

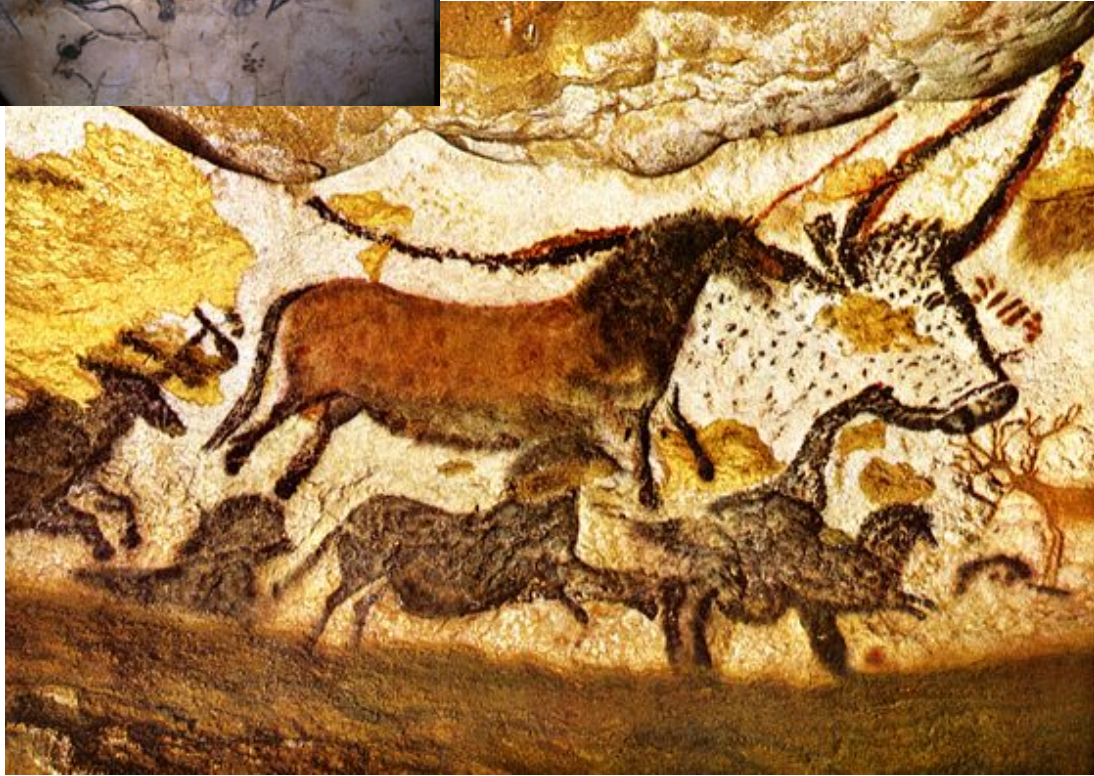
# Human Representations of Motion

- a brief history of depicting motion

Chauvet



Lascaux



# Notation systems

◆ speech

◆ music

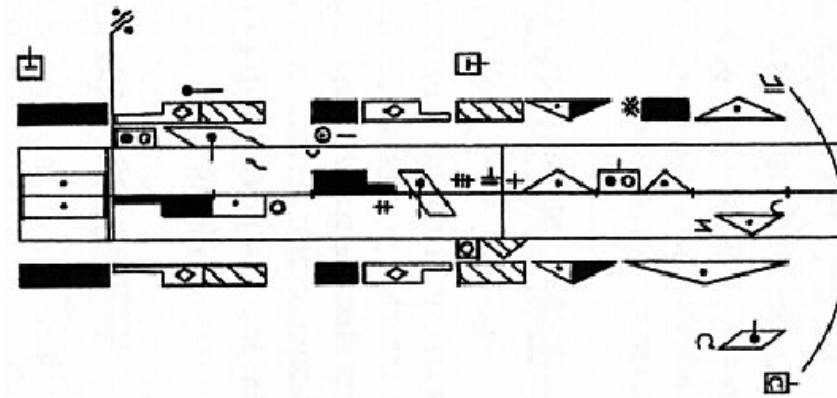
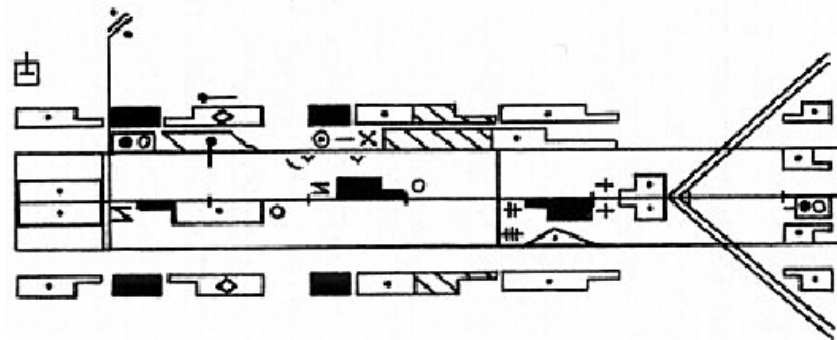
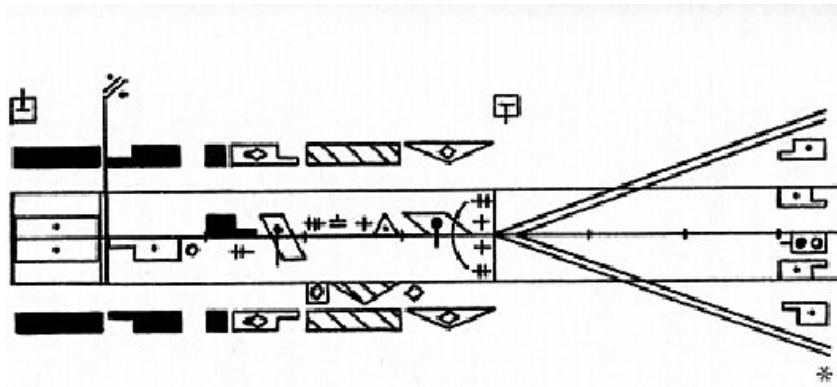
◆ motion

वसंत-त्रिताल (मध्य लय)

स्थायी

नि	ग					नि						
सां	सा	म	म	-	म	नि	ध	सां	नि	ध	प	(प) मंग म ग
ऋ	तु	व	सं	ऽ	त	ब	न	फू	ऽ	ल	र	ही ऽऽ ऽऽ
३				×				२				०
ग				ग					ग			
म	-	म	म	म	म	नि	नि	म	ग	-	म	ग रे - सा
सा	ऽ	द	त	अ	ति	म	न	ह	र	ऽ	फू	ल बा ऽ रि
३				×				२				०

music (?)



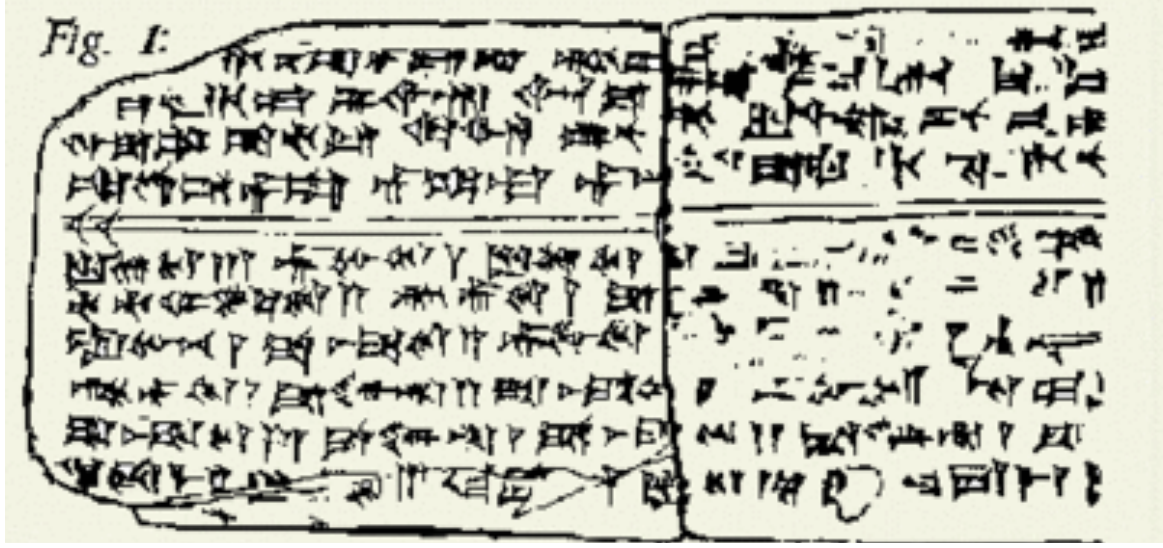
choreography:  
Labanotation

*Allegretto*

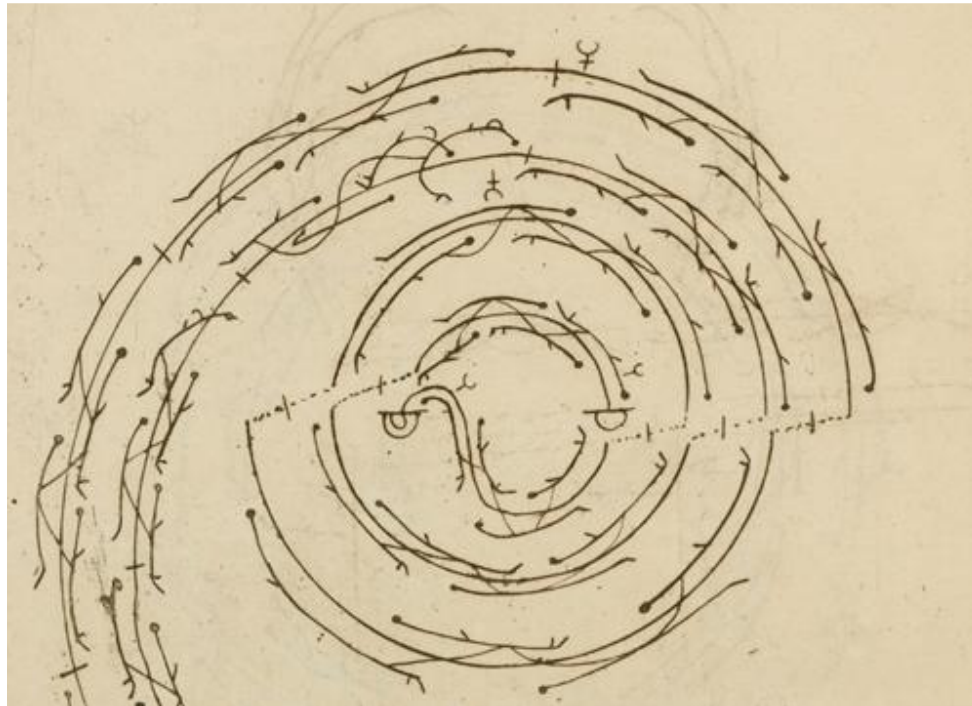
A handwritten musical score consisting of three staves. The first staff begins with a large number '2' in a box. The notation includes various notes, rests, and slurs. The second staff features a series of eighth notes with arrows pointing to the right, and a circled '2' below it. The third staff includes a circled 'φ' symbol. The score is heavily annotated with handwritten lines, arrows, and dots, indicating specific points of interest or choreographic cues. Vertical dashed lines are drawn through the staves at various measures.

choreography

Fig. 1:



music



choreography





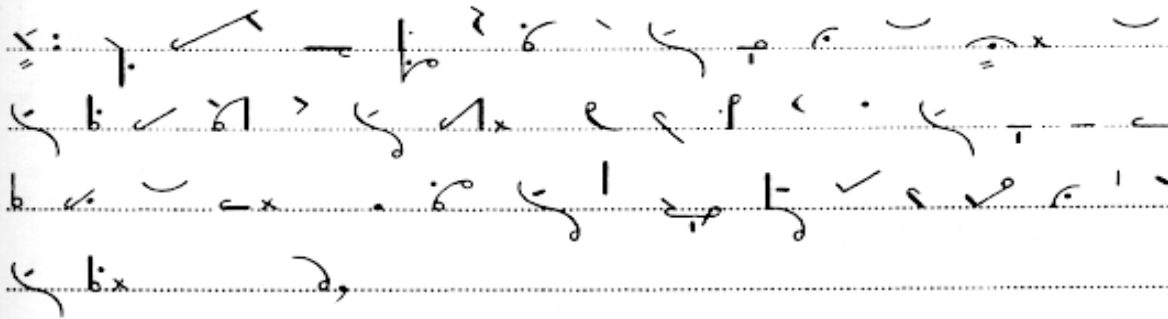
written text:  
“Demotic” from the  
Rosetta stone

# Tibetan chants: Yang-Yig graphic music notation

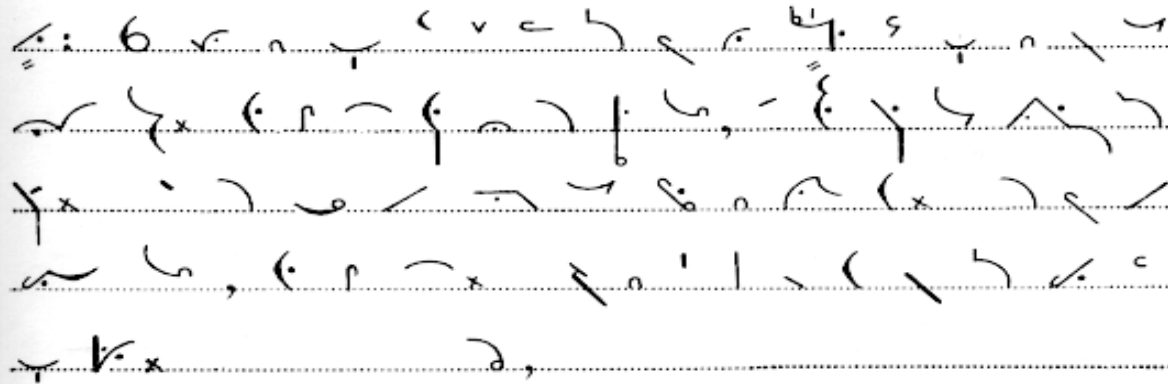
ms 51071

The manuscript page displays a series of red, wavy lines representing musical notation, interspersed with black text in Tibetan script. The notation consists of continuous, flowing lines that rise and fall, often ending in loops or curls. The text is written in a traditional Tibetan style, with some characters appearing to be syllables or specific musical instructions. The page is divided into several horizontal sections by the red lines, which act as a visual guide for the melody. The overall appearance is that of an ancient or historical document, with some wear and tear visible at the edges.

A.



B.



??

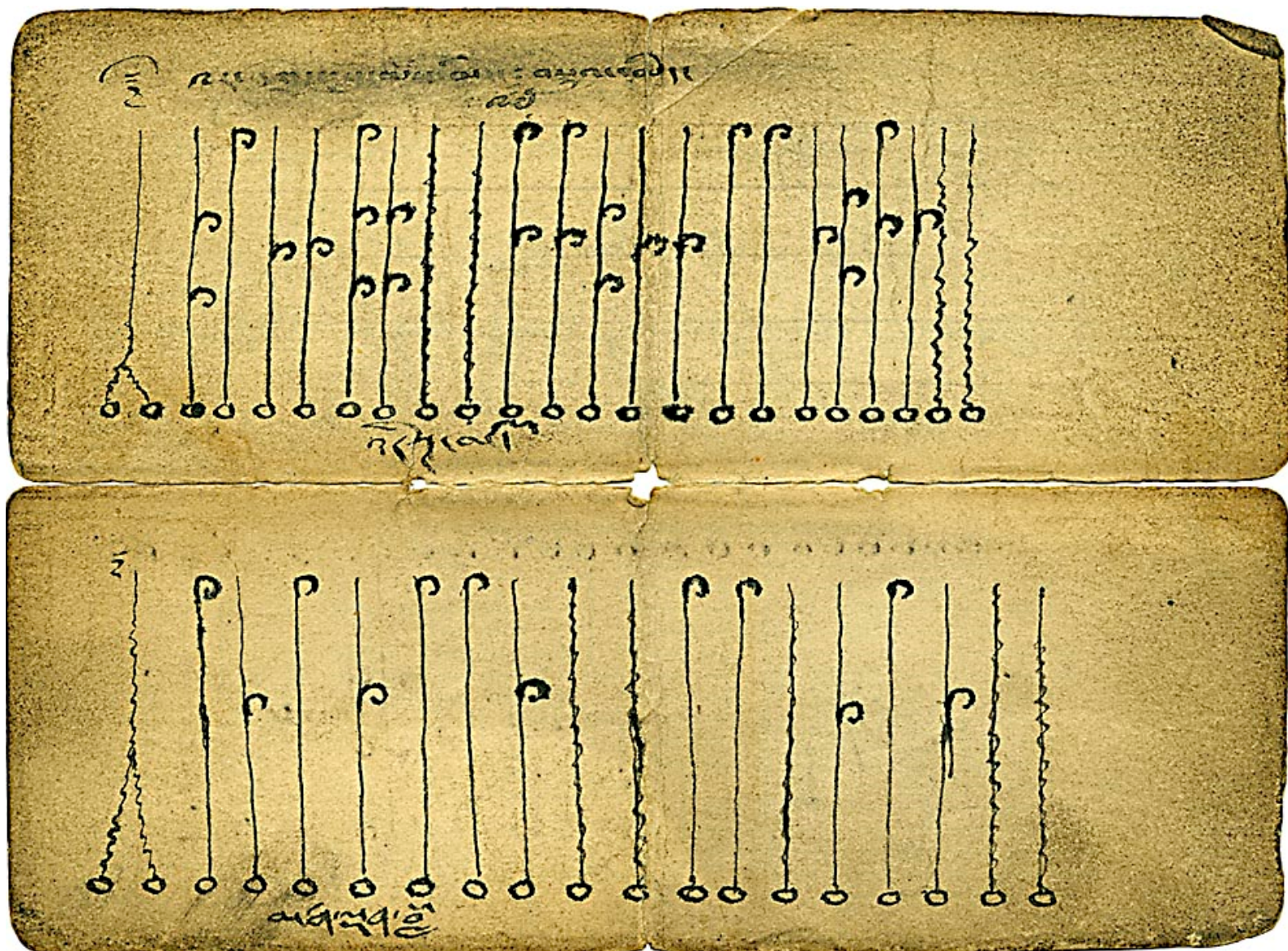


music (occasional symbols of text above the lines of greek text)  
stone at Delphi, hymn to Apollo



14th century music

music: Tablature notation for 4-string lute, Mongolia or Tibet



# motion for film: "2001 A Space Odyssey"

## Dawn of Man

### Movement of the Australopithecines

1) alignment:



DYNAMIC

Fluidity of movement -

Rag doll -

animal freedom

+ relaxation -

Ease w/ co.

ordinated

ENERGY

\*

Chest: up + forward to:

- pull torso up to fullest length
- give a forward lean to upper torso w/ a slight sway in the back (lower torso + pelvis must remain relaxed)

Head: forward from the chin

Knees: completely turned out w/

feet: remaining parallel, 1 foot apart

Shoulders: lift slightly so as to allow the arms to hang freely

~~with~~

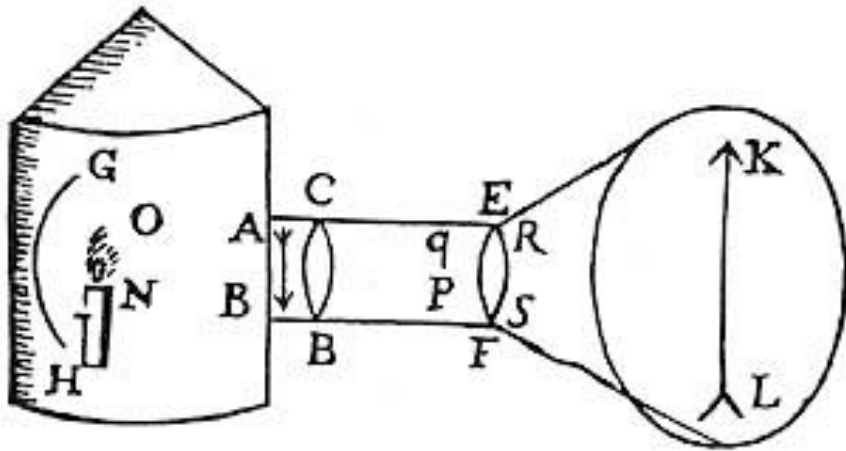
P.T.O.

# More on Representations...

- good representations are “obvious” in retrospect
- Notation is important!
  - computing with text:
    - Babylonians: cuneiform
  - computing with roman numerals
  - computing with 10 digits and modern algebraic symbols
- negative numbers?



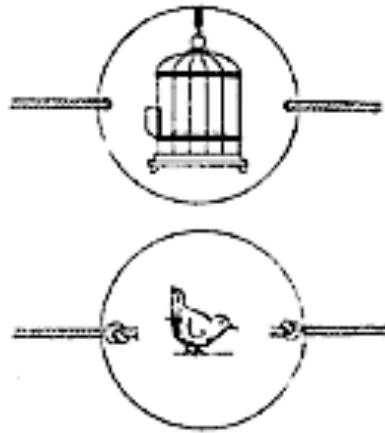
# Animation Display



“Magic Lantern”



THAUMATROPE,  
1825



Thaumatrope



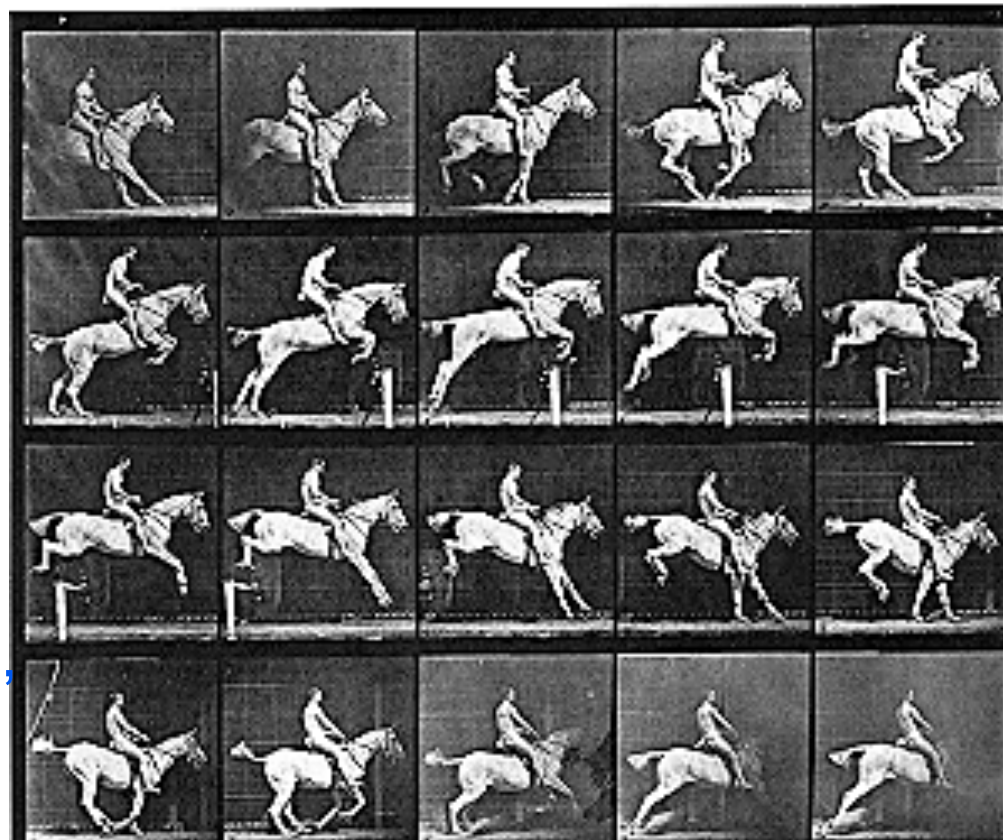
Zoetrope



Praxinoscope, 1877

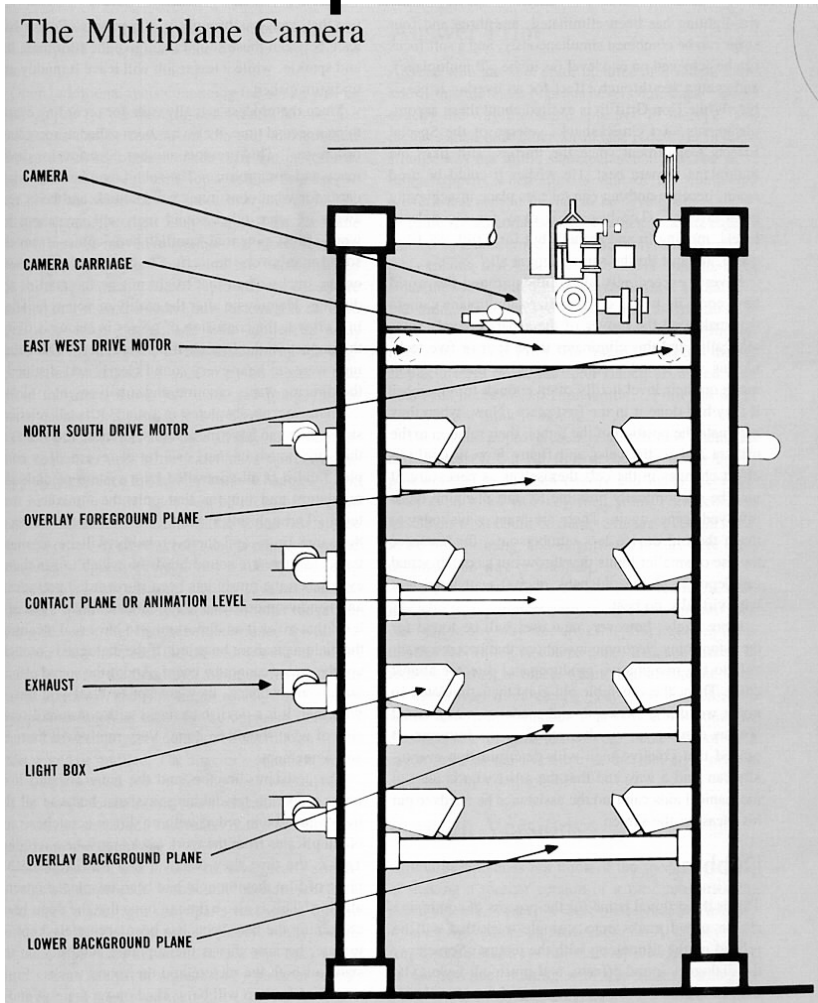
# Cinematography

1880s



(Figure from  
“Animals in Motion”,  
Muybridge)

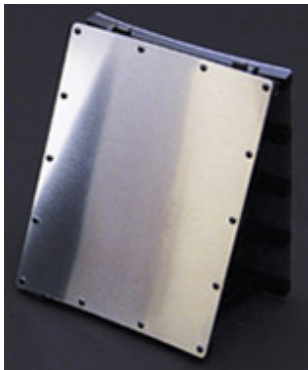
# Multiplane camera (1933)



Final use at Disney:  
1989, "The Little Mermaid"

(from "The Illusion of Life" Frank Thomas and Ollie Johnston)

# 3D Display



Jones et al., SIGGRAPH  
2009



3D glasses

# Motion Sculptures

