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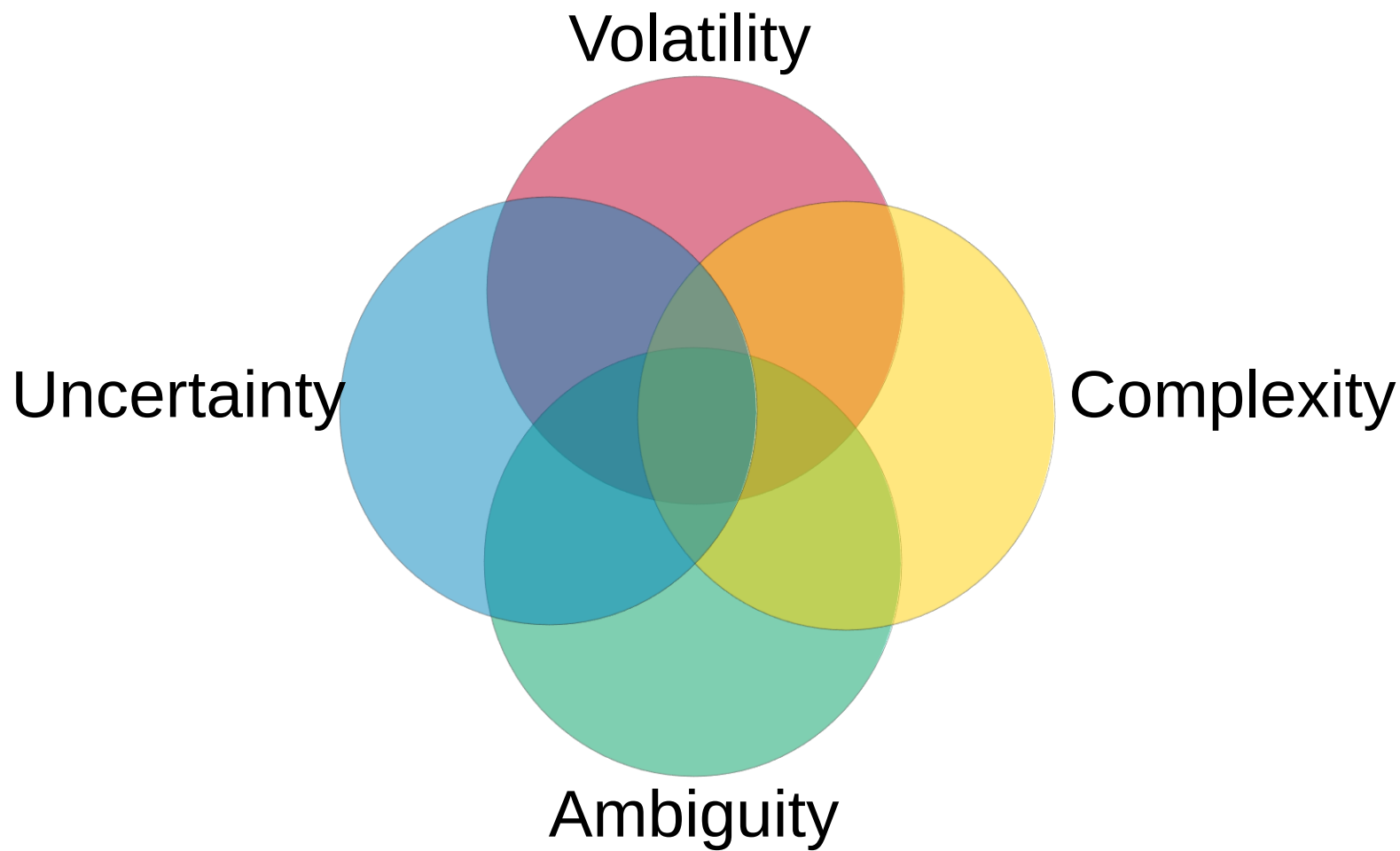
Three dimensions of ambiguity: what they mean for management students

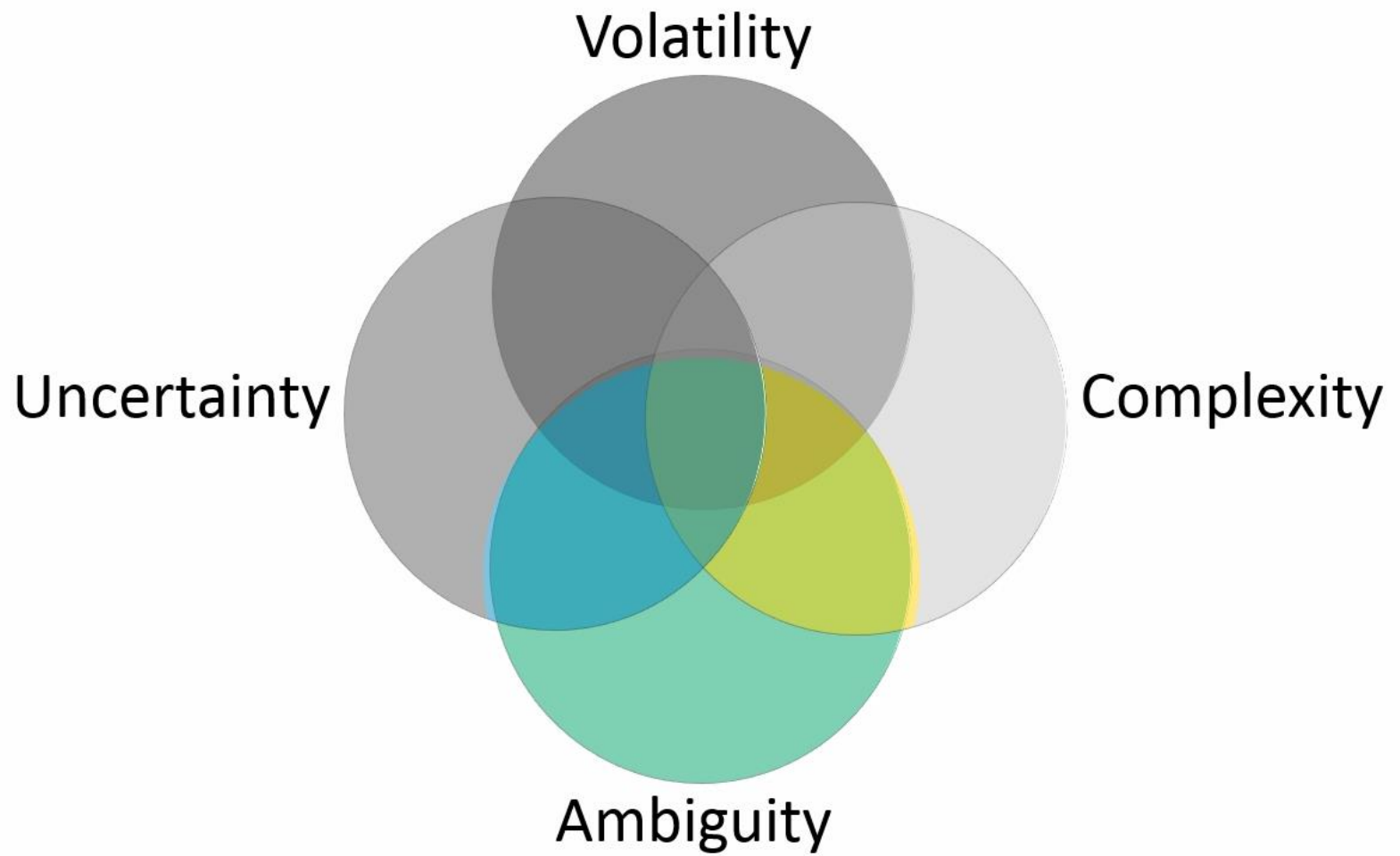
Martin Rich, Clive Holtham, Ann Brown, Mary Ann Kernan



What we are going to cover

- Why ambiguity is important in management education
- Identifying the gaps in addressing ambiguity
 - Negative capability
 - Multiple framing
 - Intuitive qualities
- How we have dealt with this in our undergraduate curriculum







Definition of ambiguity

- Dictionary definition: doubtfulness of meaning or intention
- Thesaurus definition of the ambiguous region between two categories or states or conditions (usually containing some features of both): ‘the tantalizing occurrences that are probably noise but might possibly be a signal’ (twilight zone)



Negative capability

- ‘Negative Capability, that is when man is capable of being in uncertainties, Mysteries, doubts, without any irritable reaching after fact and reason’

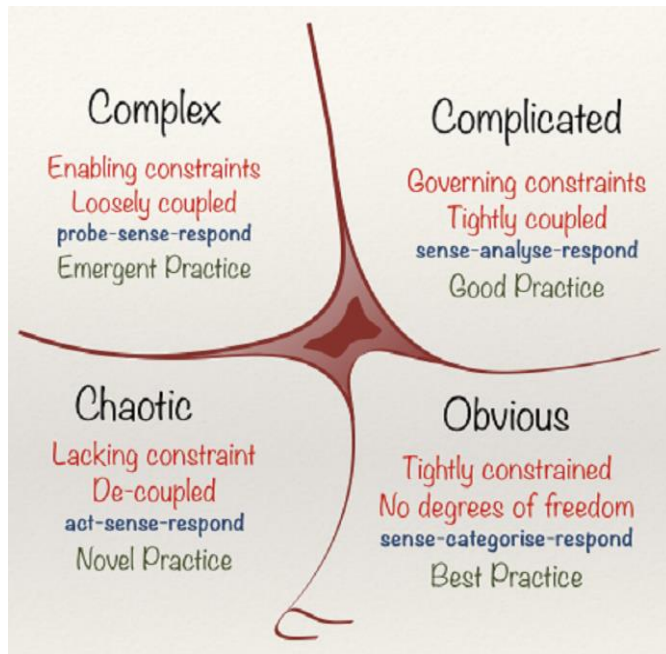
John Keats, December 1817

- Similar to the psychological trait of high tolerance for ambiguity



Acknowledging unknowability

Un-order Order



‘You have got to be comfortable in being uncomfortable’
(Dr Jonathan Woodson, US assistant secretary for defense)

Snowden (2013) Cynefin sensemaking framework



Multiple framing

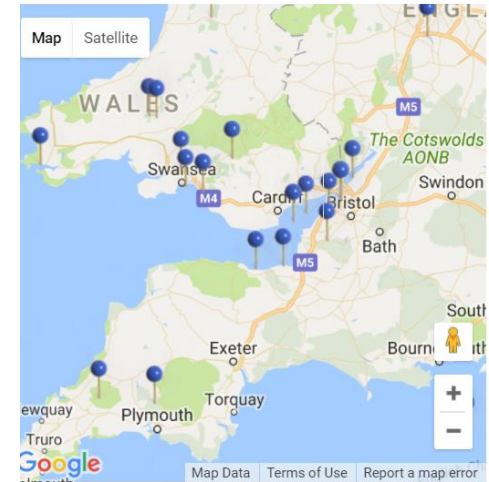
- Recognition of different viewpoints
- Different perspectives on a problem could lead to different outcomes: eg design and marketing functions will have different perspectives
- Implication that managers should be comfortable with their peers having ideas which are very different to their own

One of the pillars of rethinking management education proposed by Colby et al (2011)





Ill-structured, ill-defined open ended problems



- Typical example - Planning decisions
- Dependent on forecasts of future need (unknowable)
- Many stakeholders with differing objectives
- No easy formulation of problem - No right solution; may be several good ones and many bad ones!
- Traditional scientific, rational approach useful but inadequate



Where's the gap? Evolution of knowledge in the University

<i>From 'ivory tower' / metaphysical roots, to:</i>	<i>In Business Schools:</i>
• 'Professionalised' / bureaucratic university	Roots in trade schools + Research emphasis post-1945
• 'Entrepreneurial university'	Educating skilled managers ('knowledge-in-the world')
• 'Developmental', 'therapeutic' or 'ecological' university	Educating ethical, innovative leaders ('knowledge-for-the-world')

(Barnett, 2011)



How can we address it?

- Creation of ‘**pedagogical** and **curricular space**’
- Offering ‘**fluid ontological space**’ + ‘**authoritative uncertainty**’
- Exploration of knowledge in a range of forms, including artistic, physical and social (Barnett, 2011)
 - ‘In its pursuit of **scientific knowledge**, categories of understanding – such as **wisdom, awe, poetry and mystery** – are diminished, if not outright repudiated.... **Enchantment has been taken out of this world.**’ (Barnett, 2011, p.29)
- Echoes McGilchrist on left-brain, dissociated rationality and Western culture (2009)



- The **arts, simulations and experiential learning** can allow **‘transformation of experience into new forms of knowing’** (Sutherland *et al.*, 2015, p.616)
- **‘Design thinking’**: The arts in the development of spaces or products: management ‘as a research-based design science’ (Starkey *et al.*, 2014, p.281)
- **Embodied learning**: ‘moving **attention from the head to the body**, of settling into oneself’ (Kaiser and Kalpan, 2006, p.476)
- **Awareness**: ‘to see reality in a way that goes **beyond superficial appearances...** is a necessary precursor to **generative thinking.**’ (Bartunek and Carboni, 2006, p.503)



Example: Planning decision 3rd London runway



Many options

- Heathrow 3rd runway
 - Gatwick additional runway
 - Stansted expansion
 - Birmingham with HS2 train connection
 - Greenfield site eg estuary of Thames
 - ..
- Aims? Extra capacity for whom?
How much? Where?
 - Pollution air and sound for Local population; financial cost/benefit
 - Stakeholders; Airlines, local & national population, business firms near chosen site, business firms – UK, UK government, local councils, potential airports...
 - Implications for future air/rail transport decisions in UK





Intuitive qualities

- ‘Intuitions are affectively charged judgements arising through rapid, nonconscious and holistic associations’
(Dane&Pratt)

Exhibition of first year
undergraduate reflective work





Skills required to manage problems involving ambiguity



Qualities for rationality	Qualities for managerial intuition
Interpersonal	Self-aware
Being knowledgeable	Perceptive
Analytical	Imaginative thinking
Synthesising	Critical thinking
Enactive	Reflective
Articulate	Persuasive

Requires extensive practice



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Practice





Skills development requires practice



- Usain Bolt after winning the 100 m race in Rio Olympics 2016

- Mo Farah winning the 5000 m race Rio Olympics 2016



Typical week in training for Mo Farah

- 7 days at least 16 miles run each day

- Runs 126-135 miles/wk

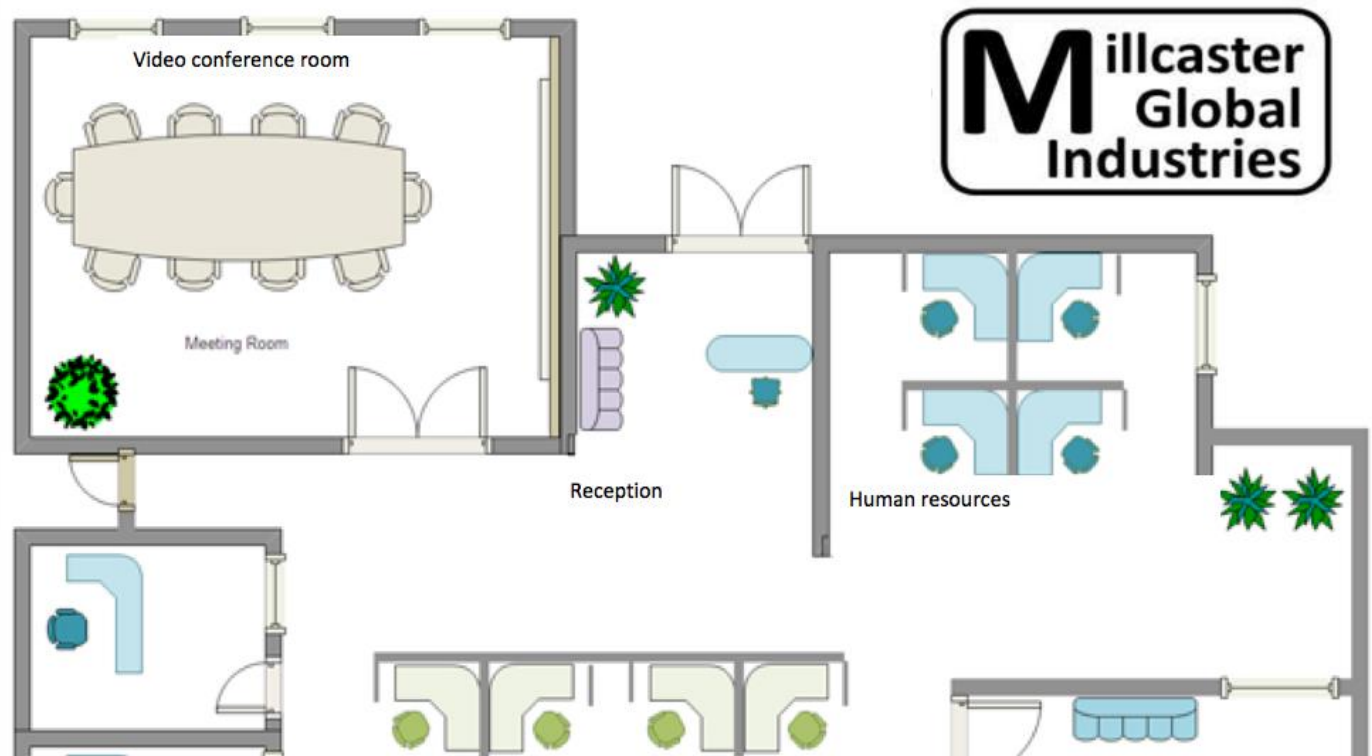


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Incorporating ambiguity into a business simulation

- First-year undergraduate module based around simulation of running a global engineering business: we introduce *deliberate ambiguity* into the challenges



Application of dimensions

Negative Capability	Challenge - Chinese government has introduced new legislation forbidding use of high levels of encryption and restricting use of personal mobile phones in certain businesses. Do you, as managers, comply? Response - participants need to: • Understand radically changed business environment and be able to research a complex set of influences • Carry out actions which they might not normally favour (comfortable with being uncomfortable)
Multiple Framing	Challenge – your company has an offshoot which is focused on innovation and on incubating new idea but which has so far not proved profitable Response – participants need to: • Rationalise different viewpoints and recognise that the situation looks very different to those in the offshoot compared to those elsewhere in the company • Understand that there are numerous implications, for instance political rivalry between different groups of departments in the company
Intuition	Challenge – although you do not, as a company, have any defence business you have been working on drones for supply chains, and the Huffington Post reports that one of your drone components has been discovered within a piece of military equipment Response – participants need to: • Consider how to brief senior managers who are to be called before UK parliament • Reflect on how to relate this to the company's core values



Indications of effective engagement with ambiguity

- Nuanced online discussions where good decision leaders encouraged diversity of views and kept options open
- Capability needed to carry out unspecified high quality background reading and evaluate quality
- Performance auditors monitoring the discussions and reporting and recording groups' handling of ambiguity



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