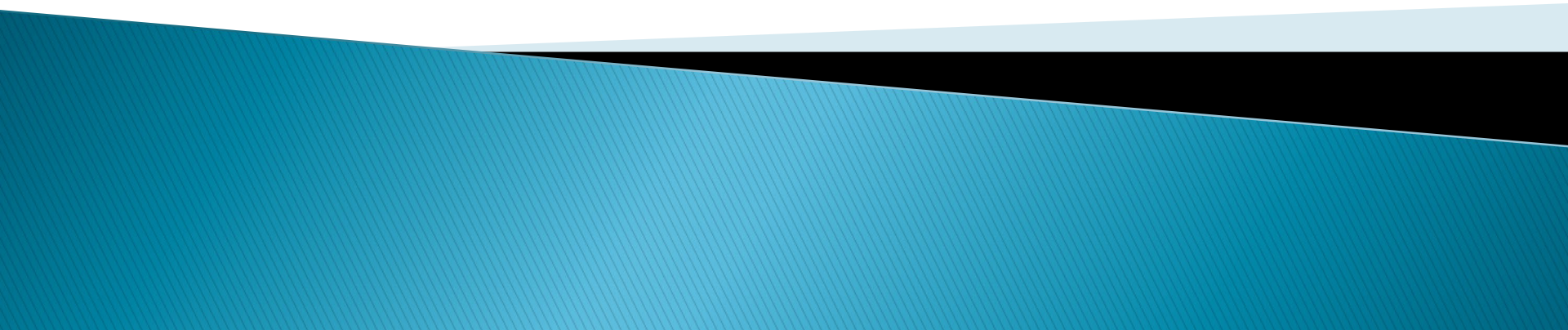


Communities and Networks

Stephen Downes

July 7, 2009





A. Origins

Etienne Wenger

- ▶ "Communities of practice are an integral part of our daily lives.
- ▶ They are so informal and so pervasive that they rarely come into explicit focus, but for the same reasons, they are also quite familiar.
- ▶ While the term may be new, the experience is not. Most communities of practice do not have a name or issue membership cards."
- ▶ <http://www.checkmi.com/comprac.htm>

What CoPs Do

- ▶ Facilitate collaboration
- ▶ Answer specific questions via Subject Matter Expert
- ▶ Filter out incorrect information by peer group
- ▶ Capture institutional knowledge and reuse it
- ▶ Prevent re-inventing wheels by sharing knowledge
- ▶ Share successful (best) practices

<http://www.icasit.org/km/kmrt/march04/bgscott.ppt>



Salient Features

- ▶ Shared Domain of Practice/Interest
- ▶ Crosses operational, functional and organizational boundaries
- ▶ Defined by knowledge, not tasks
- ▶ Managed by making connections
- ▶ Focus on value, mutual exchange and learning

<http://www.icasit.org/km/kmrt/march04/bgscott.ppt>



CoPs Within Organizations

- ▶ CoPs are informal
- ▶ CoP Members are motivated by their enterprise
- ▶ CoPs are responsible only to themselves
- ▶ No one owns CoPs
- ▶ Managerial control to produce certain deliverables will kill CoPs

<http://www.icasit.org/km/kmrt/march04/bgscott.ppt>

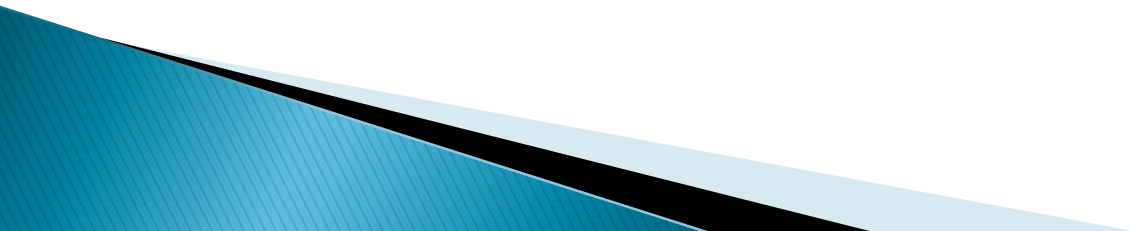


Growing CoPs

“...you cannot force a plant to grow by pulling its leaves...”

what you can do is create the infrastructure in which it can prosper.”

- Etienne Wenger, 1999



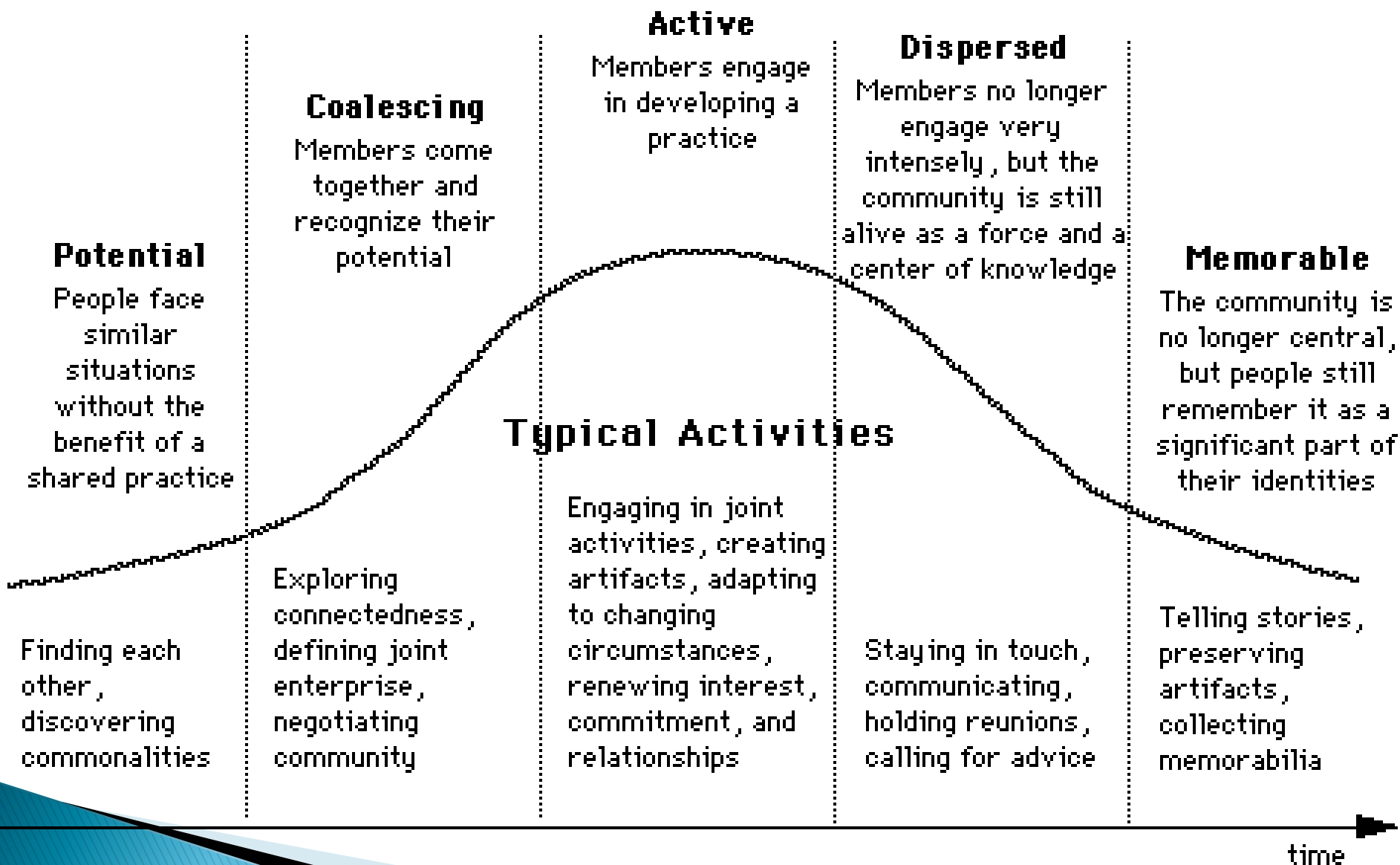
Three Dimensions

- ▶ What it is about – a joint enterprise understood and continually renegotiated by its members
- ▶ How it functions – mutual engagement that bind members together into a social entity
- ▶ What capability it has produced – the shared repertoire of communal resources, routines, sensibilities, artifacts, vocabulary, styles, etc.


<http://www.co-i-l.com/coil/knowledge-garden/cop/lss.shtml>



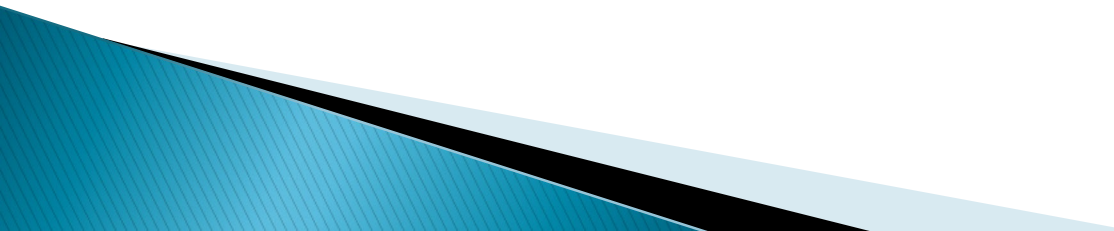
Stages of Development



CoP in a Business

- ▶ Different from a *business or functional unit* in that it defines itself in the doing
 - ▶ A community of practice is different from a *team* in that the shared learning and interest of its members are what keep it together.
 - ▶ A community of practice is different from a *network* in the sense that it is "about" something; it is not just a set of relationships.
- 

Number of Functions

- ▶ *exchange and interpretation of information*
 - ▶ *retain knowledge* in "living" ways, unlike a database or a manual.
 - ▶ *steward competencies* to keep the organization at the cutting edge.
 - ▶ *homes for identities*. They are not as temporary as teams, and unlike business units, they are organized around what matters to their members.
- 

B. Stasis



Virtual Communities: Net.Gain

- ▶ Distinctive focus: members readily understand what kind of resources they are likely to find there
- ▶ Capacity to integrate content and communication: broad range of published content
- ▶ Member-generated content: environments for generation and dissemination
- ▶ Access to competing publishers and vendors
- ▶ Commercial orientation: organized as commercial enterprises

<http://www.businessweek.com/chapter/netgain.htm>



Commercial Benefits

- ▶ Reduced search costs
- ▶ Increased propensity for customers to buy
- ▶ Enhanced ability to target: detailed profiles of members and their transaction histories,
- ▶ Tailor and add value to existing products and services: integrated transaction histories
- ▶ Disintermediation potential: deal directly with their end customers without retailers, wholesalers, distributors, or brokers
- ▶ <http://www.businessweek.com/chapter/netgain.htm>

MuniMall



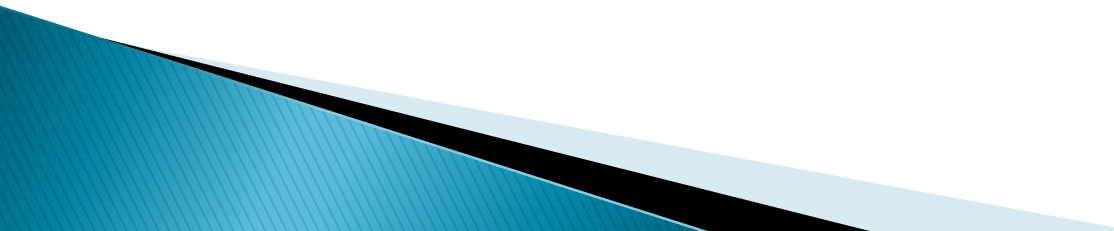
Welcome to MuniMall,
a dynamic virtual meeting place for municipal and provincial officials, suppliers of services to municipalities, teachers and students interested in municipal government.

- Discussion
- Municipalities
- Events
- Online Courses
- About Munimall
- What's New?
- Newsletter
- Links

Muniversity
advancing
**Municipal
Leadership**

<http://www.munimall.net>

MuniMall: Objective

- ▶ Sought communications from their non-virtual channels onto the Internet
 - ▶ Sought to enhance these communications through repositories of information and opportunities for discussion and other exchanges
 - ▶ Communication, trade, and common culture would be transferred to the Internet environment and enhanced.
- 

MuniMall: Issues

- ▶ The very transparency of the invited discourse
- ▶ The utility of using the virtual community versus other available sources and opportunities.
- ▶ The disruption of established relationships (including power and authority relationships)
- ▶ How much value virtual communities provide members
- ▶ The willingness to use the resource

<http://www.govsource.net/govstudies/projects/olt/appendix04.pdf>



PEGGAsus

**PEGGAsus**



The Engineering & Geoscience Learning Marketplace
Saturday, May 29, 2004

" The resource of choice for the Engineering and Geoscience Professions on matters of Continuing Professional Development."

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New Visitors to PEGGAsus

- ◆ Welcome to PEGGAsus! Click [here](#) to read what we're all about (or check out the menu items to the left).
- ◆ [Click here to enter PEGGAsus.](#)
- ◆ There is no charge to use PEGGAsus.
- ◆ Credit card transactions on PEGGAsus are secure.

Returning Users to PEGGAsus

- ◆ Welcome back to PEGGAsus!
- ◆ Check out the new providers and opportunities that have been added since your last visit.
- ◆ Login on the right using either your personal username and password, or use the [Guest Login](#).

Search the PEGGAsus Database Now

- ◆ Use our [Guest Login](#) and begin browsing right now for professional development opportunities and events.
- ◆ There are nearly 70 providers and over 2,500 professional development opportunities for you to review.
- ◆ Or create your own username and password at [Create a Profile](#) and then start searching.

Register in an Event

- ◆ [Create a Profile](#) to register in an event. Your profile contains your name, address, telephone number and e-mail address.
- ◆ Personal information is only supplied to an event provider as part of a registration process as originated by you, the user. PEGGAsus does not otherwise disclose any of your personally identifiable information.
- ◆ Credit card transactions on PEGGAsus are secure.

Login

Username:

Password:

[Forgot your password?](#)



PEGGAsus now contains listings from over 70

Looking for the Next Level



<http://www.sustainablelivelihoods.ca/Resources/Sustainability,%20Social%20Capital%20and%20the%20Canadian%20ICT%20Sector.pdf>



C. Evolution

Cluetrain

- ▶ Markets are conversations.
- ▶ We are waking up and linking to each other. We are watching. But we are not waiting.

<http://www.cluetrain.com/#manifesto>



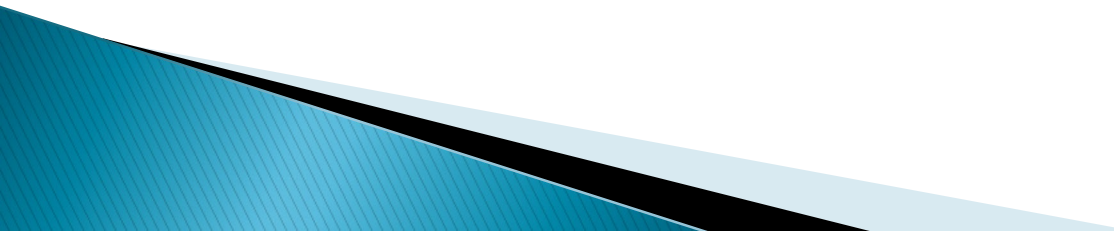
Power of the Individual

- ▶ Evolution of the power of the individual
- ▶ It is the individual whose desire is once more important and not the creation of that desire by the 'massage' of the media
- ▶ The web allows for a new individuality in both inquisitive acquisition and informed choice
- ▶ This is a step in the evolution of modern commerce and modern culture.

<http://www.cluetrain.com/signers.html>



Telephones, Email, Blogs

- ▶ Control – and the technology – is in the hands of the individual
 - ▶ Creative capacity and technology lies at the edges
 - ▶ The network is merely a means of facilitating communication
- 

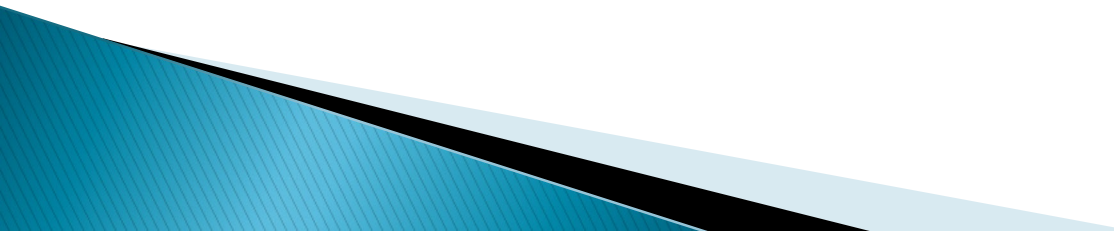
Nomic World

- ▶ Social Norms – have the effect of governance – no one can react to you in any kind of official way if you violate that rule, and yet there's a social structure that keeps that in place.
- ▶ Mechanics – the stuff that just happens...
- ▶ Interventions: places where we give some segment of society heightened power, and then allow them to make judgment calls
- ▶ <http://www.shirky.com/writings/nomic.html>

Issues in Online Governance

- ▶ Code: it's difficult to share the powers of code among the users – we don't have a design that's allows for social constraints on individual use.
- ▶ The second big obstacle is economics – the box that runs the virtual world is owned by someone, and it isn't you.
- ▶ <http://www.shirky.com/writings/nomic.html>

Dynamic CoPs

- ▶ The information and the control is at the edges
 - ▶ Based on conversations, communications
 - ▶ Increasingly complex vocabulary – think blog posts, camera phones, presentations
 - ▶ CoPs are not created or grown, per se, they are *found*
- 

Edu_RSS

Stephen's Web

[\[Home\]](#)[\[News\]](#)[\[Chat\]](#)[\[Discuss\]](#)[\[Search\]](#)[\[About\]](#)

Edu_RSS ~ May 29, 2004

Welcome to Edu_RSS, your one-stop source for today's top writers in educational technology. We retrieve weblog RSS feeds from across the web and store them here.

- ◆ [Today's Edu_RSS Listings](#)
- ◆ [Edu_Rss Topics](#)
- ◆ [Using Edu_RSS](#) - examples showing how people are using this service.
- ◆ [New! Edu_RSS Ticker](#)
- ◆ [Edu_RSS Archives](#)

http://www.downes.ca/cgi-bin/xml/edu_rss.cgi

Small Pieces Loosely Joined

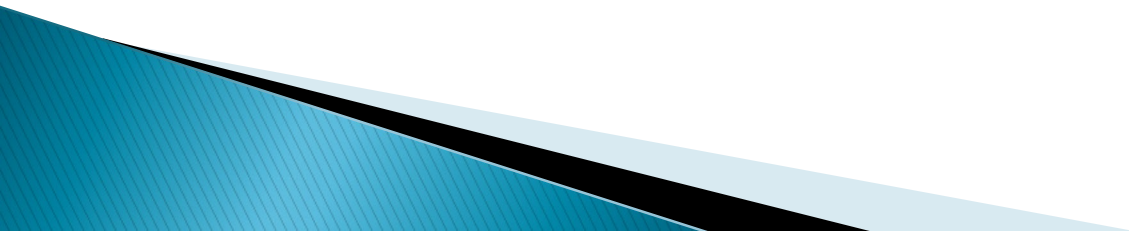


<http://careo.elearning.ubc.ca/wiki?HomePage>

The Personalized Web

The last few years have seen the emergence of the personalized web, the interactive web, the web that places a premium on participation and community. Web 2.0

How should the learning sector respond?



Danah Boyd...

“The dynamics of identity production play out visibly on MySpace. Profiles are digital bodies, public displays of identity where people can explore impression management...”

*Identity Production in a Networked Culture:
Why Youth Heart MySpace*

<http://www.danah.org/papers/AAAS2006.html>



Sherry Turkle

“We do not feel compelled to rank or judge the elements of our multiplicity. We do not feel compelled to exclude what does not fit.”

Life on the Screen

<http://www.transparencynow.com/turkle.htm>

Groups and Networks

“Groups require unity, networks require diversity. Groups require coherence, networks require autonomy. Groups require privacy or segregation, networks require openness. Groups require focus of voice, networks require interaction. ”

<http://www.downes.ca/cgi-bin/page.cgi?post=35839>



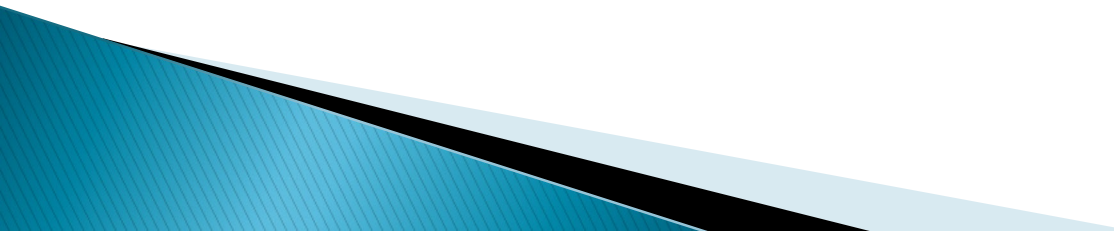
D. Rethinking Community



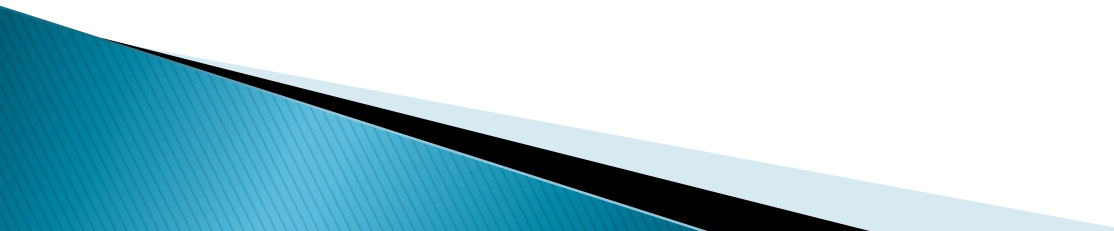
http://static.flickr.com/109/252157734_9e6c29433b_b.jpg

<http://video.google.com/videoplay?docid=-4126240905912531540&hl=en>

Their Natures

- ▶ A *group* is a collection of entities or members according to their nature; what defines a group is the quality members possess and number
 - ▶ A *network* is an association of entities or members via a set of connections; what defines a network is the extent and nature of this connectivity
- 

Groups, Schools, Classes

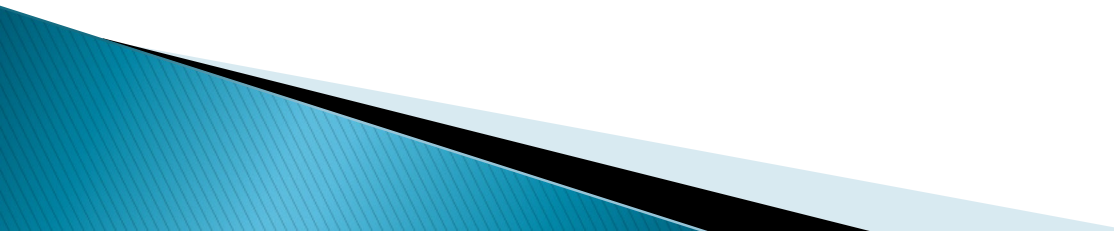
- ▶ A group, in other words, is a *school* (of thought, of fish...) or a *class* of some sort.
 - ▶ Or: classes and schools are just groups. They are *defined* as groups.
 - ▶ Can we even think of schools – and of learning – without thinking at the same time of the attributes of groups?
- 

Elements and Ecologies

- ▶ A group is **elemental**, defined by mass and sameness – like an ingot of metal (Aside: democracy is a group phenomenon)
- ▶ A network is diverse and changing, defined by interactions – like an **ecosystem**

Can we achieve order, responsibility, identity in an ecosystem? Do we need the iron hand? (Aside: Solon, learning, justice)

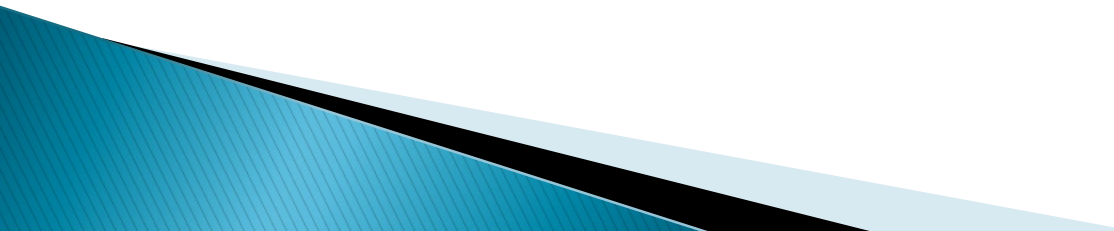
Group Unity

- ▶ A group must be *cohesive, united*, “out of many, one”... “*the people, united, will never be defeated...*” The melting pot... the encouragement is to conform, to be like the others
 - ▶ Group technology appeals to the **mass**: television, radio, newspapers, books
 - ▶ Internet technology includes: all-staff email, corporate website, portal
- 

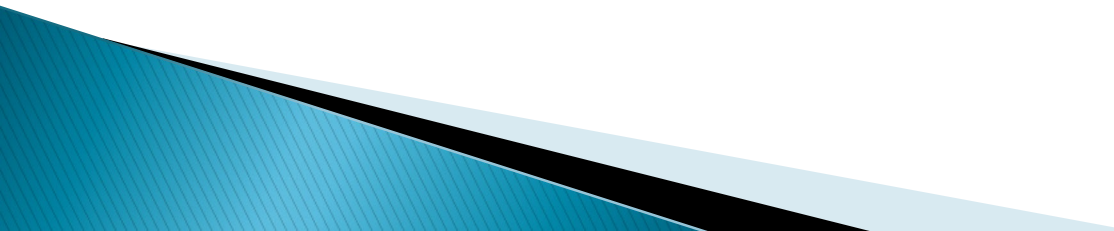
Network Diversity

- ▶ A network, by contrast, thrives on *diversity* ...
“*to each his own*” ... the salad bowl... the encouragement is to be distinct, to create
- ▶ Network technology includes: talking, telephoning, writing letters, personal email
- ▶ Internet technology: personal home pages, blogs

Group Coordination

- ▶ Groups require *coordination*, a leader, someone who will show the way... and to be *managed*... a group will often be defined by its *values* (aka the leader's values?) and then a way to get members to follow, to share the *vision*, will define *standards* – members *belong* to a group
 - ▶ Associated technology includes the Learning Management System, Learning Design, LOM, etc
- 

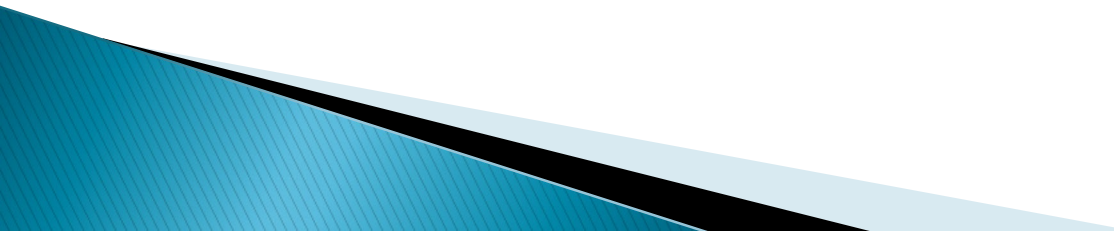
Network Autonomy

- ▶ Networks require *autonomy*, that is, that each individual operate *independently* according to his or her *own values and interests* – cooperation entails mutual exchange of value rather than follower and leader – members *interact* with a network
 - ▶ Associated technology: e-portfolios, personal learning environments
- 

Group Borders or Boundaries

- ▶ Groups are *closed* – they require a *boundary* that defines members and non-members – **walls** – membership, logins and passwords, jargon and controlled vocabulary, lock-in (staying on-message, speak as one)
- ▶ Technology: enterprise computing, federated search, user IDs and passwords, copyrights, patents, trademarks, assertions of *exclusivity*

Network Openness

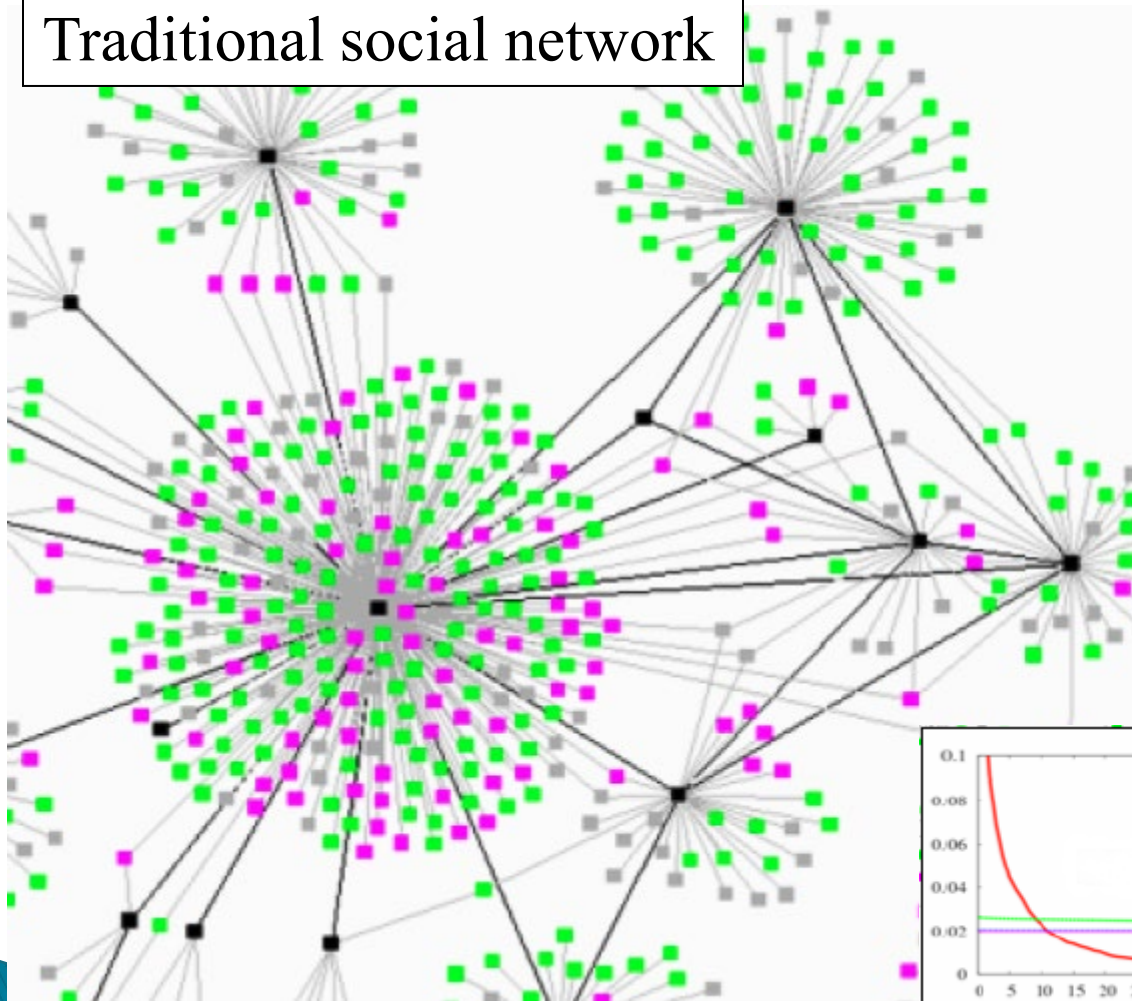
- ▶ Networks require that all entities be able to send and receive messages both (a) *in their own way* and (b) *without being impeded*
 - ▶ In their own way: open source software, platform independence, APIs, RSS, communities of practice
 - ▶ Without being impeded: Creative Commons and GPL, distributed identity (OpenID)
- 

Group Centralization

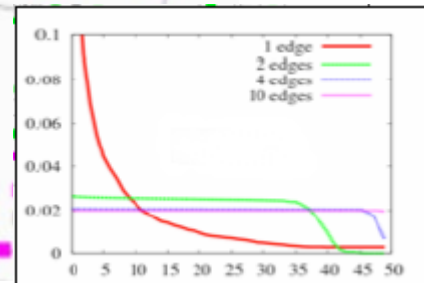
- ▶ Groups are *distributive*
- ▶ knowledge, information, money, etc., flows from the centre – an ‘authority’ and is distributed through to their members

Network Structures – Tree

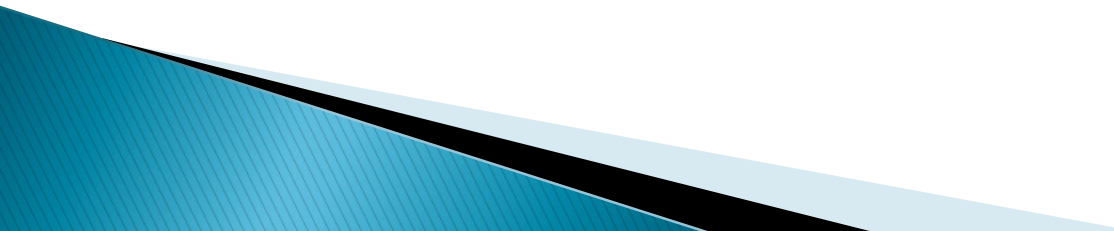
Traditional social network



Central
Influence
Power Law
Viral
Hierarchy

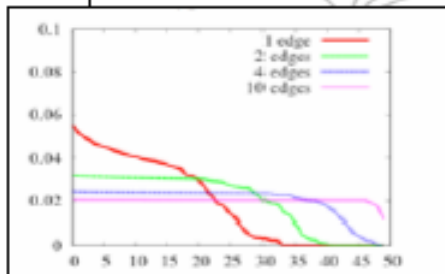
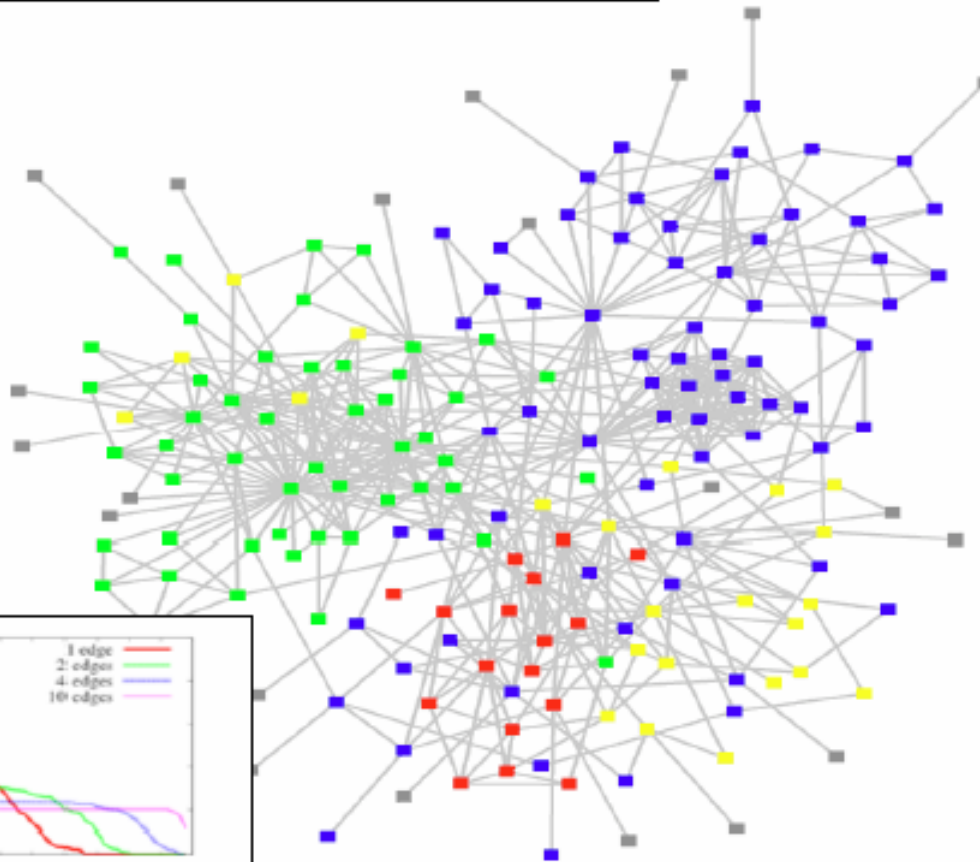


Network Connectivity

- ▶ Networks are connective – knowledge, information, money, etc., does not flow, but rather, emerges as a result of the interactions within the network.
 - ▶ There is no ‘authority’ and no ‘canon’ – each creates knowledge in his or her own way, from their unique perspective, and knowledge consists of patterns of connectivity among them
- 

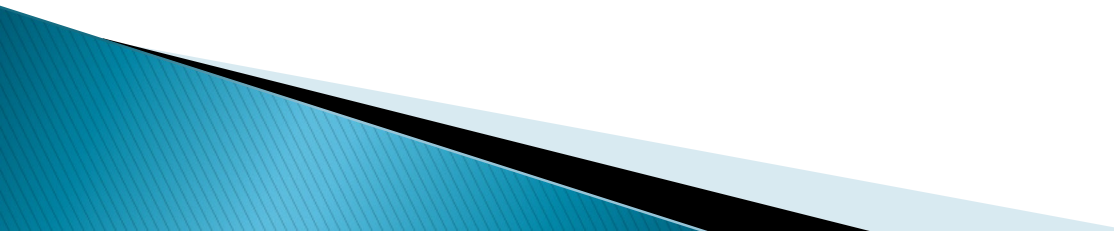
Network Structures – Mesh

Peer-to-peer (Email) Network



Distributed
Discussion
Balanced
Reflective
Democracy

Why Networks?

- ▶ Nature of the knower: humans are more like networks than
 - ▶ Quality of the knowledge: groups are limited by the capacity of the leader
 - ▶ Nature of the knowledge: group knowledge is *transmitted* and *simple* (cause–effect, yes–no, etc) while network knowledge is *emergent* and *complex*
- 

Individualism vs Mutuality

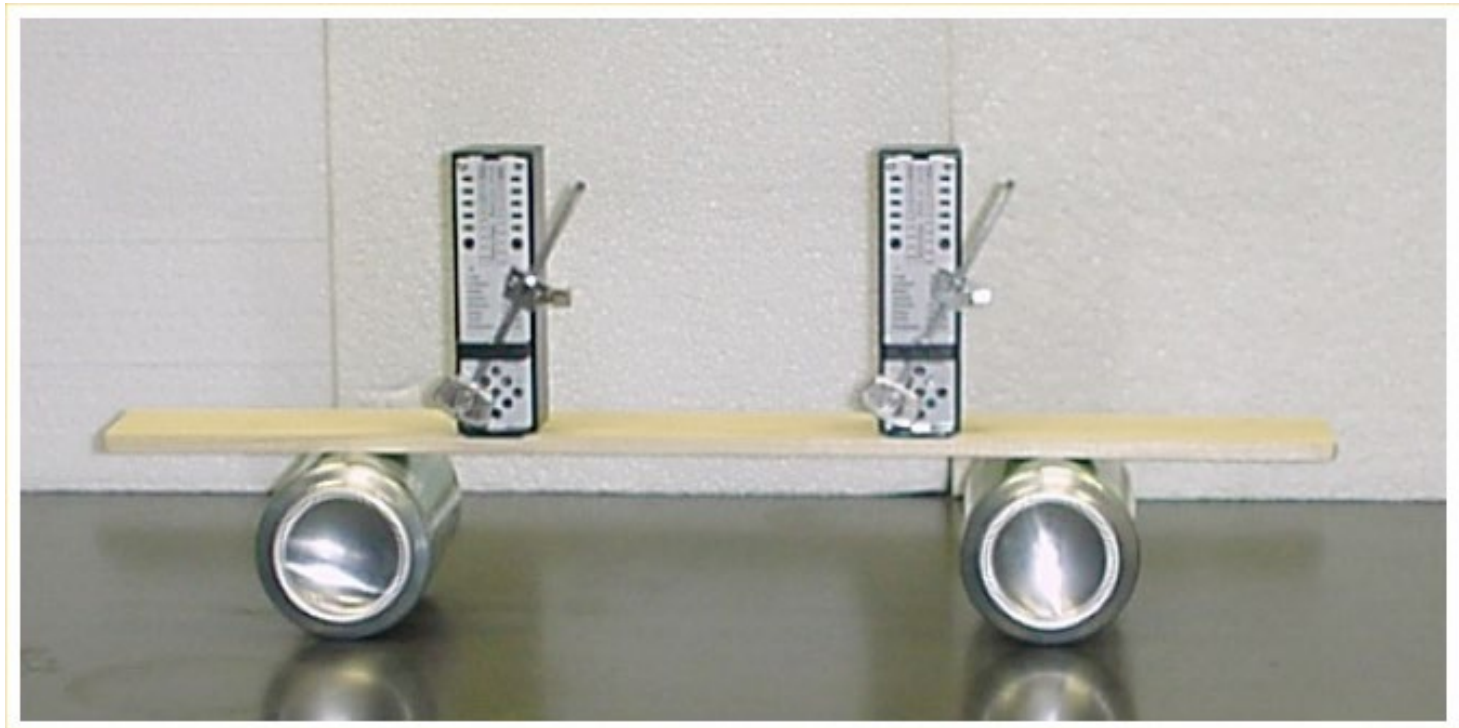
Independent
variables vs
dependent
variables

eg. Rational
decision – vs role
model



The myth of solitary autonomy

Self-organization – metronomes



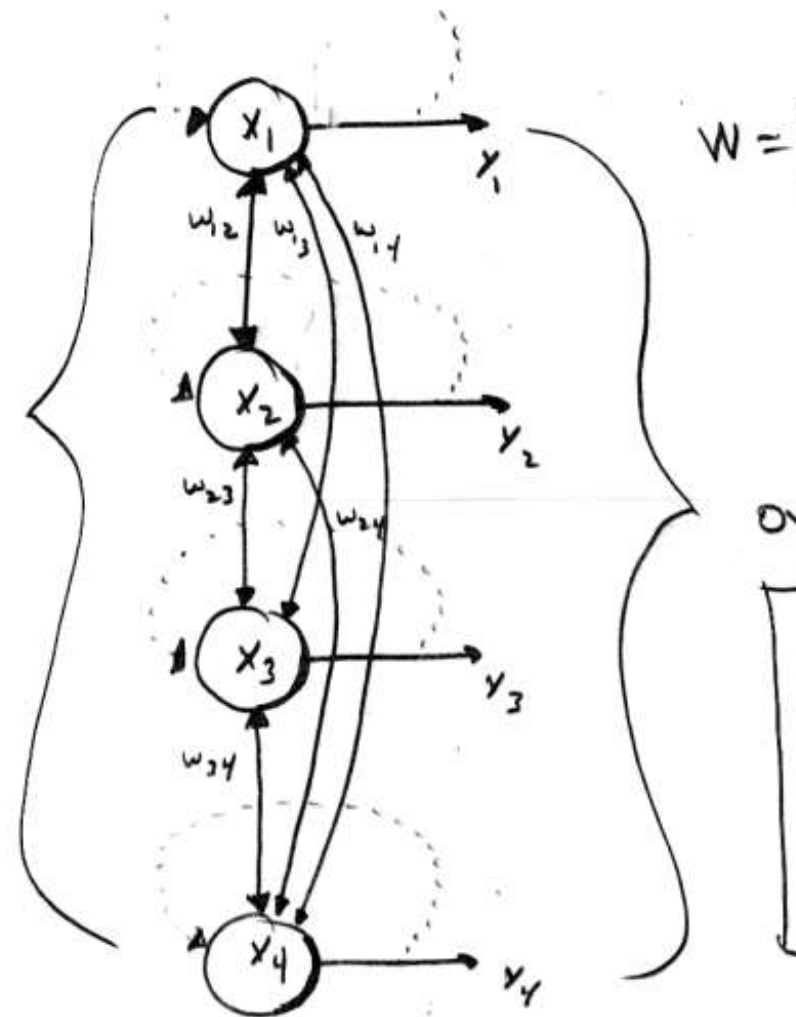
<http://salt.uaa.alaska.edu/dept/metro.html>

<http://www.youtube.com/watch?v=W1TMZASCR-I>

Self Organization

Network Learning.. Inputs

- Hebbian associationism
 - based on concurrency
- Back propagation
 - based on desired outcome
- Boltzman
 - based on 'settling', annealing



Connectivism

“At its heart, connectivism is the thesis that knowledge is distributed across a network of connections, and therefore that learning consists of the ability to construct and traverse those networks.”

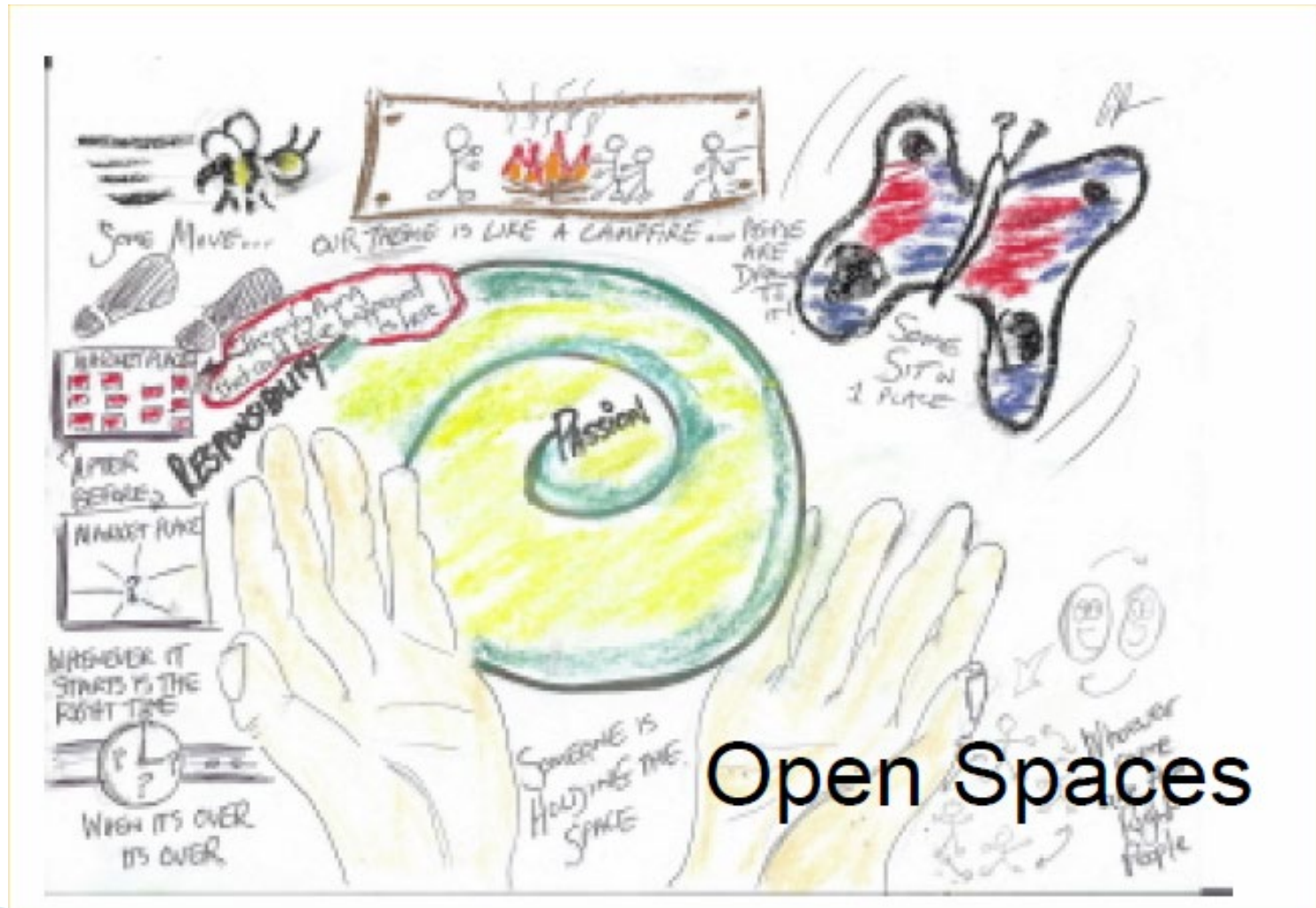
What Connectivism Is

<http://halfanhour.blogspot.com/2007/02/what-connectivism-is.html>

When we ourselves become the story



Nancy White – Me, We, Network



Objects We Care About

- ▶ Nancy White – networks, not just about connecting the people, but the objects they care about



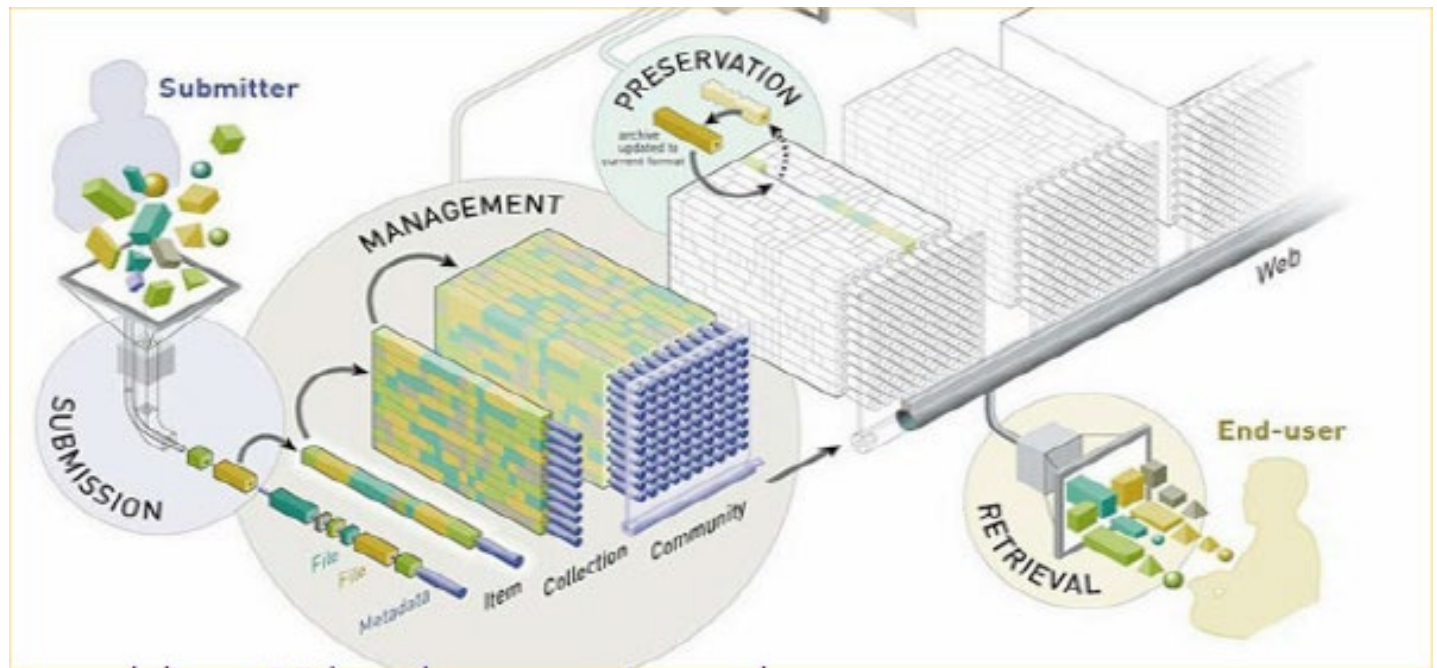
A network diagram illustrating distributed resources. It features a central arrangement of soda cans connected by black rods. Each can has a CD-ROM placed on top of it. The rods are connected in a way that forms a network, with some rods branching out to connect multiple cans. The background is a light-colored surface with vertical stripes.

Distributed Resources

The object system, revisited

Repositories and Syndication

- ▶ Academic – OAI-PMH, Dspace, Fedora, Eprints, SWORD, Connexion, OCW
- ▶ Web – Flickr, YouTube, Slideshare



RSS

OAI

DC

Atom

Thank You

- ▶ Stephen Downes
 - stephen@downes.ca
 - <http://www.downes.ca>

