Legal Innovation in Contracting, and Beyond: Merging Design and Technology Tools for the Information Age

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Abstract: During the Industrial Revolution, the structure and methods of Western legal systems facilitated commercial expansion and technological innovation. But as the Information Age gradually re-shapes pre-conditions for successful innovation, legal systems generally—and contracting in particular—may be obstructing rather than enabling continuing growth. To re-align commercial and technical needs with legal methods, traditional legal systems must themselves innovate. This Chapter highlights three perspectives for imagining legal innovation: first, alternative structures for contracting, like relational/collaborative and outcome/performance-based contracts; second, information design tools like simplification and visualization, and computer coding tools; and finally, systemic measures

designed to resolve the kinds of problems that have increasingly challenged traditional legal methods. Throughout, the Chapter adopts the attitudes and methods of Proactive/Preventive Law to untangle the difficult relationship between law and innovation: stronger innovation requires the law to offer diverse methods, flexibly applied, to meet varied contextual needs; and yet any new legal reform must be efficient and feasible as well as effective and just.

Keywords: Law and Management – Legal innovation – Legal creativity – Contracts – Contracting – Innovation - Proactive Law – Preventive Law – Problem Solving – Information Design – Legal Design – Design – Simplification – Visualization – Codification – Smart Contracts – Relational – Collaborative – Outcome-based – Performance-based

What are, and should be, the relationships between the legal framework of contracting and business innovation? The question is timely and important because what once were mutually supportive threads between formal contracts and the ingenuity of human exchange may be in danger of unraveling. If so, this Chapter aims to suggest possible ways of reinforcing the relationships between contracting and innovation.

A hundred and fifty years ago, contract law provided a platform to incubate the explosion in markets and technical innovations of the Industrial Revolution.[1] As the Information Age settles in, however, industrial legal methods have not yet adjusted. As a result, contracting practices may be stifling rather than promoting business innovation. Productivity growth in the U.S. and Europe has sputtered in the past few decades,[2] but the trend

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1 See Harrell (2016) pp. 17-18 (noting the supportive role played by the development of classical contract law to the Industrial Revolution). The relationship was no doubt reciprocal: "Contract did not develop as a separate body of law until the economic growth of the nineteenth century demanded a legal framework for guaranteeing a remedy for breaches of promised future performances." Ballam (1991) p. 521.

2 Gordon (2010): "by far the most rapid MFP growth in U. S. history occurred in 1928-50".

has accelerated since 2011[3] even in the face of what should be stimulants to innovation: global market expansion, stunning technological breakthroughs, and historically low interest rates.

One possible culprit: contracts and the practices surrounding their planning, making, implementation, adjustment, and enforcement. Contracting is a virtually ubiquitous ingredient to commercial life, and for some business people it is experienced as an unavoidable and constraining swamp rather than a secure and welcome platform for innovation and growth.[4] Sadly, this assessment may too often be justified. This Chapter reflects on that sobering possibility and describes ideas to re-align contracting practices with evolving technologies and business methods.

Underpinning our specific analysis of contracting is a broader concern: that conventional contracting may be just one example in which the methods of traditional legal systems are losing effectiveness in serving contemporary social and economic needs. Western legal procedures evolved to address problems that were characteristic of earlier, less complex eras—agrarian economies gradually broadened by industrial production. The structure and content of Information Age problems, however, are frequently more sophisticated and elusive than those of the

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[3] "The Conference Board estimates domestic productivity ticked up an average of only 0.34 percent per year between 2011 and 2015. That's well shy of the 1.93-percent average maintained between 1990 and 2010. And that recent productivity growth also falls short of several other major world economies—the U.K.'s productivity gained an average of 0.48 percent, Germany's climbed 0.84 percent and even Canada's ballooned 0.86 percent per year between 2011 and 2015." Soergel (2016).

[4] Contracts naturally play their strongest role in the "diffusion" stage of technological innovation. As pointed out by Gaia Bernstein, "Economists distinguish between invention—the technical discovery—which is the first stage of the technological cycle, and innovation—the first commercially successful application of a new technology—which is the second stage of the technological cycle. The final stage of the cycle is diffusion—the technology's widespread adoption." Bernstein (2010) p. 2272 (citations omitted). "While many legal resources are directed mainly at innovation by focusing on the appropriate incentives to induce individuals and corporations to invent new technologies, relatively few are channeled to the subsequent phase of the technological cycle—the diffusion stage. … The neglect of the diffusion stage is crucial because the promotion of progress depends not only on fleeting moments of brilliance or even excruciating processes of development; progress is closely tied also to the technology's diffusion process. The goals of promoting innovation can be accomplished only if people adopt and use the new technology." Id., at 2291 (citations omitted).

earlier eras. Because of globalization and digitalization, many legal problems have become more complex, volatile, and diverse; more demanding of quick resolution; and more likely to be transnational.[5] As a group, they may be outstripping the capabilities of our agrarian/industrial legal problem-resolution methods. If law is to thrive as a source of economic, social, and civic creativity—i.e., if legal structures and methods are once again to act as an engine of wider innovation, then the law may need first to innovate *within itself*. Gillian Hadfield, author of an important work that we profile later in this Chapter, puts it bluntly: Legal frameworks "stagnated in the twentieth century, well designed for the nation-based mass-manufacturing economy but badly out of step with the digitized, global environment we now inhabit."[6]

However daunting, re-design of conventional contracting and the wider legal framework in which it is embedded can usefully proceed inside a general framework of attitudes, values, and methods termed "Proactive/Preventive Law" or PPL.[7] The PPL approach has inspired a spirit of legal reform, looking for ways that contracts and the law can not only prevent and resolve problems, but also enable people to realize their commercial or personal goals. Although PPL will not be discussed directly in this Chapter, its emphasis on collaboration, accessibility, and stronger communication will be evident.

Ironically, some of the tools for possible legal innovation may be found within the same technological and cultural trends that are challenging traditional legal structures. Technology may thus be both the source and at least a partial solution for the troubles afflicting traditional legal structures and procedures.

Various re-design possibilities are described in this Chapter, but reform may not easily overcome decades of intellectual and professional inertia.

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5 Frydlinger, Cummins, Vitasek and Bergman (2016) at p. 8, 9. See also Frydlinger, Hart and Vitasek (2019).

6 Hadfield (2017), at p. 3.

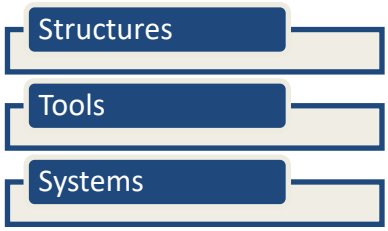
7 See, e.g., Siedel and Haapio (2011); Barton (2009); Berger-Walliser (2012) p. 16.

Conventional contracting, for example, is built on foundational assumptions that are difficult to steer toward the diverse, dynamic, networked needs of Information Age commercial exchange. As examples:

- One pre-condition for commercial innovation is ***flexibility.*** But contracts are traditionally designed to assure its opposite, which is ***certainty.***
- Where innovation requires ***communication*** among parties, contracts seek largely to ***control*** others through legal rights to demand agreed-upon duties***.***
- Where innovation advances through ***imagination,*** contracts elevate ***predictability and self-containment.***
- Where innovation is promoted through ***collaboration and sharing,*** contracts tend to assume needs for ***individual self-maximization and secrecy.***

What can be done to regain the reinforcing relationship between contracting and innovation, and more deeply the links between the law, problem solving, and commercial opportunity? How can contracts and other legal methods be re-designed to promote innovative qualities of flexibility, imagination, collaboration, and better communication—while also enhancing efficiency and operating at the scale demanded by modern business and technology? This Chapter will examine these questions through multiple perspectives (figure 1): (1) alternative *structures* to traditional transactional contracts; (2) new *tools* offered by information design and computer coding; and (3) *system-wide initiatives* that re-think how contracts and legal norms are created and enforced.

Figure 1: A multiple perspectives analysis. © Thomas D. Barton. Used with permission

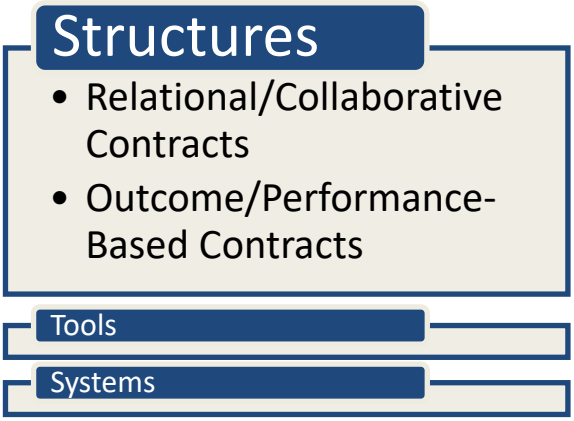


These three perspectives of structures, tools, and systems are consistent in facing two potentially conflicting ideas that must be successfully reconciled and implemented. The first idea is that contracts, and legal methods generally, should be designed thoughtfully to suit the needs of individual parties to particular types of transactions. Structures and practices should not necessarily be uniform, serving an unrealistic assumption that one-size-fits-all regardless of what may be varying relationships and strategic goals of the parties. The second idea is that contracting processes and legal frameworks must be efficient as well as effective. Reforms that raise transaction costs are unlikely to be adopted. Custom-tailored designs must be scalable to broader application, wherever possible. But quickly evolving technological capabilities may soon address this need.

Among all three perspectives, reforms to reunite innovation within contracting practices should follow PPL principles: always promote awareness and analysis of problems as well as opportunities; offer suggestions for more diverse business and legal structures; open out legal systems to stronger participation among users; and provide decentralized sources for ongoing refinement of legal methods.

1. First Perspective: Creating Alternative Business and Legal Structures for Diverse Commercial Relationships

Figure 2: Structures for contracting. © Thomas D. Barton. Used with permission.



This first perspective (figure 2) pushes against one-size-fits-all assumptions, positing alternative overall *structures* for contracting that suit varying party relationships and strategies. We contrast traditional contract forms with relational/collaborative, and outcome/performance-based models.

The one-size-fits-all assumption underpinning conventional contracting may originally have helped to consolidate business growth. The classical laws of contract were designed to govern uniformly, in virtually any sort of transaction, to promote easier understanding and stronger use of contract law. The actual terms and conditions of an underlying economic exchange operated largely as appendages to a uniform legal structure. Although parties were free to choose the content and form of their contracts and to override many default contract rules, the basic look and feel of most resulting contracts—which often have grown to pages of dense legal vocabulary—underscored a universal message: this is a ***legal*** contract; plug in whatever details of a bargain you choose.

Yet modern transactions and relationships differ along important structural variables. Consequently, the seeming efficiency of an imposed singular structure may end up imposing unnecessary restrictions and transaction costs, even while sacrificing accuracy. To illustrate:

- An exchange between strangers may have different communication needs than where the parties have a long history of exchange. A densely

relational, long-term exchange may require more flexibility than simple point transactions.

- An exchange in which background conditions are highly volatile may suggest a need for broader latitude in the methods employed to measure, and achieve, specified contract goals.
- A high value or strategic exchange may require more care and security than one of low value; in contrast, commonplace, low-value "commodity" contracts should emphasize efficiency and simplicity.
- In contracts with multiple parties situated in diverse geographic locations and cultural traditions, steps to enhance mutual understanding and trust-building become essential.

Traditional contracting law and practice tend to ignore those differences. Yet alternative contract structures are evolving and may match well with diverse exchange contexts. Below we summarize two of those alternative structures: relational/collaborative contracts; and outcome/performance-based contracts.

1.1 Relational/Collaborative Contracts

"Relational" and "collaborative" contracts are strongly allied, so will be considered together. Both may be contrasted with "transactional" contracting, and both can help parties cope with the increasing velocity and uncertainty of globalizing exchange.[8] Both relational and collaborative contract structures assume that maintaining strong communication and long-term ties are important goals of the parties. As stated in a valuable White Paper on relational contracting emanating from the International Association for Contract and Commercial Management (IACCM):

> [T]ransactional contracts dominate as the primary contracting vehicle used in business-to-business relationships. … However, as the nature of what we are exchanging (more intangible goods or services) and the environment in which we operate (more global, faster changing, less predictable and more regulated) grows

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[8] Frydlinger, Cummins, Vitasek and Bergman (2016) at p. 5.

> more complex, transactional contracts are increasingly riskier because of the extent of the 'incompleteness' or uncertainty in contracts.[9]

Greater velocity, volatility, and geographic reach of contract disputes present growing commercial risks. But they are not necessarily risks that can be managed or readily allocated between contracting parties, because the risks may defy planning. The IACCM White Paper authors address this as the "contracting paradox," i.e., "the delusion that we write contracts to make plans, but we cannot really plan accurately. And, as a nice twist, we trick ourselves into believing that we can plan."[10]

The urge to cement a predictable, inflexible future in place can lead to long contracts—even hundreds or thousands of pages[11]—in an effort to anticipate and allocate every risk. But in a global environment that continues to accelerate its pace of change and magnitude of volatility, a contractually specified future can become both artificial and counterproductive.[12] Maintaining a prescribed future, however far it may have deviated from reality, requires a heavy dose of state power that imposes potentially costly requirements on one or both parties. This has implications at the formative stage of the contract: it makes parties risk averse, and in response each party attempts to impose undue shares of risks on the other party through limitations of liability, indemnity clauses, and liquidated damage clauses.[13]

The alternative structure of relational or collaborative contracts is far more flexible: the parties acknowledge the unknowability of the future, but commit to dialogue and fairness in dealing with it.[14] The structural

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9 Id.

10 Id., at 1.

11 Id.

12 See Barton, Haapio and Borisova (2015).

13 Year after year, in surveys conducted by the IACCM, limitation of liability and indemnification clauses have retained their top positions in the most negotiated contract terms. See Cummins (2018).

14 Ian Macneil articulates four "core propositions" of relational contracting: "First, every transaction is embedded in complex relations. Second, understanding any transaction requires understanding all essential elements of its enveloping relations. Third, effective analysis of any transaction requires recognition and consideration of all essential elements of its enveloping relations that might affect the transaction significantly. Fourth, combined

differences between transactional and relational/collaborative contracts are akin to alternative structures for building bridges that must withstand unpredictable turbulence from winds or earthquakes. The bridge can be engineered with extraordinary stiffness—standing firmly against change, like a traditional transactional contract; or it can instead be engineered for flexibility—to sway or shift consistently and without harm along with the environment.[15] Relational/collaborative agreements employ a flexible structure that promotes enhanced communication and accommodation between parties, rather than a stiff precision and elusive completeness that may be costly (both financially and relationally) to maintain.

How does one build the alternative structure of relational/collaborative contracts, and for what sorts of business ventures or other exchanges are they most appropriate?

The most formal of collaborative contracting comes out of marital dissolutions. There, the strong uncertainty surrounding the future years of children to the marriage suggests a need for ongoing cooperation among the ex-spouses. In this setting, some family law attorneys have designated themselves as exclusively "collaborative"—meaning that they are committed against resorting to litigation, and must instead rely solely on a process that flexibly considers expert advice about family finances and the psychological and educational needs of the children.[16] Here are some attributes of a collaborative contract, as listed by leading expert Forrest S. Mosten:

- Respect and dignity for the other party and other professionals
- Direct and open communication with the other party and professionals
- Voluntary and full disclosure of relevant information and documents necessary to make agreements
- Use of interest-based negotiation to try to meet the needs of both parties.[17]

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contextual analysis of relations and transactions is more efficient[25] and produces a more complete and sure final analytical product than does commencing with non-contextual analysis of transactions." Macneil (2000) (citations omitted).

15 See Al-Hibri (1997) (mechanistic versus organic structures).

16 Mosten (2009).

17 Id., at 21.

Significantly, a collaborative contract implies stronger communications and a more partner-like relationship between attorney and client, as well as among the parties. Collaborative aspects could be brought into almost any agreement, even informally through preamble pledges like any of the following:[18]

- to improve the quality of information they share, focusing from the beginning on their underlying interests and the risks they perceive;
- to work toward clauses that share risks in a balanced way, striving for maximal realization of *both* parties' interests;
- to communicate in regularly scheduled meetings about the progress and quality of performances;
- when needed, to cooperate and perhaps even provide affirmative assistance toward another party's performance of its contractual duties;
- to work toward understanding and accommodating the needs of one another in response to changes, and to be open to modifying terms where conditions suggest the need for adjustment;
- in the event of a dispute, to negotiate in good faith and to seek mediation and other alternative dispute resolution methods where initial efforts at negotiation fail;
- and in the event of litigation, to not limit interpretation of the agreement to its explicit language. Instead, all interpretations of the commitments and understandings of the parties should be augmented by the collaborative spirit in which the agreement was entered.

Relational contracts similarly seek ongoing communication, flexibility, and fairness as ways to address risks of uncertainty and loss of trust. Such contracts can be used in many settings, and are particularly appropriate for longer-term, unpredictable contexts. The IACCM White Paper identifies five steps for its development:

> 1. Focus on the Relationship, not the Deal. This step is designed to help you build the trust necessary to focus on the relationship. It includes ensuring alignment

[18] This list of possible contract clauses first appeared in Barton (2012).

within your own organization and using a process for choosing a partner that considers relational competencies in addition to service offerings, quality levels, etc.
2. Establish a Partnership instead of Arms-Length Relationship. This step is designed to explore and lay the foundation of trust, transparency, and compatibility between the parties to lay the foundation for a successful partnership.
3. Embed Social Norms in the Relationship. This step is designed to help the parties jointly discover and formally agree to the six guiding principles (social norms) of the relational contract.
4. Avoid and Mitigate Risks by Alignment of Interests. This step is designed to lay the foundation for continuously aligned interests. It starts with the parties agreeing upon a shared vision and strategic objectives for the partnership, specifying what joint success and value looks like. Also ensure that the pricing arrangement and contractual clauses later agreed upon support achievement of the vision and the objectives.
5. Create a Fair and Flexible Framework. This step is designed to establish a robust governance framework for continuous relationship management. The parties agree upon the written contract clauses necessary to establish the more specific rules of the relationship, all of them aligned with the six guiding principles.[19]

1.2 Outcome/Performance-Based Contracts

Outcome and performance-based contracts differ from traditional service or supply contracts in that they are priced, and success is measured, by the results achieved rather than resources purchased.[20] One example comes out of the aeronautic arm of Rolls-Royce. Instead of pricing their servicing of customers' jet engines by "time and materials" spent by Rolls-Royce, the contracts are priced by results: the number of flying hours the Rolls-Royce engines are used in their customers' aircraft.[21] "Outcome" contracts base some aspect of supplier compensation on the results experienced by the purchaser; "performance-based" contracts are priced in part by the quality

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19 Frydlinger, Cummins, Vitasek and Bergman (2016) at p. 21.

20 Bohm, Backhaus, Eggert and Cummins (2017). As Tim Cummins of the IACCM says, "There is particular evidence that this approach to contracting results in more collaborative and longer-term relationships, implying that they are capable of delivering increased value for both parties. However, success typically requires a level of investment by both parties in appropriate skills, processes and supporting tools or systems." Cummins (2014).

21 Bohm, Backhaus, Eggert and Cummins (2017) at p. 129.

of the supplier's efforts, apart from their impact on the purchaser. For purposes of this Chapter, we can conflate the two into the single term "outcome contracts."

Outcome contracts typically include three characteristics:

- Clear **definition** of a series of objectives and indicators by which to measure contractor performance.
- Collection of **data** on the performance indicators to assess the extent to which the contractors are successfully implementing the defined services.
- Performance leading to **consequences** for the contractors, such as provision of rewards or imposition of performance adjustments.[22]

Outcome contracts can be useful in various settings. For example, outcome contracts are especially suitable to longer, denser exchange relationships—and they work best when communication and cooperation between supplier and customer are high.[23] They are, in other words, excellent candidates to employ the collaborative contract methods considered above. This is underscored by the need for strong coordination *within* a procuring organization in drafting outcome contracts. If too many parties add too many outcome criteria before a supplier will be paid (or the contract extended or renewed),[24] the resulting contract may raise risk levels beyond what a supplier can tolerate:

> Part of the problem with this new paradigm, whereby contracts are based on results rather than resource consumption, is in defining outcomes. Every stakeholder has a different desired end state—or two or three. The CEO wants happy customers and shareholders or to be the industry leader. The CFO wants an increase in profitability. The business unit leader may desire best-of-breed systems. And the CIO? He's got a whole list—lower costs, better service levels, increased customer satisfaction.[25]

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[22] McFall (2015).
[23] Id.
[24] Id.
[25] Overby (2009)

What if the *opposite* happens? What if *no* verifiable outcome can be specified? In such circumstances relational contracts likewise can play an important role.[26]

Another example where outcome contracts can be helpfully employed is where strong product innovation or technological turbulence create volatile market conditions. Outcome contracts may mediate risks, under a variety of pricing strategies between buyer and seller that may change according to particular circumstances. [27]

Finally, outcome contracts can be useful in the growing context of outsourced government services. Quality control can be problematic in those instances, since the vendors may not share the same level of commitment to public service as the government entity that hires them. Outcome contracts become a vehicle by which accountability and quality are better internalized to the service provider. Natalie Gomez-Velez describes this use well, using New York City as an example:

> Too often … government contracting agencies get caught up in procurement rules that center primarily on ensuring low price, fairness to vendors, and the avoidance of corruption. Less attention is paid to the substantive quality of programs, procedural protections for third-party clients, and the outcomes associated with various kinds of programs.

As the proportion of government services contracted out has increased, concerns have been raised about the dilution or elimination of regulatory oversight and its effect on both the substantive and procedural interests of third-party recipients and the programs' public goals.

One way to begin to address those concerns is to ensure that those responsible for procurement remain engaged in and accountable for the services provided, as well as for the overarching public goals associated with the provision of those services.[28]

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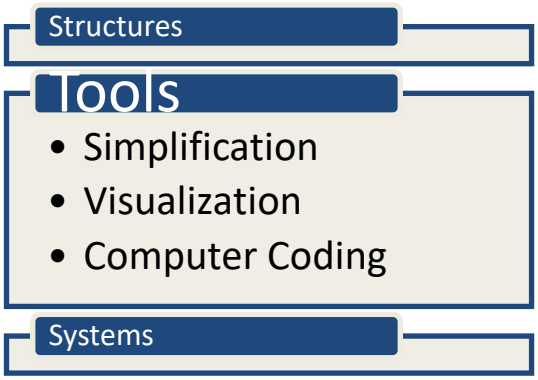
[26] Daido (2006) pp. 382-83.

[27] See generally Bohm, Backhaus, Eggert and Cummins (2017).

[28] Gomez-Velez (2006) pp. 332-33.

2. Second Perspective: Design and Technology Tools for Contracts

Figure 3: Design and Technology Tools for Contracts. © Thomas D. Barton. Used with permission.



This second perspective (figure 3) describes new *tools*: information design methods of simplification and visualization, and computer coding that can be scaled to be helpful in virtually *any* contract, using any of the various structural alternatives. These tools can enhance efficiency as well as promote user understanding of the benefits and responsibilities under an agreement.

Specific tools are described below, but uniting our recommendations for their use are the following general principles for re-imagining the purposes and forms of contracting:

- Conceive and treat contracting as an ongoing process of planning, formation, implementation, potential adjustment, problem-solving, and finding new opportunities—rather than simply as the preparation of artifacts of an agreed exchange.
- Consider contract documents as business and legal information that should be designed and communicated, rather than merely drafted.

- Strive to make every aspect of the contract legally sound, genuinely human-readable, but also machine-readable, comprising the "Ricardian paradigm": parameters, prose, and computer code.

2.1 Simplification

For business, the core of contract-making is to secure the *business objectives* and the *performance* that the parties expect, not just a contract. When contract language and complexity overload readers' cognitive abilities, contracts can fall short of their ultimate purpose. Instead of legally "perfect" contracts, most businesses would benefit from simpler contracts: contracts that are usable, functional, and operationally efficient.

The process of contract simplification can begin with contract language. The proponents of plain language[29] have suggested major changes in contracts and other documents along the way, but not much seems to have happened. Instead, the trend seems to be toward more complex contracts.[30] Contract drafters tend to favour their conventional ways of drafting, seeking precise language and providing for all thinkable contingencies. Ian Macneil and Paul Gudel once noted, "[o]nly lawyers and other trouble-oriented folk look on contracts primarily as a source of trouble and disputation, rather than a way of getting things done."[31] Still, companies continue to pay their lawyers first for drafting contracts that only the lawyers understand, and second for interpreting what those contracts mean.[32]

Research and practise tell us that contracts can indeed be simplified, for example by applying lean production concepts to the production of contracts. The in-house legal team at Scottish & Newcastle (S&N) did just this. They found that too much time and money was spent in their contract

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29 See, e.g. Felsenfeld and Siegel (1981); Kimble (2006); Kimble (2012).

30 Haapio (2013) p. 70.

31 Macneil and Gudel (2001), at vii-viii.

32 Haapio and Siedel (2013) at p. 70, referring to the Scottish & Newcastle legal team's findings explained later in this section.

negotiation process. Management and lawyer time was expensive, and lengthened negotiations were causing delayed business opportunities. To change things, they developed what they called the Pathclearer approach to commercial contracting.[33]

The S&N lawyers initially asked the fundamental question, "What is the purpose of a contract?" In answering, they noted that according to the traditional definition of a legal contract,

> the only purpose of a contract, as opposed to a general statement of what a business intends to do with its business partners, is to ensure that rights and obligations which the parties agree to can be enforced in court (or arbitration).
> Put even more bluntly, the essence of a contract is the ability to force someone else to do something they don't want to do, or to obtain compensation for their failure.[34]

S&N realized that many scenarios—for instance, a long-term relationship between a customer and supplier—call for a "much lighter legal touch." They concluded that detailed contracts can generate disputes rather than prevent them. "Without a detailed contract, business people who become involved in a dispute will generally discuss the issue and reach a sensible agreement on how to resolve it. … However, where a detailed contract exists, the same parties will feel obliged to consult their lawyers." The complexity of such contracts can cause confusion and the risk that the parties will be unable to focus on key terms; it becomes "difficult to see the wood for the trees." Detailed contracts can also cause the parties to focus on worst-case scenarios that "can lead to the souring of relationships. … [C]ontinuing business relationships are like butterflies. They are subtle and hard to capture. When you do try to nail them down, you can kill them in the process."

The S&N legal team went on to ask whether there are other ways to achieve business goals without detailed contracts. This they answered in the affirmative by focusing on "commercial affinity," the force that keeps parties together in "mutually beneficial commercial relationships." They realized that a different approach is appropriate "when the parties are in a

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[33] Weatherley (2005).

[34] Id., at 40. The following quotations related to the Pathclearer approach in this section are also from the same source.

continuing business relationship, rather than just carrying out a snapshot transaction." While they did not advocate handshake agreements, they found that much leaner contracts were possible.[35]

The S&N approach is illustrated by the example of a contract that they negotiated with a service provider. The parties originally had a ten-year contract that ran over 200 pages. During contract renegotiation, they managed to substantially reduce the length of the contract through the Pathclearer approach by giving each party the right to terminate after 12 months' notice—a mutual "nuclear button." "By giving ourselves the ability to terminate at any time, we avoided the need to have to negotiate detailed terms in the contract. ... This is a much more powerful way of influencing the service provider than a technical debate over whether they were complying with the words set out in the contract."

Even where a detailed contract is deemed necessary, a contract can be made simpler or *seem* simpler in many ways. Apart from contract rewriting, information design offers many solutions and patterns for contract simplification.[36] Simplicity does not equal brevity—a short contract may not be simple, if brevity is achieved at the expense of adequate information, legibility or clarity.[37] There are in fact two kinds of simplicity: 'quality-simple' and 'quantity-simple'.[38] A simplified contract may actually grow in length, when explanations are added to help readers understand, or text navigation aids, white space, and page breaks are added for clarity. Simplification can also occur through the information architecture and layout of the contract—reorganizing the key terms, creating summaries, or giving visual cues that help users find the information they need.[39]

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35 Id. See also Haapio and Siedel (2013) at pp. 69-73.

36 Waller, Waller, Haapio, Crag and Morrisseau (2016); Passera, Haapio and IACCM (2019); Haapio and Passera (forthcoming).

37 Waller, Haapio, Passera (2017).

38 According to Per Möllerup, quantity-simple things have fewer features and look visually simple but may actually be harder to use; in contrast, quality-simple things prioritize the simplicity of the user experience. Möllerup (2015).

39 Waller, Haapio, Passera (2017).

2.2 Visualization

Visualization is a novel practice in the field of contracts, aimed at supporting clearer communication and furthering, in a practical way, the PPL approach to contracting. Contract visualization is a wide umbrella term of different visual communication practices. Stefania Passera[40] defined it as "*the use of diagrams, images, and visually structured layouts to make contracts more searchable, readable, and understandable,*" but visualization does not only play a role *in*[41] or *as*[42] actual contract documents. For instance, visualization can be *about* contracts, when used in documents such as contract guides,[43] contract briefs, internal training materials, and in the dashboards of contract analytics applications.

Early on in the contracting process, visualization can also, in various forms, be employed as a tool *for* contracting: for instance, as the activity of sketching and diagramming to envision, plan, and audit transactional lawyers' own work;[44] as visual templates to be used in meetings to manage, mediate, and focus the discussion of given contractual topics around the key decision points;[45] and, in digital environments, as visual interfaces that facilitate negotiation by tracking its progress and showing whether actual goal-alignment between parties is happening.[46]

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40 Passera (2017) at p. 19.

41 For the different categories of contract visualization in –, about –, for –, and as contracts, see Haapio, Plewe, de Rooy (2016).

42 Recent successful examples of comic contracts illustrate how, in given circumstances and with certain audiences, it may be appropriate to rethink radically the format and presentation of contract documents. Robert de Rooy has developed the idea of comic contracts, defined as a legally binding contract where the parties to the contract are represented by the characters; the content of the agreement is represented by the visual interaction of the parties, and is signed by the parties. See Haapio, Plewe, de Rooy (2017). Highly (or purely) textual formats may not be suitable for instance for low-literacy, vulnerable audiences, and communication approaches designed around the users' needs may go a longer way in informing about rights and duties and ensuring consent—as de Rooy's comic contracts case shows. See also Vitasek (2017).

43 Passera (2018).

44 Mitchell (2016), see also Siedel (2014).

45 Passera, Smedlund, Liinasuo (2016).

46 Plewe (2013) and Plewe and de Rooy (2016).

Haapio and Passera[47] have identified some typical contract visualization patterns, which are used to either organize content in a more visually salient and searchable way, or to further clarify and explain the meaning of related textual clauses (figure 4):

- Timelines: a way to represent time or duration, time periods, and milestones;
- Flowcharts: a way to represent workflows, processes with multiple decision points, and alternative outcomes;
- Tables: a systematic way to arrange information in a comparable and easily skimmable fashion, so as to decrease information search costs;
- Swimlanes: a way to represent the areas of sole and shared responsibility of the parties, and systematically sort and assign to-do's, tasks, duties, rights, obligations, prohibitions, and so on;
- Companion icons: synthetic visual cues, used in conjunction with related headings or excerpts of text to facilitate their identification and interpretation;
- Delivery diagrams: a way to represent the concept of "delivery of goods"—meaning the place, time, and modality in which risk and cost related to goods are transferred from supplier to buyer.

Moreover, Waller and colleagues[48] have identified and suggested further visual patterns, in connection to designing more functional document layouts—for instance (figure 4):

- Color-coding: to identify and distinguish different parts of a complex document (e.g. commercial term sheet, terms and conditions, appendices, etc.);
- Checklists: to help readers review their choices, verify their compliance and support the correct behavior;
- Layered explanations: where the "official" text of the document is accompanied, on a smaller side column, by plain language explanations, definitions, or practical examples.

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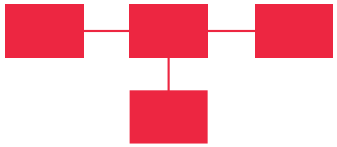
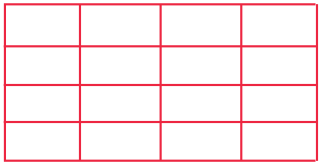
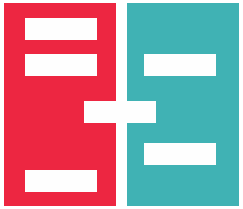
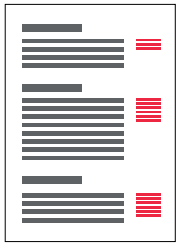
[47] Haapio and Passera (forthcoming).

[48] Waller, Haapio, Passera (2017); Passera, Haapio and IACCM (2019).

Figure 4: Examples of contract visualization patterns. © 2019 Stefania Passera. Used with permission.

 Flowchart	 Timeline	 Table
 Swimlanes	 Companion icons	 Delivery diagram
 Color-coding	 Checklist	 Layered explanations

While visualization can be used in different ways, at different stages of the contracting lifecycle, and both as part of the process (contracting) and as part of the outcome (documents), its various proponents seem to agree on the reasons for using its tool. These can be summarized as follows:[49]

2.2.1 Visualization as a way to support comprehension

- by clarifying what written language does not manage to fully explain;
- making the logic and structure of the documents more visible;
- supporting evidence, analysis, explanation, and reasoning in complex settings; and
- providing an alternative access structure to the contents, especially to the non-experts working with the document.

2.2.2 Visualization as a way to improve perceptions and relationships among contractual parties

- by reframing contracts as managerial tools designed to achieve specific strategic goals in mind;
- signaling trustworthiness and a willingness to put effort into transparent communication;
- establishing a more personal, direct, and less threatening tone of voice; and
- consequently, engaging stakeholders who have been alienated by the conventional look and feel of contracts.

2.2.3 Visualization as a way to support cross-professional, inter- and intra-firm collaboration

- by helping the parties articulate tacit assumptions and clarify and align expectations;

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[49] Passera, Haapio and Barton (2013) Passera (2018); Barton, Haapio, Passera, Hazard (2019).

- giving both overview and insight into complex terms and operational processes, facilitating goal-alignment, coordination and collaboration; and
- overcoming language, professional and cultural barriers in communication.

As contracting and contract documents move to digital environments, effective information presentation becomes even more important. Users need to be supported to create, navigate, and explore contractual information in simple and meaningful ways, as the relevant information exists in an immaterial, dynamic digital environment and is accessed and manipulated via the screen of a variety of devices. Visualization can help conceptualize contracts as interfaces that are simple at the front and smart at the back: human-friendly layers that mediate and make accessible the complexity and the sophistication of the underlying legal system and technologies.

2.3 Computer Coding

The previous sections discuss two powerful objectives: simplification and visualization. Both approaches help manage complexity. Simplicity finds a path through complexity via more appropriate structures and formulations. Visualization presents complexity in ways that can be more easily grasped. These ideas interpenetrate.

A "simple" phrasing of a complex problem needs to guide the mind, but remain open to underlying complexity. The phrase "reasonable" is the ultimate example, often used in both contracts and legislation. Another example is "do unto others as you would have them do to you." Simple phrases focus on the core, letting the linguistic capacity of human minds work the connections among situations and ideas, in context. Visualization allows us to bring our visual capacities to bear on patterns.

The big data age makes much more information available for analysis and brings many new tools for managing it. Needless complexity infects both IT

systems and legal documents but may soon be resolved. With respect to IT, banks provide perhaps the best example. Banks were among the first organizations to be automated. They had enormous need for automation and the resources to address the need. The tools were primitive and the focus was sharply on immediate needs. In the beginning, banks coded a solution to a particular problem, then to another and then solutions to connect other solutions, etc. The heterogeneity of solutions even within a single institution, however, means that banks have vast complexity that requires constant maintenance and explanation, and impedes their ability to adapt to new situations.[50] The fact that these complex systems constitute institutional memory means that they cannot easily move forward. This problem is compounded in transactions among institutions. Banks spend vast amounts on intermediaries and on reconciling records. Customers need to learn different routines to do the same transactions. The critical barrier is that each organization has its own system and therefore its own record of the history of a given transaction.

The legal world followed banks into automation.[51] Legal also had extreme information requirements, principally in creating new documents. For a variety of reasons, including that law firms became automated before they were networked with clients and one another, the task of making a document was seen as an isolated activity. The ease of repeating text electronically invited lawyers to expand the length and "completeness" of contracts, but existing word processing tools made collaboration difficult. The legal world, in contrast to banking, has the advantage of all using the same data format (i.e., Microsoft Word) but it is a format that encourages an isolated view.

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[50] "Banks are mired in the legacy of old IT systems that are bad. The first automated banking system was introduced by Coutts in 1967. The joke is that they are still running on it today." Lipton, Shrier and Pentland (2016) at IV. Key Requirements for a Digital Bank—Bank's Perspective. Some observations in this paragraph are aggregated from one Co-Author's personal conversations among persons connected with the banking industry, and private studies pertaining to banking operations.

[51] See generally Surden (2012).

Parallel to this, the open source community developed tools that are much more effective. HTML and "git"[52] provide a complete text environment that is more effective than word processing. IT standards communities also deal with issues of access to information, notably through standards such as "OAuth."[53] Data security is a critical part of an information system, increasingly recognized as an acute problem.

Most recently, the coding community discovered a method to create secure databases that can be maintained by a community of users, making it unnecessary for there to be an "owner" of the database, with the attendant invitation to exploit that monopoly. The first and most explosive of these is Bitcoin,[54] and it has spawned far broader efforts, including Ethereum[55] and Hyperledger.[56] Using a variety of technologies and a common set of ideas, these have captured the attention first of coders and advocates of decentralization, then much of the investment, banking, and logistics communities.[57]

These new events allow the open source dynamic of iterative, granular standardization to breach the commercial barriers of banking, business, and law. The result will be standards-based transacting, including standards-based contracts.

Standards will cover the entire scope of transacting. That includes the business and legal text, the software code, the organization and access to data, and the providers of the services. Using the Ricardian contract

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[52] "Git" is a version-control and collaboration software originated by Linus Torvalds, the creator of Linux. See further text at note 62 infra regarding iterative coding applications of git and GitHub.

[53] "OAuth is an open standard for access delegation, commonly used as a way for Internet users to grant websites or applications access to their information on other websites but without giving them the passwords. This mechanism is used by companies such as Google, Facebook, Microsoft and Twitter to permit the users to share information about their accounts with third party applications or websites." https://en.wikipedia.org/wiki/OAuth (citations and hyperlinks omitted).

[54] See Trautman and Harrell (2017).

[55] https://www.ethereum.org

[56] https://www.hyperledger.org

[57] See, e.g., Clack, Bakshi and Braine (2016).

vocabulary,[58] we can describe the operational elements as (1) parameters; (2) prose; and (3) code, which together describe relationships and transactions. These three elements can be organized into decentralized collections, ideally under the control of the parties to them, or their agents, in an efficient system of decentralized access control. The collections will be hosted, and access will be managed, by a variety of arrangements including conventional hosting and innovative systems such as blockchains[59] and IPFS.[60]

The technologies of HMTL, git, decentralized access control and blockchains make it possible to create such systems for any size community—thus enabling the kind of self-regulatory systems that Hadfield describes in the "Systems" section below. They of course also enable a global approach, and the "network benefits" in transacting can be expected to cause these systems to converge. This will enable both strong decentralization—groups making their own rules and communities, keeping their own data—and a high degree of efficiency. Efficiency from an IT standpoint comes from free, well-tested, and compatible software. Efficiency from a legal perspective is the clarity and certainty arising from reuse and interpretive materials, including simplification and visualization.

Prose, coding, access, and hosting have each suffered from fragmented development. Tremendous effort is being applied to creating standards at each of these layers, and they will converge into largely-consistent,

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58 See Hazard and Haapio (2017).

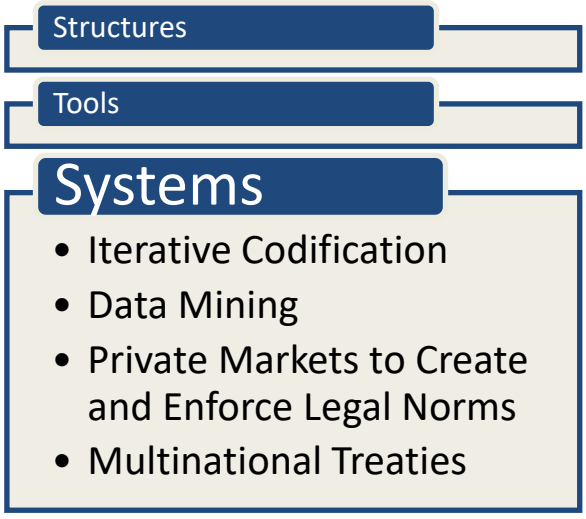
59 "A blockchain … is a continuously growing list of records, called blocks, which are linked and secured using cryptography. Each block typically contains a hash pointer as a link to a previous block, a timestamp and transaction data. By design, blockchains are inherently resistant to modification of the data. A blockchain can serve as 'an open, distributed ledger that can record transactions between two parties efficiently and in a verifiable and permanent way.'" Available in slightly different form at Wikipedia contributors. (2019, November 10). Blockchain. Wikipedia, available at https://en.wikipedia.org/w/index.php?title=Blockchain&oldid=925546142.

60 "InterPlanetary File System" (IPFS) is a protocol designed to create a permanent and decentralized method of storing and sharing files. It is a content-addressable, peer-to-peer hypermedia distribution protocol." Available in slightly different form at Wikipedia contributors. (2019, October 13). InterPlanetary File System. Wikipedia, available at https://en.wikipedia.org/w/index.php?title=InterPlanetary_File_System&oldid=921037026 (citations and hyperlinks omitted).

interoperable, secure and free peer-based transacting. We describe some of the trends in the section below covering Iterative Codification and Data Mining.

3. Third Perspective: The Larger System

Figure 5: Ideas for rejuvenating legal practices beyond contracting. © Thomas D. Barton. Used with permission.



The final perspective (figure 5) broadens to a *systems* level, describing ideas for rejuvenating legal practices beyond contracting. It includes a project for iterative, universal codification of contract modules; "big data" analytical possibilities gleaned from aggregating data among multiple sources; ideas for bringing private markets to legal regulation; and regional treaties that integrate rule-making and enforcement transnationally.

This systems perspective confronts directly the idea that the speed, volatility, sophistication, and geographic reach of many Information Age legal problems may be outstripping the problem-solving procedures of our

traditional legal system. The conventional structures of legal rules and their enforcement are best suited to resolve relatively simple disputes about ownership, breach of duty, or accidents that emerge from local dyadic relationships of landowner/possessor, buyer/seller, master/servant, actor/victim, principal/agent, etc. These are unquestionably important issues that everywhere bedevil human interactions, but they are not usually complex. The parties to the dispute can be brought before a state-empowered court. A legal rule can be compared against two parties to the relationship, based on witnesses or formal documents. A binary decision in favor of one party or the other, coupled with a transfer of money as compensation or deterrence, often suffice to restore order (if not the harmonious relationships of the parties).

Information Age legal problems, by contrast, do not always fit with the dyadic relational settings, binary decisions, or simple remedies adjudicated by a clearly legitimate court. Some of these problems include:

- Transactions conducted via the internet or other digitalized interaction are often transnational. If so, a domestic court may face immediate issues about its jurisdictional authority over either the persons or subject matter of the dispute.
- In the absence of agreement, the court (or arbitral tribunal) must consider which set of legal rules to apply—the laws of the country in which the case is being heard; or where the relationship was centered (if any); or where some delict or breach of the relationship occurred.
- In contrast to transactions of simpler economies, the *context* of a delict or breach may matter greatly.[61] Modern economic relationships often involve multiple parties, within a supply chain or networked web of participants. A relatively minor disruption within a long-standing, dense relationship like a franchise should arguably be handled differently than similar behaviors between two strangers buying and selling a horse. How much of that contextual background should be relevant to a court

[61] For exploration of these issues, see, e.g., Orozco (2014).

proceeding? How would standards for its evaluation be formed, and what sort of evidence would be probative toward their assessment?

- The norms by which disputes are resolved should, ideally, be appropriate to the relationship or broader social goals. Yet the conditions for achieving those outcomes may change very quickly, mirroring the volatility of background conditions in which the parties' relationships are set. The conditions underpinning modern legal issues may move with greater speed than norms can be generated for their optimal resolution. Legal regulations may assume a technological context that is easily rendered obsolete.
- Relatedly, remedies involving a simple transfer of money—either as compensation or governmental fine—may be too crude to shape future behaviors meaningfully even if they adequately address past costs.

How can legal systems—articulated norms, methods for their intelligent, productive enforcement, and subsequent remedial measures—be re-designed so that norms and processes are constantly updated and refined? Perhaps only by harnessing some of the very technologies, methods, and social changes that are challenging the adequacy of traditional legal methods. The three developments sketched below use digitalized and transnational communication and connectivity, private markets, and transnational treaties to accelerate the potential for legal reforms. Together, they shape a legal system with capabilities that are more information-driven, decentralized, participatory, transparent, flexible, incentivized, and transnational—all qualities that are helpful to creating a legal system that is nimble and powerful enough to deal with Information Age problems.

3.1 Iterative Codification and Data Mining

The connectivity and enormous accumulation of information available through the Internet opens two previously unavailable methods for generating legal norms and refining: decentralized, iterative codification of legal standards and "big data" mining.

Iterative codification is a long-standing method of the software development, particularly the open source software community. The power of this approach is demonstrated in the nearly ubiquitous use of open source software throughout the internet, and beyond into mobile phones, high-performance computing, the “Internet of Things” and automotive software. Much of this iterative codification takes place on "GitHub," using the version control software “git."[62] Non-coders often are unaware of the power of this paradigm. As a rough measure of this movement, there are said to be more than 20 million accounts, and Microsoft has recently decided to acquire GitHub.

Iterative codification has a few essential characteristics. The first is that there is a clear and immediate need for a solution, even if an imperfect one. Usually the authors start by solving a problem that they themselves have, and then post the solution to a public forum. The second is that others must have similar problems for which the solution is at least better than starting from scratch. The third is modularity and versioning to allow various participants to customize the solution in an organized way, reinforcing the common elements while maintaining the freedom to adapt to their circumstances.

Iterative codification has worked extremely well for software and it can solve a fundamental problem of legal codification: the “one-size-fits-none” problem of committee-based standards. Iterative codification should work just as well for legal text.

Big data approaches will also accelerate codification. Systems such as KM Standards[63] can digest collections of contracts and clauses and identify and present the common elements and differences. LexPredict,[64] which also digests agreements, was recently partly open-sourced, reflecting both trends. Big data means, in essence, unstructured data, and the tools of natural language processing and artificial intelligence now permit the

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[62] See note 52 supra.

[63] See https://www.contractstandards.com; and http://kmstandards.s3-website-us-east-1.amazonaws.com

[64] See https://www.lexpredict.com

organization of unstructured information into structured or semi-structured information.

Market forces will also drive codification. The existence of ready-made, rapid, inexpensive solutions—off-the-shelf—motivates people to choose these solutions, even when they are not entirely adapted to their circumstances. This may be particularly true in complex situations where it is impossible as a practical matter to know what would be a better solution. The feedback loop of iterative codification, analytics-based structuring and market adoption is expected to drive standards formation.

3.2 Private Markets to Create and Enforce Legal Norms

Even more sweeping in their implications for legal systems are the ideas of Gillian Hadfield to reduce the role of the state in creating and enforcing legal norms. Hadfield instead favors a far stronger use of competitive private markets. To Hadfield, the national legal systems of developed and developing economies alike are captured and hobbled by hierarchical processes imposed through governmental and professional monopolies.[65] "The result is what legal insiders and their clients know well: systems that are too expensive, too complex, and too misguided to do much good, at least not as much good as we need them to do."[66] She continues:

> [T]he problem is not that we have too much law. The problem is that the way we have gone about producing law for the last few hundred years—exclusively through state-controlled political institutions such as legislatures, state-run courts, and lawyer-controlled legal professions—is starting to max out on its ability to manage the burgeoning economic and social complexity to which it has played midwife. We are at an inflection point in the evolution of legal systems, facing the need to reinvent how we do law.[67]

Hadfield thus identifies the pressing need for "a bigger role for competitive markets in the production of our legal infrastructure."[68] That somewhat understated phrase backs a set of proposals that may seem revolutionary

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65 Hadfield (2017), at 5.

66 Id.

67 Id., at 59.

68 Id.

to lawyers and lawmakers. Legal regulations, says Hadfield, could be privately drafted, applied, and enforced by commercial or non-profit private enterprises.[69] These enterprises would compete for adoption in mandatory exchanges by individuals or organizations coming under governmental scrutiny. Although every regulatory offering would have to conform to general governmental standards or policies,[70] the particulars of any competing set of rules and compliance processes could be drafted by competing vendors.[71] "Regulated businesses would be required to choose a regulator from among the approved private regulators. The private regulators would regulate businesses, and the government would regulate the private regulators"[72]—a nested process Hadfield calls "super-regulation."[73]

Done well, where government policies permit a broad range of regulatory styles and enforcement methods, Hadfield maintains that creating markets for legal rules would harness the same dynamics that spur innovation in other markets: specialization and incentives to generate a diverse supply, resulting in better products and more informed choices among those who are subject to legal regulation.[74] One-size-fits-all monopoly offerings are inadequate to meet current legal needs, says Hadfield, much less the exploding complexities of rapidly diversifying worlds.[75] Through proliferating its supply of norms and enforcement methods, a legal infrastructure could theoretically cope better with fast-multiplying specialty niches.

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69 Id., at 266-77.

70 Hadfield emphasizes the need for the market in legal rules to be overseen by the government, but she also recognizes the role for a public hand in every market. "There's no such thing as an unregulated market: markets don't exist without basic legal infrastructure defining rules about who owns what, what deals people can strike and how, what happens when plans go awry … . All markets exist within a framework of what a community decides, collectively, is acceptable and a set of institutions that intervene when some feel cheated or poorly treated by others." Id., at 346.

71 Id., at 266-67.

72 Id., at 266.

73 Id., at 267.

74 Id., at 223-27.

75 Id., at 199-201.

3.3 Multinational Treaties

Another possible idea or structural model for addressing the challenges to traditional legal systems is to use plurilateral treaties like those of the Paris Accord on Climate Change or the Trans-Pacific Partnership (TPP)[76] as illustrating attributes of transnational, collaborative, flexible, and more expert-driven legal systems. Developing further the TPP example, the *content* of the troubled TPP effort to tie together a variety of Asian and Pacific rim countries in a wide-ranging trade treaty is not necessarily pertinent here. Instead we examine the TPP more as a *structural model* of the features of such a multilateral approach. This may seem fanciful; however, the TPP structure displayed features that address several of the challenges to legal systems that we identified as accompanying Information Age problems:

- Its geographical breadth, crossing national jurisdictional lines so as to prevent enforcement problems, and improve accuracy of contextual decision-making;
- its stronger problem-solving expertise concerning particular problems, through specialist arbitrations and tribunals;
- its constant iterative process (like user feedback supplementing traditional appellate procedures) toward refinement of ***both*** the legal rules and the methods of resolving disputes;
- its incorporation of some level of "reservation" against proposed norms, a tolerance of some legal pluralism that permits cultural variation within the community of norms (this merits caution, since it sacrifices ideals of universality and perhaps formal equality); and
- its stronger blending of private and public, as through the consultative process of stakeholders in creating the treaty, the decentralization of norm creation, and the ability in at least some instances for private persons to sue states. As Hadfield also discusses, the blunt categories of "public" versus "private" more often blur in an era of strong, internationally operating

[76] See https://ustr.gov/TPP/

> state-owned enterprises, and investments by sovereign wealth funds. Modern legal systems thus need both to permit confidence of private investment but also to safeguard the power of governments to regulate in the public interests.

The overall goal of the TPP is a structure that is broad in scale, and yet as de-centralized, plural, and iterative as possible. Where a multilateral regional authority is set up, legal problems arising anywhere within the region can be determined with both legitimacy and enforcement power. The accord uses procedures devised specifically to deal with those transnational issues: first, by elevating dispute resolution to a regional level rather than within the courts of the same government that is involved in the dispute; second, by ensuring strong transparency in the proceedings; and finally, by permitting a role for a sort of "crowd-sourcing" influence on the resolution through permitting *amicus* briefs and submissions by non-disputing TPP Parties. Striving to "ensure an open, fair, and predictable regulatory environment," as well as non-corrupt governments and proactive problem solving, the TPP was characterized as advancing the tools of simplification and iterative design in its production of norms. The treaty achieves this since it:

- harnesses transparent provisions that are accompanied by impact assessments;
- encourages regulations to be "clearly and concisely written" and posted online to facilitate public involvement;
- requires *ex ante* public notice of anticipated regulatory actions;
- provides for periodic review of all regulatory measures; and
- "resolv[es] disputes wherever possible through cooperation and consultation."[77]

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[77] Office of the United States Trade Representative (2015, October 4) Summary of the Trans-Pacific Partnership Agreement, available at https://ustr.gov/about-us/policy-offices/press-office/press-releases/2015/october/summary-trans-pacific-partnership. Notwithstanding the withdrawal of the United States from the TPP, the USTR website still describes the TPP positively at https://ustr.gov/TPP/#text.

4. Conclusion

Western legal structures were engines of innovation and growth during the long decades in which their uniformity of method, hierarchical legitimacy, and universality of application suited the needs of gradually nationalizing markets and government. Common law contracts principles, as well as courtroom methods and commercial regulation, advanced through stressing consistency of results and reliability of method. So also did industrial production: products enjoyed success as trademarks promoting consistent, reliable qualities wherever they were purchased. Markets for law and commercial products supported one another through their similar hub-and-spoke structures and methods. Social and economic problems could be framed and acceptably resolved within those same general structures.

In recent decades, however, the explosion of information and flexibility of access and aggregation has arguably led to a drifting apart of legal thought and methods from the needs of business innovation and growth. The uniformity and relative rigidity of expert-driven legal structures, once a platform providing valuable infrastructural stability and risk-buffering, may now be constraining rather than enabling commercial experimentation. The rate of innovation in legal systems may be lagging what is needed to support continued productivity growth in economic life. Slowness to embrace cultural changes in creating and sharing social norms may signal a broader, intensifying struggle to frame and resolve the sort of complex, volatile, transnational problems that may increasingly characterize modern life. This Chapter hopes to have called attention to those possible trends, and highlighted some emerging possibilities for reform—in contracting and beyond.

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