

Lost in Translation?

From Science to Regulation

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Science and the Language of Law

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Good morning,

We are delighted to welcome you all to Birmingham Law School to the SLSA and the Law School funded event: “Lost in Translation - From Science to Regulation”. I would like to thank the SLSA and the Law School for funding the organisation of this event and all speakers for accepting our invitation to present their work today. I would also like to thank my colleagues Dr Steven Vaughan, Professor Robert Lee and Robert Doolan for their help in organising this event.

Today’s event is devoted to the interface of science and law. This area has gained increasing prominence in recent years. This is partly due to the impressive pace of scientific and technological development that necessitates a different and more responsive regulatory culture both internationally and within the European Union. Likewise, the right to a healthy and decent environment imposes a legal duty on government to ensure high levels of environmental and health protection. Despite this common trend, the intersection of law and science is often an uneasy relationship where both the scientists and lawyers struggle to find a common language. I can’t comment on how scientists understand law, but I can certainly say that lawyers are often uncomfortable when faced with legal questions that involve science. The following quote tries to portray this relationship: “Judges and lawyers usually react to science with all the enthusiasm of a child to get a tetanus shot”.¹ I think that we moved on in recent years; judges and lawyers truly appreciate scientific knowledge. However, we still find scientific language complex and quite different from legal language which, by rule, should be accessible to everyone, as well as precise as it confers rights and imposes obligations on natural and legal persons. This is expected as law and science have different objectives and different *modus operandi*. As Sheila Jasanoff points out “science seeks truth, while law seeks justice; science is descriptive while law is prescriptive; science emphasises progress whereas law emphasises process”.² Lord Neuberger in his recent speech at the Royal Society pointed at how science is rational and not prejudiced by morality, religion or any other social values and rules.³ However, those two disciplines are not very dissimilar. Both law and science are based on logical reasoning and deploy evidence to reach a conclusion.⁴ Science and law share the common objective of ordering and categorising somewhat chaotic world in which we live.⁵ We even use the same word “law” to denote rules in these two contexts; for example we have the law of gravity and environmental law.

A more responsive regulatory culture and greater reliance on formal analysis of risk and benefits, the openness of decision-making and more rigorous supervision of the executive has inevitably brought scientists and lawyers to work more closely. Today’s event is an interdisciplinary

¹ Bert Black, Francisco J. Ayala & Carol Saffran-Brinks, “Science and the Law in the Wake of Daubert: A New Search for Scientific Knowledge”, 72 *Tex. L. Rev.* 715 (1993-1994), p. 716.

² Sheila Jasanoff, *Science at the bar: law, science, and technology in America*, (Harvard University Press, 1995), p. 7.

³ Lord Neuberger, “Science and Law: Contrasts and Cooperation”, The Royal Society, London, 24 November 2015, <https://www.supremecourt.uk/docs/speech-151124.pdf>

⁴ *Op.cit.*, para 9.

⁵ *Ibid.*

occasion that brings together scientists from different fields, lawyers, policy-makers and practitioners. All the presentations are germane to a wider research agenda on the science-law interface and will provide a valuable contribution to further understanding of law and science. We will explore the intersection between science and law and the connections with public policy, technology, ethics, public opinion and politics.

To that end we will look at how the regulators and policy makers at the national, European Union and international levels use scientific evidence to inform policy making. We have representatives from institutions at each of these levels participating today. It would be interesting to see if the approach to scientific evidence varies between institutions as these three levels have different longevity, as well as different competences and policy preferences.

While a key objective for any regulator is to provide a regulatory environment that mitigates risk, it becomes increasingly challenging to deliver this in a way that is accountable, transparent, open and participative. As this is particularly pertinent to environmental regulation we explore these issues in more detail today. A further challenge for regulators and legislators is to ensure that the scientific tests used to effectively identify and mitigate risk are as comprehensive as possible. Few regulators have the resources or capacity to fully provide this. This is an area where academic and scientific expertise can assist regulation and we will hear about some experiences from University of Birmingham. Another question to be examined today is how the status of scientific experts, and in turn what constitutes scientific expertise, influences the policy making and regulatory processes.

Finally, it is also important to think about time. Science underpins much of the work of environmental regulation and law making. While the general perception is that the speed of scientific advances outpaces the regulator and legislator, today we will explore whether that is really the case. On a broader level, we will also explore the question of how intergenerational equity fits into areas of scientific policy making.

I became interested in the issues we are going to explore today because of my own background. I started my academic life in Serbia and was drawn to issues of how the EU environmental concepts could be translated in various national languages. At the time, I was working on a European Commission project of translating parts of the EU environmental *acquis* into the Serbian language and in order to validate the translation I looked at EU law in several languages. One of the main challenges I faced in translation was translating specific EU legal and expert terminology in an environmental policy area that is often exclusive only to the EU legal system. This is indicative of the key task for a translator, the conveyance of concepts that are well known, easily recognised and sometimes even terms of art in one language to another language.

This research demonstrated the complexity of the intersection of law and language at the EU level and revealed the fragility of linguistic terms which assume new life and meaning in the process of translating legal text. This prompted my interest in the analogous relationship between law and science and the implications of translating scientific knowledge into law. I became interested in the process of translating scientific knowledge into legal texts by looking at the different stages of legislative procedure. However, scientific findings can often get lost in translation through the legislative and policy processes. As Brian Friel, the late Irish playwright wrote in his play *Translations* “it can happen that a civilisation can be imprisoned in a linguistic contour which no longer matches the landscape of [...] fact”.⁶

⁶ Brian Friel, *Selected Plays*, (The Catholic University of America Press 1986), p. 419

The translation of science into law is specifically concerned with maintaining this landscape of fact. However, the breadth and complexity of environmental law renders this particularly challenging. This field represents a good example of where the regulator, in preparing policy and proposals relating to consumer safety, public health and the environment, is highly dependent on the input of scientific expertise provided by independent scientific groups and institutions. This can lead to over-regulation or under-regulation, with impacts on human health and the environment and/or on innovation and the economy. On occasion, regulators' translation of science into law may be constrained by national and EU level policy preferences. This potential misunderstanding between policy makers, regulators and scientists can be seen both at the EU and national levels.

Jasanoff's distinction between science in policy and research science is extremely useful in identifying the translation of scientific findings into law.⁷ Lawyers and policy-makers are especially interested in 'science in policy' which aims at the improvement of the use of science in legal decision-making and looks at how science advisors act as policy-makers. As regulatory science involves knowledge production, knowledge synthesis and prediction,⁸ this approach is invaluable in unveiling different phases in the use of scientific knowledge by Commission officials in EU legislative drafting.

In terms of my own research, it primarily focuses on the EU level, and considers whether scientific expertise is fully embedded in the formulation of the EU environmental *acquis*. The interface of science and law in the EU has warranted significant scrutiny due to the fact that, unlike in member states, decision-making is reliant on a greater number of actors, institutions and processes.

My research includes three main research questions:

- Does the EU successfully integrate scientific expertise into environmental policy making?
- Are scientific advances translated into environmental legislation and policy in the EU?
- How can the use of science be improved in the regulatory process?

Bismarck supposedly suggested that there are certain things that one ought not to examine too closely how they are made. In this category came sausages – but also laws. However, we need to scrutinise how science inputs into law and regulation. This avenue of research is not only empirically valuable but also raises important questions of administrative accountability, participation and transparency, as well as the use of scientific knowledge to effectively identify environmental risk. Most significantly from the perspective of law and science, it will also shed light into the 'black box' of how scientific findings are inputted into law and regulation.

My hope for today is to open a dialogue between regulatory actors, the legal and scientific academic communities and practitioners on how we can improve the policy and legal process of incorporating scientific knowledge and further embrace the scientific culture of empirical research and testing. I believe that we will come away from today's event with a deeper understanding of key issues of environmental law and science, in particular risk management, governance and participation and the relationship between time, science and law. This will lead us to further avenues of research and help us to identify opportunities to better incorporate science with law. This is also an opportunity to build a network and forum for discussion on the interface of law and science in different policy areas or different areas within environmental law.

⁷ Sheila Jasanoff, *The Fifth Barnch: Science Advisors as Policy Makers*, (Harvard University Press, 1995), p. 77.

⁸ *Ibid.*

We begin the substantive part of today's workshop with Professor's Ian Boyd paper on the theme of "How Science Informs Policy-Making at Defra". I hand you over to Professor Lee who is chairing this session.