Intellectual Property for the 21st Century: Interdisciplinary Approaches

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A. INTRODUCTION

Over the past two decades, globalization, digitization, and the rise of the Internet have each contributed to a new prominence for intellectual property law in public policy debates around the world. Once the preserve of a cadre of highly specialized lawyers in large firms concentrated in major urban centres, intellectual property law has become a subject of heated policy debate in legislatures, a matter of almost daily news reporting, and the topic of wide-ranging popular discourse. In recent years, we have seen corporations attempt to lock up digital content, bolstered by new international treaties aimed at providing legal protection for anti-circumvention measures. Terms of protection have grown longer, and individual users have become the targets of large scale enforcement activity that was previously aimed only at organized or corporate malefactors. Debate has blossomed over the extent to which IP laws limit both creativity and innovation. Intellectual property law has garnered headlines for its role in limiting access to life-saving medicines in developing countries and is increasingly linked to issues of democracy and human rights. Intellectual property law and policy have become the stuff of our daily lives as well: we are creators, consumers, users, and sometimes infringers. Intellectual property policy reaches into our lives through culture and its output, through the branding activities of major corporations, and through the impact of patent laws on the price and accessibility of a wide range of products, from electronics to

pharmaceuticals. Questions about how intellectual property is controlled, licensed, used, and reused are all part of a growing public discourse that now engages far more than an elite cadre of lawyers.

In this environment, it is not surprising to find that there has been a corresponding growth in the teaching and research of intellectual property subjects by academics who specialize in this area. While twenty-five years ago there were almost no Canadian academics teaching or writing about intellectual property law, today, most law faculties in Canada boast at least one intellectual property specialist, and many have concentrations of scholars who work in this field. The growth of a Canadian intellectual property academy has been important in developing critical analyses and insights into the changing laws and policies around intellectual property both in Canada and internationally.

Because intellectual property law now trenches so deeply on issues of economics, culture, health, commerce, creativity, and intellectual freedom, it is no surprise that there is also a burgeoning literature on intellectual property issues that comes, not just from legal academics or lawyers, but from those trained in other disciplines.[1] Such authors observe and reflect upon the impact of intellectual property law and policy for society and culture more broadly. No longer an arcane and technical area of the law best left to legal specialists, intellectual property law has evolved into a site of contention over what it means to think, to create, and to participate in culture and in society.

Yet although academics from many disciplines have turned their attention to intellectual property issues, they have, with some notable exceptions, tended to do so within the confines of their own disciplinary silos. In the spring of 2012, the Centre for Law, Technology, and Society at the University of Ottawa hosted a workshop that sought to bring together academics from different disciplines interested in intellectual property law in order to stimulate discussion across disciplines, to encourage the development of collaborative efforts, and to produce a body of research that explores intellectual property law issues from explicitly interdisciplinary perspectives. The collection of papers in this book is the product of this workshop.

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1 Jerry A Jacobs & Scott Frickel, "Interdisciplinarity: A Critical Assessment" (2009) 35 Annual Review of Sociology 43 (note that Jacobs & Frickel suggest that social change may be a factor driving the development of "interdisciplines" — areas of study that span disciplinary categories. They suggest that "new knowledge fields are fundamentally political outcomes, the result of struggles for resources, identities, and status" at 57).

B. DEFINING INTERDISCIPLINARITY

Universities tend to be structured administratively around specific academic disciplines, which are in turn grouped under broader headings of "humanities," "social sciences," "sciences," and the professions. Each academic discipline reflects a shared set of theories and methodologies, and over time develops its own body of knowledge and literature. These disciplines are reinforced by the administrative structures of universities. Nissani defines a discipline as "any comparatively self-contained and isolated domain of human experience which possesses its own community of experts."[2] Balkin argues that disciplinarity "is the product of a set of social forces of normalization and education, reward and punishment, through which the academic's head gets constructed, and the academic becomes the kind of academic that he or she is."[3] However they are regarded, the established and defined disciplines have played a key role both in generating and communicating knowledge in our society.[4]

The last century has seen the evolution of challenges to disciplinary approaches to research and teaching.[5] It has been argued that strictly disciplinary inquiries may not always yield optimal results, particularly in a world in which problems have become increasingly complex and multi-faceted. A goal of interdisciplinary research has been to "reduce segregation of knowledge by building workable bridges between otherwise compartmentalised knowledges."[6] Moran describes the aspirations of interdisciplinarity as providing "a democratic, dynamic and co-operative alternative to the old-fash-

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2 Moti Nissani, "Ten Cheers for Interdisciplinarity: The Case for Interdisciplinary Knowledge and Research" (1997) 34:2 The Social Science Journal 201 at 203; see also Joe Moran, *Interdisciplinarity: The New Critical Idiom*, 2d ed (New York: Routledge, 2010) at 13.

3 Jack M Balkin, "Interdisciplinarity as Colonization" (1996) 53:3 Wash & Lee L Rev 949 at 954 (he argues that this is ultimately a good thing because disciplines give structure to thought, and "involve not only shared subject matters and shared problems, but shared ways of thinking and talking" at 955); Moran, above note 2 at 2 suggests that a discipline is at once a body of knowledge and a set of rules regarding how new knowledge should be produced and structured.

4 Moran, *ibid*, is of the view that the term *discipline* evokes "the relationship between knowledge and power" at 2; the concept of discipline is also closely related to the notion of paradigm, as used by Thomas Samuel Kuhn to describe the progress of scientific knowledge: see Thomas S Kuhn, *The Structure of Scientific Revolutions* (Chicago: University of Chicago Press, 1962).

5 Julie Thompson Klein, *Humanities, Culture, and Interdisciplinarity*: *The Changing American Academy* (Albany: State University of New York Press, 2005) at 2.

6 Lisa Lau & Margaret Pasquini, "'Jack of All Trades'? The Negotiation of Interdisciplinarity Within Geography" (2008) 39:2 Geoforum 552 at 554.

ioned, inward-looking and cliquish nature of disciplines."[7] On this model, disciplinary inquiry is seen as rigid and tightly controlled. Interdisciplinarity explores and exploits the space between disciplines, searching for new knowledge and understanding via the adoption of multiple lenses through which to examine research questions.

Yet, while interdisciplinarity is offered as an antidote to the limitations of disciplinary inquiry, it remains a term that is difficult to define. In very simple terms, Jacobs and Frickel define it as "communication and collaboration across academic disciplines."[8] This description does little to explain what interdisciplinarity actually is in practice. Others discuss interdisciplinarity in terms of its methods.[9] For Lau and Pasquini, it is the "combination and synthesis of methodologies and techniques"[10] across disciplinary boundaries that are at the heart of interdisciplinarity.[11] Still, others focus on its goals or results. For example, according to Nissani, "[i]nterdisciplinary research combines components of two or more disciplines in the search or creation of new knowledge, operations, or artistic expressions."[12] Brewer is even more pragmatically focused on results; he defines interdisciplinarity as "the appropriate combination of knowledge from many different specialities — especially as a means to shed new light on an actual problem."[13]

There is sometimes confusion between the term *interdisciplinary* and the related term *multidisciplinary*. Indeed, Choi and Pak complain that the terms are "ambiguously defined and often used interchangeably."[14] Yet an attempt to define each term separately can give insight into the meaning of interdisciplinarity. Choi and Pak suggest that multidisciplinarity "is a process for providing a juxtaposition of disciplines that is additive, not integrative; the

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7 Moran, above note 2 at 3.

8 Jacobs & Frickel, above note 1 at 44.

9 To identify a discipline, Freides emphasizes the distinctive method recognized in each discipline rather than the subject matter. Thelma K Freides, *Literature and Bibliography of the Social Sciences* (Los Angeles: Melville Publishing, 1973) at 13–18.

10 Lau & Pasquini, above note 6 at 554 [footnote omitted].

11 Youngblood writes that interdisciplinarity "is a relatively new form of problem-oriented critical thinking focusing on *process* rather than *domain*" [emphasis in original]. Dawn Youngblood, "Interdisciplinary Studies and the Bridging Disciplines: A Matter of Process" (2007) 3:2 Journal of Research Practice 1 at 2.

12 Nissani, above note 2 at 203.

13 Garry D Brewer, "The Challenges of Interdisciplinarity" (1999) 32:4 Policy Sciences 327 at 328.

14 Bernard CK Choi & Anita WP Pak, "Multidisciplinarity, Interdisciplinarity and Transdisciplinarity in Health Research, Services, Education and Policy: 1. Definitions, Objectives, and Evidence of Effectiveness" (2006) 29:6 Clinical & Investigative Medicine 351 at 352.

disciplinary perspectives are not changed, only contrasted."[15] They define interdisciplinarity as "a synthesis of two or more disciplines, establishing a new level of discourse and integration of knowledge."[16] Thus, while both interdisciplinarity and multidisciplinarity draw on the knowledge and methods of different disciplines, the former is integrative while the latter reflects a multi-pronged approach to solving an identified problem. For Youngblood, "[*m*]*ultidisciplinary* is what happens when members of two or more disciplines cooperate, using the tools and knowledge of their disciplines in new ways to consider multifaceted problems that have at least one tentacle in another area of study."[17] By contrast, interdisciplinarity "is what happens when researchers go beyond establishing a common meeting place to developing new method and theory crafted to transcend the disciplines in order to solve problems."[18] Some have suggested that "interdisciplinary" and "multidisciplinary" simply represent points on a spectrum of interdisciplinarity with "interdisciplinary" reflecting a greater integration of the different disciplines involved and "multidisciplinary" reflecting more separation between disciplinary perspectives brought to bear on a common problem.[19]

C. THE MERITS OF INTERDISCIPLINARY APPROACHES

Advocates of interdisciplinary research argue that it can offer original and important insights that might not otherwise be obtained by purely disciplinary efforts. This is in part because the premises and methodologies of established disciplines may condition how problems are both identified and approached by researchers, resulting in gaps in either knowledge or understanding.[20] A report by the National Academy of Sciences in the United States posited that barriers to interdisciplinarity "diminish our ability to

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15 *Ibid* at 355 [footnote omitted].

16 *Ibid* [footnote omitted]; Moran, above note 2 at 14 also defines multidisciplinarity as bringing disciplines in proximity to one another, without any attempt at integration.

17 Youngblood, above note 11 at 2 [emphasis in original]; Barbara Von Eckardt, "Multidisciplinarity and Cognitive Science" (2001) 25:3 Cognitive Science 453. Von Eckardt suggests that multidisciplinarity is most often realized in tackling problems that have multiple dimensions such as cognitive science or environmental science.

18 Youngblood, above note 11 at 2 [endnote omitted].

19 Mathias M Siems, "The Taxonomy of Interdisciplinary Legal Research: Finding the Way Out of the Desert" (2009) 7:1 J Commonwealth L & Legal Educ 5 at 6.

20 Nissani, above note 2 at 208. Nissani writes "if we mistake disciplinary knowledge for wisdom; if we forget how much we don't know" at 210; Brewer, above note 13 at 329 (Brewer talks about the importance of defining a problem in conditioning how solutions

address the great questions of science."[21] Most advocates of interdisciplinary research acknowledge the substantial challenges it presents, but take the view that the potential benefits outweigh the particular difficulties.[22]

Detractors of interdisciplinary research raise concerns that its practitioners are merely dabbling in other bodies of knowledge without the appropriate training or background to make proper sense of it.[23] In truth, though, there remain relatively few open detractors of interdisciplinary research; interdisciplinarity seems to have become a favourite university and granting agency buzzword.[24] Jacobs and Frickel, skeptics of interdisciplinarity, lament that there is little or no research that examines "how disciplinary and interdisciplinary relationships develop and whether the consequences of those collaborative outcomes are meaningfully different."[25] They question as well whether the challenges and fruits of collaboration might not be roughly equivalent whether the collaboration is intra- or interdisciplinary.[26] Further, they suggest that there is nothing fundamentally wrong with the disciplinary model of research, noting that established disciplines "remain dynamic centers of knowledge production that are open to external developments even while insisting on internal standards."[27] Yet while the

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are arrived at — different disciplinary perspectives will result in different definitions of the same problem).

21 Committee on Facilitating Interdisciplinary Research et al, *Facilitating Interdisciplinary Research* (Washington DC: National Academies Press, 2004), online: www.nap.edu/openbook.php?record_id=11153 at 25. Many argue that problem-solving is a primary objective of interdisciplinarity; see, for example, Jacobs & Frickel, above note 1 at 47.

22 Siems, above note 19 at 12 acknowledges the potential drawbacks of insufficient skills or knowledge, but is more optimistic about being able to overcome them; see also Ken Foster & Guy Osborn, "Dancing on the Edge of Disciplines: Law and the Interdisciplinary Turn" (2010) 8:1 Ent & Sports Law Journal xiii. The authors identify the challenges and the critiques of interdisciplinarity, but argue that it permits the development of new areas of study, in their case, sports studies, that permit new theoretical and methodological approaches to complex questions.

23 The words *dilettantism* or *charlatanism* are sometimes associated with interdisciplinary endeavour. See Nissani, above note 2 at 203; see also Jack M Balkin & Sanford Levinson, "Law and the Humanities: An Uneasy Relationship" (2006) 18:2 Yale JL & Human 155 at 178; see Frank H Easterbrook, "Cyberspace and the Law of the Horse" (1996) U Chi Legal F 207; Easterbrook refers to this as the "cross-sterilization of ideas" at 207.

24 Jacobs & Frickel, above note 1 at 44–45, note that interdisciplinarity has received "widespread attention" from university administrators and granting agencies in recent years.

25 *Ibid* at 48; Klein, above note 5 at 7 is also critical of "exaggerated claims" about the merits of interdisciplinary inquiry, although she is nonetheless convinced of its ultimate value.

26 Jacobs & Frickel, above note 1 at 48.

27 *Ibid* at 60.

practice of interdisciplinarity and the claims about its merits deserve critical inquiry, enthusiasm rather than skepticism remains the norm.

D. LAW AND INTERDISCIPLINARITY

Within the actual practice of law, disciplinarity is the rule. True, from time to time one does see the work of those from other disciplines cited in court decisions (usually only those of the Supreme Court),[28] and in some disputes the evidence of experts from other fields is relied upon in order to assist in determining facts or in applying legal principles to those facts.[29] However, there is clearly a general reluctance to rely on some scientific methods or theories or to ask for a scientific precision. In civil liability cases, scientific causation is not required.[30] The Supreme Court has even stressed that expert testimony should be excluded if the danger is too great:

> [t]here is a danger that expert evidence will be misused and will distort the fact-finding process. Dressed up in scientific language which the jury does not easily understand and submitted through a witness of impressive antecedents, this evidence is apt to be accepted by the jury as being virtually infallible and as having more weight than it deserves.[31]

Courts have thus set rules to determine when and how scientific evidence will be admitted. Expert evidence is allowed only if it is necessary, that is, only if it provides information "which is likely to be outside the experience and knowledge of a judge or jury"[32] or if the "subject-matter of the inquiry [is] such that ordinary people are unlikely to form a correct judgment about it, if

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28 See, for example, *Willick v Willick*, [1994] 3 SCR 670; *Moge v Moge*, [1992] 3 SCR 813; *Carter v Canada (Attorney General)*, 2012 BCSC 886.

29 Expert evidence is, in fact, routinely used in litigation of all kinds. The use of expert evidence from other disciplines is specifically addressed in Chapters 2 and 21 in this collection. Further, in trademark litigation, for example, a kind of social science empirical evidence — survey evidence — is frequently tendered in order to address questions such as the likelihood of consumer confusion. For an examination of survey evidence, see Ruth M Corbin & A Kelly Gill, *Survey Evidence and the Law Worldwide* (Toronto: LexisNexis, 2008); however, see the warnings expressed by the Supreme Court in *Masterpiece Inc v Alavida Lifestyles Inc*, 2011 SCC 27 [*Masterpiece*].

30 *Laferrière v Lawson*, [1991] 1 SCR 541; *Snell v Farrell*, [1990] 2 SCR 311; *Clements v Clements*, 2012 SCC 32.

31 *R v Mohan*, [1994] 2 SCR 9 at 21 [*Mohan*].

32 *R v Abbey*, [1982] 2 SCR 24 at 42 [citation omitted]; see also *Mohan*, above note 31 at 23; *Masterpiece*, above note 29 at para 75.

unassisted by persons with special knowledge."[33] More specifically, experts should not be permitted to usurp the functions of the judge or the finder of fact.[34] Courts have determined that, to be admissible, the expert must be qualified and the evidence must be relevant and reliable.[35] Although judges have not required as a precondition that the scientific theory put forward be "generally accepted" by the scientific community,[36] they have asked that the theory meet a basic threshold of reliability.[37] As for Parliament, in enacting new legislation they have no obligation to consult social scientists and they are clearly not accustomed to providing evidence of the likely effectiveness of their proposed measures.[38] In all these instances, it is clear that knowledge from those other disciplines is invoked to serve the purposes of the discipline of law; there is take, but no give.

There has been some discussion of the idea of multidisciplinarity in legal practice.[39] The concept of multidisciplinary legal practice involves groups of related professionals — lawyers, accountants, actuaries, and consultants — who join together to offer a holistic package of professional services to clients with multi-faceted problems. Interestingly, while there has been some interest in the potential for this type of practice to better meet the

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33 *R v J-LJ*, 2000 SCC 51 at para 30 [citation omitted] [*J-LJ*].

34 *Mohan*, above note 31 at 24; *J-LJ,* above note 33 at paras 25 and 37; thus, in criminal cases, polygraph evidence adduced to determine the credibility of the accused or of a witness, is not admissible since credibility issues are within the experience of judges and juries: see *R v Béland*, [1987] 2 SCR 398 at 412.

35 *Mohan,* above note 31 at 20; *R v Trochym*, 2007 SCC 6 at para 36 [*Trochym*].

36 *J-LJ*, above note 33 at paras 33–34. The general acceptance of the theory is only one of the factors to be considered by the court: *Trochym,* above note 35 at para 36; as to whether such criteria are appropriate, see Nicole Duval Hesler, "L'admissibilité des nouvelles théories scientifiques" (2002) 62 R du B 359.

37 In *J-LJ,* above note 33 at para 33, and *Trochym,* above note 35, the Court identified four factors to determine if a novel science has a reliable foundation: "(1) whether the . . . technique can be and has been tested . . . [;] (2) whether the . . . technique has been subjected to peer review and publication . . . [;] (3) the known or potential rate of error . . . [;] and, (4) whether the theory or technique used has been generally accepted . . . ." at para 36; for an illustration of the difficulties of relying on social science evidence in litigation, see E Richard Gold & Robert Carbone, "(Mis)reliance on Social Science Evidence in Intellectual Property Litigation: A Case Study" (2012) 28 CIPR 179.

38 Even when the legislation infringes constitutional rights, imposing on Parliament the onus to demonstrate that its legislation is a proportional measure to fulfill a pressing and substantial goal, the courts have not required scientific proof based on concrete evidence: see *R v Sharpe*, 2001 SCC 2 at para 85.

39 Balkin & Levinson, above note 23 at 168, argue that traditional approaches to law began to prove insufficient within an increasingly complex legal environment facing increasingly difficult social and public policy questions.

needs of *clients*, there has been a mixed response from practising lawyers. Initial resistance to such practices as being a form of either unlicensed legal practice or unethical fee-sharing[40] has been criticized as attempts by lawyers to restrict competition in the domain of legal services.[41] Although the debates around the multidisciplinary practice of law are interesting from the point of view of defining legal services and exploring new modes of delivery, this area is less about developing new interdisciplinary knowledge than it is about creating a new model for the competitive delivery of legal services.

For some time now the message from the IP bar to law students is that a background in science or technology (preferably with graduate-level qualifications) is required for the practice of IP law. This is chiefly true of patent law, where those without some scientific expertise would struggle to decipher the nature of inventions for which patents are sought. This would seem to reflect an acceptance that certain aspects of IP practice not only benefit from, but require, an interdisciplinary skill set. Indeed, since granted patents constitute regulations,[42] they perhaps represent a form of "law" explicitly created through an application of interdisciplinary knowledge.

Some areas of interdisciplinary research in law have gained currency in the legal academy.[43] Law and economics, for example, particularly in the United States, is an established movement that brings the methodologies and theories of economics to bear on law and policy questions.[44] It might be fair to say that law and economics reflects one of the most sustained and most successful areas of legal interdisciplinarity. Legal theory is another area where philosophical methods of inquiry are integrated with legal thought to the extent that we speak of "legal theory" rather than "law and philosophy." Similarly, we now recognize a domain of "legal history." Beyond this, there are a number of "law and" courses that find their way onto the curricula of North American law faculties. These include "law and literature" or "law and geography." More recently, the "law ands" have expanded

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40 Daniel R Fischel, "Multidisciplinary Practice" (2000) 55:3 Bus Law 951 at 954.

41 *Ibid* at 959–60; John B Attanasio, "The Brave New World of Multidisciplinary Practice: Foreword" (2000) 50:4 J Legal Educ 469 at 469.

42 *Whirlpool Corp v Camco Inc*, 2000 SCC 67 at para 49.

43 To describe this new trend, McConville & Chui refer to empirical and legal scholarship or socio-legal studies as opposed to the traditional doctrinal legal research: see Mike McConville & Wing Hong Chui, eds, *Research Methods for Law* (Edinburgh: Edinburgh University Press, 2007) at 4–7.

44 Balkin, above note 3 at 951, identifies law and economics as an example of a very successful interdisciplinary approach to law.

beyond the social sciences and humanities to include "law and technology" or "law and science."

Within the legal academy, interdisciplinarity is formally encouraged, but the informal constraints can be significant. Indeed, Balkin and Levinson suggest that legal inquiry ultimately returns to questions that define the discipline of law, such as: "how the law should be modified or interpreted or how legal decision makers should do their jobs."[45] They note that "[t]he demand that legal scholarship be cashed out in policy prescriptions deeply circumscribes the legal imagination and the permissible boundaries of legal scholarship, while simultaneously reorienting legal scholarship towards legal practice and policy science."[46]

Balkin and Levinson offer a rather jaded picture of interdisciplinarity in legal scholarship. In their view the fact that law is taught in professional faculties where students are trained for professional practice creates a significant barrier to the "colonization"[47] of law by other disciplines.[48] In addition, they note that legal academics themselves are products of these institutions with their overtly professional goals. These concerns are not new; others have also observed that the particular realities of schools charged with preparing professionals for practice pose a challenge when it comes to innovative curricular design or pedagogical approaches.[49]

In this context it is interesting to contemplate the ongoing tension that exists between law schools in Canada and the professional bar. Frequently, the complaint of law societies about legal education is that it strays too far from the mandate of educating lawyers.[50] These fears are perhaps at the root of attempts to impose compulsory courses on law students, thus

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45 Balkin & Levinson, above note 23 at 175.

46 *Ibid*.

47 Balkin, above note 3, characterizes interdisciplinarity as an attempt at colonization of one discipline by another — "colonization of legal scholarship can never be entirely successful because law is at heart a professional, and not an academic, discipline" at 952 [footnote omitted].

48 Vick tends to agree. In a paper on interdisciplinarity in law, he concludes that "[t]he core identity of the discipline has not been, and likely will not be, fundamentally altered by interdisciplinary study." See Douglas W Vick, "Interdisciplinarity and the Discipline of Law" (2004) 31:2 JL & Soc'y 163 at 191.

49 See, for example, Foster & Osborn, above note 22.

50 Balkin, above note 3, writes of "social forces outside of the academy — including, in particular, the bench and the bar — demand that people who go to law schools be trained to be lawyers, whether they end up being lawyers or not" at 952.

inevitably shaping law school curricula.[51] Even where courses are not formally obligatory, implicit and explicit messages from practising lawyers to prospective job candidates, bolstered of late by a sagging economy and fears of unemployment, create unwritten lists of mandatory courses. Without these courses on a student's transcript, so the belief goes, there is little hope of securing an articling position or a well-paid job after graduation. It is perhaps not surprising that it is the "law and" courses that are typically characterized as the ones extraneous to a proper legal education.[52]

Within this environment, legal scholars are often placed in a difficult situation. They may find themselves within a university and grant funding culture which actively encourages interdisciplinarity, and they may also have discovered for themselves the rich potential of collaborations across academic disciplines. At the same time, these forays may be treated with distrust and suspicion by practicing lawyers, some students, and even some colleagues, who see this type of scholarship as extraneous to the general mission of legal education, or legal practice.

At the same time, legal academics are losing their monopoly on legal education. It is no longer the case that law is taught only within professional law faculties whose graduates are qualified to apply to provincial bars for admission to the practice of law. In Canada we have seen the creation and maturation of undergraduate degrees in legal studies at universities such as Carleton University and the University of Waterloo, and there are an increasing number of undergraduate programs across the country that offer

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51 In the fall of 2012, the Federation of Law Societies of Canada announced a new "competency profile" for those entering the profession of law: see Federation of Law Societies of Canada, *National Admissions Standards Project: National Entry to Practice Competency Profile for Lawyers and Quebec Notaries* (September 2012), online: www.flsc.ca/_documents/NASCompetenciesSept2012.pdf. The impact of this profile on Canadian legal education will be profound. It is expected that it will result in additional obligatory courses in law programs across the country, and will also push students more aggressively towards so-called "core" and "practice-oriented" courses, to the detriment of other electives.

52 In a recent speech, Justice Scalia of the United States Supreme Court said: "The only time you're going to have an opportunity to study a whole area of the law systematically is in law school . . . . You should not waste that opportunity. Take the bread-and-butter courses. Do not take, 'law and women,' do not take 'law and poverty,' do not take 'law and anything.'" See Debra Cassens Weiss, "Scalia's Advice to Law Students: Take Bread-and-Butter Classes, Not 'Law and Women'" *ABA Journal* (26 October 2012), online: American Bar Association Journal www.abajournal.com/news/article/scalias_advice_to_law_students_take_bread-and-butter_classes_not_law_and_po.

majors or minors in law or legal studies.[53] Further, there is growing pressure to admit those without law degrees into graduate programs in law, and some interdisciplinary graduate degree programs have been created with law as a component. Technological development is also having an impact. Materials for law courses can be found online, as can podcasts, and the potential for some law content to be delivered in massively open online courses (MOOCS) is being debated.[54] The secrets of the discipline are no longer as tightly held as they once were.

It is important to note as well that in some respects law is both inherently interdisciplinary and inherently disciplinary. It is inherently *disciplinary* because law schools are professional faculties that are both administratively separate from the rest of the university and distinct in terms of their pedagogical objectives and their curricula which focus on the teaching of the normative legal framework, i.e., the legal norms upon which the courts rely. Unlike other disciplines, graduate and undergraduate students from other disciplines are generally not permitted to enrol in law courses, and law students are very limited in terms of their ability to take elective courses in another faculty or department. At the same time, however, law is inherently *interdisciplinary* because, at least in common law Canada, it is a second degree program: students are expected to come to law school with an undergraduate degree in another field — and an increasing number come to law with graduate training in other disciplines. Faculty members have a similar background, and a growing number hold graduate degrees from disciplines other than law. Further, many legal academics have integrated approaches from other disciplines, notably philosophy, economics, and history.[55] Some emerging areas of legal study are also quite interdisciplinary — or at the

53 For instance, the Civil Law Section of the University of Ottawa started offering a minor in law in French in 2008 and in English in 2011.

54 See for example David Thomson, "Of MOOCS and Legal Education" *Law School 2.0* (16 September 2012) online: Law School 2.0 www.lawschool2.org/ls2/2012/09/of-moocs-and-legal-education.html; see "International Law, Emotional Intelligence Featured in Case Western Reserve's First MOOCs" *The Daily* (21 February 2013) online: The Daily http://cwru-daily.com/news/international-law-emotional-intelligence-featured-in-case-western-reserves-first-moocs. This course in international law was one of the first MOOCS launched by Case Western Reserve University.

55 Balkin & Levinson, above note 23, note that with respect to these disciplines, "the skills, techniques, and knowledges they provide are most easily adapted to the forms of legal argument and legal scholarship that already existed prior to their entry" at 181.

very least are multidisciplinary.[56] These include environmental and health law, and, to some extent human rights.

E. INTERDISCIPLINARY LEGAL SCHOLARSHIP

So what does interdisciplinary scholarship look like when it involves law? Sullivan speaks of two kinds of interdisciplinary legal work — positive research and interpretive research. In this paradigm, positive research is that which looks at "how law actually works in practice"[57] and generally draws upon the social sciences disciplines. Interpretive research draws on the humanities and seeks "to articulate the function, including the expressive function or social meaning, implicit in legal materials."[58] In her view, the specific training received by legal academics allows them to bring specialist skills to this interdisciplinary work that enhance the research output, at least from the perspective of law.[59] In essence, the things legal academics know about how legal institutions and actors operate are invaluable to understanding, contextualizing, or analyzing the results of social sciences- or humanities-based research.

Siems offers a useful taxonomy of interdisciplinarity in law. He identifies four categories of interdisciplinary legal research. The first category, which he defines as "basic," involves addressing a specific legal question, but looking for insights into the question from other disciplines.[60] He then identifies three categories of "advanced" interdisciplinary legal research. In the first of these categories, the research question is not directly about the law. Law may be a factor that feeds into the particular social or economic problem, but the focus of inquiry is on the broader problem and not the specific legal aspect. A second advanced approach involves a research question that focuses on law, but also uses empirical methods to examine the problem. The third advanced approach involves a research question that is not specifically about law; it too is addressed using empirical methods.[61] Siems notes that these advanced approaches can pose significant challenges to the legal academic who will either need advanced training in a relevant

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56 Balkin, above note 3, notes that the "most interesting feature of legal interdisciplinarity" is that it is "actively subsidized and supported by the institutions of law and legal education" at 950.

57 Kathleen M Sullivan, "Foreword: Interdisciplinarity" (2002) 100:6 Mich L Rev 1217 at 1221.

58 *Ibid* at 1222.

59 *Ibid* at 1223.

60 Siems, above note 19 at 6–7.

61 *Ibid* at 10–11.

discipline other than law, or will need to develop effective and appropriate collaborative relationships.

This taxonomy is useful in helping to understand the potential scope and variation in what many people refer to as interdisciplinary approaches to law-related research. Indeed, Moran argues that the difficulty in defining *interdisciplinarity* reveals its strengths. In his view interdisciplinary inquiry is valuable because of "its flexibility and indeterminacy, and that there are potentially as many forms of interdisciplinarity as there are disciplines."[62] This breadth of meaning of *interdisciplinary* is reflected in this collection of papers, which reveal a variety of different approaches and methods. Useful questions in exploring this collection are: What approach to interdisciplinarity is adopted by the author(s) of each chapter? What is their source of expertise in related disciplines? How successful are their chosen methods of inquiry in illuminating questions about IP law? In what way do the authors' approaches transform or create new knowledge about IP? Are the questions they ask legal questions or are they broader social, economic or political questions?

F. CHALLENGES OF INTERDISCIPLINARITY

True interdisciplinarity is more than simply reading work from other disciplines and citing it at key points in a book or article. In reality, few in the academy are really trained to do interdisciplinary work. While many (although not all) lawyers and academics have an undergraduate degree in another discipline, it is usually only through wider professional experience and in graduate school that one develops a strong theoretical and methodological grasp of the discipline. It is increasingly the case that legal academics hold PhDs in disciplines other than law, and this will certainly aid in the development of legal literature that is informed by the knowledge, debates, and preoccupations of other fields.[63] It is still rare that academics in disciplines other than law have formal training in law. The result is largely an environment in which academics and researchers have great depth in their own specialized field within their discipline, but little training or experience outside that field.

62 Moran, above note 2 at 14.

63 Balkin & Levinson, above note 23 at 165, observe that those in law have often demonstrated an overconfidence in their abilities such that they either dismiss as irrelevant the contributions of other disciplines, or they assume they can master other disciplines with a bit of reading here and there. They observe that the number of young legal academics with PhDs is something that may have a positive effect in encouraging greater intellectual engagement with other disciplines.

Truly interdisciplinary work is also difficult to do for reasons that are both intrinsic and extrinsic. Extrinsic factors relate to the structures of disciplines and their reward systems. For example, Jacobs and Frickel note:

> Epistemic barriers involve incompatible styles of thought, research traditions, techniques, and language that are difficult to translate across disciplinary domains. Disciplinary structures reinforce these inefficiencies through specialized journals, conferences, and departments that route communication inward. Administrative barriers reinforce this intellectual balkanization.[64]

To make matters worse, there is little incentive to move beyond one's field of specialization. Although universities have for years embraced interdisciplinary research in theory, the institutional rewards for what often amounts to high-risk career behaviour are sometimes sparse. Balkin, writing with the particular perspective of a legal academic, states that:

> Academic disciplines . . . are about authority, and in particular, about authority within particular groups of persons who think alike through training and discipline. As such, this authority must be enforced by punishments and rewards to ensure that the lessons of the discipline become as second nature.[65]

Tenure and promotion committees struggle to recognize the value of publications in journals outside their disciplines, or the merits of pieces that speak to those in another field entirely.[66] Some even mention that interdisci-

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64 Jacobs & Frickel, above note 1 at 47; the differences in use of terminology between disciplines, power hierarchy between disciplines, and practices concerning authorship are also identified as barriers to the effectiveness of interdisciplinary work: see Christine Haugaard Jakobsen, Tove Hels, & William J McLaughlin, "Barriers and Facilitators to Integration among Scientist in Transdisciplinary Landscape Analyses: a Cross-Country Comparison" (2004) 6:1 Forest Policy and Economics 15.

65 Balkin, above note 3 at 954; see also Vanesa Castán Broto, Maya Gislason, & Melf-Hinrich Ehlers, "Practising Interdisciplinarity in the Interplay Between Disciplines: Experiences of Established Researchers" (2009) 12:7 Environmental Science & Policy 922 for a discussion of the practice of interdisciplinarity and its relationship with institutionalized disciplines.

66 Balkin & Levinson, above note 23 at 166, also note that institutional resistance is a factor in discouraging genuine interdisciplinary approaches to law; see also Lau & Pasquini, above note 6 at 553; Nissani, above note 2 at 213, speaks also about the barriers to interdisciplinary work. He speaks of difficulties that interdisciplinary researchers might face in terms of securing grant funding, and publishing in suitable journals. These challenges, of course, translate into further difficulties in tenure and promotion processes; see also Brewer, above note 13 at 335.

plinary journals are often not considered to be as prestigious as established disciplinary journals.[67] In law, sole authored papers are highly valued and co-authored papers may be regarded with suspicion for tenure or promotion purposes, making interdisciplinary collaboration something perhaps best saved for later in one's career.[68] Publication of interdisciplinary research may also be challenging, as it may be difficult to find a home for research that does not fit easily within one disciplinary framework.[69] Lau and Pasquini suggest that one of the problems facing academics who engage in interdisciplinary research is that "there exists no common understanding of what constitutes interdisciplinary research."[70] Thus, such scholars risk that their work will fall outside not just the parameters of their own discipline, but also outside the parameters of what constitutes interdisciplinary research in the minds of those who evaluate them.[71] Further, the reality is that interdisciplinary research is more demanding — it takes more time to develop the necessary knowledge base, and more time to build collaborative relationships.[72]

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67 Jakobsen, Hels, & McLaughlin, above note 64 at 23. Some even found that those factors (tenure and promotion criteria, peer-review evaluation) may have an influence on the kind of research undertaken and on the type of researchers likely to engage in interdisciplinary work. Full-time researchers at the top of the promotion scale focusing on problem-solving approaches tend to undertake more interdisciplinary research: see Nicolas Carayol & Thuc Uyen Nguyen Thi, "Why Do Academic Scientists Engage in Interdisciplinary Research" (2005) 14:1 Research Evaluation 70.

68 Jakobsen, Hels, & McLaughlin, above note 64 at 23, also address problems of interdisciplinary work in university environment. Brewer, above note 13, notes that universities tend to reward individual achievement, and are themselves structured around multiple separate disciplines; see also Teresa Scassa et al, "Working at the Intersection of Law and Science: Reflections on a Fruitful Geospatial Data Collaboration" in Nicholas Chrisman & Monica Wachowicz, eds, *The Added Value of Scientific Networking: Perspectives from the GEOIDE Network Members, 1998-2012* (Québec: GEOIDE Network, 2012) at 58; Carayol & Nguyen Thi, above note 67 at 77, who note that the promotion system also tends to favour research on narrow topics with goals to be reached within short periods, not necessarily easily achievable in interdisciplinary projects.

69 Lau & Pasquini, above note 6 at 556; Scassa et al, above note 68 at 60.

70 Lau & Pasquini, *ibid* at 553.

71 See also Jacobs & Frickel, above note 1 at 53. That happens until the interdisciplinary field has reached maturity: see, in the context of collection evaluation in academic libraries, this analysis in Cynthia Dobson, Jeffrey D Kushkowski, & Kristin H Gerhard, "Collection Evaluation for Interdisciplinary Fields: A Comprehensive Approach" (1996) 22:4 Journal of Academic Librarianship 279.

72 Lau & Pasquini, above note 6, write of "a struggle to find a common currency of language in which to communicate and trade ideas, and to find common intellectual ground on which to meet." They also insist that interdisciplinary work requires "huge amounts of goodwill, openness and effort" at 558; see also Scassa et al, above note 68 at 65; Jakobsen, Hels, & McLaughlin, above note 64 at 22–23.

In putting together both the workshop and this collection of papers we experienced a number of these challenges to engaging in interdisciplinary work, as, no doubt, did some of our authors. These challenges were also a factor in the decision of at least one scholar not to participate in our project. While some of these challenges were ones that we had anticipated, others surprised us either in terms of their frequency or intensity.

G. OUR PROJECT

Our workshop grew out of a tradition of bringing together Canadian IP academics every two or three years to meet and share ideas. For the most part, these meetings had been largely composed of legal academics. Although ranks were never closed to those from other disciplines, it was a relatively intimate group and there was no open invitation beyond the field of law. Thus, when we decided to invite those from other disciplines to our workshop, the first challenge was to locate and invite scholars from other disciplines in Canada who were actively working on IP issues. We began by inviting those of whom we were already aware, and then extended further invitations based on the suggestions of others. We quickly reached the maximum number of participants for our workshop. It is clear to us that there are many more academics in other disciplines who are working on IP issues, and we hope that there will be more opportunities in the future to engage with them.

At the workshop itself we had scholars from the disciplines of law, political science, English, music, library and information science, criminology, and sports management. The mixture of perspectives led to many interesting and stimulating discussions; indeed, the workshop was structured so as to maximize the space available for interaction. As is evident from the papers in this collection, different approaches to interdisciplinarity were adopted. Some papers are authored by pairs or teams of authors from different disciplines, others are authored by individuals with high-level experience in more than one discipline, and still others are authored by individuals seeking to draw upon the knowledge of disciplines outside their own in order to enrich their own research. Although many of our contributors are located within a single department (or faculty in the case of law), a number of them are cross-appointed to other faculties or departments within their universities.

Participants were made aware of the interdisciplinary objectives of the workshop at the time they were invited to participate. Specifically, we asked

participants to consider the contributions of other disciplines to the issues they considered by actively collaborating with colleagues from other disciplines, and/or by engaging critically with bodies of work from other disciplines. One of the challenges we faced when the papers began to flow in, was deciding whether we were going to establish a threshold for determining whether a paper was sufficiently interdisciplinary to be included in this work. It did raise the issue of what is "interdisciplinary" and we concluded that any definition of interdisciplinarity or any criteria used to assess might not be shared by all of our participants. In the end, we decided to publish all of the papers, without trying to quantify their degree of interdisciplinarity.

Another challenge we faced — in some ways a self-imposed challenge — related to the page limit for contributions. Because of the large number of contributors, we asked our authors to keep their contributions to a fixed word limit. Many of our contributors struggled with this word limit, given that they had to bring different disciplinary perspectives to bear in a manner that would be accessible to readers from different disciplines. We soon realized that it was unrealistic to apply a rigid word limit and decided to approach the issue on a case-by-case basis.

The peer review process itself also presented a challenge. We are very grateful to our peer reviewers for agreeing to undertake the task of reading papers that often fell outside their disciplinary comfort zones. Their support of this project and their willingness to engage with the texts is very much appreciated. We note that one of the challenges in finding peer reviewers for our papers was that some who were approached declined to review papers on the basis that they were not within their area of specialization. This was frustrating, given the particular nature of our project and the fact that many of our authors were breaking new ground. We generally sought one peer reviewer with a background in law and one with expertise in a relevant other discipline; in some cases this produced conflicting reviews.[73] Lau and Pasquini write of their own struggles with interdisciplinarity, that "[a]ll too often, reviewers assess a paper's strength in relation to their specialisms (even if they are not fully aware of this mind-set), and its integrative strength is rarely taken on board."[74] While our reviewers were sensitive to our interdisciplinary objectives, we nevertheless accept that disciplinary training may have a strong impact on how papers are assessed.

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73 A similar problem is noted by Lau & Pasquini, above note 6 at 557.

74 *Ibid*.

Some authors had to deal with reviews that came from entirely different directions. On the whole, however, our authors received such divergent comments positively since these provided them with insight into the potential reactions of readers to their arguments.

A final challenge we faced with this book is one which is still unresolved. Identifying an audience for this book is not always easy; we are cognizant of this and very appreciative of the support of Irwin Law, a legal publisher that is not afraid to innovate or to take chances. One of the challenges in publishing interdisciplinary works — especially those on the borders of law and other disciplines — is that there is still a substantial amount of segregation between the distribution networks for publications. It is replicated in the academy as well: law books and law journals go into law libraries; those of other disciplines are in more central university collections. In this regard, Irwin Law's willingness to publish the individual chapters of this book online under an open licence not only highlights this publisher's willingness to innovate, but also gives more room for this book to find its audience.

In our view, this collection of papers should be of general interest to all within the legal profession: lawyers, judges, academics, and students, who are interested in the potential of interdisciplinarity for offering fresh perspectives on intellectual property related subjects. We are hopeful that the book will also stimulate fresh interest in, and appreciation of, the merits of interdisciplinary approaches to IP subjects. Indeed, readers will find a broad range of disciplinary approaches and a broad range of subject matter spanning not only the "traditional" categories of IP — patents, copyright, and trademarks — but also emerging areas such as ambush marketing, and the amorphous "right" to sue for the use of one's likeness in fiction or film. We hope as well that readers from outside the discipline of law who have an interest in intellectual property law (and their numbers are growing both within and outside of the academy) will find in this collection papers that are engaging, accessible, and thought-provoking.

The chapters of this book are organized into four themes, the second of which has two sub-themes. We have called the first theme New Windows on Intellectual Property Law. In the papers in this theme, the authors examine aspects of intellectual property law through a different disciplinary lens with a view to advocating for changes in how a particular problem or issue is approached. Cameron Hutchison draws on different disciplinary insights to assess how rights to adapt literary works into film are addressed in copyright law, and how the test for infringement might be influenced as a

result. In a similar vein, Carys J Craig and Guillaume Laroche consider how a music theory approach to the infringement of copyright in musical works should — or should not — affect how courts address such cases. Margaret Ann Wilkinson argues that an information-sciences based analysis would help to resolve legal disputes relating to confidential information, particularly in an increasingly complex information environment. Drawing on different disciplinary perspectives, Pierre-Emmanuel Moyse argues that we need to step back from instrumentalist approaches to law to consider how the spirit of law can be realized by incorporating a theory of abuse of rights in intellectual property law. Graham Reynolds examines the precautionary principle developed at the heart of the environmental movement, and suggests how this principle might be incorporated in the intellectual property context with a view to preserving the public domain. In the final piece in this section, Bita Amani argues for a socio-cultural approach to law that might provide new insights into how jurists should approach issues around the patenting of biomedia.

In the second part of our book, the authors look at intellectual property law through a different disciplinary lens in order to better understand some aspect of the intellectual property system or to explain why it functions in a particular way. We call this section New Windows — New Insights. In their work, our contributors focus either on the social structure or forces that have had an impact on the development of intellectual property law or on the discourses, paradigms, and intellectual structures that helped shape the intellectual property regime. In the first sub-theme — A Different Disciplinary Lens — contributors examine intellectual property issues from a variety of different perspectives. These include political science, sociology, anthropology, criminology, information, and media studies. For example, Blayne Haggart uses the lens of historical institutionalism to understand how intellectual property law has developed and how it may continue to do so in the future. B Courtney Doagoo looks at the feminist approaches in anthropology to show how women's creative output is treated in intellectual property law. Matt Stahl focuses on the impact of the employment power structures of the cultural industries on the development of intellectual property. Louis D'Alton, using a Marxist frame, shows how the birth and growth of the public performance right in musical works can be seen as a concrete application of Antonio Gramsci's theory of hegemony. Daniel Downes studies the practice of branding and presents the extension of copyright, trademark, and rights of publicity to fictional characters and

authors as a phenomenon of "transpropertization." Mistrale Goudreau and Joao Velloso demonstrate how the statutory damages regime in copyright legislation is a form of punishment, private style and question its coherence and effectiveness based on social sciences scholarship.

In the second sub-theme, which we call Discourses and Paradigms, contributors focus on the discourses, paradigms, and intellectual structures that have influenced the intellectual property regime. Michael McNally explores how information society discourse has paved the way to stronger intellectual property protection while failing to address the issues of agency and power relations that affect intellectual property production. Meera Nair uses a law and communications analysis to explore the dynamic of legislative interpretation and borrows from Harold Adams Innis's thoughts on empires and margins, to provide a better understanding of copyright exceptions. Chidi Oguamanam explores the intersection between human rights and intellectual property, and argues for a critical approach to human rights discourse in intellectual property law. Gregory Hagen, venturing into the realm of political philosophy, asks whether Robert Merges was right to argue that intellectual property rights should be considered basic rights within Rawls's theory of justice. Laura J Murray and Kirsty Robertson examine the rhetoric around appropriation art, and argue that the United States free speech discourse in this area risks occluding the particular Canadian historical and political context in which appropriation art takes place. Andrea Slane, using the controversy surrounding the bestselling 2009 novel and subsequent film *The Help*, takes a literary studies approach to the litigation which ensued, and the attendant legal claims about the wrongful appropriation of one's self as a character. She questions whether a binary distinction between fiction and literary realism can appropriately address the ethics of fictionalization. Marcus Boon examines the politics and ideology behind "copying" on the practices of appropriation or depropriation. Using the work of French filmmaker Jean-Luc Godard as an illustration, he argues that we need to consider broader political economy issues in contemporary intellectual property law.

In the third theme, Interdisciplinarity in Practice, the authors focus on discipline-specific knowledge and insights to address practical contentions within the field of intellectual property. Drawing on his experience with a major international and multidisciplinary research project, Jeremy deBeer explores the lessons to be learned from large-scale collaborative projects such as the African Copyright and Access to Knowledge Project. Norman

Siebrasse argues that empirical evidence regarding whether business method patents promote or hinder innovation enters judicial discourse through academic articles in a manner that does not allow for proper testing of this evidence. He argues that institutional competence to evaluate empirical social science evidence should be taken into account in determining the extent to which it should influence judicial decision-making.

In the fourth and final theme — Impact *of* Law or Impact *on* Law? — the authors consider how law has the ability to impact behaviour in other disciplines while at the same time other disciplines equally have the ability to impact law. Matthew Herder investigates the need for increased empirical evidence to determine the influences that emerging scientists face when making decisions to commercialize their knowledge and what impact the push for commercialization may have on academic research. Jonathon W Penney interrogates the lack of methodology in copyright scholarship pertaining to the ever-expanding online digital sphere, and analyzes the issues that may arise when applying legal doctrines such as the "chilling effects doctrine" to forms of media. Benoit Seguin and Teresa Scassa examine the impact of anti-ambush marketing legislation in a case study of sponsorship at the 2010 Vancouver Olympics, and suggest that this form of protection for brands may have negative and unanticipated consequences. Samuel Trosow reflects on the cultural significance of creativity in the digital landscape, with an emphasis on user-generated content. He warns of the threat posed by restrictive copyright policies on this emerging and valuable form of communication.

Together, this collection of diverse, exciting, and ambitious papers offers a glimpse into the rich potential of interdisciplinary research on intellectual property law questions. We hope that readers will find the authors' insights both stimulating and useful. We also hope that readers will be inspired to reflect upon the broader questions around disciplinarity and interdisciplinarity in law.