Convergence and fragmentation: legal research, legal informatics and legal education

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Abstract

Fragmentation and convergence are two discoursal lenses that have been used to view changes that have taken place in the domains of legal services, the legal profession, regulation and legal education. While they may appear orthogonal, the relationships between them are intimate, sophisticated, constantly shifting and require much more analysis.

In this paper I shall argue that law schools need to engage with both processes for they are fundamental to the way we perceive our schools and our roles within them. Fragmentation of knowledge, for instance, offers law schools significant opportunities to reshape fundamentally what they do. Convergence opens up considerable dangers for law schools if the process is misunderstood or elided. To exemplify this argument and to begin to examine its strength as a tool for analysis I shall focus on one area of convergence in legal education, namely the three fields of legal information literacies, legal informatics and legal writing. I shall argue that the sum of the convergence of all three would significantly improve the educational effects of the parts in our curricula. I shall explore how studies in New Media on media convergence give us models for such convergence, and can reveal the educational effects that the process may bring about.

> [A] genuine shift in the way we produce the information environment that we occupy as individual agents, as citizens, as culturally embedded creatures, and as social beings goes to the core of our basic liberal commitments.
> (Benkler 2006, 464)

Introduction

It is something of a commonplace now that a key characteristic of the legal field in society is fragmentation. The legal profession is fragmenting under economic pressure, both from competition within and from without, eg in the form of alternative business structures. The churn of the digital domain exacerbates inequalities between firms, where access to data is highly commercialised. Regulation is becoming more complex, detailed and granular. Legal services are becoming more niche, more specialized, at Big Law and corporate level as well as on the High St and in legal aid, what remains of it. As a result the relations between these legal functions, roles, tasks and cultures are changing significantly. Professionalism is under pressure and morphing into splintered sub-professional identities as a result, and the general activities of title-based services are undergoing transformation.

Law Schools are not immune to the force of fragmentation. In times of economic downturn there is pressure on school fees, on the need to change curricular structures and timelines. There is increasing specialisation of subject and programme, often with consequential siloes of subjects and programmes. Above all there is the splintering effect of privatization of the public good of legal education into market share and commoditised practices, and the pressure to follow the market and its values.

But alongside fragmentation there are also powerful movements towards convergence. Law firms merge; business practices converge to drive down transactional costs. Regulators are driven by consumers to homogenize and standardize legal services. In fields such as international finance regulators are increasingly merging hugely complex regulatory structures, or at least making them complementary to each other. Legal services are homogenizing, fuelled by the cost savings to be found in digital technologies and outsourcing.

In law schools convergence has been gathering pace. There are the homogenizing influences of technology – of institution-wide applications for data storage, transfer and analysis. Learning management systems and the corporate provision of online legal research tools have tended to standardize learning and research practices. The morphing of libraries into a universal model of the Academic Commons is gathering pace. The effect of regulation that seeks, via nationwide regulation (eg AQF, TEQSA, law TLOs, PLT Competencies, CALD Standards) to set standards for programmes of study also has the potential effect of convergence, as does regulation of professional programmes such as the GDLP in Australia or the LPC in England and Wales.

The effect of fragmentation and convergence on each other is one of the key forces in HE today, and law is no exception. The forces are not necessarily orthogonal even if the contrast may make them seem so. Just as tradition and innovation are never only contrasts, so too with fragmentation and convergence. There are inherent indeterminacies, predispositions to certain kinds of change, and multivalencies in their interactions. To date, though, there has been little analysis of it, or of useful models though which we can analyse, understand and use its power to transform legal education for the better. In this paper I shall explore some of its effects on one small corner of law school activity, namely the convergence of legal research, writing and informatics.

Legal research and legal informatics

Legal research has occupied an uneasy place in the legal curricula of common law jurisdictions. It is often classed as a skill, and practised in introductory subjects such as Introduction to Law or some such. Its physical locale is uncertain, too, sited between lecture hall and library and digital spaces online. Latterly, it has been in part recast as legal information literacy; and in many respects this new identity for it holds much potential. This much was clear from an interview conducted two years ago with three senior law librarians in the Legal Education and Training Review (LETR) project, in England and Wales.

LETR was instructed by the three 'frontline' regulators, the SRA, BSB and IPS, and was a review of legal services education in England and Wales. It lasted two years, and the extensive work generated in the course of writing the Review's report is set out at http://letr.org.uk. Part of that work was a literature review, and consultations with

institutions and individuals who had an interest in legal education.[1] One such consultation was an interview with representatives of BIALL, namely Ruth Bird, Peter Clinch and Natasha Choolhun. The interview ranged widely on issues of digital literacy, and the future of legal research literacy.

The interviewees were critical of trainee research practices:

> They [trainees] appeared to be generally unfamiliar with paper-based resources by comparison with digital resources. In addition they noted that trainees seemed to depend on one-hit-only searching: in other words they did not check thoroughly and contextually around their findings. They used Google extensively and their searches tended to be shallow and brief. Trainees were also increasingly unable to distinguish between the genres of legal research tools – the difference between an encyclopaedia and a digest, for example. They seemed to lack persistence and diligence in searching, as well as organization. These values, that underlay the learning outcomes of the LILT document, needed to be worked on by students. The group were unanimous in their opinion that many academics shared the weaknesses of students and trainees in this regard.

The group were also critical of academic staff in this regard, too:

> Academics were also poor at attending training sessions. The group thought that it was time for a 'wake up call' on the whole issue of legal research.

Interestingly, when asked whether there was a distinction between academic and professional legal research training needs, the three librarians were of the opinion that a single competence framework could accommodate both, if appropriately constructed. LILT was designed to be a 'common denominator' in all law programmes and had, according to the group, been well received. There was also a need to align learning and assessment in this regard; and again, process was emphasised over content in assisting the transition from academic to some kind of professional experience:

> students needed to be assessed on skills as well as content: process needed to be audited both in practice-based situations and in formal academic learning, and indeed if good habits were established early on in academic learning, supported by staff and driven in part by assessment, then it would make the job of practice-based librarians a lot easier.

Throughout the interview there was an emphasis on the critical importance of process over content, and this extended into the detail of regulation of legal literacy and legal education. Some issues that they raised:

a. The QLD [Qualifying Law Degree – the varieties of undergraduate law degree in England and Wales] is highly academic, and focused on content too much. Little space in it for focus on process, ie how students learn what they learn.
b. The BIALL Toolkit […] could be used as an element of the regulatory process.
c. Mind the gap -- regulators need to focus on smoother transitions and better links between the various stages of legal education. The gaps are clear to librarians in both academia and practice, who can see learning deficits in the move into

[1] The report is available at: http://www.letr.org.uk/. Research methods included: a literature and policy review; qualitative research involving interviews and focus groups with 307 academics, students, practitioners and others; a quantitative survey of 1,128 legal professionals and academics; as well as online surveys of will-writers and careers advisers. The research team was also provided with access to data collected by the Legal Services Board on the consumer experience of legal services. In addition the Review Group conducted small research studies that updated earlier research on skills acquisition in legal education.

academia, and from formal learning to the more informal learning that takes place in practice contexts.

d. From a regulatory point of view, what was needed was both more specification of legal search skills and digital literacy (hence LILT and other documents) and more focus on process.
e. The law degree was an apprenticeship of content, not of process.
f. Over the last few decades the law curriculum had become ever more crowded with more core content and extra options.
g. Part of the solution to crowded curricula was better design. In particular, academic staff needed to design with library staff in joint activities. Library staff, in other words, needed to be more at the heart of the educational design process with academic staff, and involved in teaching, learning and assessment. […]
h. Following on from this, regulators needed to recognize the changing role of law librarians as legal educators. Currently librarians are classified occupationally in many institutions as 'Clerical Staff' or some such. This needs to change and their role as educators and digital information curators and digital information environment designers should be recognized.

The interview was of course only a snapshot of opinions. Nevertheless the opinions were the considered views of three experienced and respected professionals in the world of legal information science. Their views were representative of some of the literature on digital literacy, as we shall see. Stepping back from the detail of what they argued, one could see that underlying their comments was an implicit view of what education in information might be for, what expectations we might have of the place of information science in the legal educational process, what the essence of academic and information science jobs were and were evolving into. And these cannot be separated from the wider question of what learning looks like, and which varieties of pedagogic, social and cultural models were brought to the conversation.

But interestingly, they did not articulate the view of early digital texts on information science in law and legal education. Roznovschi (2002), for instance, writing over a decade earlier, argued that there were enormous transformations in the legal research process, amounting to a new legal culture, a view shared in respects by others, eg Zivanovic (2002), and which at the time was part of the general discourse of radical newness that the digital domain attracted. Instead, the interviewees expressed views that were indicative of a convergence movement -- convergence in terms of academic and practice literacies, between formal and informal learning contexts, between process and content, between the work of academic staff and library staff; and in terms of the new job descriptions that were required in the areas of academic staff employment and information staff employment.

Convergence and New Media

If we are to take this idea of convergence seriously, what shape might it take? What forms of convergence might be useful, and which strategies should we use? What might the future of legal research and legal education look like, and what role might bodies dedicated to the open movement (such as the LIIs eg AUSTLII) play in this future? To answer these questions we need to define first what 'convergence' actually means. Here, I take as my key text Henry Jenkins' work on convergence cultures (Jenkins 2006). In the book of that name, Jenkins analyses forms of media, particularly digital New Media, and shows how conventional and New Media are converging in ways that are transforming our current understanding of media content, both corporate and grassroots. These have important

effects, he argues: the struggles that define this convergence will also define how business is conducted, how education happens, and how democratic processes are enacted in our society.

He starts by making a distinction common amongst media analysts between *media* and *delivery technologies* (13). A delivery technology is a tool by which we consume media – he cites the Betamax tape or 8-track audiotape as examples of defunct delivery platforms. Also on the way out are chunky early Apple iPods, overtaken by iPods Nano and Touch, and above all iPhones & iPads. Media, on the other hand, is a more complex concept, and he cites Lisa Gitelman's two-level model of media. First, 'a medium is a technology that enables communication'. Recorded sound is an example. But it is also 'a set of associated "protocols" or social and cultural practices that have grown up around that technology' (13-14).

As Jenkins points out, a medium's content shifts according to the delivery technology (he cites television displacing radio as a storytelling medium), and 'its social status may rise and fall', but 'once a medium establishes itself as satisfying some core human demand, it continues to function within the larger system of communication options' (14). In the example above, for instance, TV drama and films clearly replace many of the storytelling functions of radio; but in the UK at least, radio drama survives, albeit as a niche genre, and radio itself has become a platform for talk-radio (eg BBC Radio 4) or music (BBC Radios 1-3). Similarly there is currently a shift between programmed TV, which used to be available only on a TV set, and 'watch-again' TV, available on digital TV sets but also on every other digital-enabled device, eg notebooks, tablets, phones.

All these shifts do not happen, of course, without agency or outside the grid of global capital. Jenkins' book charts the struggles between corporate and grassroots in digital media, and we shall consider once instance of this below. The shifts between media, though, and knowledge of what happens when they happen and resistance to them, have been going on for some time. In an early and celebrated account of one such shift and resistance to it, the nineteenth century Scottish poet and novelist James Hogg describes a meeting between Sir Walter Scott and Hogg's mother, where Scott, a famous collector of Border stories and ballads, asked if a particular song that she had sung, Auld Maitland, had ever been printed, and Mrs Hogg replied:

> [There] war never ane o' my sangs prentit till ye prentit them yoursel', an' ye have spoilt them awthegither. They were made for singin' an' no for readin'; but ye hae broken the charm noo, an' they'll never [be] sung mair.

The meeting is descriptive of two cultures, oral and print, colliding: one voluntarist, rooted in the community, dependent on historical and social continuity and the listener/speaker, the other embedded in commerce and capital, dependent on market and reader/writer. But there are other antinomies at work here. Scott is a product of the volatile early nineteenth century print culture he came to depend upon: he is a member of the lesser gentry, an Edinburgh lawyer, Sheriff Depute of Selkirk, a Tory in politics, European in his influences, profoundly a nationalist in sentiment only; and at this point he is making his fortune from the early capitalist print nexus. Mrs Hogg is in many ways the opposite of this: of Border tenant farmer stock, a singer, memorising songs and ballads, performing outside the nexus of early nineteenth century capital.[2]

[2] For an exploration of the laminated quality of this relationship, see Colin Graham. *Deconstructing Ireland: Identity, Theory, Culture* (Edinburgh, 2001), particularly in his discussion of Yeats, and Yeats' *Fairy and Folk Tales of the Irish Peasantry* (1888):

But she is aware of what is happening to her songs ('till ye prentit them yoursel''), as well as the effect that printing has upon them. Her position as a representative of the pre-modern and ancient is itself a marker of the shift in the cultural practices and changed transmission of modern media. And she is aware of future practice, of the way that the past is appropriated by the modern in a double-bind validation from which it cannot escape. For the oral past is at once the sacral source of the modern printed version because it is the past; and yet to exist in the grid of contemporary polite bourgeois culture it required the validating custodianship of a trusted figure, such as Scott had become, to assign to it the insignia of ancient culture. And in the process the original social event, the multi-layered community bond between listener and singer – Mrs Hogg's 'charm' – is changed utterly. As a result, she predicts: 'they'll never [be] sung mair'.

Actually, the songs are still sung, but in entirely different contexts – those of traditional music education and performance. In other words print culture does not obliterate oral culture: it changes and shifts it. Gitelman describes this with her subtle definition of media. The 'protocols' she alludes to include 'a huge variety of social, economic and material relationships. So telephony includes the salutation "Hello" […] and includes the monthly billing cycle and includes the wires and cables that materially connect our phones' (cited in Jenkins, 14). Those wires and cables are undergoing economic shifts, as more of us abandon landlines for mobile phones as the primary mode of personal telephony.

Jenkins, though, is more concerned with the shifts and struggles that occur in contemporary culture. For him, media convergence is not a convergence of delivery technologies. In fact he points out that there is an increasing divergence of media platforms and types of digital devices available to us – compare the desktop computer to the phone, tablet, phablet, e-reader; and this does not take into account the multiple digital devices such as watches, car displays, sat navs, washing machine cycles and many more that surround us.[3] In an important passage he describes how media convergence

> alters the relationship between existing technologies, industries, markets, genres, and audiences. Convergence alters the logic by which media industries operate and by which media consumers process news and entertainment. Keep this in mind: convergence refers to a process, not an endpoint. […] Ready or not, we are already living within a convergence culture. (15-16)

Media ownership, he pointed out, fuels this convergence process:

> Whereas old Hollywood focused on cinema, the new media conglomerates have controlling interests across the entire entertainment industry. Warner Bros.

> ambiguous control over the authenticity of [Yeats'] material reveals in its triple-level of authentication (tales, storytellers, folktale-collectors) that authenticity thrives on the textuality and substance of its medium. Textuality seems to provide the material existence which authenticity needs in tandem with its resistance to definition – its mystique is maintained and *evidenced*, while what is actually 'authentic' is filtered through further authenticating processes (folk tales are themselves authenticated democratically by their tellers, then approved and re-authorised by their collectors/editors). (144, his emphases)

[3] He points out, too, the convergence of media within devices – the multi-functionality of the mobile phone, for instance.

> produces film, television, popular music, computer games, Web sites, toys, amusement park rides, books, newspapers, magazines, and comics. (16)

Following this process of convergence, he tracks consumer practices within it, and notes how convergence creates affordances that were simply not possible before convergence. Thus:

> fans of a popular television series may sample dialogue, summarize episodes, debate subtexts, create original fan fiction, record their own soundtracks, make their own movies – and distribute all of this worldwide via the Internet. (16)[4]

Much in this new world is uncertain according to Jenkins, and still in the process of being worked out. Are the gatekeepers of media constantly losing and regaining control (eg Napster) or have they now too much control (iTunes)? Is it a top-down process, with consumers completely in thrall to new media corporates, or do consumers, now much more active, migratory and socially connected, have more impact on new media content and process than they had before the advent of the digital commercial domain? The answer lies somewhere in-between according to Jenkins, and his book explores how this works out in practice.

One chapter is particularly relevant to legal research and education. In 'Why Heather Can Write: Media Literacy and the *Harry Potter* Wars' Jenkins describes the fan literature and its culture that grew up on the web around the Potter novels. Fictionalley.org alone hosted 'more than 30,000 stories and book chapters, including hundreds of completed or partially completed novels' (179). He characterized this as 'a story of participation and its discontents' (171), where on the one hand the religious right-wing in the US tried to ban the Potter books from libraries and bookshops because of its subject matter (characterized as the occult), while Warner Bros claimed that web-based fan fiction infringed the studio's IP, sent cease-and-desist letters and otherwise attempted to shut down the fan sites. Jenkins analysed the communities generating the fan fiction in some detail, showing the remarkable learning environment that was being created by fans in the fan fiction websites. The fans themselves created the conditions under which they could create, discuss and receive feedback upon their work, and learn from others, particularly more experienced writers who would take up a coaching role. The following figure maps good coaching in writing skills with the evidence that he describes:

	Good coaching practices	***Potter* fan fic sites**
1	Create a specific site for writing	Eg www.fictionalley.org (179)
2	Provide mentors for new writers	'forty mentors … welcome each new participant individually'. (179)
3	Set up peer-review	'At The Sugar Quill, www.sugarquill.net, every posted story undergoes beta reading'. (179)

[4] Compare this to the situation of the oral storyteller learning the craft in a particular place and time and community. In this comparison, as throughout this paper, it should be noted that I do not view tradition as fixed but as a dynamic process. Rather like fragmentation and convergence, tradition and innovation are forces that have complex and intertwining effects in society (Foley 1991).

4	Provide critique	'constructive criticism and technical editing' is provided. (179)
5	Introduce writers to multiple drafting	'New writers often go through multiple drafts and multiple beta readers before their stories are ready for posting'. (180)

All this was organised by the fans themselves, who also organized publicity campaigns against both the religious right and Warner Bros, forcing the studio to negotiate and compromise . The entire fan enterprise is an example of participatory culture on a global scale. As Jenkins describes it, '[t]hese kids are mapping out new strategies for negotiating around and through globalization, intellectual property struggles, and media conglomeration' (205). In terms of Gitelman's definition of media, the Potter fans' online culture changed the form and effect of media, (internet to print), and in doing so challenged the legal, religious and social attitudes towards the books they loved and learned so much from. The culture and context, in other words, mattered enormously to the message.

Legal Informatics

The communities of practice that converged on the web around texts such as the Potter novels are by no means the only such example of participative community-building. Wikipedia is the giant example, but there are many others, and many theorists who have, for a decade and more, pointed to the profound capabilities of such communities to shape and sustain what Giddens has termed a 'narrative of identity' (Giddens 1991b; see also Shirky 2009). As Benkler has observed of the domain of digital capitalism, peer production can be a new mode of collaboration, one where individuals participate in joint production in return for status within or beyond the collaboration (Benkler 2002). Others such as Hardt and Negri (2000) have described the potential changes within the structure of capital that can be brought about by such collaborative effort:

> Today we participate in a more radical and profound commonality than has ever been experienced in the history of capitalism. The fact is that we participate in a productive world made up of communication and social networks, interactive services and common languages. Our economic and social reality is defined less by the material objects that are made and consumed than by co-produced services and relationships. Producing increasingly means constructing co-operation and communicative commonalities.

The field of legal informatics gives us many extraordinary examples of collaboration and communication initiatives. There is work on linked open data in the legislative domain (Nečaský *et al* 2013); e-petition systems and political participation (Bōhle & Riehm 2013); deliberation in crowd-sourced legislative processes (Aitamurto & Landemore 2013)[5];

[5] Their abstract is a typical example of the type of product being created:
This paper reports on a pioneering case study of a legislative process open to the direct online participation of the public. The empirical context of the study is a crowd-sourced off-road traffic law in Finland. On the basis of our analysis of the user content generated to date and a series of interviews with key participants, we argue that the process qualifies as a promising case of deliberation on a mass-scale. This case study will make an important contribution to the understanding of online methods for participatory and deliberative democracy. The preliminary findings indicate that there is deliberation in the crowdsourcing

unbundling of legal services and the implications of this for academic and professional law librarians (Noel 2013); judicial communication systems (Rowden *et al* 2013).[6] The instance of Aitamurto & Landemore is interesting because their findings indicate that first, and contrary to other studies, there is deliberation in the crowdsourcing process that occurs organically among participants, despite lack of incentives; and second, there is a strong educative element in crowd-sourced law-making process, with participants sharing information and learning from each other.

One example of such an event is a 'hackathon' – often an interdisciplinary meeting of coders, designers and others (eg graphic designers) coming together to work on code projects, sometimes with prizes for best projects. A recent one held in New York in September 2014 was entitled 'Code the Deal', organised by Legal Hackers and the US law firm Nixon Peabody. The projects worked on in the event included BEcology (software to enable start-ups to communicate with investors) DoVault (software that uses facial recognition to authenticate individuals accessing legal documents – third prize), and Obsidian Redline – software for collaborative drafting and discussion of legal documents – the first prize-winner. 16 coding projects were worked upon, all of which were designed to improve transactional legal practice.

Forms of convergence such as this, I would argue, are precisely what are needed in legal education. It is already happening, but could happen much more in our law schools, much earlier in student careers, and in a much more sustained way than currently takes place in most law schools. Its qualities are those of the New Media communities identified by Benkler. In the domain of education there are four areas in which we need convergence: organizations, resources, design and assessment. Most formal legal education takes place in organizations that act as silos for knowledge, isolated, often in competition with each other, rarely acting in concert with other organizations in education, or making systematic plans for legal educational research. The organization's educational resources often consist of handbooks, lectures, course outlines – closely-guarded downloads, which are seldom freely available, unless (rarely) part of an OER programme or a MOOC. The design of programmes is often on a hierarchical block model: modules or subjects, with lock-step advance, where subjects within a module must be passed in series, and where modules must be passed in series too. Assessment of substantive content often takes the form of snapshot assessment, in essays or in examinations.[7]

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process, which occurs organically (to a certain degree) among the participants, despite the lack of incentives for it. Second, the findings strongly indicate that there is a strong educative element in crowd-sourced lawmaking process, as the participants share information and learn from each other. The peer-learning aspect could be made even stronger through the addition of design elements in the process and on the crowdsourcing software.

[6] The last example, a study of technology-supported remote participation in court proceedings, analyses why current technological practices do not ensure the benefits of technology are being realized. The authors point to the following factors, amongst others:

1. legislation guiding court use of the technology
2. built environment of both courtroom and remote location
3. court processes, rituals and protocols
4. training regimes for court staff, lawyers and judicial officers
5. design and configuration of the video link technology.

Most of these issues concern the culture, conventional spaces and protocols of court practice, and bear out Gitelman's point about the second layer of media.

[7] Stephen Downes, [ref]

Convergence thinking, however, contrasts strongly on these issues. Organizations would no longer be unitary, solitary. They would have weak boundaries vis-à-vis other organizations, and by the action of co-operating with each other, would develop a strong presence through the integration of resources and learning networks. Classic examples are the MIT and OU Opencourseware initiatives.[8] Inter-institutional MOOCs are beginning to form, but are still relatively new. The focus of learning and teaching will tend to be less on static content, and more on web-integrated and aggregated content. Learning will not be tied to lock-step module but will be described as understanding and conversation, and a form of just-in-time learning, associated with tasks that draw on real-world activities. There will be assessment of learning within the context of learning, not separated from it, ie a form of situated learning.

Examples of convergence

We shall explore two examples, one from the domain of professional legal education, and the other from legal informatics.

Example 1: Ardcalloch Legal Information and Advice Service (ALIAS)

In the Glasgow Graduate School of Law's Diploma in Legal Practice we enabled collaborative learning by dividing students into groups of four called virtual firms. Each firm had a web site, a workspace and communication tools that were embedded within a virtual town called Ardcalloch – effectively a representation of a typical west-coast small provincial Scottish town.

Amongst many other activities in the firms and as part of the legal writing stream of the programme, we asked students to write articles for client bulletins. These would appear as copy for the firm's client bulletin on their firm websites. Each student was required to write at least two articles, each no more than 500 words or so, over the course of the year, and would be given feedback on the copy they wrote.

The initiative gave students an opportunity to research and an activity in which they could negotiate between their interests and those of the fictional clients they were constructing as an audience. The first year we ran this the student articles were highly variable in quality. Many of them were little more than 2,000 word essays compressed into 500 words. Nor should we have been surprised at this, since students had been socialized into producing such texts during the four years or so of their undergraduate careers. Clearly the activity needed to be rethought. So too did the method of text production which emphasised individual production. The individual articles were produced on Word by a student, and uploaded to the firm's website. Yet following the work of Deegan (1995), Christensen (2006; 2007), Stratman (2002) and others we regarded writing as a social activity, where we wanted to emphasise:

- networks of meaning
- distributed learning across the internet and other forms of knowledge representation
- collaborative learning at all levels

[8] In Europe, for example, there are examples of collaborations such as EuroTech (http://www.eurotech-universities.org/home.html), generally high-level institutional collaborations, which may promote the ground-up co-operation that is vital for curriculum development.

In addition and after the first year students told us in feedback that they needed more information about how to link research to writing, how to write the articles, and how to write collaboratively. Clearly the activity needed re-design, and along the lines outlined previously, namely organisation, resources, design and assessment. In the second iteration of the initiative therefore, we invited a web writer who wrote copy for a large Scots law firm, together with the PSL (Professional Support Lawyer) responsible for liaison with the writer. Their advice to students was presented as two webcasts. The articles were also collected, on a wiki (Figure 1), which was represented as a Law Society of Ardcalloch initiative – a legal information and advice service for the town. On the wiki students would

- see each other's drafts (collaborative learning)
- amend firm's drafts (collaborative working)
- be responsible for individual articles (ownership…)

Staff would:

- see student drafts (observe collaborative learning and working)
- comment on drafts (give feedforward on individual work)

The staff involved in giving feedback were in fact specially-trained tutors called 'Practice Managers' – effectively, experienced solicitors who had been trained to be life-coaches to the firms of four students, and to enhance learning and trust within the firm. This was key, for the type of feedforward and feedback that we would expect them to give to students would substantially increase the rate at which students learned the markers of good professional writing.

In this intervention, then, we directed students to the markers of client-centred text and web-focused text. In the process, students learned about the differences between academic content and tone, and professional, consultative writing styles. They began to appreciate the differences between writer-centred text (where the writer's purpose and concerns figure largely in the text) and reader-centred text (which invites the reader into the text, and deals with his or her concerns). They also learned about the differences between professional writing produced for paper-based output and web-based output.

There were interesting issues arising out of this initiative for those of us involved in designing it:[9]

1. In its legal research element, the activity required students to seek and authenticate legal information for an audience that is usually largely interested in the result of legal advice, not the infrastructure of evidence – and particularly those clients who will have access to the web, but may not have access to legal databases or the competence or time to use them.
2. In asking student to link an article to the work of the virtual firm we were asking them to link text and action on the web. True web-based text takes advantage of social networking contexts and the social web. The webcasts and the wiki context of ALIAS helped, but it was clear to us that more work was needed on this not just at the end of formal legal education, in the postgraduate legal education programme the students were currently in, but throughout their legal education.
3. If the Law Society of Ardcalloch were interested in producing an initiative such as ALIAS, why don't other, and real, professional bodies get involved in such activities? Or a consortium of firms? This point, which goes to the heart of a number of regulatory and consumer issues, also raises the question of a 'legal commons', as discussed by Benkler. Fiction thus can comment on reality.

[9] And note that the design work itself became an extended form of legal hackathon.

All three issues require further exploration, and it is fair to say that we did not address them fully in our experiment. The first point clearly involves the use of open and free resources such as AUSTLII, BAILII and CANLII. How, for instance, could students provide authentication of advice for clients who were not legally trained? How might deep linking of legislation, for instance, be of use to clients (eg in-house counsel) who might want to investigate bulletin advice further, possibly to advise? The second point also had implications for the use of free legal sources. How might we give students practice in developing levels of authentication appropriate for different audiences? This requires habitual practice but also levels of communicative and particularly web-based competence that is seldom the focus of legal education at undergraduate stages.

The third point goes beyond the writing activity that is the heart of this intervention. The simulation models a view of regulation that goes beyond the policy & audit model of regulatory activity. Instead, there is a view of regulation that is linked more to outcomes-focused regulation, to a view of the centrality of public awareness and understanding of law, legal activity and legal culture. It is a view where the customer focus of regulation is replaced by a citizen focus.

It is a jurisprudential issue, too, and goes to the heart of regulatory concerns and debates – for example the Hardwig (1985) / Fuller (1994) debate on the nature of social epistemology, the nature of power and informational asymmetries in society, and Murray & Scott's definition of the modalities of control exercised by regulators (2002) –

	Norms	**Feedback**	**Behavioural Modification**	**Example**	**Variant**
Hierarchical	Legal Rules	Monitoring Powers/Duties	Legal Sanctions	Classical Agency Model	Contractual Rule-Making and Enforcement
Competition	Price/Quality Ratio	Outcomes of Competition	Striving to Perform Better	Markets	Promotions Systems
Community	Social Norms	Social Observation	Social Sanctions – eg Ostracization	Villages, Clubs	Professional Ordering
Design	Fixed within Architecture	Lack of Response	Physical Inhibition	Parking Bollards	Software Code

Scott observes that when governments consider a policy problem – unsafe food and passive smoking are two of the examples he considers – regulatory structures and processes have become the general approach to risk mitigation and behaviour modification. Scott advocates a different approach. Instead of replacing prior regimes with a regulatory agency, a 'more fruitful approach would be to seek to understand where the capacities lie within the existing regimes, and perhaps to strengthen those which appear to pull in the right direction and seek to inhibit those that pull the wrong way' (Scott 2008, p. 25). He quotes the UK Better Regulation Task Force guidance, issued in 2000 where, as we have seen, public policy decision makers are advised when considering regulatory change to consider self-regulation, and then 'if less costly alternatives were not viable, plan a more hierarchical form of intervention' (Scott 2008, p. 26). Observing that 'regulatory reform programmes have nowhere led to a substantial reduction in governmental activity in regulation, nor more importantly, a qualitative change in the character of regulatory governance', Scott advises

the use of what he calls 'meta-regulation', namely the idea that 'all social and economic spheres in which governments or others might have an interest in controlling already have within them mechanisms of steering – whether through hierarchy, competition, community, design or some combination thereof' (Scott 2008, p. 27).[10] Scott outlines two challenges to this approach – identification of the mechanisms at play, and creating ways to steer those that are not securing 'desired outcomes'.

What is useful about Scott's approach is the co-option of culture and prior history of community practice into the regulatory project, while acknowledging the need for change and creating the ways by which change can come about. It is a subtle approach precisely because meta-regulation is an alternative to a governmental response to crises that is becoming more common, namely 'mega-regulation' (Scott cites responses to the BSE and Enron crises as examples of this). Scott names the Legal Services Act as one area where meta-regulation may be appropriate. At the same time, though, Scott acknowledges that the local conditions of any economic activity, including professional activities, will need to be governed by a hybrid mix of the approaches outlined in Table 1 above. He gives an example of his approach in action that illustrates his view of a multimodal approach to regulation, namely the regulation of roads and road traffic.

In summary on this example, therefore, the simulation opens up such debates and takes the argument as to skills-based learning and free informational sources and resources such as AUSTLII to the level of jurisprudential debate. But it also reveals the extent to which convergence of media, skills, cognition and high-level regulatory and jurisprudential debate can take place in legal education innovation. And at the same time it shows us how far it yet has to go before our capacity to design for transmedia learning meets the capacity of, for instance, even the *Potter* fan fiction sites.

[10] Scott also cites Parker's definition of meta-regulation, 'the regulation of self-regulation' (Parker 2002).

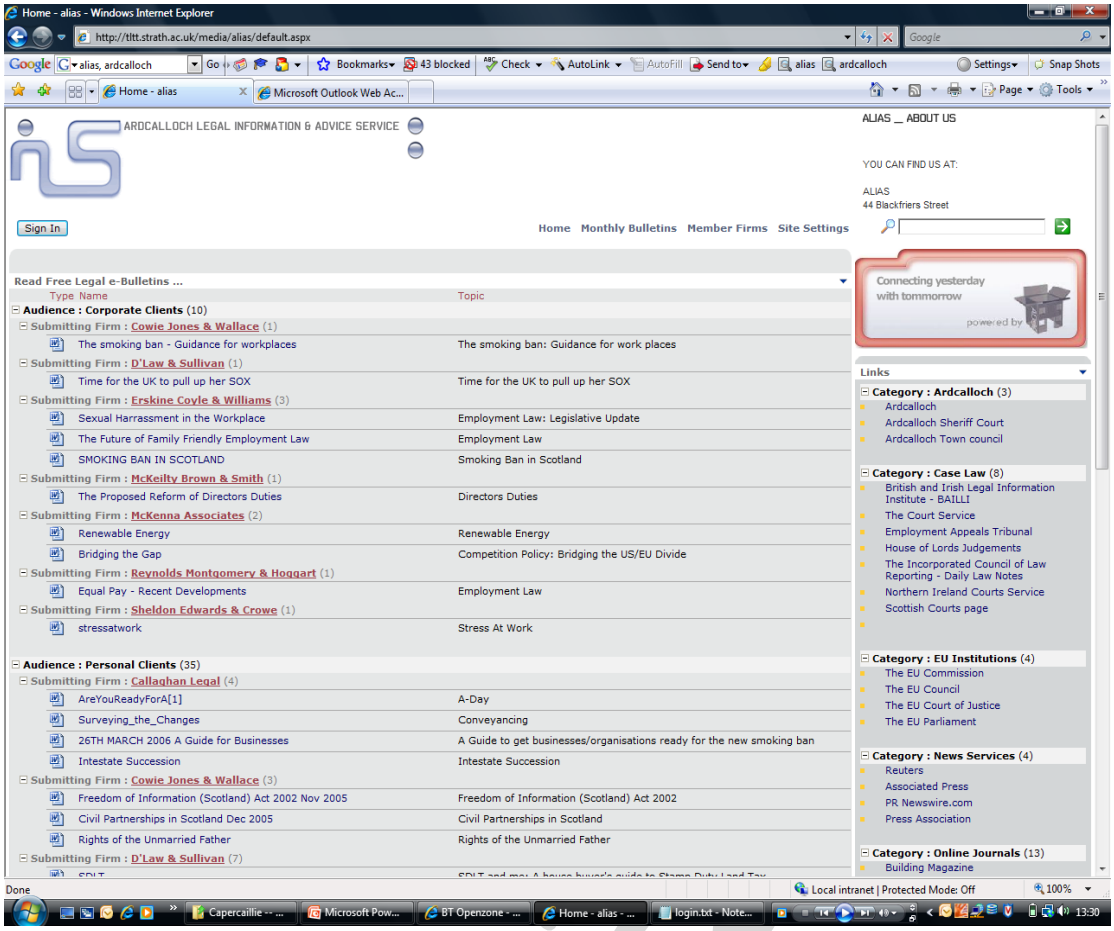

Figure 1: Ardcalloch Legal Information and Advice Service (ALIAS)

Example 2:

As John Palfrey has pointed out, the future of legal informational services is interdisciplinary. – another form of convergence. He cites 'statistics, sociology, computer science, neuroscience' and others (Palfrey 2010, 171). He also notes that the digital-plus age will always be one of multiple media formats (175), and in this he agrees with Jenkins' sophisticated concept of media convergence. As educators, we don't need to know how to code up environments in order to take part in online games; but we do need to understand the culture, potential and limitations of such environments as leisure environments and educational environments if we want to design them for education.

The same can be said for legal informatics literacy. Law librarians, legal academics and law students do not need substantial courses in legal informatics in order to appreciate the power of the discipline to a digital age (Paliwala 2010). Haapio and Passera make this point in a powerful post at VoxPopuLII:

> Lawyers are communication professionals, even though we do not tend to think about ourselves in these terms. Most of us give advice and produce content and documents to deliver a specific message. In many cases a document — such as a piece of legislation or a contract — in itself is not the goal; its successful implementation is.

They quote a range of interesting and compelling examples:

1. Candy Chang's Street Vendor project: http://candychang.com/street-vendor-guide/

2. Margaret Hagan's OpenLawLab: http://www.openlawlab.com
3. Susanne Hoogwater's contract drafting visuals: http://www.legalvisuals.nl
4. Gary Sieling, Visualizing Citations in US Law, -- http://garysieling.com/blog/visualizing-citations-in-u-s-law, where the thickness of the links between Titles encodes the frequency of citations between the sections, including self-citations.
5. Uber Rides by Neighbourhood at http://bost.ocks.org/mike/uberdata/.[11]
6. The Access to Justice & Technology project at Chicago-Kent College of Law – http://www.kentlaw.iit.edu/institutes-centers/center-for-access-to-justice-and-technology. The goal of the project is to begin to establish cyber clinics as a permanent feature in US law school education.
7. Visualizations of the German Civil Code: http://www.visualizing.org/visualizations/arc-law
8. Aaron Kirschenfeld's post, The Law School Crisis, Visualized: http://www.aaronkirschenfeld.com/scholarship/law-viz/ [12]

These projects involved a wide variety of professionals. They are excellent examples of how we could build interdisciplinary courses not for students but with and alongside students, for the benefit of others.

Conclusion

Perhaps the most useful approach we can take to the forces of fragmentation and convergence in legal education is to help our students understand them and their influences in society. We could do worse than to converge the complementary activities of legal research, informatics and writing. This apparently new nexus, in one sense, is not new at all: it is a resurgence of rhetoric in an entirely different context.

Are there any further practical conclusions that can be arrived at? There are at least five:

1. At the end of his introduction to a special journal issue on legal informatics, Paliwala noted the decline of the relationship between legal informatics and law. It may be that the tide is turning: recently, the state Bar of Massachusetts set standards for lawyering literacy in legal informatics. *Work with regulators and others to shift the focus on programmes from legal content to legal skills and deep discussion and practice of legal values.*
2. From other disciplines, develop the concept of *collective competence* and *collective responsibility* around issues such as open and free resources, and do this via interdisciplinary approaches. In this way, and as Gitelman advocates, *change the set of 'associated "protocols" or social and cultural practices that have grown up around [a] technology'*

[11] D3.js – JavaScript library for manipulating documents based on data. Uses HTML, SVG and CSS. Full source and tests available at GitHub. See d3js.org.

[12] Extract from his abstract:

> For the past year, I have been researching changes in the legal profession and the market it has created, but I have had trouble sorting out the story buried in the often cited numbers contained in scam blog posts, academic works, or news reports. On this site, I have gathered a wide variety of source material and data to tell a story and to present a challenge — if you are considering going to law school, will deciding to go really ruin your life? To that end, I've prepared several easy-to-grasp visualizations about law school applications, debt, employment after graduation, and the current crisis in the legal market. [...]

3. Oliver Goodenough's e-curriculum (2013) gives us useful pointers as to what a curriculum heavy with technology might look like; but we can do much more to *embed and converge media*. We can use crowdsourcing, visualisation and the tools of legal informatics in our classes, and in our understanding of legal education itself.
4. *Use legal information creatively, imaginatively and practically*, as the legal informatics examples demonstrate
5. *Focus on complex and sophisticated simulation environments* in which we can use primary legal resources with students, and practise using these in a wide variety of contexts within our teaching programmes.

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