Wired Humans - Real Humans?

A Few Challenges For eLearning

Keynote held at the
eLearning - Didaktik Fachtagung
Institut für E-Learning Medienpädagogik & IKT
The Private University College of Education of the Diocese of Linz

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Horizons

Horizons for elearning

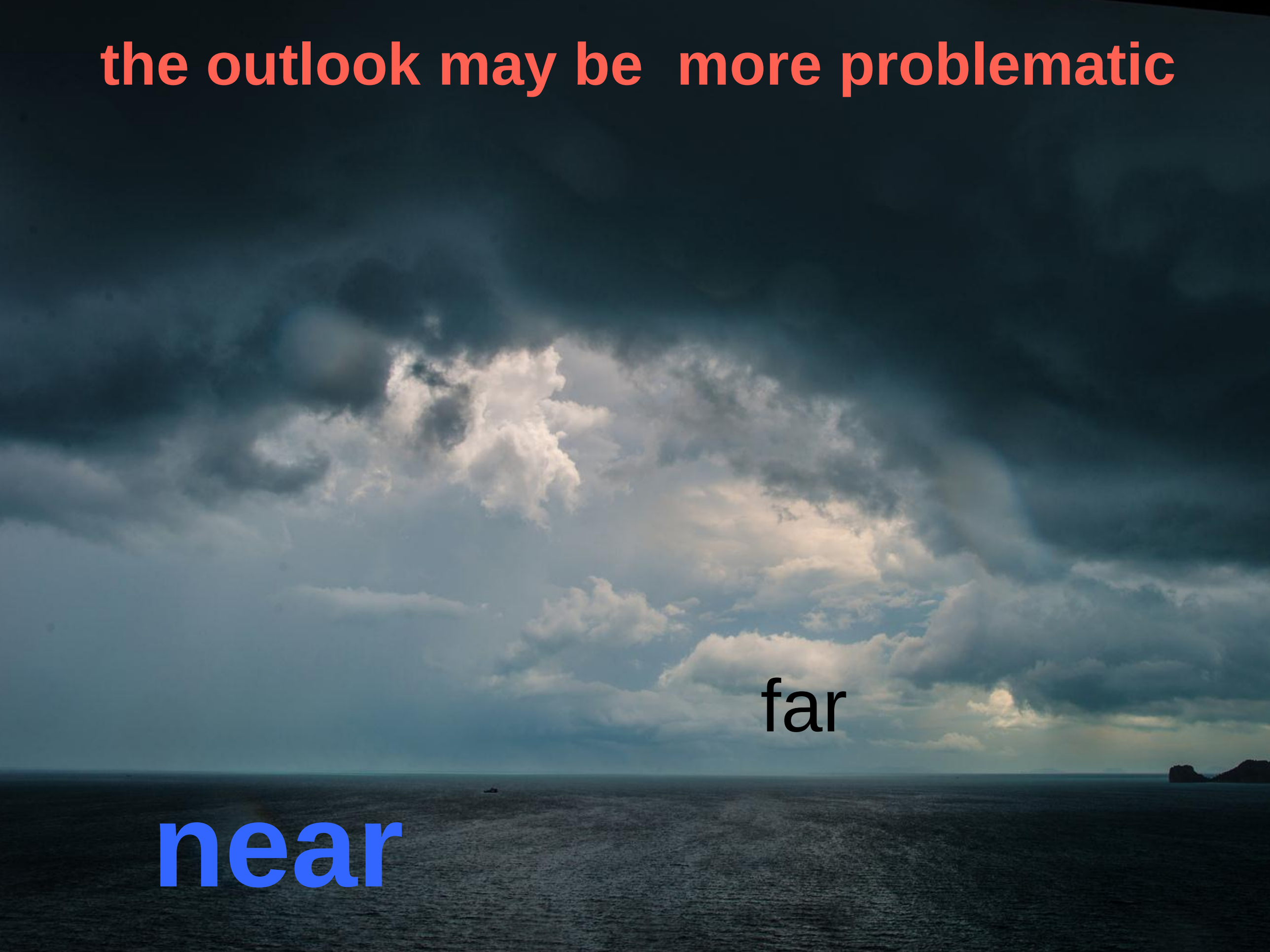
tech **edu** **culture**

Gesichtskreis: field of vision, horizon, outlook

The future is bright

...are you shure?

the outlook may be more problematic



…seeing the horizon is not enough…

… the **short-term** may be rather *diesig und nebelhaft*

2

Views

Books will soon be obsolete in the schools
Bücher werden bald überholt in den Schulen

All stakeholders

In ICT in education

are bound to express

views on ICT

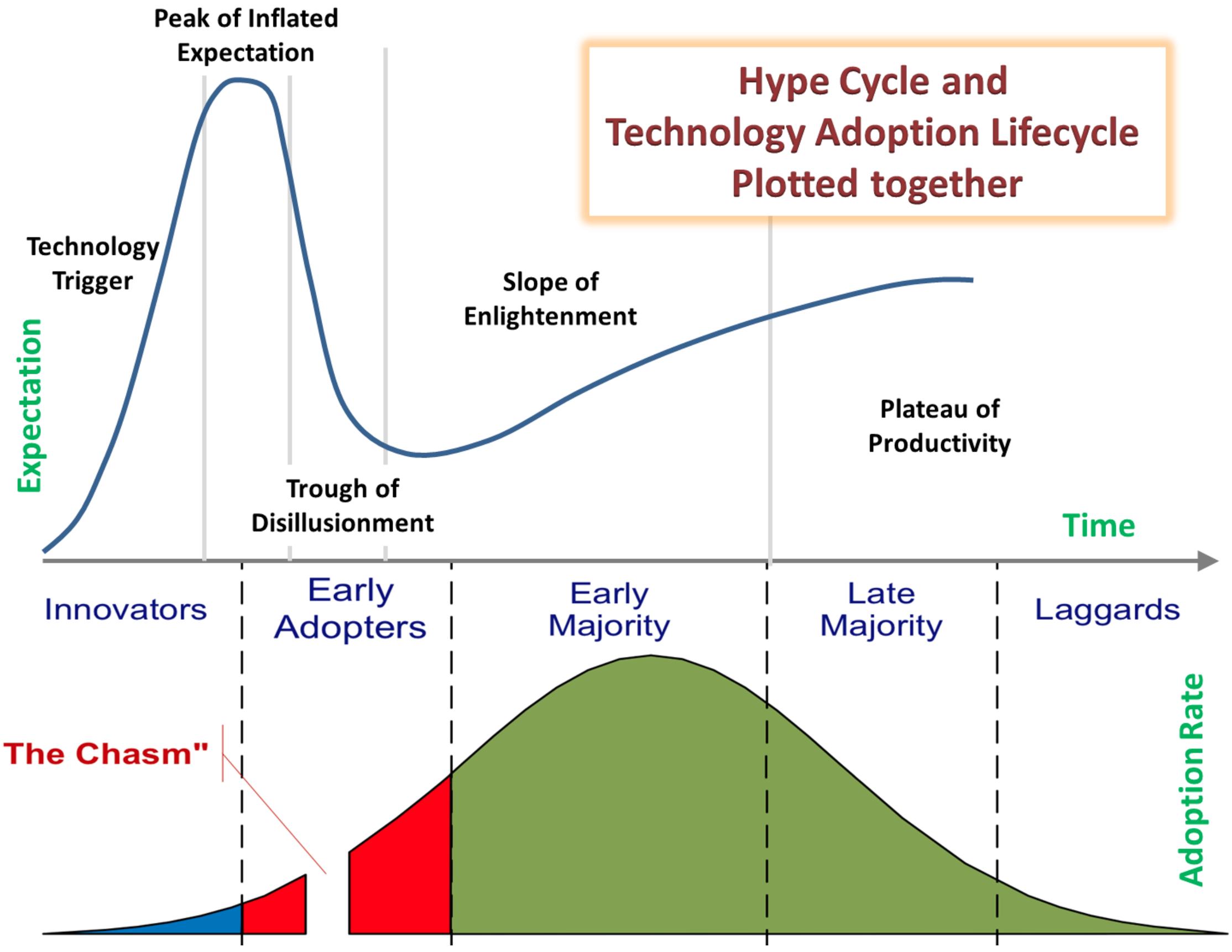
What's your view on technology?

1. Techno-determinist?
2. Techno-messianic?
3. Techno-catastrophist?
4. Techno-sceptic?
5. Techno-instrumentalist?
6. Techno-contructivist?

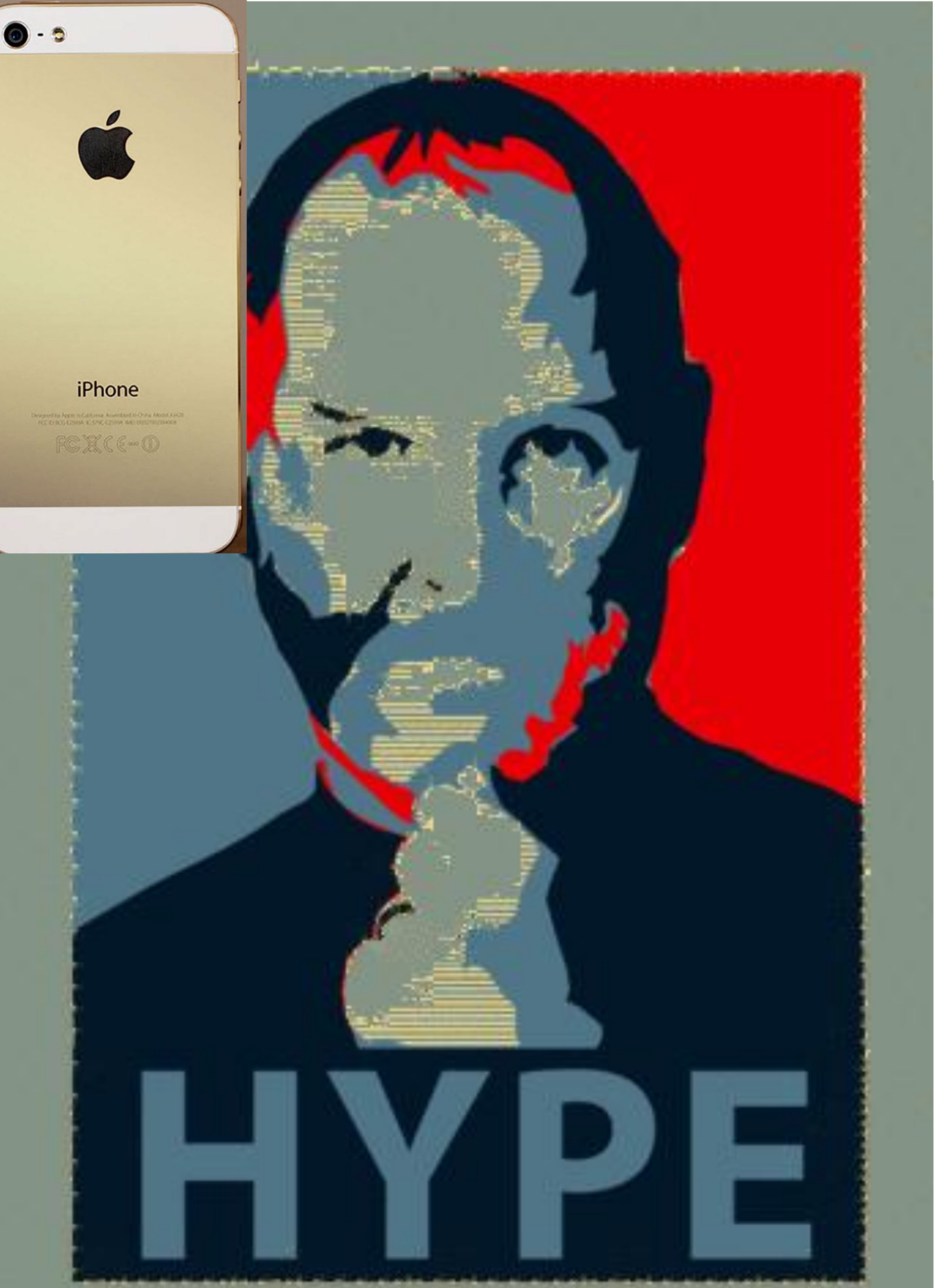
3

Adoption

Hype Cycle and Technology Adoption Lifecycle Plotted together



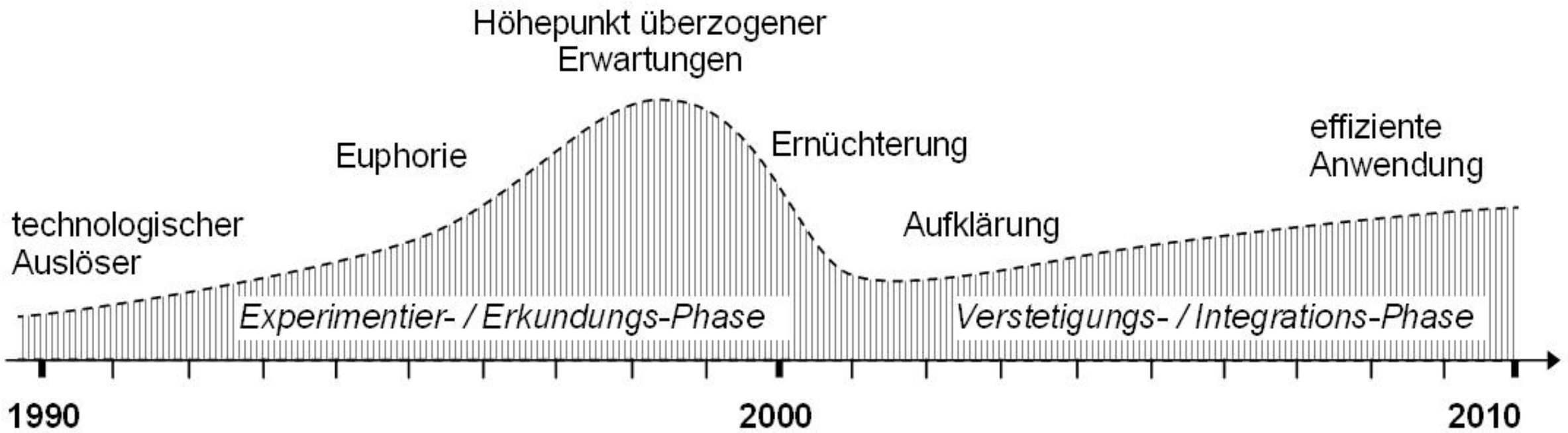
iPhone

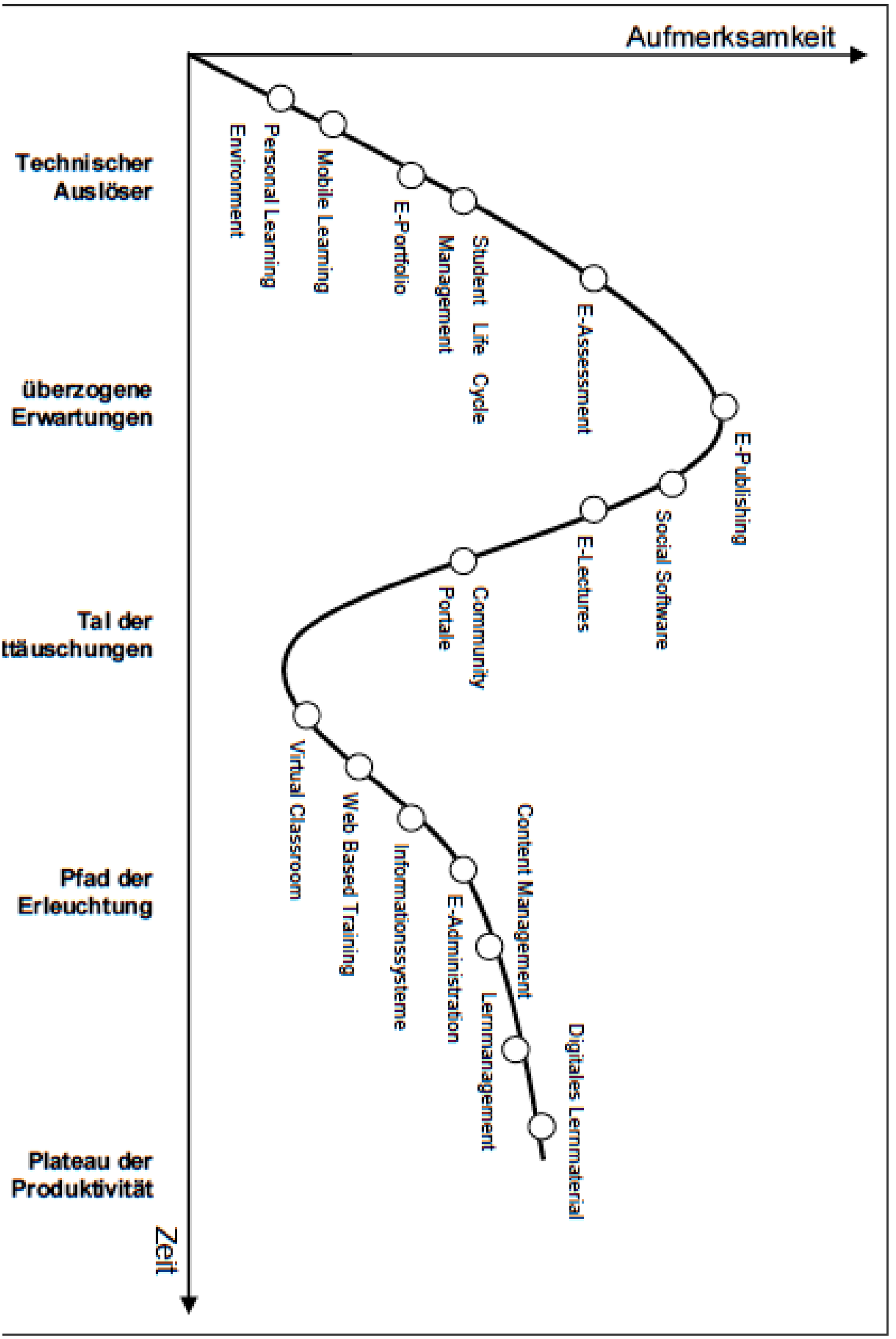

HYPE

HYPE

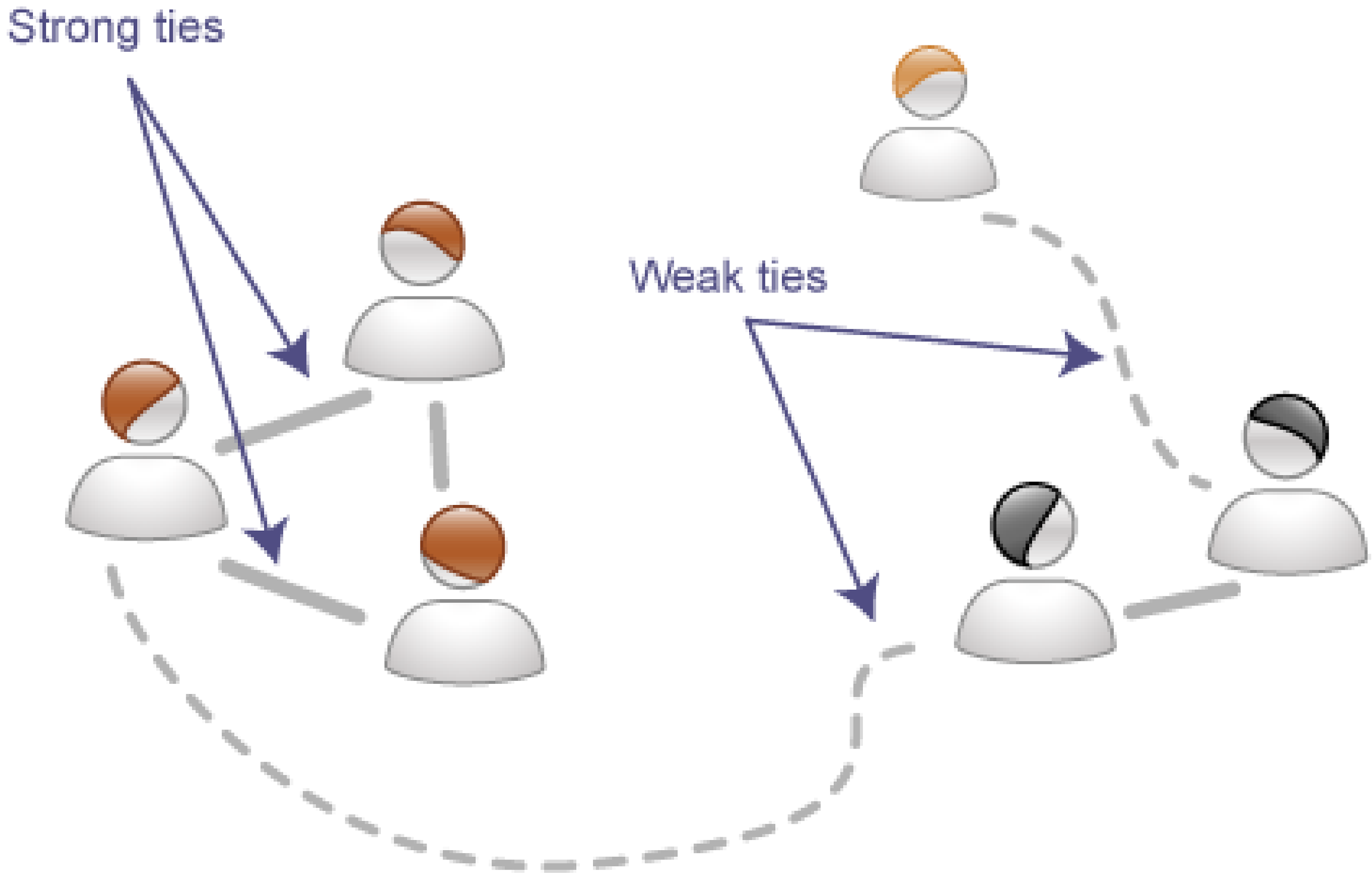
SONY
WALKMAN

Fossilization


Höhepunkt überzogener Erwartungen
Euphorie
Ernüchterung
effiziente Anwendung
technologischer Auslöser
Aufklärung
Experimentier- / Erkundungs-Phase
Verstetigungs- / Integrations-Phase
1990
2000
2010


Aufmerksamkeit
Technischer Auslöser
überzogene Erwartungen
Tal der ttäuschungen
Pfad der Erleuchtung
Plateau der Produktivität
Zeit
Personal Learning Environment
Mobile Learning
E-Portfolio
Student Life Cycle Management
E-Assessment
E-Publishing
Social Software
E-Lectures
Community Portale
Digitales Lernmaterial
Lernmanagement
Content Management
E-Administration
Informationssysteme
Web Based Training
Virtual Classroom

Weak ties – strong ties



AM Radio

Television

Hindenburg crashes

Hiroshima

Sputnik I

First weather satellite

Nixon's 'Checkers' speech

Nixon/Kennedy debate

k Martet Crash

'War of the Worlds' broadcast

Univac

Whirlwind computer

John Glenn orbit

Telstar communications satellite

Man on the Moon

U.S. and U.S.S.R. link in space

IBM Electromatic typewriter

Mass-production of computer

Cuban missile-crisis ultimatum televised

Apollo 13

analog computer

First computer using transistors

'I Have a Dream' speech by Martin Luther King Jr. telecast

FDR Pearl Harbor radio speech in 79% of American homes

Computer hard drive

JFK assassinated

Martin Luther King Jr. funeral televised

Beatles visit U.S.

Computer using binary code

IBM's five-ton calculator

Apollo 1 disaster

Electronic calculator

Eniac

Smith-Corona portable electric typewriter

Robert Kennedy funeral televised

rvice to Europe

Direct-dial long distance

IBM Selectric typewriter

Violence at Democratic convention televised

8-mm film

Mobile phones

Silicon transistor introduced

IBM 360 computer standardizes product line

tion of TV

Transistor

Optical fiber

DEC minicomputer

Kodachrome

First transatlantic-phone cable

Computer mouse

V broadcasts

Modem dataphone

Arpanet (precursor of the Internet)

Silicon chip

Some U.S. banks install automated teller machines

abs develops color TV system

Integrated-circuit patent

Floppy disk

CBS begins TV broadcasts

Thin-film transistor

Intel 4004, the first microprocessor

First car radio

TI pocket calculator

FM radio patented

Color TV demonstrated

Ernie Kovacs TV show premieres (CBS)

Ernie Kovacs dies

Word processing

. becomes IBM

Commercial TV

Commercial color TV in U.S.

White House, Kremlin phone link

H-P programmable pocket calculator

Zoom lens

Arthur Godfrey generates 12% of CBS revenues

Cordless telephone

Altair 8800 microcomputer

Mass production of TV

Army-McCarthy hearings televised

Overseas direct dialing to Europe

Laser printer

First spreadsheet

Polaroid camera

First Miss America broadcast (ABC)

Apple II

Cable-TV systems in U.S.

'Tonight Show' premieres (NBC)

Microsoft founded

adcasts

Videotape recorder developed

PC hard drive

HDTV

First color TV broadcasts

Pong

First transcontinental broadcast ('See It Now' debut on CBS)

BetaMax format

nission created

Federal Communications Commission (FCC) created

'Today Show' premieres (NBC)

CBS ends 'See It Now'

VHS format

KDKA starts 500,000-watt radio broadcasts

First issue of TV Guide

Polaroid instant color film

Cellular telephone

Regularly scheduled FM radio

Long-playing record

Home-use video recorder

DuMont begins TV broadcasts

DuMont ends TV broadcasts

Dolby sound

NBC begins TV broadcasts

Transistor radio

Sony Trinitron television

First World Series telecast (NBC)

Videotape recorder brought to market

First superstation (WTBS)

ABC begins TV broadcasts

Stereo records

FM stereo radio

ESPN premieres

CBS begins TV broadcasts

Audio cassette

Corporation for Public Broadcasting started

CNN debut

First president on broadcast TV (FDR)

Arthur Godfrey's TV show premieres

President Johnson signs Public Broadcasting Act

Walkman

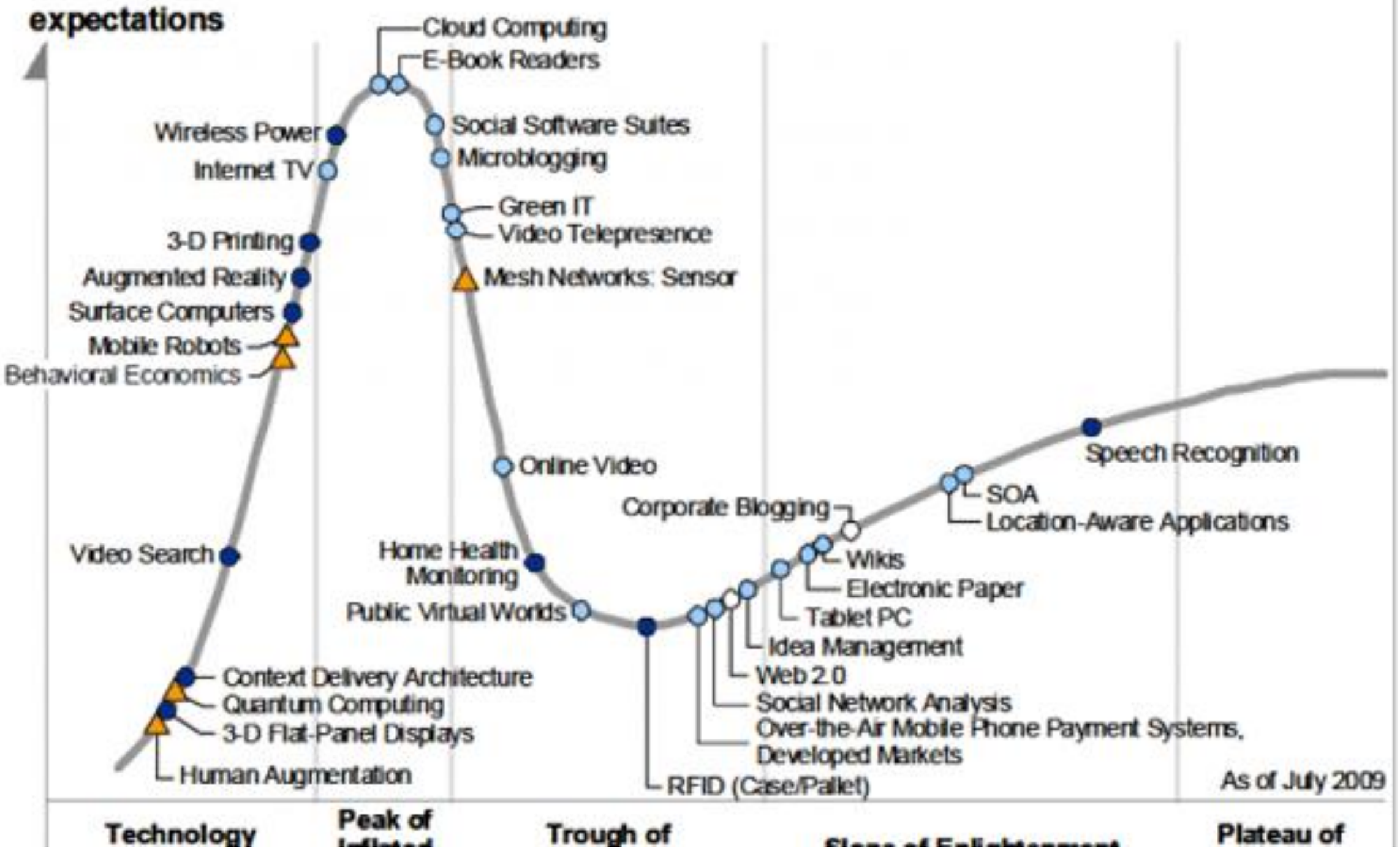
First televised political convention

Inauguration telecast for first time

National Public Radio premieres

Silicon Alley Insider Chart of the Day

Hype Cycle For Emerging Technologies



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Wired humans

Wired humans

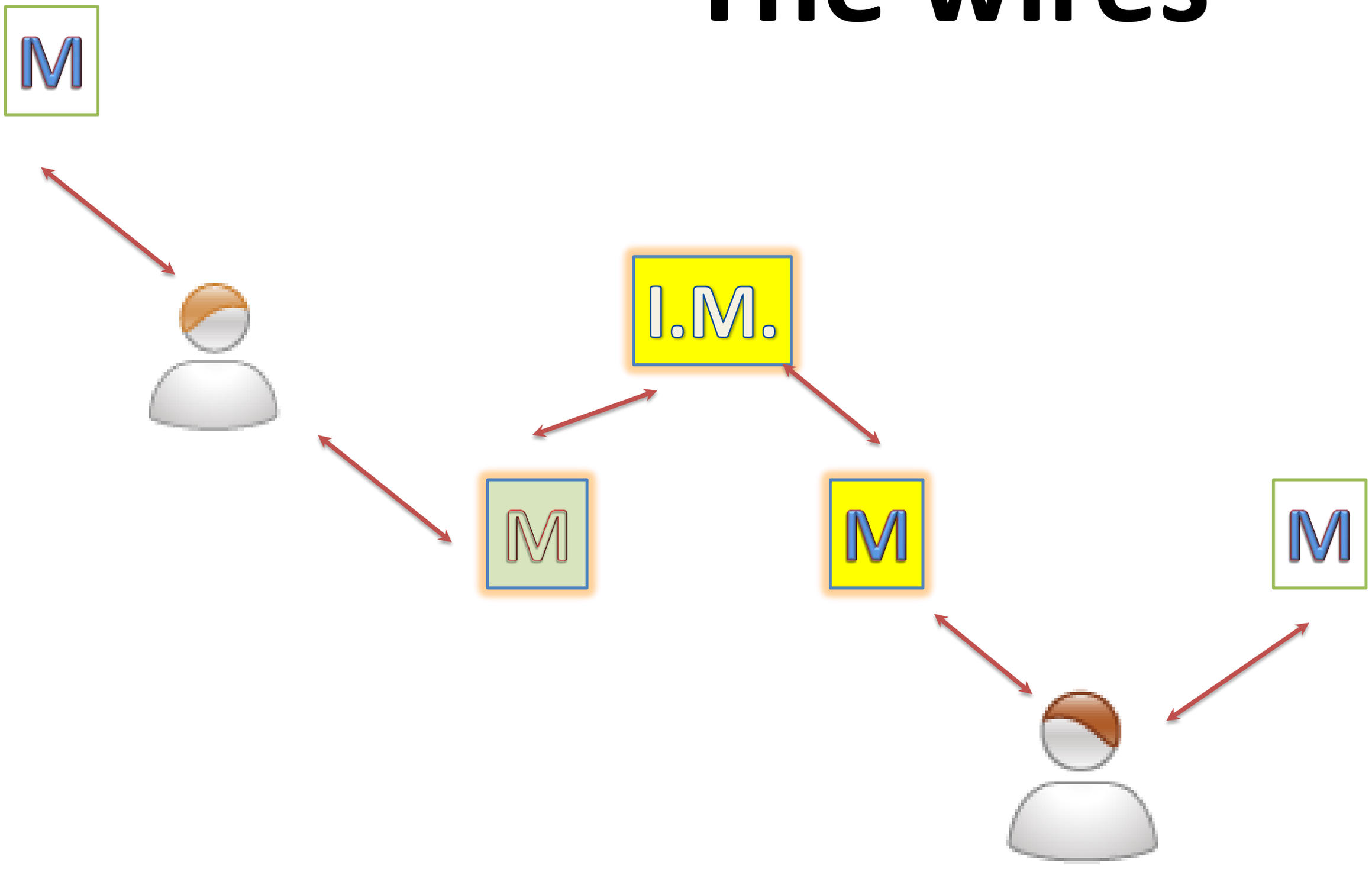
a “wired human” is a human who by mean of some **technology** relates

➔ to **himself/herself,**

➔ to **other humans,**

➔ to the **world** of things and natural phenomena

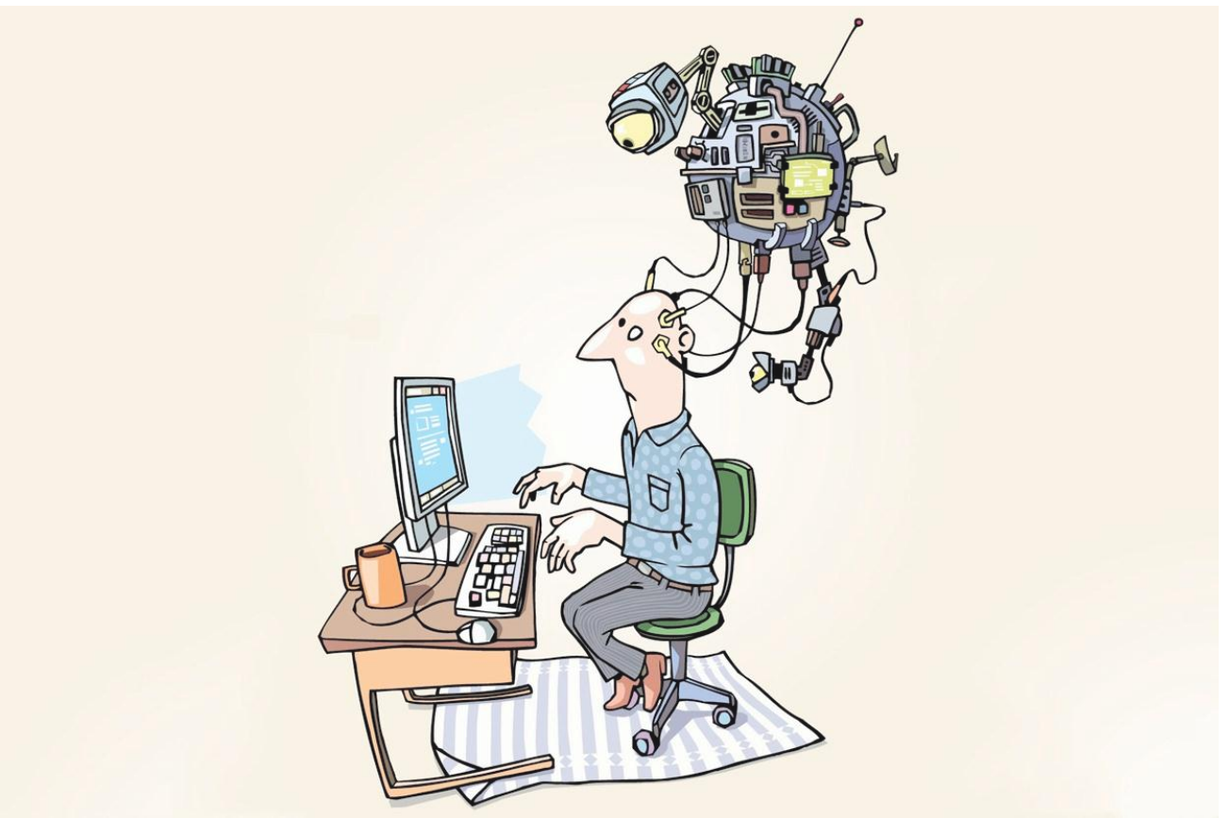
“The wires”



It is not as much about

things

Geräte



or even about how they may

function

nor it is

“information”

or

what information tells us about:

“content”

“stories”

and it is not about

communication

as we humans

have been *communicating*

for eternities

and it is not about the

“communication of information by means of Geräte”

as we humans
have been doing this for centuries

It is mostly about

- **Change**
- **Emerging practices**
- **Fears and hopes**

Speed and penetration

- **Speed**: Why has the use of social media spread astronomically faster than, say the telephone, or email?
- **Changes** in social-cultutal practices
- **Pressure** on learning systems
- Emerging **representations** (Vorstellung + Darstellung)

Four fundamental changes:

- **Technological** revolution: the hegemony of the ionformational paradigm
- **Social** change: "There is no more *Gesellschaftsstrukt* there is only *Informationsstruktur*"
- Change, stress and opptunities for **education**
- Reconfiguration of the **individual**

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The Horizon Reports

NMC Horizon Project

Technolo

STEM

An NM

BIS RESEARCH PAPER NUMBER 130

The Maturing of the MOOC

LITERATURE REVIEW OF MASSIVE OPEN ONLINE COURSES AND OTHER FORMS OF ONLINE DISTANCE LEARNING

SEPTEMBER 2013

EVOLUTION

Horizons of technologies

YEARS	NMC K12	COMMUNITY TECHNICAL AND JUNIOR COLLEGES	STEM+ 2	NMC Horizon HIGHER EDUCATION
1	Cloud computing **Mobile learning**	Bring Your Own Device Flipped classrooms ***Online learning*** Social Media	**Mobile learning** ***Online learning*** **Virtual and remote labs** **Learning analytics**	Flipped classrooms MOOCs **Mobile apps** Tablets
2-3	**Learning analytics** Open content	Badges Games and gamifications **Learning analytics** **Next gen LMS**	3D printing Games and gamifications Immersive learning Wearable tech	Augmented reality Games and gamifications **The Internet of Things** **Learning analytics**
4-5	3D printing **Virtual and remote labs**	**The Internet of Things** Natural User Interfaces Virtual assistants **Virtual and remote labs**	Machine learning **The Internet of Things** flexible displays	3D printing Flexible displays Next gen batteries Wearable techs
Not here	Games and gamifications !! **The Internet of Things** Machine learning, Social Media Bring Your Own Device Flipped classrooms Badges, Virtual assistants Natural User Interfaces	3D printing Cloud computing Open content Augmented reality	Cloud computing Bring Your Own Device Flipped classrooms Natural User Interfaces Virtual assistants Social Media	Cloud computing **Virtual and remote labs** Bring Your Own Device Natural User Interfaces Virtual assistants Machine learning Social Media

Technology Outlook STEM+ Education 2013 - 2018, An NMC Horizon Project Sector Analysis

K12	COLLEGE	HE	STEM+	TRENDS	Disruptive power
x				**SOCIAL MEDIA**	high
x	x			**BYOD**	low
x	x	x	x	**ONLINE RESOURCES educators' roles**	high
x	x		x	**ONLINE +HYBRID +, COLLABORATIVE** models	high
	x			**"MOBILIZATION"**	low
	x			**CRITICAL THINKING and SOFT SKILLS**	low
	x	x		**NEW SOURCES OF DATA** for PERSONALIZED LEARNING and PERFORMANCE MEASUREMENT	low
	x	x		**NEW SKILLS** from **informal learning** experiences forEDUCSTAORS	moderate to high
	x			**UBIQUITY**	very high
	x			**LEARNING ANALYTICS**	moderate to high
		x	x	**MOOCs – TIPPING POINT?**	high

Challenges

K12	COLLEGE	HE	STEM+		Hard ?
X	X	X	X	Ongoing **professional development** needed	moderate
X	X	X	X	**Education's own practices** limits broader uptake of new technologies	moderate to high
X	X	X	X	Unprecedented **competition** to traditional models of schooling.	high
X				Need to address the increased **blending of formal and unformal learning**	moderate
X	X	X	X	Need for more and better **personalized learning**. **MOOCs** are not good enough yet.	hard
X		X	X	We are not using **digital media for formative assessment** the way we should and could	Moderate
	X	X	X	Critical campus **infrastructures** are under-resourced.	moderate
	X			The **digital divide** remains an issue	Very hard

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Outlooks

My perspectives

- **Identities** and roles
- Body-near and mind-near tech futures
- “Digital colonialism” (Casati): the future of attention (Aufmärksamkeit)
  - Deep reading / focused attention and immersion
  - Interstitial reading / short span attention, transe and *Zerstreuung*
- Reinventing the **Socratic dialogue**
- **Negociation** and transaction about tech

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Danke!

Linz ist schön !