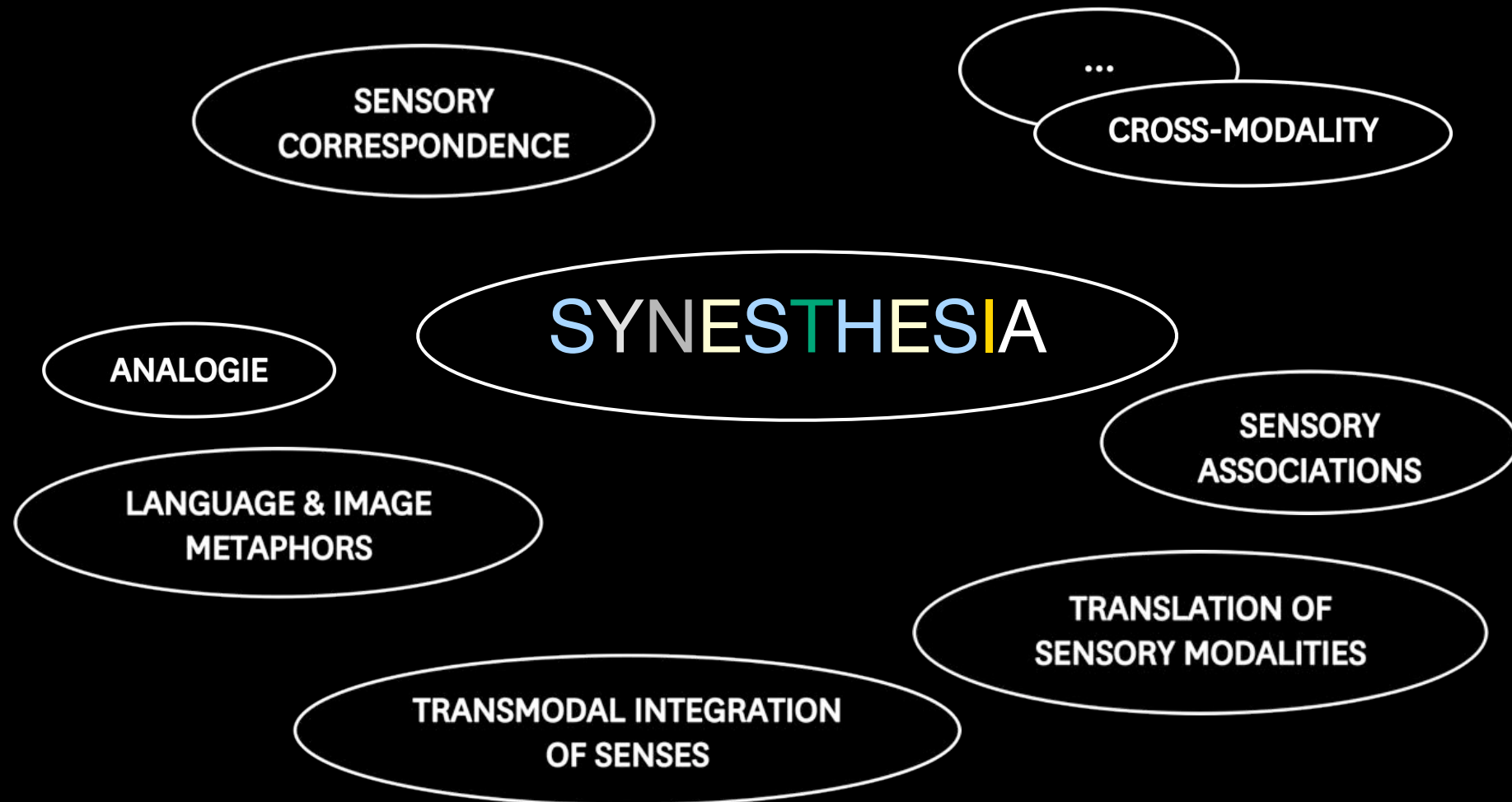


# DIGITAL SYNESTHESIA

# DIFFERENTIATIONS OF CONCEPTS OF TRANSMODAL SENSORY PROCESSES



# SYNESTHESIA

## DEFINITION DIGITAL SYNESTHESIA:

- DIGITAL ART, WHICH
- BY MEANS OF LANGUAGE, AUDIOVISUAL AND OTHER MEDIA
- TRANSLATES ATTRIBUTES FROM ONE SENSORY DOMAIN TO THE OTHER, AND
- EVOKES IN RECIPIENTS
- A PERCEPTUAL-COGNITIVE SENSATION,
- WHICH ALLOWS THE SIMULTANEOUS PERCEPTION OF TWO OR MORE STIMULI IN THE FORM OF ONE GESTALT EXPERIENCE; AND
- IN WHICH INTER-MODAL RELATIONS ARE EXPERIENCED INVOLUNTARILY AS CHARACTERISTIC ASPECTS OF PERCEPTION OR AS A VOLUNTARY EXPRESSION OF THE UNITY OF THE SENSES.

composed of: Marks L.E. 1997; Evers F. 2012; Campen C.v. 2009

# SYNESTHESIA

3,5 - 4 % OF POPULATION HAS SYNESTHESIA  
72% WOMEN, 28% MEN

63 TYPES OF SYNESTHESIA:

GRAPHEMES > VISION (61,67%)  
TIME UNITS > VISION ( 21,25%)  
MUSICAL SOUNDS > VISION (18,57%)  
GENERAL SOUNDS > VISION (15,9%)  
MUSICAL NOTES > VISION (8,34%)  
PAIN > VISION (4,97%)  
SOUNDS > TOUCH (3,77%)  
TOUCH > FLAVORS (3,18%)  
SOUNDS > ODORS (1,39%)  
KINESTHETICS > VISION (0,4%)  
...

(DAY S.A., 2014)

# THE 5 SENSES OF EXTEROCEPTION



1. SEEING (visual sense)
2. HEARING (auditive sense )
3. SMELLING (olfactory sense)
4. TASTING (gustatory sense)
5. TOUCHING (haptic sense)

# THE 6 SENSES OF INTEROCEPTION

1. PROPRIOCEPTION (sensation of the body)
  - Sense of movement („**kinesthesia**“)
  - Sense of position (e.g. vestibular sensation)
  - Sense of muscles (sense of innervation)
2. VISCEROCEPTION (sensation of the inner organs)
3. THERMOCEPTION (sensation of temperature)
4. NOCICEPTION (sensation of pain)

# THE 2 SENSES OF TIME & SPACE

- SENSE OF SPACE
- SENSE OF TIME (e.g. circadian sense)

# THE 13 SENSES OF DIGITAL ART





# SYNESTHESIA

involuntary

unidirectional

heredity trait

BUT

involuntary

also bidirectional

learnable

# IDEASTHESIA

= „sensing concepts“

also: „higher synesthesia“, „conceptual synesthesia“, „mind-driven synesthesia“, „SEMANTIC synesthesia“

non-perceptual *inducers*:

- words
- letters
- numbers
- time units
- musical notes
- personalities
- swimming styles

# METAPHOR

"But metaphor is not merely a matter of language. It is a matter of conceptual structure. And conceptual structure is not merely a matter of the intellect – it involves all the natural dimensions of our experience, including aspects of our sense experiences: color, shape, texture, sound, etc. ...

Artworks provide new ways of structuring our experience in terms of these natural dimensions. Works of art provide new experiential gestalts and, therefore, new coherences."

Lakoff/Johnson 2003

# INTERMEDIA

## METAPHOR

THE BODY = THE MEDIUM

THE EAR = THE BODY

HEARING = MOVING

TOUCHING = HEARING



Peter Weibel: Hörzu, 1967

# INTERMODALITY

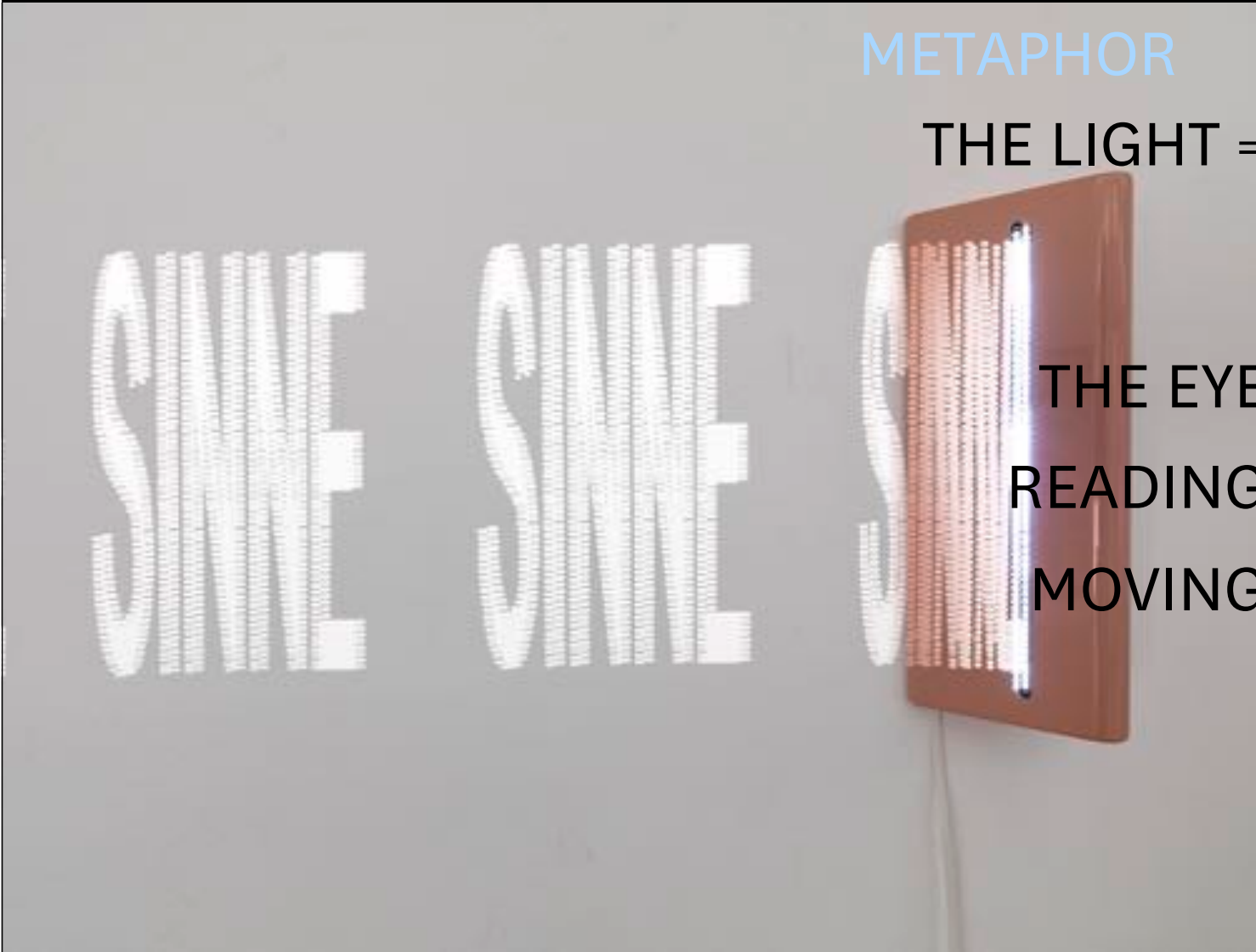
## METAPHOR

THE LIGHT = THE MEDIUM

THE EYE = THE TEXT

READING = MOVING

MOVING = SEEING



Ruth Schnell: Lichtbild, 2011

# CORRELATIONS BETWEEN SYNESTHESIA AND DIGITAL ART

<b>Type of Synesthesia</b> (e.g. auditory-visual synesthesia)	<b>Title of artwork</b> (e.g. „Sound Drawing“)
<b>Involved primary sensory domains</b> (e.g. auditive, visual, kinesthetic etc.)	<b>Involved primary (artistic) media</b> (e.g. digital voice, painting, laser beam)
<b>Main directionality from stimulus inducer to sensory evocation</b> (e.g. auditive inducer → visual experience)	<b>Main directionality from one medium to one other</b> (e.g. from sound source to image)
<b>Cross-modal effects</b> (e.g. music, sound, voice or speech is experienced both auditive & visually in terms of colors, schemes, brightness etc.)	<b>Cross-modal aesthetic(s)</b> Speech (sound) recordings are translated into graphics (image)
<b>Exemplary semantic inducers</b> (e.g. musical notes, words)	<b>Possible semantic associations (Semantic field)</b> (e.g. content of spoken text)
<b>Involved temporal-spatial concepts</b> (e.g. left- to-right movement of colored concurrents, speed etc.)	<b>Temporal-spatial components</b> (e.g. laser beam is scanning spectrograms from left to right)

THANK YOU!