

Ten Years After

Stephen Downes

NAWeb

October, 2004

It was a time of revolution...



Galileo

1620...



Bacon, Descartes, Boyle, Cassini...

New tools to look at the world...



1609

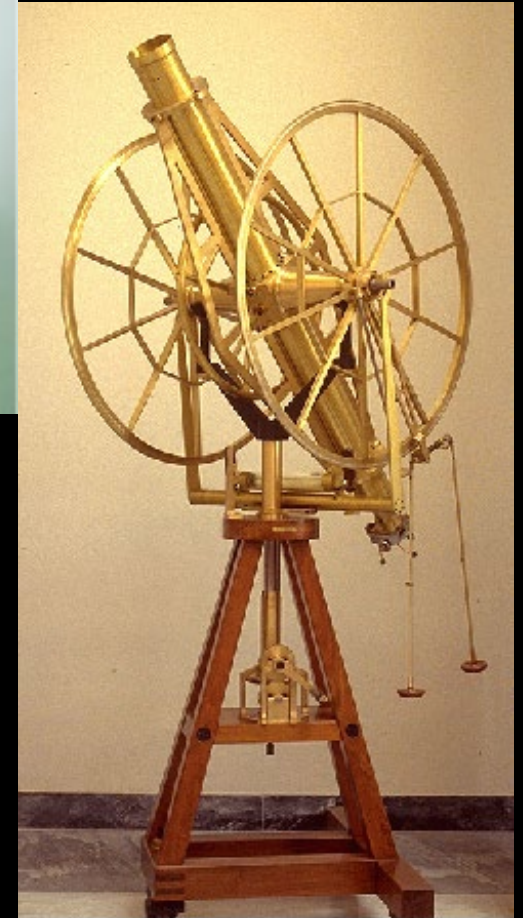


1592



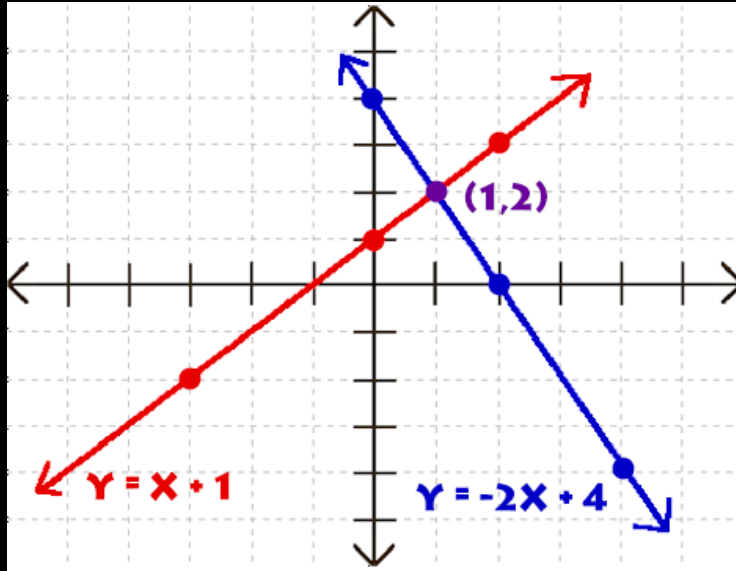
1643

$$d = \frac{\lambda}{A_N}$$

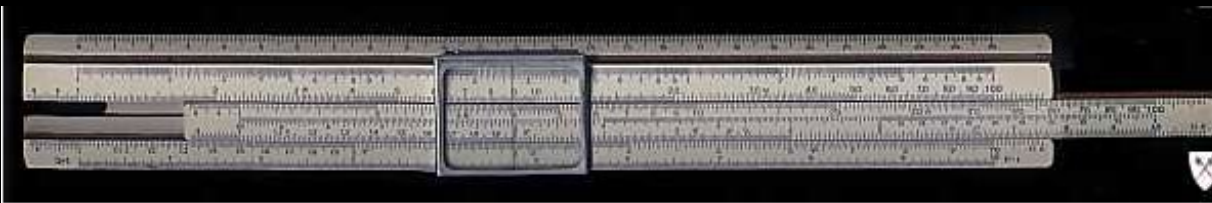


1609

Mathematics



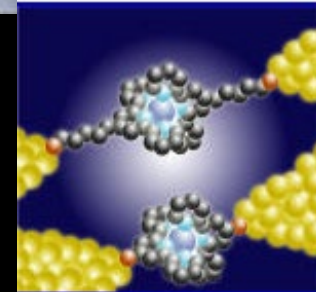
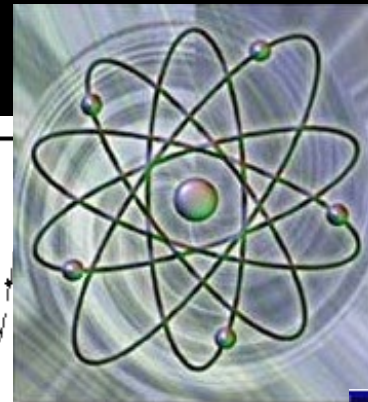
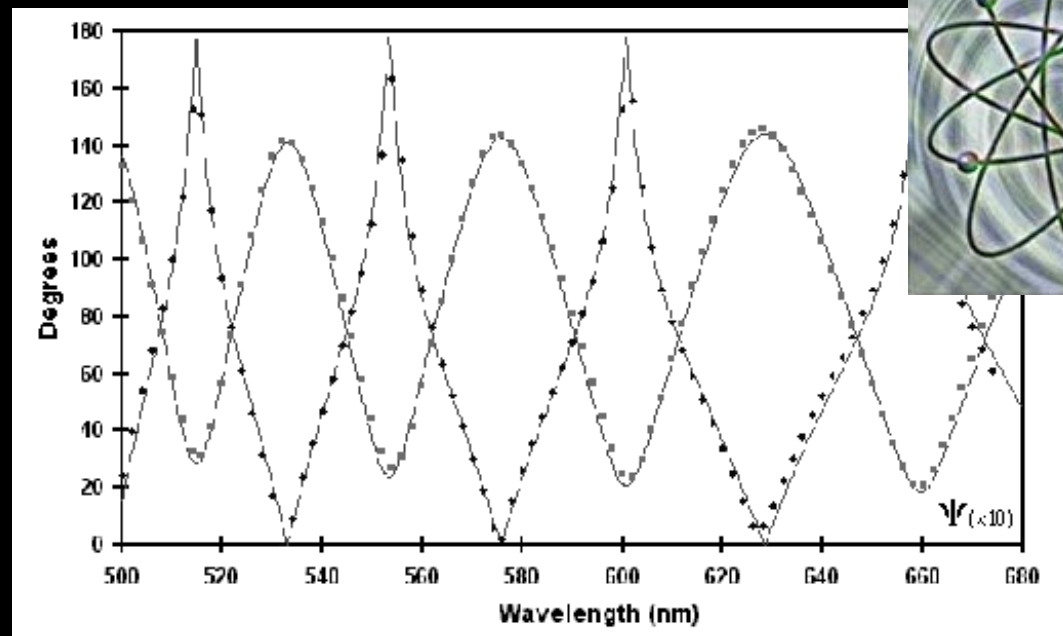
Calculating Machine
(William Schickard,
1623)



Slide Rule (William Oughtred, 1622)

... a new way of looking at the world

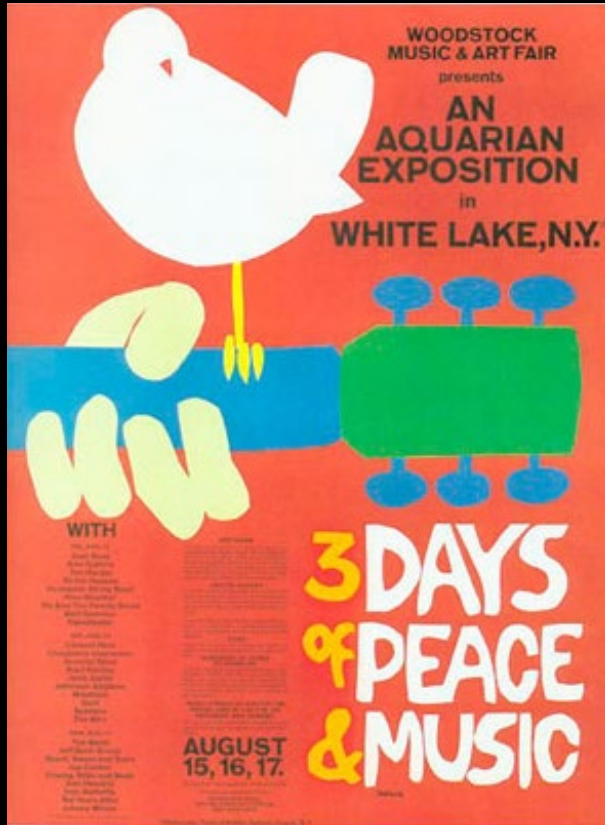
The idea that the world could be *measured*



... as though it were a series of points...

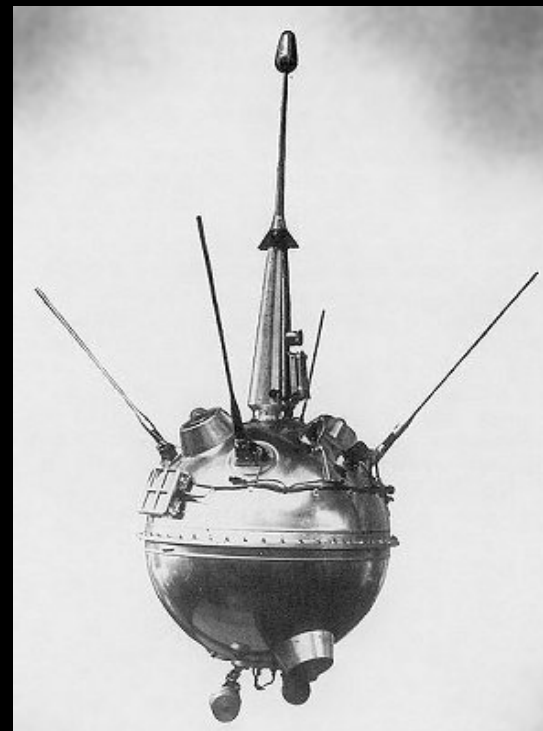
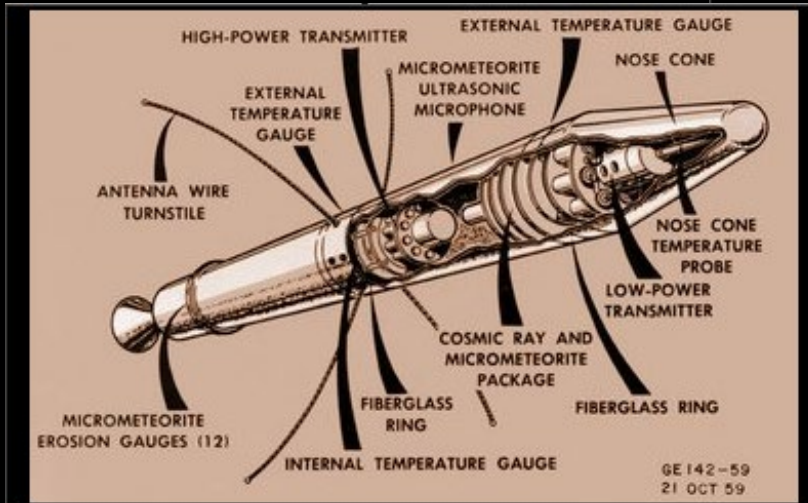
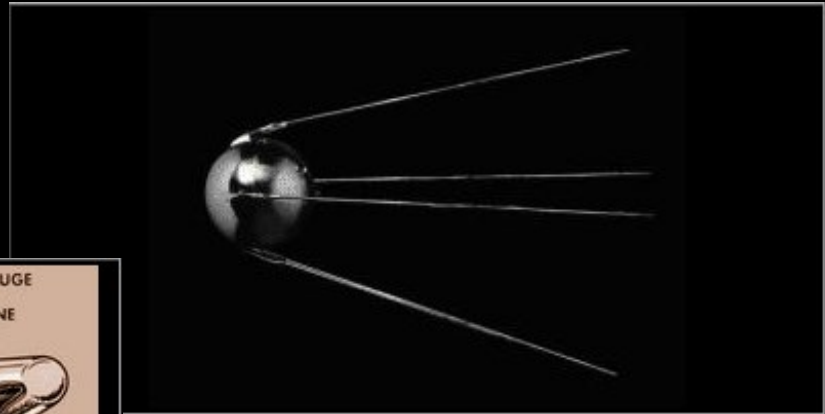
It was all based on one idea, simple, really: that the world should be viewed as parts, which could be exchanged and interchanged.

Understand those parts, and you could understand the world.

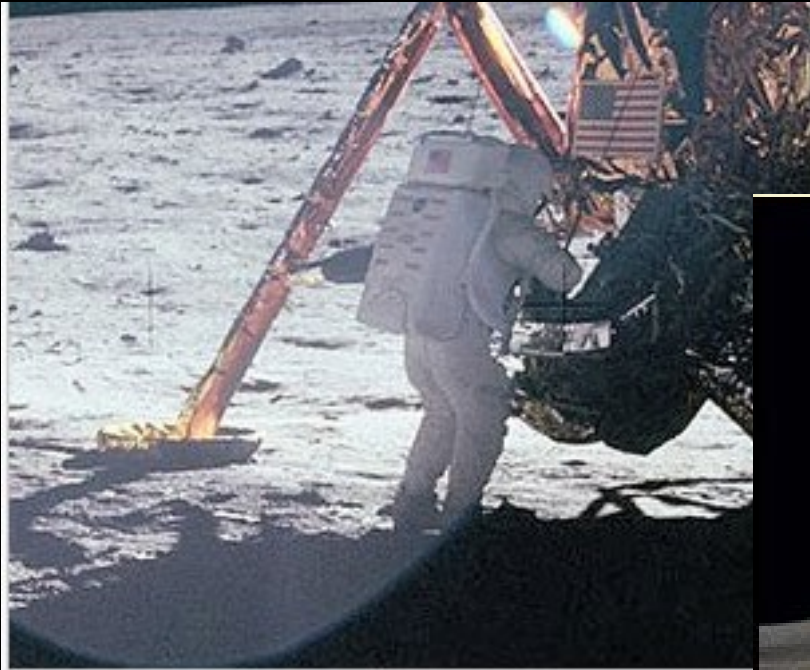


Ten Years After

1959

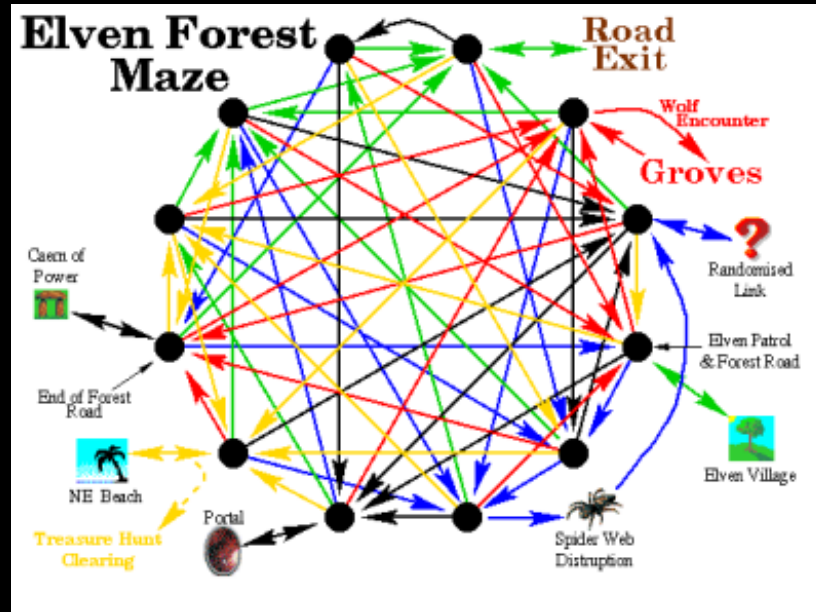


1969

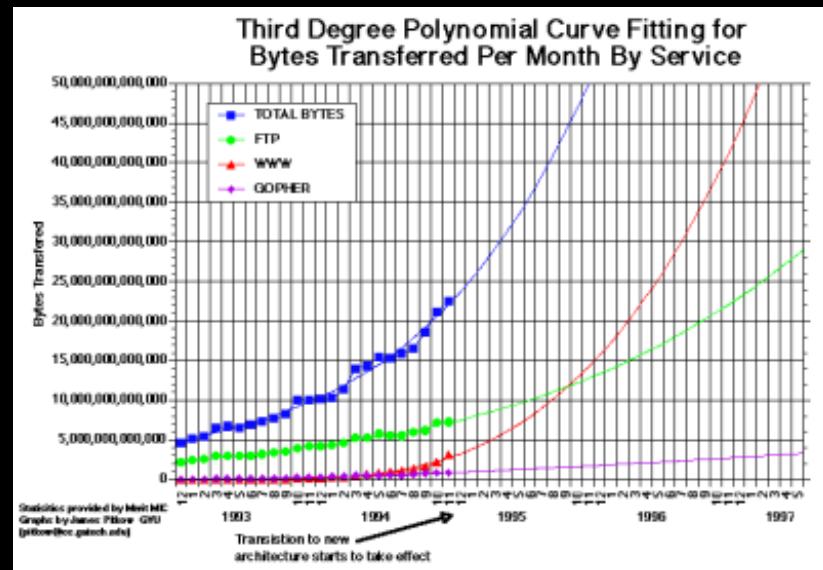


Earthrise

1995

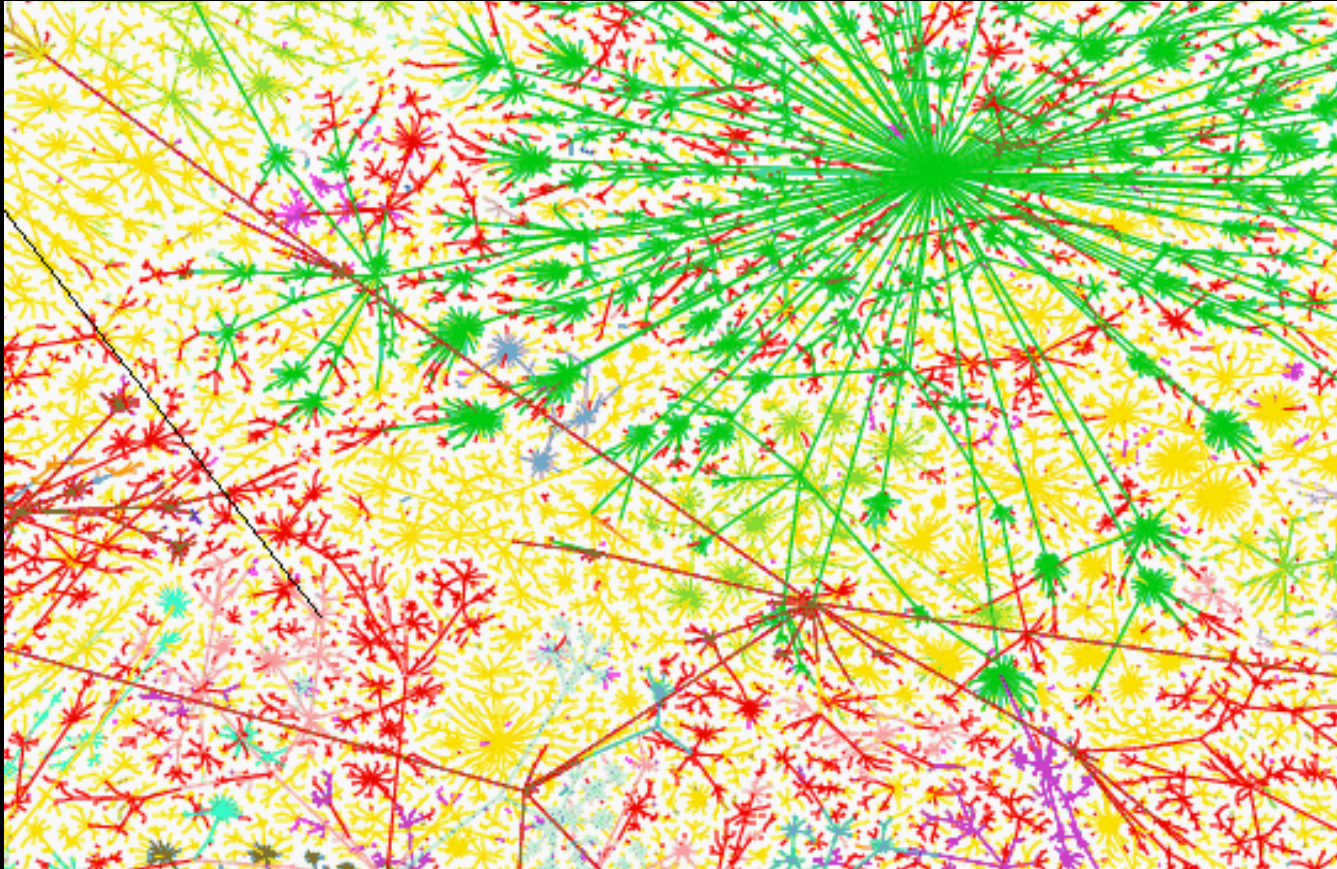


The Emergence of the World Wide Web



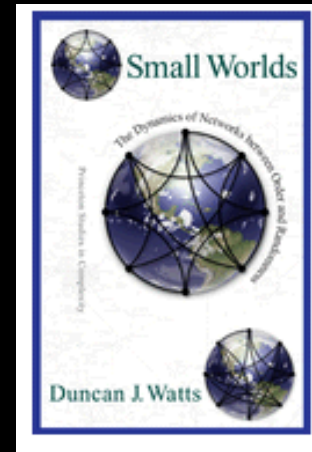
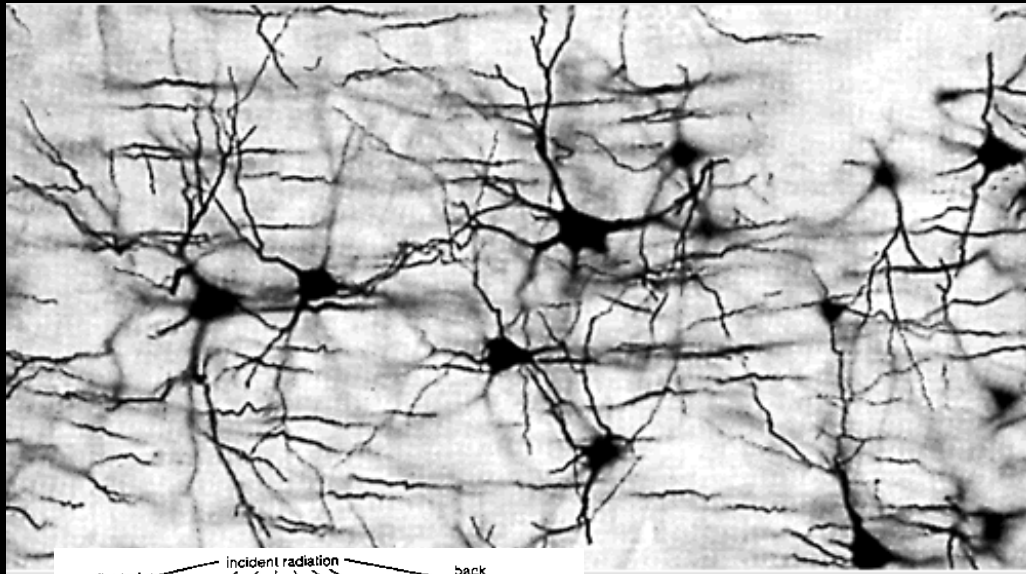
Something wonderful is going to happen...





A New Way of Looking at the World

<http://research.lumeta.com/ches/map/>



Networks

[ht](http://www...)

[ges/Reference%20Articles/what_is_AI/What%20is%20AI10.html](http://www.../Reference%20Articles/what_is_AI/What%20is%20AI10.html)

[http://www](http://www...)

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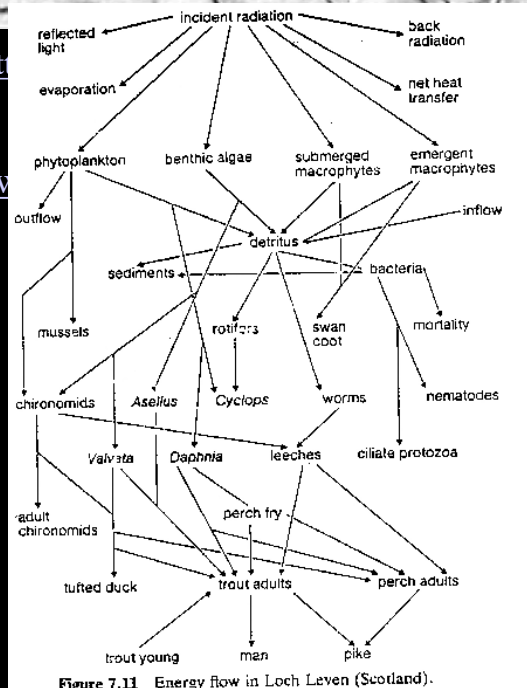
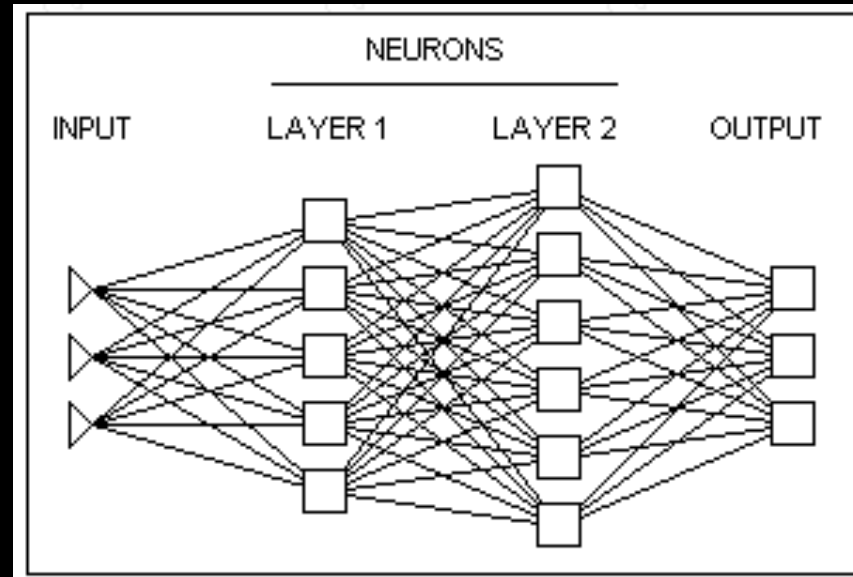
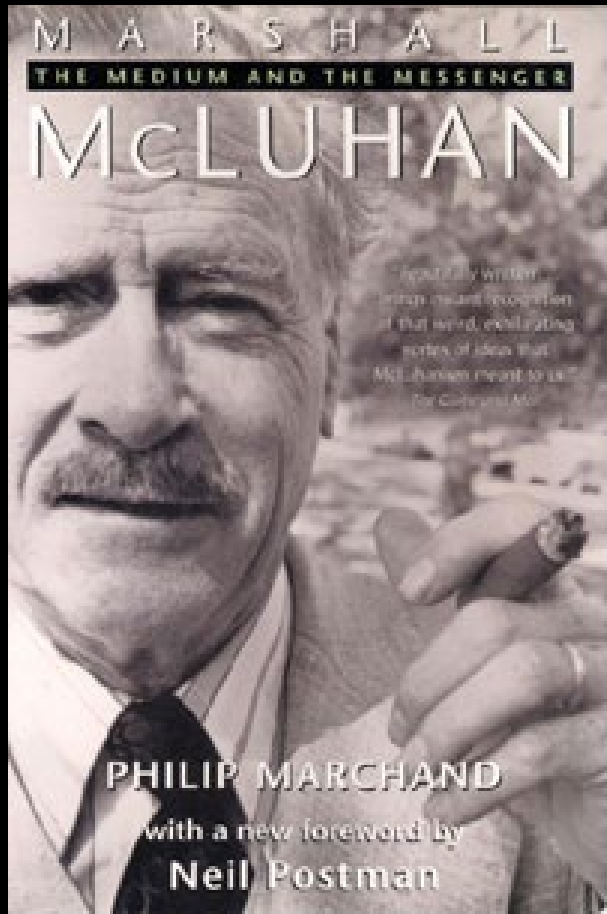


Figure 7.11 Energy flow in Loch Leven (Scotland).





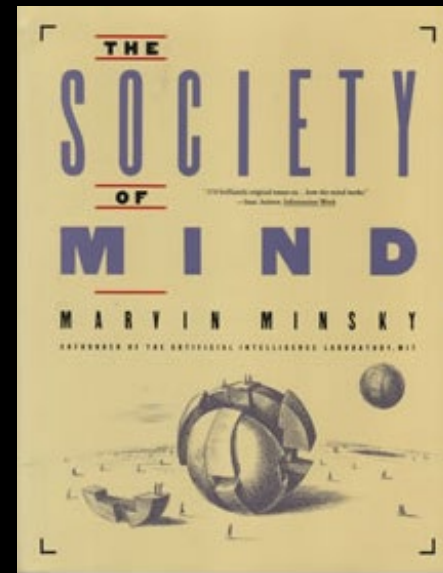
the content of the information being transmitted is no more important - and possibly less important - than the means by which the information was transmitted

It is not only the parts which are important, but also, how those parts interact. Or: it is not only data which matters, but how data is processed. Or: it is not only individuals that matter, but how those individuals form communities.

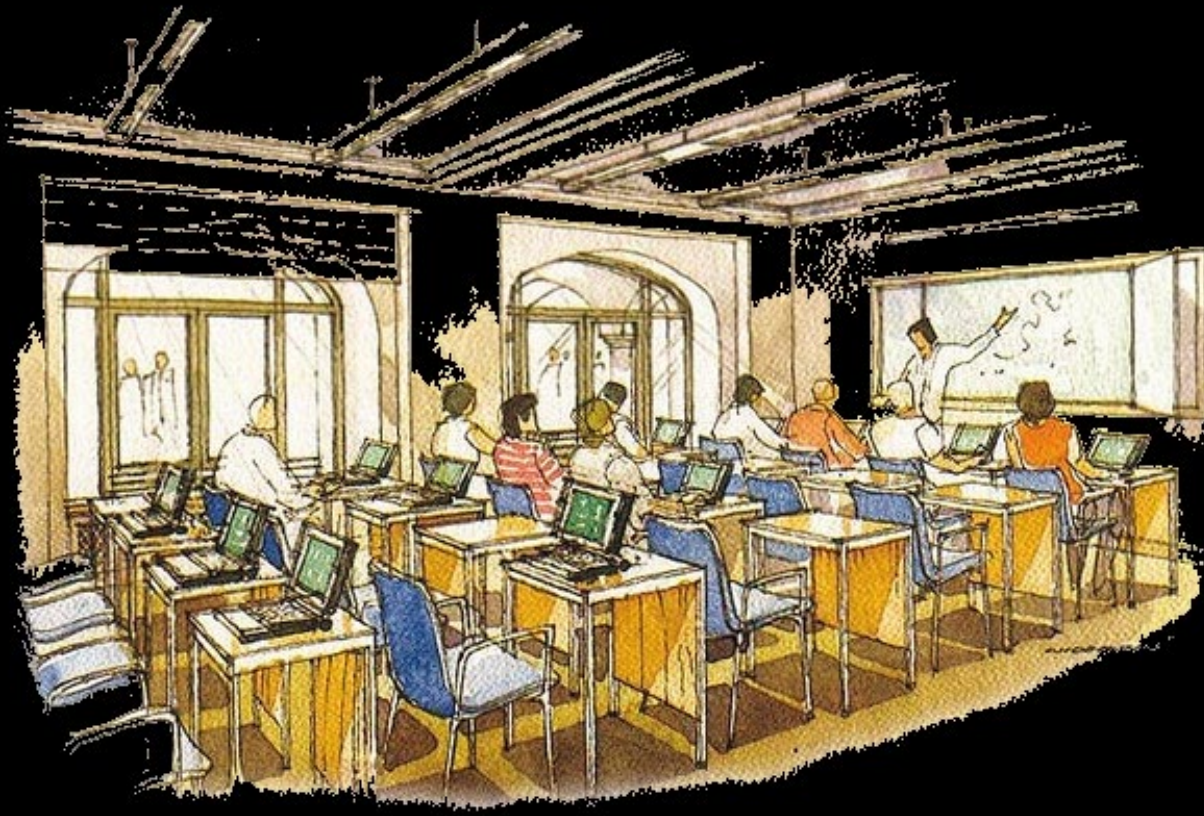
When reality is composed both of parts and their interactions, then, when you change the interactions, you change reality

The Semantics of Networks

Meaning is not determined externally...
It is created by the actions of individuals
working in the network

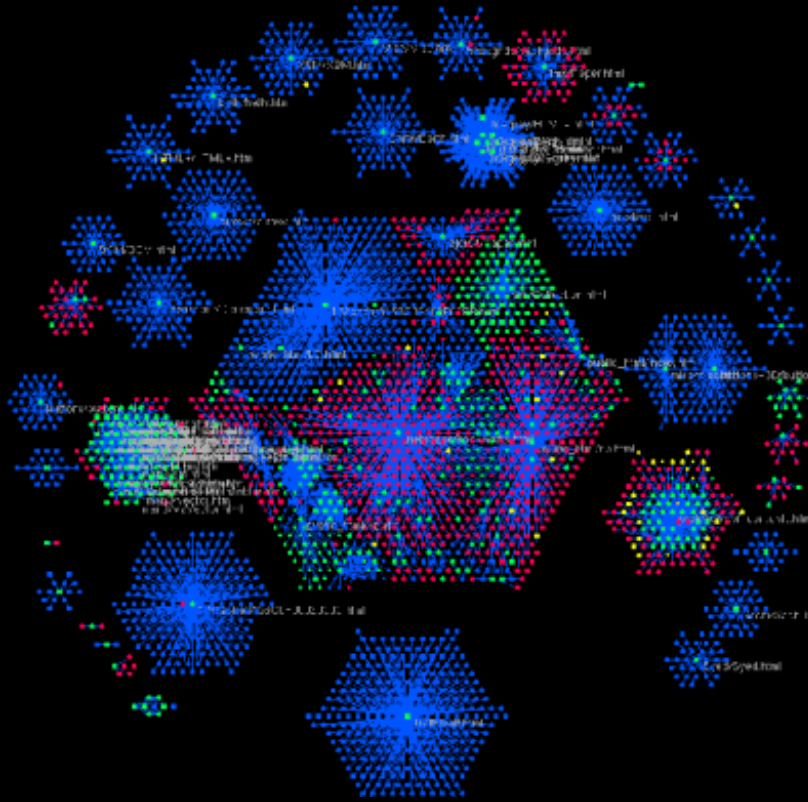


The New Pedagogy



Or: a guide to picking the winners...

Linear \rightarrow Multi-threaded



The idea of a web rather than a (causal) chain

Static → Dynamic

Learning not as books and (objects)

Learning as a resource

Flowing, like water, electricity

Always available, always on



Content → Experience

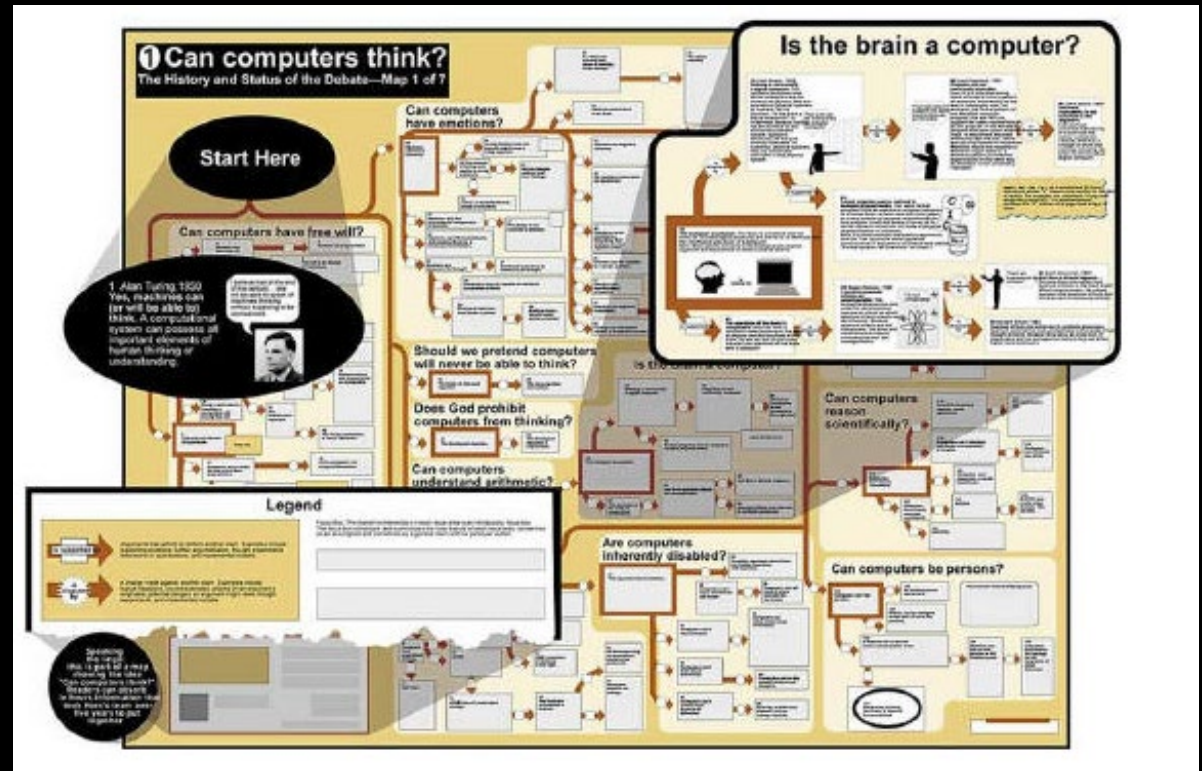
Moving away from the idea of ‘delivery’

Moving toward the idea of immersion,
interaction



Demonstration → Inference

Learning as what people *do* rather than what people are *told*...

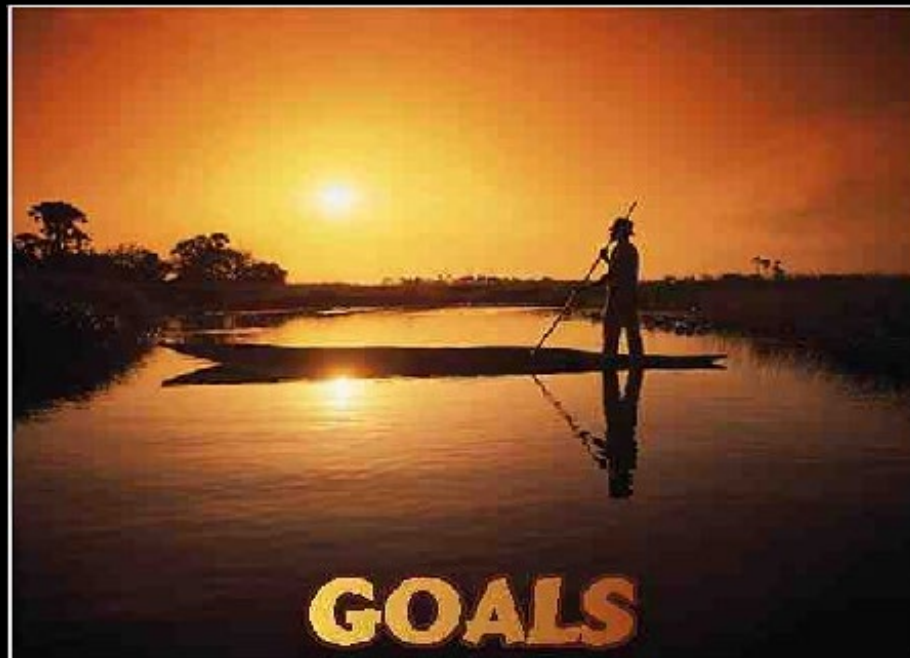


Austhink

Objectives → Goals

The locus of control is changing...

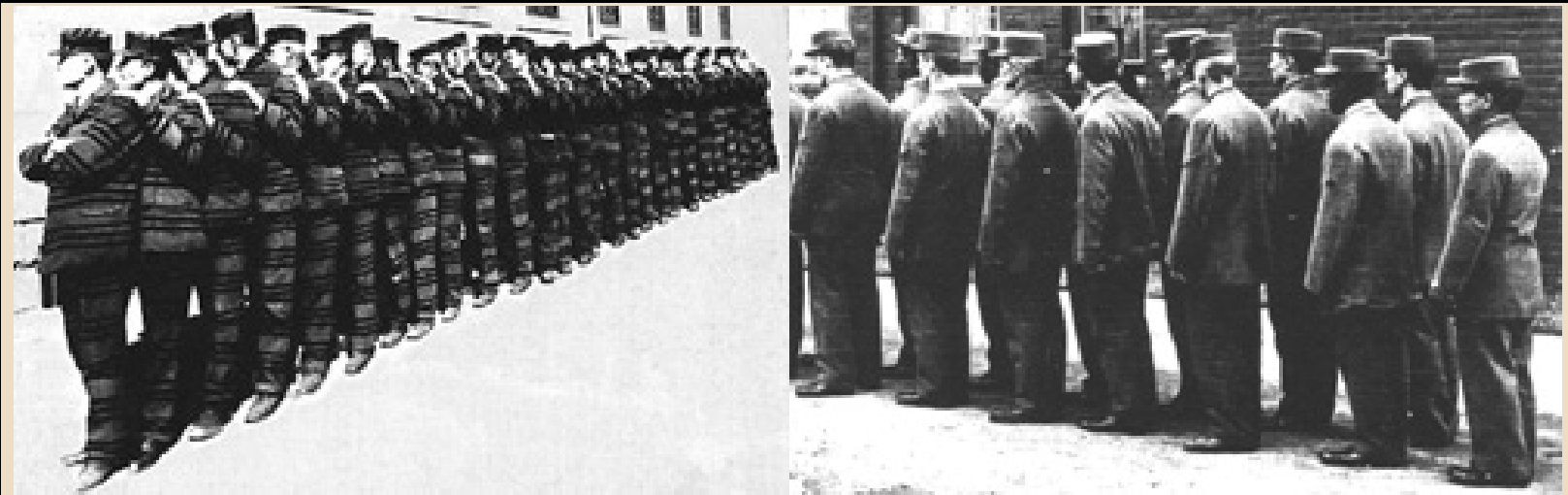
Learning 'objectives' are not set by a designer



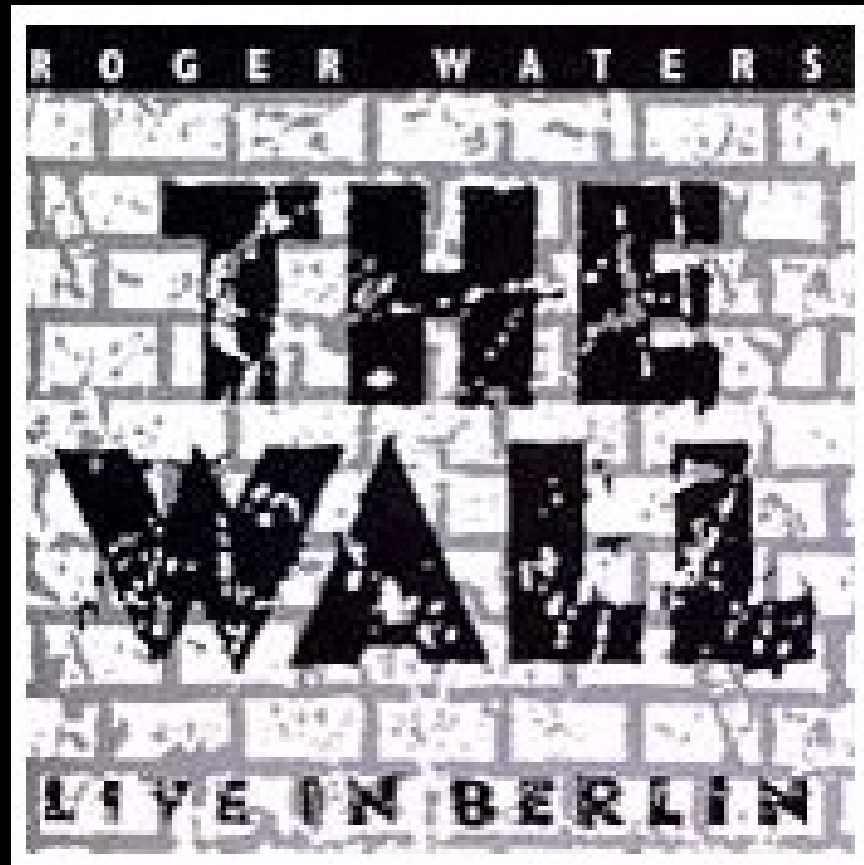
It's what people do to reach their goals

Uniformity → Diversity

From standardization to personalization



The Writing on the Wall



www.downes.ca

