



The voice of engineering academics

Ethics Into Ethos

National Symposium on Developing Socially Responsible STEM Professionals, 12th January 2021

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“Until you make the unconscious conscious, it will direct your life and you will call it fate”.

— (maybe) Carl Jung

Changes to UK SPEC, 4th Edition

Looking at the changes in the UK Standard for Professional Engineering Competence (UK-SPEC) in its most recent edition, one can see a change in emphasis in Section E (Professional Commitment) as well as others.

Here are the changes in Section E for the Chartered Engineer (CEng) standard.

E1	Comply with relevant codes of conduct	Understand and comply with relevant codes of conduct
E2	Manage and apply safe systems of work	Understand the safety implications of their role and manage, apply and improve safe systems of work.
E3	Undertake engineering work in a way that contributes to sustainable development.	Understand the principles of sustainable development and apply them in their work
E5	Exercise responsibilities in an ethical manner.	Understand the ethical issues that may arise in their role and carry out their responsibilities in an ethical manner

The intersection with Equality, Diversity and Inclusion

- Moving from the unconscious into conscious means taking a more anticipatory and proactive approach, rather than a simply reactive one.
- An example of this is in Health and Safety culture, which has become deeply embedded in Engineering particularly, so it becomes a lens through which we see.
- A shift to Health, Safety **and Wellbeing** might help engender a more holistic approach. Particularly in Engineering, otherwise the focus is (understandably) on **Safety**, but possibly the other dimensions get forgotten which still feed into safety.
- An anticipatory need to consider the EDI impact of our work is increasingly enshrined in legislation.
- It's a vital part of establishing a contract of trust with those outside the STEM professions.

Truth, Trust, and the problem of Fake News



Credit: XKCD <https://xkcd.com/263/>

2020 Vision, what we have learned in the last year

- There's a lack of understanding (especially in the public) as to the limits of the Scientific Method and processes, but also how successful it is despite those limits.
- We all have a lot to learn about the intersection of the Technical with the Ethical with the Philosophical and its impact on our lives.
- There is an increasing breakdown in trust between STEM professionals and the public. We need to ask how much of that is our fault, and how we can rebuild.
- How much of what has happened in the last year was truly “stochastic”? Coming back to Jung's potential quote, was it just Fate?

“The greatest shortcoming of the human race is our inability to understand the exponential function.”

— Albert Allen Bartlett

N FILM /the social dilemma

The Social Dilemma

2020 | 12 | 1h 34m | Documentaries

This documentary-drama hybrid explores the dangerous human impact of social networking, with tech experts sounding the alarm on their own creations.

Starring: Skyler Gisondo, Kara Hayward, Vincent Kartheiser



- Ethics and Sustainability are closely related. We have long known that some of our activities threaten pandemic generation and sustainability more generally.
- The rise (and handling) of Social Media is an important case study in the interaction between the technical and the ethical.
- Technical companies didn't give full consideration to the ethical and social impacts of their designs and decisions, and now some of these companies are being forced to make very difficult ethical decisions with significant political and social ramifications.
- Even apparently clean-cut ethical decisions are now such that the consequences can be difficult to foresee, often because of a breakdown in trust.

The Way Forward

- Engineers and other STEM professionals need to take a more literate approach to ethics and philosophical implications, and not become beguiled by the simply technical. At least within Engineering in the UK this discussion is rich and ongoing.
- We need an honest conversation about the role of error in STEM.
- This needs to be a shared journey with society, without building trust and a shared understanding of the place of STEM in public life not only are we unlikely to be successful, but we risk catastrophe.
- There is reason for optimism that we have collectively begun to understand the problems causing division and started a journey where we move forwards together in an ethical, sustainable way.

“Educating the mind without educating the heart is no education at all.”

— (almost certainly not) Aristotle

“Ethics is not just a concept but a form of action: acting in and for the society.”

— ([definitely](#)) Professor Raffaella Ocone



Engineering Academics NETWORK

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**Thank You. If you're an Engineering Academic, do join
our EAN if you haven't already.**

“Engineers must integrate the technical aspect of their job with the social aspect of life. Their ethical behaviour cannot be disconnected from their profession, and the two seemingly separated issues are the same in their essence.”

— ([definitely](#)) Professor Raffaella Ocone