

Film as an emotional artifact.
Aalto University
UWAS



Cognitive Film Theory

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WHAT IS CINEMA?

FORMALISM

QUESTION ABOUT THE FORM

INTEREST ABOUT THE CINEMATOGRAPHIC TECHNIC



H. MÜNSTERBERG

Mental phenomena
(Art of the Mind)

CONTEMPLATION

IMAGINATION

EMOTIONS



RUDOLF ARNHEIM

Perception
(Art of Ilusion)

DISTURBANCE

EXPRESSION

ORGANIZATION



BELA BALÁZS

Language-Form
(Independent Art)

EDITING

EXPERIENCE

IDENTIFICATION

WHAT IS CINEMA?

STRUCTURALISM

QUESTION ABOUT THE STRUCTURE
INTEREST ABOUT THE CINEMATOGRAPHIC LANGUAGE



S. M. EISENSTEIN
ORGANIC-DIALECTIC

CREATE MEANING
ATTRACTIONS

JUXTAPOSITION
METHODS OF MONTAGE

PRODUCE IDEAS
CONSTRUCTION

METRIC HARMONIC RHYTHMIC TONAL INTELECTUAL

WHAT IS CINEMA?

ACCEPTANCE

CULTURAL FACT

SPECIALIZATION

PROCEDURES

UNIVERSALIZATION

GLOBAL DEBATE

50's & 60's

70's & 80's

AESTHETIC

ANALYTICS

SCIENTIFIC

INTERPRETATIVE

THE ESSENCE OF
SCIENTIFIC PARADIGMS

METAPHYSICAL
(CONSTITUTIVE)

SYSTEMATIC
(REGULATOR)

PHYSICAL
(INDUCTIVE)

ONTOLOGICAL
THEORIES

METHODOLOGICAL
THEORIES

PRACTICE
THEORIES

FILM THEORIES

WHAT DO THEY TALK ABOUT?

ONTOLOGICAL
THEORIES

METAPHYSICAL
ESSENCE
DEFINE
GLOBAL
TRUTH

METHODOLOGICAL
THEORIES

SYSTEMATIC
RELEVANCE
ANALYZE
PERSPECTIVE
CORRECTION

PRATICE
THEORIES

PHENOMENIC
PROBLEM
EXPLORE
TRANSVERSAL
IMPREGNATION

FILM THEORIES

WHO ARE THE THEORIST?

ONTOLOGICAL
THEORIES

CRITICS
JOURNAL
LANGUAGE
ESSAY
CULTURAL

METHODOLOGICAL
THEORIES

ACADEMICS
UNIVERSITY
TRAJECTORY
REPORT
SCIENTIFIC

PRATICE
THEORIES

SPECIALIST
MASS MEDIA
INTEREST
INTERVENCIONAL
SOCIAL

FILM THEORIES

WHAT ARE THEIR FIELD OF DOMAIN?

ONTOLOGICAL
THEORIES

REALISM
IMAGINERY
LANGUAGE

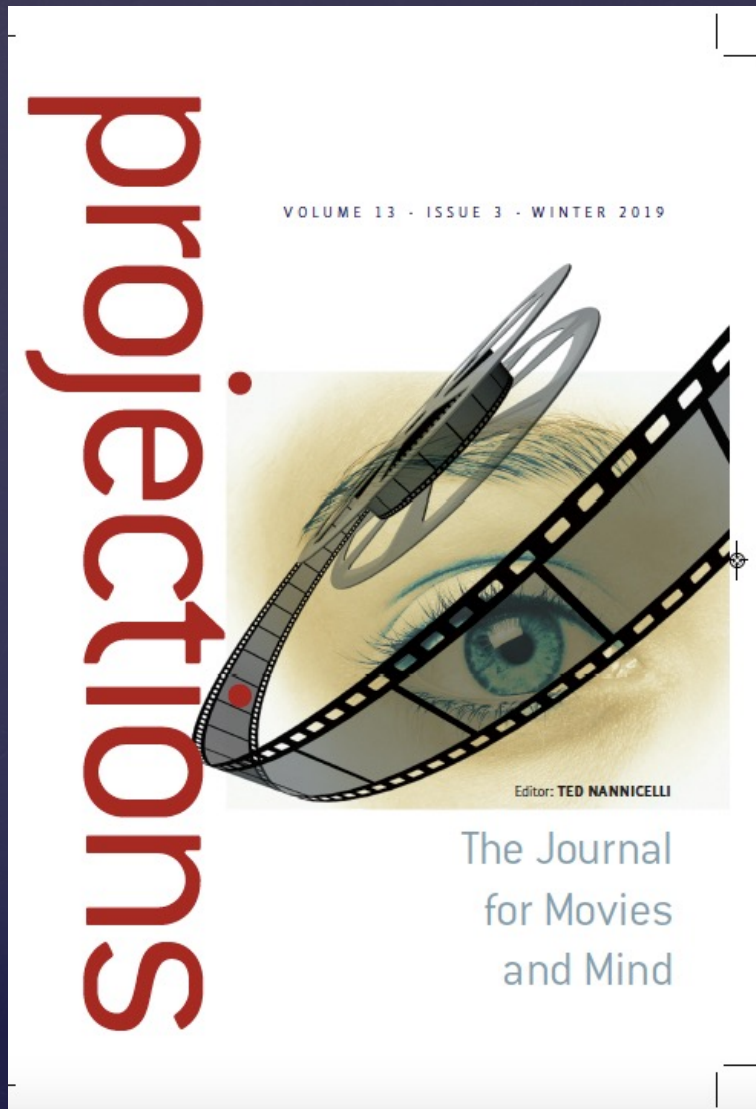
METHODOLOGICAL
THEORIES

PSYCHOLOGY
SOCIOLOGY
PSYCHOANALYSIS
SEMIOTICS

PRATICE
THEORIES

POLITICS
SEMIOTICS
FEMINISM
NARRATOLOGY
CULTURE
HISTORY

COGNITIVE FILM THEORIES



- ⌘ Apparent motion and perception of Scenes.
- ⌘ Continuity of events and viewer attention.
- ⌘ Mental representation and event comprehension.
- ⌘ Cognitive schemas and the canonical set – up of the cinema.
- ⌘ Theory of mind and layered meaning of events.
- ⌘ A narrative simulation account of emotion in film viewing.
- ⌘ Engagment, interest, and enjoyment.
- ⌘ Absorption in film

An agenda of the psychology of Film

Münsterberg tasks

Functions of
psychological
mechanism

Film as an
artistic
medium

- ⌘ **Film experience:** Unique inner experience that brings our mind into a peculiar complex state.
- ⌘ **Psychological characteristics:** Perception, attention, memory and emotion.
- ⌘ **Awareness:** Unreality of perceived scenes.

Imagined world

- ⌘ Film's suggestions function as control of associated ideas, not felt as our creation but as something to which we have to submit.
- ⌘ Spectators' choice which ideas from memory and the imagination to fit to images presented on screen.

The Photoplay

HUGO MUNSTERBERG



A PSYCHOLOGICAL
STUDY

Film and Reality

“film is not an imitation of life”

- ⌘ Comparing a filmic representation of a scene with its natural perception is what analytic philosophers would call an error of category.
- ⌘ High lights shortcomings of film in representing scenes as we know them from natural perception.



(Arnheim 1957)



Film Expression



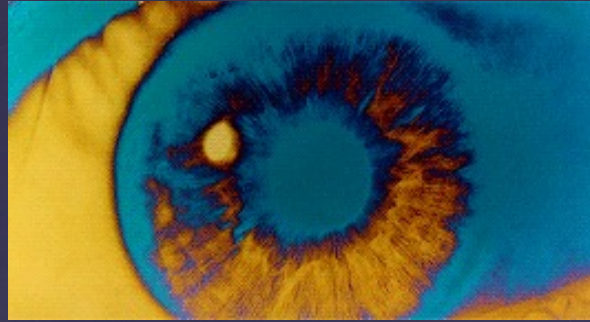
↳ Expression:

- ∞ The cornerstone aesthetic property of art works including film.
- ∞ *“Modes of organic or inorganic behavior displayed in the dynamic appearance of perceptual objects or events”.*
- ∞ **Expression's dynamic appearance:** structural creation of the mind imposing itself on sound, touch, muscular sensations and vision.
- ∞ **Expressive qualities:** the building blocks of symbolic meaning that art works including film add to the representation of objects and events as we know them in the outer world.

↳ The Making of Film:

- ∞ Formative means for artistic manipulations of visual scenes, delimitation and point of view, distance to objects and mobility of framing.
- ∞ Aesthetics of film gravitates towards acknowledged artistic productions more than to the naturalistic narrative film.

Why & How we perceive Motion



- ⌘ Psychologists need to explain is how retinal images that correspond one-to one.
 - ⌘ Apparent motion in film viewing needs to be smooth and depends on frame rates and masking effects.
- ⌘ **Persistence of vision** (P.M Roget, 1824). Illusion of movement by Slowness of the eye.
- ⌘ **The Andersons** (1993): The visual system performs an active integrative role in distinguishing what has changed from one image to another.

Why & How we perceive Motion

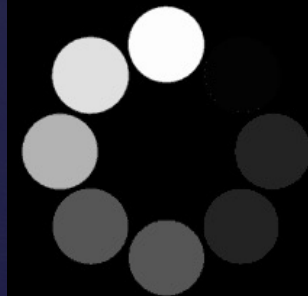
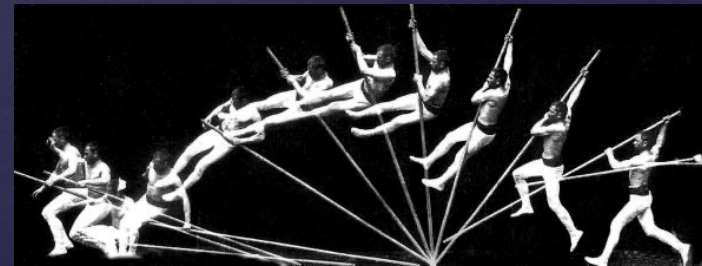
↳ **Induced motion** (Duncker, 1929): When we see a small target being spaced relative to a framework surrounding it, we invariably see the target moving irrespective of whether it is the target or the frame that is displaced.

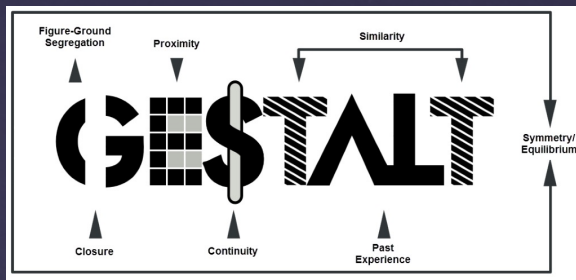
↳ **Phi and beta motion** (Kolars, 1972):

⌘ Phi (Wertheimer, 1912): An image of an object is presented twice in succession in different positions.

⌘ Beta: objectless motion, the perception seemed to be a sum or integration by the mind beyond the stimulus parts and asked for an explanation. It is also experienced when the objects in the subsequent presentations are different.

↳ **Arheim** (1974): The mind uses Gestalt principles and object consistency to perceive patterns in ongoing stimuli.





Principles

- ⌘ **Figure-ground**: we separate the figure from the ground to establish icons
- ⌘ **Good shape**: We organize the image to simplify the content.
- ⌘ **Similarity**: Grouping the similar elements pointing the different ones.
- ⌘ **Proximity**: We identify as a unity elements that are close to each others.
- ⌘ **Closure**: We fill the information gaps.
- ⌘ **Common movement**: The common elements generate lines that guide our sight.

Continuity of events and viewer attention

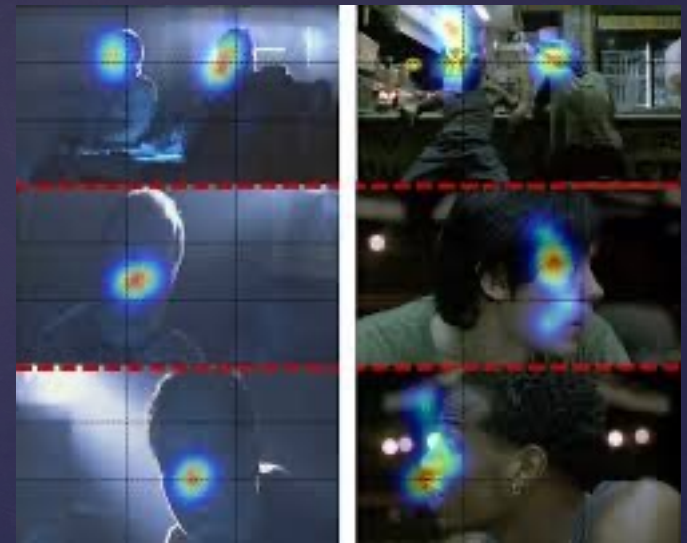
⌘ Experience of continuity (Bordwell, 1985): Continuity editing ensures fluency across shot transitions.

⌘ Framing, editing and sound finetune the viewer's top-down search to focus on candidate target stimuli.

⌘ AToCC (Attentional Theory of Cinematic Continuity) (Smith, 2012):

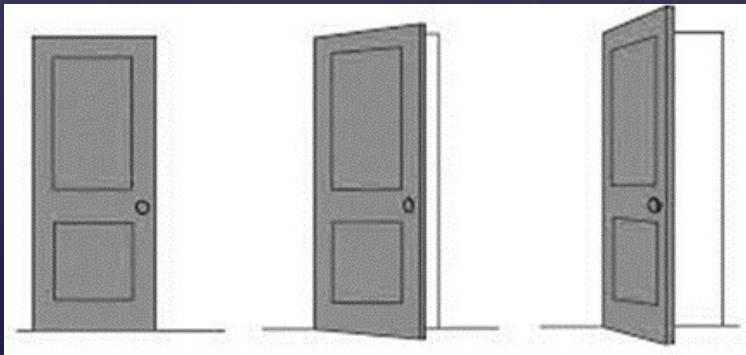
⌘ Continuity editing film style guides viewers' attention in seamlessly following action across cuts.

⌘ Higher level and lower level control of attention.

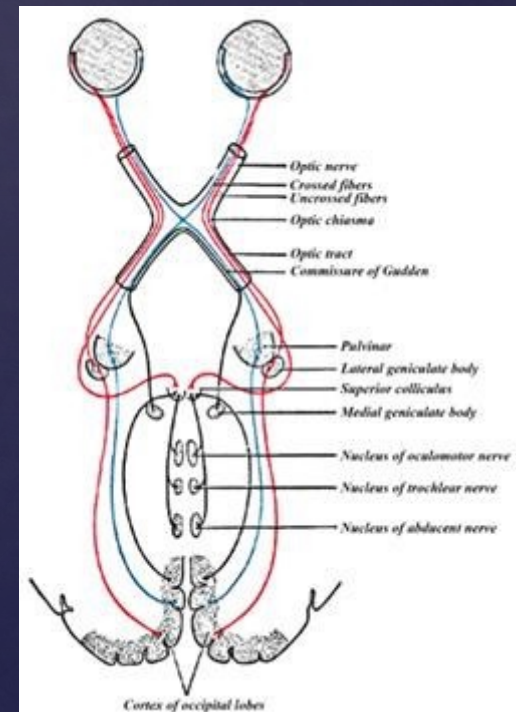


Visual perception

- ▶ The ability of the visual system to interpret information conveyed by light
→ Visual image 2-dimensional projection of 3-dimensional world
- ▶ Cognitive process: memory, thinking, language, creativity, problem solving, emotions...
→ active effort in understanding the world
→ organisation into meaningful entities via perception
- ▶ Through artefacts (art & design) deeper understanding of reality → creating ways to experience

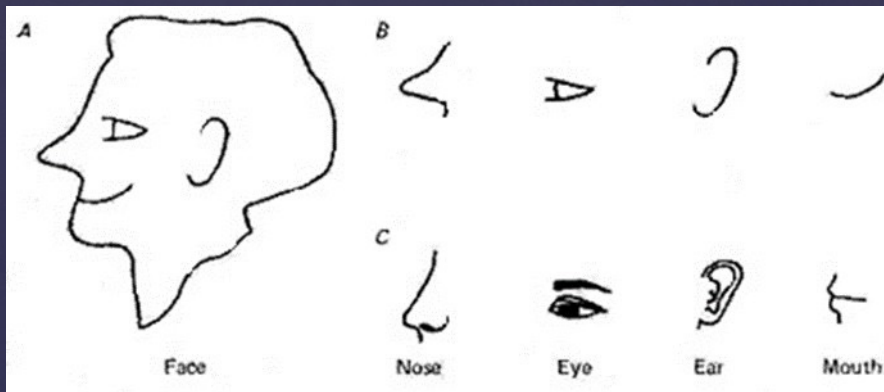


Perceptual constancy:
objects perceived as unchanged even changes occurring in the sensory stimulus (e.g. Goldstein, 1999; Lidwell et al., 2003)

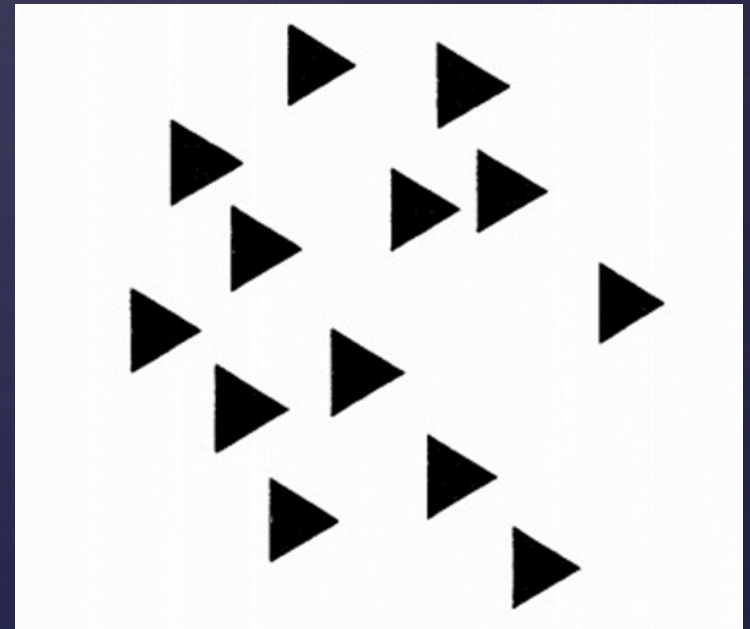


Hypotheses of reality

Perception is influenced by expectations, cues, other senses, attention, previous knowledge, experiences and context.



THE CAT



"When the internal part structure of the facial feature is differentiated (C), the features become recognizable out of the context" (Palmer, 1975)

Figure or ground



Mental Representation

Represent some external thing, object, concept or idea

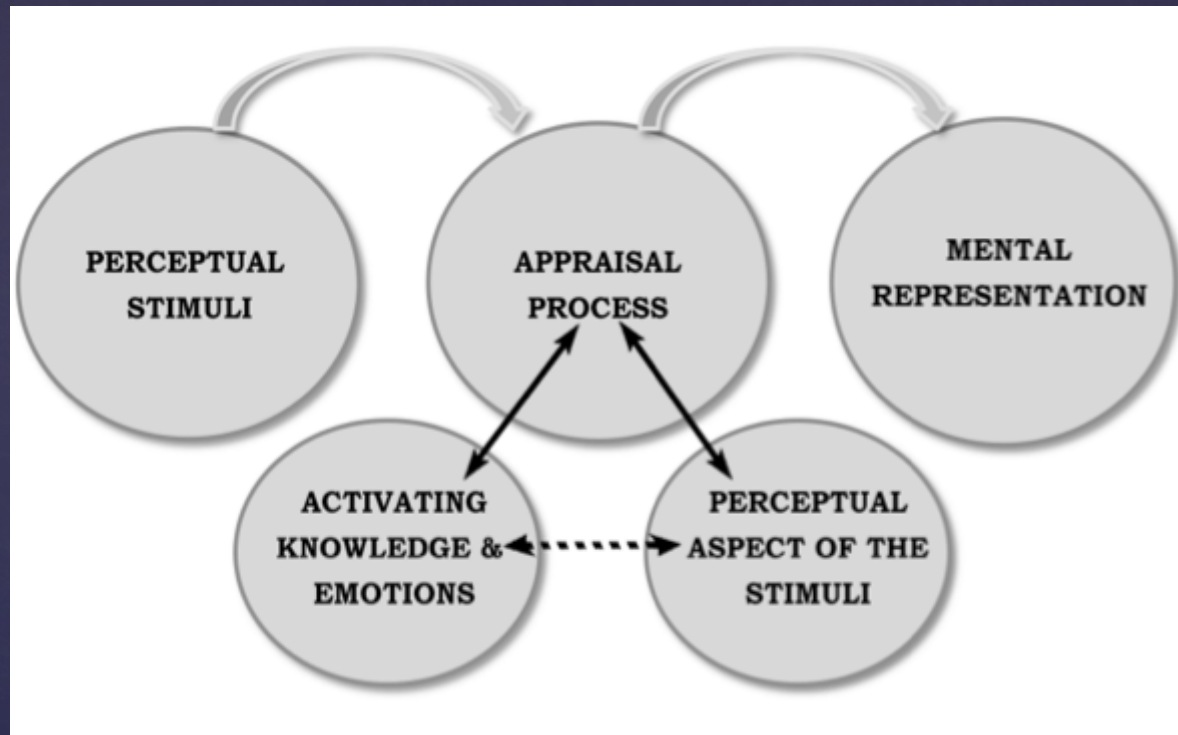


Function as cognitive shortcuts
→ quick judgment of stimulus suitability to expectations
→ influence perceptions of visual appearances (c.f. genres)

Familiarity, prototypicality
(Martindale, 1984; Winkielman, et al., 2006)
→ recognition, minimizing cognitive processes
(Whitfield, 2000)

Influence of mental representations to perception and memory
(Brewer & Treyens, 1981)

The appraisal process

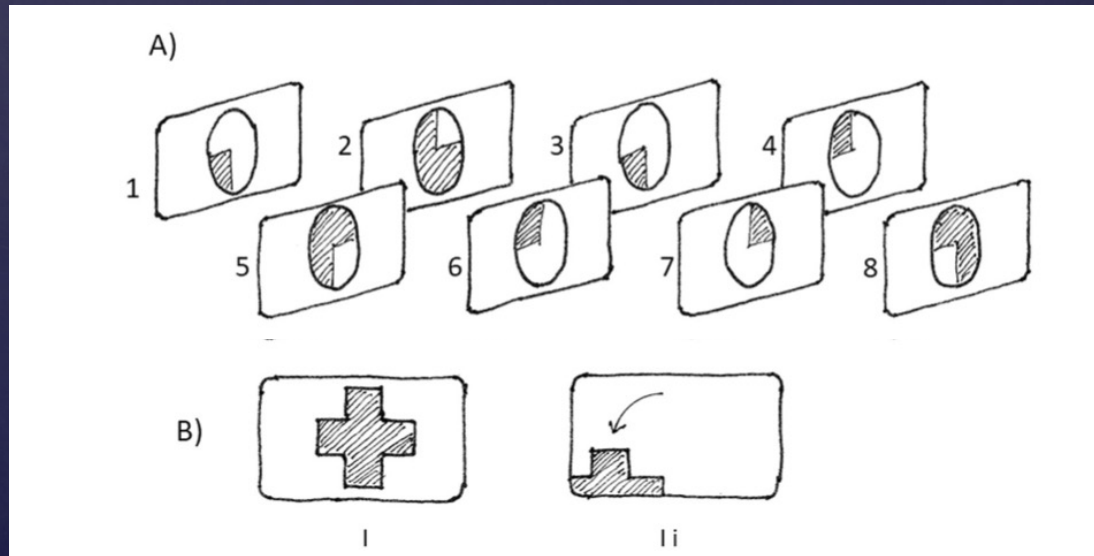
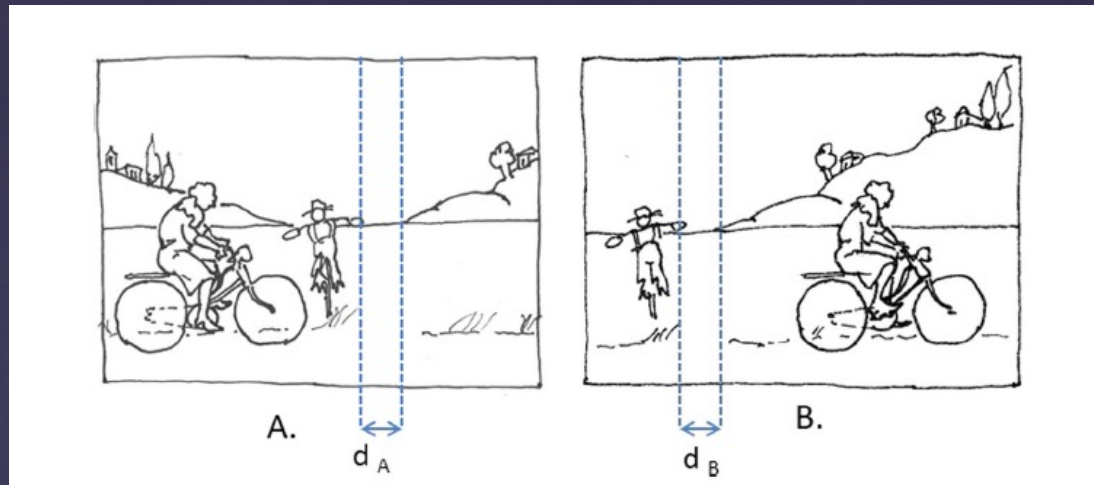


Mental Representation

Relation between sensory impressions from the environment on the one hand, and people's responses to it.

- ⌘ **Ambient optical array** (Gibson, 1979): A scene presents itself to the observer reflects the structure of the real world.
- ⌘ **Cognitive structures** were seen functional in mental operations such as retrieval and accommodation of schemas from memory, inference and attribution.
- ⌘ Hochberg (1986): cognitive schematas are necessary in the perception of film for two reasons.

The canonical set-up



Language of Visual Design

▶ **”No holy Grail of Visual Design”** (Tractinsky, 2012)

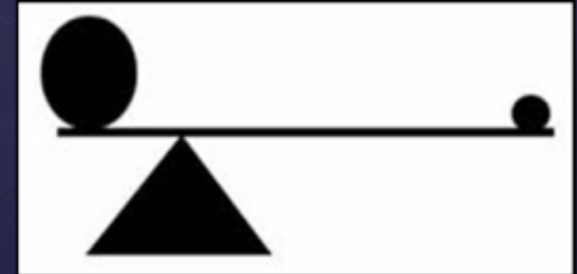
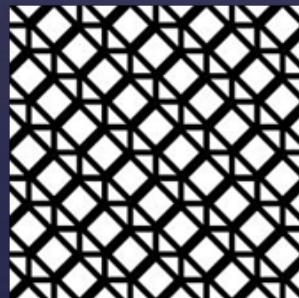
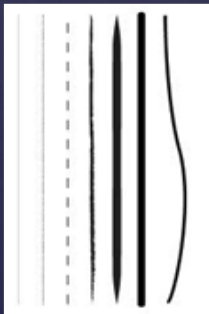
→ infinite combinations of visual elements – experience predictability?

→ different conceptual hierarchies in the relations of elements

(esim. Mullet & Sano, 1995; Silvennoinen, Vogel, & Kujala, 2014)

→ dimensions of pleasure: physiological, psychological, social, ideological (Jordan, 2000)

→ dominance of visuality (e.g. Crilly, 2006)



Predictability of experience design

Timeless, elegant, rhythmical?

1. **Concreteness**

The level of abstraction on visual representation

2. **Visual complexity**

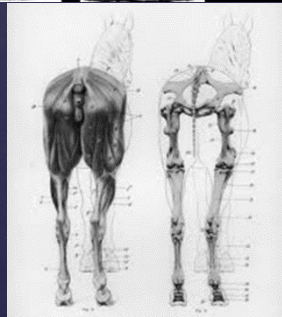
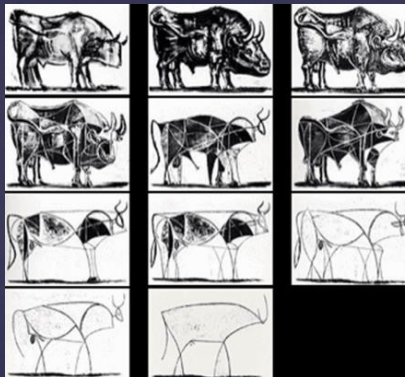
The number of visual elements in an icon

3. **Meaningfulness**

How the meaning is understood

4. **Semantic distance**

defines closeness of the relationship between visual representation and its intended meaning



1. **Immediacy**

abstraction + simplification

2. **Generality**

represents higher-order category

3. **Cohesiveness**

visual continuity

4. **Characterisation**

most important details
+ most informative perspective

5. **Communicability**

understanding people, culture,
application and context of use

Design principles

4 aesthetic dimensions (Moshagen & Thielsch, 2010):

simplicity, complexity, colorfulness & craftsmanship.

1. Maximum effect for minimum means

Ideas and models, that are based on only few elements but solve and explicate larger problem or phenomenon

2. Unity in variety (complexity in order)

Maximizing pleasure/ beauty via balance, meaningful whole
(tension in symmetry) (Post et al., 2016)

3. Most advanced, yet acceptable (MAYA) Balance between novelty and familiarity

(e.g., Veryzer & Hutchinson, 1998; Hekkert et al., 2003; Hekkert, et al., 2010)

4. Optimal match

Multimodality – the continuation of sensory information and impressions & consistency in product pleasantness (esim. Hekkert, 2006)

Low key level features

Cutting (2005): Physically and quantitatively determinable elements or aspects that occurring in moving images, regardless of the narrative.

Motion

A lot - A little

Shot duration

Long - Short

Shot scale

Close-up – Long shot

Sound

Music – Conversation



Group Work

- ⌘ Can you Identify Gestalt principles in the visual composition of the film scenes? Provide examples.
- ⌘ Can you indentify any symbolic elements that repeats through the film? If yes, what is the meaning of it?
- ⌘ Evaluate the use of low key level features (Motion, shot-duration, shot scale and sound. In your opinion, why the author(s) decided to use them in that way (intentionality)?

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