

# Being Novel? Regulating Emerging Technologies Under Conditions of Uncertainty

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# Outline

- The emergence of novel beings
- Novel beings and the Law
- Regulating for uncertainty
- Tentative principles for the regulation of novel beings
- Problems with Principles-Based Regulation

# The Emergence of Novel Beings?

- What are novel beings?
  - Beings with the capacity for consciousness at the same level as, or surpassing, ours, and perhaps meeting the philosophical criteria for personhood (Lawrence and Brazier, 2018)
- What types of novel beings might emerge?
  - Artificial general intelligences,
  - Genetically modified animals,
  - Cognitively enhanced humans,
  - Synthetic biological constructs.

# The Emergence of Novel Beings? Cont'd

- Will novel beings emerge?
  - It is far from clear that novel beings will emerge from advances in artificial intelligence, synthetic genomics, gene printing, or cognitive enhancement.
- Sceptical Challenge: If it isn't clear that novel beings will emerge, what is the value in thinking about how to regulate them?
  - Preparedness
  - Influence development of precursor technologies

# Novel Beings and the Law

The emergence of novel beings poses two sets of questions for the law:

- 1) How should we regulate *the emergence* of such beings?
- 2) How should we regulate them *once they have come into existence*?

Both of these questions are made harder to answer due to the uncertainty surrounding novel beings

# Regulating for Uncertainty I

In the case of novel beings we are uncertain:

- *whether* such beings will be brought into existence
- *how* their existence will be brought about
- *when* they will be brought into existence
- *which* of the precursor technologies we are developing will be springboards for the emergence of novel beings
- *what* these novel beings will be like

# Regulating for Uncertainty II

Given this level of epistemic uncertainty, what can be done?

- Wait and see
  - Problem: Collingridge Dilemma.
- Creation of a new detailed legal regime
  - Problem: we lack the detailed knowledge to do so at the time being.
- Principles-based regulation

# Principles-Based Regulation?

## *Advantages of Principles-Based Regulation*

- Principles are general and flexible: allow us to regulate even under conditions of uncertainty
- Principles-based regulation can be used in conjunction with more specific rules to establish 'red lines'

## *Disadvantages of Principles-Based Regulation*

- Flexibility and generality of principles leaves room for interpretation and might not be action-guiding
- Discuss potential ways to mitigate this later. First, some tentative principles



# Tentative Principles

- **Non-Domination:** No moral agent ought to be dominated by another moral agent
- **Explainability:** Moral agents are entitled to an explanation of the decision-process used by an AI system to arrive at an output.
- **Responsibility:** It should always be possible to hold some entity responsible for any negative outcomes that follow from the development of novel beings and/or their precursor technologies

# Possible Mitigation Strategies

- The flexibility and generality of principles could be seen as a disadvantage as they can be interpreted in various ways.
- Possibility of *creative compliance* and desired regulatory goal not achieved.
- To mitigate this risk, principles should be accompanied by an account of the *purpose* of both each principle and the principles as a set.
- "[R]ules may be used at the fringes to set boundaries beyond which [relevant] research [or activities] must not stray" (Devaney, 2014, p. 45)

# Concluding Thoughts

- Adopting a principles-based approach may help us deal with some of the uncertainty with regards to the issue of (the emergence of) novel beings.
- Presently, higher order principles are probably the only possible way forward.
- As the uncertainties get resolved, the legal and regulatory gaps can be filled in with more specific and granular law and regulation.

**Conclusion: A multilayered and more fine-grained approach encompassing different sorts of regulatory approaches and tools will likely be necessary in the longer term.**

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Thank you for your attention!  
Any questions?



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Work on this presentation was generously supported by  
a Wellcome Trust Investigator Award in Humanities and  
Social Sciences 2019-2024 (Grant No: 212507/Z/18/Z).