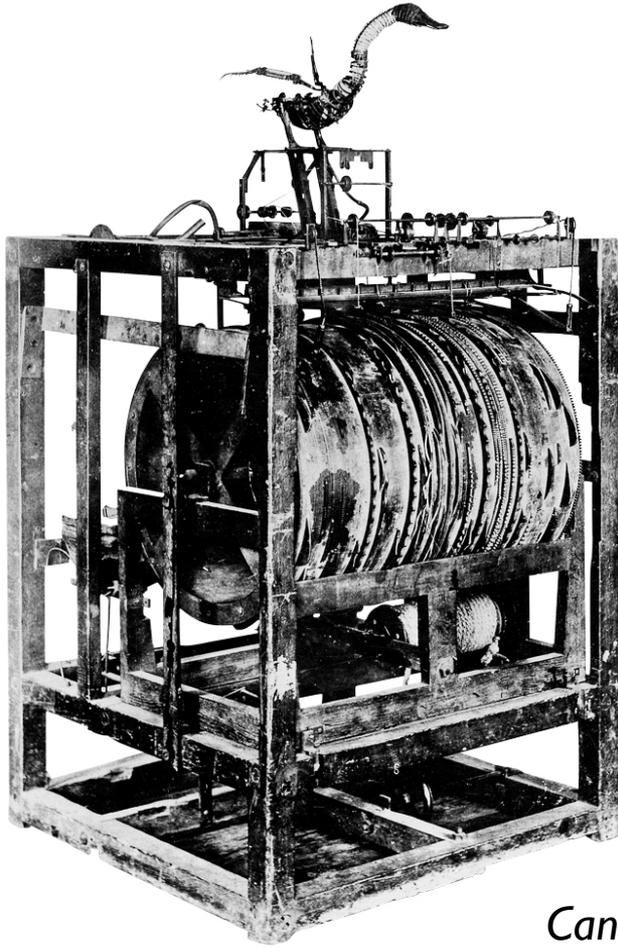
Dessin animé



Robotique

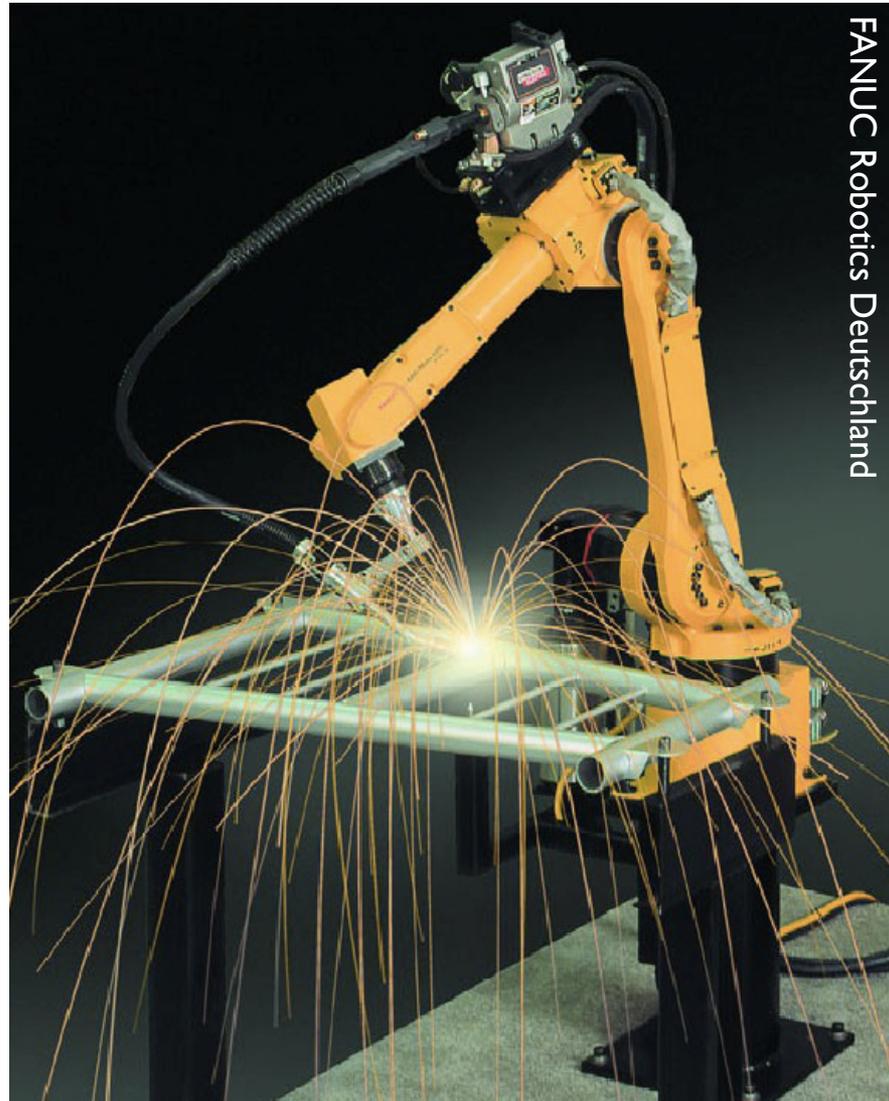


Automates



Canard digérateur (1744)
Jacques de Vaucanson

Robots industriels



Animatronique



Jurassic Park (1993)

Débuts de l'animation 3D

Recherche académique

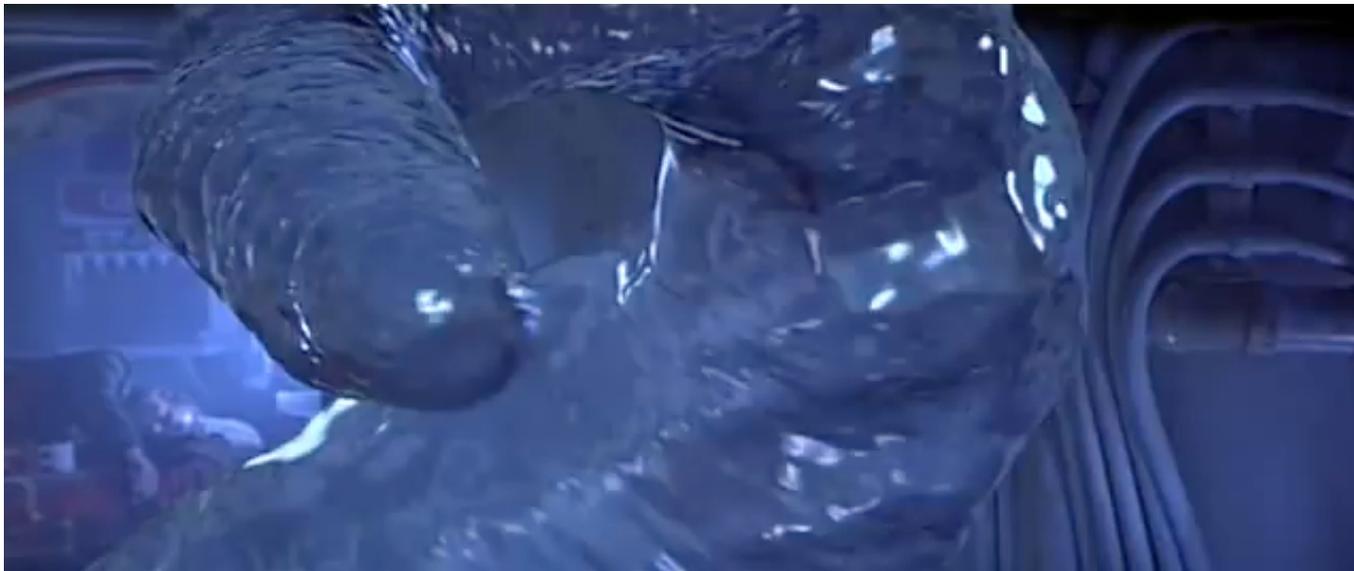
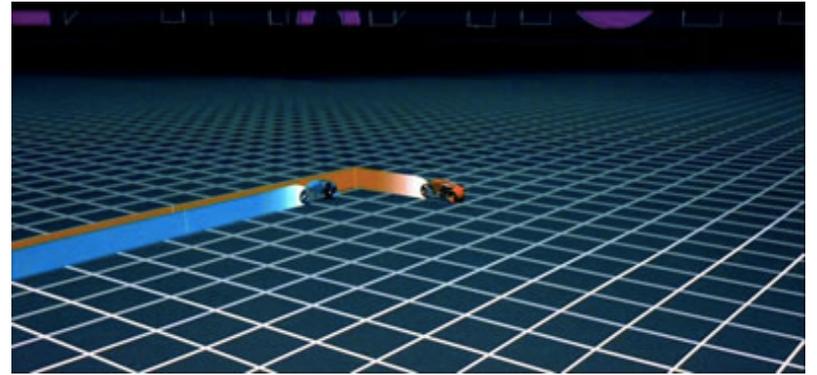


A Computer Animated Hand (1972)
Ed Catmull - Fred Parke

Débuts de l'animation 3D

Effets spéciaux

Tron (1986)



Abyss (1989)

Débuts de l'animation 3D

Court métrage d'animation 3D



Luxo Jr. (Pixar 1986)

Débuts de l'animation 3D

Long métrage d'animation 3D



Toy Story, (Pixar 1995)



Pipeline standard

