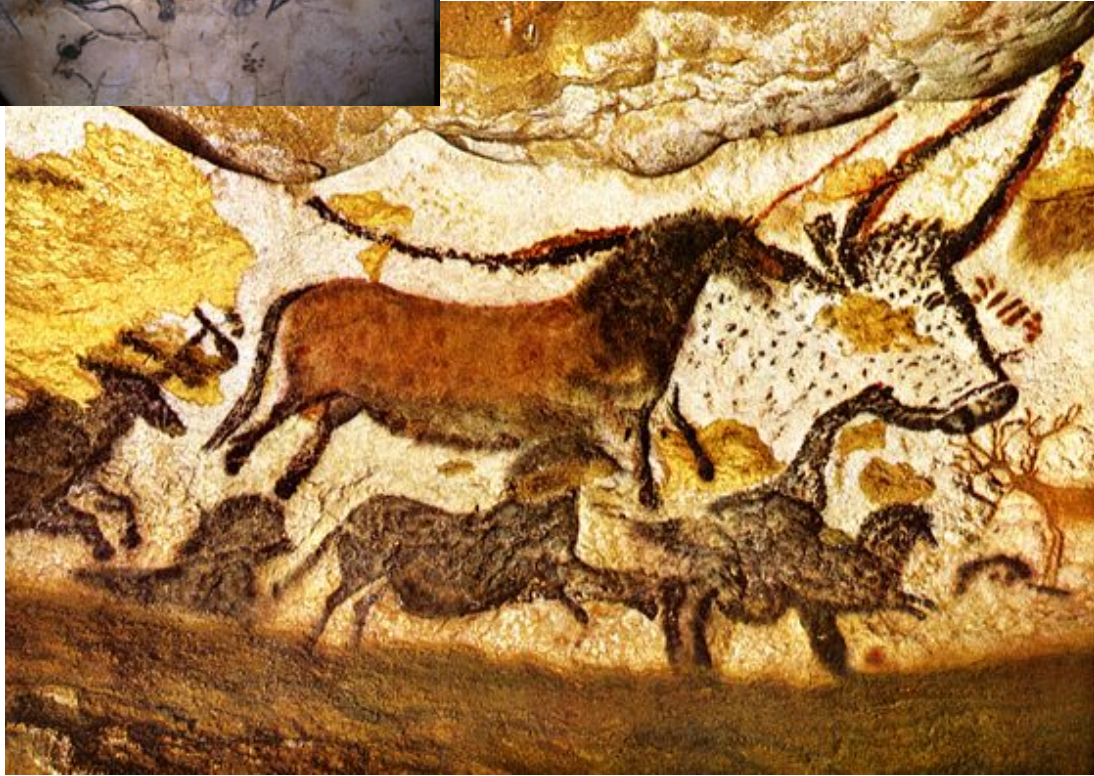# Human Representations of Motion

- a brief history of depicting motion

Chauvet

Lascaux

Notation systems

- ✦ speech
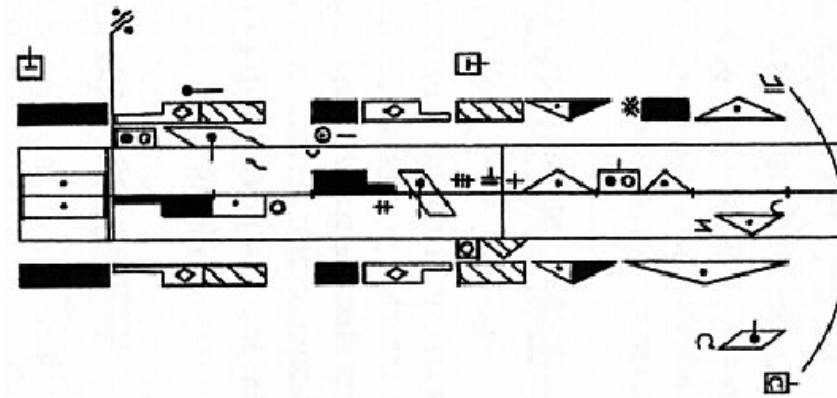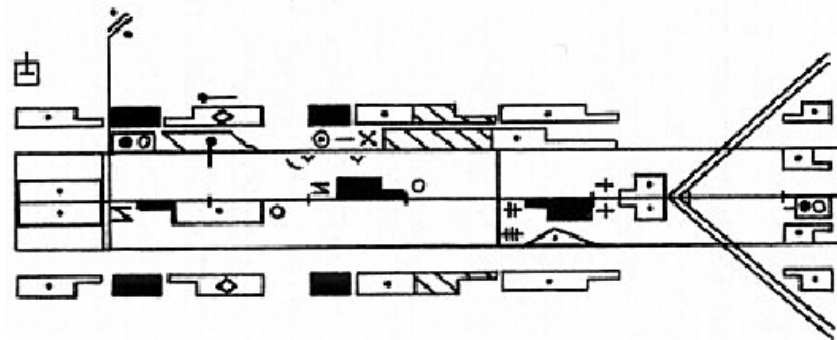- ✦ music
- ✦ motion

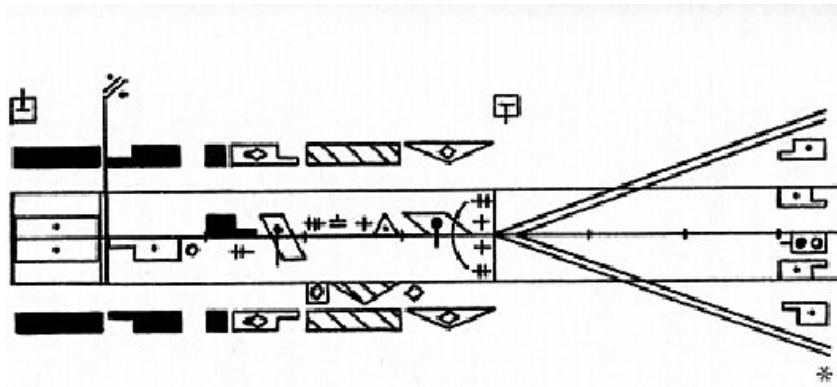वसंत –त्रिताल (मध्य लय)

स्थायी

नि॒   ग
सां सा म म | – म नि ध॒ | नि॒ सां नि ध॒ प | (प) मंग म ग
ऋ तु ब सं | ऽ त ब न | फू ऽ ल र | ही ss s s
३   ×   २   ०
ग   ग   ग
म – म म | म म नि नि | मं ग – मं | ग रे॒ – सा
सा ऽ द त | अ ति म न | ह र ऽ फु | ल बा ऽ रि
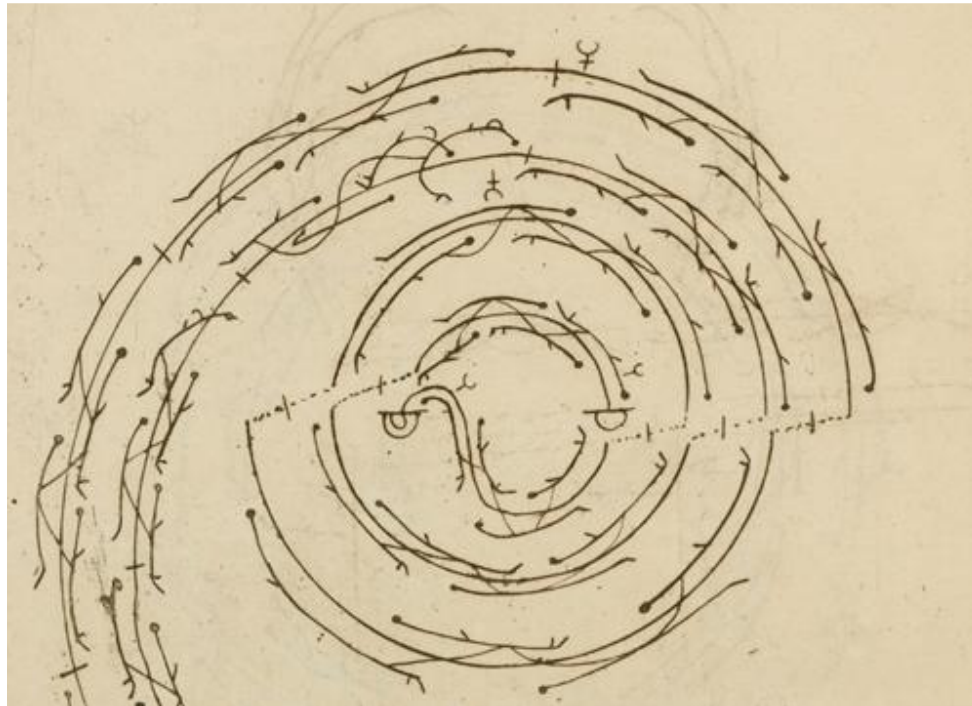३   ×   २   ०

music (?)

choreography:
Labanotation

choreography

Fig. 1:
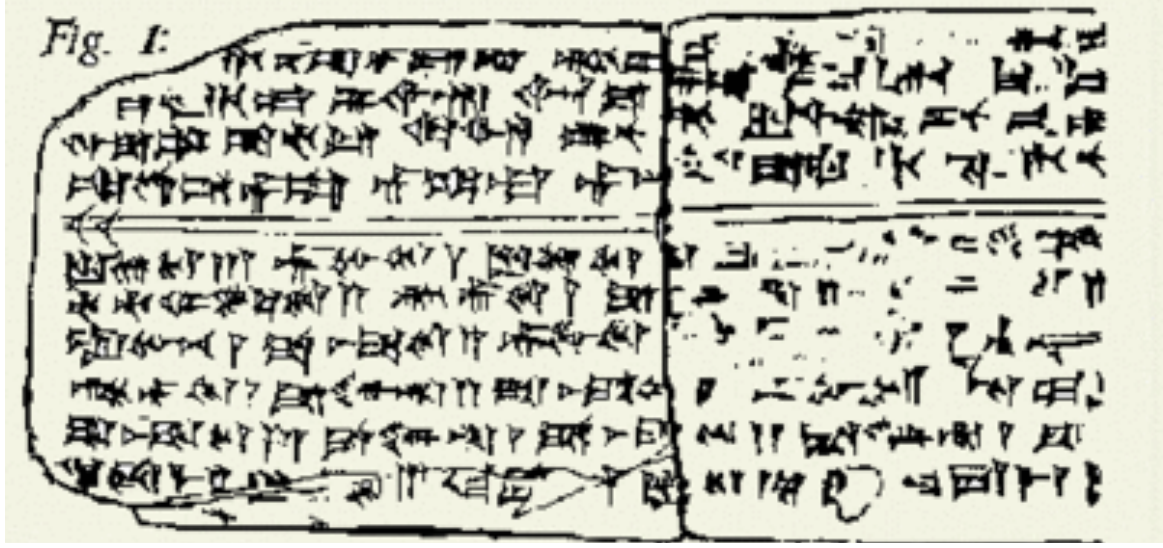
music

choreography

written text:
"Demotic" from the
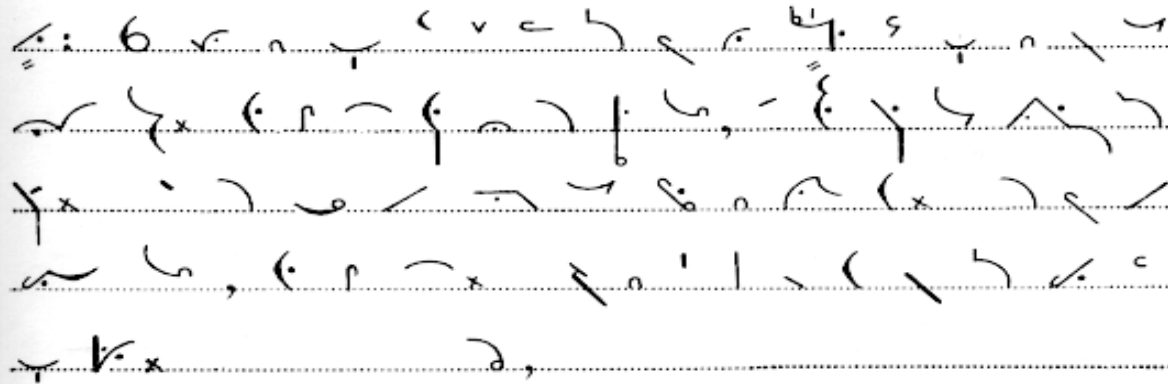Rosetta stone

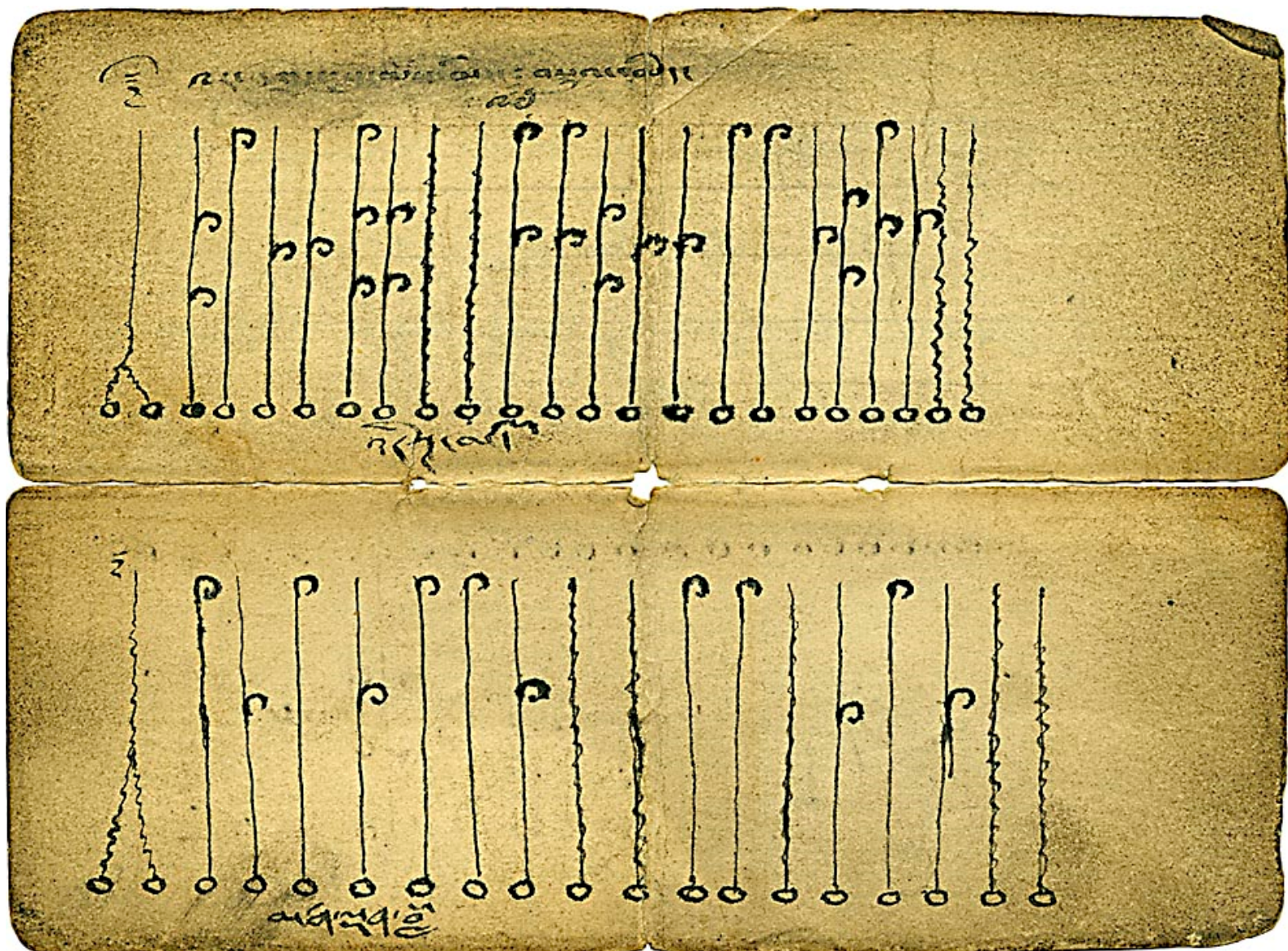# Tibetan chants: Yang-Yig graphic music notation

A.
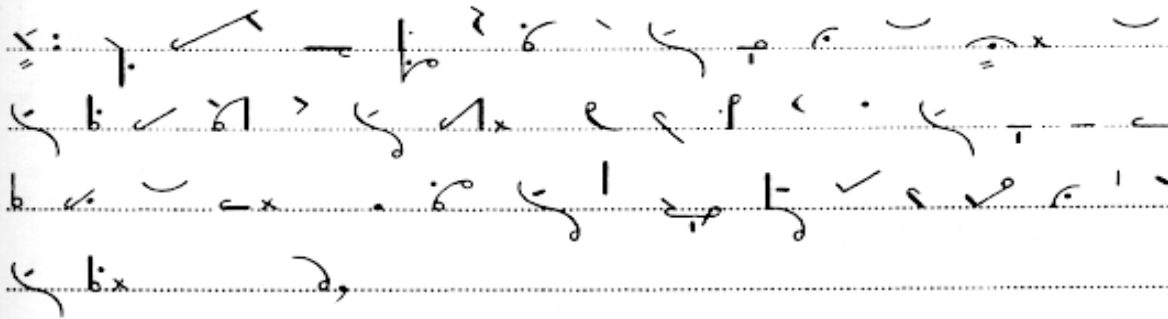
B.

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

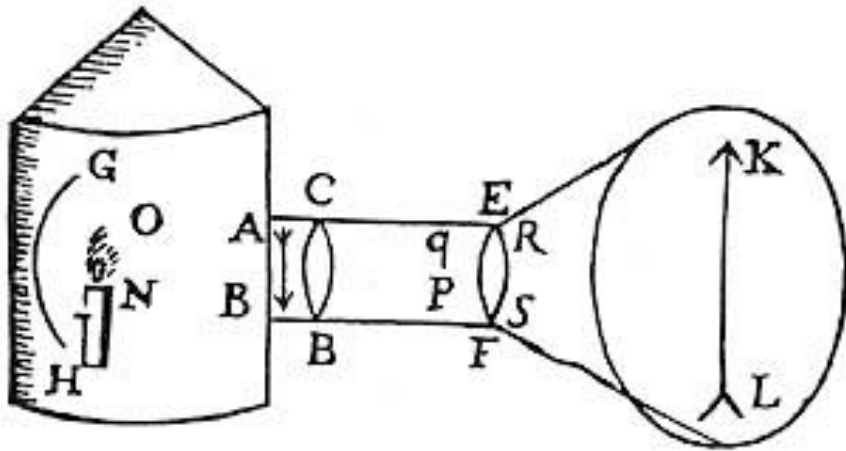# motion for film: "2001 A Space Odyssey"

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
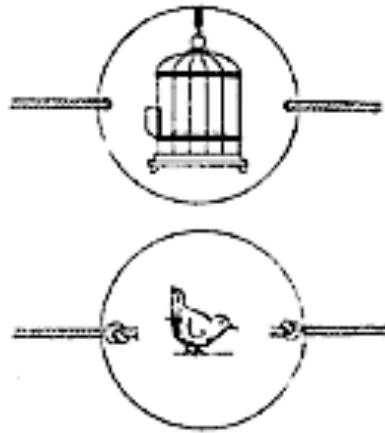- negative numbers?

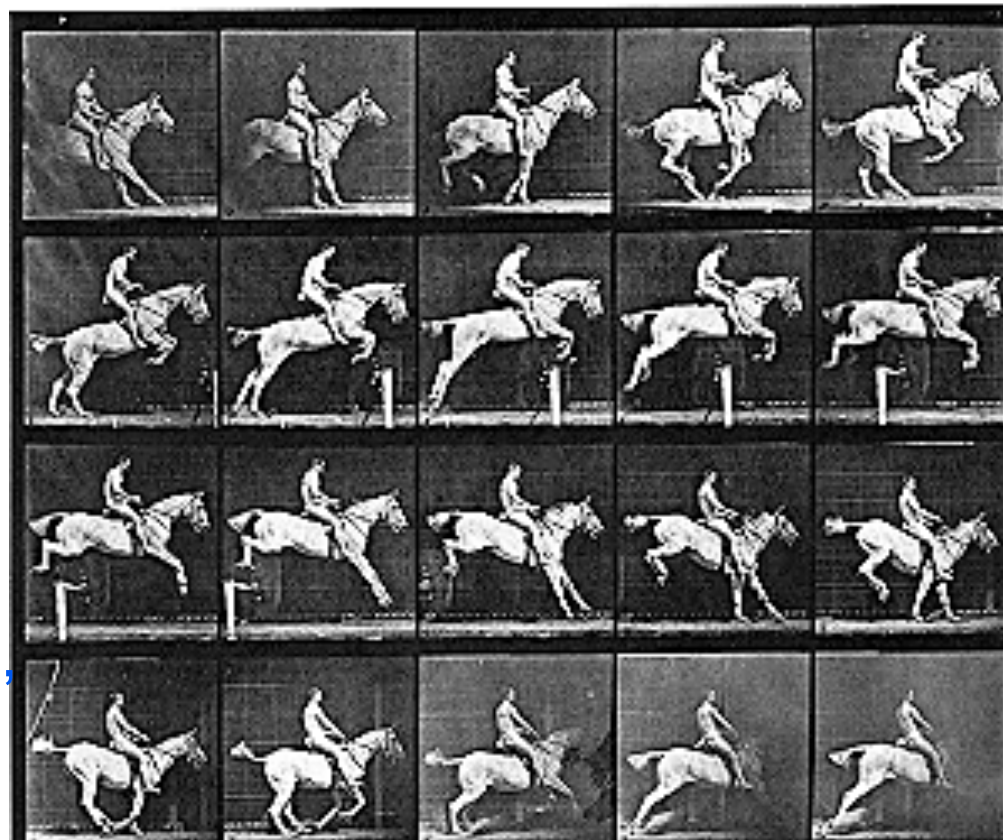# Animation Display

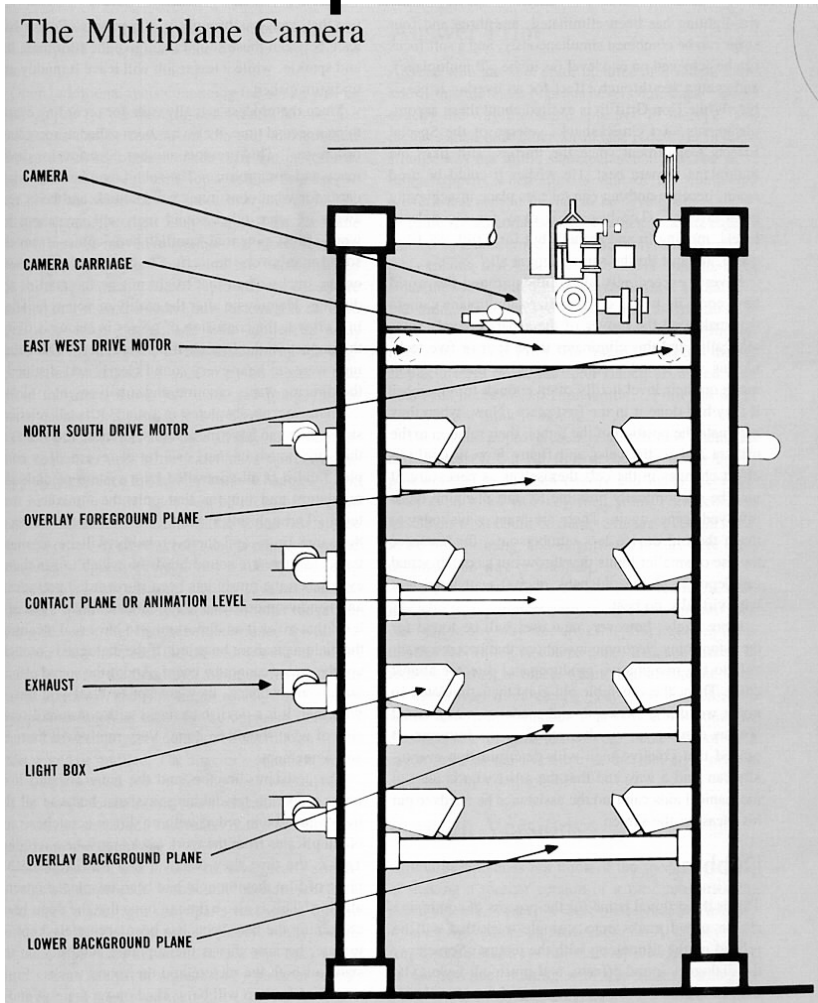
"Magic Lantern"

Thaumatrope

Zoetrope

Praxinoscope, 1877

Cinematography

1880s

(Figure from
"Animals in Motion",
Muybridge)

Multiplane camera (1933)

The Multiplane Camera

CAMERA
CAMERA CARRIAGE
EAST WEST DRIVE MOTOR
NORTH SOUTH DRIVE MOTOR
OVERLAY FOREGROUND PLANE
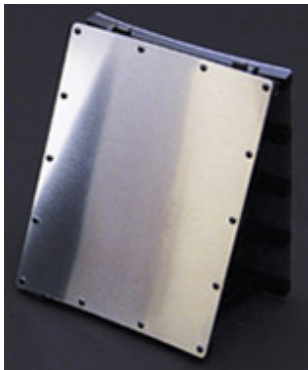CONTACT PLANE OR ANIMATION LEVEL
EXHAUST
LIGHT BOX
OVERLAY BACKGROUND PLANE
LOWER BACKGROUND PLANE

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

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

3D Display

Jones et al., SIGGRAPH 2009

3D glasses

Motion Sculptures