DIGITAL CURATION

LEARNING ACTIVITY IN DIGITAL SOCIETY

I. LEVIN

OUTLINE

- DIGITAL SCIENCE VS. ANALOG SCIENCE
- **CURATION** - LEARNING ACTIVITY OF THE FOURTH SCIENCE PARADIGM
- **CURATION -** CONSEQUENCE OF INFORMATION ABUNDANCE
- **CURATION -** EVOLUTION OF LEARNING ACTIVITIES
- **CURATION -** DEVELOPING PERSONAL CURRICULUM
- **CURATION -** INTERSECTION OF SOCIAL MEDIA AND DATA INTENSIVE SCIENCE
- EVERYTHING IS **CURATION**
- SCOOP.IT
- CONCLUSIONS

DIGITAL SCIENCE VS. ANALOG SCIENCE

	Analog Science	**Digital Science**
Formal models of processes	Differential Equations	Algorithms, Hybrid models
Systems of interest	Natural phenomena	Artifacts
Main entity in science research	Natural object	Cyber-physical artefact
Basic principles	Transformation of energy	Transformation of information
Main object of research	Natural system	Cyber-physical system
Research paradigm	Experiment, theory, modelling	Data Intensive Science

CURATION -
LEARNING ACTIVITY OF
THE FOURTH SCIENCE PARADIGM

SCIENCE PARADIGMS

I. Empirical Science

II. Theoretical Science

III. Computer based Science

IV. Data Intensive Science

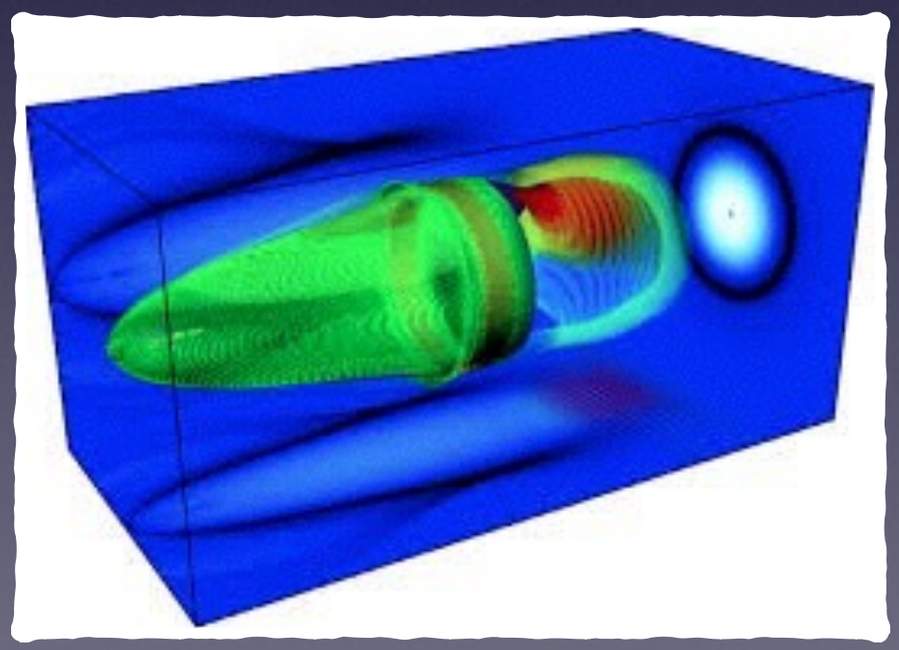
SCIENCE PARADIGMS

Empirical	Theoretical	Computer	Data
Francis Bacon	René Descartes	Seymour Papert	Tony Hey

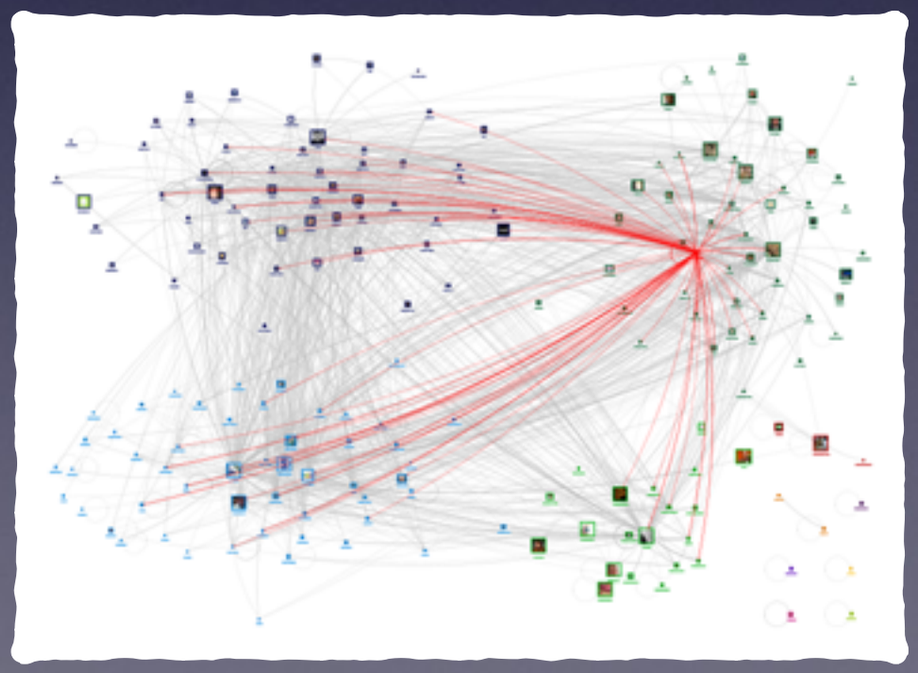
SCIENCE PARADIGMS

Empirical Science

Theoretical Science



Computer Based Science

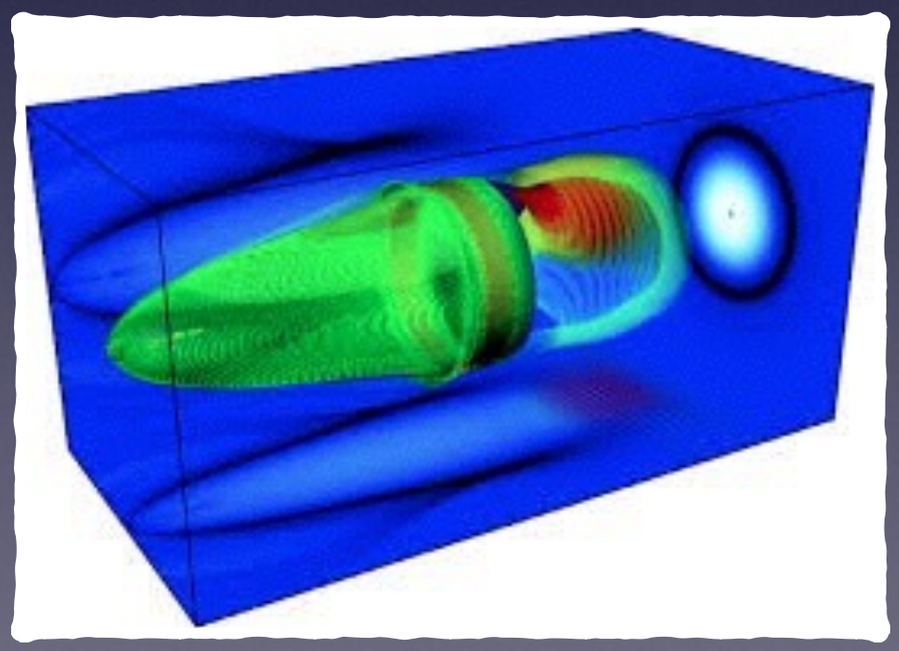


Data Intensive Science

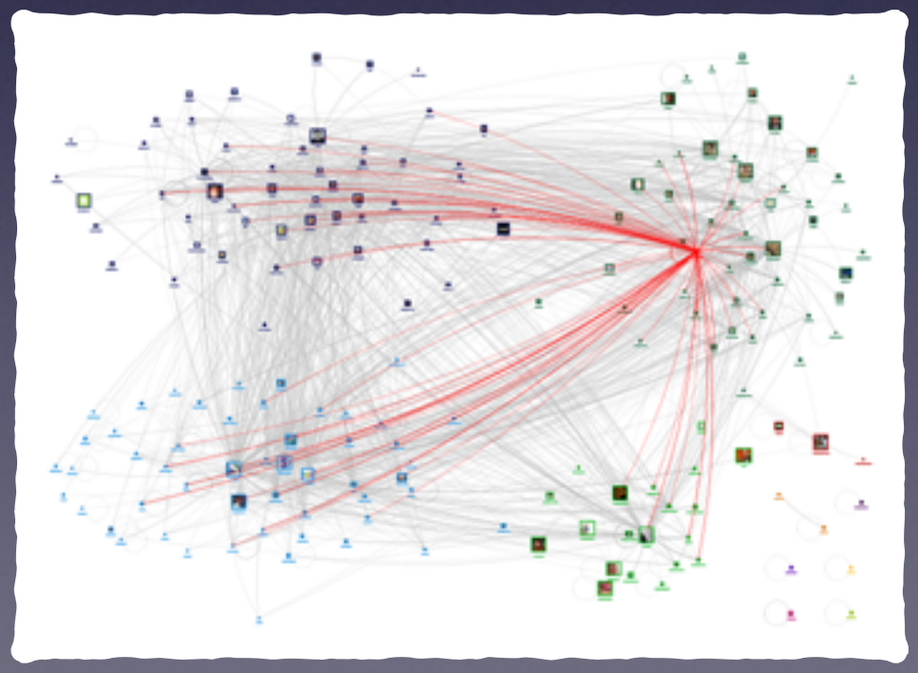
SCIENCE LEARNING ACTIVITIES

Science Labs

Theoretical Lessons



Computer Simulations



Digital Curation

CURATION -
CONSEQUENCE OF
INFORMATION ABUNDANCE

From scarcity of information to abundance of information

Modern Society – SCARCITY

Digital Society - ABUNDANCE

Mushrooms Curation

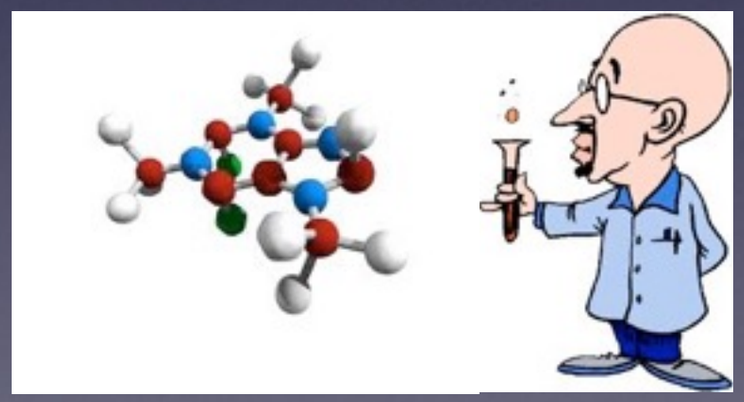
Digital Curation

Selection, preservation, maintenance, collection and archiving of digital content

Curator

A curator is an information chemist. He mixes atoms together in a way to build an info-molecule. Then adds value to that molecule.

Scoble (2010)



CURATION - EVOLUTION OF LEARNING ACTIVITIES

- **In a traditional class**, the learning process goes: from observation - to forming the content, then to an oral and written statement of the content.

- **In the digital class**, the learning process goes:
from learning the material, web surfing, and searching, analysis and preservation of the content and, ultimately will lead to the curation.

CURATION - DEVELOPING PERSONAL CURRICULUM

- Personal Learning Environment
- Connected Micro-world
- Social Networking - personal media
- New kind of Personal Social Environment
- Advancement of constructionism

CURATION - INTERSECTION OF **SOCIAL MEDIA** AND **DATA INTENSIVE SCIENCE**

SOCIAL MEDIA

Social Media	**Use of Web apps supporting creation of user-generated content**	**New way of forming social consciousness**

DOES THE INTERNET MAKE YOU SMARTER?

Carr - Shirky dispute

Nicholas Carr

Clay Shirky

CULT OF AMATEUR?

Andrew Keen

Keen - Shirky dispute

Clay Shirky

WHETHER THE MOST INFLUENTIAL INTERNET SITES WILL BE PEER-PRODUCED OR PRICE - INCENTIVIZED?

Nicholas Carr

Carr–Benkler wager

Yochai Benkler

DATA INTENSIVE SCIENCE

HISTORY OF COMPUTING

Communication Era

Consumer Era

1970s- 1980s 1990s Today+

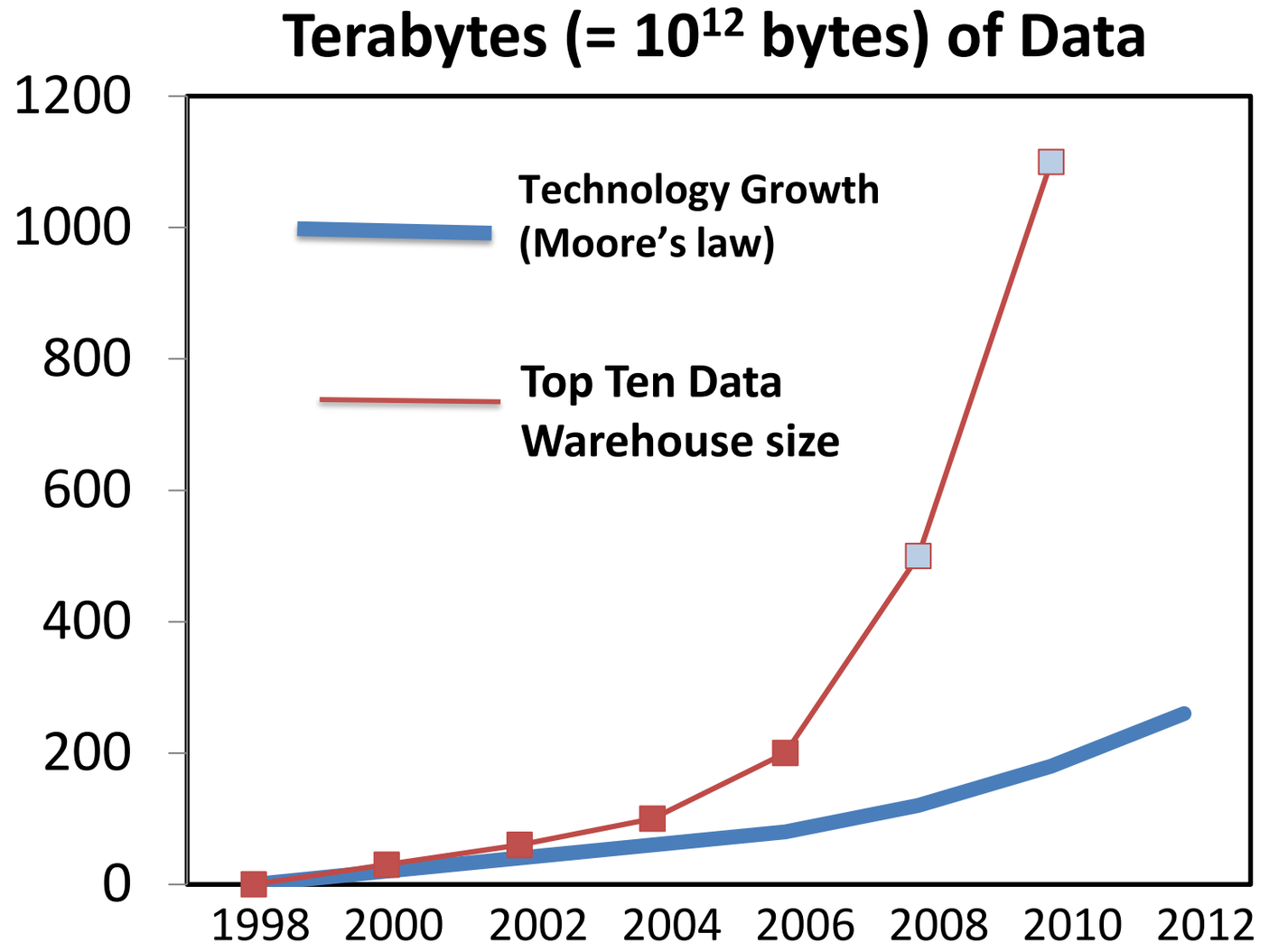
Mainframes

PC Era

- From computing-centric to data-centric
- Consumer Era: interfacing, connectivity and access

ALL ABOUT ACCESSING DATA

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



DATA GROWING FASTER THEN TECHNOLOGY

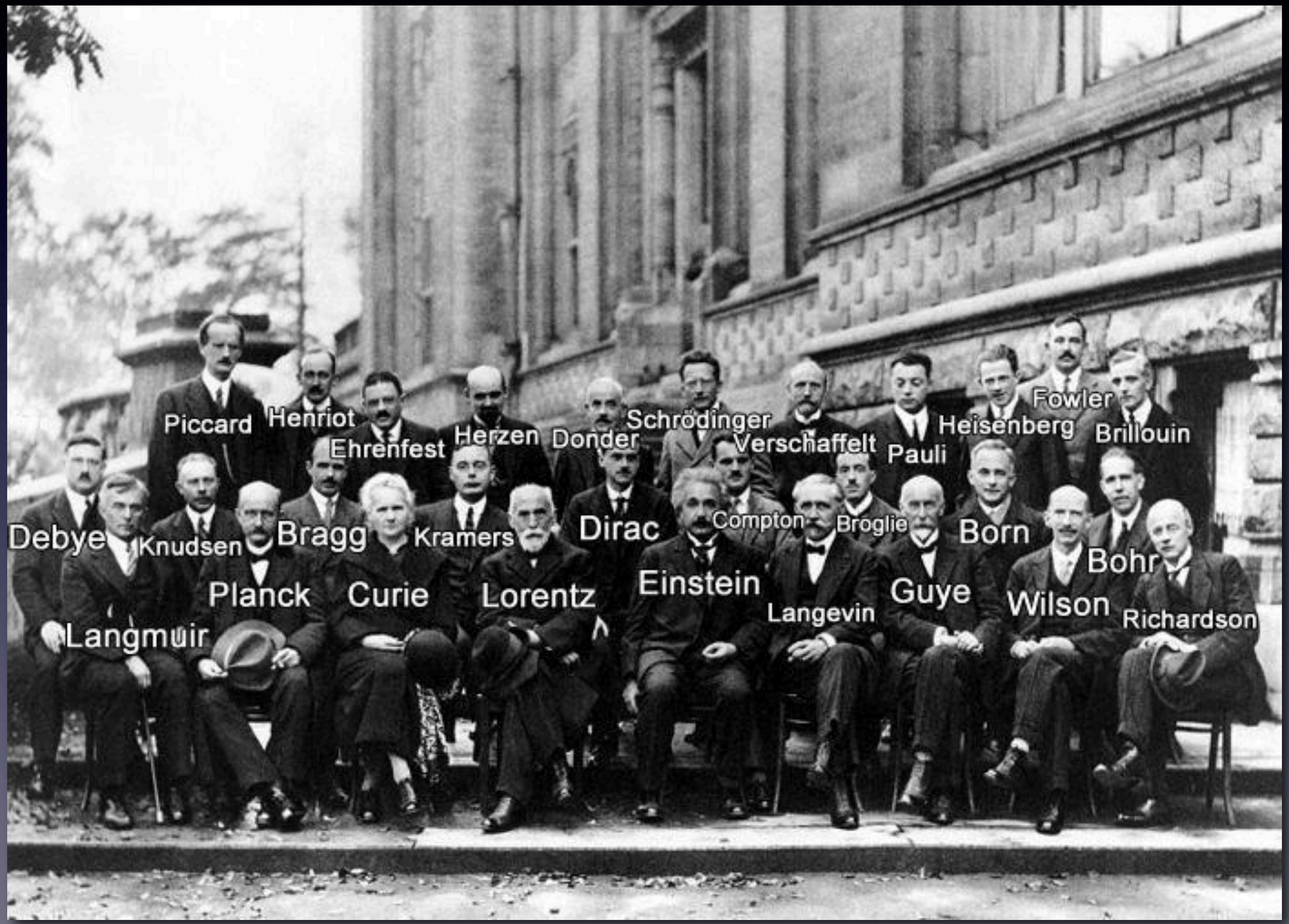
Data Centers

Cloud Computing

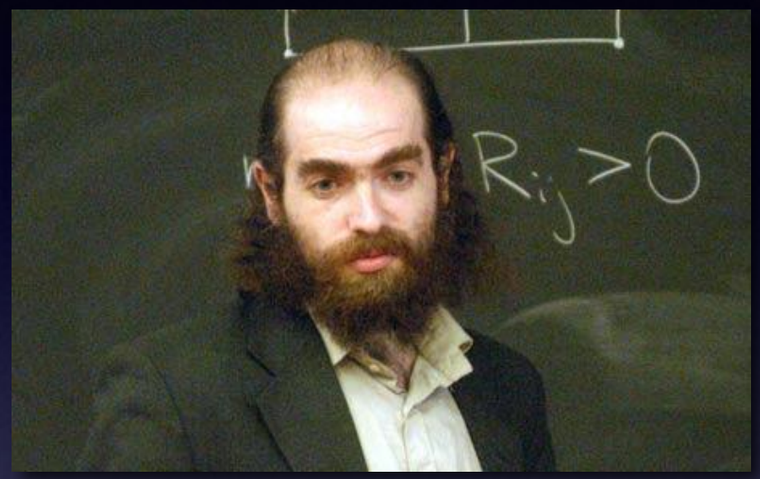
THE FOURTH PARADIGM: DATA-INTENSIVE SCIENTIFIC DISCOVERY

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 e-Science such as: databases, visualisation and cloud computing

SCIENCE IN XX CENTURY



SCIENCE EDUCATION DILEMMA



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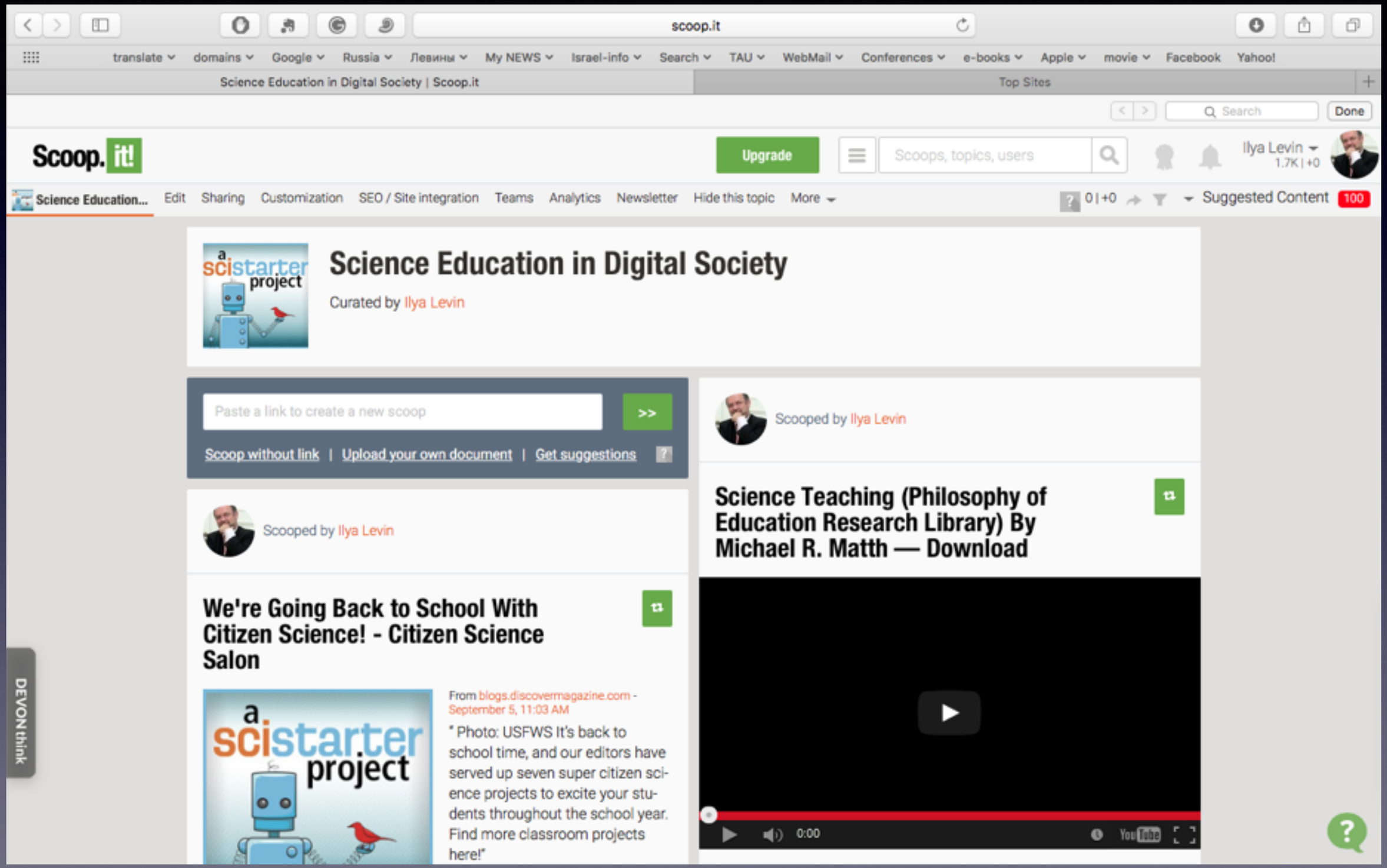
SCOOP.IT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CONCLUSIONS

CURATION is:

1. RESULT OF EVOLUTION
2. NEW LEARNING ACTIVITY
3. MEANS FOR DEVELOPING PERSONAL CURRICULUM
4. DATA INTENSIVE SCIENCE IMPLEMENTATION
5. BASED ON SOCIAL MEDIA
6. THE MAIN HUMAN ACTIVITY IN DIGITAL SOCIETY