



Curriculum Corporation 13th National Conference

# Catching the Knowledge Wave?

*A vision splendid*

**WORKSHOP**

**AUGUST 2006**



**Jane Gilbert**

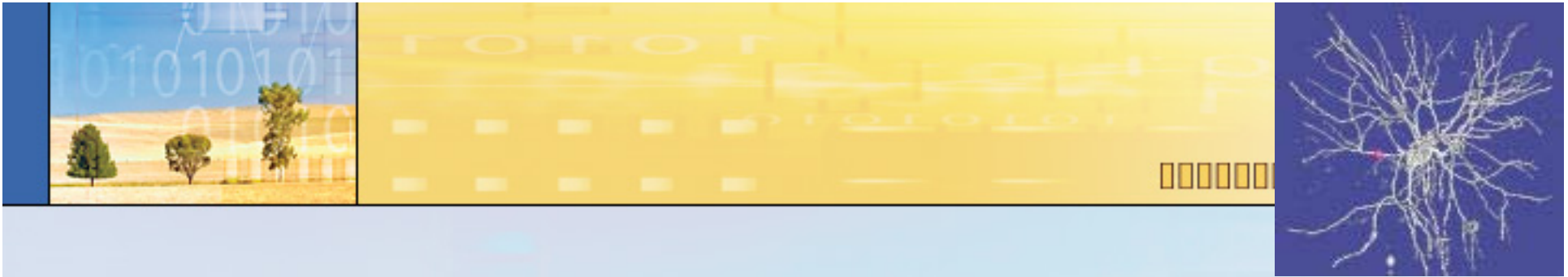
# Catching the Knowledge Wave?



knowledge  
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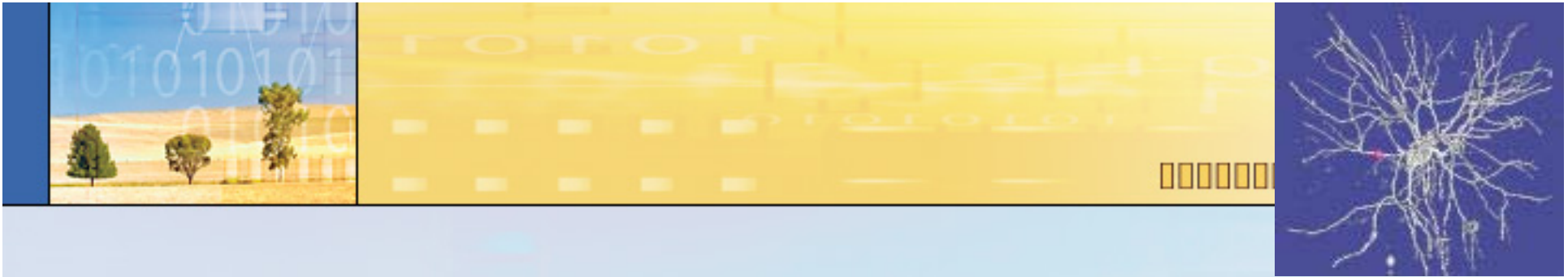
the leadership forum



The literature predicts that our secondary and tertiary institutions will undergo major change

- they will be managed very differently
- they will be physically different
- student learning will be organised differently
- teachers work will be very different...



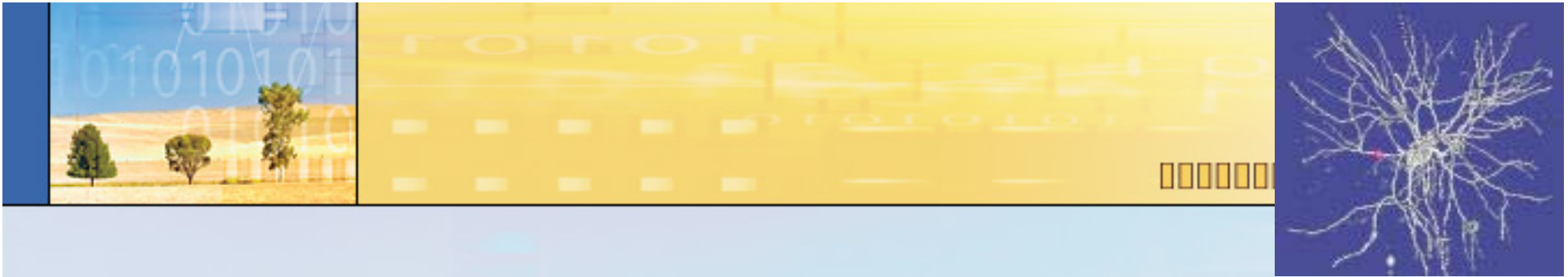


All institutions will

- be multi-campus entities
- offer multi-layered, modularised learning programmes
- function as learning 'brokers' - matching students with whoever/whatever can best meet their learning needs
- work closely with other agencies and community organisations







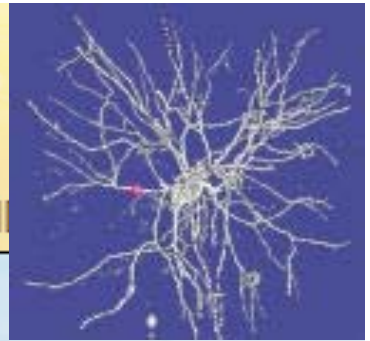
They will have ...

integrated cross-curricular programmes that will develop students' skills in:

- thinking learning and problem-solving
- working collaboratively in teams
- creativity ingenuity and innovation

All this will happen in an ICT rich environment...





BUT...  
something missing here ...

very little being said about

**KNOWLEDGE**

i.e. what students need to learn

**WHY IS THIS?**





## The Knowledge Society – What is it?

A paradigm shift

Totally new ideas about

- what knowledge *is*
  - how it *develops*
  - how it is *used*
  - who *owns* it
- ...



# The Knowledge Society – What is it?

## ‘Knowledge’ societies

- No longer rely on the exploitation of natural resources.
- KNOWLEDGE is *the* key resource for economic development.





# The Knowledge Society – What is it?

“The generation, application and exploitation of knowledge is what drives modern economic growth.

Most of us make our money from thin air: we **produce nothing** that can be **weighed, touched** or **easily measured**.

Our output is **not** stockpiled at harbours, stored in warehouses or shipped in railway cars.

Our children will **not** have to toil in dark factories, descend into pits or suffocate in mills. They will not hew raw materials or turn them into manufactured products.

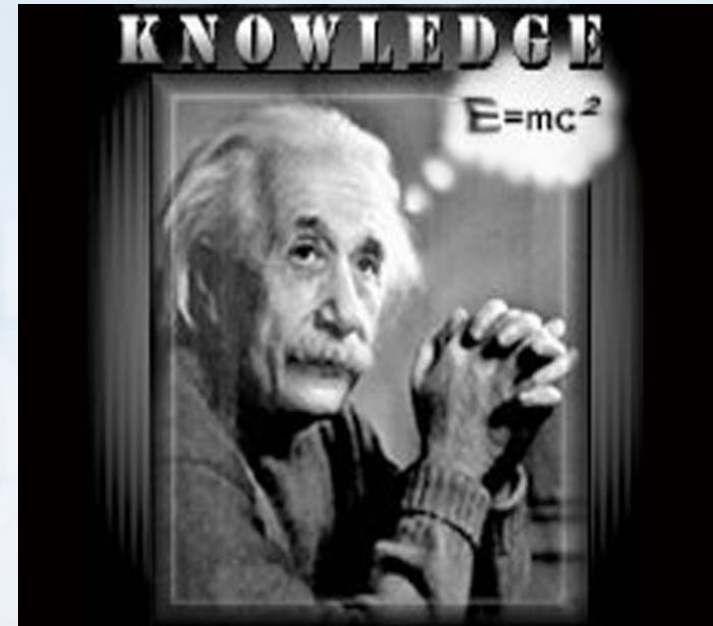
They will make their living through creativity, ingenuity and imagination.”

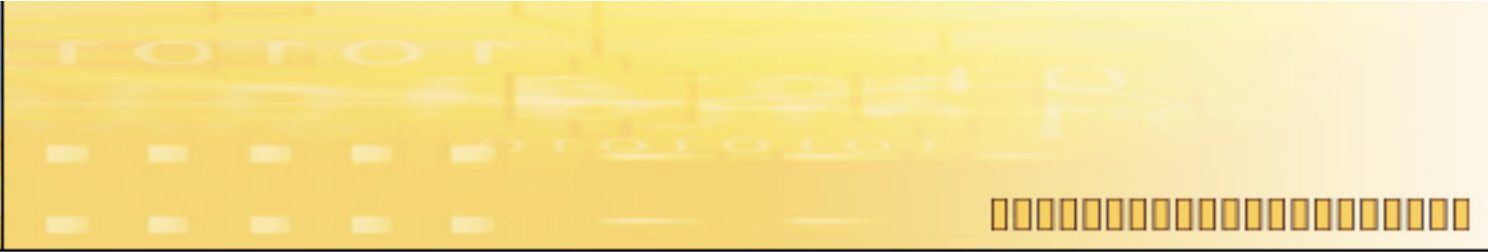
Leadbetter, C. (1999) *Living on Thin Air: The New Economy*. (London: Penguin).



# KNOWLEDGE has a NEW MEANING

How did this  
happen?





1. **SOCIAL THEORISTS**                      70s   80s   &   90s
2. **BUSINESS MANAGEMENT THEORISTS**
3. **PHILOSOPHERS**

The shift

FROM the **modern** - or Industrial - age

TO      the **post-modern** - or Knowledge - age

is a paradigm shift

equal in significance to the **pre-industrial** →

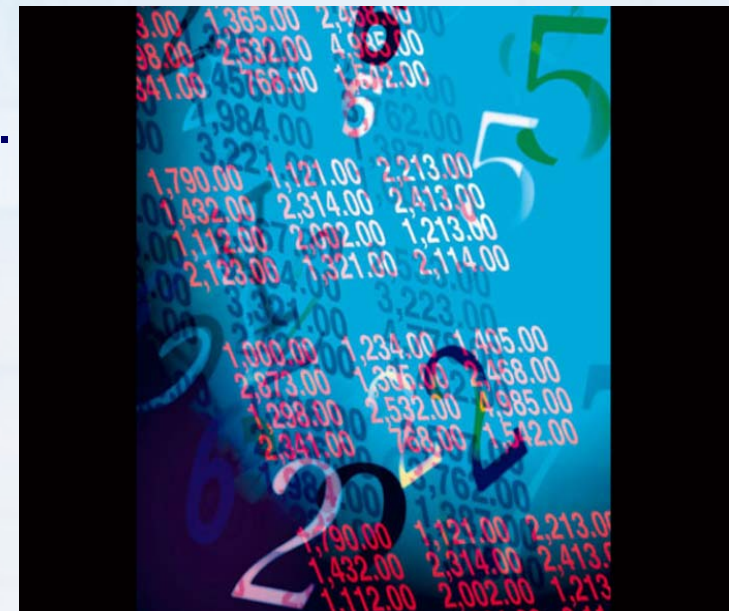
**industrial age** transition





Result of **interaction** between many different factors - e.g.

- **crisis** in traditional capitalism
- globalisation
- major social and economic changes massive expansion in knowledge
- **new ICTs**
  - if it's not digitisable, it's not knowledge...
  - web-based, multi-media technologies





RESULT

KNOWLEDGE is NO  
LONGER

linked to TRUTH

but to 'PERFORMATIVITY'

- what it can *do*

and to INNOVATION

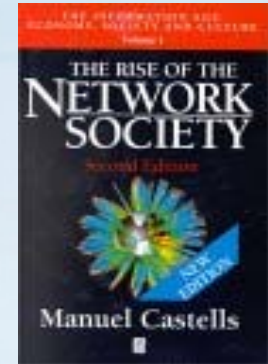






## Manuel CASTELLS

### ***The Rise of the Network Society*** (2000)



Knowledge in the Knowledge Society' is:

- dynamic, fluid, generative, something that causes things to happen;
- no longer an **object** or a '**thing**' that is **codified** into '**disciplines**', but more like energy

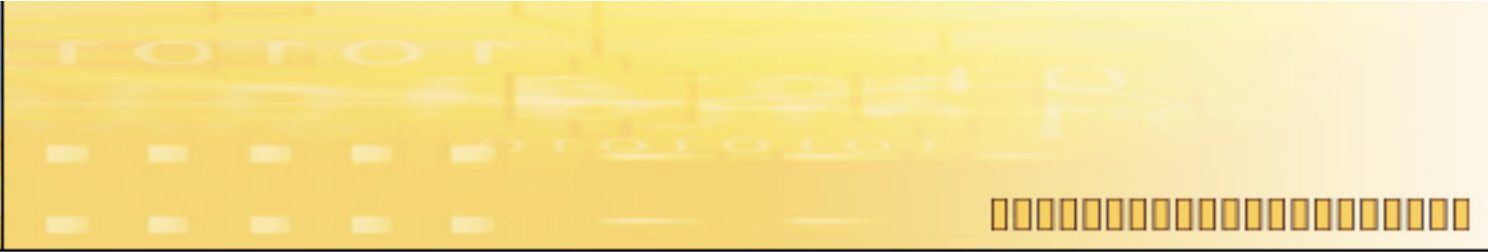




## KNOWLEDGE

- is a process, *not* a 'thing'
- *does* things
- happens in teams, *not* in individual 'experts'
- can't be 'codified' into 'disciplines'
- develops on an as-and-when needed basis
- develops to be replaced, *not* stored.





## LEARNING:


- involves generating knowledge *not* storing it;
- is primarily a group - *not* an individual - activity;
- happens in 'real world', problem-based contexts;
- should be 'just-in-time', not 'just-in-case';
- needs to be *à la carte*, not *en bloc*.





## MINDS

are not 'containers' or 'filing cabinets'  
- to STORE knowledge 'just in case':  
they are RESOURCES  
that can be CONNECTED to **other  
resources**  
in order to GENERATE *NEW*  
KNOWLEDGE







But - wait a minute.....



These ideas challenge the foundations of our education system...

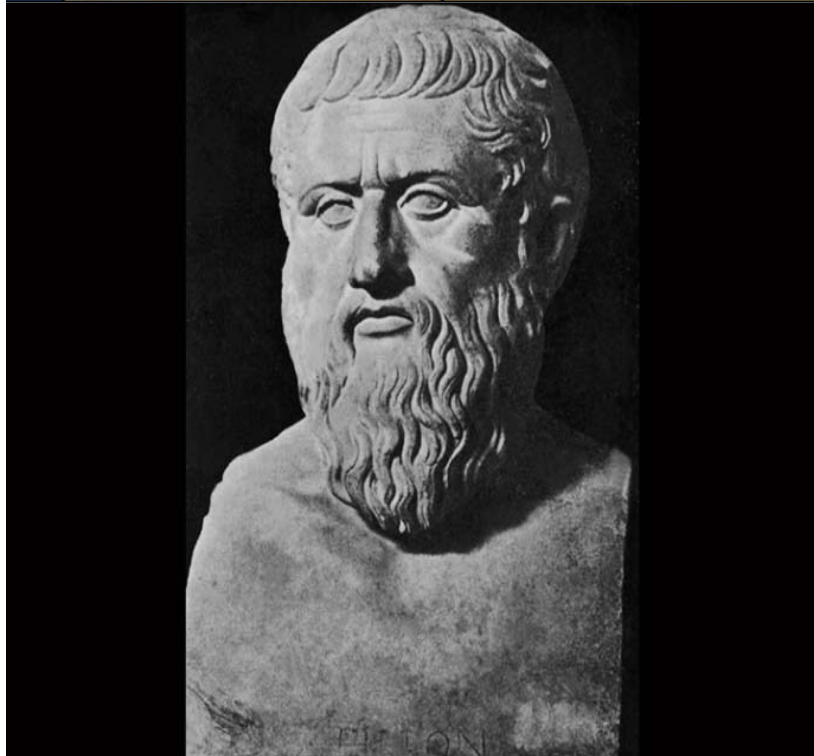






# WHAT ARE ITS FOUNDATIONS?

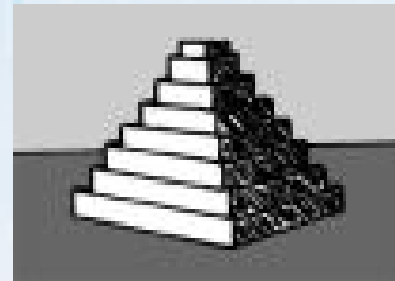




PLATO *The Republic The Laws*

set out a model education system

↳ a stable, secure, 'just' society



Plato's education system was designed to develop the qualities needed in 'philosopher kings' (society's watchdogs or guardians)





Plato's system was knowledge-centered

The mind is best developed by exposing it to the best and greatest knowledge

Plato's curriculum was based on knowledge chosen *not* because it is 'useful', but because it develops the mind - *in particular ways*

Plato's model is the basis of the traditional 'academic' curriculum





Mass education relatively recent

two quite different purposes:

- i. human resource needs of the economy
- ii. equal opportunity

✎ many important conflicts





# THE 'PRODUCTION LINE' MODEL



- students are 'processed' in 'batches' (year groups)
- all 'processed' at the same rate
- pre-set curriculum 'delivered' to all in 'bite-sized' pieces in a pre-set order
- aim is to produce a standardised, quality 'product'
- 'products' easily sorted according whether or not they meet the quality control standards



# THE 'PRODUCTION LINE' MODEL



One size fits all

- the traditional academic curriculum is the quality control mechanism - used to sort students
- many are rejected - and allowed to drop off the production line





For most of 20<sup>th</sup> century this seemed OK to most people

- system gave everyone ‘the basics’
- higher education rationed to those with ability
- very low unemployment
- plenty of low-skill jobs for the production line’s ‘rejects’ ...



THIS IS NO LONGER THE CASE



# ALSO

it has produced some important splits

<b>'academic'</b>	<b>vs</b>	<b>'applied' knowledge</b>
<b>discipline's needs</b>	<b>vs</b>	<b>learner's needs</b>
<b>discipline's needs</b>	<b>vs</b>	<b>the economy's needs</b>
<b>the economy's needs</b>	<b>vs</b>	<b>the learner's needs</b>
<b>rigour</b>	<b>vs</b>	<b>inclusiveness</b>
<b>'universal' knowledge</b>	<b>vs</b>	<b>'local' knowledge</b>
<b>elitism</b>	<b>vs</b>	<b>access to knowledge for all</b>

these need to be PUT BACK TOGETHER



- ↯ educational debate is often split
  - protagonists forced to take one of two positions
  - no robust middle ground....

↯ often unproductive...

If we allow these splits to persist, we will not be able to prepare students well for life in the Knowledge Societies of the future...







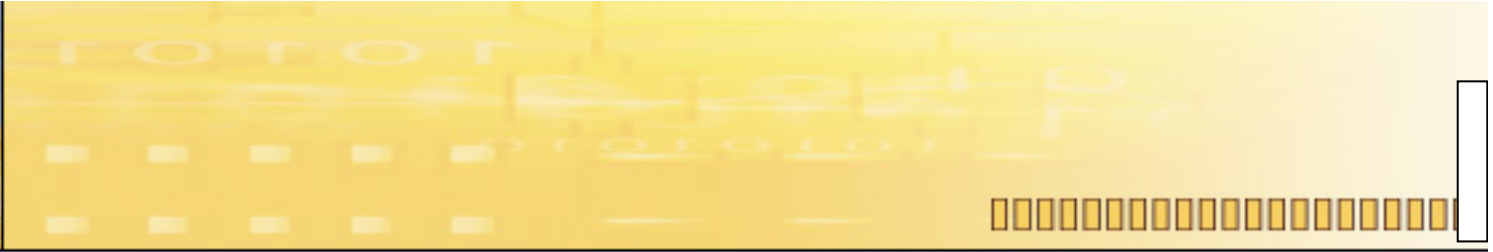
EVERYONE

needs the kind of knowledge and skills  
traditionally only provided in 'higher'  
education

EVERYONE

needs 'academic' and 'applied' knowledge  
HOWEVER: they need more than this...





To participate in the Knowledge Age, people need to:

☺ know *about* knowledge

- how different knowledge areas ‘work’
- what assumptions underpin each knowledge area
- how people working in a knowledge area generate and justify new knowledge

i.e. a *systems* - or *meta* - level understanding of a knowledge area is just as important as knowing its detailed facts





They need to:

☺ go *beyond* mastering existing knowledge

☺ be able to do things with knowledge (once they have it)

‘Performativity’ (*aka* innovation) = the ability to

☺ take elements from one knowledge system

☺ put them together with elements from another knowledge system

☺ re-arrange these elements to do something *new...*

➔ focus on investigations, generating *new* knowledge

- long before their formal ‘apprenticeship’ is completed.





They need the ability to:

☺ communicate their knowledge

- to a wide range of audiences
- in a wide range of contexts
- on their own and as part of a team

e.g. - presenting the results of their investigation

- contributing their expertise to a multi-disciplinary team
- coaching a sports team





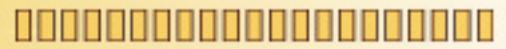


## HOW COULD WE DO THIS....?

The answers are already out there.

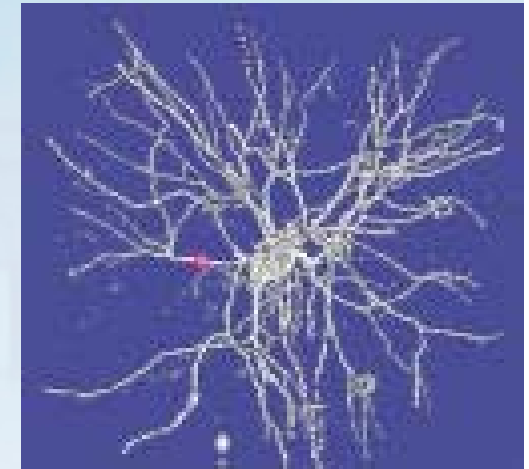
some examples...

- Critical literacies and/or the new 'multiliteracies' (Lankshear & Knobel 2000)
- Narrative-based pedagogies
- 'Real' research projects (Bereiter 2002)....



Whatever, it will be important to...

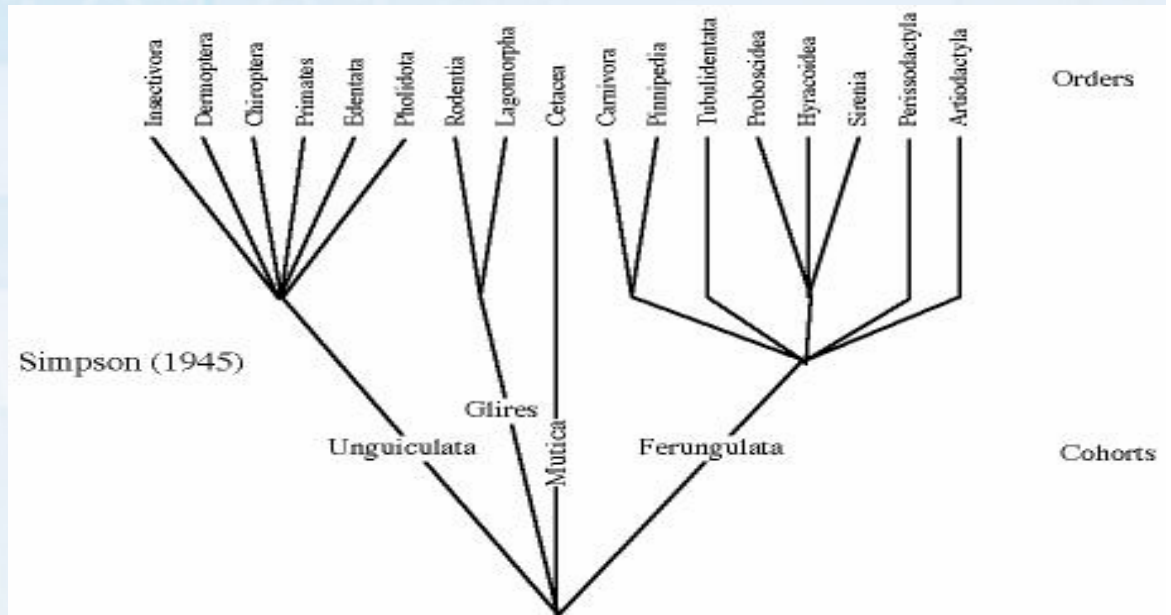
- avoid standardised approaches
- encourage diversity and multiple pathways
- avoid using 'academic' knowledge to sort people



We need new **post**-Industrial Age metaphors...

📁 systems or networks  
- *not* production lines

📁 clades - *not* clones





## Further reading

**Bereiter, Carl (2002) *Education and Mind in the Knowledge Age* (Mahwah NJ: Lawrence Erlbaum).**

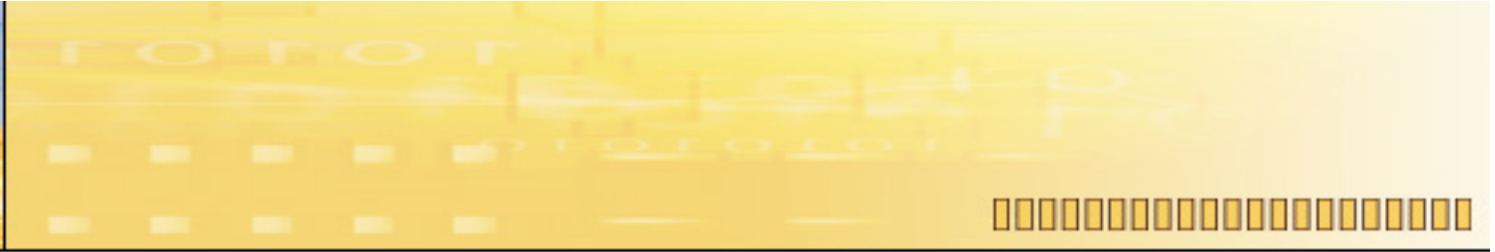
**Beare, Hedley (2001) *Creating the Future School* (London: Routledge).**

**Carnoy, Martin (2000) *Sustaining the New Economy: Work, family and community in the Information Age* New York: Russell Sage Foundation/Harvard University Press.**

**Gee, James-Paul (2003) *What video games have to teach us about learning and literacy* (New York: Palgrave Macmillan).**

**Gee, James Paul, Hull, Glynda and Lankshear Colin (1996) *The New Work Order: Behind the language of the new capitalism*. Sydney: Allen & Unwin.**





**Lankshear, Colin and Knobel, Michele (2003) *New Literacies: Changing Knowledge and Classroom Learning*. Buckingham UK: Open University Press.**

**Lewis, Michael (2001) *Next: The Future Just Happened*. New York: W W Norton.**

**Kress, Gunther (2003) *Literacy in the New Media Age*. London: Routledge.**

**Senge, Peter et al (2000) *Schools that Learn: A Fifth Discipline fieldbook for educators, parents and everyone who cares about education* (New York: Doubleday).**

**Gilbert, Jane (2005) *Catching the Knowledge Wave?: The Knowledge Society and the future of public education in New Zealand* (Wellington: NZCER).**

