1.   Introduction

How should we characterise what lawyers do? The question has both a sociological component and an evaluative component. As a sociological question it asks what functions lawyers perform – what precisely would be lost if they did not exist? As an evaluative question, it consists of asking what good do lawyers do? Are they worth having, and if so, are some kinds of lawyers more worth having than others?

One of the dangers of inquiries of this kind is that there is a temptation to take the questions in the wrong order, to take the evaluative question first and to ask the sociological question only in the form of asking to what extent the real world meets the standards set by the ideal. For example, one might conceive of the role of lawyers as, in some form or other, to secure justice, and then to ask how far the legal profession provides that form of justice. One example of that procedure sets up an ideal of the 'lawyer-as-hero', the lawyer who fights injustice through the courts, taking on the rich and powerful to win cases for the poor and oppressed,[1] and then points out, unsurprisingly, that heroism is in practice in short supply. At its most extreme, one could follow Tony Kronman and set up an ideal lawyer as a lost figure from the past, in his case the ideal of the 'lawyer-statesman', a lawyer 'possessed of great practical wisdom and exceptional persuasive powers, devoted to the public good but keenly aware of the limitations of human beings and their political arrangements',[2] and then berate the present for not living up to that ideal.

Another danger is to frame both questions in terms of public opinion about lawyers. Lawyers, of course, are not very popular. In the USA, a leading political consultant used to advise his clients '[i]t's almost impossible to go too far in demonizing lawyers.'[3] He also remarked,

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[1]   Marvin Mindes and Alan Acock, 'Trickster, Hero, Helper: A Report on the Lawyer Image' (1982) 7 Law & Social Inquiry 177–233.

[2]   *The Lost Lawyer: Failing Ideals of the Legal Profession* (Cambridge, MA: Harvard U.P., 1995) 12.

[3]   Luntz Research Companies, *Language of the 21st Century* (Alexandra VA: Luntz Research Companies, 1997) at 128, cited in Marc Galanter, 'In the Winter of Our Discontent: Law, Anti-Law and Social Science' (2006) 2 Annual Review of

> A good indicator of the depth of emotion Americans have regarding the current legal system is their utter disdain for the term personal injury lawyer. When asked what comes to mind when they hear the term 'personal injury lawyers,' Americans use words like . . . 'creeps,' 'bottom-feeders, 'overpaid,' and 'evil'.[4]

The USA might be an outlier, but lawyers' reputation is a cause of anxiety to them in many jurisdictions. Market research carried out in 2011 in 15 European countries and in Russia showed that a majority of respondents trusted lawyers 'not very much' or 'not at all'. [5] Admittedly lawyers scored much better than journalists, politicians, trade union leaders, advertisers, footballers, financial advisers, civil servants and car salesmen, and slightly better than international business, bankers and priests, but worse than the police and meteorologists, and much worse than doctors, nurses, teachers, airline pilots, firefighters, and farmers.[6] In England, although public opinion surveys generally find a majority of the public 'very' or 'fairly' satisfied with the way lawyers do their work, their ratings are very much lower than those of the medical professions and teachers.[7] One might characterise lawyers in the way public opinion does and ask what lawyers might do to improve their reputation. But public opinion about lawyers does not necessarily tell us much about what lawyers really do. Few of those offering an opinion will have had recent personal contact with a lawyer,[8] and portrayals of lawyers in the media and in fiction are unlikely accurately to reflect lawyers' work.

A third danger is to start with lawyers' characterisations of themselves. Lawyers have various theories of what they do, from the flattering (lawyer-as-hero), via the more modest (lawyer-as-helper, or limited purpose friend[9]) to the condemnatory (lawyer-as-hired gun, or trickster).[10]

Law and Social Sciences 1–16 at 10, and in Benjamin Barton, *The Law-Judge Bias in the American Legal Process* (Cambridge: Cambridge U.P., 2010) at 139.

[4]   Frank Luntz, *Republican Playbook* Part VIII 'Lawsuit Abuse Reform: A Commonsense Approach' http://www.politicalstrategy.org/archives/001205.php.

[5]   Readers Digest Trusted Brands Survey 2011 http://www.rdtrustedbrands.com/about.shtml.

[6]   Readers Digest Trusted Brands Survey 2011.

[7]   Ipsos Mori 1999–2004 http://www.ipsos-mori.com/researchpublications/researcharchive/14/Opinion-of-Professions-How-Well-Do-They-Do-Their-Jobs.aspx?view=wide.

[8]   We estimate in Chapter 2 that, in Britain, there is, as a maximum, about a 10 per cent chance of an individual using the services of a lawyer in a year on a single occasion, with the actual figure probably being much lower.

[9]   Mindes and Acock (1982) and Edward Dauer and Arthur Leff, 'The Lawyer as Friend' (1977) 86 Yale Law Journal 573–84.

[10]   E.g. Mindes and Acock (1982).

But these characterisations are not so much descriptions of what they do as engagements with evaluations others make, or evaluations lawyers think others make, about them.

In this book, the starting point for the enquiry is broadly sociological. The question we ask is a very simple one. What kind of work are lawyers engaged in? We ask that question both for lawyers who offer their services on the open market and for those who work for the state. We observe (see Chapter 2) that what most of them are doing most of the time is drawing up documents that are intended to have effects desired by their clients. In the private sector those documents might be contracts or company constitutions or wills or conveyances. In the public sector, lawyers might also be producing contracts, but they additionally generate drafts of regulations and statutes.

Most descriptions of law, popular and academic, assume that being a lawyer means being a litigator. It assumes that thinking about law means thinking about cases decided by courts and that the supreme position in the law is that of judge. But most of the time lawyers have nothing to do with courts. One might argue that the documents lawyers draw up anticipate what courts might say about them and that their effects flow because courts will enforce them. But on closer inspection even that claim has to be greatly qualified. Contracts and statutes are often drafted not as instructions to judges about enforcement but as plans for those affected by them to apply directly to themselves. Court enforcement is often seen not as a benefit the document might bring but as a disaster to be avoided. No doubt the possibility that a court might at some point declare a rule used in the document to be invalid is a danger to be taken into account, but even that is not by itself a knock-down argument against using the rule. Rules that are difficult to enforce have their own place in the panoply of rules lawyers might use.

The characterisation of lawyers that best fits what lawyers actually do is not hero, or statesman, or trickster, or hired gun – all of which in some way relate back to litigation – but engineer. Clients come to lawyers, as they come to engineers, with problems that they cannot solve themselves. The service both engineers and lawyers provide is the solving of those problems. But more than that, although both lawyers and engineers might solve clients' problems merely by offering advice and guidance, the central instrument for solving problems that both use is a device of some kind – usually a physical device in the case of engineers and a document in the case of lawyers, although, as we shall see, it is less the physical embodiment of a device that matters as how it alters the system within which it operates.

The lawyer-engineer comparison starts as a mere metaphor, as a literary figure of speech that uses a single point of comparison between otherwise

different things to emphasise a particular point about the things being compared, but as one presses the comparison further it soon becomes clear that the analogies between law and engineering go deeper. Those analogies can be used to illuminate otherwise unexplored caves and tunnels of what lawyers do. For example, lawyers, like engineers, face the task of designing new useful devices. What processes do they go through to produce those devices? How does creativity work in each profession? Are there lessons that each might learn from the other? In particular, can lawyers become more innovative and effective as designers of new devices by using the methods of engineers? This books starts to explore these possibilities (see Chapter 3). It deals not only with lawyers in private practice, but also those who work in government, especially those engaged in the design of statutes.

Lawyers and engineers also face common ethical problems. Should they design devices for harmful purposes – for example to do physical or financial harm to others? Even when their own purposes are not malicious, what responsibility do lawyers have if clients use what is made for them to damage others? Can we use the comparison between lawyers and engineers to throw new light on lawyers' ethical responsibilities? In particular, we shall observe that, to a considerable degree, legal ethics takes as its starting point the situation of a litigator (and, in England and the USA, the situation of a litigator in an adversary system), which leaves it with little to say about the ethical problems that face lawyers in their engineering activities. Can we instead ground legal ethics in the problems faced by lawyers with devices to design, using as a starting point the parallel problems that engineers face? We take up this challenge in Chapter 4, where we concentrate on an example that serves to illustrate the nature and scope of the problems lawyers face in their engineering activities. The great Great Crash of 2008 followed an extraordinary expansion of credit that arose from what is essentially a set of legally-engineered financial innovations: securitised mortgages, the recombination of securitised mortgages into collateralised debt obligations, higher levels of recombination of collateralised debt obligations and eventually the invention of instruments that effectively allowed betting on movements in value of the recombined obligations. Some of what happened was fraudulent and deceptive, and lawyers should ask themselves serious questions about their part in such activities, but much of it was not fraudulent but simply dangerous for the market as a whole and ultimately for the wealth and well-being of millions of people. As we shall argue in Chapter 4, ethical standards drawn from litigation look especially irrelevant and inadequate in the circumstances of the Great Crash. Lawyers would do better to look instead to the ethical principles that engineers have developed, largely as a result of various disasters in which engineering errors have been implicated.

The comparison of law and engineering might also have lessons for research and teaching. Legal research, at least for those engaged in it, often seems a peculiarly ill-defined activity. What is it? Who specifically is it for? What is it meant to achieve? Comparisons with research in engineering provide ideas for answering those questions more clearly and distinctly than we now do. As for academic teaching of law, it has long suffered from a crisis of identity. Is it training for the profession? If so, why does it ignore what most of the profession does? If it is not, what is it? What kind of knowledge does it impart? Again, the engineering comparison can provide provocative answers to those questions. These issues are taken up in Chapter 5.

We can also ask how the conventionally dominant activities of litigation and adjudication look when we observe them through the lens of law-as-engineering. In this reversal of the familiar world, elements of legal life that are currently taken for granted, such as the aggressive style of litigators in an adversary system, become odd, strange and questionable. Perhaps more importantly, the role of judges can be re-assessed. Should we see judges as also engaged in engineering? If so, what kind of engineering is it? What are its characteristics and limitations? What aspects of their role might help them or hinder them in carrying out engineering functions? These questions form a subsidiary but important theme of chapters 3 to 5.

In Chapter 6, we attempt an assessment of the benefits and drawbacks of the whole approach. In particular we confront a number of arguments against the law-as-engineering approach, that it is wrong to move the centre of attention of lawyers away from the courts; that seeing law as a form of engineering encourages instrumentalist thinking that promotes private interests and relegates the common good; that law-as-engineering encourages a manipulative view of human relations; and that it breaks any links law might have with justice. The common theme of those objections is that thinking about law as engineering is technocratic and immoral, charges we will contest. We will argue, on the contrary, that seeing law as a form of engineering is the best way to rescue lawyers from the kind of behaviour that contributed to the Great Crash.

PRECURSORS

The comparison between law and engineering is not entirely new, although it has perhaps never been taken quite as seriously or in as much depth as it is here. The comparison has arisen previously in at least three contexts, each of which contributes positively to the conception of law-as-engineering but to each of which objections have been raised that the broader version

espoused here strives to meet. The first context is that of American legal realism and its successors, such as the Lasswell–McDougal school of law-as-policy. The second context is that of the transactions-costs economic analysis of law, especially the work of Ronald Gilson. The third context is the study of the consequences for legal practice of new technology, a field led by Richard Susskind.

Roscoe Pound, the Legal Realists and their Successors

Perhaps the earliest suggestion that law should be compared to engineering came in a series of lectures on legal history delivered in the 1920s by the American legal polymath Roscoe Pound. Pound devoted his final lecture to what he called an engineering interpretation of legal history.[11] Pound asked his listeners to think of jurisprudence as 'a science of social engineering'.[12] He explained that jurisprudence was 'that part of the whole field [of social control] which may be achieved by the ordering of human relations through the action of politically organized society.' Pound returned many times to the theme of 'social engineering',[13] perhaps explaining the concept most clearly in *The Ideal Element in Law*:

> [Jurisprudence seen as social engineering] is an organized body of knowledge with respect to the means of satisfying human demands and expectations, securing interests, giving effect to claims or desires, with the least friction and waste, so far as these things can be brought about by the legal order; whereby the means of satisfaction may be made to go as far as possible. It is the task of the social sciences to make this process . . . continually less wasteful. . . . As one of the social sciences jurisprudence has for its field to discover what part of this task may be achieved or furthered by the legal order and how.[14]

He stressed the orientation of both engineering and law to action, remarking that engineering 'is a doing of things, not a serving as passive instruments through which mathematical formulas and mechanical laws realize themselves'.[15]

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[11] Roscoe Pound, *Interpretations of Legal History* (Cambridge: Cambridge U.P., 1923) at 141–65.

[12] Pound (1923) at 152.

[13] E.g. Roscoe Pound, *Social Control Through Law* (New Brunswick: Transaction Publishers, 1997 [originally New Haven, Yale U.P., 1942)) at 64; *An Introduction to the Philosophy of Law* (New Haven: Yale U.P.; London: Oxford U.P., 1922) at 47, *The Ideal Element in Law* ([Calcutta]: University of Calcutta, 1958) at 234 and 315.

[14] Pound (1958) at 234.

[15] Pound (1923) at 152.

Pound took the analogy seriously, to the extent of making references to the engineering literature of the time.[16] He also made a serious effort to defend law-as-social-engineering from the accusation that it was, in comparison with real engineering, imprecise. He asserted, 'The materials of legal experience are as objective and as valid for scientific treatment no less than those of engineering experience.' He attributed any apparent difference in precision to the fact that legal formulas were all ultimately about what people could not do, so that they were always under pressure from those who wanted to push them further, whereas engineering formulas were about permitting action to take place.[17] Whether or not his explanation is persuasive (and one might think that the human sciences are inherently less precise than the physical) he at least cared enough about the analogy to argue the point.

The engineering analogy (or at least the engineering metaphor) was taken up by Pound's younger contemporaries,[18] several of whom identified themselves, or were identified by others, as the 'realist movement'. It is not entirely clear whether there ever was a 'movement' in the sense of an organised group bound together by a common set of beliefs and aims,[19] but there is little doubt that the 1920s and 1930s saw a reaction against the view, associated with the pioneer of American legal education, Christopher Columbus Langdell, that law schools should concern themselves with law and with nothing else, and, further, against the view that law was to be found largely in the judgments of the appellate courts.[20] That reaction took many forms. One was that lawyers should concern themselves with the social sciences, or even practise social science themselves. A second was that academic lawyers should study not just appellate courts but also first instance courts (and not just what courts said but how they came to say what they said, including their findings of fact). A third was that regulation and statutes were as legitimate objects of study as appellate cases. That third concern, with regulation, both arose from and in its turn encouraged

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[16]   Pound (1958) at 315.
[17]   Pound (1958) at 315.
[18]   See N.E.H. Hull, *Roscoe Pound and Karl Llewellyn: Searching for an American Jurisprudence* (Chicago: University of Chicago Press, 1997) at 144.
[19]   See e.g. Neil Duxbury, *Patterns of American Jurisprudence* (Oxford: Clarendon Press, 1995) at 69 for the view that realism was more a mood than a movement. Other writers, however, see more coherence in realism – see e.g. Laura Kalman, *Legal Realism at Yale 1927–1960* (Chapel Hill: University of North Carolina Press, 1986) and William Twining, *Karl Llewellyn and the Realist Movement* (London: Weidenfeld and Nicolson, 1973).
[20]   See e.g. Kalman (1986), Hull (1997), Duxbury (1995) and Twining (1973) for numerous examples.

a considerable migration of legal talent into the administration of Franklin D. Roosevelt, especially into the institutions of the New Deal.[21]

Pound disagreed with some of the positions taken by his younger colleagues, or at least what he took to be their positions, especially those that appeared to reduce legal rules to psychology.[22] But what bound him to them was the view that law should be used as an instrument of social and political progress, free from illusions drawn from tradition and myth. Many of the realists were eager to promote social and economic change using the law. Their default setting was that the law was not a product of nature or part of the inevitable order of things, but an artefact produced by humans for their own use. Despite the disagreements between Pound and the realists, Pound would be speaking for many of them when he wrote:

> The engineer is judged by what he does. His work is judged by its adequacy to the purposes for which it is done, not by its conformity to some ideal form of a traditional plan. We are beginning, in contrast with the last century, to think of jurist and judge and law-maker in the same way.[23]

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[21]   The best example is Jerome Frank, the author of the iconoclastic *Law and the Modern Mind*, who served at the Agricultural Adjustment Administration, Reconstruction Finance Association and the Securities and Exchange Commission. William Douglas wrote an important report on corporate reconstruction and chaired the Securities and Exchange Commission before being raised to the Supreme Court bench. Walton Hamilton served on a large number of advisory boards of regulatory agencies, was a member of the National Industrial Recovery Board and eventually became head of the consumer division of the National Recovery Administration. Herman Oliphant worked for the Farm Credit Administration before becoming chief counsel at Treasury. Thurman Arnold took part in litigation for the administration before becoming head of the Antitrust Division of the Justice Department. Felix Cohen went to the Department of the Interior, where he worked in Indian policy. See e.g. Roy Kreitner, 'Biographing Realist Jurisprudence' (2010) 35 Law & Social Inquiry 765–91 and Robert Gordon, 'Professors and Policymakers' in Anthony Kronman (ed.), *History of the Yale Law School* (New Haven: Yale U.P., 2004). Perhaps most strikingly of all, James Landis was a member of the Federal Trade Commission and the Securities and Exchange Commission, and later, after an intervening period as Dean of the Harvard Law School, returned to Washington to serve as chairman of the Civil Aeronautics Board. See Donald Ritchie, *James M. Landis: Dean of the Regulators* (Cambridge: Harvard U.P., 1980). For the intellectual parallels between legal realism and the New Deal, see generally G. Edward White, 'From Sociological Jurisprudence to Realism: Jurisprudence and Social Change in Early Twentieth-Century America' (1972) 58 Virginia Law Review 999–1028, 1025–28.

[22]   See e.g. White (1972).

[23]   Pound (1923) at 152.

Pound's particular version of law as social engineering was not, however, always well received even by his realist successors. Karl Llewellyn, for example, doubted Pound's assumption that 'social science' could lead society in the direction of an unproblematic consensus around a single conception of progress and thought that Pound had entangled description and evaluation to a degree that threw both into doubt.[24] The New Deal Democrats among the realists would have been acutely aware of the strong political opposition to Roosevelt's administration and the contested nature of the idea of progress. Consequently, realist interest in social science often concentrated less on informing the construction of progressive measures and more on exposing the anti-progressive assumptions of judges and what the realists saw as political conservatism disguising itself as technical law.[25]

In the wider world, the idea of social engineering has fared even worse than Pound's conception. It has come to mean attempts, doomed to end either in failure or in violence, to alter the way whole societies operate, especially to alter the values their members hold. A typical usage is that of the historian Paul Johnson, who applied the term to the massive schemes of social transformation attempted with appalling results by Hitler and Stalin.[26] Stalin himself referred to some of his own plans as 'engineering human souls'. The whole impression is one of treating human beings with contempt, shifting them about, in Johnson's words, like so much concrete, and when they refuse to move, resorting to murder. Perhaps more credible than the choleric Johnson is Karl Popper, whose condemnation of social engineering was limited to 'utopian social engineering', that is any endeavour to engineer whole societies. He was prepared to accept 'piecemeal social engineering', which he thought of as much smaller scale attempts to improve particular aspects of society.[27] But even smaller scale social engineering by government has become a term of reprobation, referring to allegedly over-ambitious forays into altering a society's status structure or its distribution of economic opportunity, or attempts to do so using institutions set up to do something different.[28] Social engineering is also

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[24] See Hull (1997) at 143.

[25] See e.g. Laura Kalman, *The Strange Career of Legal Liberalism* (New Haven: Yale U.P., 1998) at 13–22.

[26] See Paul Johnson, *A History of the Modern World from 1917 to the 1980s* (London: Weidenfeld and Nicolson, 1983).

[27] Karl Popper, *The Poverty of Historicism* (London: Routledge, 1957) at 58ff.

[28] Examples of all these occur in the UK debate about undergraduate admissions to certain universities. See e.g. Editorial 'Excellent universities, not

associated with manipulation and deceit, with not treating people as rational beings able to make their own decisions on the basis of evidence and argument.[29]

Pound's social engineering conception of law plausibly counts as a pre-cursor to treating what lawyers do as a version of what engineers do, but there are important differences. Pound focused on judges and legislators and the scale of his conception of social engineering was vast, working at the level of whole societies. Law-as-engineering, in contrast, encompasses the work of lawyers in private practice and those working at a much smaller scale – on transactions and on movements of small amounts of property. Pound's was also a heavily value-laden approach, full of reform-ing zeal and optimism, but also open to attack on moral and political grounds as manipulative and elitist. The comparison of lawyers and engi-neers we shall be attempting here is not intended to be heavily value-laden. The comparison is intended initially as a description of what lawyers do, rather than an evaluation of it. The description might illuminate potential areas of ethical difficulty for lawyers, as we shall see, and it facilitates evalu-ation of lawyers' work both individually and collectively, but it carries with it no particular degree of ambition. As for manipulation, although one cannot deny the coercive element in law, there is no a priori reason to think that legal devices are necessarily deceptive. Indeed, one needs to assume that they are not necessarily deceptive to be in a position to criticise those that are.

If one is looking in the same era as Pound for a perspective close to the form of law-as-engineering we take up in this book, one has to turn to the work of Karl Llewellyn himself. One of Llewellyn's constant themes was the importance of the perspective of the private lawyer who makes useful devices for clients, the perspective of the legal 'counsellor' who sees the law in terms of 'what it will do, or what he can get it to do for him:

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social engineering' Daily Telegraph 20 February 2012 at 21 and Mary Evans, 'The interview X factor: the elusive "potential" that dictates success'.Times Higher Education Supplement, 10 December 2009 at 24 (in the interests of accuracy, however, it should be pointed out that, contrary to the Evans' assertion, the Vice-Chancellor of the University of Cambridge did not use the term 'social engineering' to describe UK higher education policy in a speech in September 2008. She used the phrase 'engines for promoting social justice' (see Press Association, 'University Intake Pressure Condemned' Press Association Regional Newswire – East Anglia, 10 September 2008).

[29]   More recently, it has acquired an additional and even more negative connotation, that of frauds carried out on the internet by deceiving people to carry out actions that give away their personal and financial details.

foundation, tool or hazard.'[30] Llewellyn's own personal experience as a young commercial lawyer informed his point of view:

> 'If I were a court', my old chief W. W. Lancaster used to say gently but very firmly, when I had worked out what I thought a neat but novel road through a difficulty – 'If I were a court, Mr. Llewellyn, you would persuade me. But I am not a court; I am counsel for a bank. Surely you can find a way which will not raise these – doubtless untenable–doubts.' That did not mean that Lancaster was unaware of the need and beauty of creative counselling, of finding a good way through which one might have to back by creative advocacy. What it meant was that in the particular matter in hand he felt the risk too great for the return until the possibilities of a safer road had been explored. That was judgment.[31]

Even Llewellyn's much quoted, and much misinterpreted, remark, often taken as the slogan of legal realism, 'What these officials do about disputes is, to my mind, the law itself', is to be understood, as Llewellyn himself later explained,[32] as the law from the point of view of counsellors, rather than from the lofty position of legal philosophers (in Llewellyn's lexicon, 'jurisprudes'). The 'reckonability' he demanded of judges was essentially a degree of certainty in the law that would make it useable by lawyers in the mould of Mr Lancaster.[33]

Llewellyn tended to describe what lawyers do in terms not of engineering but of 'craft',[34] and he emphasised what he called the lawyers' 'situation sense'[35] rather than developing any organised body of knowledge about the processes of legal design. For Llewellyn, lawyering is an activity that involves mainly tacit knowledge, that is know-how that cannot be passed

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[30] Karl Llewellyn, 'The Modern Approach to Counselling and Advocacy – Especially in Commercial Transactions' (1947) 46 Columbia Law Review 167–195 at 177 and in *Jurisprudence: Realism in Theory and Practise* (Chicago: University of Chicago Press, 1962) at 323–51.

[31] Llewellyn (1947) at 177 note 10. W. W. Lancaster was a partner at the New York firm Shearman and Sterling, where Llewellyn worked for three years before entering academia.

[32] Karl Llewellyn, *The Bramble Bush* (New York: Oceana Publications, 1960) (1960a) at 8–10.

[33] Karl Llewellyn, *The Common Law Tradition: Deciding Appeals* (Boston: Little, Brown, 1960) (1960b) e.g. at 17ff and 200ff.

[34] E.g. 'The Crafts of Law Re-valued' (1942) 15 Rocky Mountain Law Review 1–7, and in Llewellyn (1962) at 316–22. Llewellyn does refer to law as engineering in the context of Pound's work (see Hull (1997) at 144) and in an important passage in *The Bramble Bush*, the 'cozenages of Cepola' passage (at 145), which we will discuss in Chapter 6.

[35] See Llewellyn (1960b) passim.

on by precept alone.[36] But, as we shall see, there was a similar tradition in engineering before conscious efforts were made to replace it with organised knowledge about design. Moreover, Llewellyn's ultimate characterisation of legal realism, as 'an effort at more effective legal technology', [37] directly captures the spirit of law-as-engineering. For these reasons, Llewellyn stands as a very important precursor for the more systematic comparison between law and engineering attempted here.

We should also mention one of legal realism's successors, the Law, Science and Policy (LSP) approach pioneered at Yale by Harold Lasswell and Myres McDougal during and after the Second World War.[38] The Lasswell–McDougal approach has been described as thorough-going legal realism minus legal realism's tendency toward cynicism and plus extra-added American values, or as an attempt to synthesise Pound's value-oriented approach with the more radical realism of his successors. In essence it assumes that lawyers are policy-makers, in the sense of people who take decisions that set the direction of their society for the future, and offers them a comprehensive, systems-based view of society from which to derive their assessment of facts, together with a set of western democratic values from which to derive their decisions.

The LSP approach, especially its use of systems thinking, comes close to the law-as-engineering approach, but there are problems in its view of lawyers as pure policy-makers and of law itself as nothing except 'fundamental policy'. LSP is so firmly focused on finding the best future direction for the whole community that the idea of following rules is subsumed into policy decision, a position that has the perhaps illuminating, but not

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[36]   Cf. Michael Polanyi's concept of tacit knowledge, developed in *Personal Knowledge: Towards a Post Critical Philosophy* (London: Routledge, 1960) and *The Tacit Dimension* (New York: Anchor Books, 1967). Llewellyn did, however, have direct experience of the difficulty of making the tacit explicit. See Karl Llewellyn and E. Adamson Hoebel, *The Cheyenne Way* (Norman, OK: University of Oklahoma Press, 1941) at 40.

[37]   Llewellyn (1960a) at 9–10.

[38]   See for the development of their thinking, McDougal, 'Fuller v. The American Realists' (1940–41) 50 Yale Law Journal 827–40, Lasswell and McDougal, 'Legal Education and Public Policy: Professional Training in the Public Interest' (1943) 52 Yale Law Journal 203–295, Lasswell, 'The Interrelations of World Organization and Society' (1946) 55 Yale Law Journal 870–88, McDougal, 'Law as a Process of Decision – A Policy-Oriented Approach to Legal Study' (1956) 1 Natural Law Forum 53–72, McDougal, 'Jurisprudence for a Free Society' (1966) 1 Georgia Law Review 1–19, Lasswell and McDougal, 'Jurisprudence in Policy-Oriented Perspective' (1967) 19 University of Florida Law Review 486–513. The work is now represented by the monumental compendium *Jurisprudence for a Free Society: Studies in Law, Science and Policy* (Dordrecht, London: Nijhoff, 1992).

necessarily accurate, corollary that people who in their everyday lives apply the law to themselves should count as policy-makers.[39] More importantly, the boundary in LSP between law and other forms of policy-making is ultimately very difficult to discern. Llewellyn thought that it had disappeared altogether and that Lasswell and McDougal had downgraded the law itself to the level of mere technicality.[40] Reviewing one of Lasswell and McDougal's earliest works, a proposal for educating lawyers as policy-makers (which included training not only in skills such as negotiation but also public relations) he expressed surprise that law students in their programme would spend very little time learning any law or absorbing lawyers' ways of thinking about the law.[41] In their turn, Lasswell and McDougal condemned Llewellyn for worrying too much about the perspective of the private lawyer and not enough about the perspective of the 'scholar looking for enlightenment' or of 'the general community'.[42]

If one starts with what lawyers actually do, Llewellyn has the better of this argument. Most lawyers are not policy-makers and most policy-makers are not lawyers. The role lawyers play in transmitting policy decisions embodied in law to people and organisations in the wider society is important, and there might always be some play in how that happens which requires lawyers to make some choices, but it would be odd for lawyers carrying out that transmitting role to see themselves primarily as regulators of their clients rather than their servants. One can perhaps see a police officer as having some sort of street-level policy-making role, but a lawyer is not in the same position. A lawyer is not primarily an agent of the state, but rather an agent of the client. Moreover, although much public policy ends up in legal form, and lawyers are therefore embedded in the policy process to a degree that is often overlooked, there is much more to public policy than law. There is a good case for educating policy-makers in a systematic way so that they are aware of all the different fields of knowledge and disciplines that might be relevant to policy – which includes not just the social sciences beloved of Pound, the realists and LSP but also the physical sciences and engineering itself – and there is similarly a case for some lawyers both in government service and in private practice to undergo that training themselves so that they can better understand

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[39] See Lasswell and McDougal (1992) Appendix 5 (reprinting Myres McDougal, 'The Application of Constitutive Prescriptions: An Addendum to Justice Cardozo' (1979) 1 Cardozo Law Review 135–70).

[40] Karl Llewellyn, 'McDougal and Lasswell Plan for Legal Education' (1943) 43 Columbia Law Review 476–85.

[41] Llewellyn (1943).

[42] Lasswell and McDougal (1992) at 39–46.

processes that are relevant to their clients. There is also a good case for including knowledge of the law and of law-making processes in the curriculum of a school of public policy, so that policy-makers understand the law not just as a last minute trap ('The Judge over Your Shoulder' in the words of a celebrated pamphlet prepared for UK civil servants to remind them of the possibility of judicial review[43]) but as a constructive search for legitimate authority. But that does not amount to a case for dissolving the difference between law and policy. The products of the Ecole Nationale d'Administration, for example, who receive instruction in law as part of their rigorous training in the formation of public policy, might well be a policy-making elite of the type envisaged by Lasswell and McDougal, but they are not lawyers.[44]

Equally important, LSP, unlike law-as-engineering, lacks a sense of lawyers making devices for other people to use. LSP concentrates very heavily on official decision-making about disputes – indeed, on judicial decision-making, although that is by its inventor's own choice rather than by necessity – leaving little or no room for the concept of the client or the idea that the client might be an active, indeed dominant, participant in the creative process, rather than merely play the role of an object of regulation.[45] One can equally criticise Llewellyn for focusing on disputes, both in

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[43] For the latest edition, see http://www.tsol.gov.uk/Publications/Scheme_ Publications/judge.pdf.

[44] The conflation of lawyers and policy-makers might nevertheless be understandable in the specific circumstances of the USA, especially before the development of schools of government and public policy in the 1960s, because the USA lacks a permanent, policy-relevant higher civil service, either of the strictly neutral British type or of the more flexible French type, and US lawyers have long offered themselves to government as, in Arthur Leff's words, 'freelance bureaucrats' (see Dauer and Leff (1977) at 581) joining the administration when their preferred party comes to office and rejoining their law firms when it leaves.

[45] One might, at this point, mention some other isolated attempts to apply a systems approach to aspects of the law. One example is Ralph Jones and Kent Joscelyn, 'A Systems Approach to the Analysis of Transportation Law' (1976) 8 Transportation Law Journal 71–89, which treats traffic law as a regulatory sub-system within the transport system. Another is Sheldon Goldman and Thomas Jahnige, 'Systems Analysis and Judicial Systems: Potential and Limitations' (1971) 3(3) Polity 334–59, which might be interpreted as an early attempt to describe the courts in engineering terms. Another attempt to describe law in systems theory terms, perhaps even more general than LSP, can be found in Anthony D'Amato, *Jurisprudence: A Descriptive and Normative Analysis of Law* (Dordrecht: Martinus Nijhoff, 1984), especially chapter 4. D'Amato draws explicitly on the cybernetics tradition of Norbert Wiener, which concentrates on the connections between information and control in systems. The main problem with D'Amato's account is that, although it supplies some of the institutional detail Wiener's work lacked,

the common law and in other contexts,[46] but in Llewellyn's case, the object of the exercise was always 'reckonablility', a concept rooted in the use of the law by Mr Lancaster and his clients.

Law-as-engineering seeks to avoid LSP's problems. It conceives of lawyers not as policy-makers, although they might play a role in policy-making, but as makers of devices for others, a task for which they need above all to understand the law itself.

One other successor of Pound and the realists deserves to be mentioned, but this time one from a context originally distant from the USA. The Polish sociologist of law Adam Podgórecki, building on the earlier work of his compatriot Leo Petrażycki, made an effort to rehabilitate the idea of social engineering, and in doing so came close to comparing lawyers and engineers.[47] Podgórecki's conception of social engineering includes any human attempt to create social effects, including (but not necessarily limited to) deliberate efforts artificially to create new social structure. Podgórecki gives social engineering a new name ('sociotechnics', which he traces back to Karl Mannheim) as part of his strategy to separate out its positive and normative elements, which previous versions of social engineering, especially Pound's, tended to conflate. For Podgórecki, even large scale plans to change social relations are at least potentially beneficial. For him, there is nothing inherently immoral about macro-social engineering any more than meso- or micro-social engineering. It is just that at the macro-scale both the risks and the rewards are greater. Podgórecki reserves condemnation for what he calls 'dark' uses of social engineering, that is to say morally wrong uses of the techniques of social engineering. But he points out that such 'dark' social engineering can operate at small and medium scale, not just at the scale of whole societies.

Both Petrażycki and Podgórecki were interested in law as a means of social engineering, or of sociotechnics, but when they wrote about legal engineering it was mainly at a macro level. Podgórecki's work moved away from specific interest in law just at the point where a combination of legal studies and his interest in meso- or micro-sociotechnics would have yielded

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very much like Wiener's work, it seems to lack any conception of human agency or creativity. Attempts continue, however, to fill that gap – see e.g. Ralf-Eckhard Türke, *Governance: Systemic Foundation and Framework* (Heidelberg: Springer Physica Verlag, 2008).

46   Especially in Llewellyn (1960b) and Llewellyn and Hoebel (1941).

47   Adam Podgórecki,'Sociotechnics: Basic Issues and Concepts' in Adam Podgórecki, Jon Alexander and Rob Shields (eds), *Social Engineering* (Ottawa: Carleton U.P., 1996).

a field very close to law-as-engineering. It is, nevertheless, close enough to law-as-engineering to be seen as a comparable idea.[48]

Finally, we must mention Lon Fuller. Although only a successor to Pound in the loose sense of being a fellow critic of legal positivism, Fuller's overriding concern with the purpose of legal rules, and his enduring interest in lawyers in private commercial practice took him in the direction of law-as-engineering. Fuller preferred the metaphor of the lawyer as architect to that of the lawyer as engineer,[49] but his starting point was precisely the same view of what lawyers do as that taken in this book:

> The lawyer drafts constitutions, treaties, charters, by-laws, statutes, contracts, wills, and deeds. All of these serve to impose forms on men's relations with one another. The lawyer is constantly studying these forms and discovering, by reflective analysis and practical experience, what results flow from particular forms of order. [50]

He also identified a problem in thinking about law that law-as-engineering would recognise:

> One might expect that the major effort of legal philosophy would be directed toward this department of the lawyer's activities. Instead we find it almost entirely neglected. . . . American legal philosophy has been litigation-oriented for many decades.[51]

One important feature of Fuller's approach, however, is that, rather like Pound, though in a more sophisticated way, Fuller seemed to meld the descriptive and the evaluative. He was interested in what he called 'eunomics', 'the science, theory or study of good order and workable

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[48]   One might also mention work that has some affinity to law-as-engineering because it deploys a broadly sociotechnical approach at levels not limited to the macro, work such as Cass Sunstein's application of behavioural economics to legal policy, although claiming this work as a precursor would be a stretch. Slightly more distant, stressing the needs of both lawyers and clients and coming from a psychological, indeed psychiatric, tradition, is the study of lawyers' activities in preventing conflict and planning the future avoidance of conflict – see e.g. Louis Brown and Edward Dauer, *Planning by Lawyers: Materials on a Nonadversarial Legal Process* (Mineola, NY: Foundation Press, 1978).

[49]   See 'The Lawyer as an Architect of Social Structures' in *The Principles of Social Order: selected essays of Lon L Fuller* (Durham NC: Duke U.P., 1981).

[50]   Lon Fuller, 'American Legal Philosophy at Mid-Century – A Review of Edwin W. Patterson's Jurisprudence, Men and Ideas of the Law' (1953) 6 Journal of Legal Education 457–85, 476–77

[51]   Fuller (1953) at 477.

arrangements'.[52] He rejected what he named 'the doctrine of the infinite pliability of social arrangements', that is 'the view that, given a sufficient agreement on ends or a dictator strong enough to impose his own ends, society can be so arranged as to effectuate (within the limits of its resources) any conceivable combination or hierarchy of ends'.[53] He contended instead that 'There are natural laws of social order'.[54] The implication was that legal arrangements that go with the grain of those natural laws are better conceived than those that do not.

The comparison of law and engineering, as we shall see in Chapters 3 and 4, suggests a different way of approaching the same issue. Fuller's approach rightly emphasises the importance of purpose in the law – the idea that legal constructions have purposes that can be fulfilled or not fulfilled. But there is a difference between purposes not being fulfilled and purposes being fulfilled for a wrongful end. One can separate the possibility of the existence of principles of successful design from the evaluation of what those designs achieve, for good or ill. In Fuller's own terms, the science of workable arrangements is different from the study of good order. Law-as-engineering endeavours to preserve that separation.

Lawyers as Transactions Costs Engineers

The second precursor for the idea of law-as-engineering springs from the law and economics tradition. One of the most influential concepts in the economic analysis of law is that of transactions costs – not conventional costs of production (wages, interest, rent, materials and so on) but rather the costs of putting them together and selling the product in the market. Transactions costs include the costs of searching for other people with whom to contract (including customers, investors and employees), the costs of negotiating and coming to agreement with them, the costs of monitoring them after agreement and during the period of performing their agreements, and any costs of enforcing the agreement. Transactions costs are usually thought of as the friction of the economic world, and like friction, they are often taken to be wasteful and unproductive – to be minimised if at all possible. One problem for lawyers is that their work largely consists of transactions costs – they take part in the negotiation, monitoring and enforcement of deals. It usually makes sense for legal costs to be reduced or, if possible, eliminated. But that raises an interesting puzzle,

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[52] Fuller (1953) at 477.
[53] Fuller (1953) at 474.
[54] Fuller (1953) at 473.

namely why anyone should hire lawyers in the first place. If transactions costs are wasteful friction, why do businesses volunteer to spend money on them? That question is in turn related to a normative question about whether lawyers can defend themselves against accusations that they add to the costs of doing business for the sole purpose and with the sole effect of generating fees. In other words, are lawyers parasites on business?

The answers to these questions about business and business lawyers are, according to Ronald Gilson, connected. Lawyers might be generators of transactions costs, but their job is to reduce transactions costs overall. In the real world of deals, as opposed to the ideal zero-transactions-cost world of the theorists, transactions costs cannot be eliminated, but they can, by sensible planning, be reduced. Lawyers are, according to Gilson, experts at reducing such costs. Businesses hire them, perfectly rationally, as long as the savings they make to transactions costs overall outweigh their own contribution to them, including their fees. Lawyers are, in this view, transactions costs engineers.[55]

Gilson's original conception has been enriched in several ways. Stephen Schwarcz put forward another explanation of the value of lawyers, namely that they reduce regulatory costs.[56] The main value of legal design from this perspective is to remove regulatory obstacles and risks from the path to where the client wants to go. George Dent broadened the focus further from transactions and regulation to the wider work of business lawyers, including choice of business form and design of corporate governance structures, yielding a perspective he called 'enterprise architecture'.[57] Perhaps the most important advance of all on Gilson's original conception is that of Manuel Utset, who has pointed out that, in some fields, the contribution of lawyers is not confined to the reduction of transactions costs but extends to making products, which places lawyers in the role of production engineers, not just transactions costs engineers.[58] The

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[55] Ronald Gilson, 'Value Creation by Business Lawyers: Legal Skills and Asset Pricing' (1984) 94 Yale Law Journal 239–313.

[56] Steven Schwarcz, 'Explaining the Value of Transactional Lawyering' (2007) 12 Stanford Journal of Law Business and Finance 486.

[57] George Dent, 'Business Lawyers as Enterprise Architects' (2008–2009) 64 Business Law 279–314. See also John Flood and Eleni Skordaki, 'Structuring Transactions: The Case of Real Estate Finance', in Volkmar Gessner (ed.), *Contractual Certainty in International Trade: Empirical Studies and Theoretical Debates on Institutional Support for Global Economic Exchanges* (Oxford: Hart Publishing, 2009) chapter 6 for the use of the lawyers-as-architects metaphor, in perhaps its most natural habitat, namely real estate finance.

[58] Manuel Utset, 'Producing Information: Initial Public Offerings, Production Costs and the Producing Lawyer' (1995) 74 Oregon Law Review 275–313.

production role is particularly clear where the desired product is itself an object with no existence outside the law, for example shares in a company.[59] Utset has now embarked in precisely the direction this book seeks to go, that of applying engineering concepts to legal problems. He is, for example, applying concepts drawn from the engineering of information systems to problems in the design of companies.[60]

Law-as-engineering can be seen as a generalisation of Gilson's insights. Gilson's purpose is to show that business lawyers add value for their clients (or, to put it more neutrally, that it is rational for businesses to buy non-litigious legal services). His further purpose is to show that that expenditure on business law advice is welfare-enhancing for both sides to a deal, and is not just a transfer from one side to the other. Law-as-engineering as a more general perspective is neutral about these questions of welfare. It is perfectly possible, for example, for lawyers to create and clients willingly to pay for devices whose sole purpose is to capture gains created by others, in other words devices, such as tax avoidance schemes, that are designed for non-productive rent seeking. Lawyers can also create purely distributive devices, such as wills and trusts, which satisfy those who are distributing their resources but which might not allocate resources to their most productive use. The possibility that devices might be social-welfare-enhancing is important not just empirically but also ethically, but it is not itself necessarily an accurate descriptive characterisation of what lawyers make.

Another aspect of lawyers' work that takes law-as-engineering beyond the research project begun by Gilson is government work. No doubt governments might be interested in reducing transactions costs or in maximising their return in the deals in which they themselves engage – in government procurement, for example – but the value created for government by those who draft statutes and regulations is not commercial (though it might have some effect on commercial value) but political. Some theorists might want to reduce the value of public policy to cost-benefit analysis in which the state's own purposes play no part,[61] but even if they are right (which seems unlikely),[62] the way that value is brought into being

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59 Utset (1995).
60 Manuel Utset, 'Designing Corporate Governance Regimes' (2012) 15 Journal of Applied Economics ___ (http://ssrn.com/abstract=1810148).
61 See e.g. Louis Kaplow and Steven Shavell, *Fairness versus Welfare* (Cambridge, MA: Harvard U.P., 2006).
62 See e.g. Michael Dorff, 'Why Welfare Depends on Fairness: A Reply to Kaplow and Shavell' (2002) 75 Southern California Law Review 847. See more generally the arguments in Michael Sandel, *What Money Can't Buy: The Moral Limits of Markets* (London: Allen Lane, 2012).

is through lawyers being hired by the state, not directly by the beneficiaries of the policy concerned.

Lawyers as Knowledge Engineers

The final and most recent precursor for law-as-engineering is the suggestion by Richard Susskind that, because of the advances of information and communications technology, lawyers in the future will find themselves with nothing much to do unless they transform themselves into brokers of legal knowledge and become information engineers.[63] Susskind has observed the rise of information technology in the law. These include expert systems that assist in the application of complex sets of rules and programmes that generate model contract clauses and forms. There are also now programmes that assist lawyers to search documents for relevant facts.[64] Susskind combines that observation with observations about the rise of the internet, and especially the rise of self-help websites that give information helpful for various kinds of legal self-diagnosis and for finding do-it-yourself remedies. He concludes that lawyers are under threat of being replaced by technology – at least their prestige is at risk as they become identified with selling standardised 'products'. Their only future is in very high value bespoke lawyering or in designing expert systems either for the use of the few remaining high value lawyers or for public use. Thus, Susskind warns, lawyers need to become knowledge engineers, people whose job is the integration of human knowledge into computer systems.

Susskind's prognostications are not without difficulties. Legal expert systems do not seem to have advanced at the pace previously predicted and are still perhaps better seen as aids for experts rather than as replacements of experts. More important, even if one could find instructions on the internet about how to carry out various transactions, many people would still think it prudent to have someone else do it, someone who is experienced, who can spot circumstances in which the normal procedures do not work and, perhaps most of all, has professional indemnity insurance if the transaction goes wrong. The detail of Susskind's work, however, is not as important as his underlying conception of lawyers as systematic solvers of problems and producers of desirable results. That conception is entirely compatible with the law-as-engineering and to that extent counts, albeit within a limited range, as one of its precursors.

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63   Richard Susskind, *The End of Lawyers? Rethinking the Nature of Legal Services* (Oxford: Oxford U.P., 2008).
64   See e.g. http://protect.autonomy.com/products/legal/index.htm.

Summary

Looking across the range of precursors of law-as-engineering, we can see a number of themes, all of which have echoes in the past, but which can now to be brought together. First, it is important to unite what lawyers do in the private sector with what they do for government. Conceptions based only on private sector activity (e.g. lawyers as transactions costs engineers) or only on legislation and appellate judgments (e.g. Pound's social engineering) are incomplete, though complementary. Second, it is important to remove litigation and courts from the centre of how we see law and lawyers. Lon Fuller went a long way to achieving that for himself, but his comment that most legal thinking is in thrall to judges and the courts is still largely true today. Third, it is important to separate the descriptive and the evaluative, at least for the purposes of analysis. Lawyers might be engineers, but we can observe not only competent and incompetent engineers but also moral and immoral engineers. Fourth, the relationship between lawyers and clients is very important. Lawyers provide services not in the abstract but for particular people and for particular purposes.