Prof. Dan Burk (University of California, Irvine)

Intellectual Property and the Two Cultures: Where Science Meets the Law?

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In a 1959 lecture at the University of Cambridge, C.P. Snow outlined how the intellectual life of the whole of western society is split into two cultures: the sciences and the humanities. His thesis was that these two cultures are typically not interested in one another's culture and we therefore have scientists who know nothing of Shakespeare and intellectuals from the humanities who cannot recite the Second Law of Thermodynamics.

Holding multiple degrees in law and the natural sciences, Prof. Dan Burk was ideally placed to pose the question of where one would categorise law. Prof. Burk is Chancellor's Professor of Law at the University of California, Irvine, where he specialises in the areas of patent, copyright, electronic and biotechnology law. Thus, though many areas of law involve an interface with science (such as environmental law, criminal law, food safety and health laws), he focused on intellectual property.

Prof. Burk started by describing the two cultures as envisioned by Snow. Firstly, he noted that the culture of science is often thought of as relating to knowledge about the world. It is predictive, advisory and explanatory, involving "outward looking knowledge". In contrast, the humanities is perceived as involving "inward looking knowledge", telling us about the human condition.

The core thesis of his presentation was that law is something in between, constituting a third culture. If science is about external knowledge and the humanities is about internal knowledge, law is about process and social discourse. In Prof. Burk's opinion, the law is an expression of what society is and what it is to be a part of society. The law may be informed by scientific evidence or objective knowledge, but science cannot dictate the law.

With respect to intellectual property, Prof. Burk took the 2013 decision of the US Supreme Court *AMP v Myriad Genetics* as an example to illustrate that the courts are also partaking in this discursive process. This case pertained to the patentability of human genes, namely BRCA1 and BRCA2, mutations of which can result in a predisposition for breast and ovarian cancer. The Supreme Court ruled that simply isolated gDNA is not patentable subject matter because it is has the same information as its natural counterpart so constitutes mere "natural products", which are not patent eligible according to judicial precedent in the US. However, cDNA – a synthetic DNA – was held to be patentable subject matter because it was structurally different from its natural counterpart.

Prof. Burk stated that the discussion about what might or might not be patent eligible is a reflection of the discourse that takes place in law. The dialogue relating to what constitutes a "natural product" is about what society might want to keep free of property rights. This is equally true for other US exceptions to patentability for

"natural laws" and "abstract ideas". The exception for inventions the commercial exploitation of which is contrary to *ordre public* or morality in the European Context is similarly a manifestation of the discourse of law.

The audience was comprised of academics from the Faculty of Law and Faculty of Humanities and Social Sciences, natural scientists and members of the public, resulting in the type of diverse and interdisciplinary discussion that Snow strove for. Members of the Faculty of Humanities and Social Sciences were particularly concerned with the stark delineation of cultures, noting that the situation in real life is more complex, which Prof. Burk acknowledged. In contrast, those legally and scientifically trained were more concerned with the example that Prof. Burk brought and its results. The distinction made by the Court between gDNA and cDNA in *AMP v Myriad Genetics* has been severely criticised by legal academics and natural scientists as being illogical and scientifically unsound. It was not necessarily Prof. Burk's intention to add to this, but rather to point out that the policymaking that took place in making this distinction was an illustration of the discourse that takes place in law. Though one may disapprove of the distinction the Court drew, it clearly showed that, though the law may be informed by scientific principles, it is not determined by them.

(*Jessica C. Lai*)