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# Knowledge and the University: an ecological approach

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# Universities for the world

- Traditionally, universities were worlds in themselves
- Shut themselves off from the world – literally
  - With definite boundaries
- But, over the past 50 years, universities have been called out of themselves
  - Into the world
- But more, they are oriented towards the world
- They look in the direction of the world
- A silent revolution – they have turned around

# The call for knowledge

- This change in the orientation of the university
  - The result of the emergence of the ‘knowledge society’
  - This is a cognitive society, built around understanding
  - At first, the university was a pure winner
  - Its *raison d’etre*, knowledge, was prized by society
  - And so ‘research’ became the driving focus of what it was to be a ‘university’

# Knowledge was not enough – it had to be useful knowledge

- ‘Knowledge for its own sake’
  - This was the mantra of universities
  - But society quickly asked for more
  - It wanted *useful* knowledge
  - Knowledge that could be put quickly to work in the world
  - And so a new mantra appeared: ‘knowledge transfer’
  - 2 meanings:
    - Knowledge should be capable of being transferred into the world
    - The university itself should transfer its knowledge into the world

# The presence of the economy

- A strong connection between society and knowledge
- Greater impetus - assumption of interconnection with economic growth
- The new industries were knowledge-based
- Thesis of ‘triple helix’ – state/ universities/ industry (Ranga and Etzkowitz)
- The state was therefore willing to invest in universities
- On condition that they produced useful and economically valuable knowledge
- The primary ‘condition’ of knowledge was governed by the question:  
‘*What **use** is it?*’ (Lyotard)
- Research should have demonstrable ‘impact’ (UK)

# [Extraordinary growth of universities]

- 15,000 universities
- 200 million students
- However, only say 500 universities are ‘research universities’
- Considerable growth of private sector of universities
- Most – not all – are teaching universities (conduct little research)
- The state still invests heavily in higher education & universities
- Belief in the link between higher education and economic growth
- Emergence of ‘cognitive capitalism’ (Boutang)

# The new knowledge: the Mode 2 thesis

- In this upheaval, knowledge itself undergoes subtle changes
- The 'Mode 2' thesis (Michael Gibbons and his associates)
- Mode 1 knowledge: traditional, formal, propositional, in journals in university libraries
- Mode 2: a new kind of knowledge emerging in the knowledge society itself
  - Knowledge in-the-world, *in situ*
  - Ephemeral
  - Produced as a result of teams coming together to solve particular problems in the world
  - Multi-disciplinary and even inter-disciplinary

# University knowledge challenge

- If that was the shape of the new knowledge in the world, perhaps universities should follow that course
- Perhaps its mode of knowledge production should become more Mode 2 instead of old-fashioned Mode 1?
- And we have seen signs of that:
  - Larger teams
  - Multi-disciplinary
  - More of a sense of societal issues and problems
  - More local and regional in character (not so ‘universal’ )

# A knowledge hierarchy

- There has always been a hierarchy across fields of knowledge
  - Ever since the Greeks and mediaeval universities
  - Some disciplines have been felt to be more foundational, more rigorous
  - And it has always been changing
  - But recently this hierarchy has become exceptionally marked
  - Now, across the world, it is the STEM disciplines that are favoured: science, technology, engineering, mathematics
  - In turn, the humanities are in difficulty
    - many of the newer universities do not offer humanities;
    - governments favour STEM disciplines in their funding.

# A particular issue – on understanding

- Much talk of the need for students to develop their ‘communication skills’
- Does this take on a particular edge in a situation where students gain their education in particular disciplines
- Especially in STEM disciplines
- What does it mean for STEM-based students to develop their *communication skills*?
- Communication is partly a matter of understanding the audience, the recipient of a message
- But the matter of ‘understanding’ has been the province of the humanities.
- Does a STEM-based education deprive students of a deep ‘understanding’?

# A 2<sup>nd</sup> issue – democracy and critical citizenship

- Slide towards instrumental reason
- Knowledge only counts as knowledge insofar as it yields a potential for control over the environment
- NB: impact on natural ecologies, climate, biodiversity
- This emphasis on knowledge-for-control reduces the scope for critical reason
- And, in the long run, reduces the potential for students to become critical citizens
- Weakening of the humanities even endangers democracy itself (Nussbaum)
- There is a rhetoric around ‘students as global citizens’ – but this lacks a conceptual basis, and is itself in danger of producing world entrepreneurs.

# Interdisciplinarity – is it arriving?

- The cause of interdisciplinarity has been advanced for 50 years
- After all, the disciplines developed through the 19<sup>th</sup> and 20<sup>th</sup> centuries
- They may not be an adequate basis for universities in the 21<sup>st</sup> century
- The 21<sup>st</sup> century – interconnected, fast-moving, challenges to frames of understanding, instability ...
- The internet age – opens knowledge across the disciplines
- Connections with the wider world are growing
- Emergence of ‘ethno-epistemic assemblages’ (Irwin and Michael)
- Knowledge production – messy, less bounded, spreading across disciplines, policy, practice

# Multimodality

- New technologies change our understandings of the world
- The relationship of screen to the world differs from the relationship of written text to the world (Kress)
- More: the media through which we access the world have recently widened – hence ‘multimodality’
- Real impact: should we allow film, sound, pictures, movement to form part of doctorate theses?
- Why should we stick to words on the page, when knowledge production itself is no longer confined in that way?

# Embodied knowledge

- Increasingly a sense that we understand the world partly through our being in the world
- Through our bodily movements in and through the world
- Knowledge is not inert propositional knowledge
- But is active in the world
- And there are some innovations in higher education that respond to this line of thought
- For example, getting science students to act out what it is to be a molecule.

# Professional knowledge

- An increasing interest in professional knowledge
  - Different issues:
    - 1 The professional-client relationship was a hierarchy, with the professional being in command of knowledge
      - Now, a more equal knowledge partnership, with joint decisions
    - 2 Professional knowledge is now understood as a complex – technical knowledge, process knowledge, embodied knowledge; and in dialogue
    - 3 Professionals have to communicate, to take the part of the ‘other’ – calls for deep understanding (of communities), of empathy, of care.
    - 4 Professionals have a responsibility to speak out critically on key issues.
- So professional ‘knowledge’ is all the time widening to become a kind of professional-concern-in-the-world.

# Public knowledge

Signs of universities-without-walls (Finnegan) emerging:

1 Researchers making their findings and data available to the public

- 'socialist knowledge' (Peters)

2 The public being enabled to participate in academic research (astronomy, climate change, oral history, archaeology)

3 Emergence of 'citizen scientists'

4 University academics contributing to public debates

*Issues here of*

- 'the public university
- the university enhancing the public sphere (Habermas) & public understanding of issues
- public communication.

# Initial summary

## *Knowledge changes:*

- Not only in its technologies
- And in its forms of production
- But in its criteria – what counts as knowledge is changing
- Becoming more instrumental
- And more marketized

## *Problems of:*

- Its divisions – can academics communicate across disciplines?
- Democracy – citizenship in a knowledge society
- Circulation of knowledge across society
- Communication – can academics communicate to/with public audiences?

# An emerging knowledge ecosystem

- Flows of knowledge
- Different regions of knowledge – in and beyond the academic world
- Mixes of knowledge – knowledge assemblages (Deleuze and Guattari)
- Increasingly unstructured
- But also new structures, marked by power, finance, ideologies
- It is an knowledge ecosystem
  - Fragile, impaired, falling short of its potential (for human understanding and for the improvement of the whole world)

# The university and the knowledge ecology

- New roles and new questions for the university as site of knowledge production in navigating across the regions of this knowledge ecology.
- *Can the university work to repair and advance this knowledge ecology:*
  - To improve the circulation of knowledge
  - To enhance human understanding
  - To develop the public sphere
  - To inject principles of openness, rigour & criticality into public debates
  - And to work with a concern for the whole Earth? (Mickey, Riggio)
    - *All this points to the need for*
      - a new set of ideas of ‘engaging with the world’ (Archer and Maccarini)
      - a new kind of ‘knowledge management’ in universities (Scott Metcalfe)

## Conclusions

- Knowledge is spewing out, in universities but also across the world
  - It is becoming more instrumental
  - But there are also signs of concerns with its malformations
- This is a knowledge ecosystem, which is impaired
  - It is too bounded, too imbued with the interests of the powerful,
  - and with limited levels of critical reason
- The university has major challenges here
  - Can it help to develop this knowledge ecology so that the growth of knowledge is better fitted for this Earth?
- We can see some signs of universities doing just this
- But we need a more systematic *and* coordinated effort by universities
  - if they are to fulfil the responsibilities now before them
    - and through its knowledges engage with the world
- We need a totally new kind of knowledge management,
  - University leaders have to become active epistemologists!
  - ethically oriented, & imbued with a concern for the whole Earth.



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