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# Digitality, Materiality, and Subjectivation. Insights and Relevance of Historical Anthropology for the Educational Research on Digitalization.

International Conference  
Educational Anthropology in Comparative Perspective:  
Performance, Mimesis, and Ritual



East China Normal University, Faculty of Education  
Shanghai, November 20-22, 2018.

# Research on digitality and digitalization in education:

- 1) Media Pedagogy
- 2) Media Didactics („e-learning“)

# Research on digitality and digitalization in education:

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**teaching how to make a „good“ use of media**

## 2) Media Didactics („e-learning“)

**using media efficiently for teaching/learning**

# Research on digitality and digitalization in education:

## 1) Media Pedagogy

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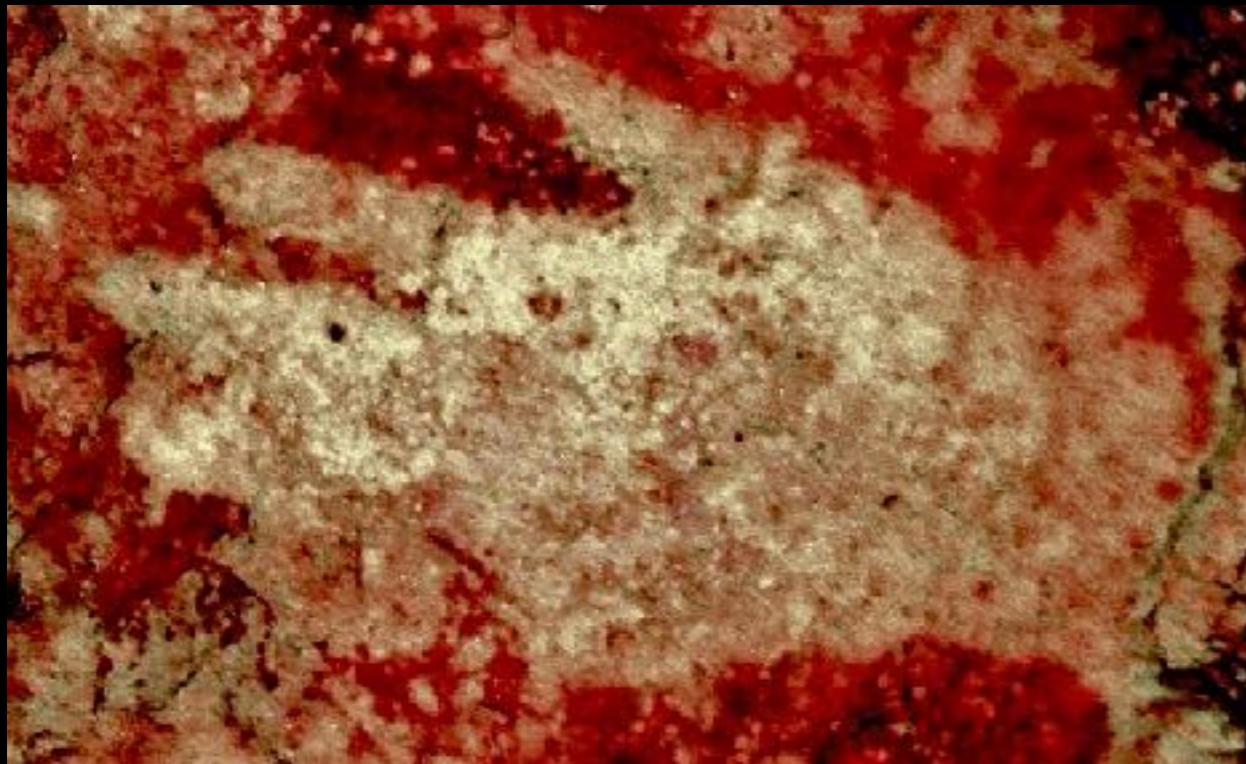
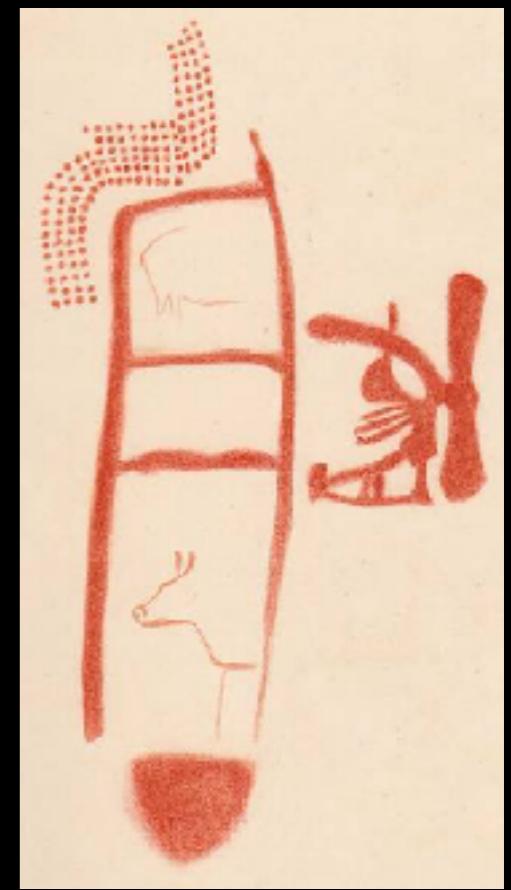
## 2) Media Didactics („e-learning“)

**using media efficiently for teaching/learning**

→ „Media“ as a **thing** (pedagogical object) or a **tool**.

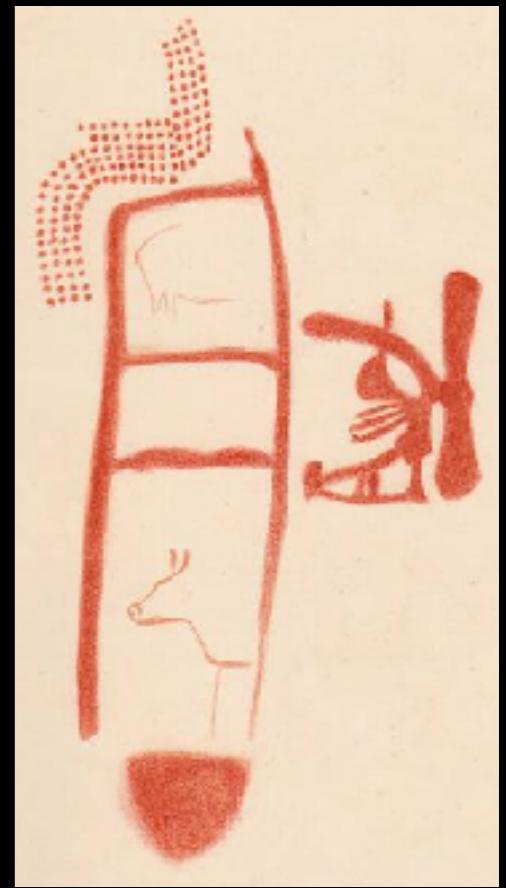
**„Culture“  
as a matter of (symbolic) forms  
that give meaning to the world ...**

**... handed down and transformed by  
means of social practices  
(i.e. education), enabling sociality.**



**„Culture“  
as a matter of (symbolic) forms  
that give meaning to the world ...**

**... handed down and transformed by  
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**Mediality  
as a precondition  
of any form of  
symbolic articulation.**



... even older  
than the  
homo sapiens!



**Mediality**  
**as a precondition**  
**of any form of**  
**symbolic articulation.**

# Research on digitality and digitalization in education:

- 1) Media Pedagogy
- 2) Media Didactics („e-learning“)
- 3) Educational Anthropology of Media & Digital Technology

# Educational Anthropology of Media & Digital Technology

- 1) Double (cultural) historicity
- 2) Body & (digital) image
- 3) Ritual & mimesis
- 4) Relationality & networks
- 5) Materiality & implicit knowledge

# Educational Anthropology of Media & Digital Technology

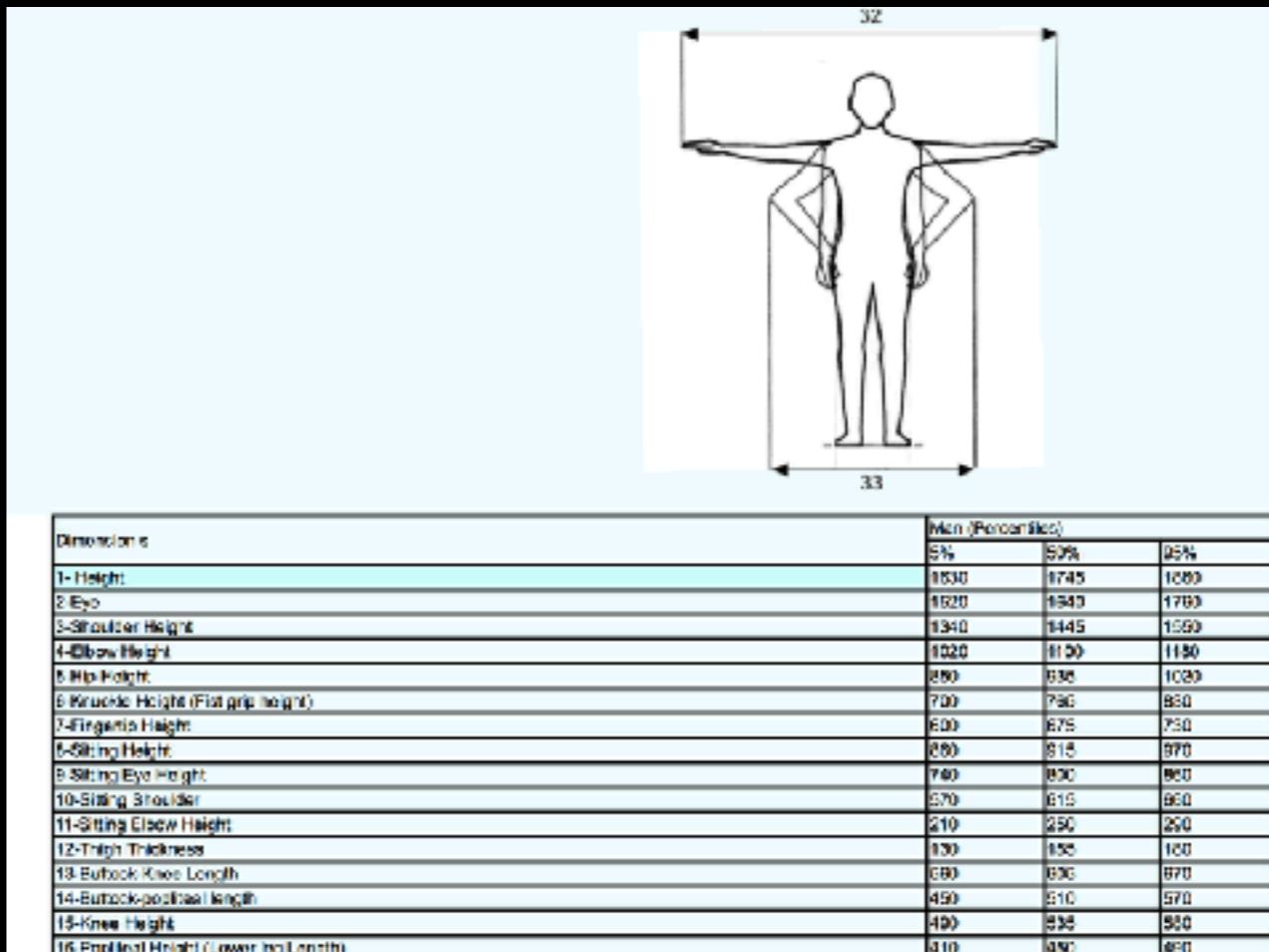
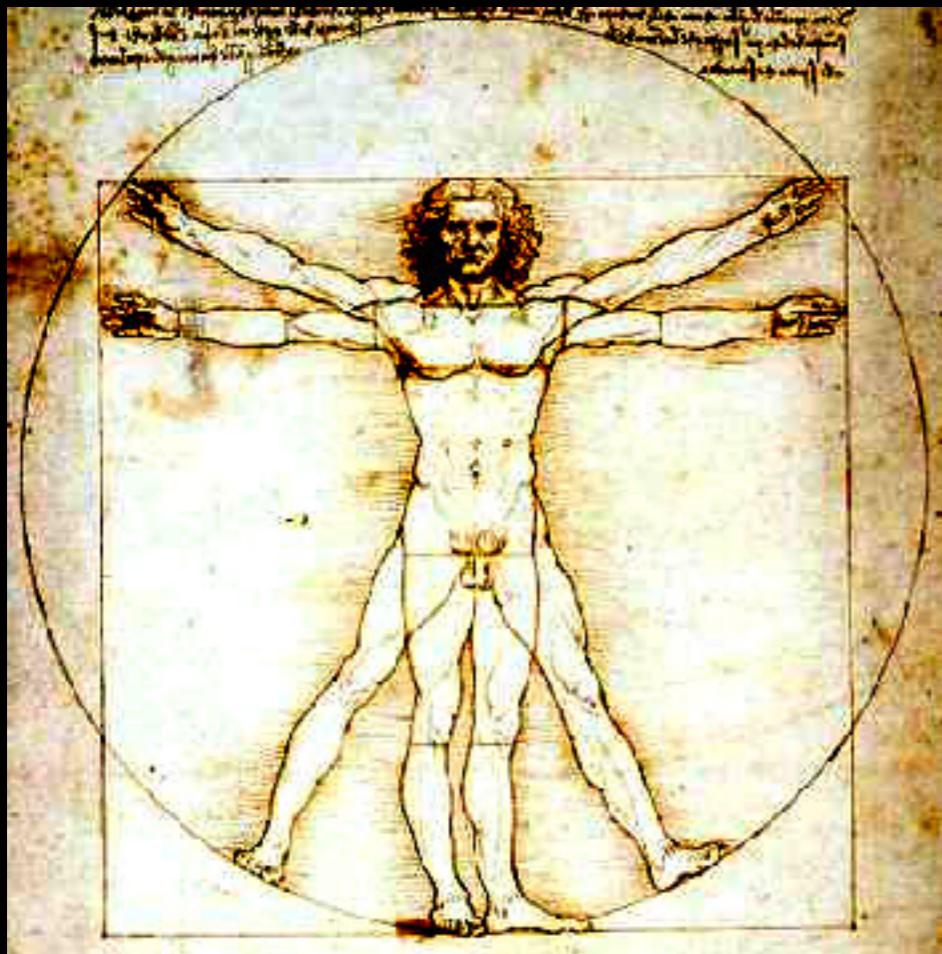
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# Educational Anthropology of Media & Digital Technology

- 1) Double (cultural) historicity
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# Genealogy of the „Quantified Self“:

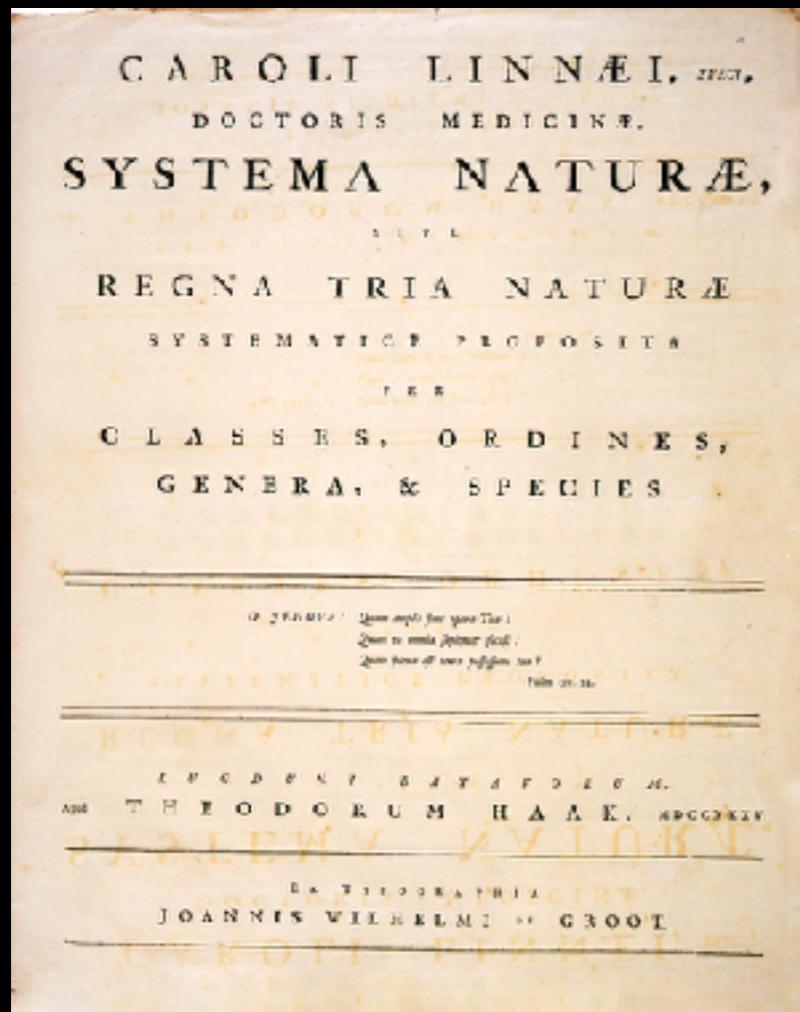
## 1) From anthropometry (ratio) to biostatistics (decimal digits)



[http://www.roymech.co.uk/Useful\\_Tables/Human/Human\\_sizes.html](http://www.roymech.co.uk/Useful_Tables/Human/Human_sizes.html)

$$\frac{2}{4} \neq 0.5$$

## 2) Fabrication of identities by means of hierarchical data models (18. Jh)



An open page from Carl von Linné's *Systema Naturae* (1735) showing a detailed hierarchical classification table. The left page is titled "CAROLI LINNÆI" and the right page is titled "REGNUM VEGETABILE". The table is organized into columns representing different taxonomic ranks, with numerous entries for various plant genera and species. The handwriting is in Latin, reflecting the scientific language of the time.

Carl von Linné: The System of Nature (1735)

# 3) Education of subjects by means of a data-based **panoptism**

Public blackboards  
showing the earned  
„merit points“ of  
each scholar  
(late 18th century)



# „Quantified Self“ as inverted panoptism

Michael Seemann

<https://www.facebook.com/mspr0?ref=ts>

Michael Seemann

Benjamin Startseite 2

Michael Seemann Chronik Aktuell

HANDBUCH gesta per amorem Kann Spuren von Nüssen enthalten

Crowdfunding-Handbuch CTRL-Verlust Kann Spuren von Nüssen...

Michael noch eine Buchempfehlung fragen Fragen

„GEFÄLLT MIR“-ANGABEN 222

DAS CROWDFUNDING HANDBUCH Anna Wizorek Elie gegen das Finanz...

Crowdfunding-Handbuch Thelonious Bar Telonus

Orbanismus

GRUPPIEN - 7

SELF PUBLISHING 6009 Mitglieder In dieser Gruppe soll das Thema...

Deutschlands Blogger: ein Projekt 2340 Mitglieder Austausch und Hilfe von und für...

Berlin Twitter RL Syndicate 136 Mitglieder Die Berliner Twitter Gruppe!

Wir sind die Kriminellen 36 Mitglieder Du hast eine DVD kopiert? Dann bist...

FITNESS

Laufe/Woche km (i. D.)

3,8 6,0

7,1 5,0 6,6 4,7 8,8 6,8

4,6

Diana von Wobbel gefällt das.

Schreibe einen Kommentar ...

Michael Seemann ist mit Runtastic.com 6,77 Kilometer gelaufen — 😊 gut. 25. September um 10:12 · Runtastic.com

Aktuell 2015 2014 2013 2012 2011 2010 2009 2008 2007 2006 2005 2004 2003 2002 2000 1977

Kilometer Minuten min/km Kal

6,77 40:44 6:00 549

Gefällt mir Kommentieren Teilen

Schreibe einen Kommentar ...

Michael Seemann hat einen Link geteilt. 25. September um 09:32 · Runtastic.com

LIVE runtastic

Folge mir LIVE und feuere mich an! Zusätzlich kannst du mir durch Klick auf den "Gefällt mir"-Button Applaus senden, den ich sofort hören kann. RUNTASTIC.COM

Gefällt mir Kommentieren Teilen

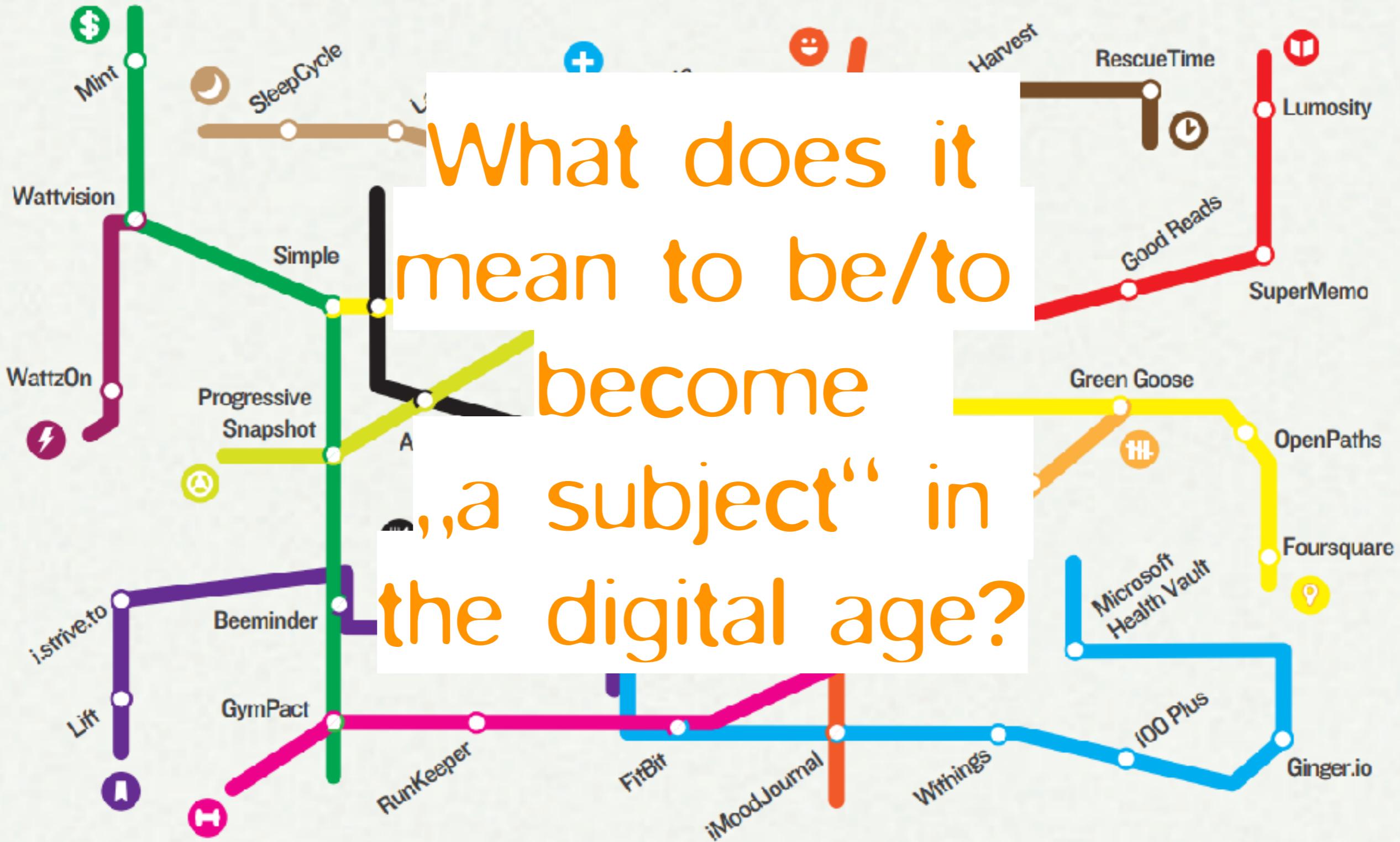
Diana von Wobbel gefällt das.

Schreibe einen Kommentar ...

Michael Seemann

# TRACK YOURSELF!

A map of digital tools to help you quantify your life.



# Educational Anthropology of Media & Digital Technology

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## „Avatars“:

- visual cultural performance
- distributed (human/non-human) agency
- hybrid („in- & out-of-body“) experience



Jörissen, B. (2008). The Body is the Message. Avatare als visuelle Artikulationen, soziale Aktanten und hybride Akteure. *Paragrana*, 17(1), 277–295.

## New visual cultures:

- Panoptism & pressure to visual self-disclosure
- Globalized/„glocalized“ iconographies changing visual cultures
- Embedded as a new ritual practice in everyday life, new form of „care for oneself“ (Foucault)

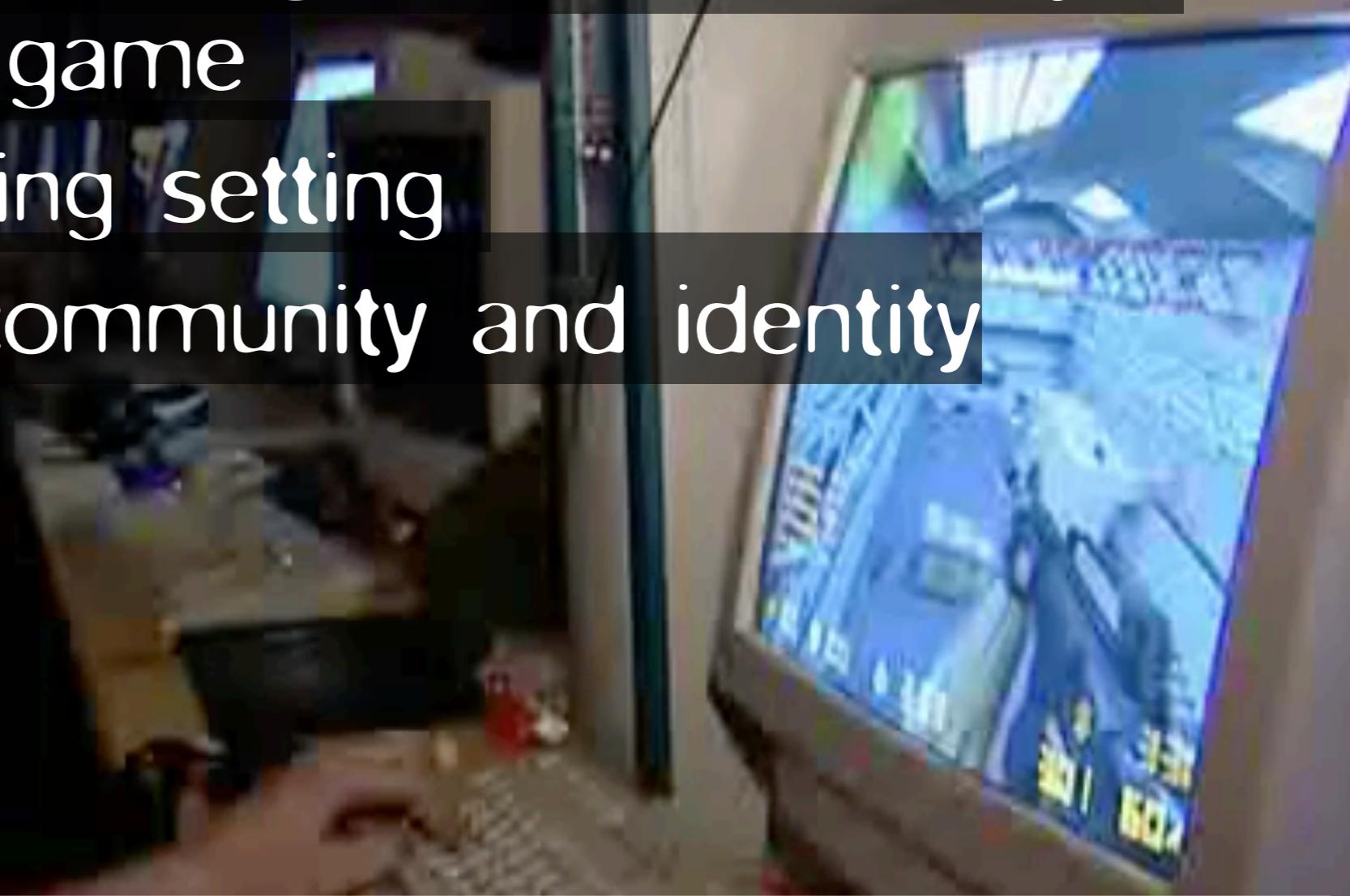
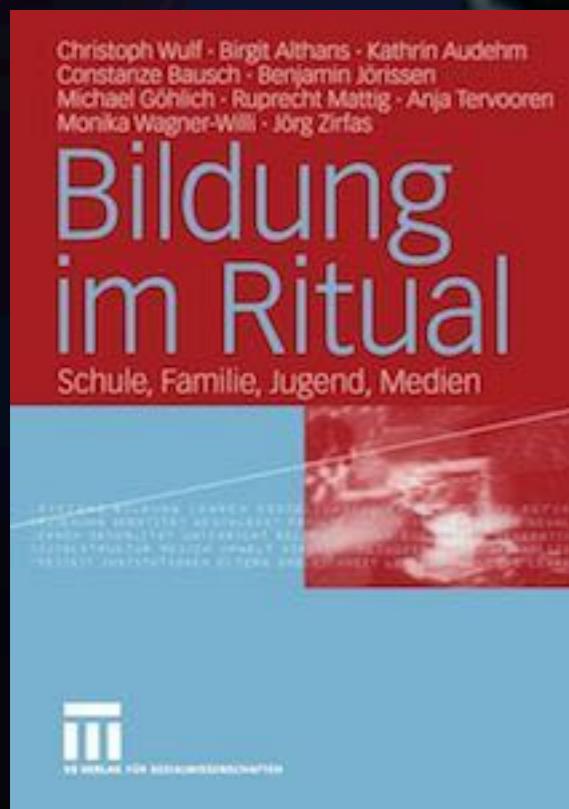


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# Rituals and mimetic processes in Gamer-Clans and LAN-Parties:

- Mimetic adoption of gestures and „ways of seeing“ the game
- Ritualized learning setting
- Adolescence, community and identity

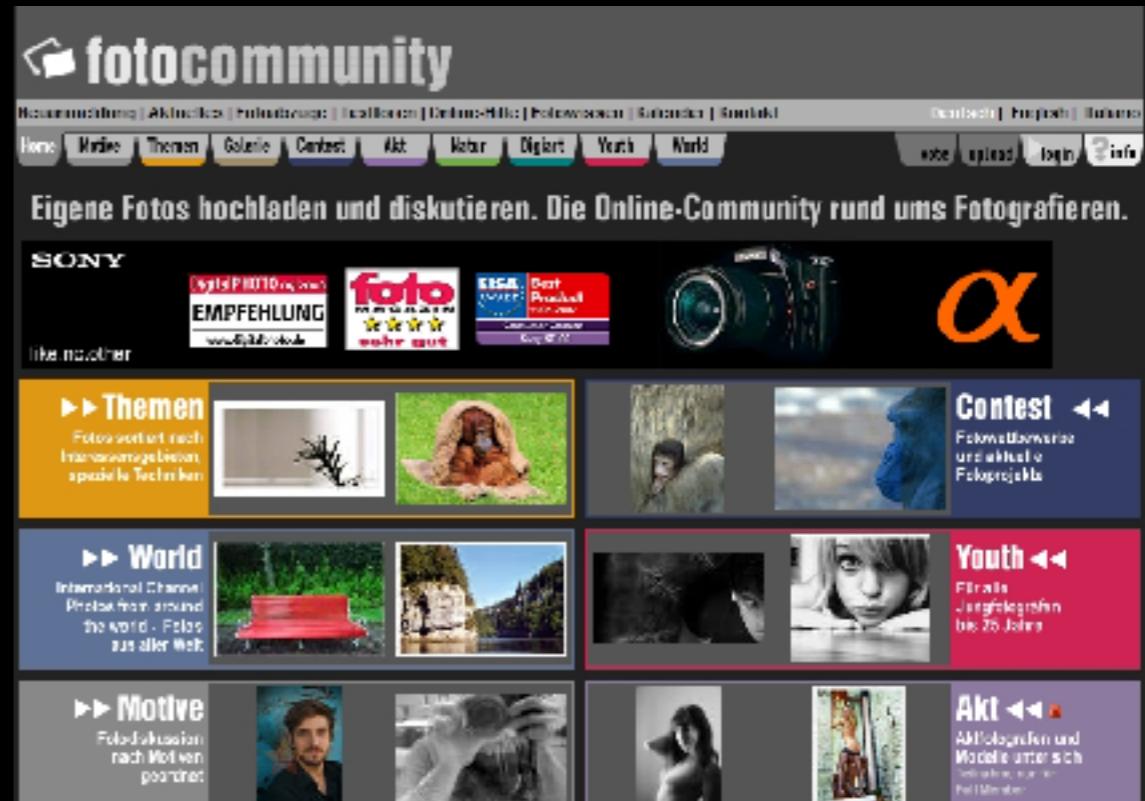
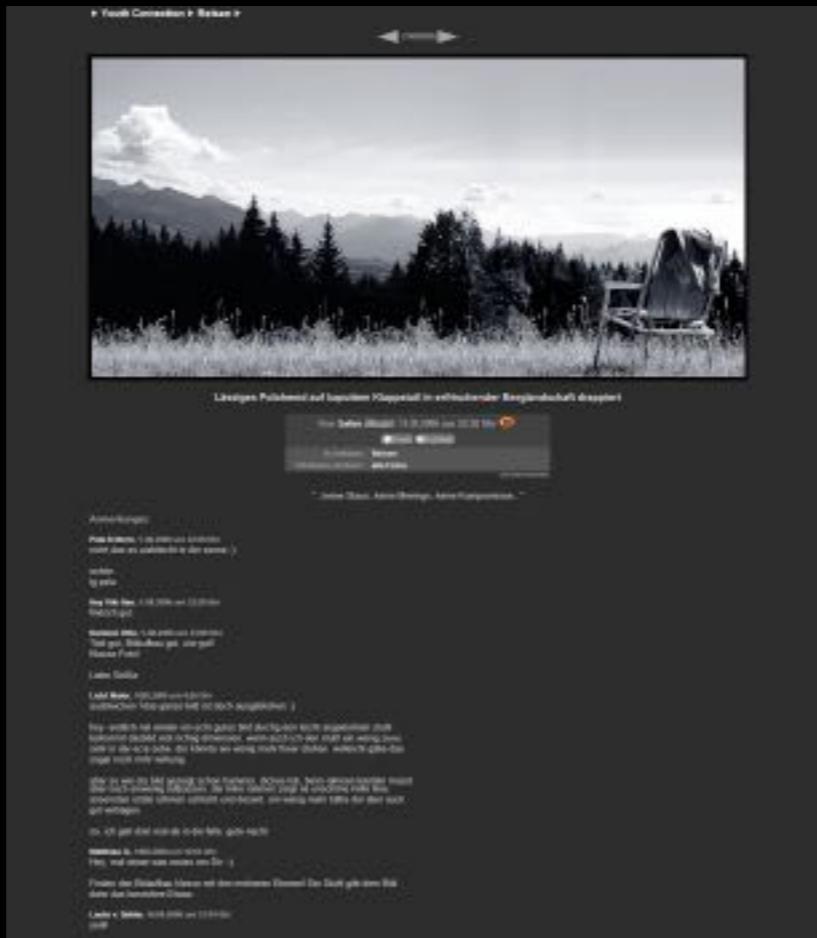


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Wulf, C., Althans, B., Audehm, K., Bausch, C., Jörissen, B., Göhlich, M., Tervooren, A., Mattig, R., Wagner-Willi, M., Zirfas, J. (2004).  
*Bildung im Ritual: Schule, Familie, Jugend, Medien*. Wiesbaden: VS Verlag.

# Ritualized learning environments:

- offline (Computer lessons in school)
- online (artistic & aesthetic peer-education in online-communities)



Wulf, C., Blaschke, G., Jörissen, B., Althans, B., Göhlich, M., Ferrin, N., Mattig, R., Nentwig-Gesemann, I., Tervooren, A., Schinkel, S., Wagner-Willi, M. (2007). **Lernkulturen Im Umbruch: Rituale Praktiken in Schule, Medien, Familie und Jugend**. Wiesbaden: VS.

# Rituals and mimetic processes in Online-Networking Platforms:

- **Ritualized aestheticization** of everyday life, e.g.



twitter

 **Herr Pipdymniadba**  
@Epitymbidia  
#17.149.056

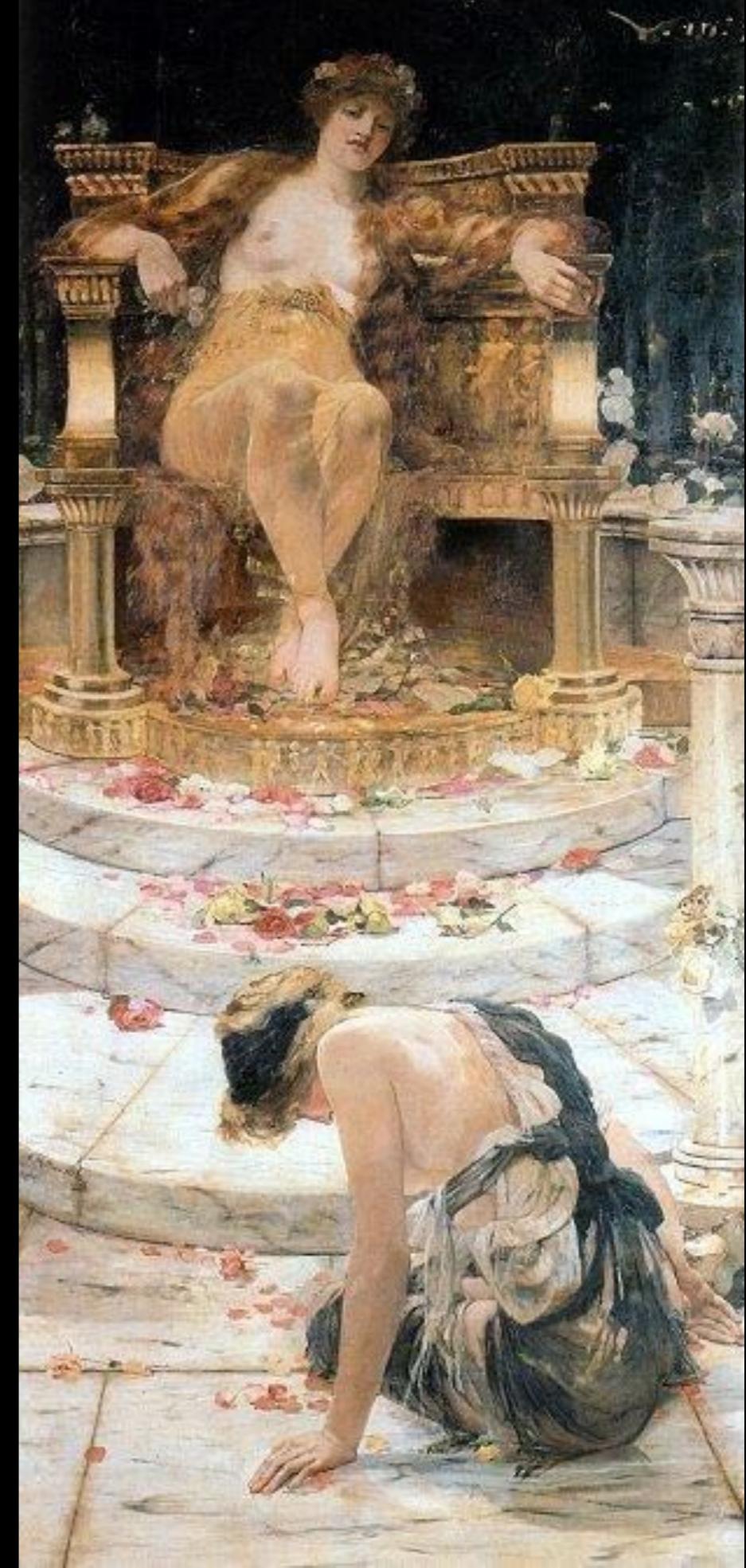
Je suis un cimetière abhorré de la lune.

location [Saint-Sauveur-en-Puisaye >](#)

89	46.265
following	tweets
88	1.096
followers	favorites

**@Epitymbidia**

Aphrodite Epitymbidia  
„she who waits  
on the graves“



Edward Matthew Hale: Psyche at the Throne of Venus (1883)

LES  
FLEURS DU MAL

PAR

CHARLES BAUDELAIRE

LX



SPLEEN

Je suis un cimetière abhorré de la lune.

location Saint-Sauveur-en-Puisaye >

89

following

46.265

tweets

665

followers

1.096

favorites

J'ai plus de souvenirs que si j'avais mille ans.

Un gros meuble à tiroirs encombré de bilans,  
De vers, de billets doux, de procès, de romances,  
Avec de lourds cheveux roulés dans des quittances,  
Cache moins de secrets que mon triste cerveau.  
C'est une pyramide, un immense caveau,  
Qui contient plus de morts que la fosse commune.  
— Je suis un cimetière abhorré de la lune,

→ Sidonie-Gabrielle Colette  
(1873-1954)

Herr Pipdymniadba  
@Epitymbidia  
#17.149.056

Je suis un cimetière abhorré de la lune.

location [Saint-Sauveur-en-Puisaye >](#)

A map of the Paris region showing the location of Saint-Sauveur-en-Puisaye. The map includes major cities like Paris, Dreux, Rambouillet, Chartres, Étampes, Le Mans, Blois, Orléans, and Troyes. A red marker indicates the location of Saint-Sauveur-en-Puisaye, which is located between Sens and Corbeil-Essonnes.



**Herr Pipdymniadba**  
@Epitymbidia  
#17.149.056

Je suis un cimetière abhorré de la lune.

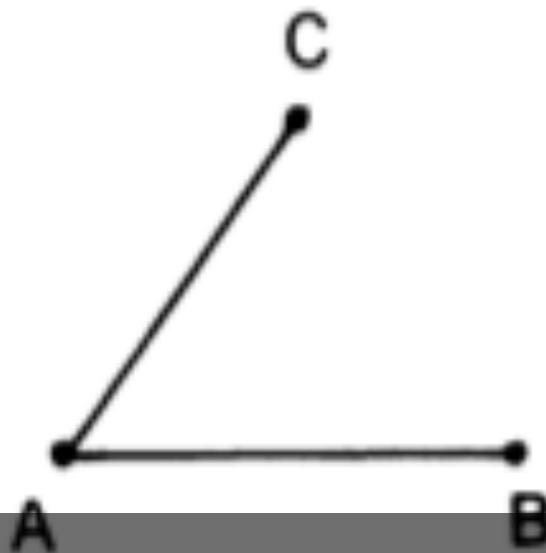
location [Saint-Sauveur-en-Puisaye](#)

89 following	46.265 tweets
665 followers	1.096 favorites

= ca. 40-90  
Tweets per day!

# Educational Anthropology of Media & Digital Technology

- 1) Double (cultural) historicity
- 2) Body & (digital) image
- 3) Ritual & mimesis
- 4) Relationality & networks**
- 5) Materiality & implicit knowledge



## Networks as ...

- **strategical resource in educational processes**
- **diversity of meaningful social domains**
- **digital networks & the power of software**

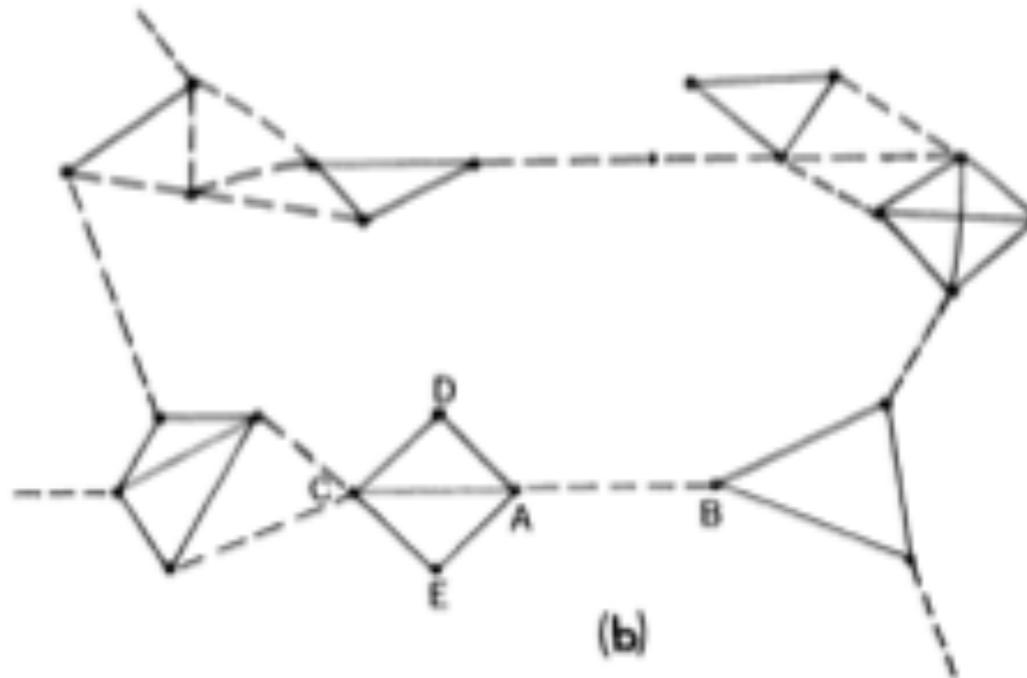


FIG. 2.—Local bridges. a, Degree 3; b, Degree 13. —— = strong tie; ----- = weak tie.



Clemens, I. (2015). Erziehungswissenschaft als Kulturwissenschaft: Die Potentiale der Netzwerktheorie für eine kulturwissenschaftliche und kulturtheoretische Ausrichtung der Erziehungswissenschaft. Weinheim: Juventa.

Jörissen, B. (2016). Zur bildungstheoretischen Relevanz netzwerktheoretischer Diskurse. In D. Verständig, J. Holze, & R. Biermann (Hrsg.), Von der Bildung zur Medienbildung (Bd. 31, S. 231–255). Wiesbaden: VS Verlag.

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# The materiality of pedagogical processes between human beings and things

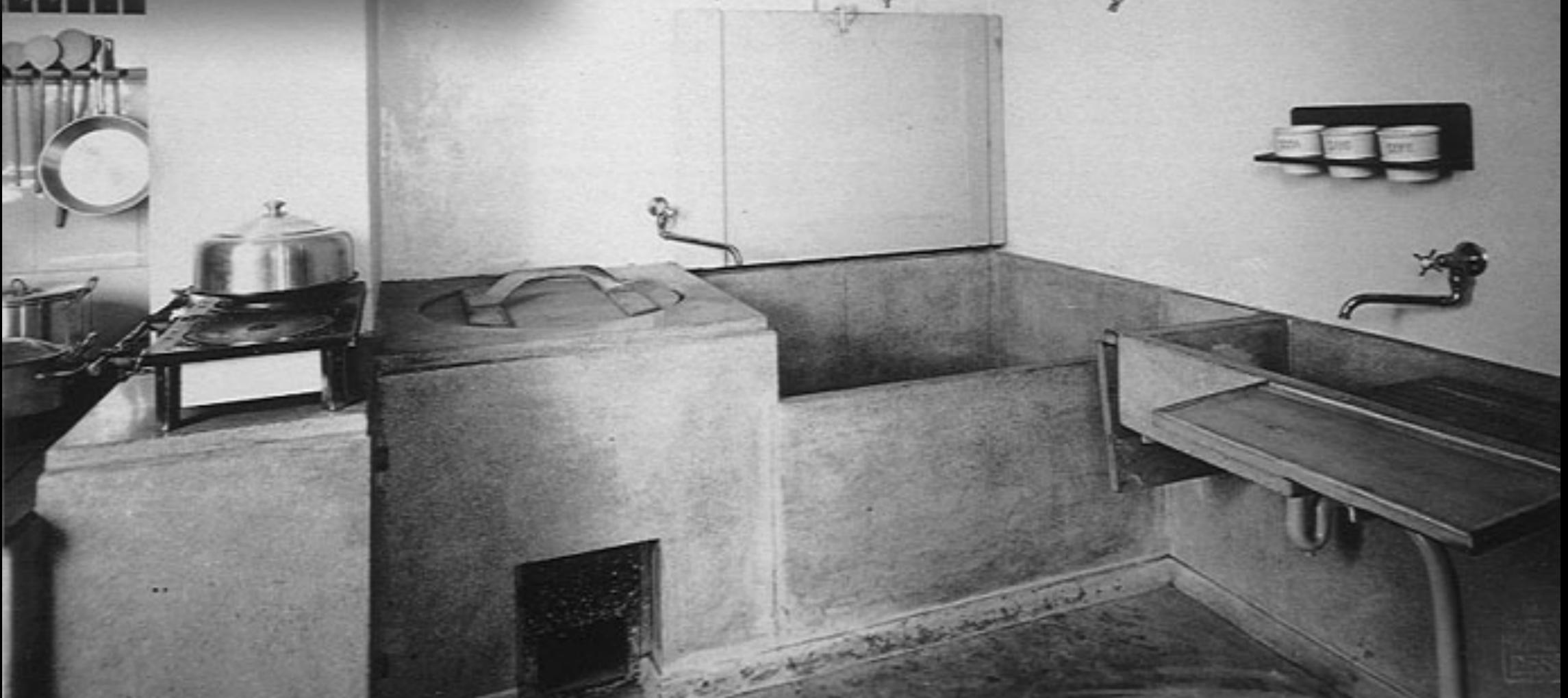
# The materiality of pedagogical processes between human beings and things

Rediscovering of „things“ as objects and  
materiality as an epistemological dimension

design as an  
educational actor



# Bauhaus: education towards rational modern subjectivity



Bauhaus Dessau - Musterhaus Siedlung Törten (1926-1928)



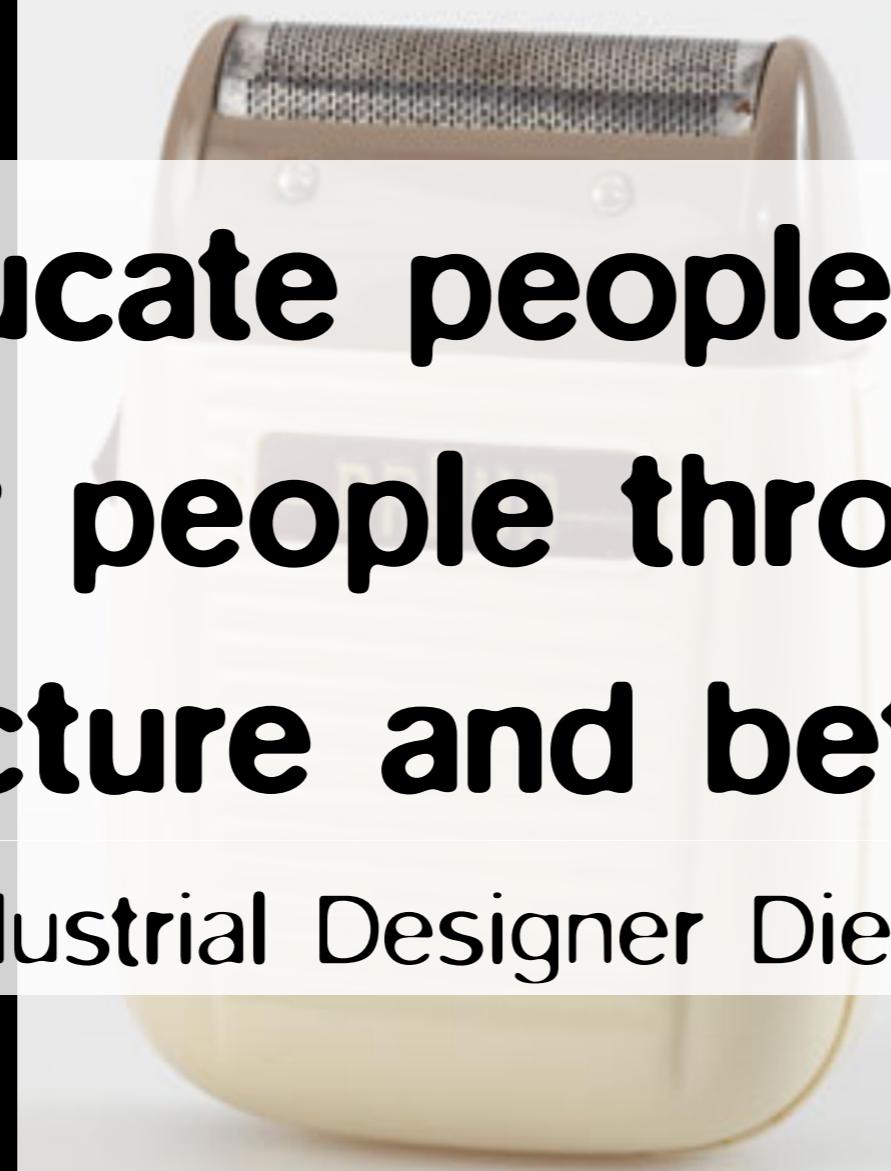
Braun S 50 standard  
A./M. Braun, 1938/1950



Braun 300 de Luxe special DL 3 (1955)  
A. Braun/Fütterer/Eichler/Dieter Rams 1955



Braun sextant SM 31  
Müller/Gugelot/Eichler 1962



„to educate people to become  
better people through better  
architecture and better design.“

(Industrial Designer Dieter Rahms)

Braun S 50 standard  
A./M. Braun, 1938/1950

Braun 300 de Luxe special DL 3 (1955)  
A. Braun/Fütterer/Eichler/Dieter Rams 1955

Braun sextant SM 31  
Müller/Gugelot/Eichler 1962

# The educational power of *Affordance*

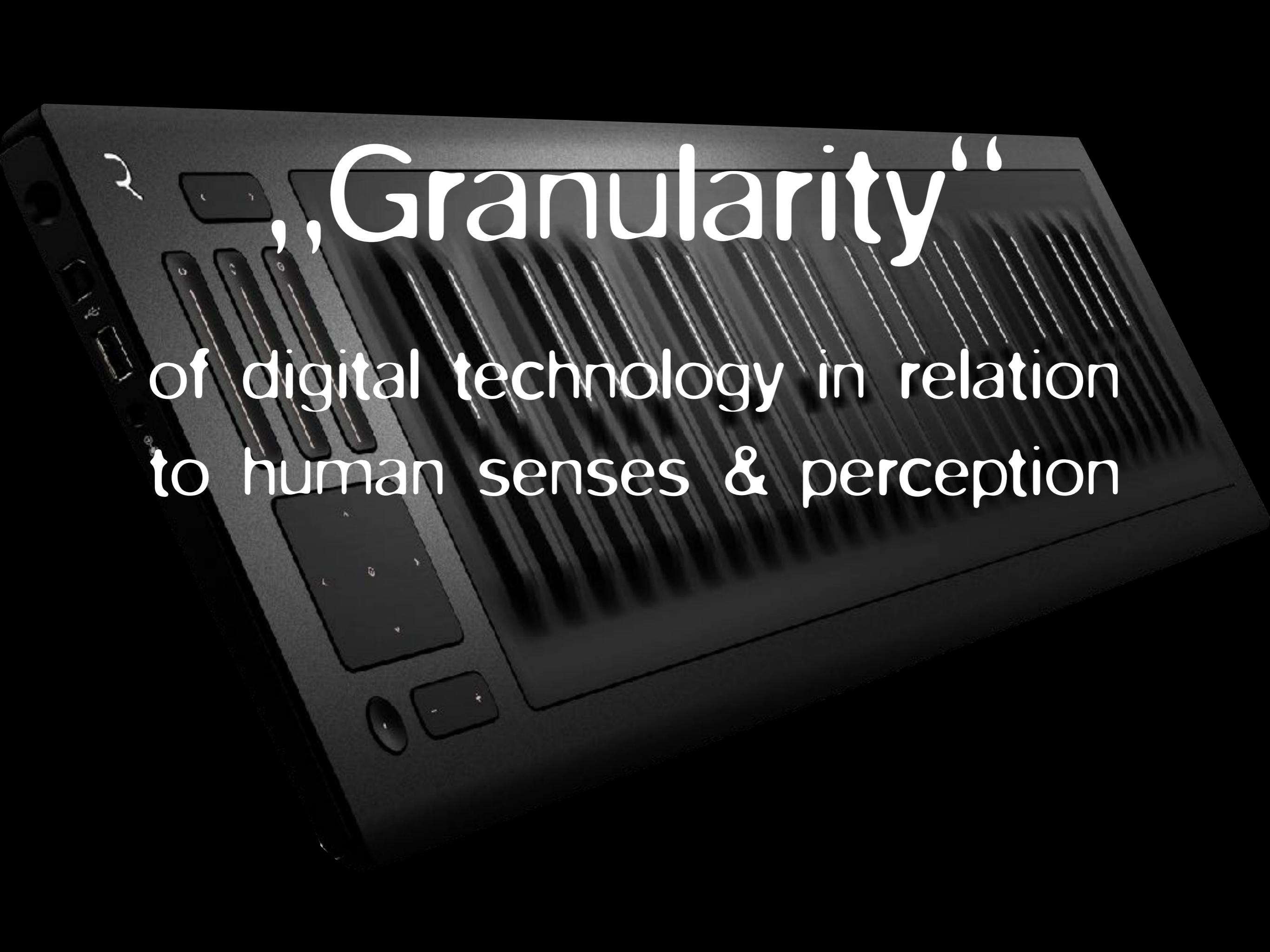
„Affordance“ is a call  
(or invitation, or command)  
to become a particular kind  
of „user-subject“.

# The educational power of *Affordance*

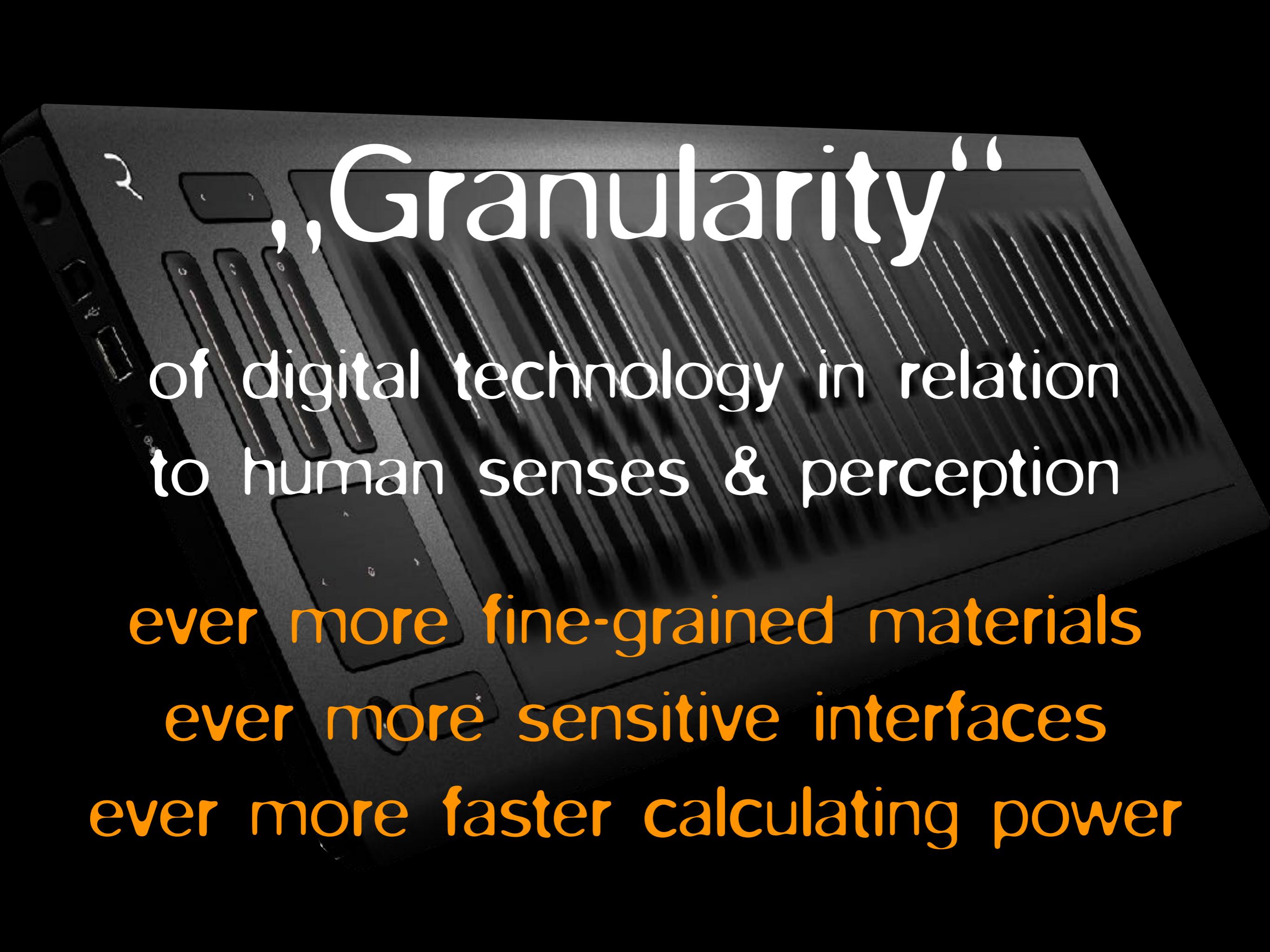
„Affordance“ is based upon  
implicit knowledge embedded  
into the design objects.



researching the educational properties  
of hybrid, digital-material things



„Granularity“  
of digital technology in relation  
to human senses & perception



„Granularity“  
of digital technology in relation  
to human senses & perception

ever more fine-grained materials  
ever more sensitive interfaces  
ever more faster calculating power

# „Granularity“

In the three seconds that make up our perceived present, a current smartphone performs about 30 billion **clock cycles** of the main processors plus 1.8 trillion **facial recognition** and **video manipulation operations**

- all this on a single mobile device.



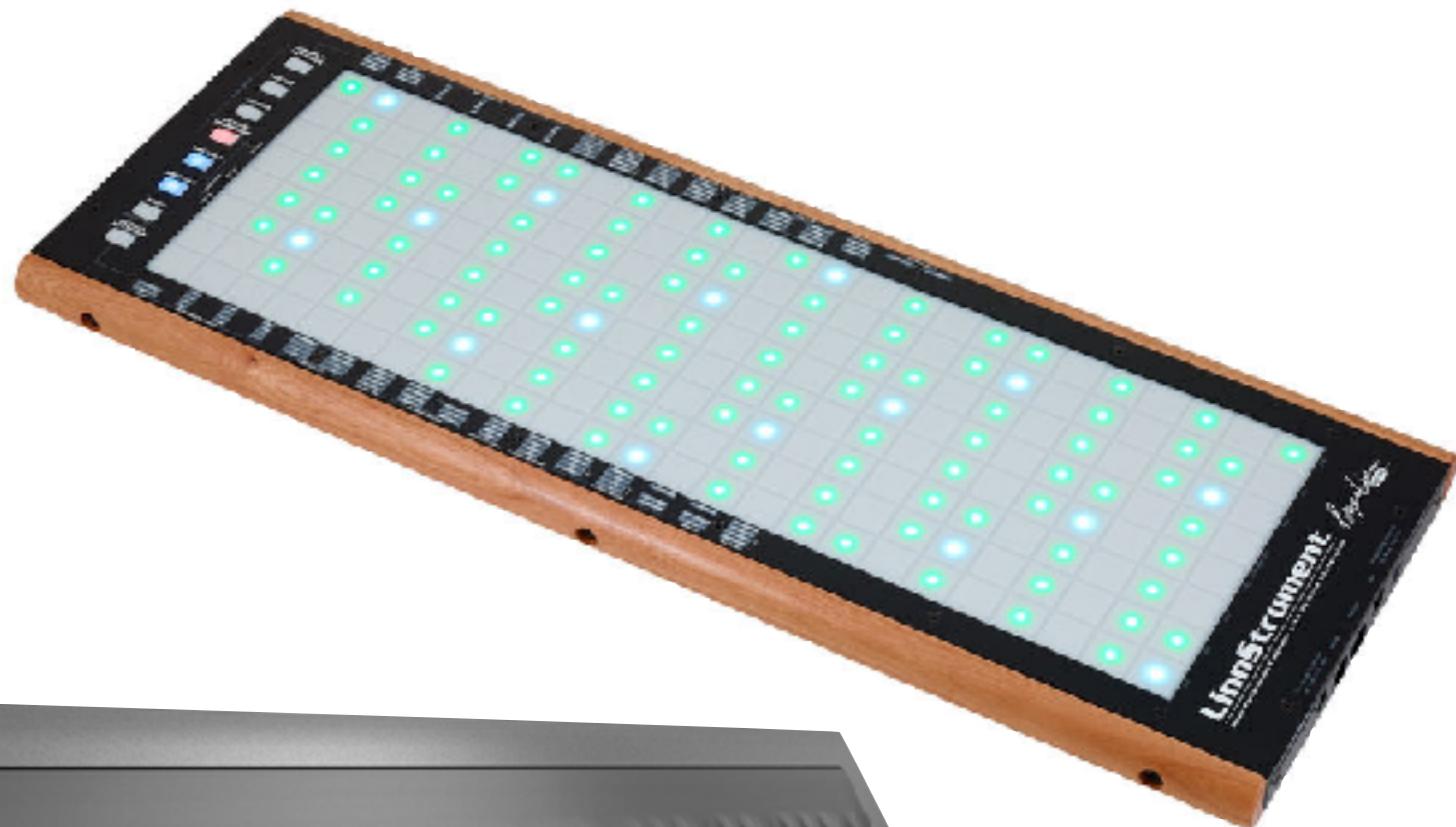
GEFÖRDERT VOM



Bundesministerium  
für Bildung  
und Forschung

Musical Interface  
Designs:  
Augmented Creativity  
and Connectivity  
(BMBF, 2017-2021)

Prof. Dr. Benjamin Jörissen  
Prof. Dr. Michael Ahlers





- 13 Interdisciplinary Research Projects on Digitalization in Arts & Cultural Education
- 24 Universities involved
- Funding: about 10 Mio. €
- biggest research context on the topic of digitalization in arts education in germany (probably in Europe, too)

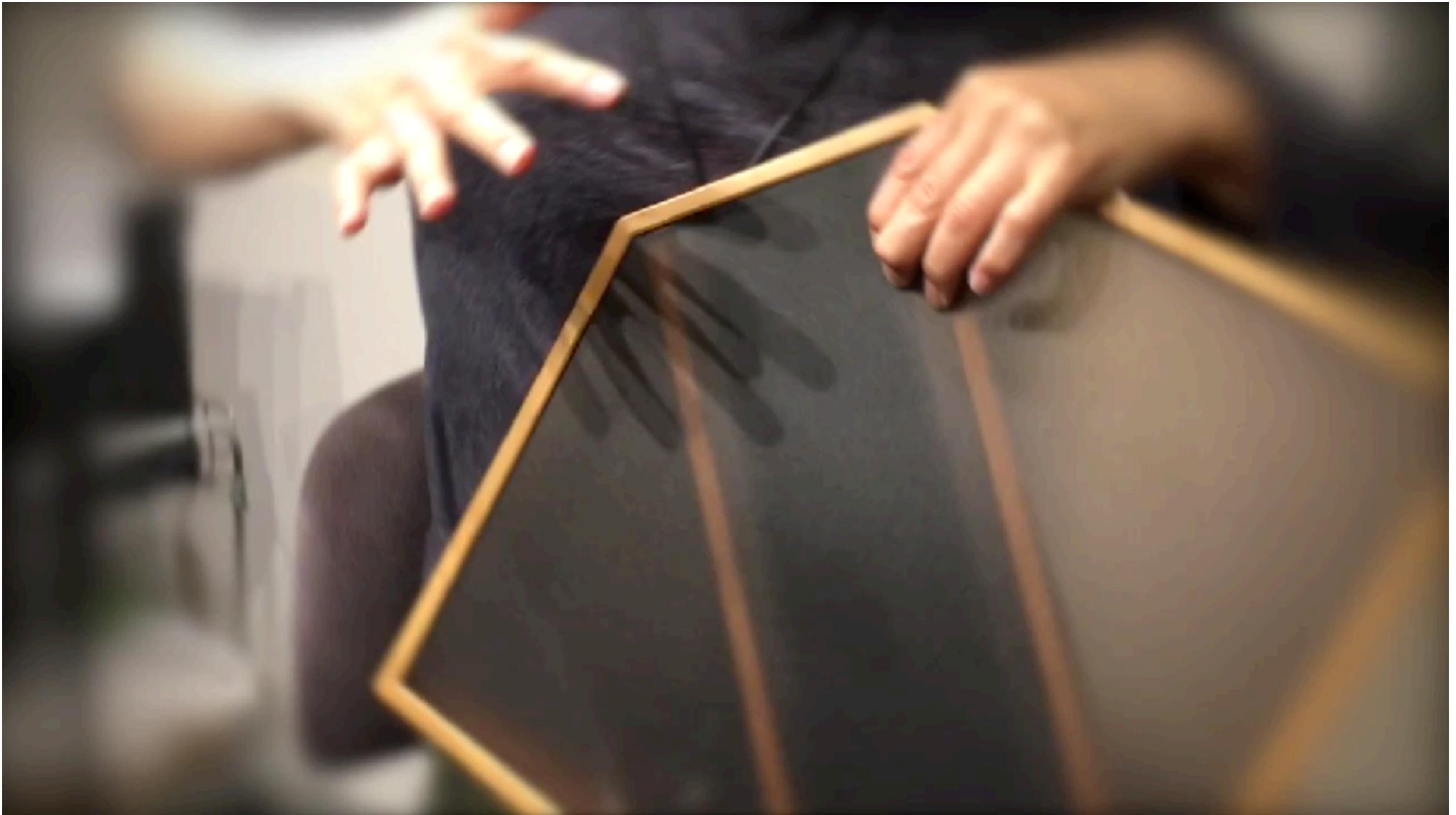
Federal Ministry of Education and Research:  
Research Focus Area  
„Research on Digitalization in Arts and Cultural Education“

Meta-Project conducted by the  
 FRIEDRICH-ALEXANDER UNIVERSITÄT ERLANGEN-NÜRNBERG

Part 1: Theory development, qualitative methods, PR:  
Prof. Dr. Benjamin Jörissen

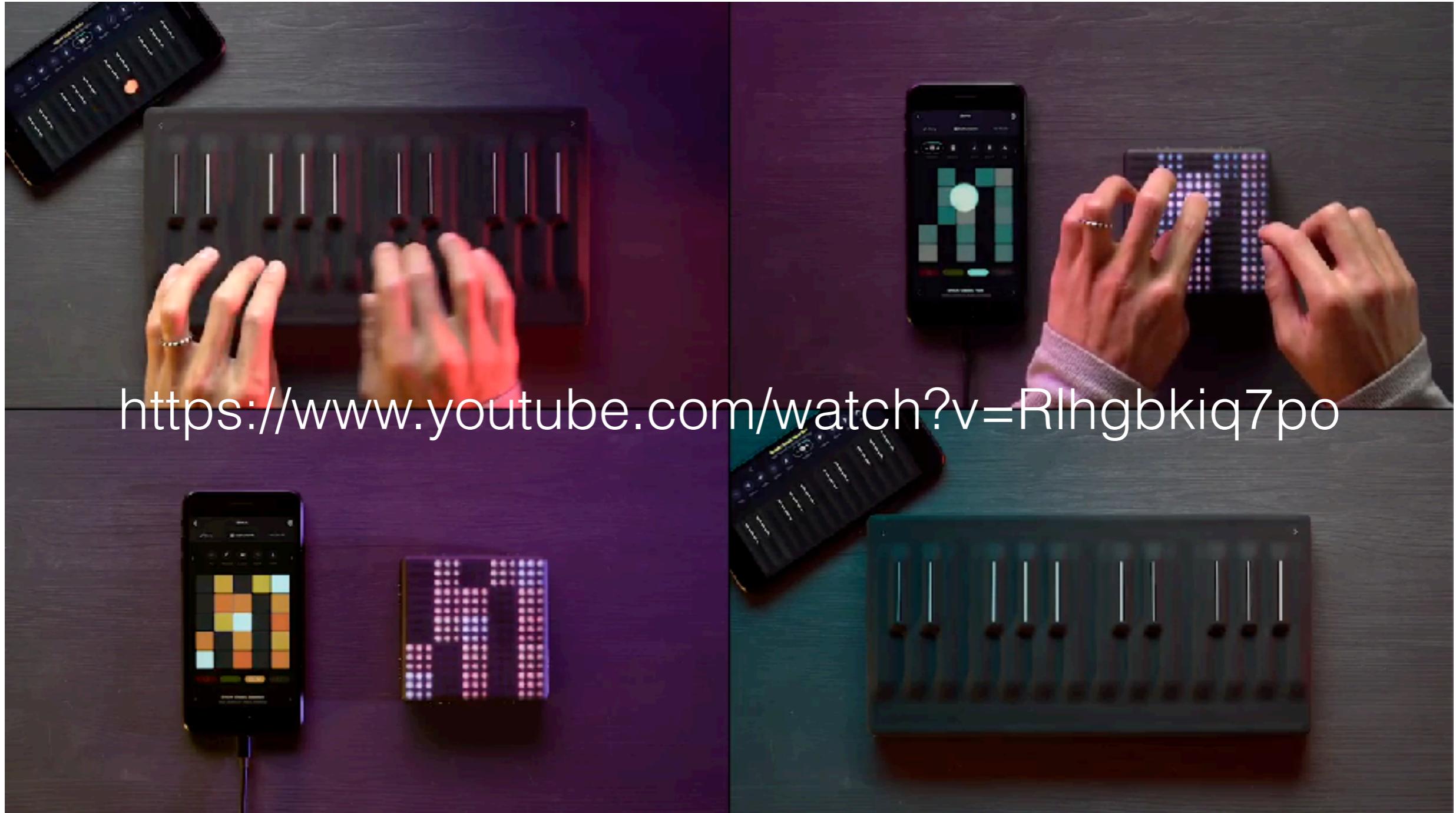
Part 2: Quantitative methods & quantitative research synthesis:  
Prof. Dr. Stephan Kröner

# „aframe Handdrum“ (atv inc.)



[https://www.youtube.com/channel/UC738\\_eXMjpbAVBSzsveyAJQ](https://www.youtube.com/channel/UC738_eXMjpbAVBSzsveyAJQ)

# „Seaboard + Blocks“ (Roli inc.)



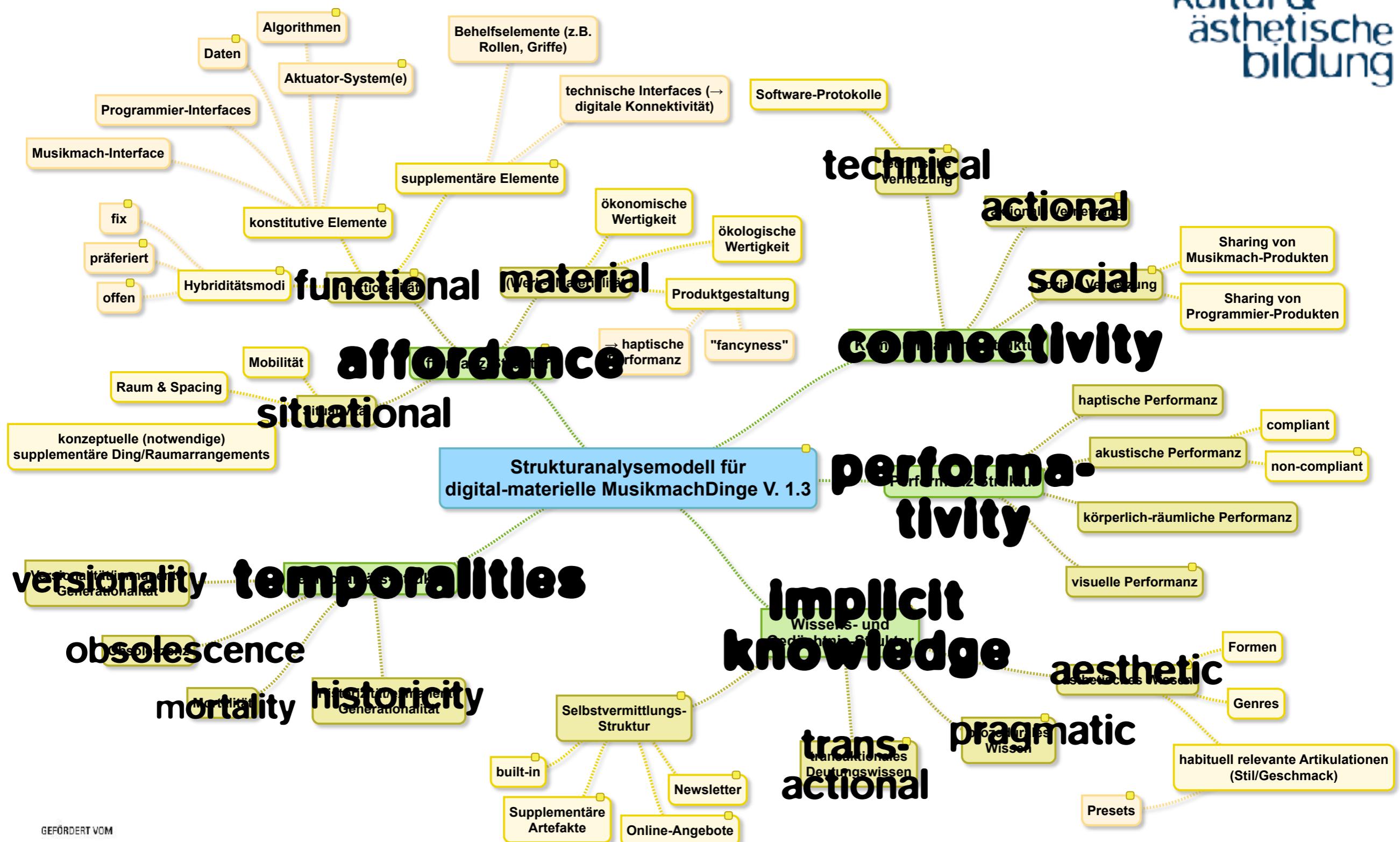
<https://www.youtube.com/watch?v=Rlhgbkiq7po>

# „Linnstrument“ (Roger Linn)



LINNSTRUMENT ACOUSTIC GUITAR  
ILYA EFIMOV ACOUSTIC GUITAR

<https://www.youtube.com/watch?v=7DzFV0Zyqzc>





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# Conclusion & Prospect

the anthropic & the post-anthropic:

digital epistemic, aesthetic & material  
actants/actors are increasingly  
shaping economy, society,  
selves and cultures

the anthropic & the post-anthropic:

What does it mean to be human  
under the technological  
condition of digitality?

DeepL Übersetzer x + https://www.deepl.com/translation/de/en/"Andererseits verweist die fremdartige Handlungs- und Wirkmacht kybernetischer Maschinen auf ein automatisches, aber doch nicht-reflexives Denken, das eine bestimmte Betriebsart der Kalkulation, Klassifikation und Organisation von Daten bezeichnet und dabei Environmentalität funktionieren lässt; Environmentalität hier verstanden als ein räumlich denkender Modus der Macht." In: Hörl, E., & Parisi, L. (2013). Was heißt Medienästhetik? Zeitschrift für Medienwissenschaft, 8(2).

Übersetze Deutsch (erkannt) Obersetze nach Englisch

"On the other hand, the strange power of action and effect of cybernetic machines refers to an automatic, but nonreflexive way of thinking that describes a certain mode of operation of calculating, classifying and organizing data, thereby allowing environmentalism to function, environmentalism here understood as a spatially thinking mode of power. In: Hörl, E., & Parisi, L. (2013). What does media aesthetics mean? Journal for Media Studies, 8(2).

↑ Dokument übersetzen

Kein Treffer für diesen Begriff im Linguee Wörterbuch.

Wenn du auf ein Wort klickst, erhältst du alternative Formulierungen.



Erleben Sie DeepL in vollem Umfang

Weiterlesen

# post-hermeneutics

"On the other hand, the strange power of action and effect of cybernetic machines refers to an automatic, but nonreflexive way of thinking that describes a certain mode of operation of calculating, classifying and organizing data, thereby allowing environmentalism to function, environmentalism here understood as a spatially thinking mode of power. In: Hörl, E., & Parisi, L. (2013). What does media aesthetics mean? Journal for Media Studies, 8(2).



FaceApp

image

manipulation

by

means

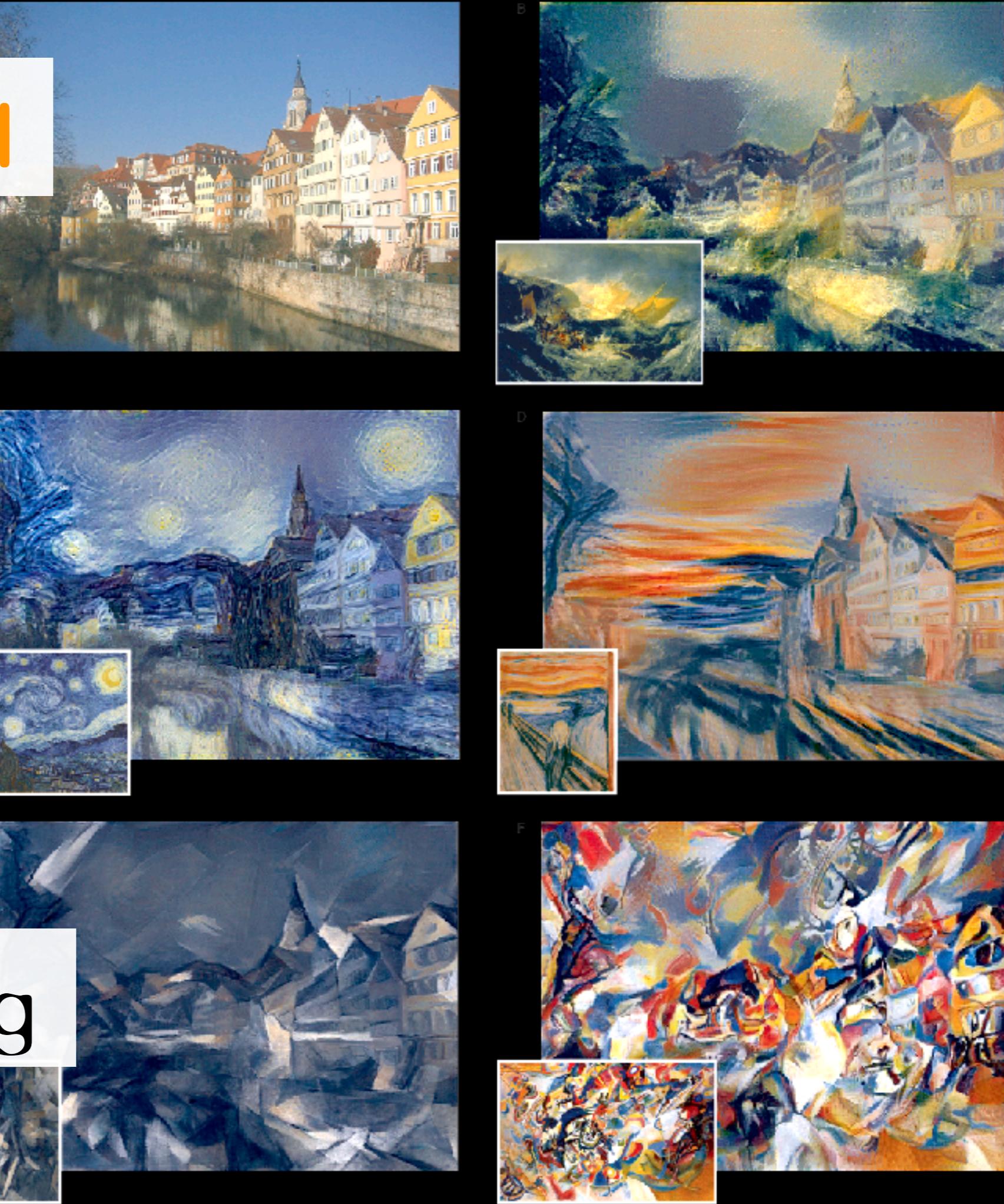
of

deep learning

technology



# technological mimesis of aesthetic styles by means of deep learning technology



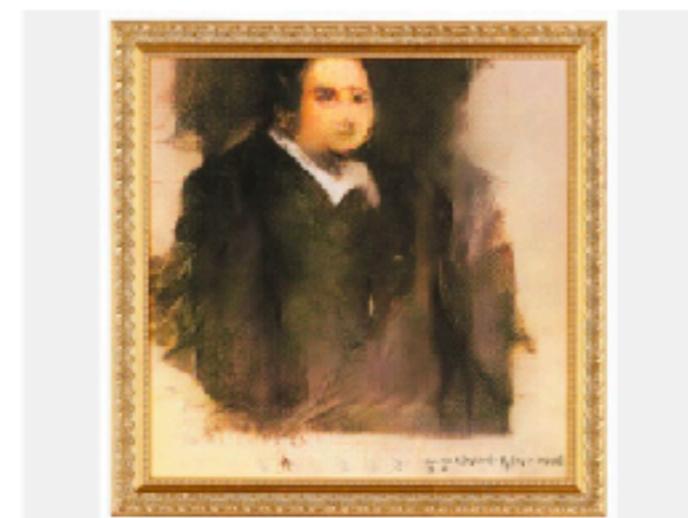
Quelle: Gatys, Leon A./Ecker, Alexander S./Bethge, Matthias (26. August 2015): A Neural Algorithm of Artistic Style, in: arXiv:1508.06576 [cs, q-bio], abrufbar unter: <http://arxiv.org/abs/1508.06576>, letzter Zugriff am 29.2.2016., S. 5.



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LOT 583

*Edmond de Belamy, from La Famille de Belamy*

Price realised

USD 432,500

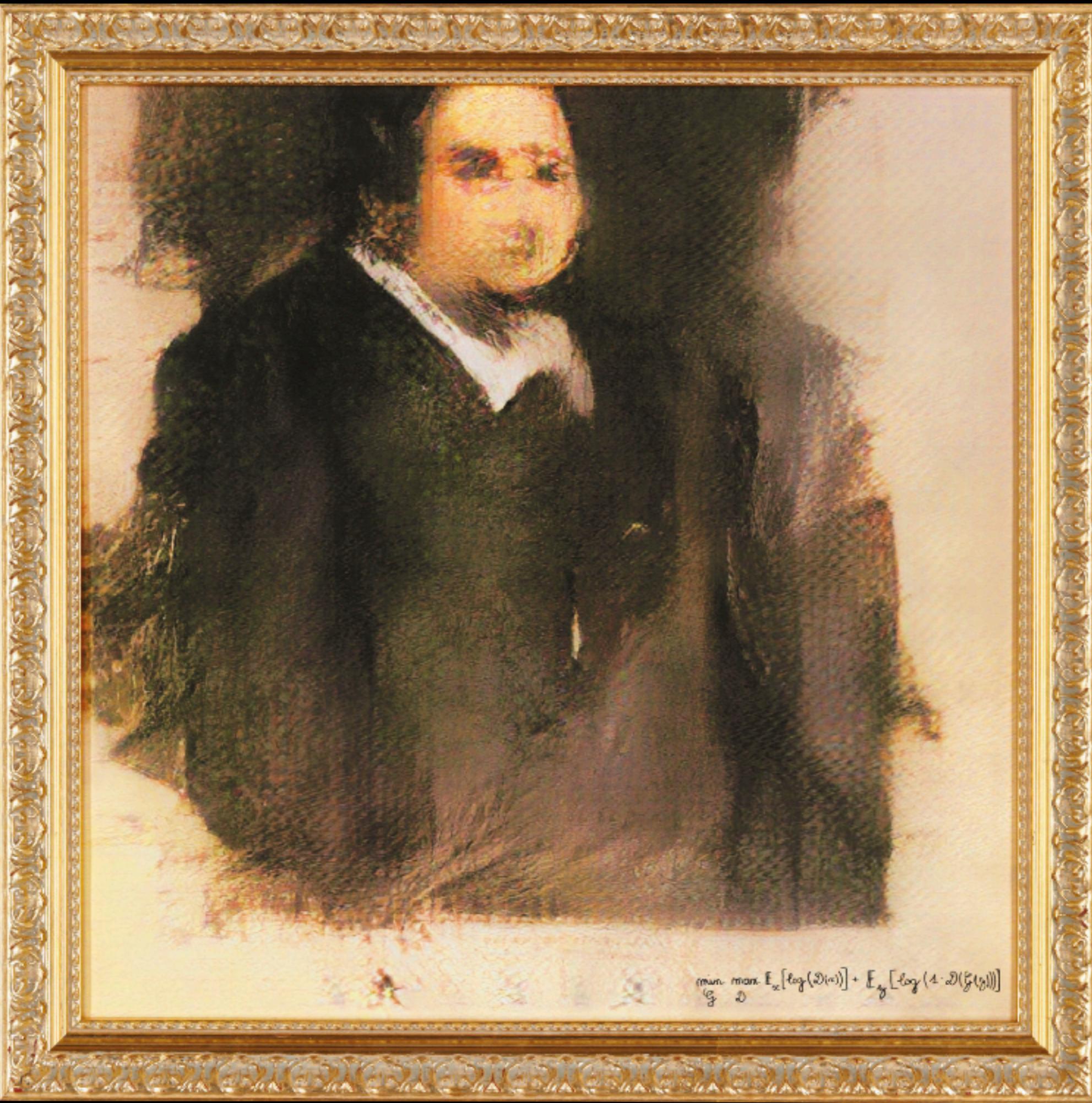
Estimate

USD 7,000 - USD 10,000

[Follow lot](#)[+ Add to Interests](#)*Edmond de Belamy, from La Famille de Belamy*

generative Adversarial Network print, on canvas, 2018, signed with GAN model loss function in ink by the publisher, from a series of eleven unique images, published by Obvious Art, Paris, with original gilded wood frame  
S. 27 1/4 x 27 1/4 in (700 x 700 mm.)

Technological mimesis of artistic creation  
by means of deep learning technology



$$\min_{\mathcal{D}} \max_{\mathcal{S}} \mathbb{E}_x[\log(\mathcal{D}(x))] + \mathbb{E}_{\mathcal{S}}[\log(1 - \mathcal{D}(\mathcal{S}(z)))]$$



$$\min_{\mathcal{G}} \max_{\mathcal{D}} \mathbb{E}_x[\log(\mathcal{D}(x))] + \mathbb{E}_y[\log(1 - \mathcal{D}(\mathcal{G}(y)))]$$

1st Nature

2nd Nature

3rd Nature

# „Care + relatedness“ as a Measure

1st Nature – some structures of care

2nd Nature – all about care (others & self)

Education: shaping a structure of care

& balancing these structures of care

between self, others, and the environment

# „Care + relatedness“ as a Measure

1st Nature – some structures of care

2nd Nature – all about care (others & self)

3rd Nature – absolutely no structure of care

What does it mean to be human  
under the technological  
condition of digitality?

What is the role of educational  
science and research  
with regard to these developments?

Prof. Dr. Benjamin Jörissen  
benjamin.joerissen@fau.de  
<http://joerissen.name>

Thank you!!  
Presentation slides and further materials →  
<http://joerissen.name>

International Conference  
Anthropology — A Challenge to Education in a Globalized World.  
History, Culture, Philosophy

East China Normal University, Faculty of Education  
Shanghai, November 20-22, 2018.



creative commons-Lizenz:  
nichtkommerzielle Nutzung,  
Abwandlung, Weitergabe (bei  
Nennung der Quelle)  
erwünscht.