

Novel Beings Network Workshop: Navigating the Proactive/Reactive Regulatory Debate for Emerging and Future Technologies.



Convenors: Dr Sarah Morley (Newcastle University) and Dr David Lawrence (University of Edinburgh)

24th March 2021 (10.00am-15.00pm)

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Introduction from convenors Dr Sarah Morley, Dr David Lawrence - 10:00-10:15

This workshop was designed to promote discussion-based responses to the proactive/reactive dichotomy in regulatory approaches. Reactive approaches (waiting until technology is developed to respond) are often opposed to proactive ones (acting as quickly as possible before it is too late and developing flexible responses once the specifics of the technology are realised). This is an enduring debate in response to emerging technologies. The main aim of this workshop was to discuss and learn from a range of perspectives and disciplines.

Since 2018, the Novel Beings project has developed to take a wider legal approach and expand from corporate law to broader questions around the governance of emerging technologies and 'novel beings'. The Novel Beings network has a range of events and publications coming up, such as the Special Issue of the Cambridge Quarterly of Health Care Ethics in July 2021 and an Edited Collection in 2022. The project team will launch a new website and relaunch the network this year, to broaden engagement.

In this workshop, we sought to decouple the notion of the 'novel' from the main focus of the discussion, the proactive/reactive regulatory debate, which has implications for areas other than novel technologies.

Key Speaker Prof. Roger Brownsword (Kings College London) - 10:15-11:00

[Roger Brownsword](#) is a Professor of Law at Kings College London. In this speech, Prof. Brownsword examines the dual challenges of **timing** and **levels of regulation** in the governance of novel technologies.

For Brownsword, The UK's standard regulatory response to novel technologies appears to be: "no response". The UK government is often vague about the timing of regulation, and it is unclear whether proactive or reactive regulation is considered preferable. For example, where other nations moved early to regulate or prohibit BitCoin, the UK has taken a reactive approach. Interestingly, by contrast, the UK is sometimes depicted as a regulatory exemplar due to its regulatory response to assisted conception. However, five years of parliamentary debate preceded this regulatory framework, casting doubt on whether this can be considered a good response.

In spite of this, the UK government claims it regulates at 'just the right time', not too early and not too late, but this is vague and offers no real addition to the proactive/reactive debate. This question of timing may also be connected to debates on levels of regulation. Governments often seek to avoid overregulation, which may 'stifle' innovation and technological advancement, and underregulation which could pose risks to consumers and other parties. The downsides of early regulation are often perceived similarly to risks associated with overregulation, such as stifling innovation. Regulation implemented too late may be perceived similarly to underregulation: putting communities and individuals at risk.

Brownsword argues that proactive/reactive and over-/under-regulation responses may each be problematic, but we are unsure of how to advance beyond them. The optimum regulation in principle would be balanced and implemented at just the right time, but this does not translate well into practical solutions. There are existing practical and institutional constraints, including fragmented, existing

institutional arrangements. There is also evidence of reluctance of certain actors, little information crossover, no understanding of responsibility, and no first port of call for this responsibility.

Through his recent work on AI on a legal board, Brownsword observed that attempts at regulation were difficult due to a lack of information and limits accessing details. Often groups are fragmented and information is shared in a disorganised way, or not at all. Sometimes these groups are doing parallel work which constrains other groups doing similar work. Brownsword argues for improvements in pooling information. The government and other regulators seem to be restarting regulatory debates whenever new area or technology emerges, rather than using a systematic attempt to gather information or developing a standard response.

Brownsword argues that, in an ideal world, a group would be established which explores potential new developments, scans and debates them early before novel technoscientific risks materialise. This hub would be a place to seek information, compile it and deliberate on regulatory questions. It would have clear responsibility to provide first response to new risks. There would be clear allocation of a foresight node, as well as a node for ex-post monitoring.

Brownsword concedes that the regulation of novel technologies is complex, and the proactive/reactive debate can also be related to consideration of 'critical infrastructures', or the conditions necessary for humans to flourish as agents and as social beings. This infrastructure makes it possible for humans to form into groups with identities, such as nation states, regions, subregions, and other communities with particular identities. Any solution must balance as many stakeholders' interests as possible and an understanding of the 'critical infrastructure' of our societies.

Of course, stakeholder interests may be competing. There may be concerns from publics about possible risks, such as injury, liability, data protection, and privacy. Companies, on the other hand, may pressure regulators in an opposite way. This can create a messy and complicated environment for negotiations, and it must be noted that any evaluation of resulting regulation will also depend on these communities and be shaped by their interests.

Taking relativist and pluralistic approach, Brownsword acknowledges that communities may hold different views and interests internally. Specific communities may form different identities and group values around technology that hold as long as they are compatible with the infrastructure of the community. However, regulators must try to negotiate differing values and create a package of regulation that will be compatible with community interests. As a baseline, Brownsword recommends that regulation addressing such technologies be compatible with three 'licenses':

- Social license – everyday community conflict must be resolved by the regulation
- Community license – the regulation must be compatible with community identities and values
- Global commons license – regulation must protect global critical infrastructure.

Brownsword argues that it may be better to approach the regulation of novel technologies on a case-by-case basis. We may also need to lower our expectations as we may not succeed every time. However, for Brownsword, regulators' default position must be proactive in order to uphold 'critical infrastructure' and shield it from the risks of new technologies or delayed regulation.

Comments and questions

This session sparked a range of comments and questions, including:

- a. The focus on community in global and local contexts is fundamental for regulation – how can negotiation at the community level integrate expert and layperson knowledge?
- b. Regulation of novel technologies is often a problem of substantive uncertainty. Early regulation often takes a safety-related focus, as evidence emerges alongside the technology. With this in mind, perhaps the underlying debate on regulation of novel technologies should not focus too narrowly on whether regulation is implemented proactively or reactively. A better focus might be whether *detailed* regulation is designed and implemented too early or too late, and whether these measures were implemented in the right way (hard or soft instruments, top-down or bottom-up approaches, etc.).
- c. What type of adaptive regulation could be created to respond to developments in scientific knowledge, including awareness of new risks and information?
- d. Perhaps smart technology could play a role in governance, not just humans. Our reliance on machines for decision-making has increased and technology may be able to make agile regulatory responses. Indeed, the paradigm of governance is already changing, and there are nuances and differences between purely technological governance and human-machine interactions. For instance, in football, referee technology reviews human decisions and assessments but humans still make the final decisions. This is an example of convoluted, 'human-in-the-loop' decision-making, rather than purely technological.

Session 1: What does the proactive/reactive division in approaches to regulation mean to you and your area of expertise? - 11:10-1:00

Key points

Regulation may be hamstrung by lack of knowledge and deliberation

- a. Legislators can establish some broad aims of regulation, such as reducing risk, but, for the governance of emerging technologies, challenges may arise from implementation and context.
- b. Law is only geared at changing human behaviour. It cannot control technology or its operation. Technology may better regulate technology as previously mentioned, whereas law can only focus on the humans creating and controlling this regulatory technology not the technology itself.
- c. Indeed, lawmakers often try to dig into the technology itself to regulate it. 'Unknown unknowns' of what technologies can do and where they might go are a relevant and real concern here.

- d. There may be meta-normative and ethical concerns in relation to new technologies, with which regulators are able to grapple meaningfully, unlike unknowns. Perhaps they should focus more on these. However, there may not always be the political will to do so.
- e. Some regulators do not want to engage with controversial topics. Controversy may disincentivise regulation or result in overregulation, for instance if a controversy leads to scandal and pushes an emotional regulatory response like that seen following the Alder Hey children's organ scandal.

Stakeholder involvement

- a. People involved in biotechnological research want certainty provided by regulation. However, for the law to do so, it relies on certainty and knowledge. Sometimes this is not yet possible.
- b. For example, there is epistemic uncertainty around the pain suffered by animals in biotechnological studies. As there is no consensus on knowledge, law devolves responsibility back to the experts, in this example, the biotechnologists – the people doing the research on the animals in the first place. This is a form of regulatory helplessness that circumvents regulatory innovation.
- c. Perhaps there needs to be regulatory response from the government as the current circular self-regulation is self-defeating and ineffective. Perhaps the way to solve this dilemma is through the biotechnologists creating their own regulatory system that is double-checked externally, such as currently done within academic research with outside oversight.
- d. Another consideration may be *which* stakeholders are involved in such processes, as interests can influence regulation. Only thinking of one stakeholder and shaping regulation around them can be ineffective. Trying to change this and add in new stakeholders later usually proves ineffective too. This creates huge and complex regulatory communities.
- e. If we take into account the complex supply chains underpinning most technologies, for instance their component parts, the pool of potential stakeholders is huge.
- f. Existing power structures (e.g. in capitalist societies) often mean corporations have greater resources.
- g. One way to look at it is that regulation can only ever be one part of a bigger puzzle of multi-level governance in which you have bottom-up soft law, or even self-regulation instruments by stakeholders and industries or professional bodies (e.g. medicine professional bodies guiding codes of conduct), then national levels of laws and regulation, then supranational levels of treaties and conventions.

Capacity of regulators

- a. This is not just a problem of resources but capacity of regulators too. The reality of resource issues and constraints on regulation means that governments can barely provide effective *reactive* regulation.
- b. Technological regulation often requires working understandings of the complexities of emerging technologies, an absence of which may lead to regulators relying on companies operating in good faith. This is a major consideration in any technologically mediated area.
- c. Only bad reactive responses that cause scandals appear to create change. Regulation is also outdated and unrealistic in the context of technological developments. For instance, regulation

of medical apps was based on the underlying premise that only a small number of such apps would be created by a small range of actors. This means the original regulation is no longer applicable as it was designed to respond to a different problem.

- d. One way to approach the debate is to recognise that emerging technology is not a monolith, but a two-stage process involving research and development, followed by developed technology. Proactive responses may better apply to the R&D stage whereas reactive may apply when technology has been developed fully.

Session 2: Where there are definite gaps in the regulation of emerging technologies, how are these overcome (or not) in your fields? - 13:10-13:55

Key points

Social and political gaps, rather than regulatory gaps?

- a. Regulation may be considered only in the context of wider social and moral systems. In this context, regulation is not static, and must be responsive and reactive.
- b. It was suggested that gaps in regulation be thought of as cocreated or socio-political. For example, at the national level, for example, the UK supports self-regulation more than Germany, which prefers more explicit regulation. The USA does not allow federal regulation.
- c. In practice, policy tends to be deliberative and distributive, involving a host of regulators, stakeholders, and forms. Policymaking is complex, and legal gaps can be the result of lack of political will to address an issue.
- d. There is often an element of 'remit creep': something new being assigned to a body that was not originally created to deal with it.
- e. There is also a tendency to compare emerging 'policy problems' to the closest existing policy/legal issue, without due consideration of whether the 'problem' is new or different.

Businesses and the law

- a. Often, the role of businesses in novel technology regulation is centred around risk – and typically self-assessment of risk. One question may be: do you proactively regulate to ensure that corporations behave properly, or reactively regulate because you cannot foresee the kind of harms that may result from the technology? This is a problematic loop.
- b. One example of successful collaboration between regulators and industry could be a UK overseas tax evasion policy, aiming to reduce the amount of tax evasion overseas. The policy had clear goals, but details of how to implement changes were unclear, and HMRC set out guidance after discussion with industry. After difficulties and discussion between industry and the regulator, guidance was formulated and then successfully implemented by industry, by and large.
- c. The collaboration between government and private bodies has created industry terms and conditions. These have to be accepted in order to get access to standardised technology. For example, the terms and conditions on YouTube are based on copyright policy distinct from that of the UK as YouTube can take advantage of contract law to create its own regulatory standards.

Regulatory gaps

- a. Examples of regulatory gaps may include: how we define 'human being', right to die, online speech (rules vary by country), biometrics (the biometric officer post merged with the surveillance camera officer), no UK forensic science commissioner currently, emergency medical data sharing during the pandemic, tax evasion, LIBOR rates (a transition away from this is in progress).
- b. Today, emerging technologies may result in the creation of something sentient or sapient, which has never been possible previously. Once such technologies exist, the instrumentalisation that we might want to avoid if 'novel beings' are worthy of certain rights protection is already so embedded in society and societal norms that legislators may not want to legislate on it. Perhaps if we reach a point of creating sentient or sapient 'novel beings', the legislation has to exist already. If 'novel beings' exist before legislation, the legislation might never come into existence.
- c. Another broad gap to consider may be openness by those developing innovative practice:
 - I. If regulators are playing catch-up with emerging technologies, then those involved in innovation, e.g. in developing new technology, must be open about what they are doing. This may enable regulators to become better-informed sooner, in areas where there is a need for regulation.
 - II. Where there is no regulation that applies to the innovation, practitioners know that there will be rules in due course. This will likely make innovators self-regulate.
 - III. There is perhaps a question around transparency relating to competitiveness, trade secrets, and IP requirements. If corporations are required to be transparent, some restricted access is needed.

***Session 3: How can we best strike a balance with regulation as technological advancements accelerate?
- 14:00-14:45***

Key points

Creation of a hub or node

- a. The creation of a central hub, or first-responder hub for information on technological advancements could be helpful.
- b. This hub could offer first attempts at regulation which would then be reviewed.
- c. One challenge is the unexpected interplay and crossovers between areas, as has been the case with a hub for advancements in genetics, for example.
- d. Another challenge is who to include in the hub to promote deliberation and citizen participation.

Principle-based regulation

- a. It was suggested that if it is not possible to predict how quickly a technology will come to fruition or the impact it may have, then there may be no alternative to principle-based regulation. In certain areas of technology and biotechnology, ethicists may agree on guiding principles. The kinds of principles, initially, that a regulatory framework could work with include non-domination, explainability, and responsibility. These are not standard biomedical principles.
- b. However, the problem with principles is interpretation and flexibility, especially if there are no sanctions behind them. Also relying on corporations and organisations to decide how to give

effect to principles may not work. Statements of normative principles and guidance should accompany principle-based regulation.

- c. One of the challenges in the technology sector more generally is that there are so many goals. What are the goals of creating 'novel beings'?

Moral status, personhood(s) and categories for novel beings

- a. An option is to consider more broadly the creative use of personhood in law. Examples of animal rights law could be an interesting starting point. For example, in Germany there is constitutional protection for animal sentience, but this is a 'constitutional objective' rather than concrete legal rule. This emerged when scientists went to constitutional court to balance animal rights with the right to scientific endeavour.
- b. It may also be useful to look beyond animals. Law has, since medieval times, created *persona ficta*: things that are not human but that laws treat as people. For example, ships were seen as people under the practice of admiralty, meaning people could sue, launch proceedings against and arrest a ship. Hindu religious cycles were and remain people. The key factors are the best interests of the legal person(s) represented by the cycle.
- c. Perhaps in the case of 'novel beings', regulators could look at how the law creates entities and categories and create new ones.
- d. Indeed, the idea of 'novel beings' should be questioned, such as how 'being' is defined and what type of 'being' is wanted by society.