Pedagogical Foundations for Personal Learning

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VLE vs PLE

We are in a process of migrating from:

- Virtual Learning Environment (a.k.a. Learning Management System (LMS))

To:

- Personal Learning Environment (PLE)

This is not only a shift in technology, but also a shift in how we view learning itself.
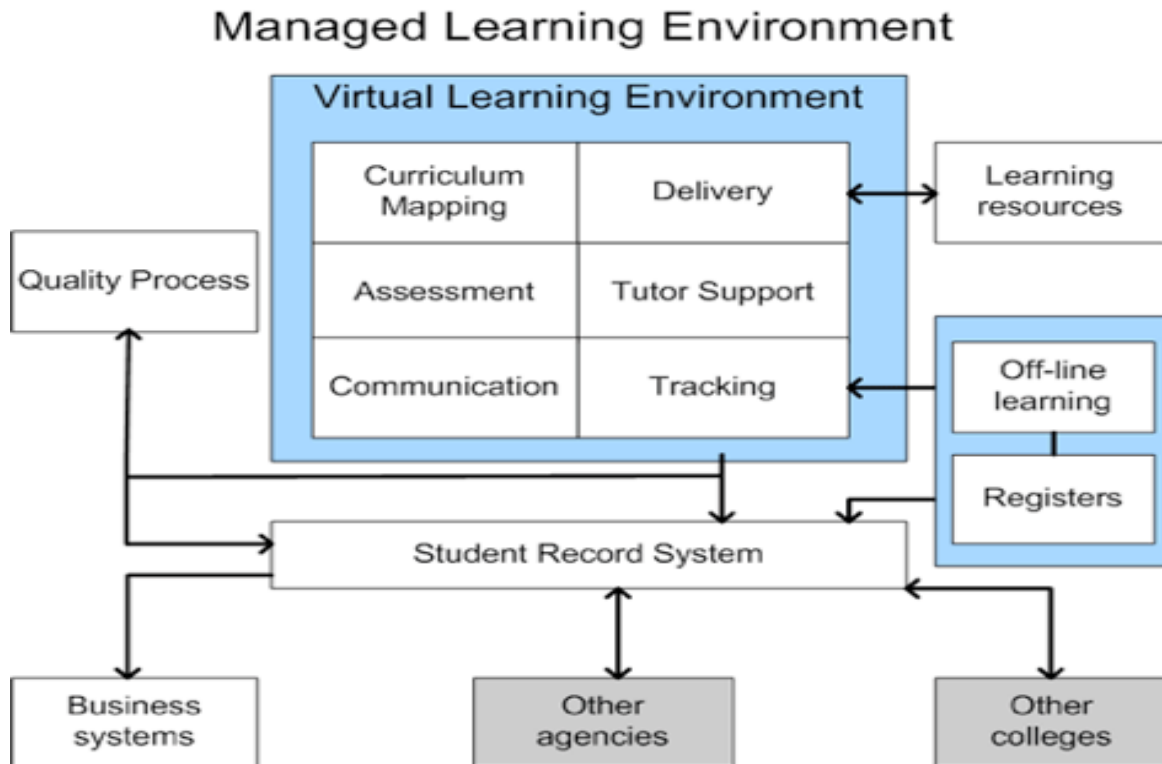
The VLE – Managing Learning

Image: http://dougbelshaw.com/blog/tag/information-technology/

The central purpose of the VLE is to manage learning (whatever that means)

The PLE – Manage Connections

Image: http://tesl-ej.org/ej34/m1.html   Via: http://edtechpost.wikispaces.com/PLE+Diagrams
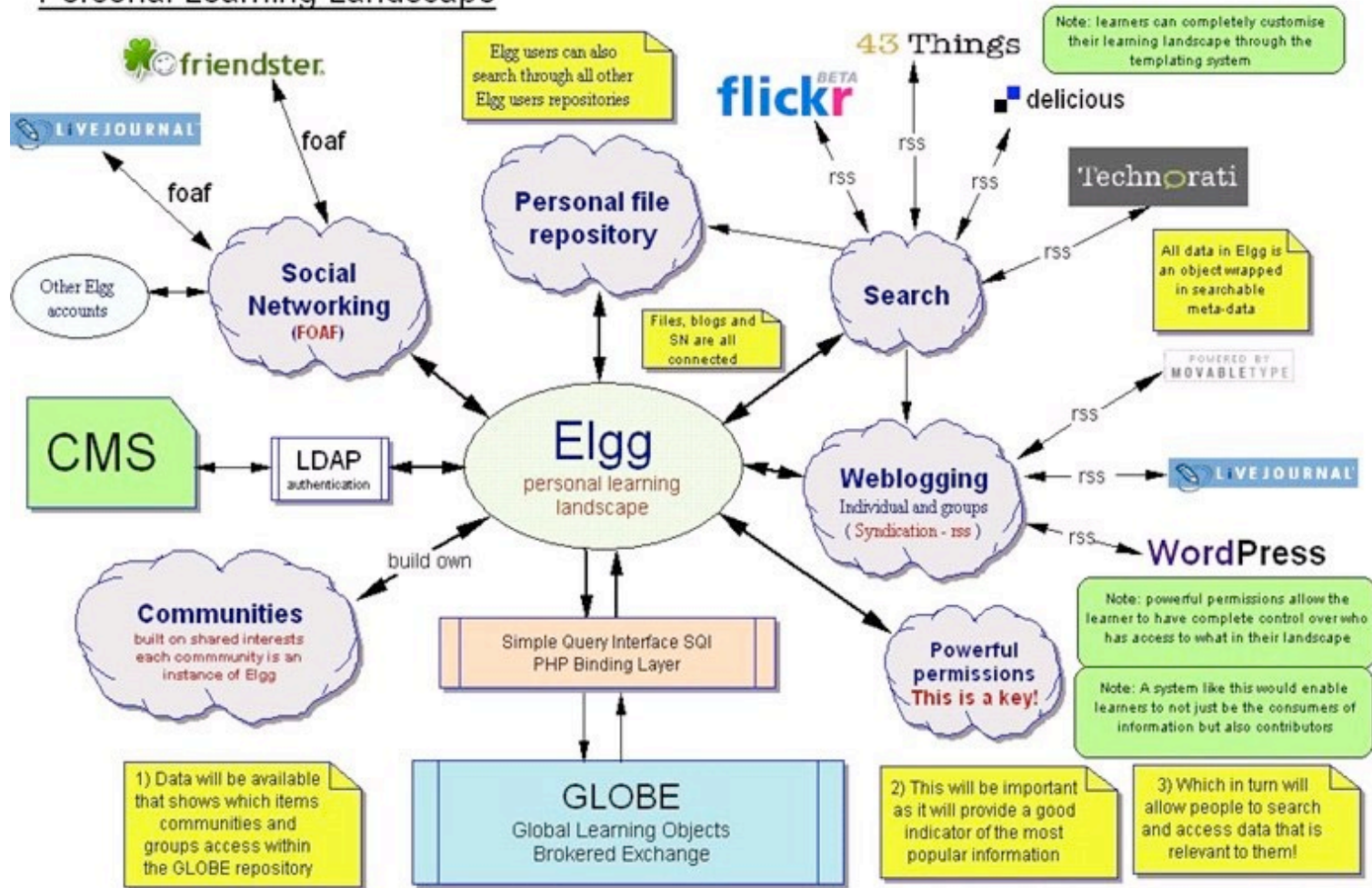
Two Kinds of Knowledge

Knowledge in the VLE (Typically):

- Static

- Declarative

- Authority-based

Knowledge in the PLE (Typically):

- Dynamic

- Tacit / Non-Declarative

- Constructed

PLE (From a Knowledge Perspective)

- The PLE is an environment for a *person* to manage *connections* (whatever that means)

- *Knowledge* (conceived as dynamic, tacit, grown or constructed) consists of a set of connections.

Thus

- The PLE is an environment for a *person* to manage *knowledge* (whatever that means)
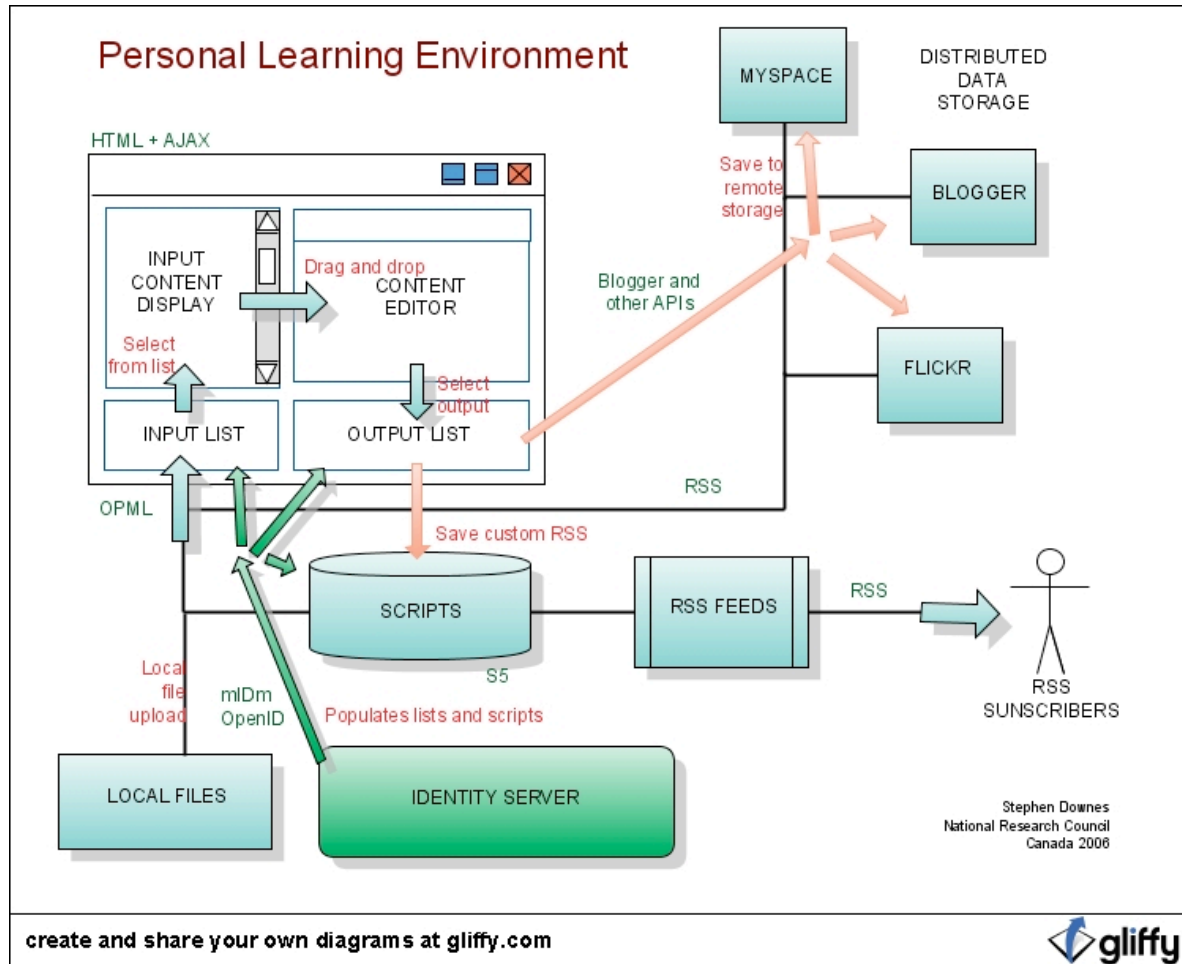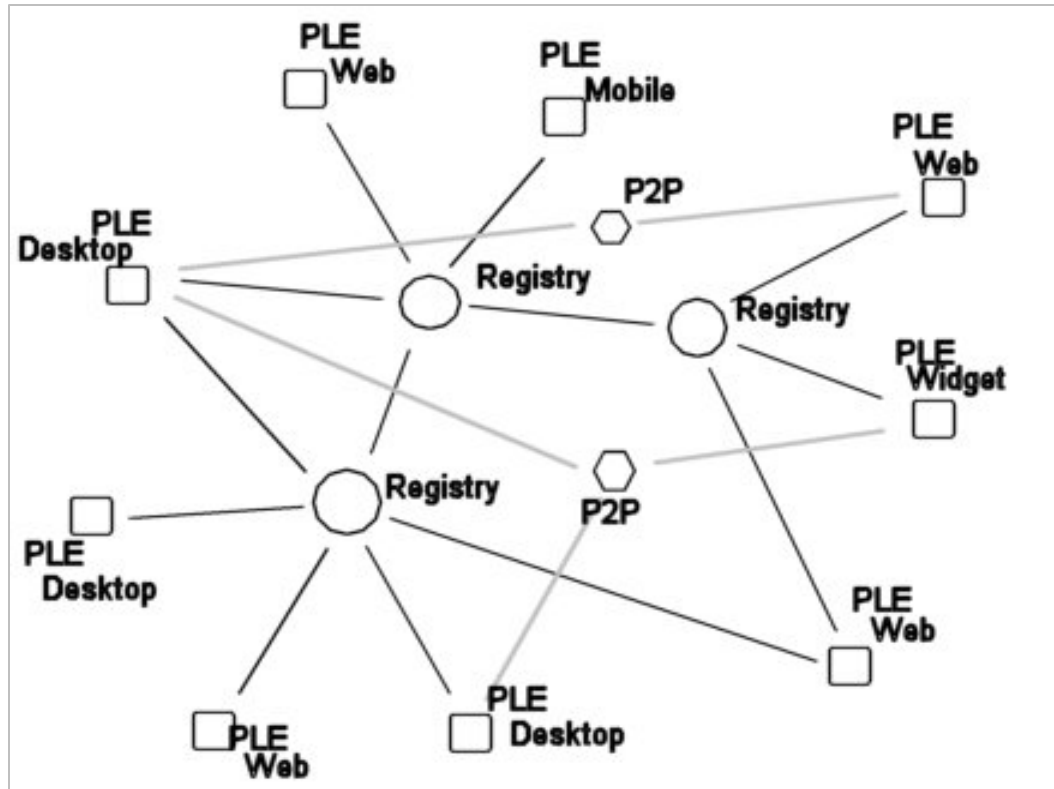
PLE as Knowledge Management

Image: http://halfanhour.blogspot.com/2006/10/ple-diagram.html

gRSShopper

- A tool for managing connections
- Used in Connectivism course

PLEs in a Network

PLEs are envisioned as working as a network

Social Networks

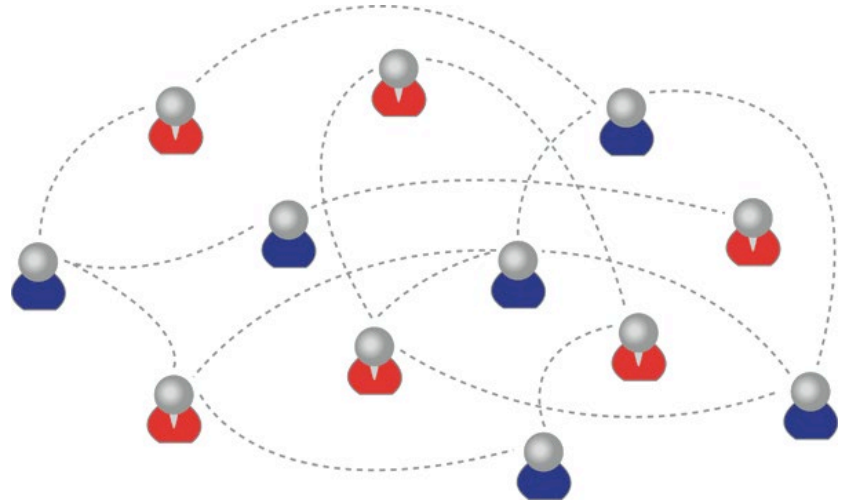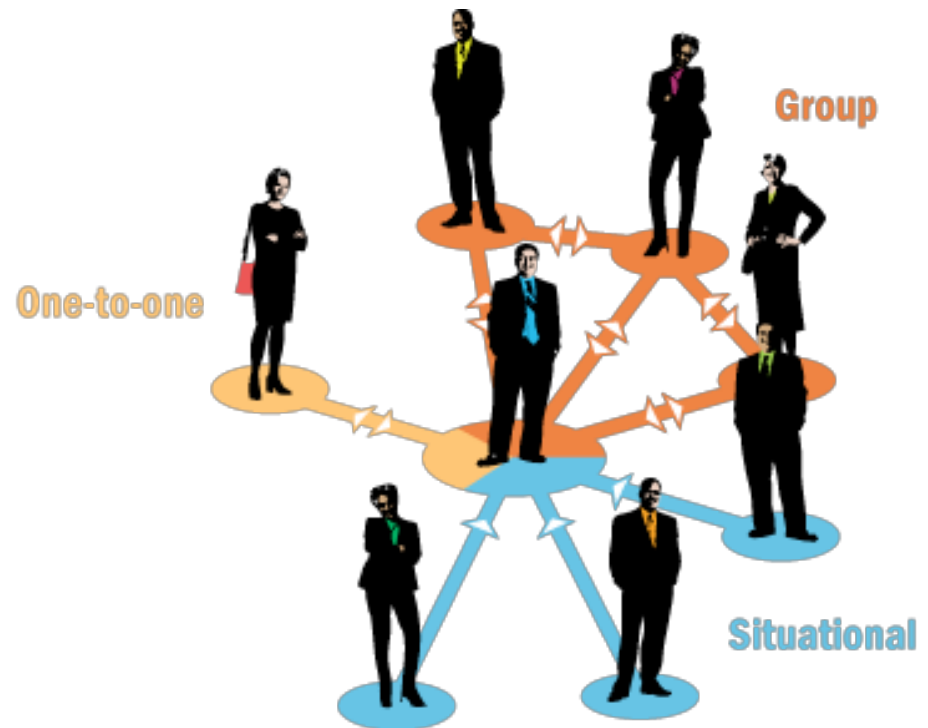Image: http://www.mguhlin.org/2009/12/rethinking-blogging-social.html
Image: http://www.relenet.com/

Social Learning

- The next step in such a discussion is usually to describe a theory of social learning, depicting learning as an external process (or set of processes)

Some Forms of Social Learning

- Behaviourism / Instructivism
- Interaction & Interaction Theory (Moore)
- Social Constructivism (Vygotsky)
- Problem-Based Learning (Johnasson)

Image: http://ibis.tau.ac.il/twiki/bin/view/Zoology/Lotem/MyResearch

Aspects of Social Learning

- Externally-Based Definitions
  - Learning objectives, Body of Knowledge
- Externally-Based Processes
  - Learning activities, Processes and conversations
  - Interaction and communication
- External Systems
  - Classes, networks, groups, collaboration
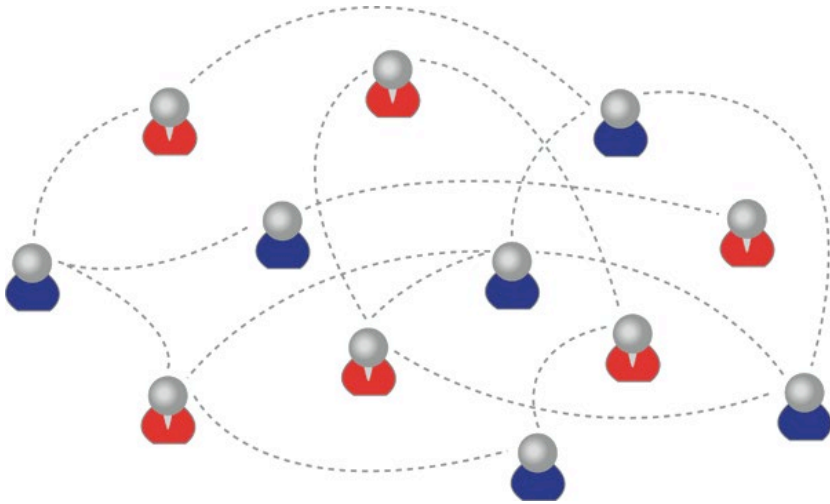- External Evaluation

Personal vs Social

Social knowledge is *not* personal knowledge

- Personal Knowledge management = Learning
- Social Knowledge Management = Research

The product of the educational system is not a *social* outcome (knowledge, skill, problem, community) but a *personal* outcome
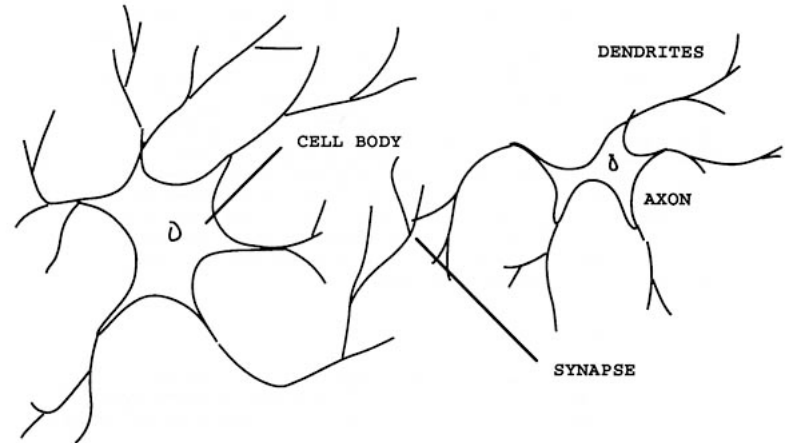
Personal Knowledge

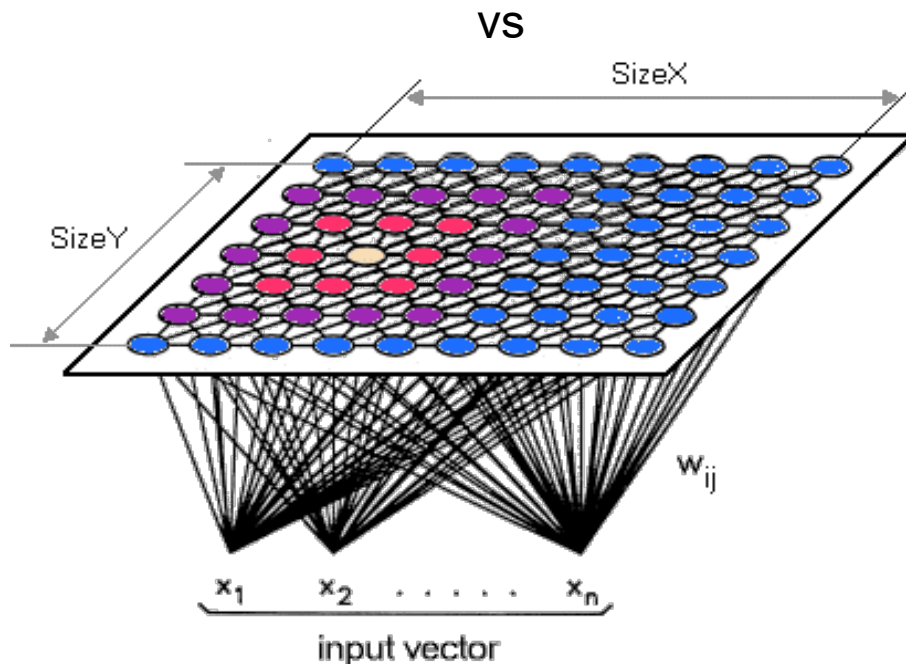We are using one of these

Figure 1. Biological Neuron

To create one of these

Personal knowledge consists of *neural* connections, not social connections

Learning Outcomes

Simple vs complex – text vs network

"Paris is the capital of France"

vs

Learning Outcomes (2)

It's the difference between:

- 'Knowing' that 'Paris is the capital of France' or even some sort of 'knowing how' (these are *external* definitions of this knowledge) and

- What it *feels like* to have geographical knowledge; what it *feels like* to be a speaker of a language

Learning a discipline is a *total state* and not a collection of specific states

Learning Outcomes (3)

- Learning a discipline is a *total state* and not a collection of specific states
- It is obtained through *immersion* in an environment rather than acquisition of particular entities
- It is expressed functionally (can you perform 'as a geographer'?) rather than cognitively (can you state 'geography facts' or do 'geography tasks'?)
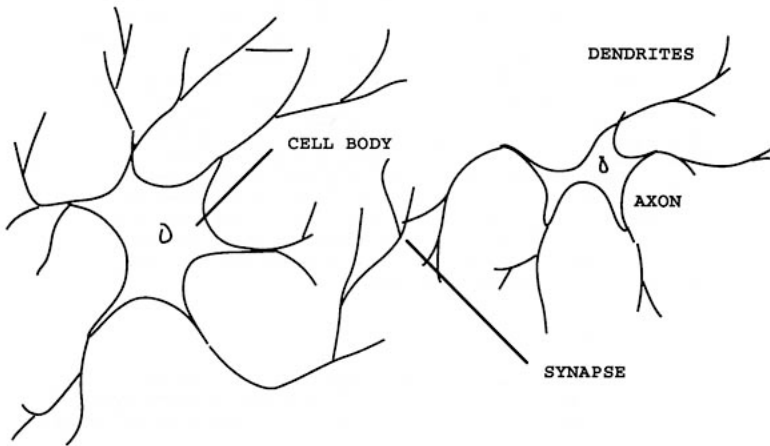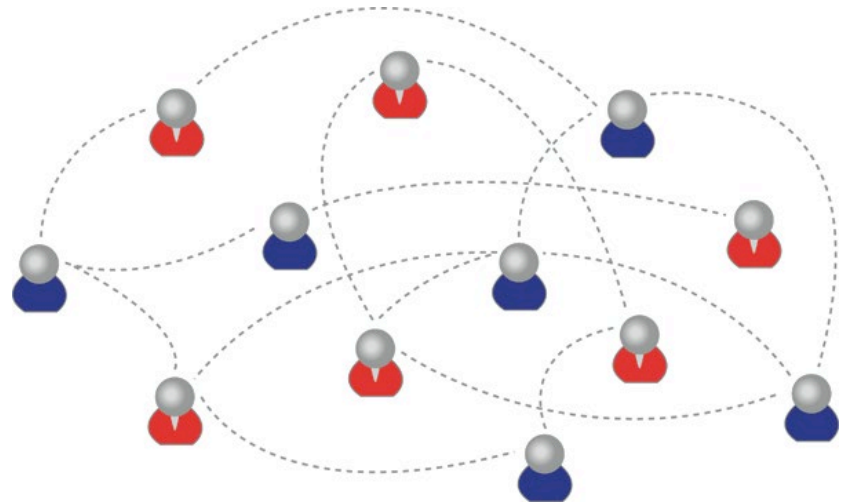
Learning Outcomes (4)

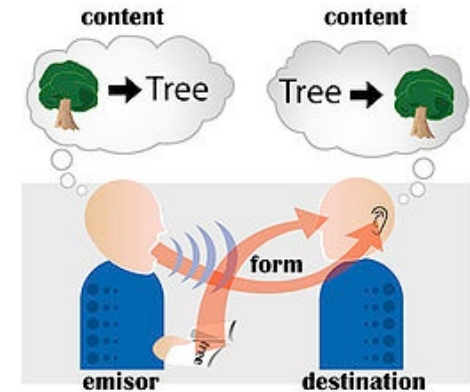Figure 1. Biological Neuron

We recognize this
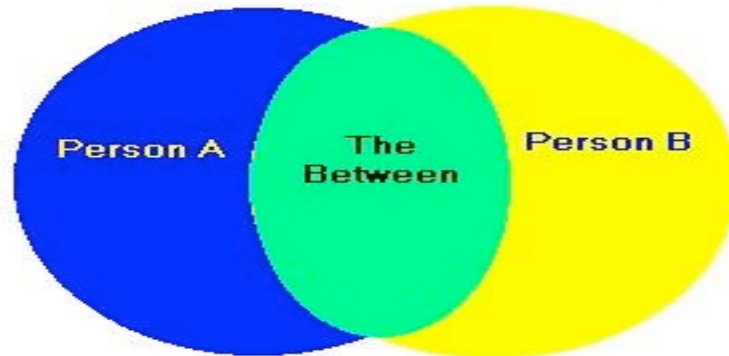
By perfomance in this

There are not specific bits of knowledge or competencies, but rather, personal capacities

(more on this later)

Shared Understandings

- Interactivity vs commonality
- Communication is not this:

This is not biologically or physically possible!

Communication

- Communication is more like this:
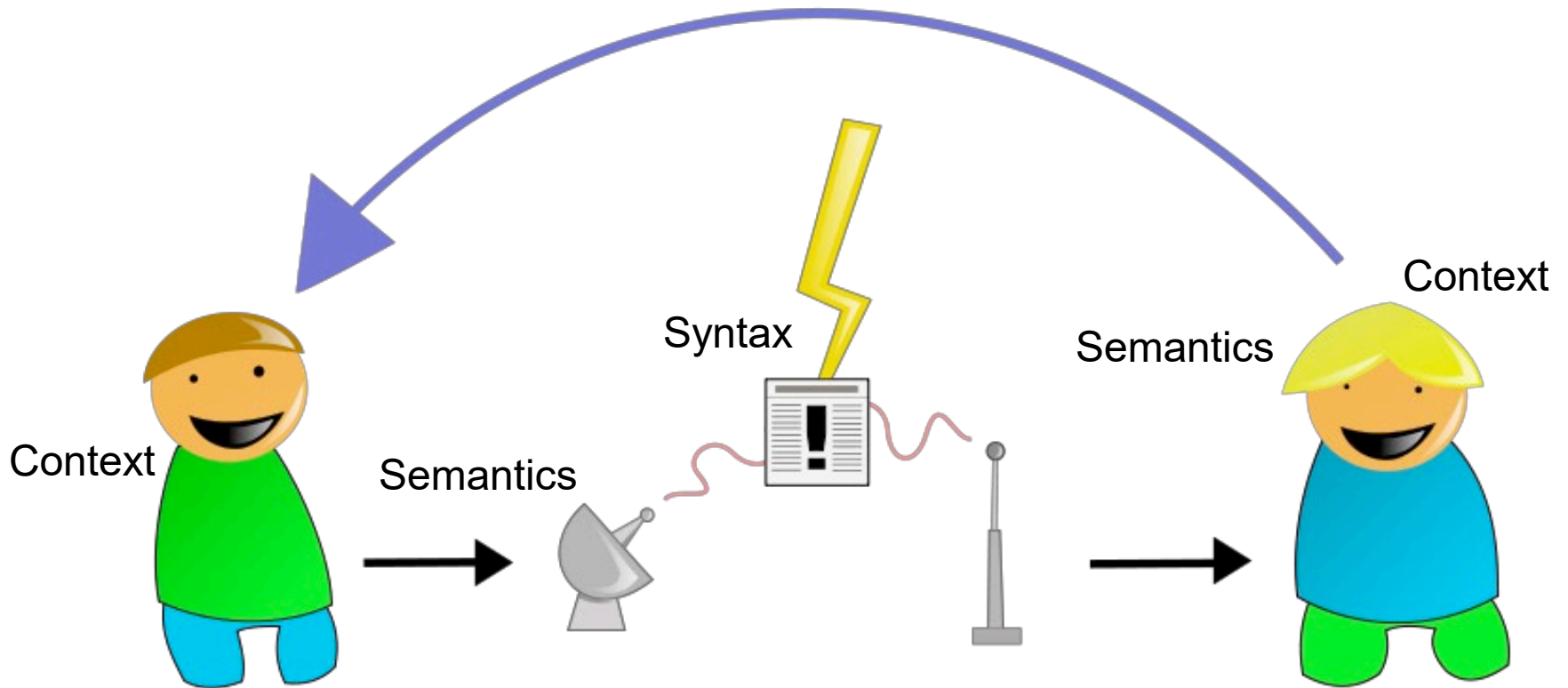
Cooperation vs Collaboration

- Groups vs Networks
- Collaboration assumes (the fiction) that we share goals, objectives, methods, etc.
- But these are *semantic* properties, and hence irreducibly individual and complex
- Cooperation assumes only the interaction at the point of interactivity – a *syntax* of words, objects, artifacts, but *personal* goals, objectives, methods, etc

Social Construction

- Social construction is *at* best the collaborative creation of social artifacts (such as naming conventions)
- It can be:
  - Process driven
  - Results oriented
  - Consensus-based
  - Deliberative
  - Mechanical
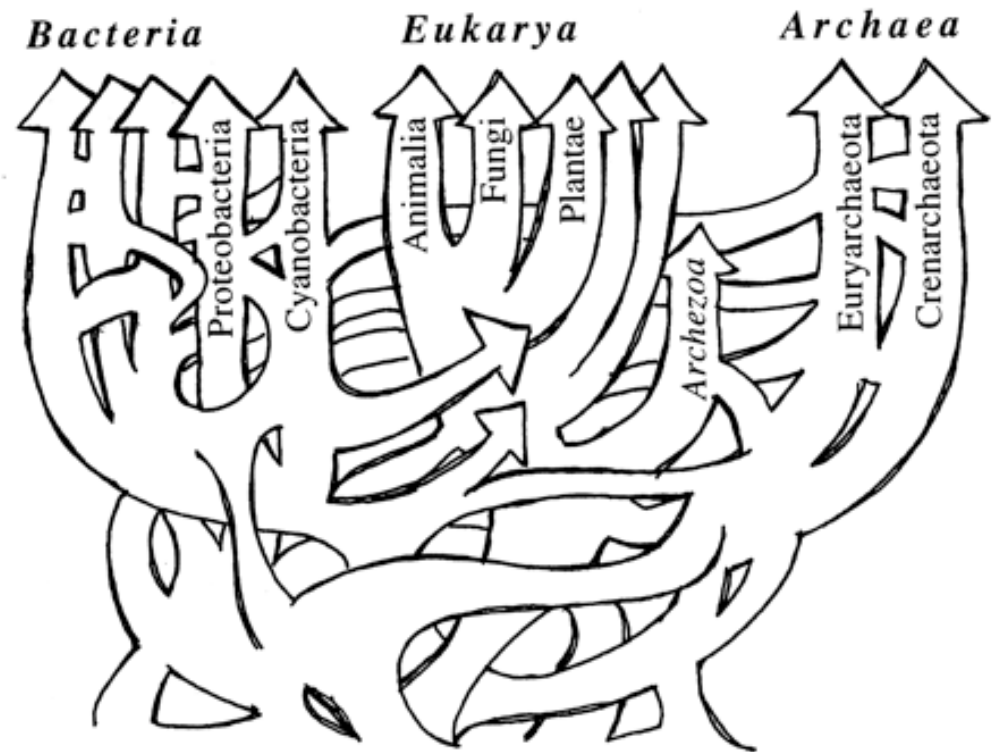
Personal Knowledge

- Is not 'constructed'

- You do not 'make meaning' for yourself

- It is a matter of organic growth

This is important because it means that developing personal knowledge is more like *exercising* than like inputting, absorbing or remembering

(Totally *not* what personal knowledge is)

(How do I know this? Research on how neural networks grow, develop)

PLE as Exercise Machine

- A PLE is a tool intended to *immerse yourself* into the workings of a community

- Once immersed, you then *practice* being one of the people characteristic of the community
  - For example, you would learn philosophy by practicing 'being a philosopher' in a philosophical community

- Your personal growth develops as a consequence of the interactions with that community

Constructionism

- "the idea of manipulative materials to the idea that learning is most effective when part of an activity the learner experiences as constructing a meaningful product."

  http://en.wikipedia.org/wiki/Constructionism_%28learning_theory%29

- "a philosophy of education in which children learn by doing and making in a public, guided, collaborative process including feedback from peers, not just from teachers."

  http://wiki.laptop.org/go/Constructionist

Constructionism (2)

CONSTRUCTIONIST APPROACH

Image: http://eurologo.web.elte.hu/lectures/valente.htm
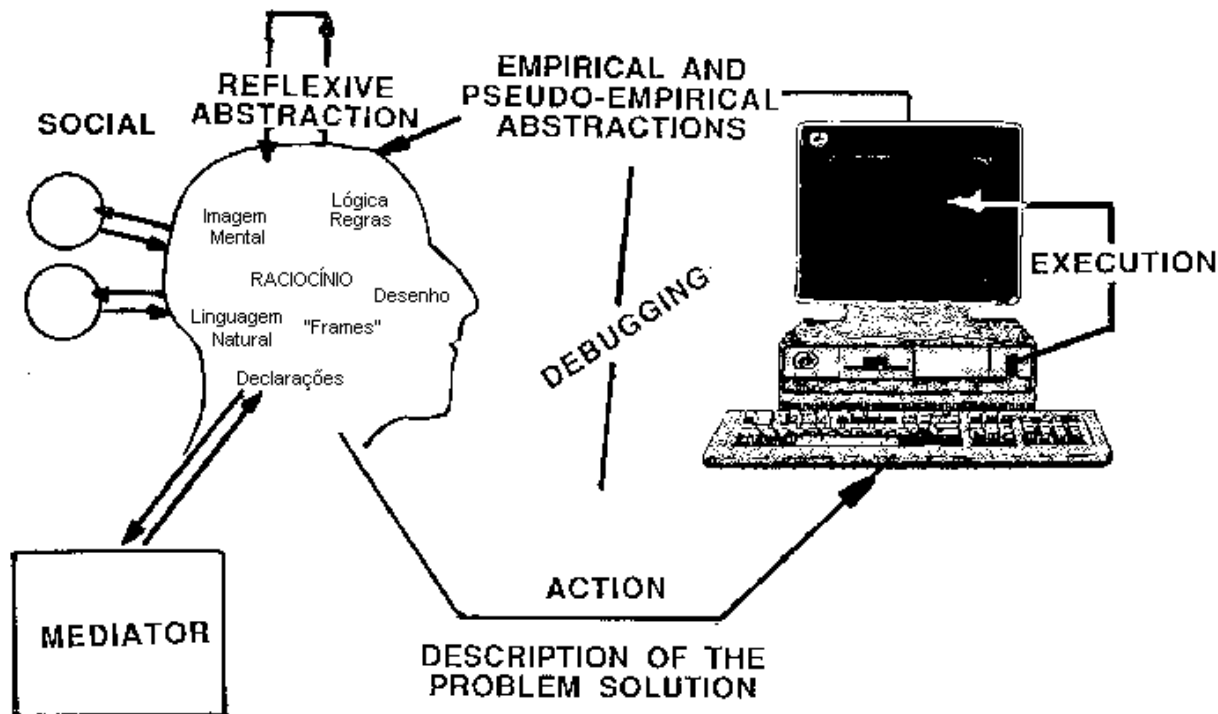
Freire

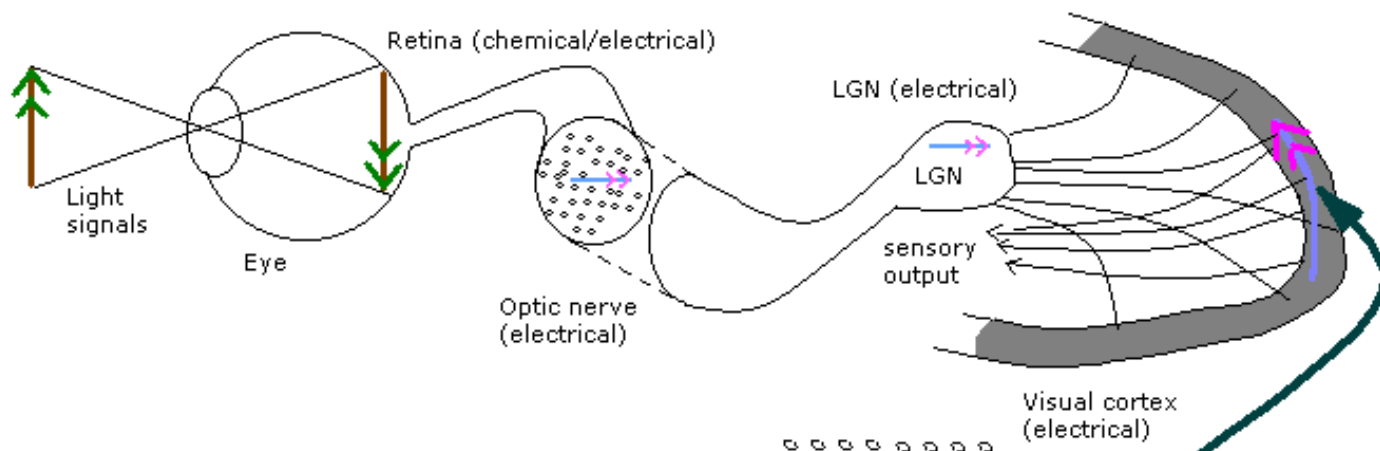- "Students, as they are increasingly posed with problems relating to themselves in the world and with the world, will feel increasingly challenged and obliged to respond to that challenge… Their response to the challenge evokes new challenges, followed by new understandings; and gradually the students come to regard themselves as committed."

  http://www.marxists.org/subject/education/freire/pedagogy/ch02.htm

The Learning in PLE

- The learning in a PLE is about developing *capacities* (not compentencies, skills, etc.)
- The outcome of personal learning is engendered through *empowerment* (vs engagement, etc)

Information transfers in the nervous system

Retina (chemical/electrical)

LGN (electrical)

LGN

Light signals

Eye

Optic nerve (electrical)

sensory output

Visual cortex (electrical)

Network Learning

- Science as language, learning as conversation, knowledge as inference
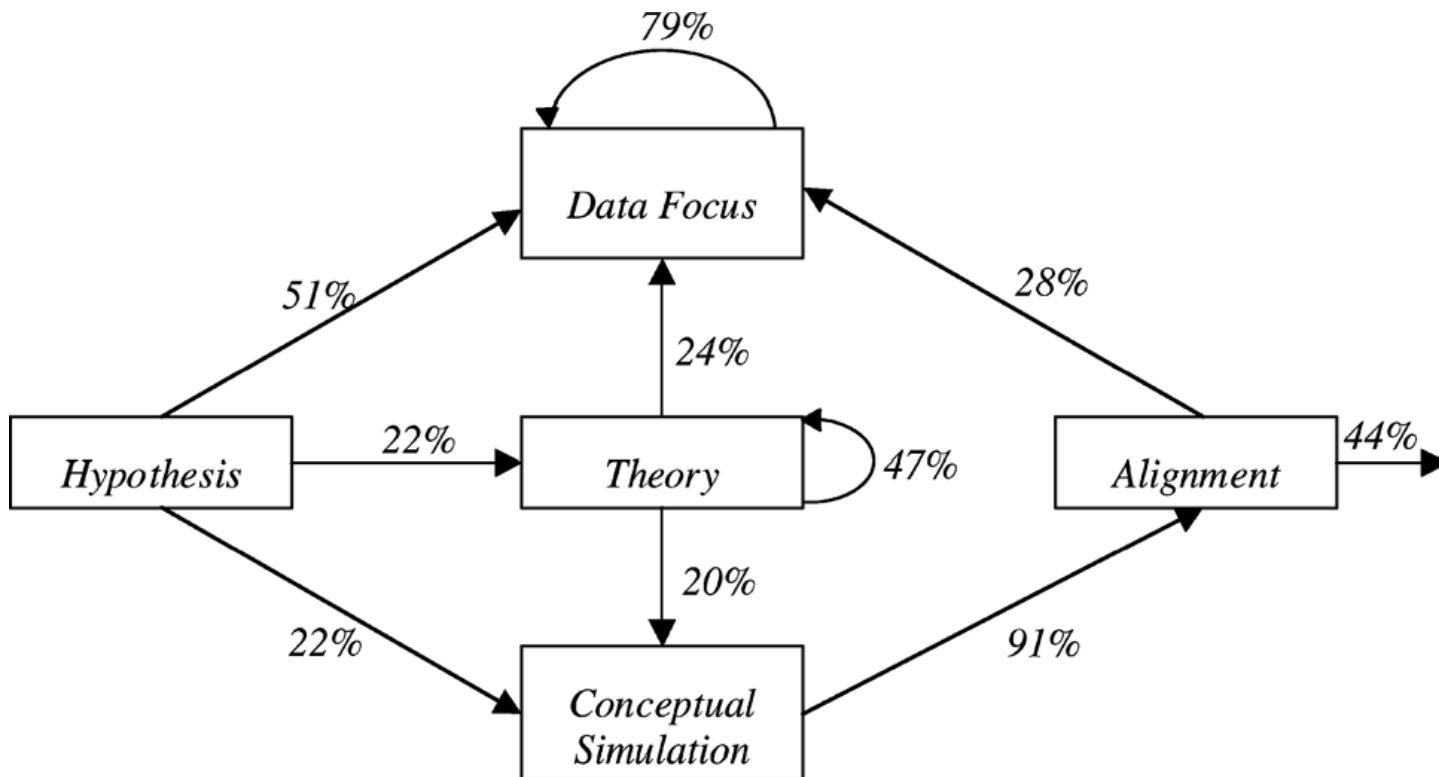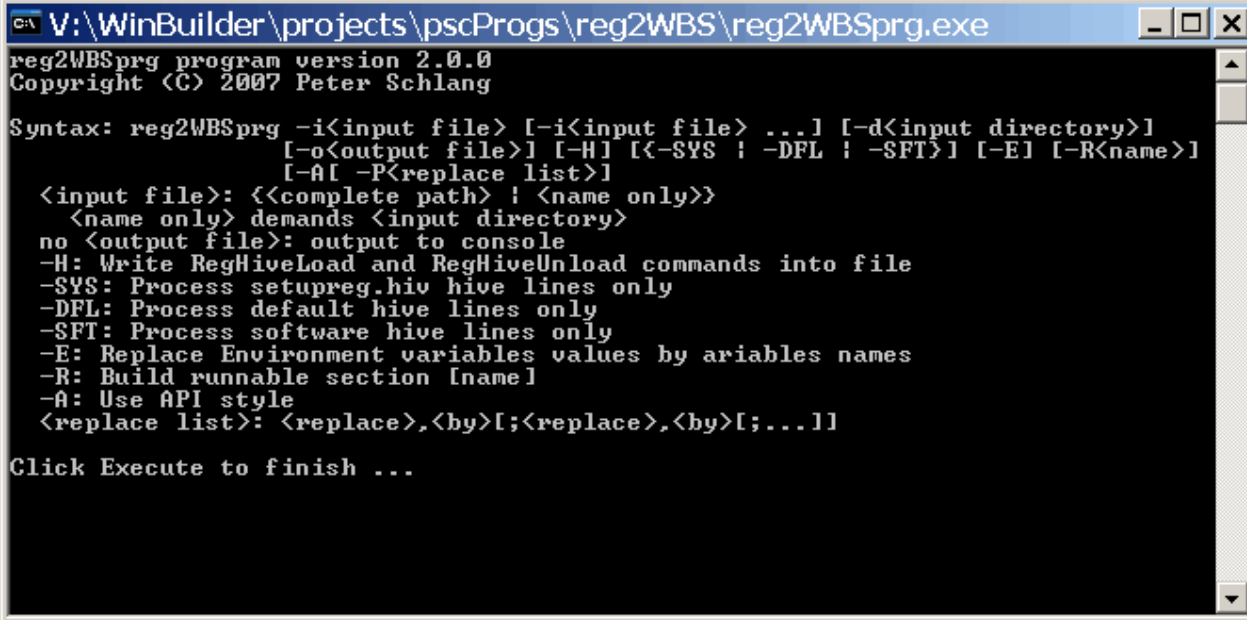
A Frame For Critical Literacy

Syntax	Cognition
Semantics	Context
Pragmatics	Change

Syntax

Not just rules and grammar

```
V:\WinBuilder\projects\pscProgs\reg2WBS\reg2WBSprg.exe

reg2WBSprg program version 2.0.0
Copyright (C) 2007 Peter Schlang

Syntax: reg2WBSprg -i<input file> [-i<input file> ...] [-d<input directory>]
                   [-o<output file>] [-H] [<-SYS ¦ -DFL ¦ -SFT>] [-E] [-R<name>]
                   [-A[ -P<replace list>]
   <input file>: <<complete path> ¦ <name only>>
     <name only> demands <input directory>
 no <output file>: output to console
 -H: Write RegHiveLoad and RegHiveUnload commands into file
 -SYS: Process setupreg.hiv hive lines only
 -DFL: Process default hive lines only
 -SFT: Process software hive lines only
 -E: Replace Environment variables values by ariables names
 -R: Build runnable section [name]
 -A: Use API style
 <replace list>: <replace>,<by>[;<replace>,<by>[;...]]

Click Execute to finish ...
```

Forms: archetypes? Platonic ideals?

Rules: grammar = logical syntax

Operations: procedures, motor skills

Patterns: regularities, substitutivity (eggcorns, tropes)

Similarities: Tversky - properties, etc

Semantics

theories of truth / meaning / purpose / goal

[SEMANTICS]
of a structure
By Tom 7

[🥕] = carrot

[🎳] = bowling pin

- Sense and reference (connotation and denotation)
- Interpretation (Eg. In probability, Carnap - logical space; Reichenbach - frequency; Ramsey - wagering / strength of belief)
- Forms of association: Hebbian, contiguity, back-prop, Boltzmann
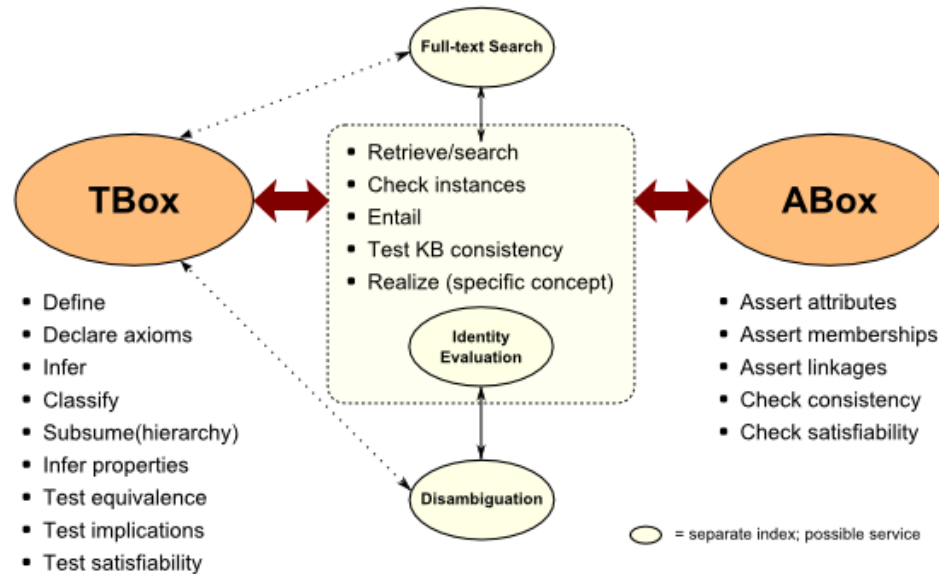- Decisions and decision theory: voting / consensus / emergence

Pragmatics
use, actions, impact

• Speech acts (J.L. Austin, Searle) assertives, directives, commissives, expressives, declarations (but also - harmful acts, harassment, etc)
• Interrogation (Heidegger) and presupposition
• Meaning (Wittgenstein - meaning is use)

Cognition
reasoning, inference and explanation

- description - X (definite description, allegory, metaphor)

- definition - X is Y (ostensive, lexical, logical (necess. & suff conds), family resemblance - but also, identity, personal identity, etc

- argument - X therefore Y - inductive, deductive, abductive (but also: modal, probability (Bayesian), deontic (obligations), doxastic (belief), etc.)

- explanation - X because of Y (causal, statistical, chaotic/emergent)
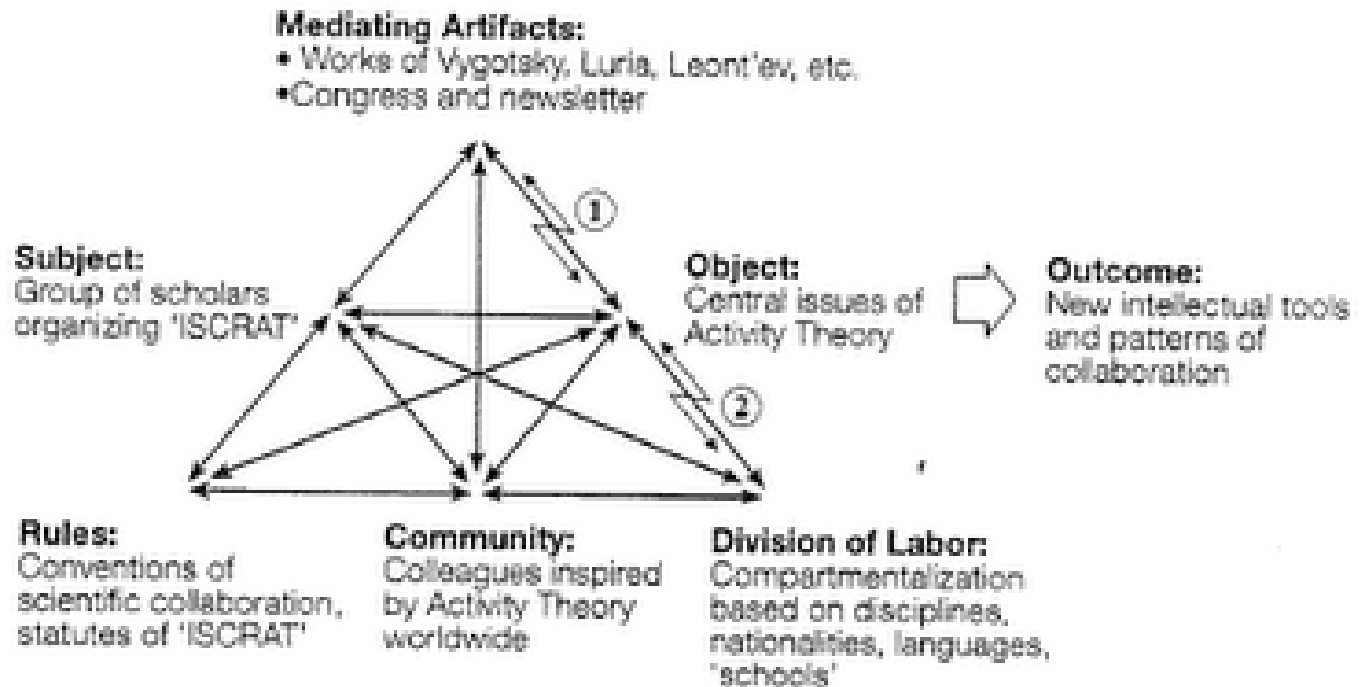
Context
placement, environment

- explanation (Hanson, van Fraassen, Heidegger)
- meaning (Quine); tense - range of possibilities
- vocabulary (Derrida); ontologies, logical space
- Frames (Lakoff) and worldviews

Change

Mediating Artifacts:
• Works of Vygotsky, Luria, Leont'ev, etc.
• Congress and newsletter

Subject:
Group of scholars
organizing 'ISCRAT'

Object:
Central issues of
Activity Theory

Outcome:
New intellectual tools
and patterns of
collaboration

Rules:
Conventions of
scientific collaboration,
statutes of 'ISCRAT'

Community:
Colleagues inspired
by Activity Theory
worldwide

Division of Labor:
Compartmentalization
based on disciplines,
nationalities, languages,
'schools'

- relation and connection: I Ching, logical relation
- flow: Hegel - historicity, directionality; McLuhan - 4 things
- progression / logic -- games, for example: quiz&points, branch-and-tree, database
- scheduling - timetabling - events; activity theory / LaaN

21st Century ~~Skills~~ Languages

http://spotlight.macfound.org/btr/entry/new_media_literacies/

The 'skills' described by Jenkins and others– *performance, simulation, appropriation, etc* - are actually *languages* and should be understood in terms of these six dimensions

PLE Pedagogy

- The six frames are the *elements of language* used to communicate bwteen individuals in a community

- Learning in a PLE involves *immersion in this community* and communication involving *refective awareness* of these six frames

- *Pedagogy* in a PLE environment is the *modeling* of these skills and feedback along these frames

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