What does the future of literacy look like through the lens of open education?

Ahrash N Bissell

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Tebn dxt jbelluch

Orbital characteristics	
Perigee	363 104 km (0.002 4 AU)
Apogee	405 696 km (0.002 7 AU)
Semi-major axis	384 399 km (0.002 57 AU[1])
Eccentricity	0.054 9[1]
Orbital period	27.321 582 d (27 d 7 h 43.1 min[1])
Synodic period	29.530 588 d (29 d 12 h 44.0 min)
Average orbital speed	1.022 km/s
Inclination	5.145° to the ecliptic[1] (between 18.29° and 28.58° to Earth's equator)
Longitude of ascending node	regressing by one revolution in 18.6 years
Argument of perigee	progressing by one revolution in 8.85 years
Satellite of	Earth
Physical characteristics	
Mean radius	1 737.10 km (0.273 Earths)[1]
Equatorial radius	1 738.14 km (0.273 Earths)
Polar radius	1 735.97 km (0.273 Earths)
Flattening	0.001 25
Circumference	10 921 km (equatorial)
Surface area	3.793 × 107 km² (0.074 Earths)
Volume	2.195 8 × 1010 km³ (0.020 Earths)
Mass	7.347 7 × 1022 kg (0.012 3 Earths[1])
Mean density	3 346.4 kg/m³[1]
Equatorial surface gravity	1.622 m/s² (0.165 4 g)
Escape velocity	2.38 km/s

Moon

Moon is Earth's only natural satellite and the only astronomical body other than Earth ever visited by human beings. The moon is the brightest object in the night sky but gives off no light of its own. Instead, it reflects light from the sun. Like Earth and the rest of the solar system, the moon is about 4.6 billion years old.

The moon is much smaller than Earth. The moon's average radius (distance from its center to its surface) is 1,079.6 miles (1,737.4 kilometers), about 27 percent of the radius of Earth.

The moon is also much less massive than Earth. The moon has a mass (amount of matter) of 8.10 x 1019 tons (7.35 x 1019 metric tons). Its mass in metric tons would be written out as 735 followed by 17 zeroes. Earth is about 81 times that massive. The moon's density (mass divided by volume) is about 3.34 grams per cubic centimeter, roughly 60 percent of Earth's density.

Because the moon has less mass than Earth, the force due to gravity at the lunar surface is only about 1/6 of that on Earth. Thus, a person standing on the moon would feel as if his or her weight had decreased by 5/6. And if that person dropped a rock, the rock would fall to the surface much more slowly than the same rock would fall to Earth.

Despite the moon's relatively weak gravitational force, the moon is close enough to Earth to produce tides in Earth's waters. The average distance from the center of Earth to the center of the moon is 238,897 miles (384,467 kilometers). That distance is growing -- but extremely slowly. The moon is moving away from Earth at a speed of about 1 1/2 inches (3.8 centimeters) per year.

The temperature at the lunar equator ranges from extremely low to extremely high -- from about -280 degrees F (-173 degrees C) at night to +260 degrees F (+127 degrees C) in the daytime. In some deep craters near the moon's poles, the temperature is always near -400 degrees F (-240 degrees C).

The moon has no life of any kind. Compared with Earth, it has changed little over billions of years. On the moon, the sky is black -- even during the day -- and the stars are always visible.

A person on Earth looking at the moon with the unaided eye can see light and dark areas on the lunar surface. The light areas are rugged, cratered highlands known as terrae (TEHR ee). The word terrae is Latin for lands. The highlands are the original crust of the moon, shattered and fragmented by the impact of meteoroids, asteroids, and comets. Many craters in the terrae exceed 25 miles (40 kilometers) in diameter. The largest is the South Pole-Aitken Basin, which is 1,550 miles (2,500 kilometers) in diameter.

The dark areas on the moon are known as maria (MAHR ee uh). The word maria is Latin for seas; its singular is mare (MAHR ee). The term comes from the smoothness of the dark areas and their resemblance to bodies of water. The maria are cratered landscapes that were partly flooded by lava when volcanoes erupted. The lava then froze, forming rock. Since that time, meteoroid impacts have created craters in the maria.

The moon has no substantial atmosphere, but small amounts of certain gases are present above the lunar surface. People sometimes refer to those gases as the lunar atmosphere. This "atmosphere" can also be called an exosphere, defined as a tenuous (low-density) zone of particles surrounding an airless body. Mercury and some asteroids also have an exosphere.

Sources: Flickr (top-left), Nasa (top-right), Wikipedia (left).

Orbital characteristics

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Sources: Flickr (top-left), Nasa (top-right), Wikipedia (left).

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Guiding questions:

1.??

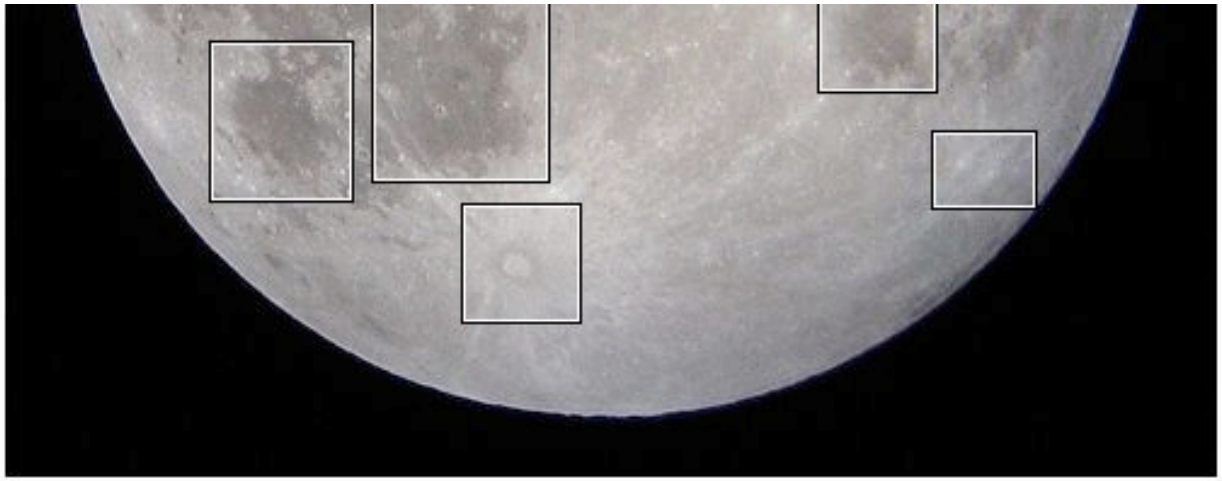
2.??

3.??

4.??

5.??

6.Etc



96.7% of Full. Taken with a digital camera shooting handheld down the tube of a Galileo FS-120DX telescope. 25mm eyepiece.

Moon map: Annotated with notes using The Skywatcher's Guide to the Moon, Zoom Astronomy's Moon Map, Geologic History of the Moon and Wikipedia. Mouse over objects in the picture to learn more.

Until I get some type of eyepiece adapter, this is probably the best image I'll be able to take. This flickr member seems to have figured out some excellent techniques.

This photo has notes. Move your mouse over the photo to see them.

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Tags

- moon
- full
- map
- geology
- annotated
- crater
- telescope

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Using NASA Imagery and Linking to NASA Web Sites **10.13.05**

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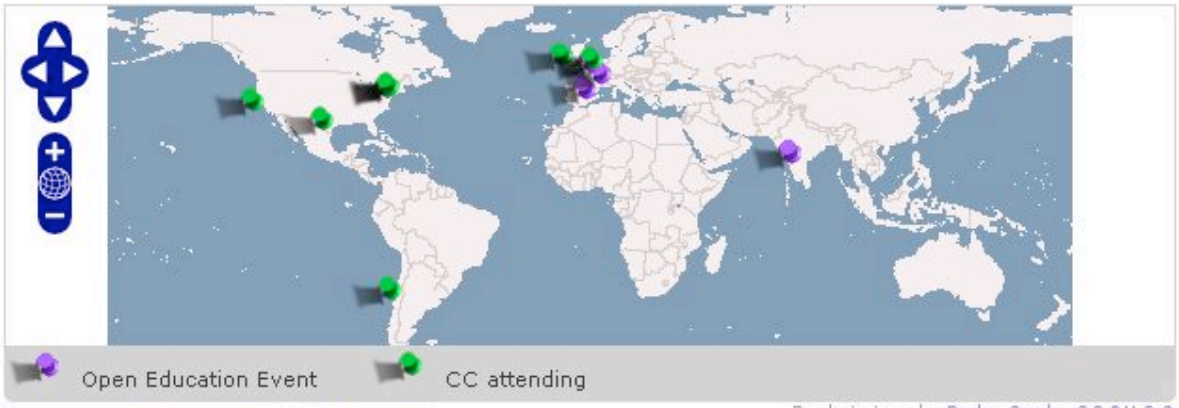

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New Resources

Added to Publications:

* Shuttleworth Foundation Working Paper on Intellectual Property

Added to Articles:

* The beauty of "Some Rights Reserved": Introducing Creative Commons to librarians, faculty, and students
* 'The Objective of Education Is Learning, Not Teaching'
* Minds on Fire: Open Education, the Long Tail, and Learning 2.0

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Tebndxt by Armel

The world is changing…

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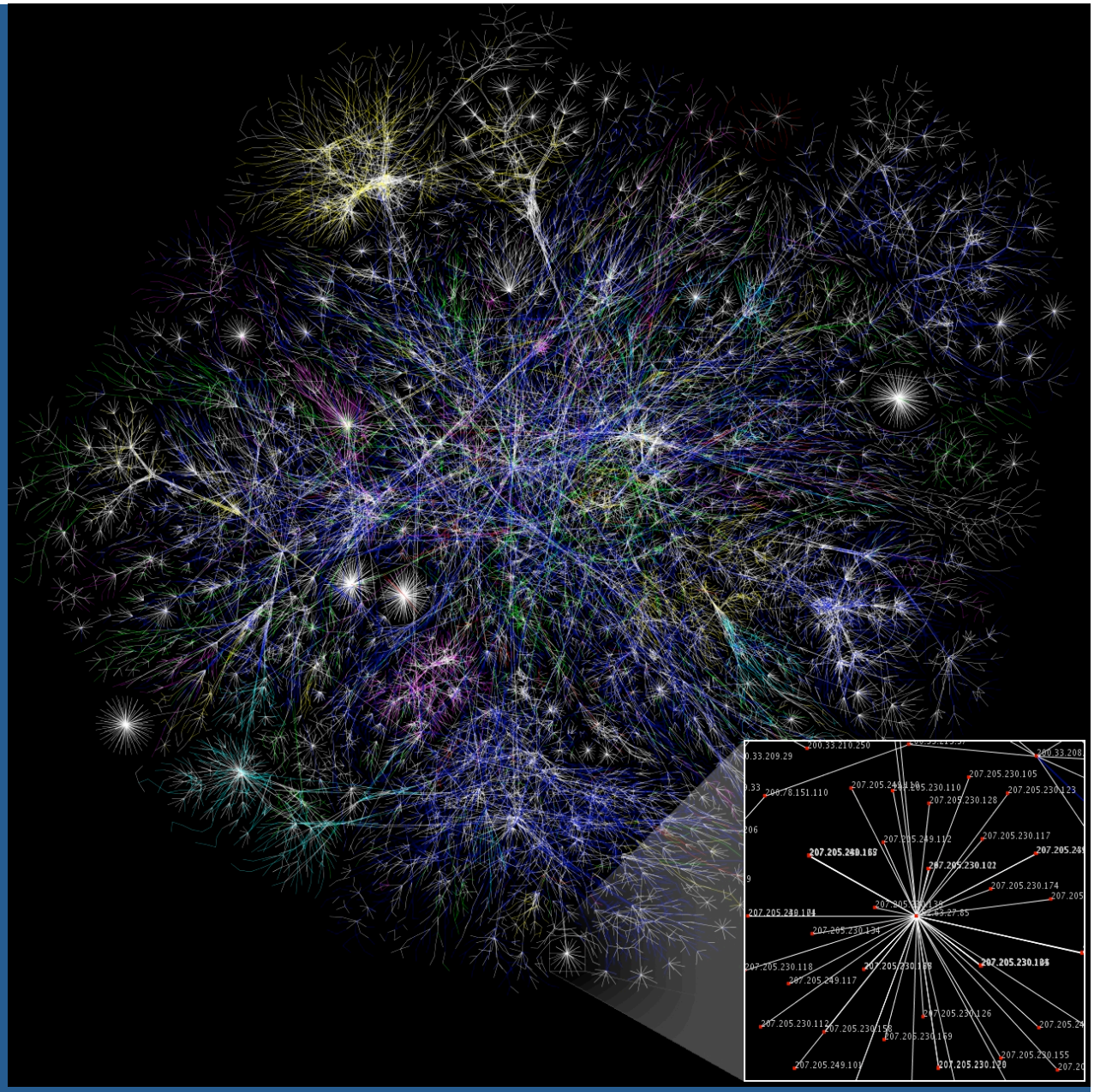
The Internet is BIG…



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What are Open Educational Resources?

Michael Reschke cba

Digitized materials offered freely and openly for educators, students and self-learners to use and re-use for teaching, learning and research.*

*UNESCO. 2002. *Forum on the impact of Open Courseware for higher education in developing countries. Final report.* Paris: UNESCO.

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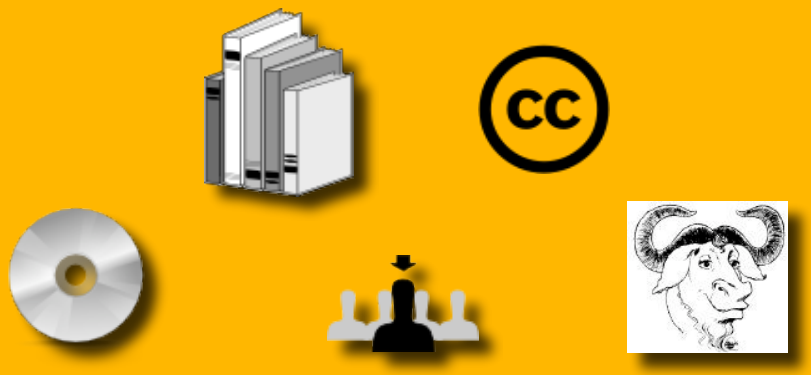
OER

Open Educational Resources

Open education depends on a high-quality pool of freely licensed resources.

Michael Reschke cba

OER give learners access to a broad array of knowledge materials...



available for anyone to use, share, and adapt to suit their educational needs.

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THE CAPE TOWN OPEN EDUCATION DECLARATION

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SHUTTLEWORTH FOUNDATION

OPEN SOCIETY INSTITUTE

Read the Declaration

Cape Town Open Education Declaration: Unlocking the promise of open educational resources

We are on the cusp of a global revolution in teaching and learning. Educators worldwide are developing a vast pool of educational resources on the Internet, open and free for all to use. These educators are creating a world where each and every person on earth can access and contribute to the sum of all human knowledge. They are also planting the seeds of a new pedagogy where educators and learners create, shape and evolve knowledge together, deepening their skills and understanding as they go.

This emerging open education movement combines the established tradition of sharing good ideas with fellow educators and the collaborative, interactive culture of the Internet. It is built on the belief that everyone should have the freedom to use, customize, improve and redistribute educational resources without constraint. Educators, learners and others who share this belief are gathering together as part of a worldwide effort to make education both more accessible and more effective.

The expanding global collection of open educational resources has created fertile ground for this effort. These resources include openly licensed course materials, lesson plans, textbooks, games, software and other materials that support teaching and learning. They contribute to making education more accessible, especially where money for learning materials is scarce. They also nourish the kind of participatory culture of learning, creating, sharing and cooperation that rapidly changing knowledge societies need.

However, open education is not limited to just open educational resources. It also draws upon open technologies that facilitate collaborative, flexible learning and the open sharing of teaching practices that empower educators to benefit from the best

http://www.capetowndeclaration.org/

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What is different about OER?

Most digital media = “stuff you can see online for free”

⟶ fair-use and educational exceptions

OER = “stuff you can adapt and then share for ~~others~~ to build on”

license to innovate

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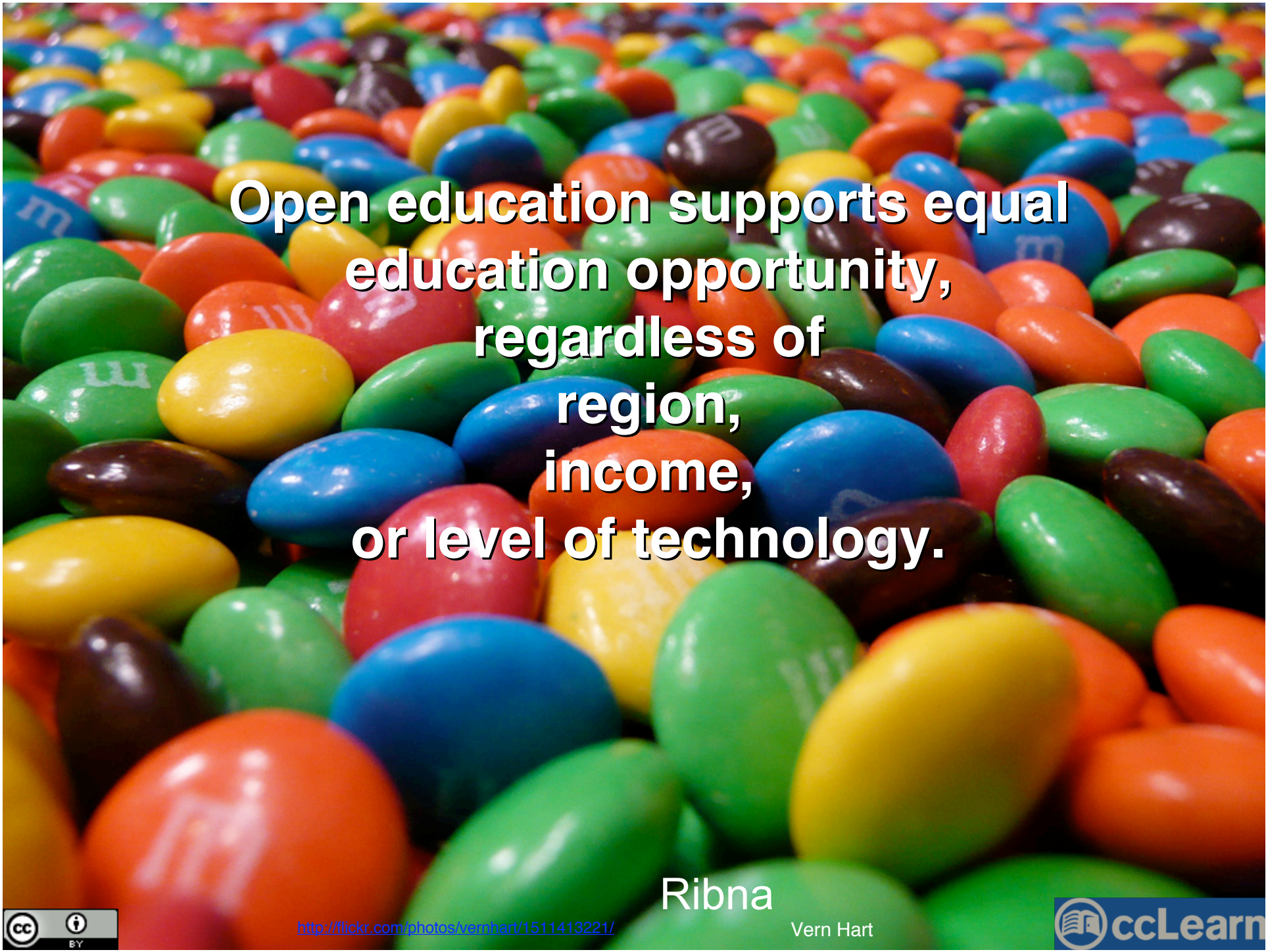
Open education supports skill development through

Active learner participation

- finding
- evaluating
- generating knowledge

Skills gained:

- critical thinking
- creativity
- communication
- collaboration



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Ribna by Ethnocentrics

OER can be easily modified, translated, and shared, so they encourage local production of educational resources

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b by Thomas Sly

suited to both individual and societal values, language and culture.

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Advanced technology is not necessary.

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OER can be easily modified and adapted to different learning circumstances.

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Open education supports

- formal education
- informal education
- lifelong learning

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Mutual Learning & Sharing

http://www.flickr.com/photos/99079793@N00/24786113/ Tebndxt Lara Eller

Most students begin their education highly motivated to **learn**;

Most teachers are highly motivated to **share knowledge**, not only with their students but with **anyone** who can benefit.

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A child educated only at school
is an uneducated child.

- George Santayana

Nothing in education is so astonishing as the amount of ignorance it accumulates in the form of inert facts.

- Henry B. Adams

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open learning initiative

European Schoolnet

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COSL

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First, a look at the Legal Barriers.

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A spectrum of rights

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- Is compatible with every other CC license, allowing the most room for innovation via collaboration
- Does not encroach on the freedom of potential users by enforcing a specified use:

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But what about Technical Barriers?

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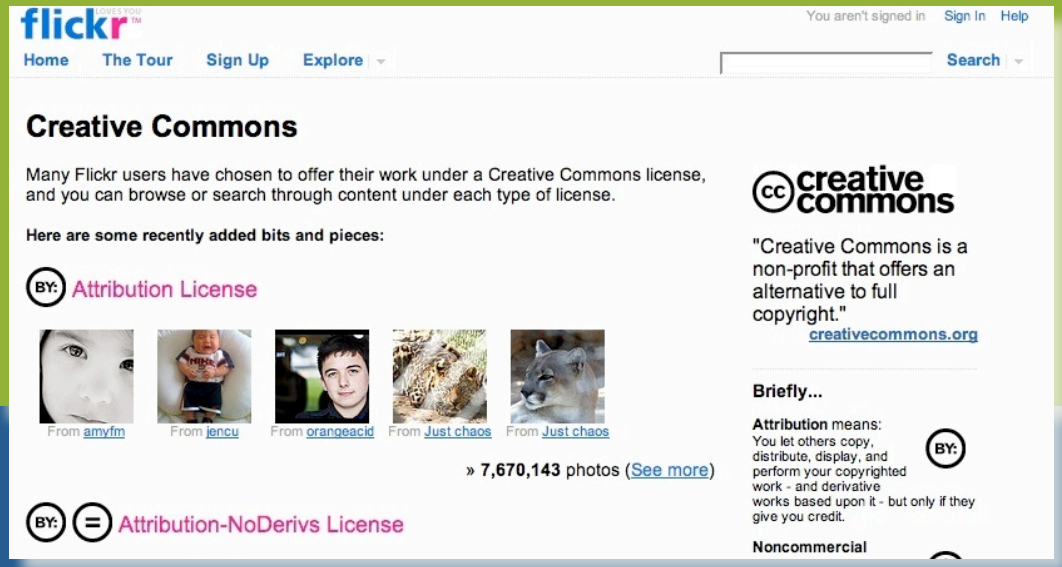
CC overcomes Technical Barriers

CC Licenses are also clear to search engines

- CC Licenses specify licensing permissions on works in metadata (RDFa)



- The metadata are also available for other applications, such as search engines, Flickr, and…

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Universal Education Search

engineering Search help

Hits **1-10** (out of about 3,392 total matching pages):

Women In Engineering Organization

This portion of the Women in Engineering website defines what the term engineering means, gives some general guidelines as to what it takes to become an engineer, and defines types of engineering. This resource is appropriate for all users, particularly for girls and women, because it targets girls or women, uses inclusive images of girls or women, and shows how engineering can be used to solve real-world problems. Copyright 2005 EDC

Curator: NSDL **Education Level:** Learner **Language:** **License:**

Subject Tags: Education issues Careers Mathematics Real world applications Engineering mathematics Science Physical science
(explain) (anchors)

Careers - Food Science Program, Department of Process Engineering and Applied Science

This site gives an overview of what is needed to be a food scientist. Required education, types of jobs available, and a salary survey are included.

Curator: NSDL **Education Level:** **Language:** **License:**

Subject Tags: Job descriptions Chemistry--Vocational guidance Jobs and Careers -- Career Information -- Job Types, Descriptions, and Tasks Chemists; Food industry
(explain) (anchors)

Fundamentals of Electrical Engineering I

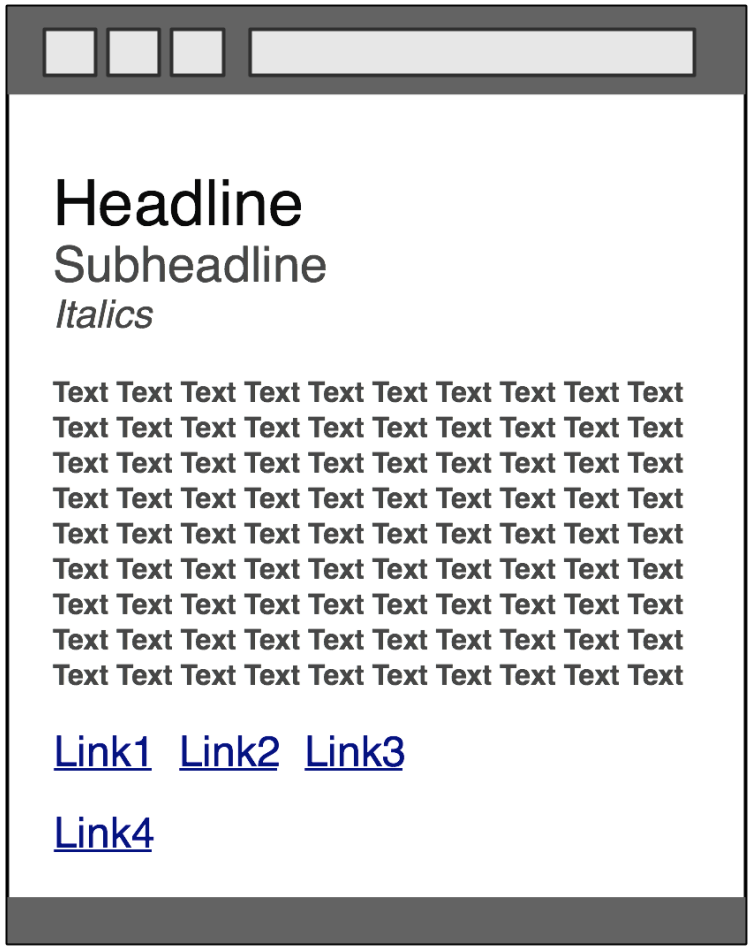
The course focuses on the creation, manipulation, transmission, and reception of information by electronic means. Elementary signal theory; time- and frequency-domain analysis; Sampling Theorem. Digital information theory; digital transmission of analog signals; error-correcting codes.

Curator: OER Commons Connexions **Education Level:** **Language:** en **License:** (cc) BY

Subject Tags: Science and Technology
(more from cnx.org) (explain) (anchors)

http://www.engineering.uiowa.edu/%7Eswan/courses/53030/notes/gsd.pdf

In soil mechanics, it is virtually always useful to quantify the size of thegrains in a type of soil. Since a given soil will often be made up of grainsof many different sizes, sizes are measured in terms of grain size distributions.Grain size distribution (GSD) information can be of value in providinginitial rough estimates of a



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There is a significant gap between what computers “see” and what humans see. This is one of the fundamental barriers to the infrastructure of the semantic web, but is also solvable

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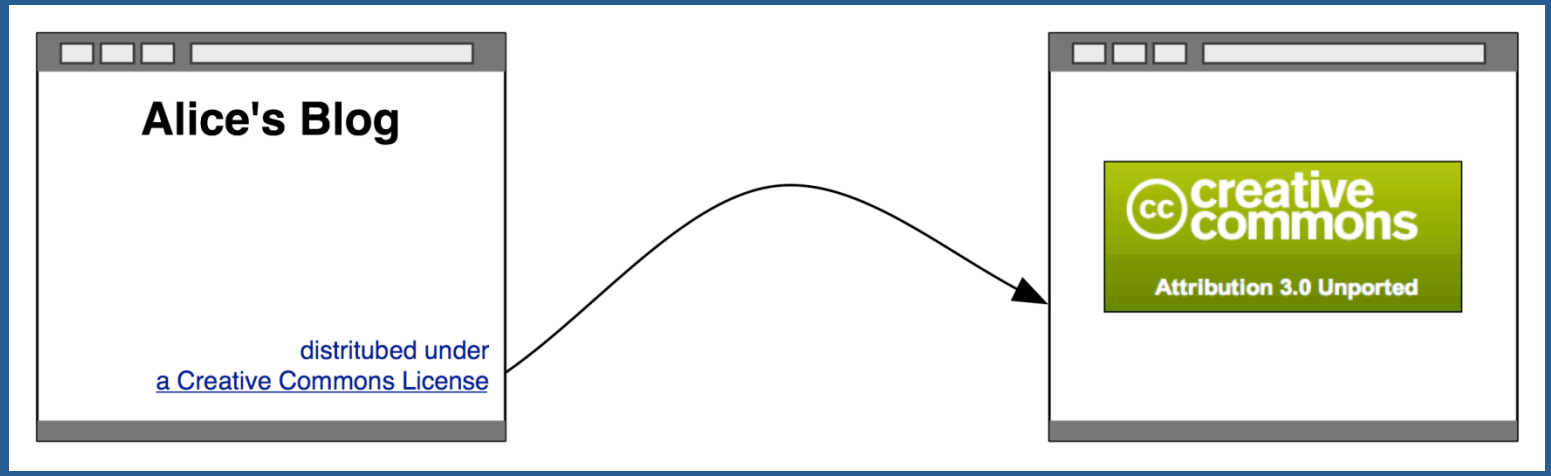

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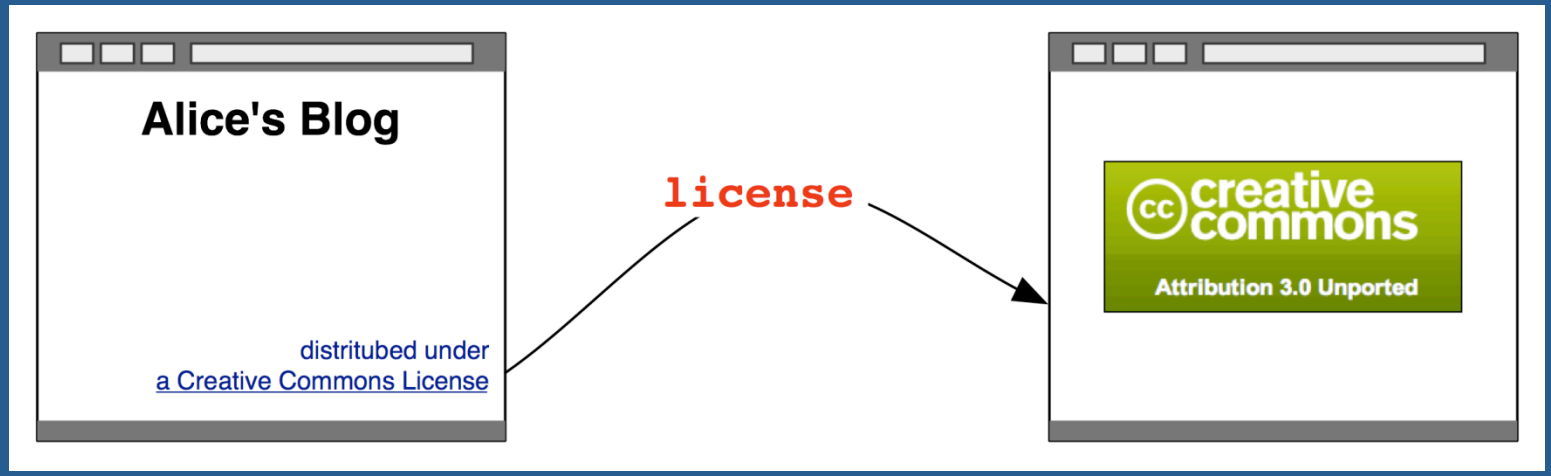

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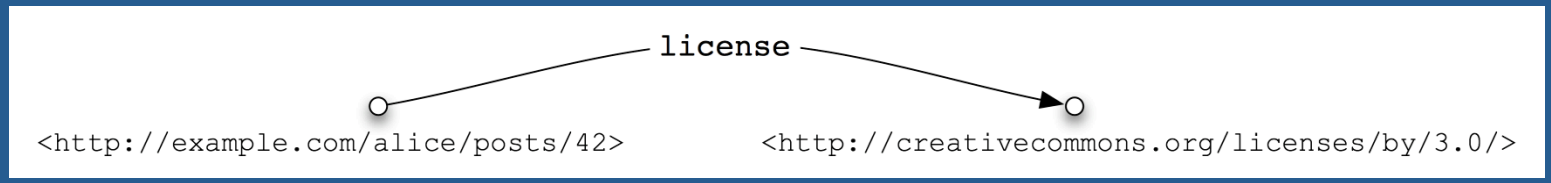

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<h2>The Trouble with Bob</h2>
<h3>Alice</h3>

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<h2 property="dc:title">The Trouble with Bob</h2>
<h3 property="dc:creator">Alice</h3>
```

- Why dc:title, why not just title?
- Which meaning of "title"? Article title, job title, real estate title?
- License is a reserved HTML keyword, but title is not.
- We must "import" this concept from somewhere.
  - The Dublin Core vocabulary:

    http://purl.org/dc/elements/1.1/

    concepts including: title, creator, copyright, etc.
  - Note that it doesn't actually matter which vocabulary is used, as long as the machine can interpret the intent.

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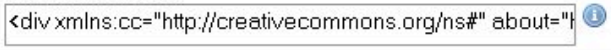

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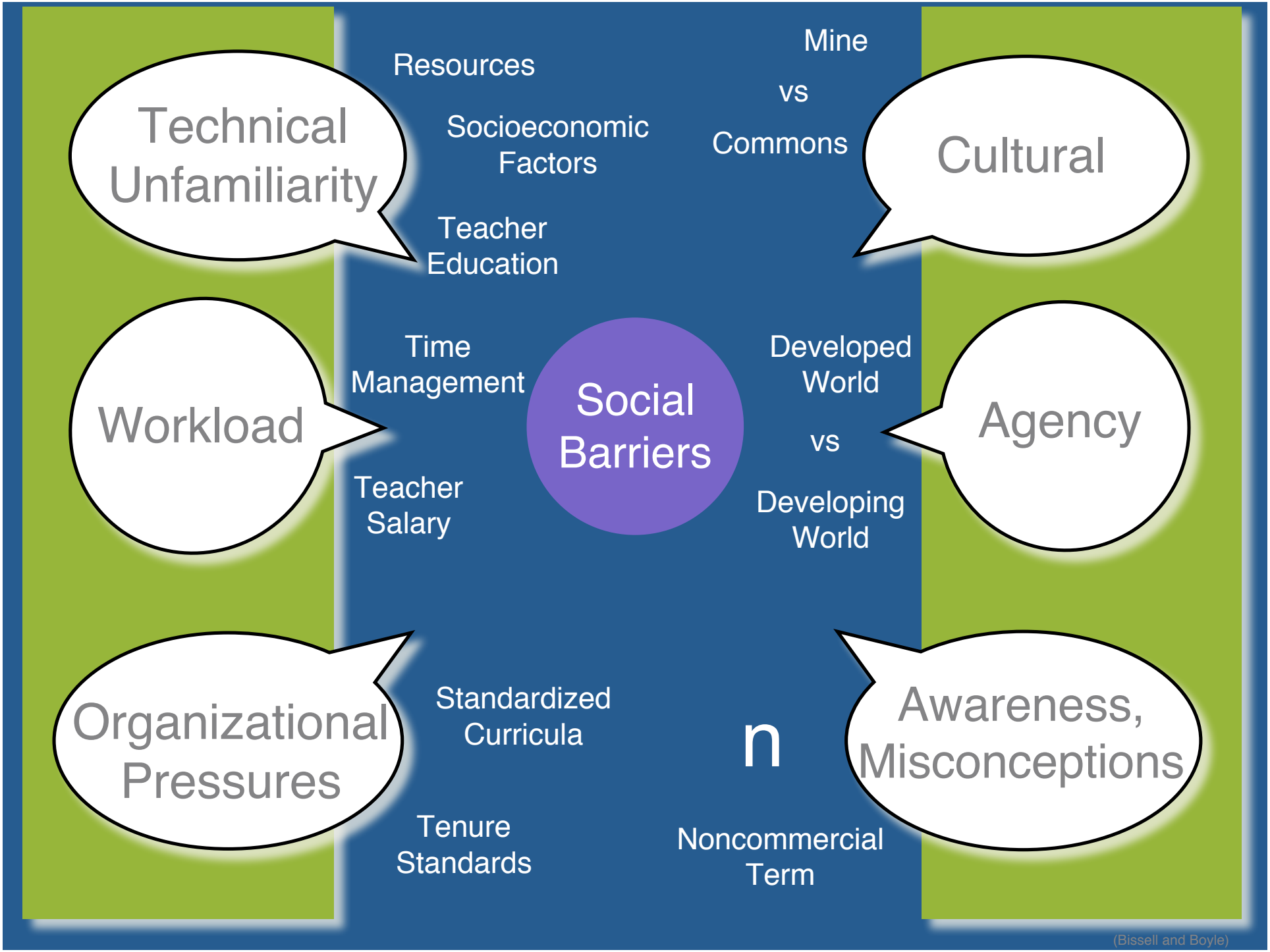
Technical Unfamiliarity
Resources
Socioeconomic Factors
Teacher Education
Mine
vs
Commons
Cultural
Workload
Time Management
Teacher Salary
Social Barriers
Developed World
vs
Developing World
Agency
Organizational Pressures
Standardized Curricula
Tenure Standards
n
Noncommercial Term
Awareness, Misconceptions
(Bissell and Boyle)

Libraries are not just for reading in, but for sociable thinking, exploring, exchanging ideas and falling in love. They were never silent.

Technology will not change that, for even in the starchiest heyday of Victorian self-improvement, libraries were intended to be meeting places of the mind, recreational as well as educational.

- Ben Macintyre, "Paradise Is Paper, Vellum, and Dust." Times Online, December 18, 2004.

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[Here is] a set of rules that describe our reactions to technologies:

1. Anything that is in the world when you're born is normal and ordinary and is just a natural part of the way the world works.

2. Anything that's invented between when you're fifteen and thirty-five is new and exciting and revolutionary and you can probably get a career in it.

3. Anything invented after you're thirty-five is against the natural order of things.

- Douglas Adams. The Salmon of Doubt. 2002.

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"…part of the pleasure of a library lies in its very existence".

- Jan Morris

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A university is just a group of buildings gathered around a library.

- Shelby Foote

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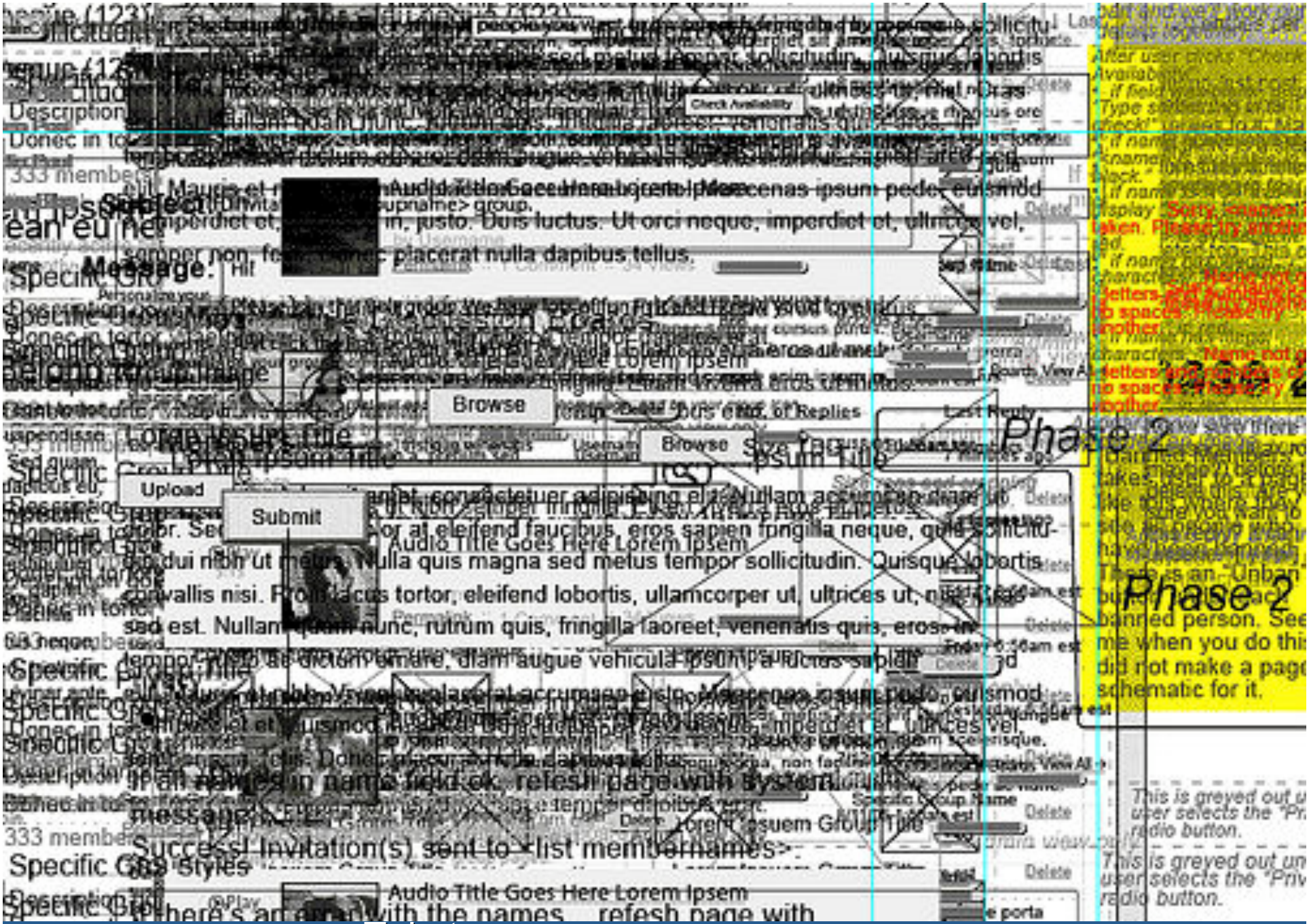

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Questions
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