Culturological approach
OUTLINE

• Introduction
• Culture. The space of culture
• Spiritual, Social, and Technological cultures
• Culture of Information Society. Trends
  • Personal Identity Online
  • Social Media
  • Data intensive Science
• Science as a value
• Education 2.0
• Personal vs. Social in Postindustrial Education
• Conclusions
SPACE OF CULTURE

Three-dimensional model
PARADIGMS OF CULTURE

• Cognitive paradigm - knowledge

• Values paradigm - ideas

• Regulative paradigm - rules
AXIS OF CULTURE

values

knowledge

regulations
TYPES OF CULTURE

• Spiritual
• Social
• Scientific - Technological
SPACE OF CULTURE

- Spiritual
- Knowledge
- Technological

- Values
- Social
- Regulations

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CULTURAL TRENDS OF INFORMATION SOCIETY

Personal Identity
Online

Social Media

Spiritual

values

Social

regulations

knowledge

Technological

Data Intensive
Science

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<table>
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<th>DEFINITIONS</th>
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<tr>
<td><strong>Neutral</strong></td>
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PERSONAL IDENTITY ONLINE
Spiritual Culture of Postindustrial Society
PERSONAL IDENTITY ONLINE

• Infosphere
• Multipersonality
• Personality in Cyberspace
SOCIAL MEDIA

Social Culture of Postindustrial Society
CARR - SHIRKY WAGER

Does the Internet Make You Smarter?

Nicholas Carr

Clay Shirky
Whether the most influential sites on the Internet will be peer-produced or price-incentivized systems?
MARX IS BACK?
DATA-INTENSIVE SCIENCE

The Fourth Paradigm of Science - Technological Culture of Postindustrial Society
HISTORY OF COMPUTING

Communication Era

Consumer Era

1970s-  1980s  1990s  Today+

Mainframes

PC Era

• From computing-centric to data-centric
• Consumer Era: interfacing, connectivity and access
DATA GROWING FASTER THEN TECHNOLOGY

- Commerce entirely data-driven
- Science handling massive data
- Companies spending $$$ to collect/analyze data
- Personalized computing

Terabytes (= $10^{12}$ bytes) of Data

![Graph showing Technology Growth (Moore’s law) and Top Ten Data Warehouse size over the years from 1998 to 2012.](image)
ALL ABOUT ACCESSING DATA

Data Centers

Cloud Computing
SCIENCE PARADIGMS

I. Empirical Science
II. Theoretical Science
III. Computer based Science
IV. Data Intensive Science
THE FOURTH PARADIGM: DATA-INTENSIVE SCIENTIFIC DISCOVERY

The speed at which any given scientific discipline advances depends on how well its researchers collaborate with one another, and with technologists, in areas of eScience such as databases, workflow management, visualization, and cloud computing technologies.
SCIENCE AS THE VALUE

From XX to XXI century
VALUES DILEMMA

R_{ij} > 0

Google

?
EDUCATION 2.0
Education of the era of Web 2.0
# WEB 2.0

<table>
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<tr>
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<td>Sociality</td>
<td>Mash-up</td>
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WEB 2.0

• Interactivity
  • Web is a mediator between users but not an information store
  • Dynamic improvement

• Sociality
  • Creation of communities
  • Crowd-sourcing support
  • Personal status support
  • Self-regulation

• Syndication (Mash-up)
  • Hierarchical integration of services
  • Exponential grow of data
# EDUCATION 2.0

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EDUCATION 2.0

• Subjecthood
  • Personalized Knowledge vs. Standard Curriculum
  • Structurisation. Decreasing of Entropy
  • Subjectiveness of Content

• Collaboration
  • Teacher as a partner: Leader vs. driver
  • Personal, naturally formed, multidimensional status of a participant
  • New assessment. Monitoring of personal achievements vs. standard grades

• Redundancy
  • Redundant educational environment. Variety of knowledge sources
    (media, culture artifacts, people of different ages and qualification)
  • Personal way of learning
  • Role of a teacher as an organizer of students activities but not as a provider of the content
# WEB VS. EDUCATION 2.0

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HISTORICAL FORMS OF EPISTEMOLOGY

• Direct observation
• Indirect observation. Acceleration
• Indirect observation. Energy transform
• Indirect observation. Information transform
• Social epistemology. Data intensive learning
HISTORICAL FORMS OF EDUCATIONAL PROCESS

• Preindustrial Society. Personal Education
• Industrial Society. Class-Lesson. Socialization
• The end of XX - Computer Micro-worlds. Personalization
• Socialized Educational Environments
CONCLUSIONS

• Both technology and education can be presented in the space of three types of culture - spiritual, social and technological

• There are three contemporary phenomena corresponding to the three types of culture: Personal Identity Online, Social Media and Data Intensive Science
  • Personal Identity is formed in Cyberspace in addition to real identity
  • Social Media forms social consciousness
  • Science becomes data-intensive

• Crisis of the cultural value of Science Education and domination of Data Intensive Science

• Education 2.0 provides a common platform for both personal and social components of educational process