

Dimensions of a Learning Network

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Find something you have in common
Bring them around to your point of view
Make them laugh at themselves



Image: <http://www.imdb.com/media/rm3822688768/tt0161180>

The humour is in the listener

<http://halfanhour.blogspot.com/2010/09/uniqueness-and-conformity.html>

Common sense and a sense of humor are the same thing, moving at different speeds. A sense of humor is just common sense, dancing. ~William James



The dance is in the dancer

<http://www.downes.ca/presentation/146>

Today's Topic



Conditions and constraints for success

Learning Networks, or Networks that Learn

Using networks to learn...

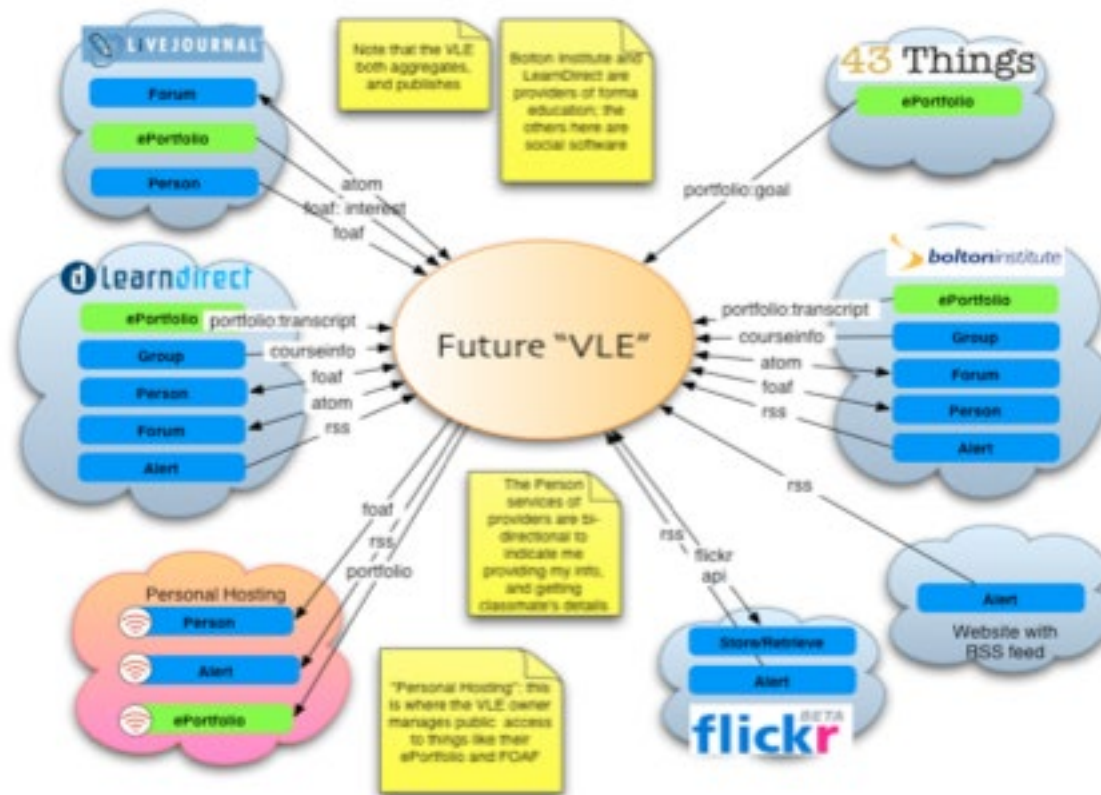


Image: <http://www.cetis.ac.uk/members/ple/resources/edf.ppt>

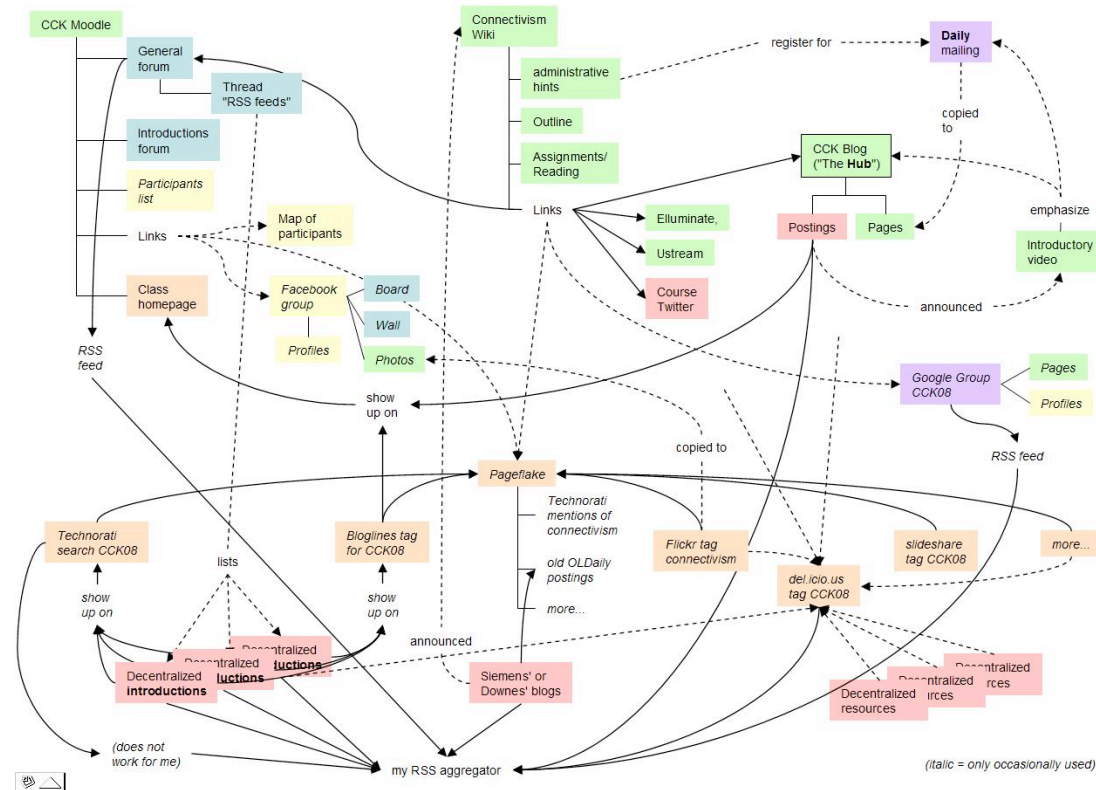
The Personal Learning Environment

<http://ple.elg.ca/>

An instantiation of these constraints

A distributed learning environment

The MOOC



#PLENK2010

<http://connect.downes.ca/>

Attempting to understand using yesterday's values...

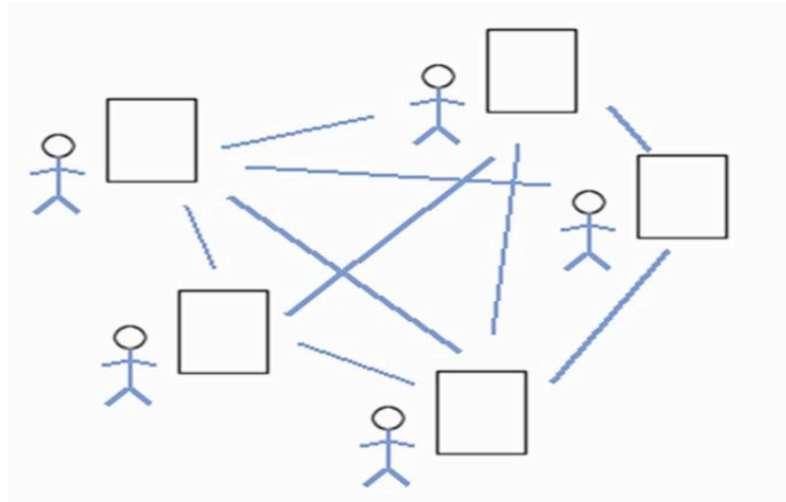
Power, trust, incentive, propagation, broadcast, messaging

What we here are were surface phenomena



Yesterday

We are still in a world of mass, of masses of people, votes, ideas
These are the properties of the individual, applied to the whole
Is the power of the brain in the neuron?
Really?



~~Collective~~ Connective Intelligence

<http://www.downes.ca/post/43456>

We're trying to understand society by collecting individuals
But a sand castle isn't just a pile of sand



Image: <http://pixdaus.com/single.php?id=25529>

Organization

<http://www.downes.ca/presentation/257>

Knowledge is distributed across a network of connections
Learning is the ability to traverse and grow those networks



Connectivism

<http://www.downes.ca/post/38653>

The product of learning is the learner

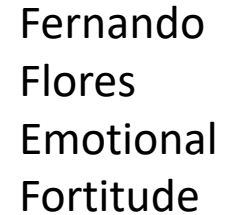


Image: http://www.masternewmedia.org/news/2008/06/01/making_sense_of_new_technologies.htm

<http://www.downes.ca/post/51122>

image from <http://www.fundraw.com/clipart/clip-art/2148/Rubber-Duck>

Connectivist Duckworks

http://enperfektlektion.blogspot.com/2010/10/would-i-pay-for-mooc-like-plenk2010_23.html

It's not that there's nothing to learn
But that it's complex, and needs to be *navigated*
Not memorized



Image: <http://www.gapingvoid.com/complicated128.jpg>

Complexity

<http://www.downes.ca/post/48669>

A tool for learning networks

It functions as a *node*

Not as part of a *mass*



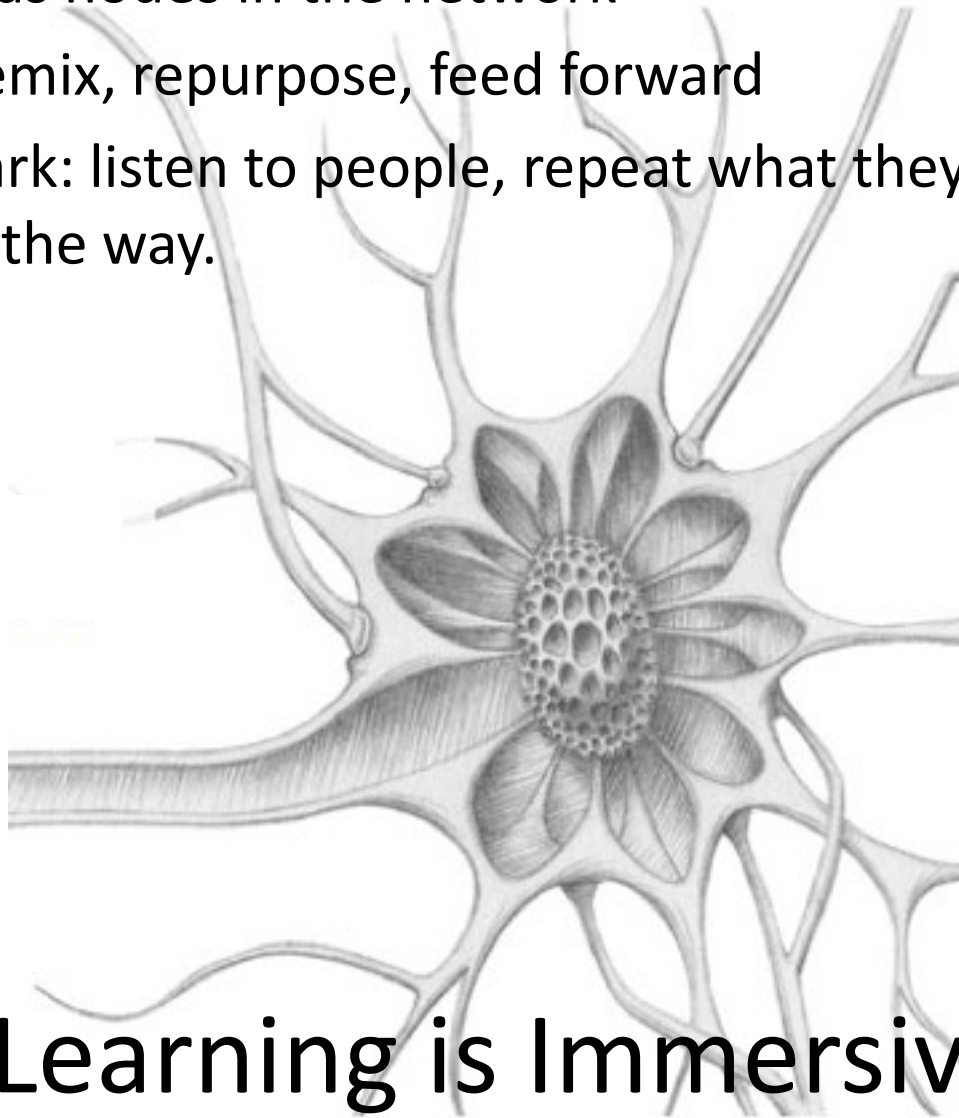
gRSShopper

<http://grsshopper.downes.ca/>

We function as nodes in the network

Aggregate, remix, repurpose, feed forward

Craig Newmark: listen to people, repeat what they say, and then
get out of the way.



Learning is Immersive

<http://ple.elg.ca/course/?p=18>

We develop our neural net by participation in the social net
That is also how we develop the social net



Learning is growth

<http://www.downes.ca/post/53527>

Two kinds of knowledge

- personal knowledge
- social, or public knowledge

Networks in general

A common set of principles

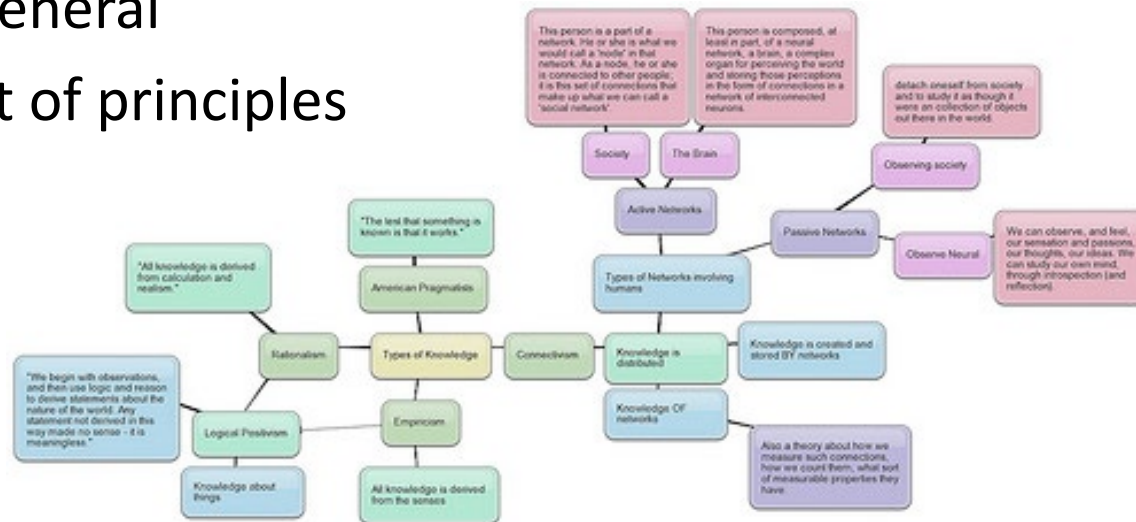
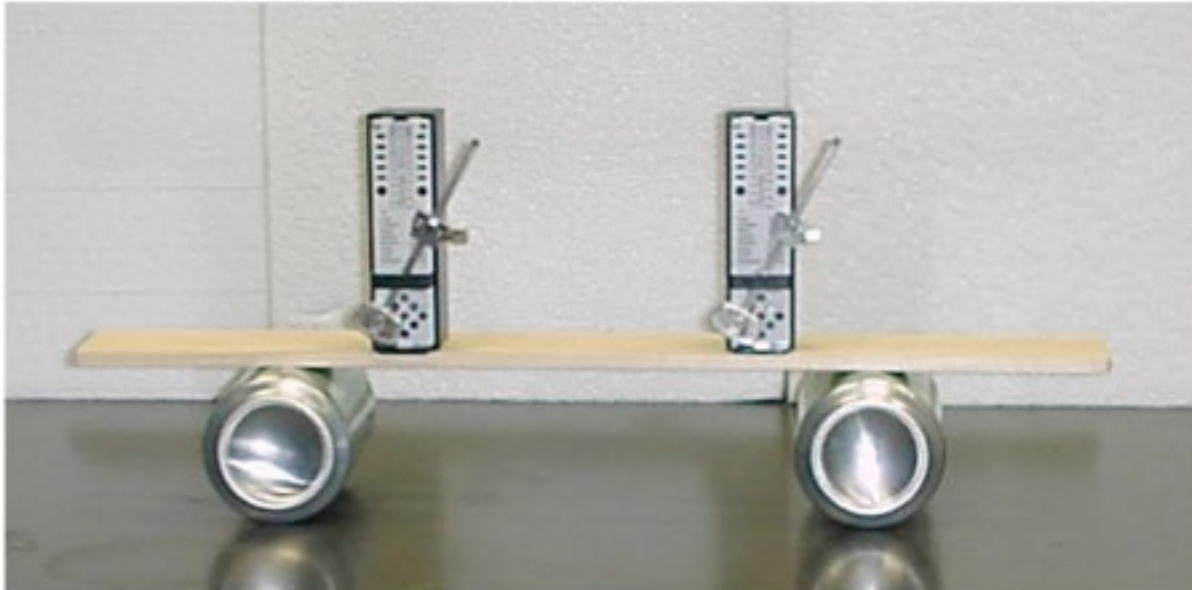


Image: <http://techticker.net/2008/09/16/types-of-knowledge/>

Networks, Network Theory

<http://www.downes.ca/post/33034>

Self Organization

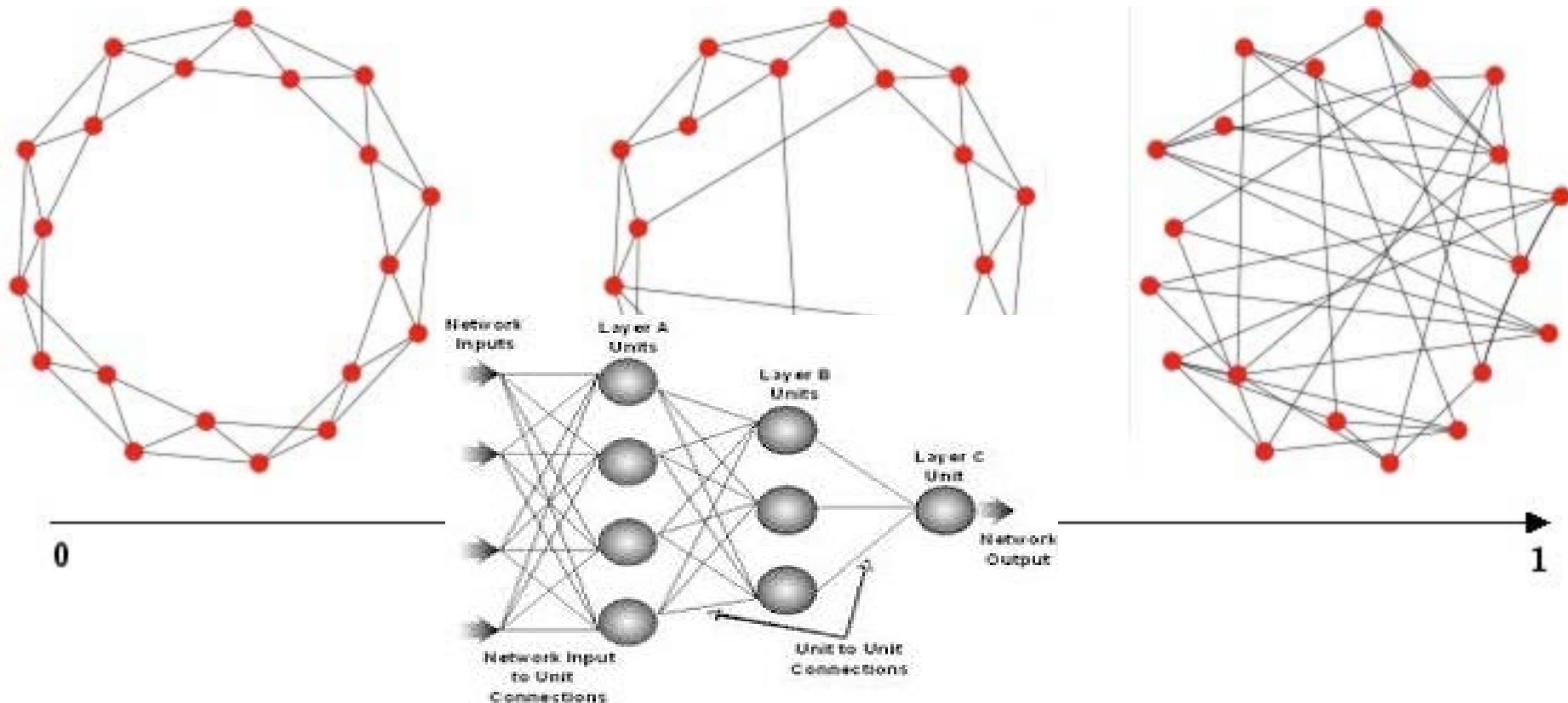


Metronomes

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

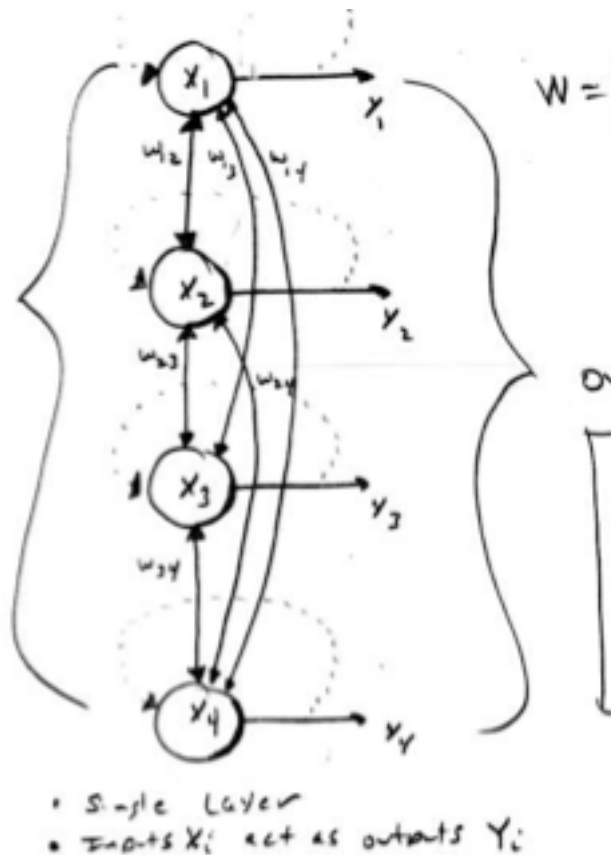
<http://www.youtube.com/watch?v=W1TMZASCR-I>

Underlying Principles



Graph Theory, Connectionism

How networks learn = how networks form connections



- **Similarity**
 - Hebbian association
- **Proximity**
 - Hume - contiguity
- **Feedback**
 - Back Propagation
- **Harmony**
 - Boltzmann Mechanism

Principles of Association

Quality of network learning =

Retained and expanded capacity to form connections

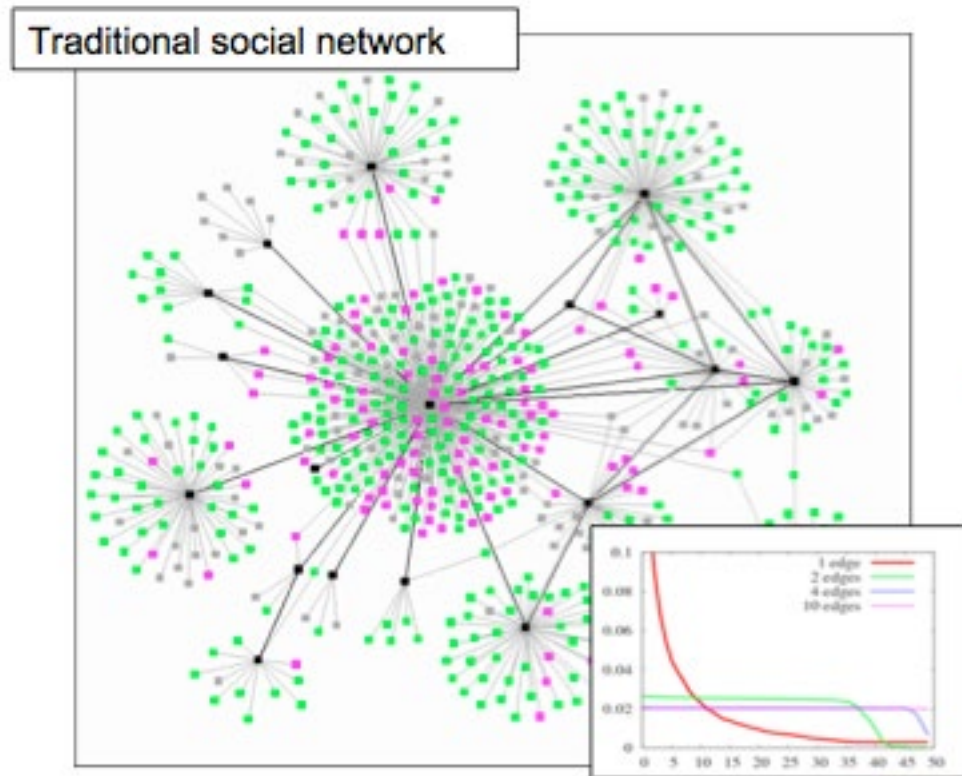
Cascade phenomena (diseases, propaganda) = network death



Cascade Phenomena

Centralized, based on influence, trust

Characterized by power law, viral propagation, hierarchy

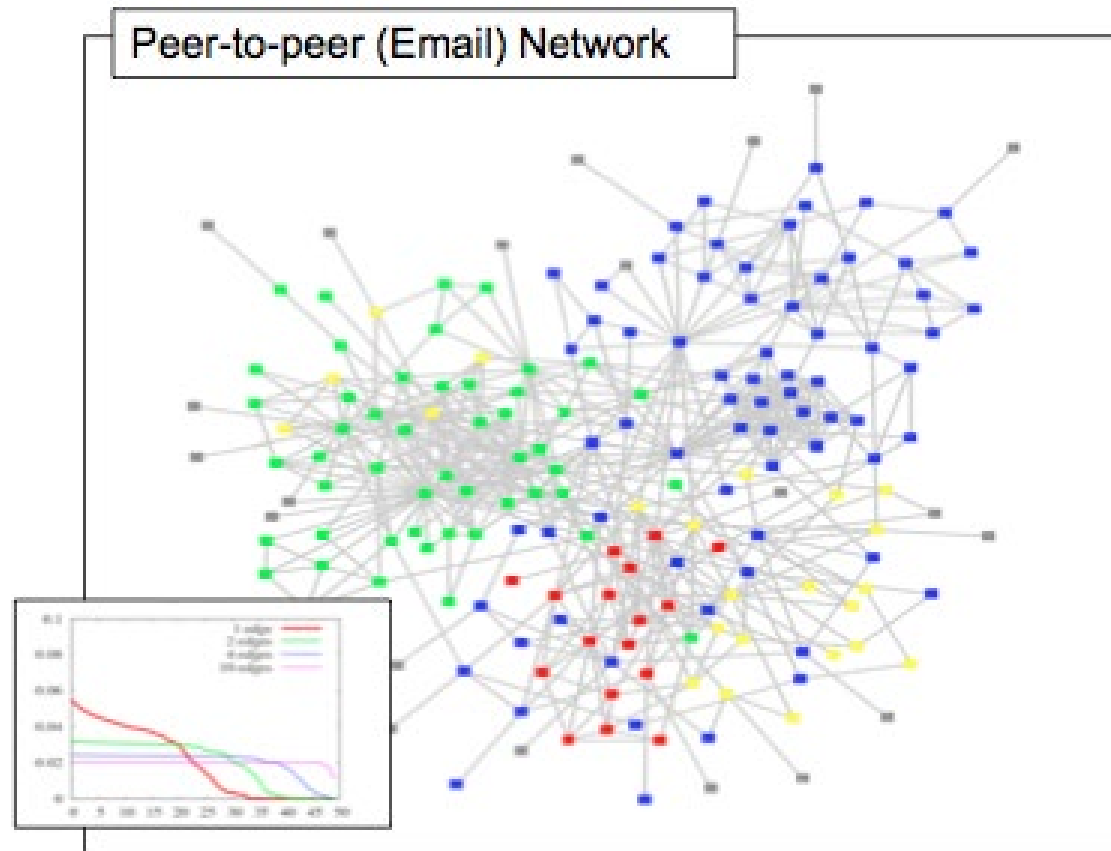


Network Structure - Tree

Distributed, discussion based

Balanced, democratic

Stable



Network Structure - Mesh

<http://www.daniel-lemire.com/fr/abstracts/DIVERSITY2008.html>
[blog/using-email-to-uncover-hidden-social-networks/](http://www.daniel-lemire.com/blog/using-email-to-uncover-hidden-social-networks/)

When networks are not limited by physical constraints
They tend toward network death



Image: <http://limitedfun.wordpress.com/category/photography/page/6/>

The Limits of Scale Free

<http://www.downes.ca/post/48579>

Decentralize
Distribute
Disintermediate
Disaggregate
Dis-integrate
Democratize
(The Semantic Principle)
Dynamize
Desegregate



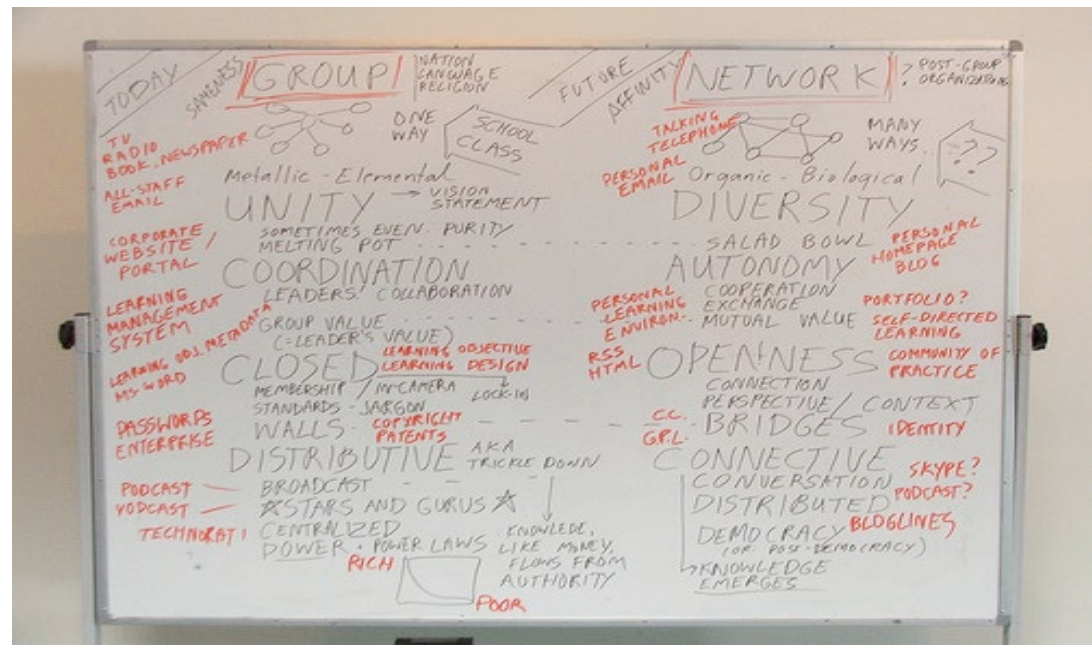
Stable (Self-Organizing) Networks

Autonomy – individual values, not collective (or corporate) values

Diversity – each person has a distinct perspective

Openness – there are fluid boundaries, no ownership or walls

Interaction – the knowledge is the network, not in the individual



Fernando Flores

Pluralistic Networks

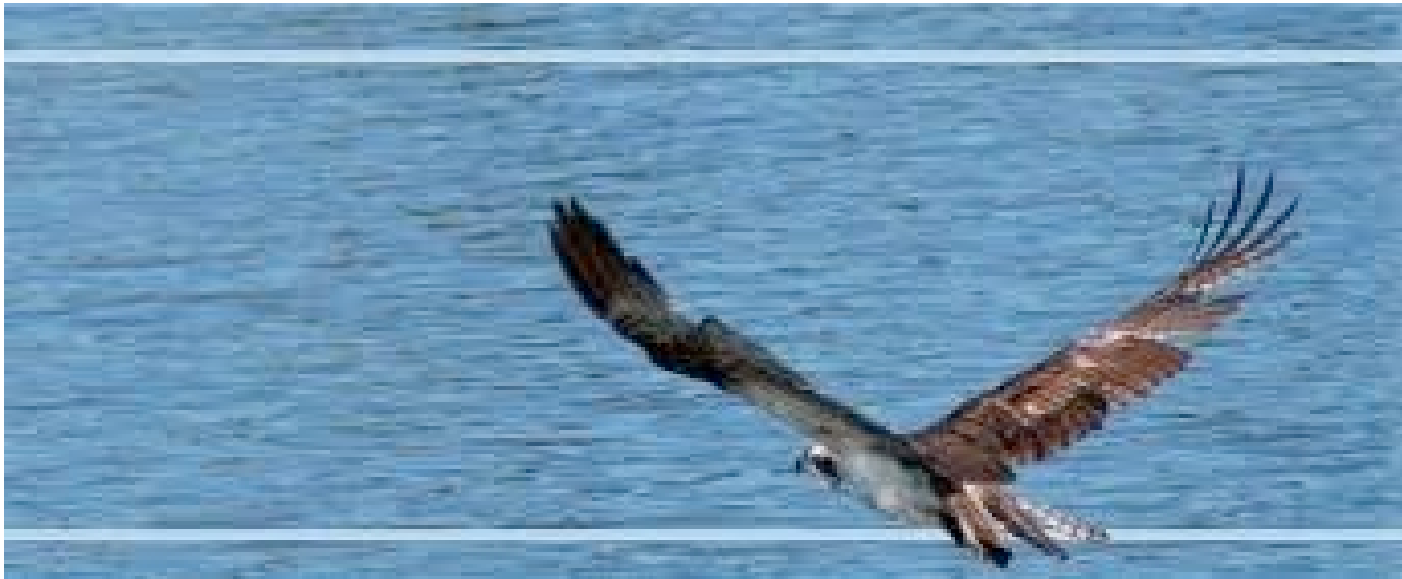
The Semantic Principle

http://www.flickr.com/photos/stephen_downes/252157734/

These values are not just abstract

They represent a shift in business values from ownership and control to stewardship, agility and stability

They should inform everything from management practices to software purchases



Impact

<http://www.downes.ca/post/38502>

<http://www.downes.ca>



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