

# Ethics and Educational Technology

ASSOCIATION OF LEARNING TECHNOLOGISTS CONFERENCE 2022

DR. ROBERT FARROW

INSTITUTE OF EDUCATIONAL TECHNOLOGY  
THE OPEN UNIVERSITY (UK)

ROB.FARROW@OPEN.AC.UK  
@PHILOSOPHER1978



The Open  
University

# INTRODUCTION

To insert a new slide select a layout from the **New Slide** drop-down menu.

To change the layout of an existing slide, select a slide and choose another layout from the **Layout** drop-down menu.

To ensure uniformity across the OU brand, please use the following fonts and colours:

## FONTS

Arial (Regular) **Arial (Bold)** *Arial (Italic)*

## SLIDE TITLING

For maximum impact uppercase titling should be used where possible however lowercase titling can be used where necessary to meet user needs.

## COLOURS

The following colours are available as accent colours in the **Theme Colours**.

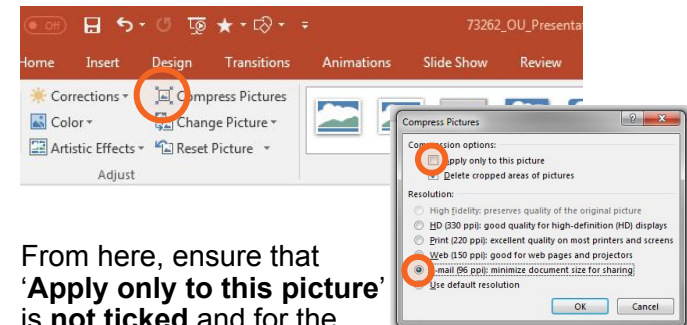


## MANAGING DOCUMENT FILESIZE

When adding images to a PowerPoint document, be aware that this will increase the PowerPoint file size exponentially.

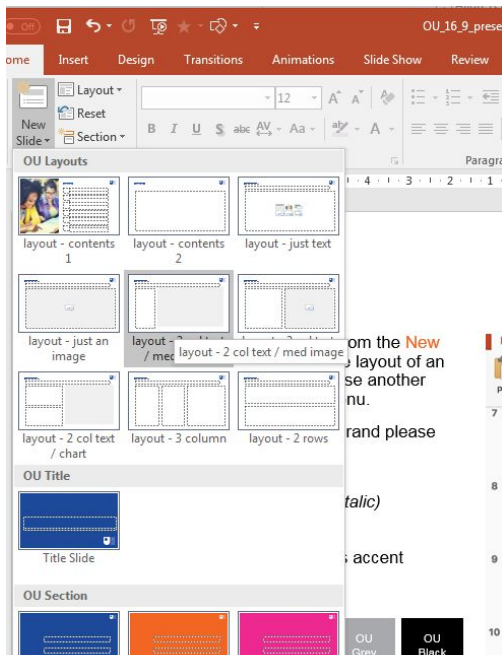
As a general rule when you import for example a 2mb image into your PowerPoint document it will add 2mb to the size of the PowerPoint file size.

However, this can be reduced by completing the following: Click on any picture in your presentation and then go to the **'Format'** tab and click the **'Compress Pictures'** button.



From here, ensure that **'Apply only to this picture'** is **not** ticked and for the resolution, select to **'Email (96 ppi)'**.

Managing your PowerPoint builds in this manner will ensure that the deck will also run more effectively during the presentation.





# ALT Framework for Ethical Learning Technologies (FELT)

## ETHICS AND EDUCATIONAL TECHNOLOGY

### FRAMEWORK FOR ETHICAL LEARNING TECHNOLOGIES (FELT)



# ETHICS AND EDUCATIONAL TECHNOLOGY FRAMEWORK FOR ETHICAL LEARNING TECHNOLOGIES (FELT)



- Working group led by trustees Bella Abrams, Sharon Flynn & Natalie Lafferty
- 165 contributions (resources, practice cases, reflections) from ALT members
- Testing and development by The Open University and University of Edinburgh
- Framework development by John Traxler and myself

# ETHICS AND EDUCATIONAL TECHNOLOGY



The Open  
University





## ABOUT ME

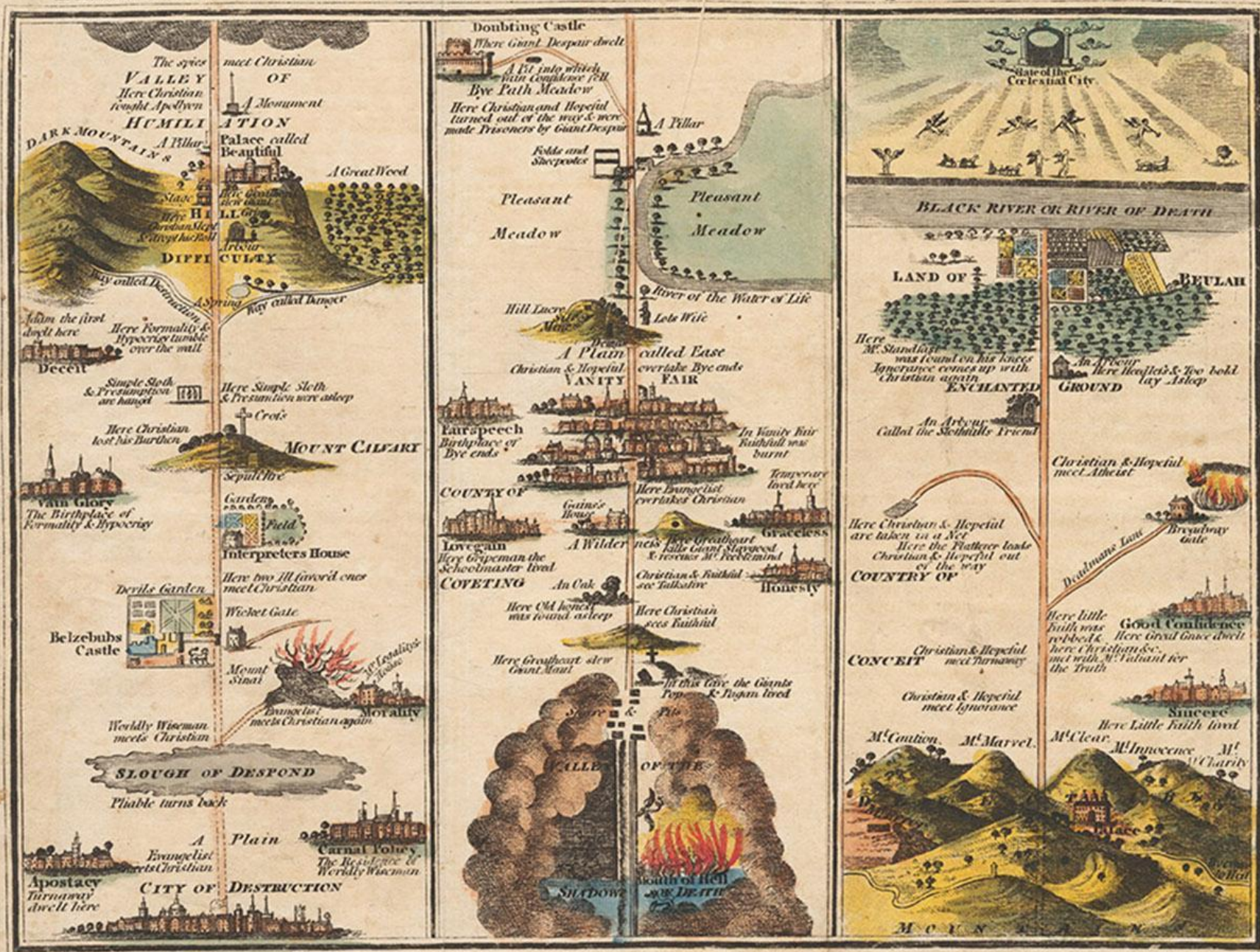
### BRIEF BIOGRAPHY

- Trained as a philosopher, and was working as a teacher and journal editor during my PhD
- Prior to postgraduate study I was working as a researcher in the charity sector
- At the end of my PhD I started working on a mobile learning research project at The Open University (UK)
- Subsequently to this I worked on a range of projects as a contract researcher, covering areas like accessibility, evaluation, digital scholarship and open education
- I also did an MA in Online & Distance Education with The Open University (UK) at this time
- Since 2012 I have been working primarily on open education projects
  - “Pure” research
  - Theoretical and philosophical foundations of open
  - Knowledge exchange, networking and exploitation
- I received tenure in 2016 and have a leadership role across many projects
- I mentor with:
  - UK Research & Innovation Future Leaders Fellows Development Network
  - UNESCO Open Education for a Better World (OE4BW)
  - SPARC Open Education Leadership Program
- I also have a leadership role in the Global OER Graduate Network where I coordinate the production of collaborative documents designed to support doctoral students working in the open education space

# ETHICS AND EDUCATIONAL TECHNOLOGY

## BRIEF BIOGRAPHY









## ETHICS AND EDUCATIONAL TECHNOLOGY

### FOUCAULT / HABERMAS DEBATE



Analysis of power in  
contemporary society

Contemporary forms of  
normativity

Resistance and critique

Interdisciplinarity







## PHILOSOPHICAL FOUNDATIONS

### THREE SCHOOLS OF THOUGHT

Paradigm	Ontology	Epistemology	Observation	Goal
Positivist	Empiricism	Skews objective, quantitative	Privileged	(Law-like) Explanation' instrumental knowledge
Interpretivist	Socially constructed; Relativism	Skews subjective, qualitative	Embedded	Understanding the whole; meaning
Critical	Realism	Post-positivist, Interpretivist, Normative	Deconstructive -discursive	Emancipation, reveal domination

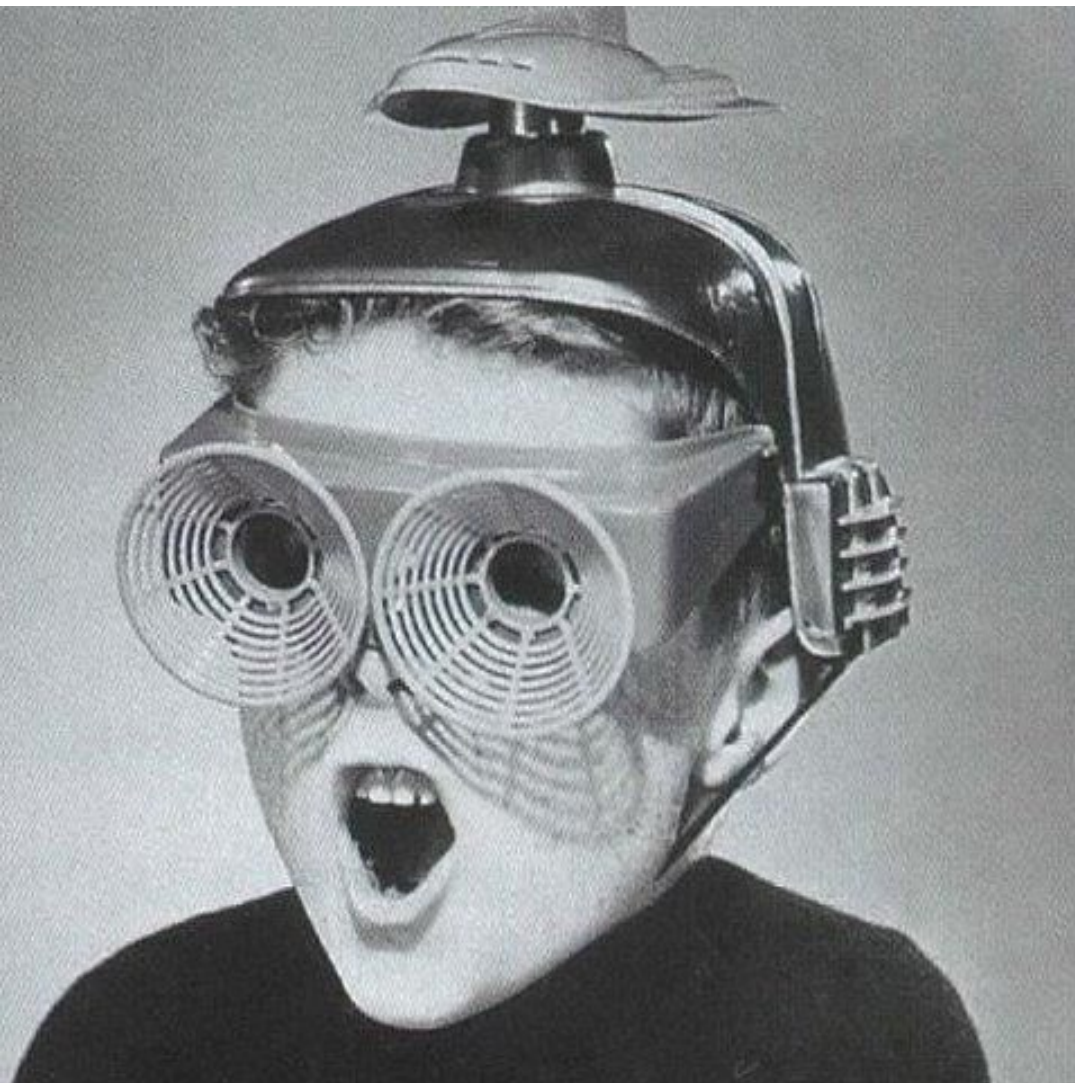
See also Pham (2018); Ryan & Sfar-Gandoura (2018); Raddon (n.d.)

In practice approaches often overlap - but is open education aligned with one more than the others?


## PHILOSOPHICAL FOUNDATIONS

### BILDUNG AND OPEN EDUCATION

- *Bildung* is bigger than education [*Erziehung*]: complex concept comprising educational, cultural and political perspectives, emphasizing *rationality, autonomy, self-activity* and a culture of *active* participation
- A reflective, creative form of self-realization or self-cultivation achieved with and through relations with others
- Unrestrained interplay between the individual and the world
- Fulfilling the innate human potential of the individual
- Education has a function; *Bildung* is a value in itself
- *Bildung* had a considerable impact on German educational thought and has entered educational and political terminology
- Widely seen by the 1970s as ideologically compromised and without empirical value; relaunched by Klafki (1985)
- Hegelian-Marxist tradition: criticism of capitalist model of knowledge production: increase profits by treating learners as consumers rather than active, reflective agents (Adorno, 1973; Leissman, 2006)
- In Germany, now a byword for education as business, framed in terms of measurable competencies, though arguably currently undergoing a renaissance (Prange, 2004)
- *Bildung* as the “ability to go beyond the present state of affairs and to transform the structures and prevailing rules of this form of life” (Peukert, 2003)
- “Networked Transcontextualism”: we become most human when we express agency within an



- Education is increasingly data-driven (nb. learning analytics)
- By definition, many data sets too large / complex to process using traditional methods and require teams of specialists
- Potentially laden with ethical significance (e.g. open health data for diagnostics has the potential to relieve human suffering)
- Implications for privacy, informed consent, autonomy
- Grey areas around public-private: social networks; MOOC
- Will anonymity cease to exist?

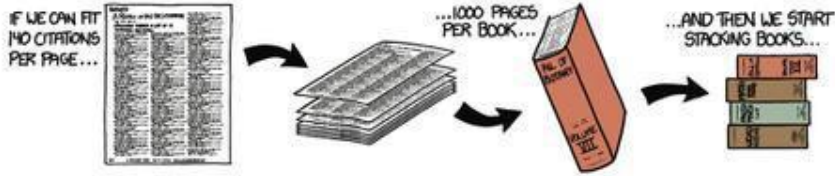
A photograph of the Berlin Wall, heavily covered in graffiti and murals. The wall is made of concrete and is divided into sections. The graffiti includes various phrases and drawings. One prominent mural features a large, stylized face with a wide, open mouth, and the words "ACT UP!" written in large, bold letters. Other graffiti includes "YOU ARE POWER" and "STEP BY STEP". The overall scene is a vibrant display of street art and political expression.

The field of ethics (or moral philosophy) involves systematizing, defending, and recommending concepts of right and wrong behavior.

Internet Encyclopedia of Philosophy  
<http://www.iep.utm.edu/ethics/>

# HOW MUCH SCIENCE IS THERE?

SCIENTIFIC PUBLISHING HAS BEEN ACCELERATING—A NEW PAPER IS NOW PUBLISHED ROUGHLY EVERY 20 SECONDS. LET'S IMAGINE A BIBLIOGRAPHY LISTING EVERY SCHOLARLY PAPER EVER WRITTEN. HOW LONG WOULD IT BE?



A LIST OF PAPERS PUBLISHED IN 1880 WOULD FILL 100 PAGES.

BY 1920, THE LIST WOULD BE GROWING BY 500 PAGES PER YEAR.

THE 1975 SECTION WOULD FILL FOUR HUGE VOLUMES.

TODAY, WE'RE UP TO 15 VOLUMES PER YEAR—A PAGE EVERY 45 MINUTES.

...THIS IS WHAT THE FULL LIST WOULD LOOK LIKE:



# HOW OPEN IS IT?

SINCE THE ADVENT OF THE WEB, MUCH OF SCIENTIFIC PUBLISHING HAS BEEN MOVING TO OPEN ACCESS. ACCORDING TO SCIENCE-METRIX, OPEN ACCESS REACHED A TIPPING POINT AROUND 2011: MORE THAN 50% OF NEW RESEARCH IS NOW MADE AVAILABLE FREE ONLINE.

## OPEN-ACCESS PAPERS

AS JOURNALS MOVE TO OPEN ACCESS AND DIGITIZE THEIR ARCHIVES, OLD PAPERS FROM EVERY PERIOD MOVE UP HERE...

25% OF OPEN-ACCESS PAPERS ARE FREELY AVAILABLE ON PUBLICATION. THE REST BECOME FREE WITHIN 12 MONTHS ON JOURNAL WEBSITES OR OTHER REPOSITORIES.

...IN ADDITION TO THE FLOOD OF NEW PAPERS BEING PUBLISHED HERE DIRECTLY.

## TRADITIONAL PUBLICATION



DETAIL

1880: SCIENCE FOUNDED

1899: NIH DIRECTOR PROPOSES AN ARCHIVE OF FREE BONDED PAPERS

2000: PUBMED CENTRAL DEBUTS. PLOS FOUNDED

2002: 30,000 SCIENTISTS CALL FOR BANCROT OF JOURNALS THAT DON'T ALLOW FREE ACCESS OR PUBLISHED WITHIN 6 MONTHS

2002: BONED CENTRAL BEGINS CHARGING \$500 AUTHOR FEE. NIH AGREES TO PAY AUTHOR FEES FOR OPEN-ACCESS PUBLICATION

2003: PLOS BIOLOGY LAUNCHED. CHARGES \$1500 AUTHOR'S FEE

2006: IUC MEDICAL RESEARCH COUNCIL MANDATES FREE ACCESS WITHIN 6 MONTHS. PLOS RAISES TOP AUTHOR FEE TO \$2500. LAUNCHES PLOS ONE, WHICH REVEALS HARVARD FACULTY AGREE TO POST PAPERS IN UNIVERSITY REPOSITORY

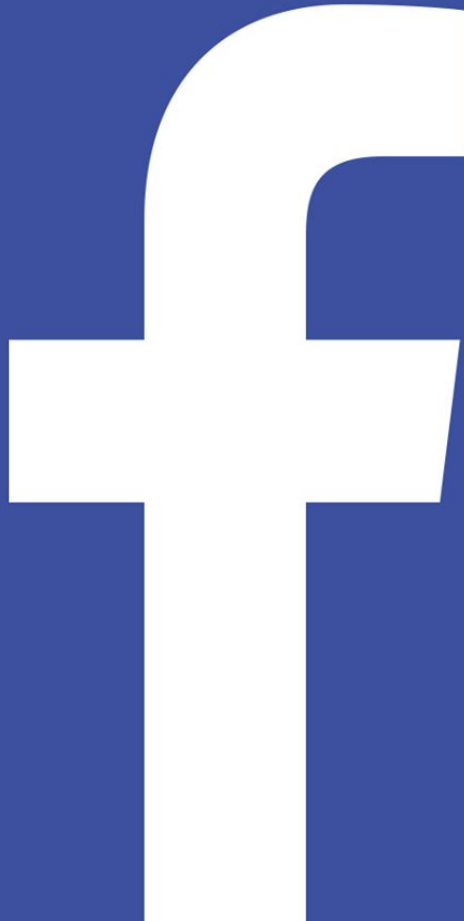
2008: NIH REQUIRES THAT PAPERS IT FUNDS BE MADE FREE WITHIN 12 MONTHS

2010: PLOS BECOMES PROFITABLE. PLOS ONE BECOMES WORLD'S BIGGEST SCIENTIFIC PUBLISHER BY VOLUME

2011: WHITE HOUSE ORDERS ALL SCIENCE AGENCIES TO PUSH TO MAKE PAPERS FREE WITHIN 12 MONTHS

2012: EUROPEAN COMMISSION WILL REDEAR FREE ACCESS WITHIN 6-12 MONTHS

## Facebook: 'Emotional Contagion' Study



- To find out whether the psychological states of its users can be manipulated Facebook ran a study which involved showing users either only 'positive' or 'negative' status updates and seeing whether this would affect their mood (it did).

Expert opinion is divided over the acceptability of Facebook's actions.

- What are our expectations of use of online information?
- Can we reasonably consent to our own harm?
- What role is technology playing in the pedagogical situation; of what should we be aware?
- Mirror with ethical responsibilities around distance learning

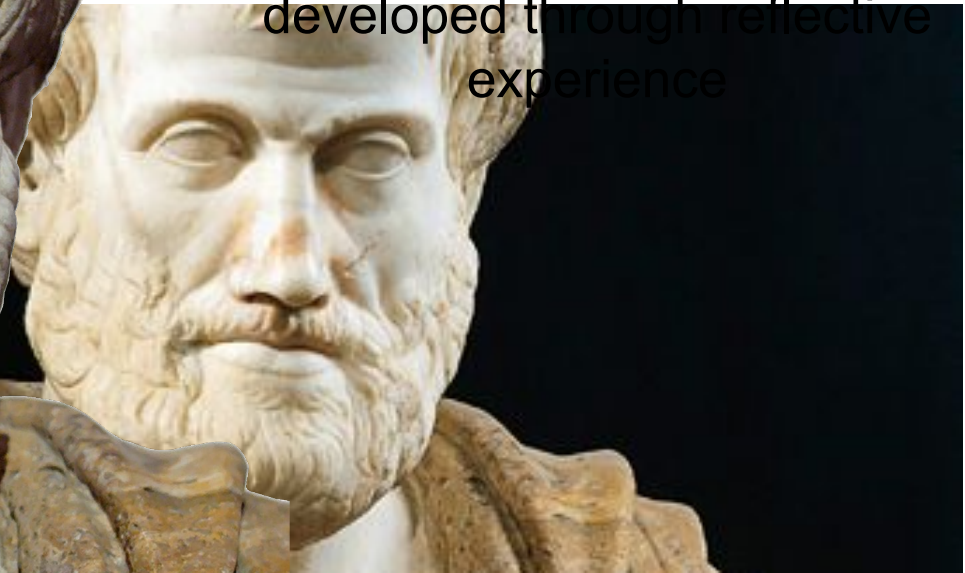
## • Philosophers usually distinguish...

- Meta-ethics (the meaning and use of ethical language)
- Normative Ethics (principles/standards that regulate conduct)
  - Deontological ethics (duties, rules & obligations)
  - Consequentialist ethics (consequences, outcomes)
  - Virtue ethics (development; personal excellence)
- Applied Ethics (analysis of specific moral controversies)



## phronēsis

ethical, practical reason  
developed through reflective  
experience

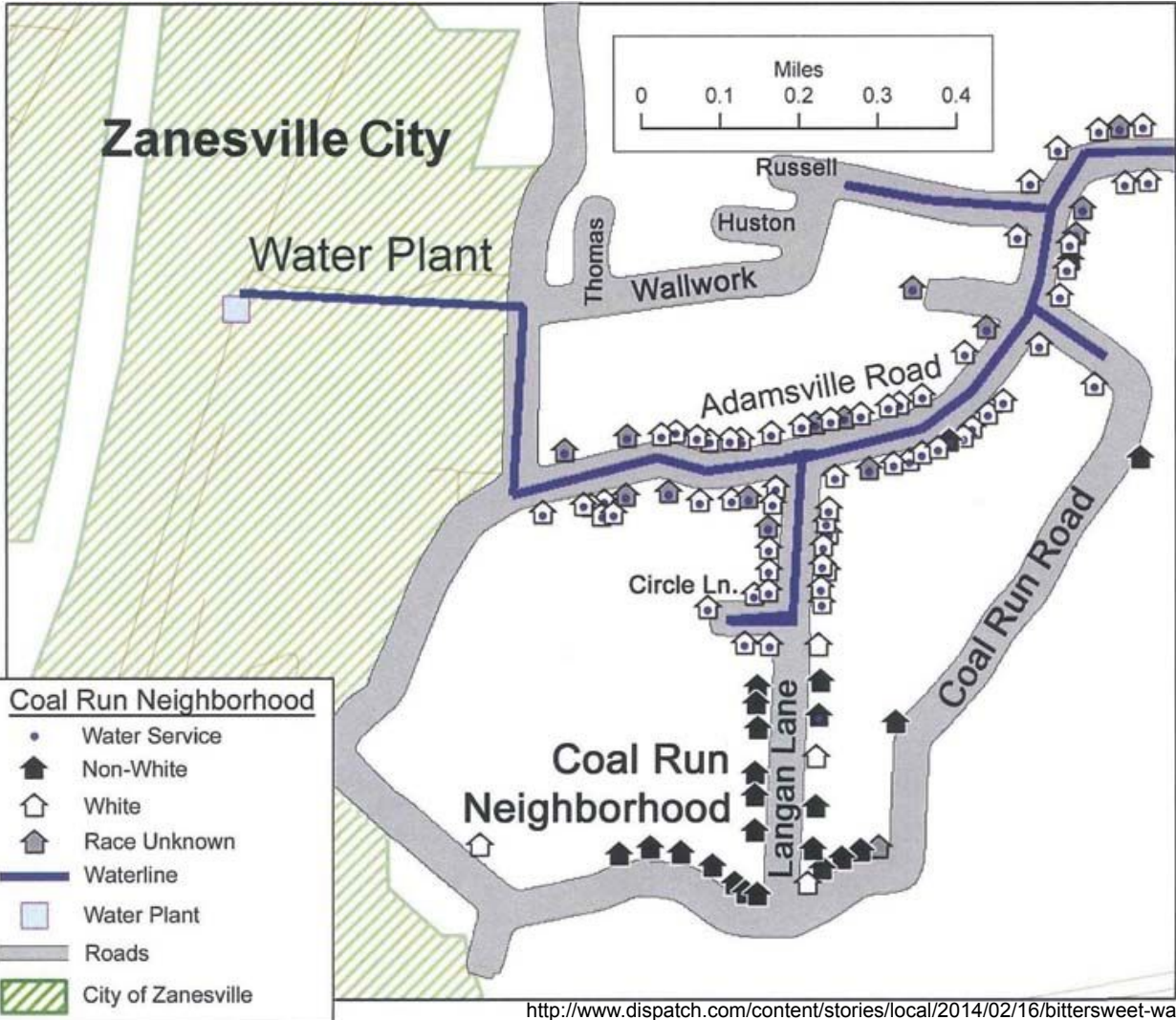


MacIntyre (1985) argues  
that the unpredictability of  
human being  
necessitates focus on  
practical experience

## Morality and open education

- “When educational materials can be electronically copied and transferred around the world at almost no cost, we have a greater ethical obligation than ever before to increase the reach of opportunity. When people can connect with others nearby or in distant lands at almost no cost to ask questions, give answers, and exchange ideas, the moral imperative to meaningfully enable these opportunities weighs profoundly. We cannot in good conscience allow this poverty of educational opportunity to continue when educational provisions are so plentiful, and when their duplication and distribution costs so little.”

Caswell, Henson, Jensen & Wiley (2008)



## Coal Run (Ohio) Map Mashup

Mapping mash-up overlaid city boundaries, water supply lines, and house occupancy by race

Showed almost all the white households in Coal Run have water service, while all but a few black homes do not

\$11m in damages from the city of Zanesville and Muskingum County (2008)

<http://www.dispatch.com/content/stories/local/2014/02/16/bittersweet-water.html>

Caspar David Friedrich,  
*Der Wanderer über dem Nebelmeer* (1818)

'Wanderer above the Sea of Fog'

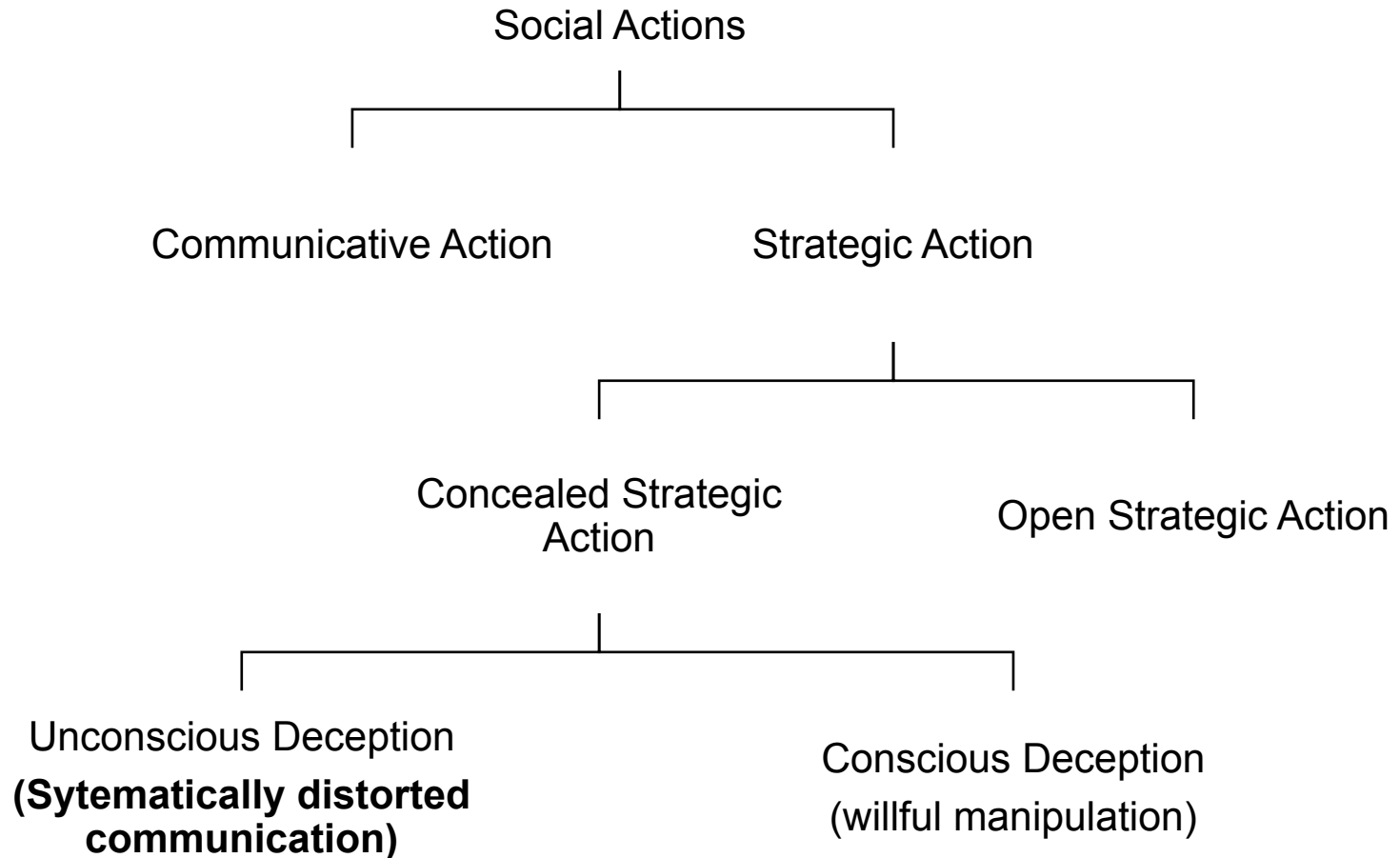


Self-reflection  
through  
interaction with  
the world and  
others

Mastery of the  
landscape...

Or realising one's  
own insignificance  
within it?

**PHILOSOPHICAL FOUNDATIONS**  
**FOUCAULT/HABERMAS**



## PHILOSOPHICAL FOUNDATIONS

### SOCIAL PATHOLOGIES (HABERMAS, 1984)

#### Typology of Social Pathologies

	Culture	Society	Person	
Cultural Reproduction	<b>Loss of Meaning</b>	Withdrawal of Legitimation	Crisis in Orientation and Education	Rationality of Knowledge
Social Integration	Unsettling of Collective Identity	<b>Anomie</b>	Alienation	Solidarity of Members
Socialization	Rupture of Tradition	Withdrawal of Motivation	<b>Psychopathologies</b>	Personal Responsibility

## PHILOSOPHICAL FOUNDATIONS

### STRUCTURE OF THE RELATIONS OF RECOGNITION (HONNETH, 1996:29)

Mode of recognition	emotional support	cognitive respect	social esteem
Dimension of Personality	needs and emotions	moral responsibility	traits and abilities
Forms of recognition	primary relationships (love, friendship)	legal relations (rights)	community of values (solidarity)
Developmental potential	-	generalization, de-formalization	individualization, equalization
Practical relation-to-self	basic self confidence	self-respect	self-esteem
Forms of disrespect	abuse and rape	denial of rights, exclusion	denigration, insult
Threatened component of personality	physical integrity	social integrity	'honour', dignity

“Capitalism is to be understood as a pathology, and not merely social injustice”

Honneth (2007:14)

“The historical past should be understood as a process of development whose pathological deformation by capitalism may be overcome”

Honneth (1996:337)

## **PHILOSOPHICAL FOUNDATIONS**

### **POSTMETAPHYSICAL PARADIGM**

Postmetaphysical paradigm (Habermas)

Communicative rationality

Fallibilism

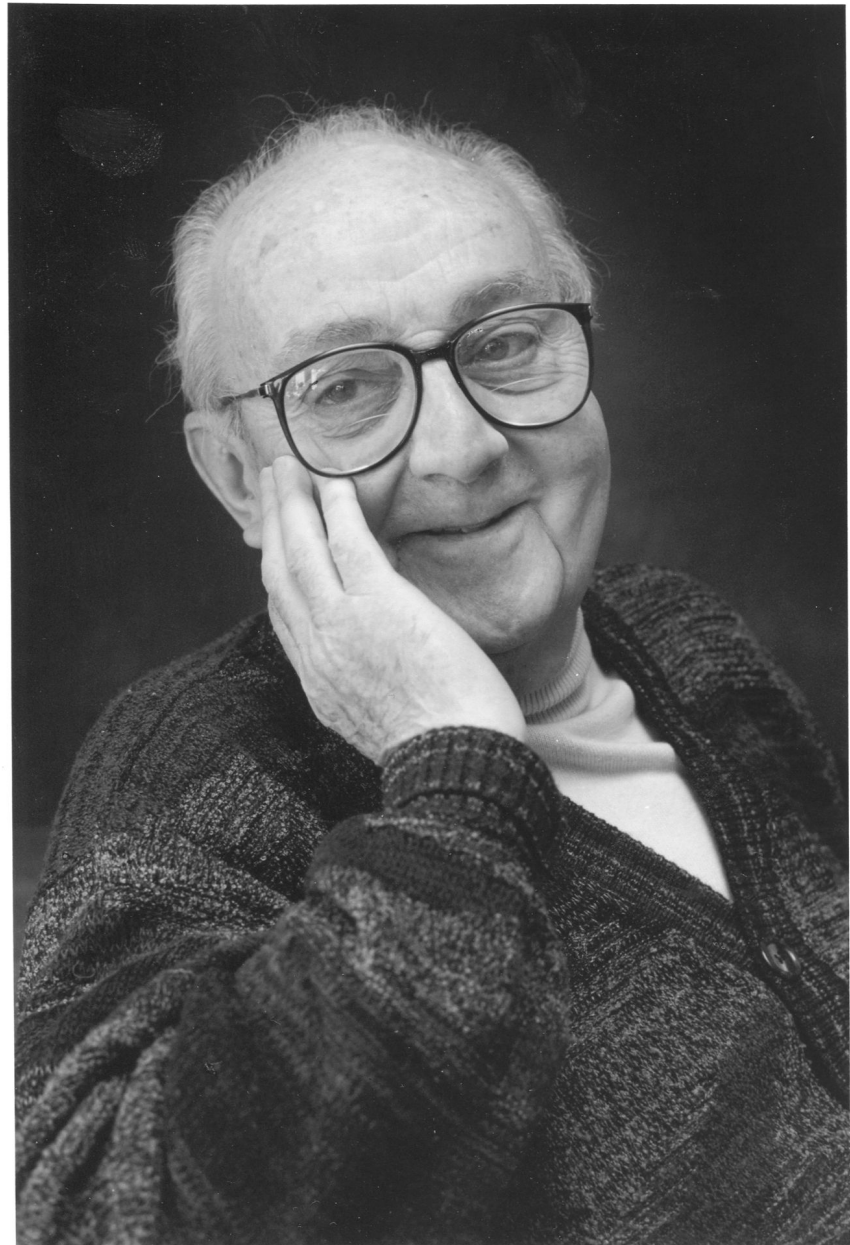
Historicization, situatedness

Pragmatism

Proceduralism

**PHILOSOPHICAL FOUNDATIONS**  
**GEORGE E. P. BOX ON VALIDITY**

“Essentially, all models are wrong but some are useful” (1976)



## THE DIFFERENCE OPEN MAKES METHODOLOGICAL INNOVATION

As a relatively new field, open education research has been obliged to establish its credentials scientifically.

Perhaps the best example of this are the OER efficacy studies (e.g. Hilton, 2016) which take a highly statistical approach to understanding the impact of OER.

But what examples are there of innovation in research methods in open education?

- Use of open data
- Building tools for others to use
- Radical transparency
- Explicit claims to social justice
- Technological innovation

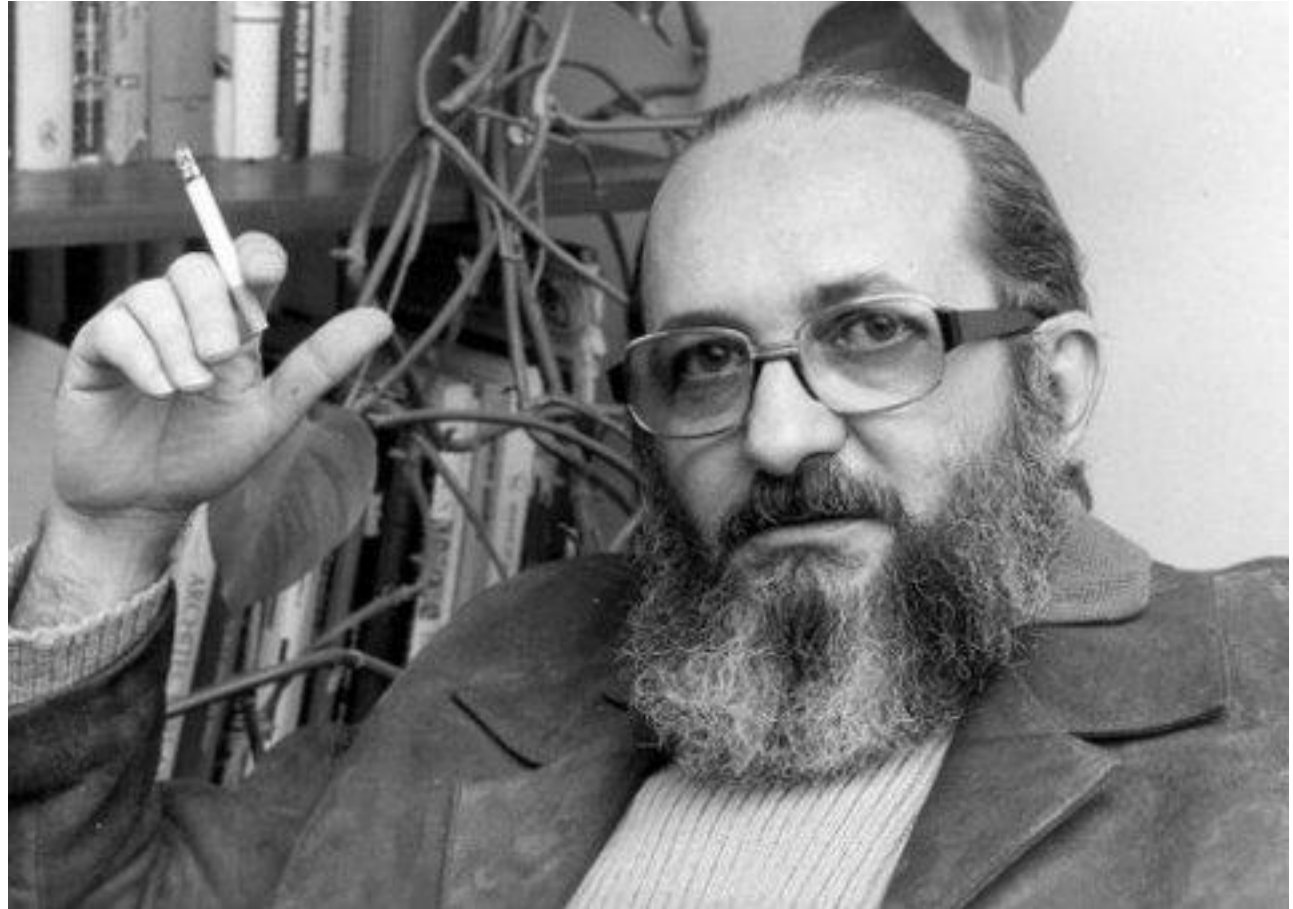
## PHILOSOPHICAL FOUNDATIONS

### FREIRE – EMANCIPATORY PEDAGOGY

Leading advocate of  
critical pedagogy

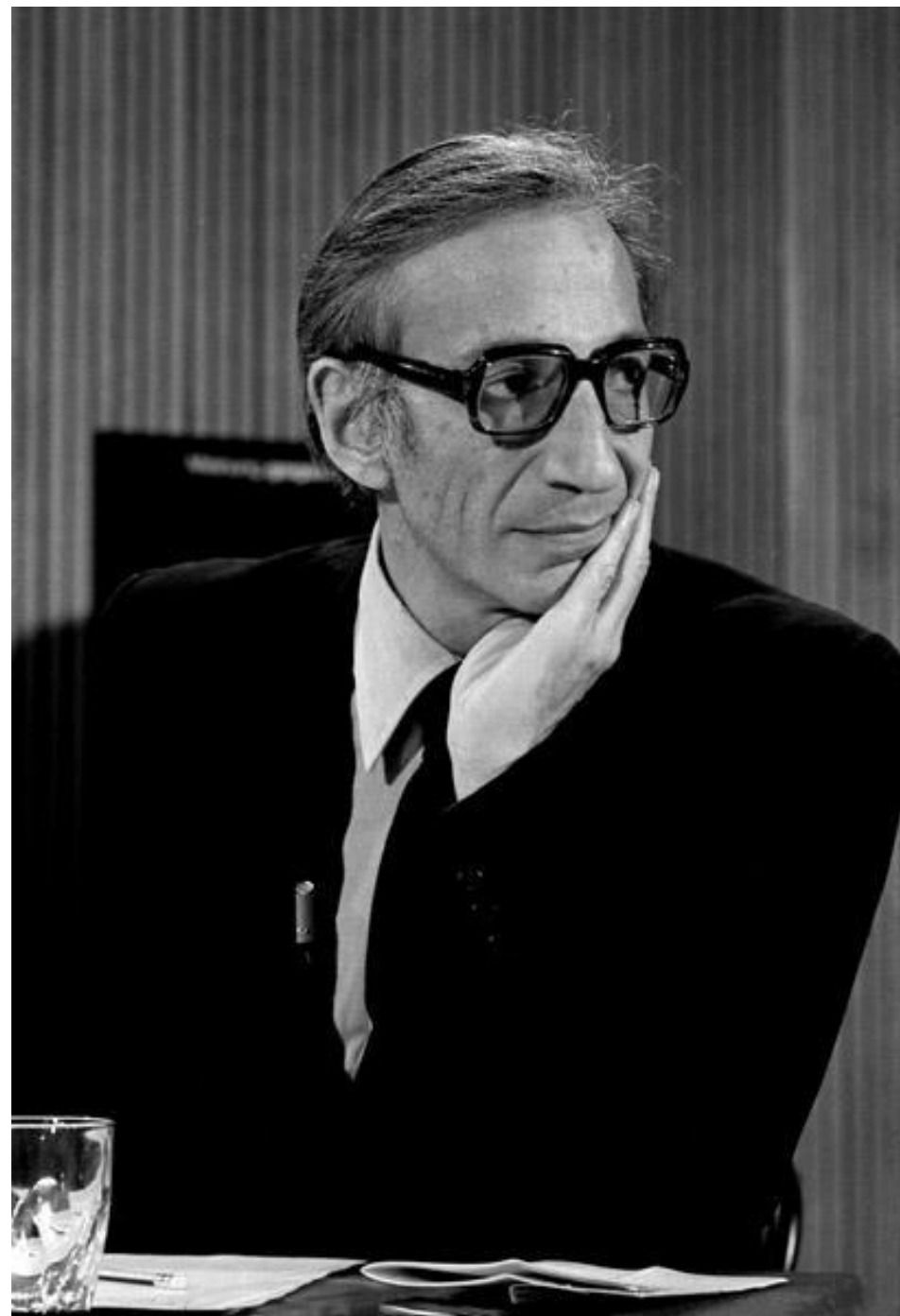
Emancipatory,  
dialogical approach  
which rejects  
dominant values and  
promotes  
transformation

Link knowledge to  
praxis to bring about  
social change



# Illich

- Postindustrial model of education
- Emphasis on ‘community webs’; informal and autonomous learning networks
- Connectivism



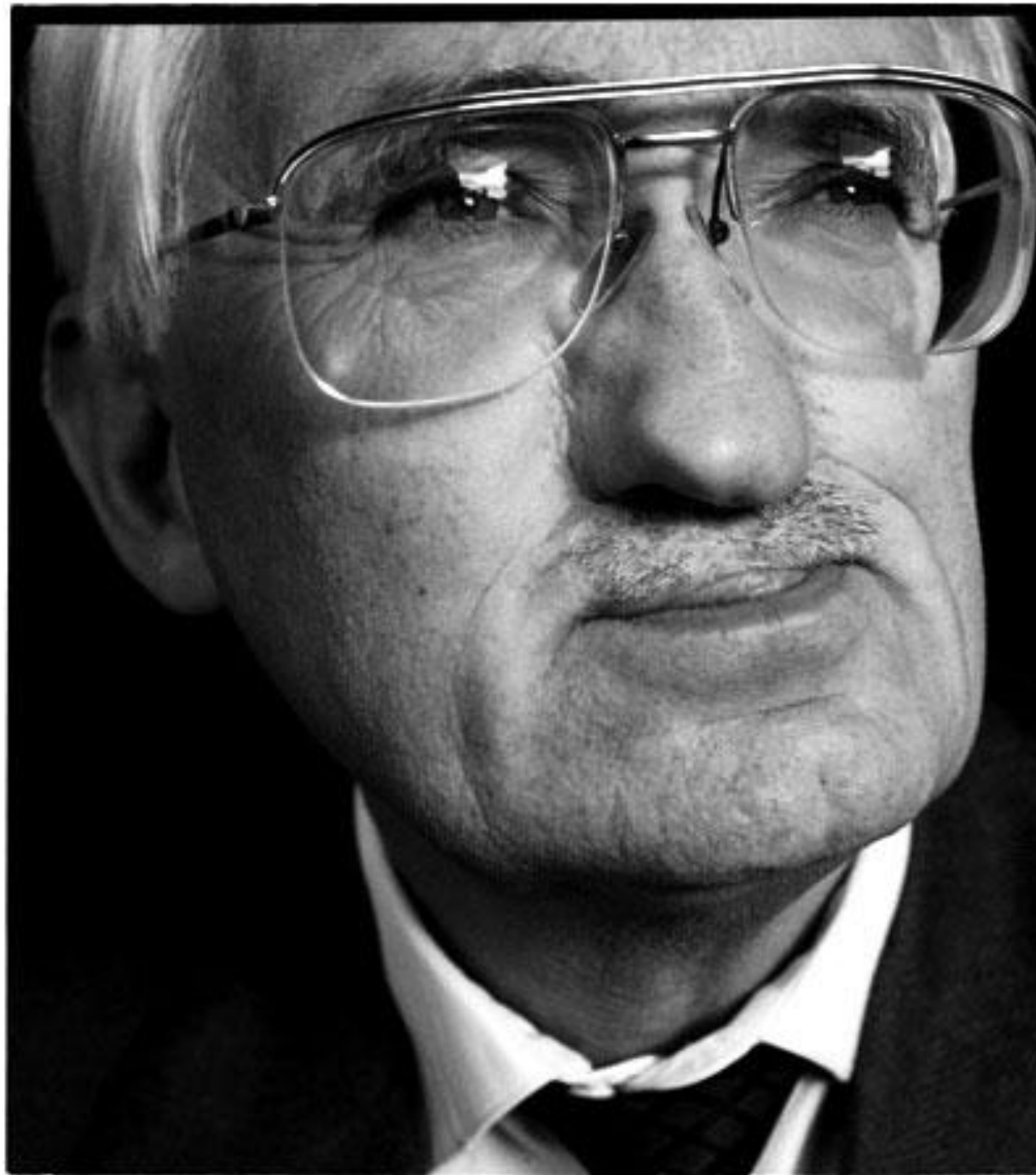
# Adorno

- Disabusing ideology 'of its pretention to reality' through critique
- This forms the basis for alternative forms of understanding and possibilities for action



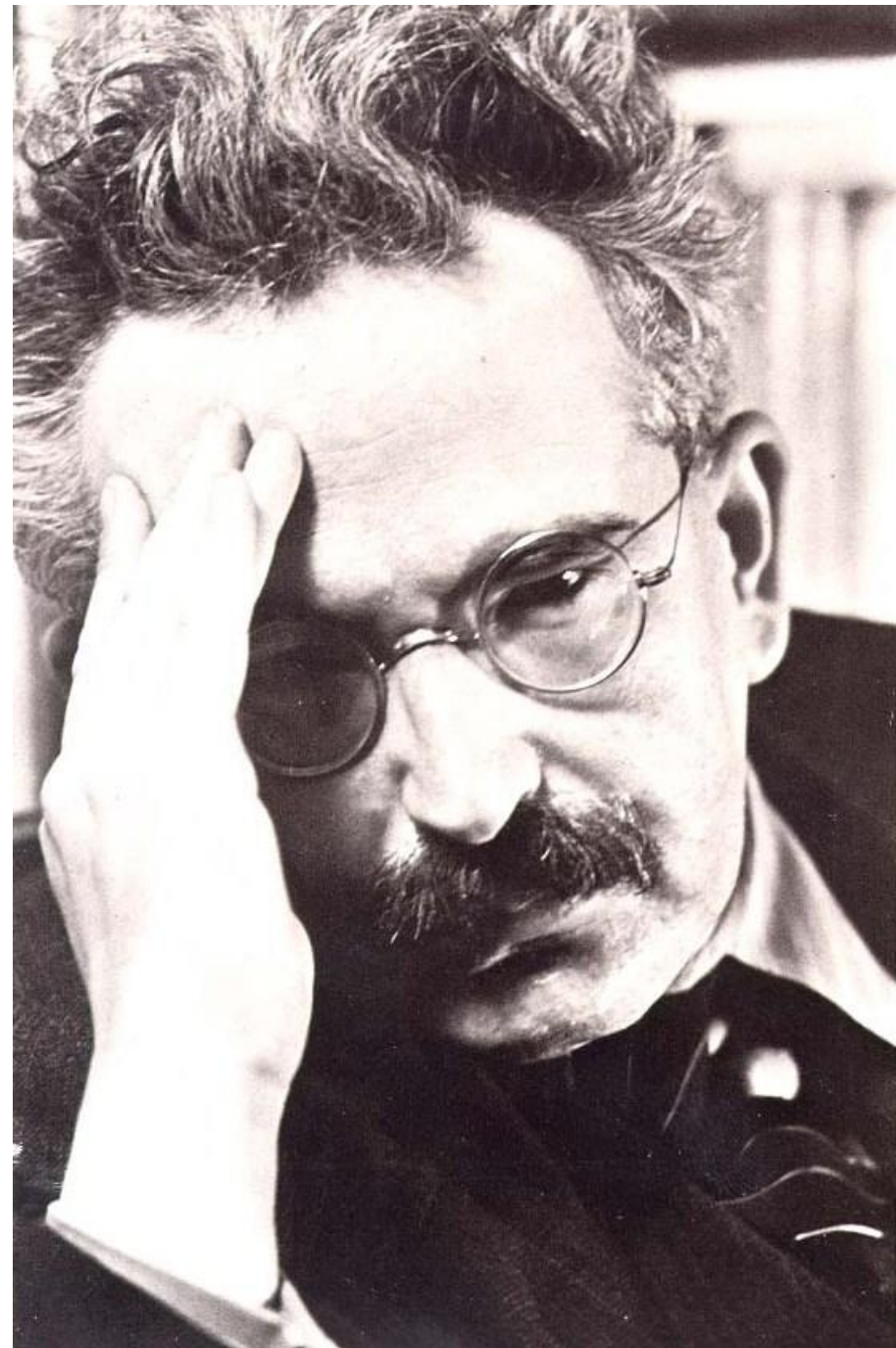
# Habermas

- Stresses communicative aspects of academia
- For Habermas the university has a centrality in the symbolic reproduction of the lifeworld
- Defence of systems even in the face of colonizing tendencies



# Benjamin

- Formative education should encourage experience of the fullness of life



# IV.

## Openness: summary

- Obviously the relationship between technology and society is complex and disputed
- Technology can now be used to perpetuate centrally controlled systems or decentralized, informal, dialogues which support learning
- Resources for self-reflexive critique of commercialisation of education and engaging in discourse about educational culture
- Need for new pedagogies which emphasize critical reflection, autonomous inquiry and information literacy rather than instruction and print literacies reproduced online

# Open Education: Opportunities for Reflexivity

- New emphases on authenticity, autonomy
- New possibilities for articulation through participatory culture: social media, identity, mobile, augmented reality
- Resources for self-reflexive critique of commercialisation of education and engaging in discourse about educational culture
- OER has the potential to support critical thinking through access to a rich base of learning materials from different contexts
- New pedagogies which may be involve re-appropriation or remixing of educational materials

# Critical Pedagogy: worries about e-learning

- Technology suspected of instrumental attitudes; being insufficiently dialogic and mechanistic
- ‘Factory’ model response to the changing economic conditions of higher education
- Automated models of education typically reproduce, rationalize and perpetuate established forms of knowledge and ways of learning
- Technological determinism
- Myth of the knowledge economy (Friesen, 2008)

# Being Open, Being Critical

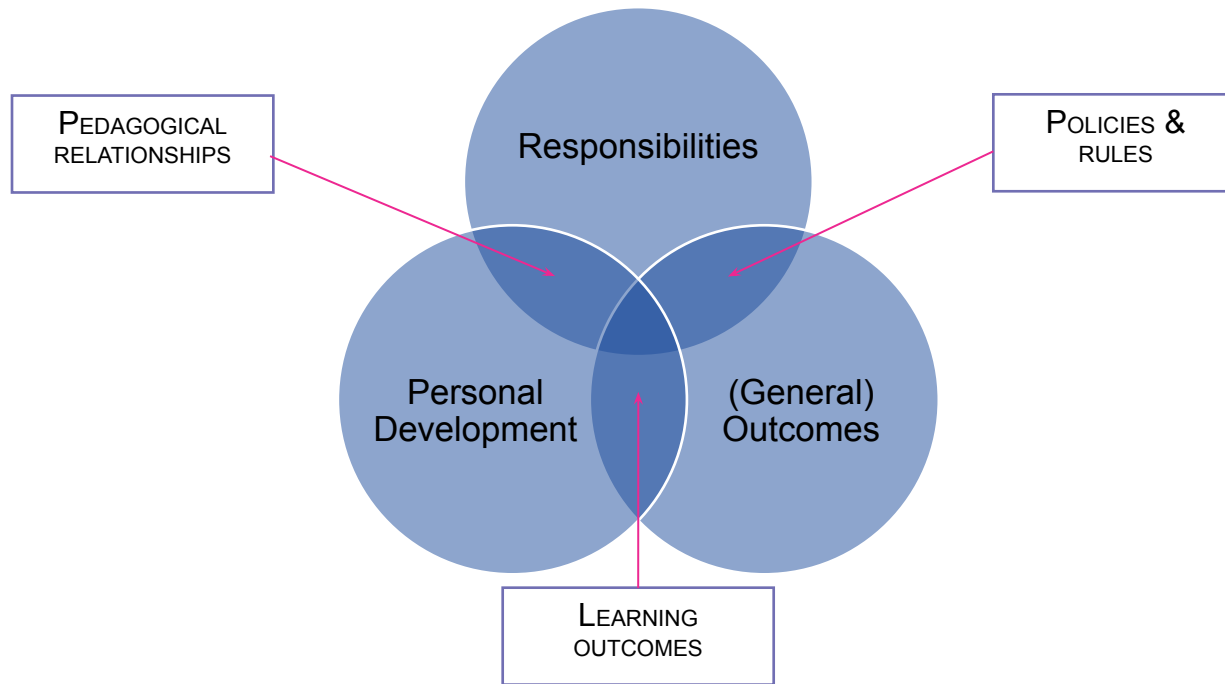
- Researchers should consider only disseminating their work ‘in the open’. (This may have career implications!)
- Need for sensitivity to the way that commercial providers are co-opting the rhetoric of openness.
- Resistance to the commodification of knowledge
- Critical theory provides a way to question the background assumptions, definitions and roles informing technological innovation in education
- Conversely, openness in education provides fresh opportunity for reflection, critique & building communities and sharing perspectives

# Open Education Movement

- A normative commitment to the idea that knowledge should be free, both to access and develop.
  - Reducing cost of education at point of delivery
  - Providing courses which are free to participate in
  - Rethinking educational materials as open-access, OER
  - Supported by a range of Creative Commons licences
  - Research projects and policy initiatives taking place around the globe
  - Working towards pedagogies which make use of new technology

# ETHICAL EDUCATIONAL TECHNOLOGY

## METAETHICAL TAXONOMY FOR MOBILE LEARNING



Ethical Concerns  
in m-Learning

Taxonomy

Responsibilities

Pedagogical  
Relationships

Personal  
Development

Learning  
Outcomes

(General)  
Outcomes

Policies & Rules

Accessibility

Privacy & Security

Copyright

## ETHICAL EDUCATIONAL TECHNOLOGY

### FRAMEWORK FOR AN OPEN ETHICS (FARROW, 2016:103)

	<b>Duties &amp; Responsibilities (deontological)</b>	<b>Outcomes (consequentialist)</b>	<b>Personal Development (virtue)</b>
<i>Respect for participant autonomy</i>			
<i>Avoid harm / minimize risk</i>			
<i>Full disclosure</i>			
<i>Privacy &amp; data security</i>			
<i>Integrity</i>			
<i>Independence</i>			
<i>Informed Consent</i>			

Normative Theory	Definition of 'good'	Focus	Strengths	Weaknesses
Deontological	Fulfillment or discharge of moral obligations	Responsibility, intention & duty	<ul style="list-style-type: none"> <li>• Avoids overly demanding aspects of consequentialism</li> <li>• Accounting for cross-cultural moral intuitions</li> <li>• Reflects our moral intuitions and captures the sense in which morality 'binds' us like a law</li> <li>• Clear moral boundaries</li> </ul>	<ul style="list-style-type: none"> <li>• Possible conflicts between different duties and rights</li> <li>• Outcome 'blindness'</li> <li>• Inflexibility: rules do not change according to context</li> </ul>
Consequentialist	Acting to promote best outcomes	Consequences and outcomes	<ul style="list-style-type: none"> <li>• Captures 'objective' sense of morality</li> <li>• Can incorporate multiple perspectives</li> <li>• A practical approach to ethical problems</li> </ul>	<ul style="list-style-type: none"> <li>• Endorsement of counter-intuitive or objectionable outcomes</li> <li>• Issues surrounding metrics</li> <li>• No necessary link with intention behind actions (which seem in themselves to be significant)</li> </ul>
Virtue Ethics	Flourishing ( <i>eudemonia</i> )	Individual character and 'well-being'  Developing practical wisdom ( <i>phronêsis</i> )	<ul style="list-style-type: none"> <li>• No complex procedure of decision-making. It trusts that a 'virtuous' person will make good moral choices.</li> <li>• Recognises morality as an holistic, developmental process</li> <li>• Emphasis on enjoying life and it being good to live virtuously</li> <li>• Considers life experiences as a whole</li> <li>• Linked to personal development</li> </ul>	<ul style="list-style-type: none"> <li>• Disagreement: 'virtuous' people may not agree on the right thing to do</li> <li>• Problems with proposed link between virtue and flourishing</li> <li>• Struggles to accommodate value plurality</li> <li>• Promotes self-centredness or egoism</li> </ul>

*The Landlord's Game*

Sept. 23, 1924  
Patent no. 1,509,312  
Elizabeth Magie Phillips

**Top-Left Quadrant (Clockwise from top-left):**

- Lickety-Cut R.R. fare \$100
- Poverty Place land rent \$50
- Goat Alley land rent \$50
- Slambang Trolley \$50
- Rickety Row land rent \$50
- Land Taxes \$10
- Hell's Half Acre land rent \$50
- Claude Hopper Real Estate bought and sold
- The Bowery land rent \$50

**Top-Right Quadrant (Clockwise from top-right):**

- Gee-Whiz R.R. fare \$100
- Progress Park land rent \$75
- George Street land rent \$75
- Soakum Lighting System \$50
- Johnson Road land rent \$75
- Improvement Taxes \$25
- Fels Avenue land rent \$75
- Graball Holdup Improved Real Estate bought and sold
- The Public Highway land rent \$75

**Bottom-Right Quadrant (Clockwise from bottom-right):**

- P. D. Q. R.R. fare \$100
- Broadway land rent \$100
- Lord Blueblood's Estate No trespassing: go to jail
- Fifth Avenue land rent \$100
- Ting-a-ling Telephone Co. \$50
- The Loop land rent \$100
- La Swell Hotel \$25 a day
- Lake Shore Drive land rent \$100
- Easy Street land rent \$100

**Bottom-Left Quadrant (Clockwise from bottom-left):**

- Stop here. Labor applied to Land produces Wages \$400
- Wayback land rent \$25
- Lonely Lane land rent \$25
- Crossroads land rent \$25
- Jaytown land rent \$25
- Personal Property Taxes \$10
- Real Estate bought and sold
- Boomtown land rent \$25

**Other Features:**

- JAIL:** A red square with the word "JAIL" written vertically in white.
- Central Area:** A white area with a black border containing the title and patent information.
- Start/End Squares:** Four small squares at the corners of the board (top-left, top-right, bottom-left, bottom-right).



Share your Story

Register for Newsletter

Imprint & Privacy 

## Welcome to the OER World Map

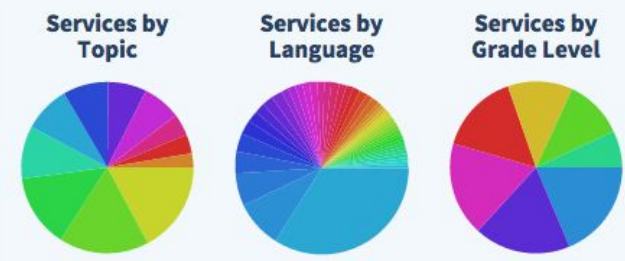
Our goal is to provide the most complete and comprehensive picture of the global OER movement and to develop a global network of partners and volunteers to guarantee ongoing data curation. We currently gather data about people, organizations, services, projects and events related to OER.

529	 <a href="#">Person</a>
374	 <a href="#">Organization</a>
77	 <a href="#">Service</a>
11	 <a href="#">Story</a>
10	 <a href="#">Project</a>

You can search our database [here](#).

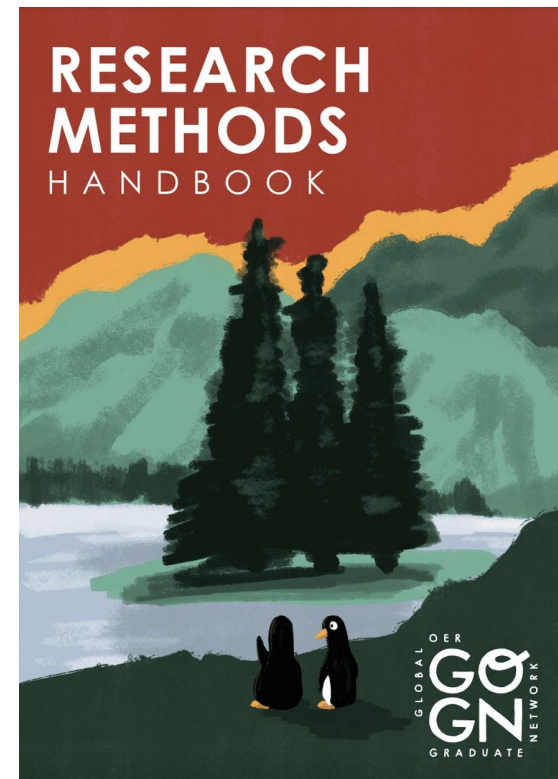
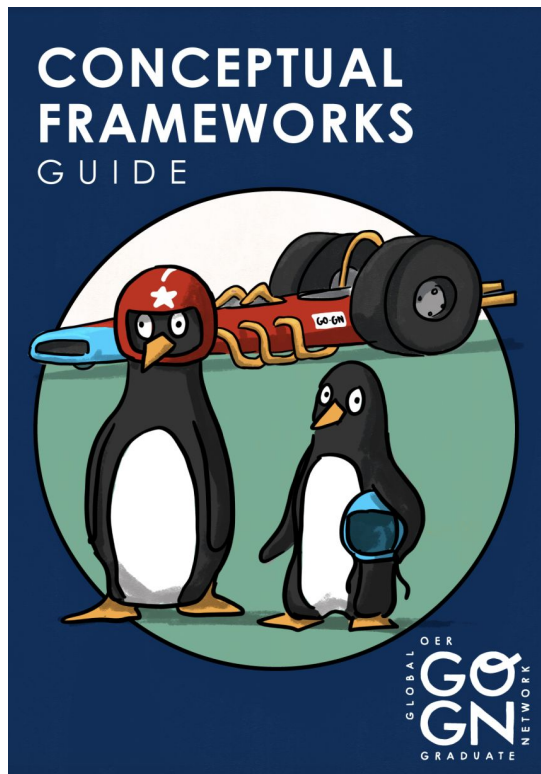
If you have data you believe is relevant, please consider to [contribute!](#)

At the moment, we are focusing on gathering qualified data about OER Services. They can be browsed by [grade level](#) and [field of education](#).

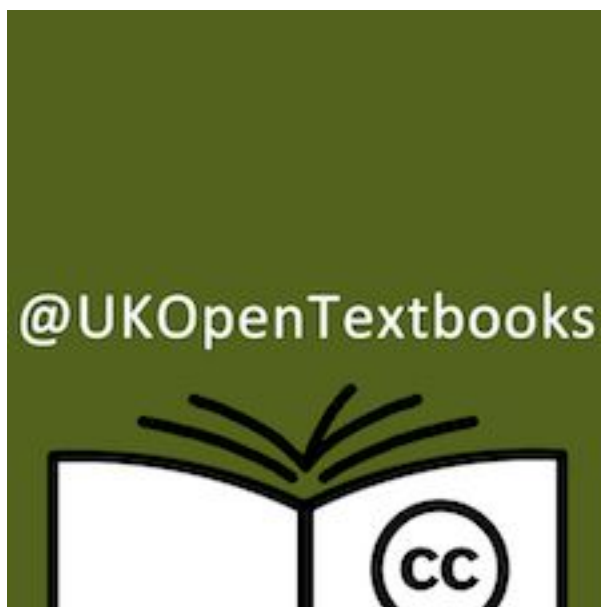




- raise the profile of research into open education
- offer support for those conducting PhD research in this area
- promote equity and inclusion in the field of open education research
- develop openness as a process of research.



<https://go-gn.net/>



<https://ukopentextbooks.org/>

# MOOCs for the world of business

# **3iz** **moooc**

## **MOOCBOOK - skills, experience and more**

The European Commission support for the production of this publication does not constitute an endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.



2017 © the CC-BY license.



Co-funded by the  
Erasmus+ Programme  
of the European Union

<https://bizmooc.eu/>

# Massive Open Online Courses for Business Learning

*Key research; best practices; and pathways  
to innovation*

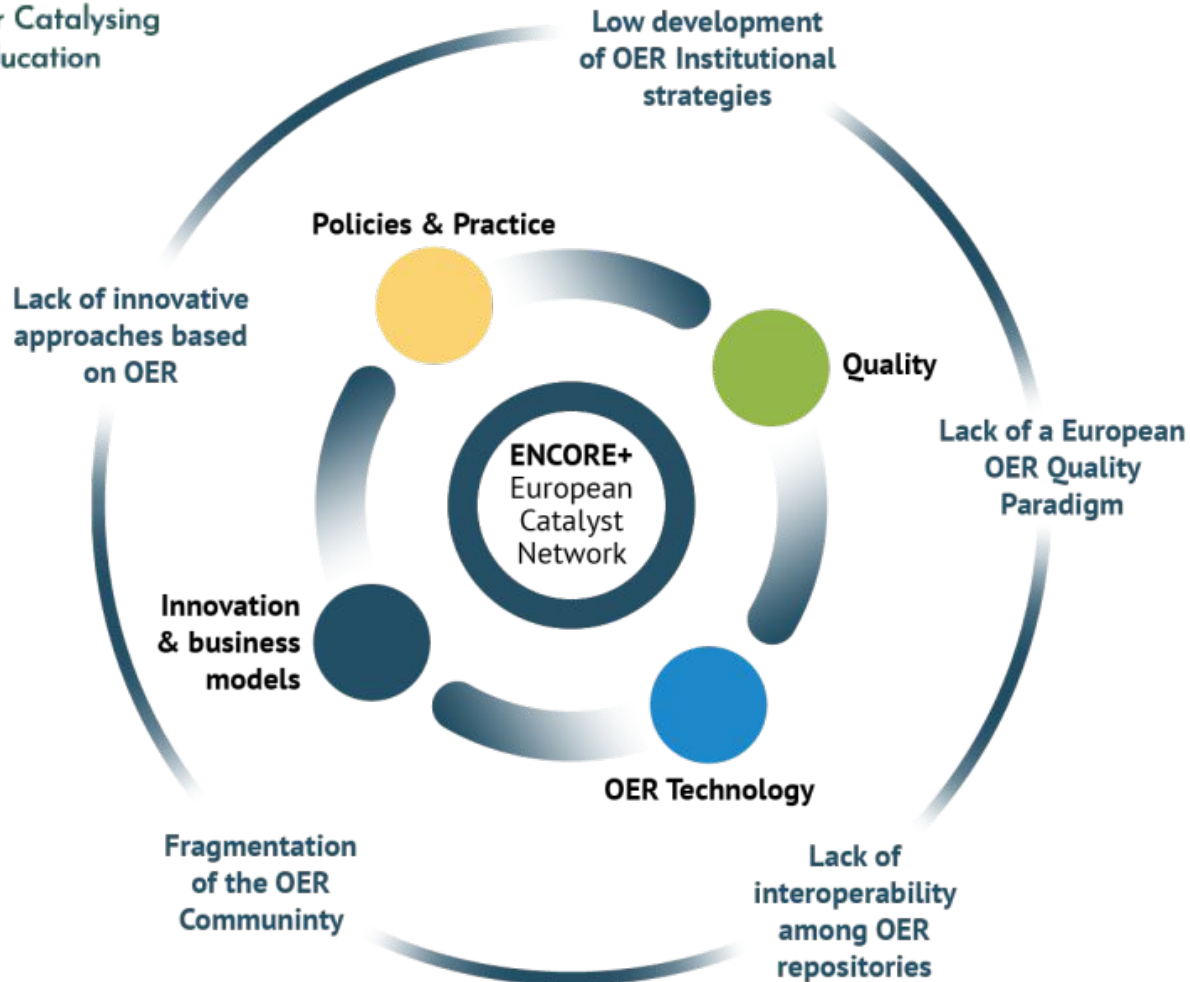
**BizMOOC**

<https://mooobook.pressbooks.com/>



# European MOOC Consortium Labour Market

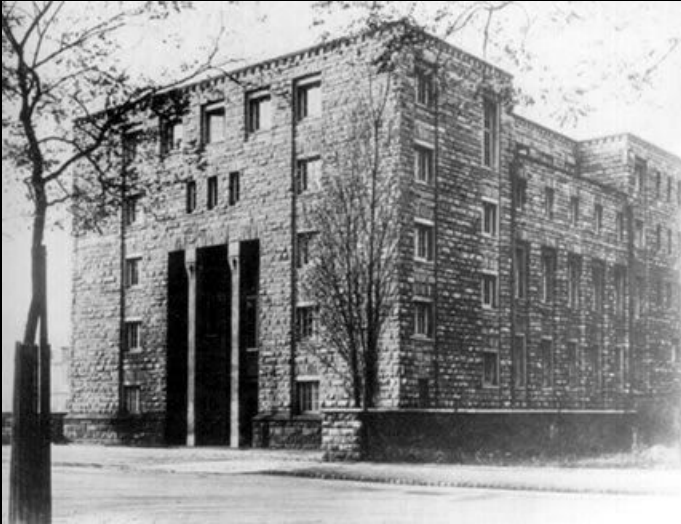
<https://emc.eadtu.eu/emc-lm>



<https://encoreproject.eu/>



The Open  
University



## Frankfurt School (Institut für Sozialforschung)

- Founded in 1923 by a group of dissident intellectuals who rejected capitalism, fascism and communism
- Critique of ideology; considers society in its historical specificity
- Concerned with conditions of social change and emancipation
- Strives to transcend classical Marxism by drawing on wider theoretical frameworks
- Social science drawing on philosophy, psychoanalysis, linguistics, economics, psychology, anthropology



Theodor Adorno borrowed from the cultural critic Walter Benjamin (1928) the idea that inaccessible truths become comprehensible through the 'constellation' [*Konstellation*]: the configuration of concepts, ideas, interpretations and historical patterns which insights into the uniqueness of the object of thought (in this case, openness) without necessitating the claim to have complete knowledge or understanding of it.

The object of thought becomes better understood in its particularity: “**ideas are to objects as constellations are to stars**” (Benjamin, 1985b:34).

Through critical reflection the object of thought is ‘unlocked’ from its context: “**as a constellation, theoretical thought circles around the concept it would like to unseal**, hoping, that it may fly open like the lock of a well-guarded safe” (Adorno, 1973:163).

## Characteristics of Constellation Approach

- Always reconstructive and historical
- Begins with actually existing examples of practice
- Intimately related to how language is used
- Move beyond binary judgements (e.g. open or not?)
- Anti-essentialist: “the constellation of moments is not to be reduced to a singular essence; what is inherent in that constellation is not an essence.” (Adorno, 1973:104)
- Recognises historical contingency without over-simplification or relativism
- Constellation does not prohibit possibility of other constellations, nor future re-interpretation
- Reflective open practice



The Open  
University





**ETHICS AND EDUCATIONAL TECHNOLOGY**  
**THE DROWNING CHILD (SINGER, 1997)**



**ETHICS AND EDUCATIONAL TECHNOLOGY**  
**THE DROWNING CHILD (SINGER, 1997)**

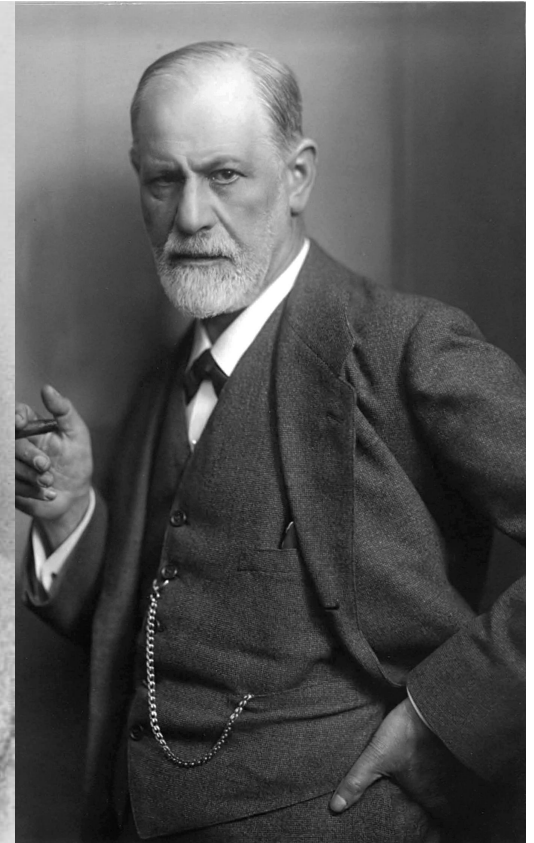
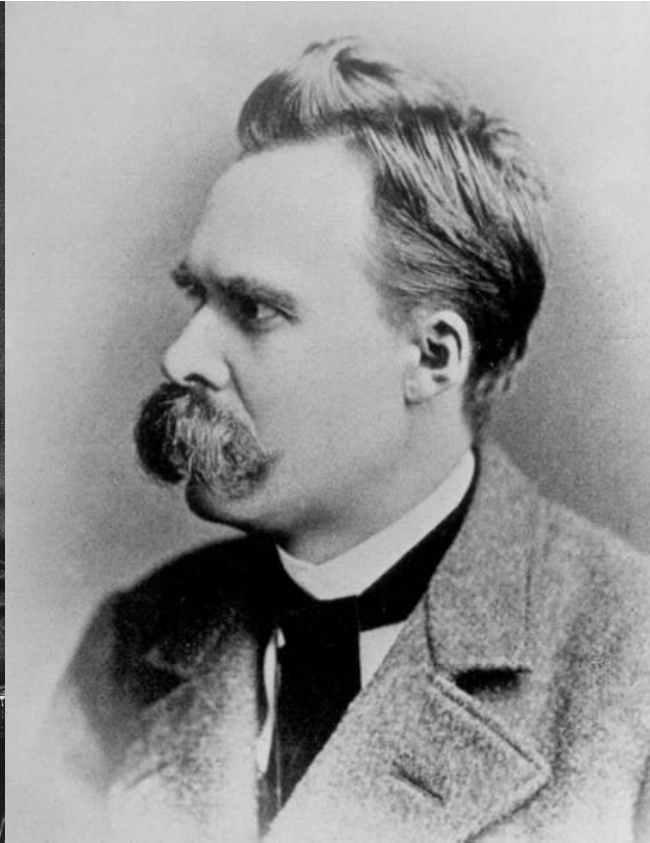
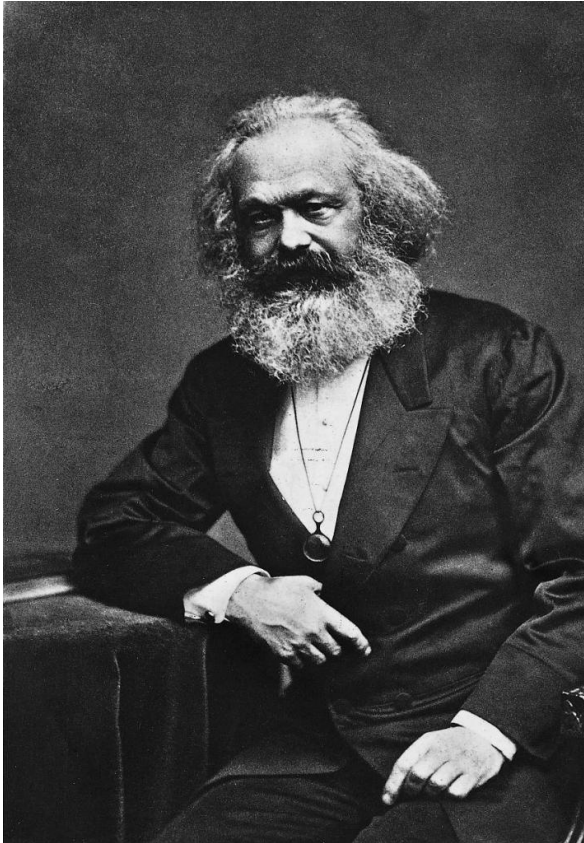
Text here



**ETHICS AND EDUCATIONAL TECHNOLOGY**  
**LONGTERMISM (MACASKILL,**

## ETHICS AND EDUCATIONAL TECHNOLOGY

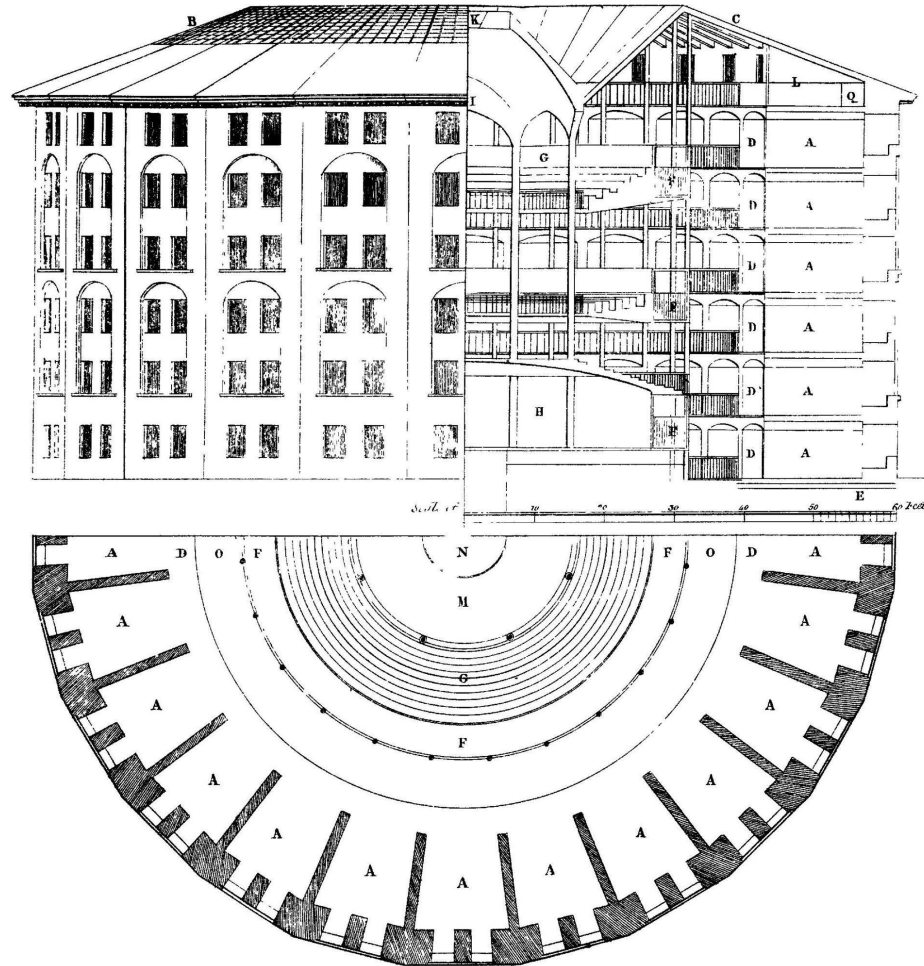
### MASTERS OF SUSPICION (RICOEUR, 1965; GADAMER, 1960)



- Decentralising the subject; culture, language, economics, the subonscious
- Proto-modernity
- False consciousness: identification and deciphering
- Undermining grand narratives (religious, ideological, cultural)

# ETHICS AND EDUCATIONAL TECHNOLOGY

## PANOPTICON



## ETHICS AND EDUCATIONAL TECHNOLOGY

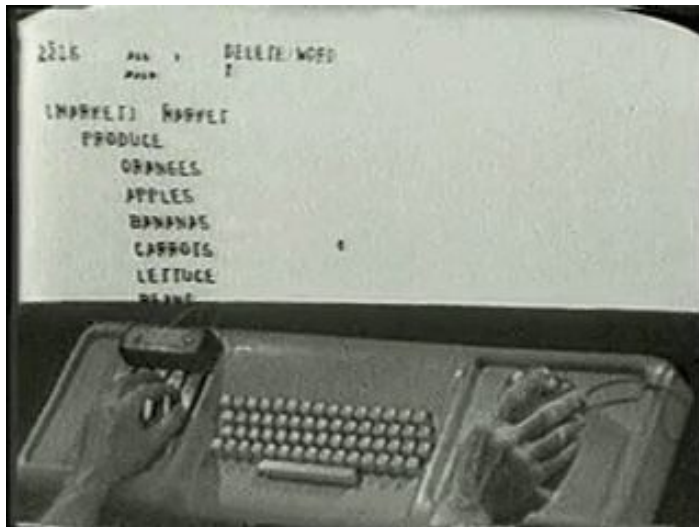
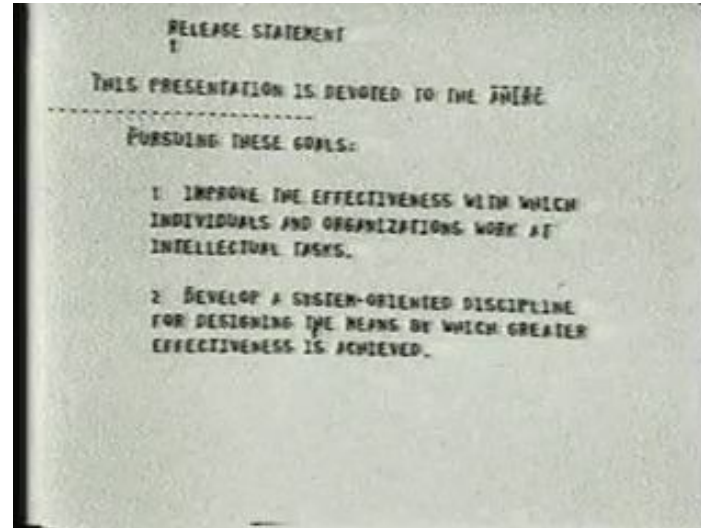
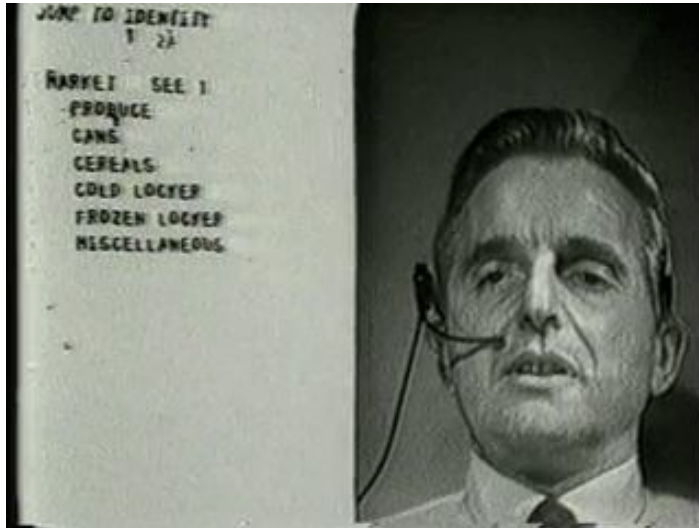
### CODE OF HAMMURABI (c. 1755–1750 BC)

- Read and copied by scribes for 1000+ years
- Professional practices
- Fairness and respect for laws
- Natural rights
- Universality?
- Publicity
- Permanency



# ETHICS AND EDUCATIONAL TECHNOLOGY

## “THE MOTHER OF ALL DEMOS” (1968)



Stanford Research Institute

<https://www.youtube.com/watch?v=B6rKUf9DWR1&ab>

## ETHICS AND EDUCATIONAL TECHNOLOGY

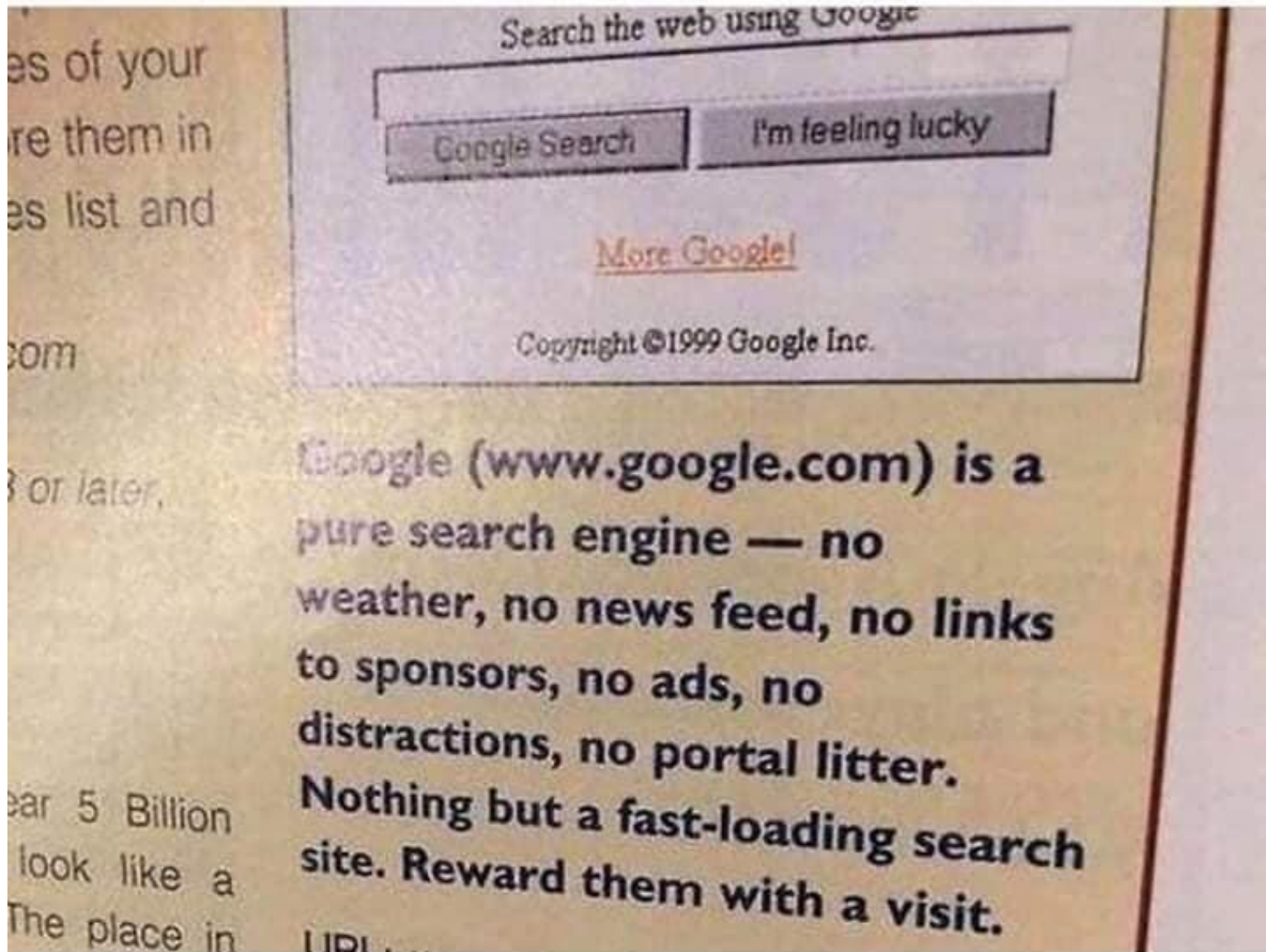
### “THE MOTHER OF ALL DEMOS”



- Mouse
- Word processing
- Document editing
- Copy & paste
- Version control
- Information storage & retrieval
- Hyperlinks
- Real-time remote collaboration
- Video-conference
- Proto-Internet (ARPANET)

## ETHICS AND EDUCATIONAL TECHNOLOGY

### EVOLUTION OF GOOGLE (1999)



## ETHICS AND EDUCATIONAL TECHNOLOGY

### EVOLUTION OF GOOGLE (2004)

“Google users trust our systems to help them with important decisions: medical, financial and many others. Our search results are the best we know how to produce. They are unbiased and objective, and we do not accept payment for them or for inclusion or more frequent updating. We also display advertising, which we work hard to make relevant, and we label it clearly. This is similar to a well-run newspaper, where the advertisements are clear and the articles are not influenced by the advertisers’ payments. We believe it is important for everyone to have access to the best information and research, not only to the information people pay for you to see.”

Pre-flotation letter from the founders, “an owner's manual” for Google's shareholders”. 14 August 2004.

[https://www.sec.gov/Archives/edgar/data/1288776/000119312504142742/ds1a.htm#toc59330\\_1](https://www.sec.gov/Archives/edgar/data/1288776/000119312504142742/ds1a.htm#toc59330_1)



Don't  
be  
evil.

## EXPLICABLE AI IN EDUCATION

### ETHICAL ISSUES AND EXPLICABILITY



CC BY <https://commons.wikimedia.org/wiki/File:Blackbox3D-withGraphs.png>

All algorithms in machine learning are black boxes to some extent (or at least 'grey boxes')

Deep learning algorithms and neural networks recognise patterns over massive data sets, but reconstructing these is problematic

In addition, outputs from ML systems also require interpretation

Where does algorithmic accountability lie?

## EXPLICABLE AI IN EDUCATION

### ETHICAL ISSUES AND EXPLICABILITY: SURVEILLANCE

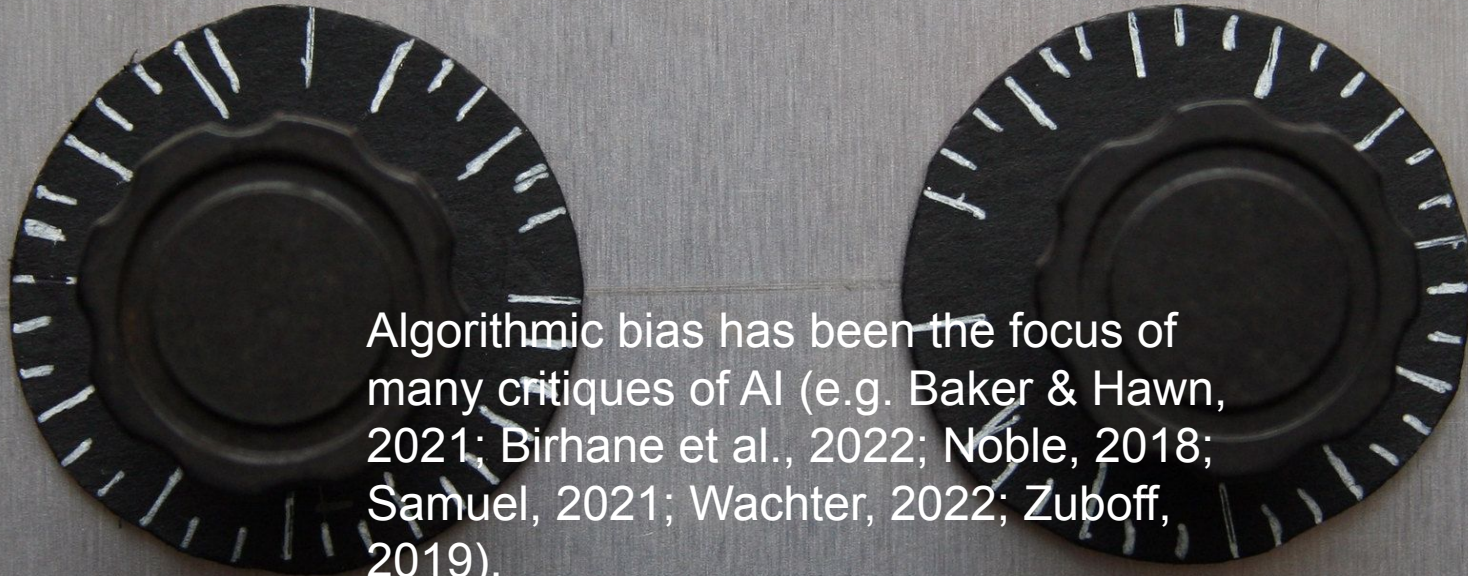
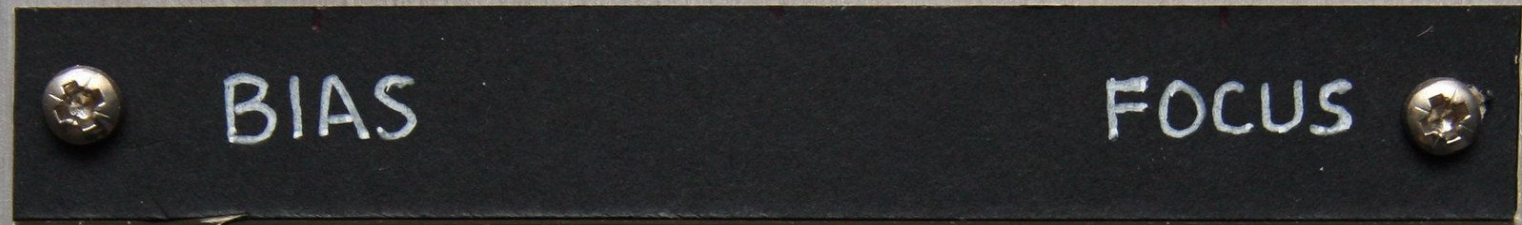
Many of the anticipated uses of AIED rely on the assumption that mass data collection and analysis will take place.

This can include data about learner progress through a virtual learning environment; but may include tracking biometric data, taking voice samples, and using eye-tracking software (Luckin, 2016:34).

Already there is considerable reliance on the use of controversial tracking technologies in proctoring and assessment (Coughlan et al., 2021).

The scale and penetration of machine learning data collection can be unsettling: a recent study found that 146 of 164 EdTech products recommended, mandated or procured by governments during the Covid-19 pandemic harvested the data of millions of children (Human Rights Watch, 2022).

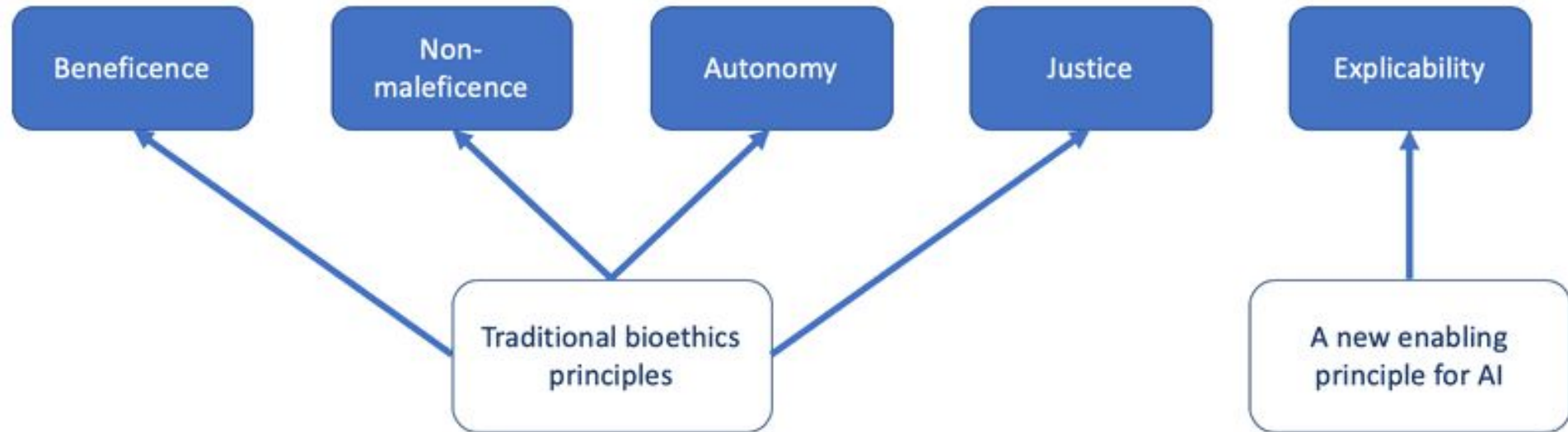




Algorithmic bias has been the focus of many critiques of AI (e.g. Baker & Hawn, 2021; Birhane et al., 2022; Noble, 2018; Samuel, 2021; Wachter, 2022; Zuboff, 2019).

## EXPLICABLE AI IN EDUCATION

### AI4PEOPLE ETHICAL FRAMEWORK



The AI4People initiative synthesizes 47 sets of guidelines to four traditional ethical principles and proposes one new AI-specific principle.

Floridi, L., & Cowls, J. (2019). A Unified Framework of Five Principles for AI in Society. *Harvard Data Science Review*, 1(1). <https://doi.org/10.1162/99608f92.8cd550d1>

## ETHICS AND EDUCATIONAL TECHNOLOGY

ATTRIBUTED TO IBM (1979)

A COMPUTER

CAN NEVER BE HELD ACCOUNTABLE

THEREFORE A COMPUTER MUST NEVER

MAKE A MANAGEMENT DECISION

 Meta



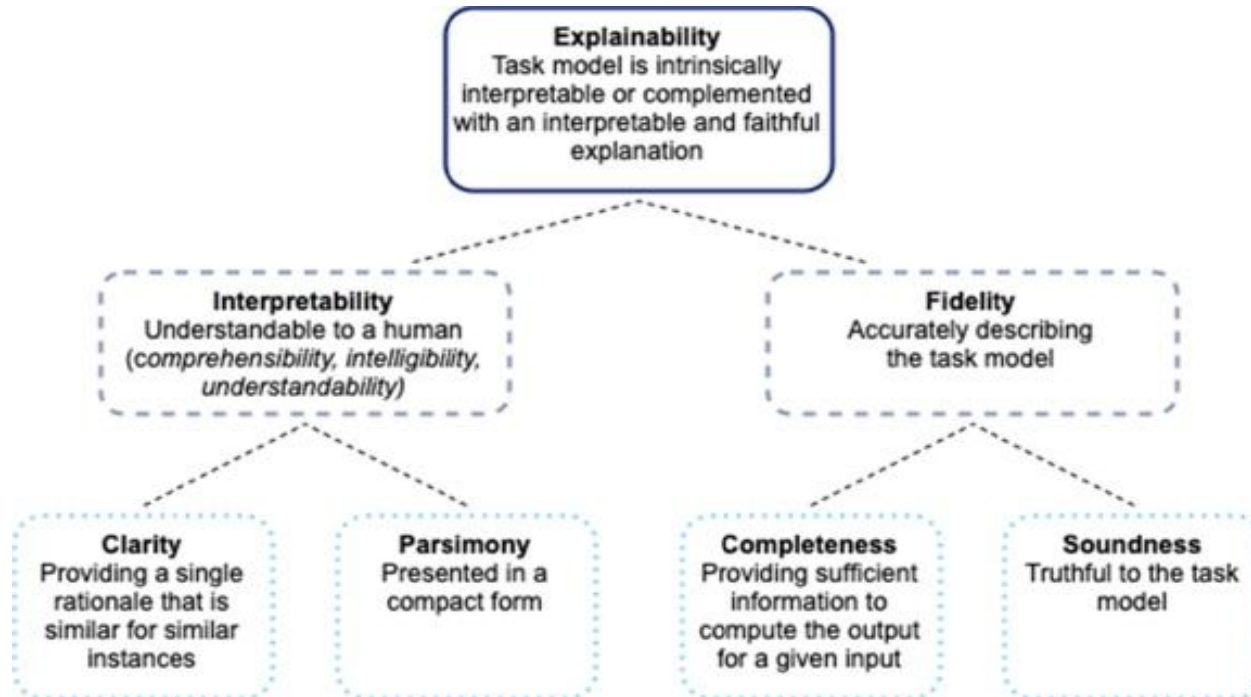
# ETHICS AND EDUCATIONAL TECHNOLOGY

## PLAYSTATION HOME (2008-2015)



## EXPLICABLE AI IN EDUCATION

### EXPLICABILITY AS INTERPRETABILITY / FIDELITY



This typology proposed by Markus et al. (2021) distinguishes *interpretability* which is human readable and *fidelity* which is the accurate, technical description of what happens in the ‘black box’. The technical explanation of an algorithm might include things like exploratory or statistical analysis; evaluation of machine learning models; periodic iterations of concepts and validation of results; user testing; and producing documentation for datasets and models.

For the general stakeholders lacking expert knowledge such transparency presumably has limited value without a trusted broker who can interpret on their behalf.

## EXPLICABLE AI IN EDUCATION

### SOCIO-TECHNICAL AI RISKS AND AMELIORATIONS (BASED ON SELBST ET AL., 2018)

Socio-technical AI Risk	Description	Amelioration
<i>Framing trap</i> : Failure to model the entire system over which a social criterion, such as fairness, will be enforced	Algorithmic decisions are made <u>on the basis of</u> select data points and abstraction can't adequately reflect socio-technical nuance	Simultaneous consideration of both human and machine activity within the system
<i>Portability trap</i> : Failure to understand how repurposing algorithmic solutions designed for one social context may be misleading, inaccurate, or otherwise do harm when applied to a different context	Built into machine learning is the idea that algorithms can be employed in different contexts and portability of this type is encouraged; this leads to a context blindness which does not adequately capture domain specific social context	Recognise that porting scripts to new contexts of application; recognise that normative <u>concepts are</u> not tied to specific objects but to specific social contexts; assume that all algorithms request contextualisation
<i>Formalism trap</i> : Failure to account for the full meaning of social concepts such as fairness, which can be procedural, contextual, and contestable, and cannot be resolved through mathematical formalisms	Attempts to model 'fairness' in machine learning are abstract and cannot adequately capture or arbitrate between different normative (ethical, legal) positions	Adopt social constructivist perspective which emphasises "describes how technology is developed, made sense of, and adopted in social contexts, with human users at the <u>forefront</u> "; work with representation groups; minimise assumptions
<i>Ripple Effect trap</i> : Failure to understand how the insertion of technology into an existing social system changes the behaviours and embedded values of the pre-existing system	Technologies can trigger shifts in social norms and values through their ongoing application, having both intended and unintended consequences	Build familiarity with existing ripple effects to anticipate 'what if?' scenarios; draw on domain expertise in assessing risks
<i>Solutionism trap</i> : Failure to recognize the possibility that the best solution to a problem may not involve technology	Machine learning can only anticipate and develop solutions which are technological, such as algorithmic adjustment	Be circumspect about how and when to design technological systems, realising that <u>platformisation</u> is not the answer to every scenario

## EXPLICABLE AI IN EDUCATION

### SUMMARY

- The influence of AIED is increasing, but in the rush to market important ethical aspects are overlooked.
- In educational contexts, it should always be possible to provide accounts of AIED which are *interpretable* to the layperson alongside more technical accounts which can be made available to specialist auditors or external examiners.
- Furthermore, appropriate governance measures need to be put in place so that it is always possible to identify a human being who takes responsibility for what an algorithm has done or recommended (cf. Floridi et al., 2018).
- There are good arguments for making XAIED the default expectation for AIED. Greater transparency and explicability is a route to critical reflection upon the application of algorithms in education (XAIED) and in social life more generally.

## EXPLICABLE AI IN EDUCATION

### SUMMARY

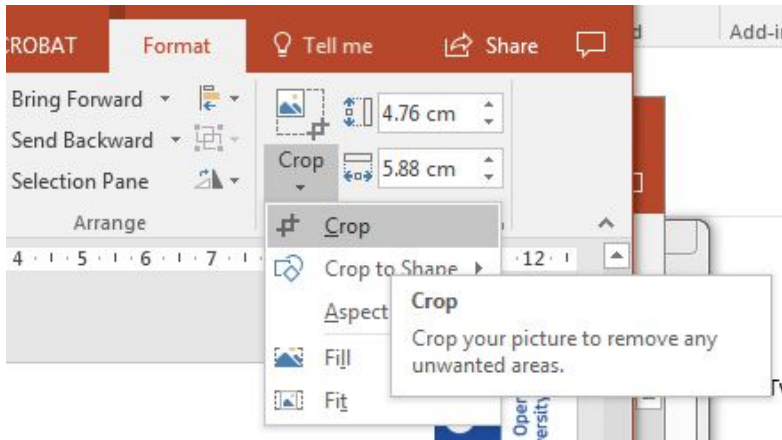
- The only viable route to ethical AIED is through inclusion and openness but this drive towards transparency can be in tension with other aspects of the learning process.
- It is also necessary to acknowledge that radical transparency is disruptive to traditional pedagogical approaches, and introduces some risks (such as algorithmic manipulation; bias; modifying rather than measuring behaviour; and disincentivizing learning).
- Exemptions may be pedagogical or pastoral, or for other contextual reasons. Crucially, even with exemptions it should be possible to explicate these aspects of AIED systems. To ensure this, AIED should undergo regular expert auditing (including exemptions).
- We are likely to see the emergence of new roles and training processes:
  - Cross-training between machine learning techniques and ethical expertise
  - AI learning specialists
  - Algorithmic presentation specialists
  - Explicability auditors

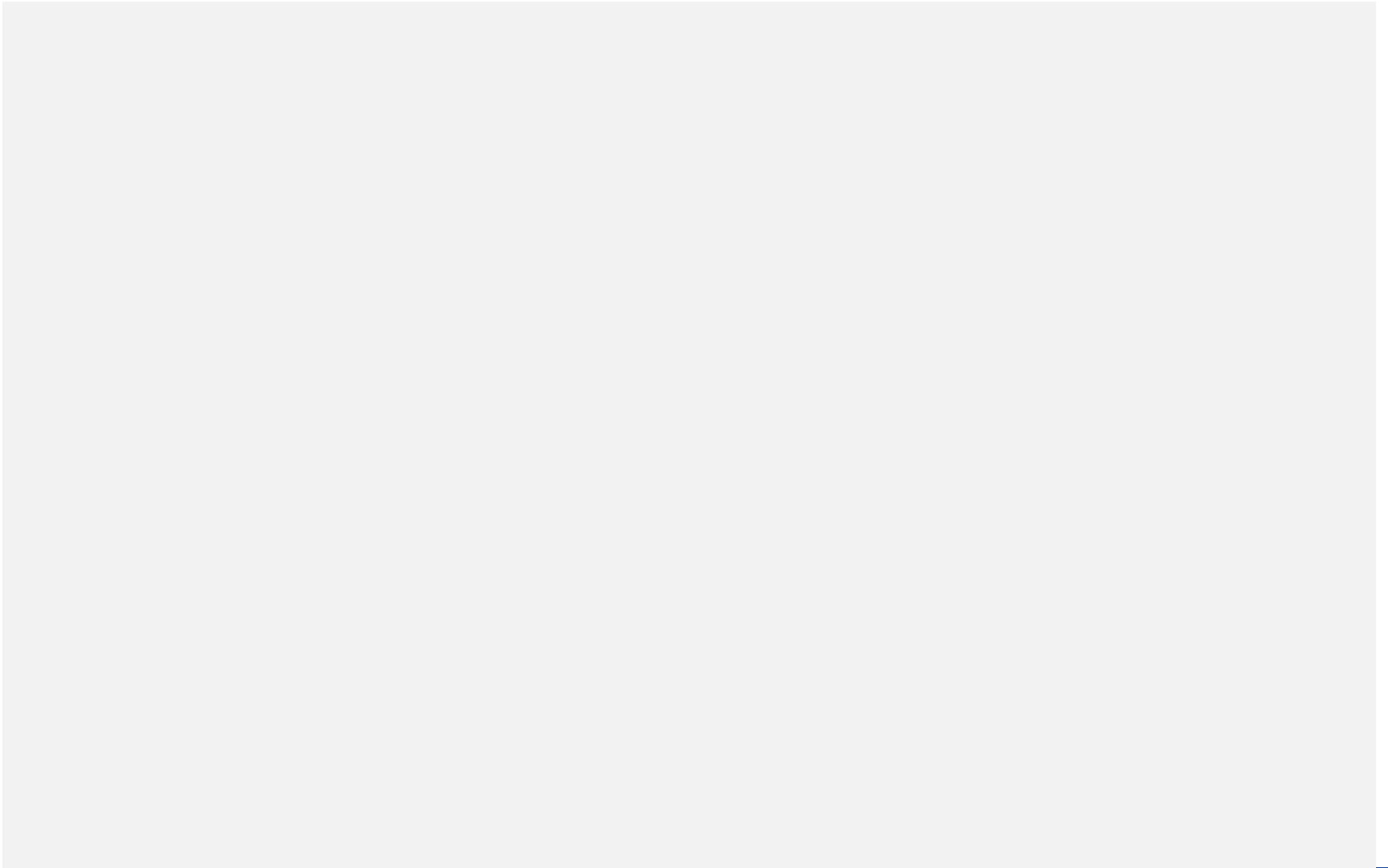


Body text

### Please note

If you wish to reposition or crop an image after importing: select the image, select **Format** tab, and then select the **crop tool** from the tool bar to adjust the image.







Distinction made by Fromm (1941) and Berlin (1958):

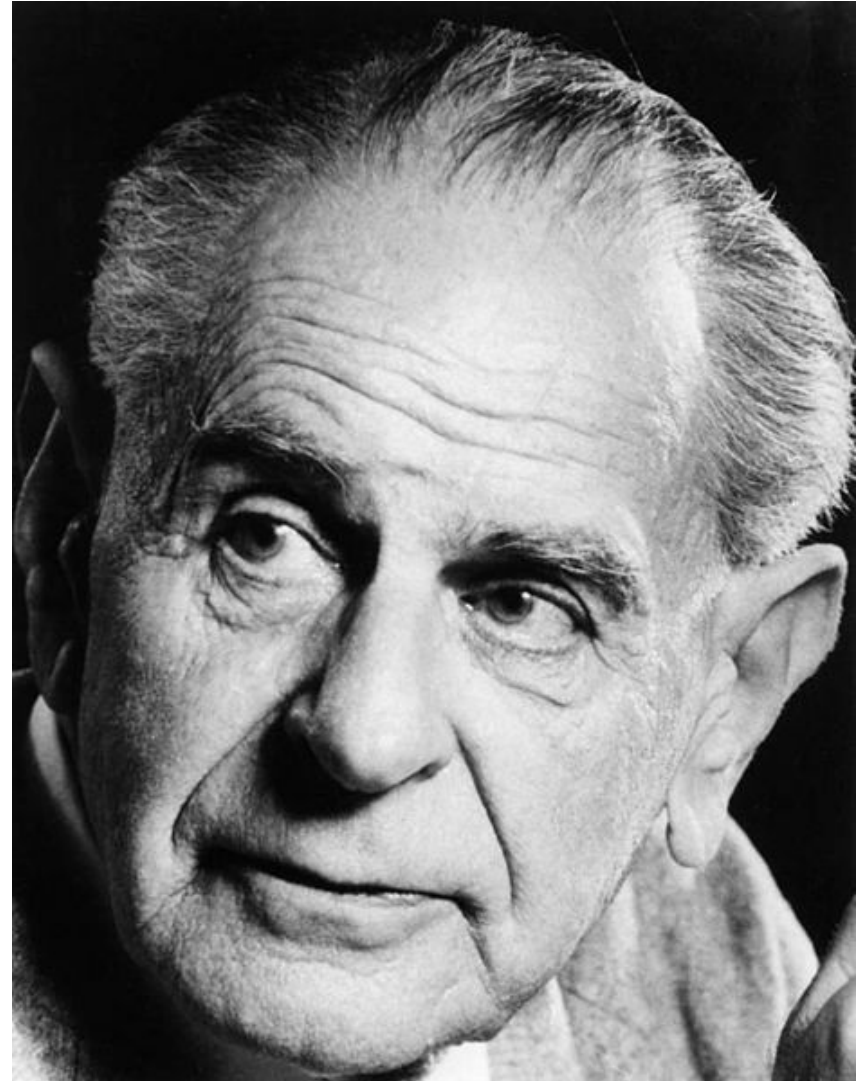
**Negative Liberty:** the absence of (external) restrictions on activity; freedom from interference

**Positive Liberty:** the capacity to act on the basis of one's free will; implies rational agency, autonomy, active choice

See also:

- Knox, J. (2013). Five Critiques of the Open Education Movement. *Teaching in Higher Education* 18 (8). <http://dx.doi.org/10.1080/13562517.2013.774354>
- Farrow, R. (2016). Constellations of Openness. In Deimann, M. & Peters, M. A. (eds.) (2016). *The Philosophy of Open Learning: Peer Learning and the Intellectual Commons*. Peter Lang Publishing. <https://www.peterlang.com/view/product/31200>

- Critical of totalitarianism, Marxism, Fascism, authoritarianism, historicism; influential for 20<sup>th</sup> century liberal democracy and post-war consensus
- "Unlimited tolerance must lead to the disappearance of tolerance. If we extend unlimited tolerance even to those who are intolerant, if we are not prepared to defend a tolerant society against the onslaught of the intolerant, then the tolerant will be destroyed, and tolerance with them."
- Niels Bohr (1885-1962): "The best weapon of a dictatorship is secrecy, but the best weapon of a democracy should be the weapon of openness."
- Since the latter half of the 20<sup>th</sup> century, "openness" has developed within stable frameworks of liberal/social democracy, and is now often tacitly assumed in many areas of society (such as open government, a free press, freedom of speech, etc. and later open access, open government, open education).



technê  
τέχνη



theoria  
θεωρία

CC BY  
[https://upload.wikimedia.org/wikipedia/commons/8/8b/Eos\\_Memnon\\_Louvre\\_G115.jpg](https://upload.wikimedia.org/wikipedia/commons/8/8b/Eos_Memnon_Louvre_G115.jpg)

# Where are we now?



"What he's talking about is taking emasculated men in their forties, fifties and sixties who are not living the life they hoped for in their teens and twenties and saying, 'you know what? there are people to blame for this. And we're going to **build a wall and we're going make America great again**.

"At the core of that is **the struggle between being an open society and a closed society**. And so if you want to know where the trillions of dollars of wealth creation that are going to come with the commercialisation of genomics, and the creation of big data companies, and the AI machine learning companies and all of the industries of the future my overarching line here is it's going to be the most open societies.

"**Open societies means that upward economic and social mobility is not constrained to elites**, it means that **religious and cultural norms are not set by central authorities** and it means that it is wildly rights respecting, in terms of the rights of women, religious minorities, racial minorities and ethnic minorities.

"**The industries of the future will be overwhelmingly concentrated in the most open societies.**"

Alec Ross, Clinton aide

<http://www.telegraph.co.uk/news/2016/05/30/donald-trump-is-a-vulgar-demented-pig-demon-says-hillary-clinton/>

The Telegraph, 30 May 2016

# All I Know Is What's on the Internet

*Information literacy is not the antidote to fake news, because the institutions for teaching it can't be trusted either*

---

Rolin Moe

January 17, 2017

---

- Critical thinking is at the foundation of information literacy, but those selling it are not necessarily in a position to actually supply it.
- “Content” is not simply access to the world’s information banks, but a standardized experience that makes any candidate more easily assessed against any other
- The promise of social justice and upward mobility through education has largely gone unkept... Its cerebral pleasure pales in comparison with fascism’s more direct, emotive appeals.



[https://upload.wikimedia.org/wikipedia/commons/3/33/Mynttorget%2C\\_Stockholm\\_during\\_the\\_June\\_3%2C\\_2006\\_pro-piracy\\_protest.jpg](https://upload.wikimedia.org/wikipedia/commons/3/33/Mynttorget%2C_Stockholm_during_the_June_3%2C_2006_pro-piracy_protest.jpg)

# Pirate Party: Principles



- Defend the freedom of expression, communication, education; respect the privacy of citizens and civil rights in general
- Defend the free flow of ideas, knowledge and culture
- Support politically the reform of copyright and patent laws
- Have a commitment to work collaboratively, and participate with maximum transparency
- Do not accept or espouse discrimination of race, origin, beliefs and gender
- Do not support actions that involve violence
- Use free-source software, free hardware, DIY and open protocols whenever possible

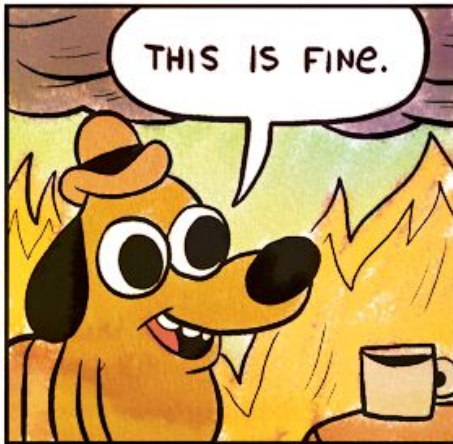
[http://wiki.pp-international.net/  
Building\\_the\\_principles\\_of\\_PP](http://wiki.pp-international.net/Building_the_principles_of_PP)  
|

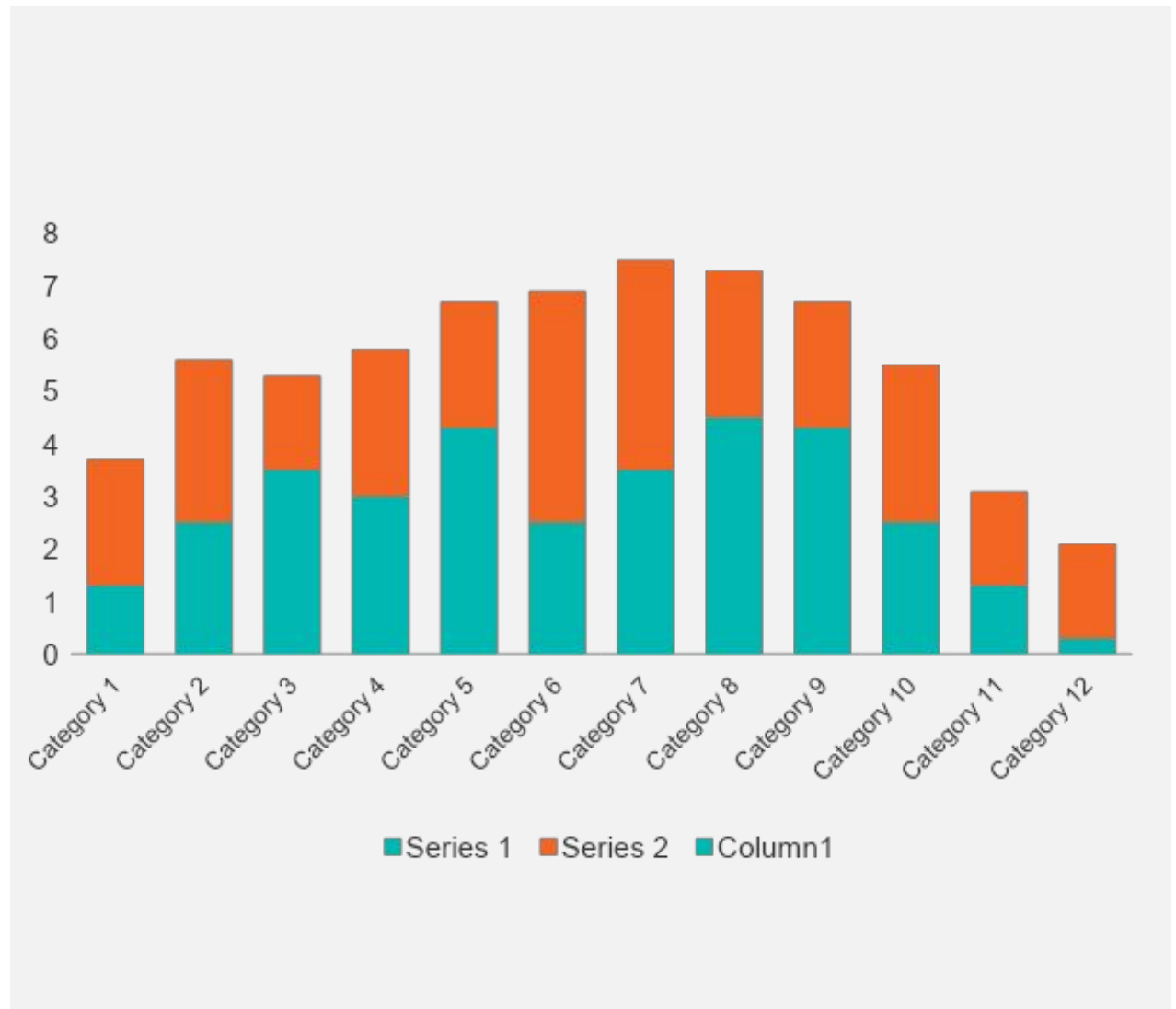
# Pirate Party: Principles

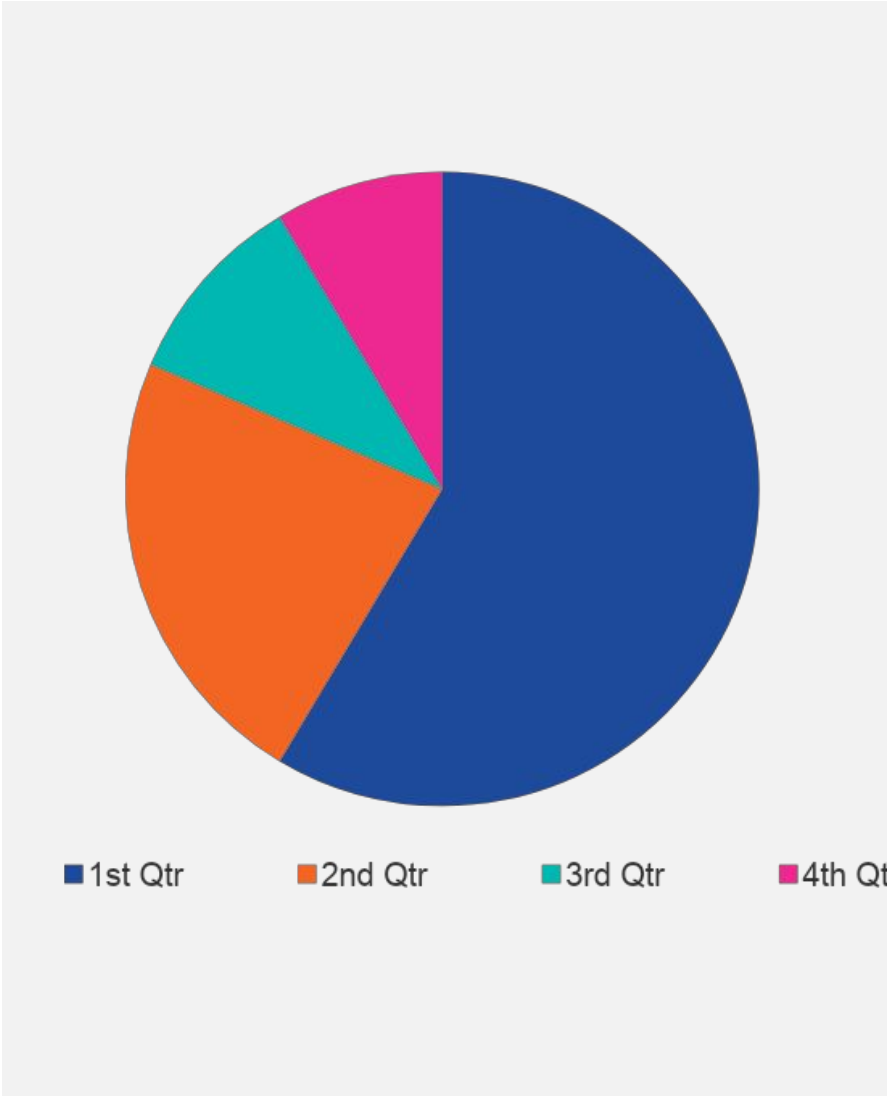


- Politically defend a open, participative and collaborative construction of any public policy
- Direct democracy
- Open access
- Open data
- Economy for the Common Good and promote solidarity with other pirates
- Share whenever possible

[http://wiki.pp-international.net/  
Building\\_the\\_principles\\_of\\_PP](http://wiki.pp-international.net/Building_the_principles_of_PP)  
|







## ETHICS & EDUCATIONAL TECHNOLOGY

### ALTERNATIVE INFRASTRUCTURES (CRISIS PEDAGOGY)

Networked

Examples:

Open

SLOT

Digital (per Weller, 2011)

Reclaim Hosting

<http://oro.open.ac.uk/55721/>

(Note 'alternative provision')

# ETHICS AND EDUCATIONAL TECHNOLOGY

## FRAMEWORK FOR ETHICAL LEARNING TECHNOLOGIES (FELT)



## ETHICS AND EDUCATIONAL TECHNOLOGY

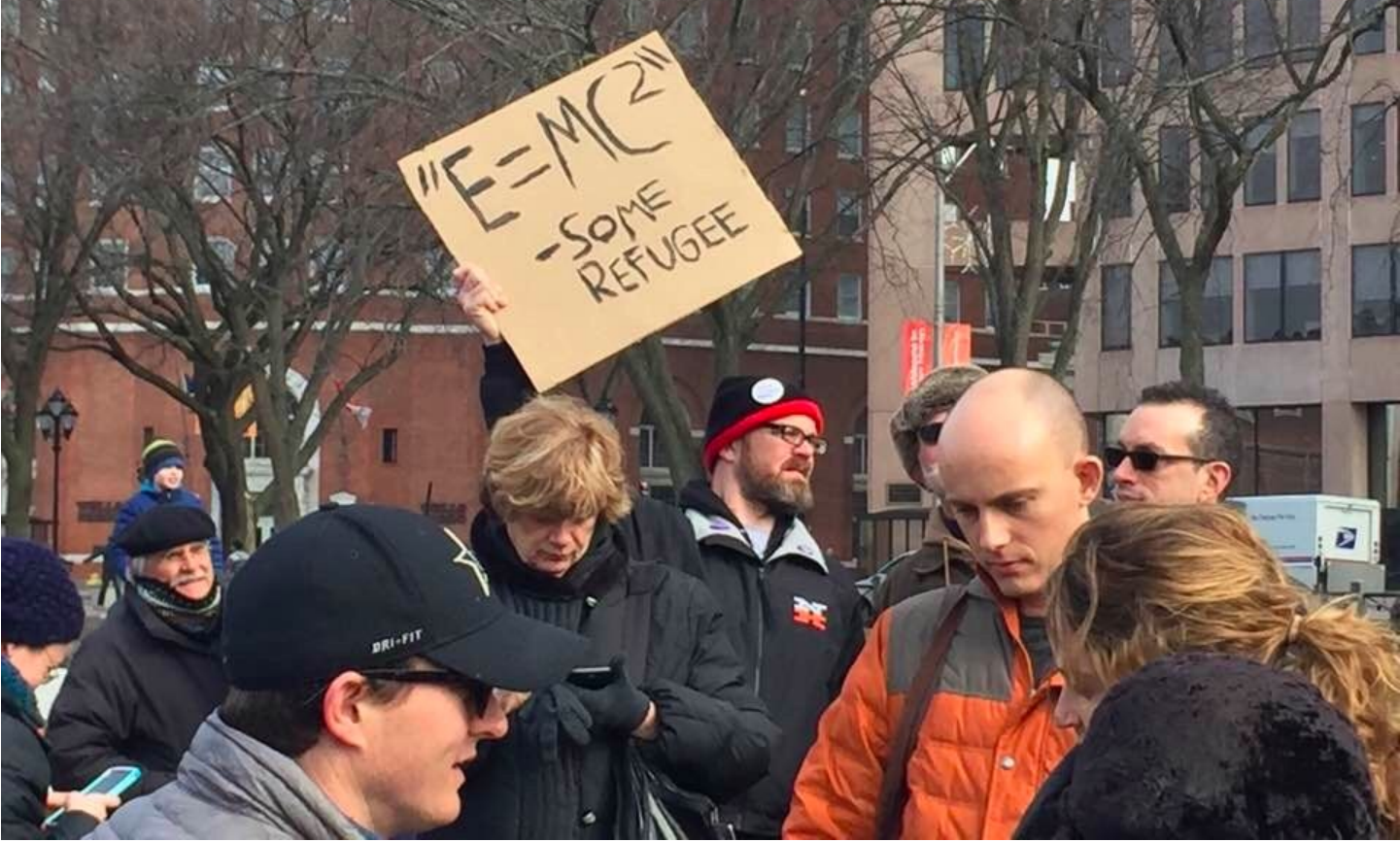
### THE FUTURE OF FRAMEWORK FOR ETHICAL LEARNING TECHNOLOGIES (FELT)



- Examples from accredited CMALT portfolios
- Mapping(s) to other professional/ethical frameworks
- Framework revisions/expansions
- Ongoing reflection and collective sense-making
- Keeping ethics as a central concern of practice

This presentation contains some images assumed to be in the public domain

# Thanks for listening



**THANK YOU**

rob.farrow@open.ac.uk  
@philosopher1978



The Open  
University