Thinking Regulation:

A Roadmap to the Recent Periodical Literature

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Introduction

This essay is a bibliographic review of the periodical literature on regulation. The focus of the review was a concern for identifying key issues in current regulatory scholarship, 1997-98 to the present. However, special attention to matters related to Canada, and three key themes were privileged when the occasions presented themselves. The three themes were environmental, health and safety, and biotechnology regulation – the latter often intersecting with the former two.

The literature of this period emphasized major new developments in regulation over recent years. In broad terms, these developments traced their origination back to the New Public Management agenda. This was not the only driver, but was the most significant. For an overview of these developments we can briefly look at Sol Picciotto's introduction to the *Journal of Law and Society*'s special issue on "New Directions in Regulatory Theory." The thrust of this special issue is toward breaking open new space between the failed "centralized planning and command-and-control regulation" and the other extreme, characterized by a "naïvety of the regulatory alternatives…including the absurd chimera of a liberalization which purports to eschew regulation at all."

Picciotto characterizes the term regulation as, first, leaving a useful ambiguity over the extent to which "regular behaviour" (the object of regulation) is internally or externally generated, and second, embracing all kinds of rules, not only formal law. These characteristics of the concept of regulation have contributed to its popularity and increased use since the 1970s, in the face of the tremendous public and private restructuring that took place in the ensuing period: the collapse of centralized, bureaucratic state-socialism; fundamental remodeling of the social-democratic welfare state; streamlining of the private corporation, reorganizing production and distribution, and maneuvering to achieve strategic alliances in webs of supplier and marketing chains, and in financial and government networks; and the blurring of private-public boundaries and traditional distinctions with the spread of privatization, commercialization,

special agencies, etc.

These events have befuddled the prior terms of debate in which both left and right had shared the assumption that the private sector was driven by profit maximization, whereas the public sector imposed modifications on this behaviour, ostensibly in the public interest. Both sides of the regulatory debate shared this profile of the issue, just disagreeing on the degree the public interest should be interfering with the private sector. The rise of "the networked society" was seen as a triumph by the minimalists, and a catastrophe by the more keenly command-and-control minded. Neither of these expectations have been realized however, according to Picciotto, as the "deregulation" of liberalization and privatization has often been followed by "*re*-regulation" – employing a wide variety of new means, and prompting suggestions of an ascendant "regulatory state."

As we look across the breadth of the literature reviewed here, the rise of this new "regulatory state" is often characterized in terms of horizontal management and decentred governance. This "horizontalization" or "decentering" of the state, as a regulatory entity, can be charted in six directions:

1. The "regulatory state," more narrowly defined, in which the national ownership and welfare regime of the positive or interventionist state is replaced with privatization and the related new regulation necessary to ensure the public interest. The regulation of markets rather than firms is emphasized.
2. Voluntary and self-regulation, usually the adopting of standards, either set by international organizations (e.g. ISO, FSC) or agreed to intra-industry, nationally or internationally (e.g. sharing of risk management measures among "communities of common fate," such as the nuclear power industry.)
3. Devolution of regulatory responsibility to lower levels of government, in which that regulatory responsibility is itself regulated by the higher level of government.
4. The privatization of regulation, in which private organizations, commercial or non-profit, are given regulatory responsibility over other private or even public institutions.
5. International regulation of national regulation (or deregulation as many perceive it), in which international bodies or agreements (e.g., WTO, IMF, NAFTA, EC), by means varying in their directness, bindingness or coerciveness regulate the national government's actions, especially around its own regulatory practices (e.g. trade, investment, industrial development and environmental policies and strategies.)
6. Regulatory alternatives, concerning the shift from command-and-control rule-making and enforcement to dialogic, cooperative and partnership-oriented approaches (e.g. goal-setting and negotiation of contracts), or to encouragement/discouragement techniques (e.g.

taxation, incentives, banking and trading credits.)

In any such scheme of distinctions there are always elements of arbitrary division. For example, directions "2," "3" and "4" might all be considered subcategories of direction "6." However, either the importance of the direction, or the level of focused scholarship suggests these as specific directions in their own right. Also, directions "1" and "6" are clearly related: both concern debates about optimum regulatory methods. Direction "1" however, emphasizes situations where the state, or its agents, are still assumed to exercise some direct enforcement responsibility, while "6" looks at alternatives to this assumed regulatory status.

In addition to these six directions that can be charted in the development of decentred regulatory governance, the literature review suggests four more themes that demand our attention.

7. Costs of regulation, in which compliance or non-compliance with a regulatory regime is revealed as having a demographic or economic impact.
8. Regulatory disputes, in which regulation is employed as a battleground upon which parties, usually governments, engage in some process of indirect competition for economic or political advantage.
9. Scientific contributions to regulation, in which the proper role and function of science and scientific expertise in the regulatory process is evaluated.
10. Populist considerations, in which the proper role and function of public participation and democratic legitimacy in the regulatory process is evaluated.

Again, these distinctions are not entirely clear-cut: "9" and "10" are related in their common concern with the legitimacy of regulatory processes and decisions, as evaluated in terms of consultative input: scientific or public opinion, respectively. The literature found in the survey, though, lends itself to this kind of distinction: usually focusing primarily on one or the other, even while often evaluating that body of opinion-formation in light of the other's perception of its counterpart's relative legitimacy.

The essay examines each of these ten directions and themes in turn, analyzing each by dissecting the key issues and debates revealed by the

literature search. Starting with the "new regulatory state," the broader theoretical formulation will be initially explored. Then a range of more specific debates on methods, techniques and priorities is reviewed.

1. The New Regulatory State

About half a dozen articles found in the review addressed the big picture issue of the new regulatory state, usually taking a position in favour or against either the accuracy of the theoretical concept or the merits of the regulatory practices entailed in the concept – and sometimes both. For instance, Liora and Rick Salter, in their 1997 essay, "The new infrastructure," in *Studies in Political Economy* – though they would presumably take issue with the actual term – defend the theoretical concept of a new regulatory state, even while they criticize its political development and implications. They argue for a re-theorizing of the new governance processes sweeping the 1990s, which are generally characterized as "privatization" or "deregulation." Privatization, insofar, as it refers to the substitute of industrial control for state control is not strictly accurate. Insofar as deregulation implies the withdrawal of the state, it misses the point. At the same time, they dismiss the term "the new administrative state" because, while government remains important, the changes taking place can't be described in conventional terms as the "state." They are too diverse and complex for that. This is why they call the emergent situation "the new infrastructure," and characterize it as embodying a restructuring of regulatory means and ends.

Part of the problem in understanding or recognizing the new situation, they suggest, has been a lack of scholarly sophistication around regulation – particularly in Canada. For instance, the focus on "regulatory capture" has both neglected the actual objective of compromise that is central to regulatory practice, and has reflected an Americanized perspective not applicable to the Canadian context. The fully independent boards or

tribunals that are expected in the U.S. are not an accurate representation of the Canadian context where regulation has always been occasioned by a close collaboration of regulator and regulatee. In Canada, regulators' relation to government has not been anywhere near as independent as in the U.S.

There have been exceptions, such as the Canadian Radio-television and Telecommunications Commission, which they explore for the ways in which its historical development confirms, rather than contradicts their thesis: the traditional regulatory focus on developing and administering rules is eclipsed by the policing and promoting of competition, innovation and free markets. As they put it, under the new regulatory regime – mistakenly characterized as deregulation – emphasis has moved away from managing firms to managing markets.

Their analysis leads them to posit six trends in the new regulatory infrastructure: 1) *Decentralization* of functions traditionally associated to central government – but not a withdrawal of government's role in regulation. Rather, a redefinition as facilitator, funder and supporter. 2) *Focus on process*, e.g., public accountability, mediation, consultation, in regulatory operation and ideal. 3) *Politicalization*, as the processes referred to in (2) tend to bring government and its agents more directly into the functions of the new regulation. 4) Along with (3), a *de-emphasis of regulatory independence*, even in rhetoric, with the new emphasis on cooperation and co-management. 5) Regulation is now guided by the *objectives of industrial development and competition*. And, 6), *social fragmentation*, in which this market-focused regulatory objective is achieved at the expense of a focus on the general public interest. Civil society is fragmented into stakeholders, while the government and industry cooperative bond is strengthened. Indeed, in the end, they argue, even government itself comes to be regarded as a kind of interest group.

Though not sharing the Salters' moral or political disapproval, similar conclusions at the theoretical level are drawn my Giandomenico Majone,

"From the positive to the regulatory state: Causes and consequences of change in the mode of governance," in *Journal of Public Policy*, also in 1997. He frames his analysis as a testing of eminent historian Alfred Chandler's thesis on industrial organization – that structure is determined by strategy – as it might apply to public policy and management. Majone argues that the shift from the positive state (a taxing and spending regime, characterized by a unified civil service, large nationalized enterprises and expansive bureaucracies) to the regulatory state (a rule-making regime, characterized by flexible, highly specialized organizations with autonomous decision-making authority) illustrates the validity of Chandler's analysis to public administration.

The need to respond to the emergent conditions of the 70s and 80s – simultaneous unemployment and inflation, state fiscal crises, regional and global integration, and the perceived inefficiency and unaccountability of the positive state's institutions – led to new strategies. These new strategies included liberalization, privatization and putative deregulation, as well as the various cooperative and integrative initiatives associated to the New Public Management agenda. In keeping with Chandler's analysis, Majone finds the new structures of the regulatory state arising in response to the implementary needs of these new strategies. It is the need to maintain the public interest in the face of the new independent organizations (both within government, and in contractual relations with government), required to fulfill the new strategies, which has entailed the vast growth of regulatory force. It is in this way, argues the author, that the positive state has been displaced by the regulatory state.

The expansive notion of a new regulatory state, though, has not gone unchallenged. For instance, Arthur Midwinter and Neil McGarvey, "In search of the regulatory state: Evidence from Scotland," in *Public Administration*, cast doubt on the claims of a new regulatory state as it had been theorized for the United Kingdom. At least in the case of Scotland, they find that the growth and scale of regulation had been more modest than

had been suggested by studies of the phenomenon in the UK. Additionally, they further challenge the "regulatory state" thesis by reviewing existing oversight arrangements within Scottish government for public service delivery bodies, and questioning whether many of these arrangements warrant the label "regulation" at all. They argue that "performance management" would be a more appropriate characterization of such state activities.

John Braithwaite largely supports the theoretical positing of the new regulatory state, but takes issue with a key element of it from a normative perspective in his essay, "The new regulatory state and the transformation of criminology," *British Journal of Criminology*. Acknowledging the existence and benefits of the decentred regulatory regime, as well as its complexities (e.g., the state as both subject and object of regulation simultaneously), he argues that, contrary to widespread opinion, the regulatory state is not best served by a complete eclipsing of the Keynesian welfare state by the Hayekian neo-liberal state. The regulatory state requires innovative approaches – such as restorative justice – that often are hindered by the absence of the social supports of the welfare state.

Arguments about the normative merits of the spirit that animates the regulatory state, particularly as it applies to Canada, are evident in the literature. R. Quentin Grafton and Daniel E. Lane, "Canadian fisheries policy: Challenges and choices," in *Canadian Public Policy*, advance a position calling for the thorough re-regulation characteristic of the theoretical description of the new regulatory state. They look at potential solutions to the grave challenges facing the Canadian fisheries: the collapse of the Atlantic ground fish stocks; international disputes over jurisdiction; conflicts among fishers; and low incomes and overcapitalization in many fisheries. They acknowledge efforts to address the problems by the Department of Fisheries and Oceans: a new Oceans Act; co-management with greater responsibilities for industry; an increasing reliance on rights-based management; license buybacks; and a shift in licensing policy.

However, they argue for a more thoroughgoing effort that resonates with the ideas of the new regulatory state: furthering rights-based management and enhancement of security, divisibility and transferability of property rights; institutional change in the department's structure and the development of interdisciplinary management teams; a shift in focus from tactics and methods to strategy and planning that is adaptive, explicitly considers uncertainty, and is directed toward clearer objectives; the use of property rights to encourage cooperative outcomes in the management of shared and straddling fisheries.

Similarly, John Grant, "Ontario's new electricity market," *Policy Options*, defends Ontario's privatization of the electricity industry by viewing it in the context of the international events described by the Salters and Majone above as characterizing the new regulatory state. Such arguments, though, now moves us closer to the more detailed discussion of just what is this new regulatory state in practice, and how it could most effectively operate. Grant, for example, after describing how the history of Ontario Hydro led it to the point where it had to open up its wholesale market to competition, discusses the implications of the provincial government's requirement that it also open its *retail* market. He argues that these initiatives will be beneficial in subjecting electricity generation, transmission and distribution to the positive and productive forces of competition. For instance, recent innovations in wind and solar generation and the rapid development of micro-generators are well placed to benefit from this new regulatory arrangement.

However, a few months later, Stephan Schott, "Are there convincing economic reasons for electricity privatization and deregulation in Ontario?" *Policy Options*, challenged Grant's perspective on the privatization and re-regulation of Ontario Hydro. He argues that claims about costs savings through privatization overlook the costs of the newly necessary regulation. He considers it a mere transfer of responsibility and expenditure. Public ownership reduces the heavy regulatory costs of monitoring and

enforcement in a diverse and complex market such as that being proposed.

These kinds of arguments focus attention on the many debates about the details of the regulatory state's optimal modes of operation, which appear throughout the periodical literature reviewed. In addition to the matters of monitoring and enforcement raised by Schott, other key issues that surface repeatedly throughout the literature are matters related to inspection, accountability, credibility and regulatory discretion.

The authors in the reviewed literature look at issues related to monitoring challenges under a range of varying circumstances. Anthony Heyes, "A theory of filtered enforcement," *Journal of Environmental Economics and Management,* demonstrates that the structure as well as the calibration of regulatory enforcement regimes matter in efforts to forecast compliance. The structure of enforcement being considered is that of "filtered" or two staged, with a trigger, regimes. Under such a structure an initial filter inspection looks for levels of non-compliance above a certain point that would then trigger the more rigourous invasive audit, the results of which could carry the consequence of regulatory penalty.

Heyes finds that, counter intuitively, the tightening of the trigger – i.e., making more rigourous the standards for instigating a potentially penalty-inducing audit – does not necessarily increase compliance or reduce emissions. On the contrary, if the penalty is not adequately steep, such a structure of enforcement can increase the utility of non-compliance for serious violators. He also argues that improvement in audit-triggering monitoring technology has a qualitatively ambiguous impact on aggregate emissions, and increases the profitability of at least one class of non-compliant firms.

Katrin Millock, *et. al.*, "Regulating pollution with endogenous monitoring," *Journal of Environmental Economics and Management,* consider a situation in which a new, costly monitoring technology is introduced that enables the regulator's monitoring to shift from non-point to point identification of pollutant sources. Able to identify with certainty the

pollution levels of individual firms, policy-makers must then decide whether to require adoption of the technology by all firms in the industry; whether to provide incentives for voluntary adoption; or whether to ignore the new technology and maintain the monitoring *status qua*.

These authors provide a perspective on non-point source pollution by explicitly considering the cost of monitoring individual emissions. They propose that the distinction between the relative merits of point and non-point monitoring depends on the cost of monitoring, the environmental cost of pollution, and the impact of monitoring on profits. As a consequence, a regulatory scheme of differential taxation is proposed, wherein taxes are predicated on whether the agent has installed an emissions monitoring device. The optimal degree of monitoring, as well as conditions for optimal regulation in the extreme cases of no monitoring and full monitoring, are identified.

Joshua Graff Zivin and David Zilberman, "Optimal environmental health regulations with heterogeneous populations: Treatment versus 'tagging'," *Journal of Environmental Economics and Management*, look at monitoring at a demographic level. They develop a model of population level environmental health risk with individuals that are heterogeneous in their susceptibility to environmental toxins. The purpose of developing their model is to provide an analytic framework for determining the appropriate conditions under which optimal results will be achieved by targeting vulnerable subgroups of the population with special exposure-reducing treatments.

The authors find that the potential economic gains from targeting policies will depend critically on the quality of existing capital, the degree of returns to scale in treatment technologies, and the size and sensitivity of the vulnerable population. They demonstrate their model with an empirical application to the case of cryptosporidium in drinking water supplies.

Jean-Pierre Florens and Caroline Foucher, "Pollution monitoring: Optimal design of inspection – An economic analysis of the use of satellite

information to deter oil pollution," *Journal of Environmental Economics and Management,* provide a cost-benefit analysis. They compare the monitoring benefits of an exclusively aerial observation system and a combined aerial and satellite surveillance system in dealing with oil dumping by tankers over the English Channel and the Mediterranean Sea. Even though the satellite inspection is costly and imperfect, they find that the combined approach provides a more effective monitoring system that can decrease pollution, reduce monitoring costs, or both, depending on the social cost of pollution. Furthermore, they argue, the effectiveness of the system is *not* reliant on the accuracy of the satellite inspection information.

Addressing the widespread support of transferable emissions permits systems, based on their efficiency properties, Andre Grimaud, "Pollution permits and sustainable growth in a Schumpeterian model," *Journal of Environmental Economics and Management,* addresses the more complicated problems of non-compliance in such systems, especially under circumstances of a budget-constrained enforcement authority. The author says, such a dilemma has received little attention in the regulatory scholarship. He endeavours to clarify this issue by examining how such a constrained authority should allocate its monitoring and enforcement efforts among heterogeneous firms. With a conventional model of firm behaviour in a transferable permit system, he finds that differences in the allocation of monitoring and enforcement effort between any two types of firms should be independent of differences in their endogenous characteristics. If the firms face the same penalty structure and the cost of conducting audits and applying enforcement pressure do not vary across firms, a uniform monitoring and enforcement strategy that exhausts the enforcement budget minimizes aggregate non-compliance, given that budget.

Related to matters of monitoring, as we've seen, are those of inspection. Laurent Franckx, "The use of ambient inspections in environmental monitoring and enforcement when the inspection agency cannot commit itself to announced inspection probabilities," *Journal of*

Environmental Economics and Management, considers a game between two firms and an inspection agency, which can inspect ambient pollution levels before inspecting individual firms, but without committing itself to announced inspection probabilities. He analyzes the variables in the relative values of the environmental cost of non-compliance and the cost of inspecting firms. This leads him to a range of equilibria, the most "relevant" of which suggests that the higher the fine for non-compliance and the lower the environmental cost of non-compliance by the firms, the more likely that expected costs for the inspection agency will be lower with ambient inspection.

Enid Mordaunt, "The emergence of multi-inspectorate inspections: 'Going it alone is not an option'," *Public Administration,* drawing on data from inspectorates of several social institutions and fields – prisons, probation, education and social services – offers a typology of inspections. Classified by inspection focus, five basic types emerge: single institutional, multi-service, thematic, survey and monitoring review. These are elaborated with a range of characteristics. Out of the resulting variants, Mordaunt focuses on the multi-inspectorate approach. This is seen to offer a significant development in inspection practice that will expand and develop in the future. The examination of this approach's operational examples make it clear that inspectorates are affecting the working practices of each other as they use multi-inspectorate approaches as exercises in benchmarking.

Basing themselves on a comprehensive literature search, Monica E. Campbell, *et. al.* "Effectiveness of public health interventions in food safety: A systematic review," *Canadian Journal of Public Health,* examine the effectiveness of public health interventions regarding food safety in institutional, commercial and community settings. They conclude that routine inspection (at least yearly) is effective in reducing food borne illness risk. Additionally, training food handlers improves knowledge and practices, and selected community-based educational programs increase

public food safety knowledge. These findings also raise questions regarding the use of information and education as regulatory instruments, as well as those related to information as a regulatory variable.

Frank A. Benford, "On the dynamics of the regulation of pollution: Incentive compatible regulation of a persistent pollutant," *Journal of Environmental Economics and Management,* proposes a scheme whereby a regulatory agency can elicit truthful response from a polluting firm, in a case where the firm's knowledge of the regulator's intent gives incentive to lie. He considers particularly the circumstance of a regulator seeking from the firm the necessary information about the emission reduction costs to determine an optimal trajectory of emissions through a planning period of emission reductions.

Christopher Costello, *et. al.*, "Renewable resource management with environmental prediction," *Canadian Journal of Economics,* consider the consequences of improved environmental forecasting capacity, and the information generated thereby, for policy and regulatory practices. The improved prediction provides scope for improved management, but the ideal management practice may not be what might seem obvious. They generalize a common stochastic stock recruitment model to explore optimal management changes under conditions of enhanced prediction.

The authors arrive at three main conclusions: First, counter-intuitively, a prediction of adverse future conditions calls for a higher current harvest to maximize total gain – in contrast to the more conservative management some might presume to be entailed by such conditions. Second, optimal management requires only one-period-ahead forecasts, suggesting forecast accuracy is more important than forecast lead-time. And thirdly, the authors derive conditions on environmental fluctuations guaranteeing positive optimal harvest in every period.

Writing in light of Canada's embrace of the Kyoto Protocols, Peter W. Kennedy, "Optimal early action on greenhouse gas emissions," *Canadian Journal of Economics*, examines the impact of early action policies focused

on early actual greenhouse gas emission reductions. He argues that such early action actually tends to distort abatement investment decisions and thereby inflates the national compliance cost of a greenhouse gas emissions reduction target. Compliance cost savings stem, he proposes, from well planned early action that may or may not yield early emission reduction. Thus, policies that target actual emission reductions have the potential to be highly distorting.

Related to strategic information concerns are legal ones. Margit Cohn, "Fuzzy legality in regulation: The legislation mandate revisited," *Law and Policy,* develops this concept of "fuzzy legality" in which the practice of regulation is revealed as separated from the ostensible legal basis for action. She identifies six such types of fuzzy legality. These, she argues, constitute a range of statutory and regulatory practices that effectively cancel out the concept of statutory mandate as all-encompassing source book for regulatory action. Although not "illegal" under conventional standards, such practices sweep away law's advantages, weakens accountability, and limits participation. Law, in its statutory form, is still visible and operates as a protective shield for the true nature of action that cannot be judged or reviewed in light of the statute. Cohn concludes that such fuzziness is embraced by legislators, regulators and regulatees for its tendency to concentrate power in the absence of effective checks and balances. In this light, she reassesses the responsive and reflexive regulation agenda.

Cohn applies her "fuzzy legality" thesis in a case study: Margit Cohn, "Fuzzy legality and national styles of regulation: Government intervention in the Israel downstream oil market," *Law and Policy*. In the Israel downstream oil market, she argues, a "cloud" of state security; institutional stickiness that preserved colonial mandatory legal structures; and a prevalent national culture of nonlegalism, combined to allow the industry – in concert with the government regulator – to retain a lucrative, practically non-accountable arrangement through changing politico-economic climates. Cohn concludes that the Israeli regulatory style, characterized as

"consensual nonlegalism," holds little promise for balancing market and public interests. The matters of accountability, raised by Cohn here, will be addressed further shortly below.

Devon A. Garvie and Barton L. Lipman, "Regulatory rule-making with legal challenges," *Journal of Environmental Economics and Management,* consider the relative value to a regulator of maneuvering to avoid potential legal challenges. They find that the cost of regulating to avoid legal challenge can be greater than the cost of going to court. Additionally, the information gathered in a legal hearing can prove ample compensation for the legal costs of accepting rather than trying to avoid a court challenge. Intuitively, they argue, the least efficient firms have the most incentive to challenge regulations. Hence, if the regulator chooses not to block legal challenges, it can more easily prevent efficient firms from imitating less efficient firms, but at the cost of associated legal fees.

In keeping with the specific character of the new regulatory state, a couple authors addressed directly the post-privatization regulatory challenges of monopolistic utilities. David Parker, "Regulating public utilities: Lessons from the UK experience," *International Review of Administrative Studies,* provides an overview of the UK's experience with the privatization and renewed regulation of former public utilities. He has a particular focus on the lessons that can be learned from the UK experience for those pursuing like-initiatives elsewhere. He finds that the UK process demonstrates how "former sleepy, state monopolies" can be reformed to provide better, more cost efficient service. He does concede that some of those improvements might have resulted in any event due to the impact of new technologies. While considering the process in the UK a success, he warns of the danger of "regulatory capture" as has been experienced in the U.S. He also muses on the possibility that the recent privatization/regulation trend may be just the latest sweep of a public pendulum that could yet swing back, re-popularizing the original sentiment that such natural monopolies are best safely kept in public hands.

William A. Maloney, "Regulation in an episodic policy-making environment: The water industry in England and Wales," *Public Administration,* looking at the regulation of the post-privatization water industry, finds a regulatory environment that is far more complex than that which existed under public ownership. He finds an episodic and seemingly incongruous policy-making environment that defies consistent characterization: some times private consensus is its main feature, some times public conflict. His findings also reveal that there are two broad based constituencies of interest active in this post-privatized water sector, concerned respectively with cost and environment. The composition of these coalitions, however, is found to mutate depending upon the specific regulatory concern under consideration.

This brings us to the questions of public interest, and how it is served in the new regulatory state. This issue has been approached from a number of perspectives, including that of credibility, accountability and values. Two authors that stand out in this regard are Majone, discussed above, and Colin Scott. In Colin Scott, "Accountability in the regulatory state," *Journal of Law and Society,* the author examines the options for maintaining accountability under the conditions of delegated and decentralized autonomy characteristic of the regulatory state. He acknowledges that the sweeping changes to contemporary governance ushered in by the reforms of the New Public Management agenda have rendered traditional concepts of accountability ineffective. The delegated responsibility of decentralized agencies, which enjoy high levels of autonomy, have rendered traditional parliamentary accountability something of a fiction.

Scott argues that a recovery of meaningful accountability under the new regulatory state requires embracing additional or extended mechanisms. He explores two such mechanisms in particular. The first, interdependence, takes advantage of the dispersal of key resources of authority (formal and informal), information, expertise and capacity to bestow legitimacy. Under these conditions each of the principals has

constantly to account for at least some of its actions to others within the space, as a precondition to action. The second, redundancy, entails overlapping (and ostensibly superfluous) accountability mechanisms that reduce the centrality of any one of them. He looks at both the traditional and multi-level governance models of redundancy.

In another piece, Colin Scott, "Services of General Interest in EC law: Matching values to regulatory technique in the public and privatized sectors," *European Law Journal,* he examines the techniques of pursuing and protecting public interest values under the new conditions of governance occasioned by the regulatory state. With states that are no longer primarily service providers, but rather arms-length regulators of provision of services by others, how are public values preserved? There is the danger that the "public interest" – the *raison d'être* for state involvement in service delivery in the first place – will be displaced by the pursuit of other interests or values. This could be due to the displacement of core public values within the new complex governance arrangements, or because these new arrangements simply lack the capacity to deliver on public values. Scott concludes, though, that the matching of values to techniques for their realization should not be made according to the importance of the values, but rather by reference to the techniques probable effectiveness given the prevailing configuration of interests and values.

In his essay, Giandomenico Majone, "The credibility of community regulation," *European Law Review,* Majone takes as his starting point the credibility gap that has opened with European Community regulation. In a context where the community has taken on growing regulatory responsibilities in a piecemeal fashion that increasingly over-extends current administrative capacity, he considers the EC's options. He is particularly concerned with demonstrating the capacity to create delegated regulative bodies that effectively balance the needs for accountability and independence. Out of this analysis, he elaborates the idea for a decentralized model of transnational regulatory networks, adhering to the EC principle of

subsidiarity, grounded in mutual trust and cooperation; a high level of regulator professionalism; and a common regulatory philosophy.

In a related earlier piece, Giandomenico Majone, "Europe's 'democratic deficit': The question of standards," *Journal of Common Market Studies*, he further elaborates his ideas on the means for regulatory credibility under conditions of decentred governance. What are the conditions under which regulatory agencies can be effective – particularly in the transnational context that exists in Europe? Here Majone makes the important distinction between regulation that is efficiency-oriented or redistributive in character. As efficiency-oriented policies are intended to increase aggregate social welfare, a higher level of independence is appropriate and therefore delegateable to extra-political agencies. Redistributive policies, however, are designed to improve the welfare of a target group at the expense of the other groups. Consequently, he concludes, they need to be legitimated by majoritarian means and cannot be delegated to agencies independent of the political process, if the regulatory process is to maintain public credibility.

This issue of credibility is also a factor in considering the role of agency discretion in regulation. Mark Seidenfeld, "Bending the rules: Flexible regulation and constraints on agency discretion," *Administrative Law Review*, evaluates the widely held position that the problems confronting regulatory regimes at the time might best be remedied by providing regulators with greater discretion in the exercise of their responsibilities. Those who promote this increased discretion argue that it would provide regulators the flexibility necessary to avoid such ills as the wooden application of rules, which can even undermine the rule's intent; the holding of agencies to resource-wasting standards of exactitude by the courts; and the resulting consequence of agencies feeling forced to compromise fundamental mandates.

Seidenfeld considers the pitfalls of discretion, though. Too great a degree of discretion could allow agencies both to effectively set policy

themselves, and, ironically, to circumstantially circumvent their own *ad hoc* policy-making, not to mention circumventing existing legislated policy. He therefore discusses the operational apparatus that might be used to constrain discretion, while maintaining the desired degree of administrative flexibility.

To conclude this section on the new regulatory state with some broader considerations: Daniel Cohen, "S.981, the Regulatory Improvement Act of 1998: The most recent attempt to develop a solution in search of a problem," *Administrative Law Review,* critically examines both the U.S. Regulatory Improvement Act of 1998, and more generally the wide-ranging consensus – that he sees in both the U.S. executive and legislature during the 90s – that sweeping regulatory reform is necessary. Cohen argues that a reasonable assumption that such consensus of opinion and broad legislative remedies regarding the regulatory "problem" were based on empirical data would in fact be wrong. He argues that there is really nothing wrong with the regulatory system, as it exists at the time (1998). Agency regulatory actions are based on good data, good science, and solid analysis of both. Additionally, most regulatory actions represent an exercise of good judgement, fleshing out difficult details of general legislative enactment. In fact, he concludes, the rhetoric of regulatory reform is based on anecdotal evidence and wide-ranging estimates of the costs of the regulatory system, with most such estimates paying little or no attention to the benefits achieved, and making a series of untested, usually politically motivated analytical assumptions.

While Cohen questions the need for the sweeping regulatory reforms promoted in the U.S. during the 90s, another author provides an instructive insight into what he characterizes as the historic failure of such reform. James E. Anderson, "The struggle to reform regulatory procedures, 1978-1998," *Policy Studies Journal,* examines the largely unrealized agenda of regulatory reform in the U.S. during the twenty years from 1978 to 1998. Despite a widespread support for reform both in the U.S. public and among

elected representatives, Anderson argues the explanation for the paltry results of the reform agenda was the failure of three key constituencies to agree among themselves on the direction and content of reform legislation.

These constituencies were the *traditionalists*, who saw reform as needing to address issues of better personnel, increased budgets, improved procedures, organization and management within regulatory bodies; the *populists*, who sought to enhance public influence with open meetings, subsidized public participation and consumer counsel offices in regulatory agencies, as well as the removal of regulatory practices that they considered provisions of subsidies to private corporations; and the *restrictivists*, who generally opposed much regulation as contributing to inefficiency which needed unregulated market corrections. They particularly disapproved of anti-competition regulations, and supported use of economic incentives to achieve public purposes.

It was the failure of these three positions to find common ground, argues Anderson, that stalled the regulatory reform agenda of the period. He concludes by raising concerns about the fallback strategy of the restrictivists in the U.S., who have used procedural restraints and budgetary subversion to disrupt, impede or eviscerate the regulatory process.

Finally, Julia Black, "Enrolling actors in regulatory systems: Examples from UK financial services regulation," *Public Law*, offers a overview of the complexities of the new regulatory environment that will serve as a segue into our examinations of the many directions of the new decentralized regulatory governance regimes that follows. Basing herself on the analysis of the regulatory regime characteristic of the fragmented and hybridized state, she examines the means to develop regulatory functions, capacity and enrolment. Taking as her starting point the decentred, or "soft-centred," regulator, she observes several problems. First, there is the practical problem of implementing regulation under conditions that are more horizontal than hierarchical – though hierarchy might yet lurk behind the ostensible appearance of horizontality. In practical terms, the complexity of

the new arrangements demand better attention to appropriately flexible and sophisticated relationships and techniques. Second, "decentred analysis" challenges the nature of regulation, particularly the standard assumption that it is a distinctly state activity. Third, decentred analysis emphasizes complexity and fluidity over simplicity and predictability.

Black concludes that all of these considerations require us to move beyond the state vs. self-regulatory dichotomy, and more imaginatively consider the relationships and techniques of regulation. We'll be looking in more detail at Black's constructive contribution to such imaginative reconsideration later under section (10), dealing with Populist Considerations. Her argument here though invites us to turn to the debates in the reviewed literature dealing with matters of voluntary and self-regulation.

2. Voluntary and Self-Regulation

The contributions to this new regulatory direction in the literature have been particularly hotly disputed. The majority of authors take at least a moderate stand for or against, and many are strident in their positions. This is not true of all the literature. Reviews of the practices of health and medical bodies, with traditions of self-regulation, are notable exceptions. For example, Jo-Ann Willson, "Criteria for identifying regulatory issues and the role and responsibility of council members of health regulatory bodies," *Health Law in Canada,* examines criteria for identifying regulatory issues related to, and describes the role and responsibility of, council members of health regulatory colleges. She is particularly concerned with the issues arising from such bodies' uniquely self-governance/self-regulatory responsibilities.

In a similar vein, Joan M. Gilmour, *et. al.*, "Opening the door to complementary and alternative medicine: Self-regulation in Ontario," *Law*

and Policy, look at the steps taken by three "complementary and alternative medicine" groups to achieve statutory self-regulation in the province of Ontario. They compare and contrast the different initiatives of the three groups, and consider the limitations imposed by the province's regulatory regime on these groups' efforts to fit into the regime's dominant paradigm of health care.

Most contributions, though, take more pointed positions. We start with those authors holding positions tending to the endorsement of voluntary and self-regulation. JunJie Wu and Bruce A. Babcock, "The relative efficiency of voluntary vs. mandatory environmental regulations," *Journal of Environmental Economics and Management,* focusing on the context of agriculture, compare voluntary and mandatory approaches to regulating environmental protection. In the voluntary model, agricultural producers adopt a land conservation practice with the government providing technical and financial assistance. The authors argue that such a program is more efficient than a mandatory program if the deadweight losses of government expenditures under the voluntary program are less than the difference between private and public costs of government services plus the additional implementation costs of the mandatory program. They also consider the circumstances under which those conditions are likely to be met.

George Hoberg, "The coming revolution in regulating our forests," *Policy Options,* points to the abandoning of clear cutting by several British Columbian forest companies in the late 90s as evidence of a far reaching re-orientation of the Canadian forestry industry. These events came about not as a consequence of conventional state regulation, but due to the influence of a private standards and certification organization. The one that has contributed to the dramatic shift in B.C. forestry practice is the Forest Stewardship Council, based in Oxaca, Mexico. There are however several such organizations, including the Canadian Standards Association and the International Organization for Standards (ISO).

Hoberg argues, as in the B.C. example, that such standard-setting

bodies, with their ability to open the way to increasingly "green" conscious markets, can induce forest practices that move significantly beyond practices required by traditional mandatory government regulation. Though the orientation of such bodies may shift as more forestry companies become involved, possibly tilting majority priorities, Hoberg argues that the incentive of accreditation by such bodies hold outs the possibility of dramatically new regulative governance systems in our forests.

Neil Gunningham, "Integrating management systems and occupational health and safety regulation," *Journal of Law and Society,* re-evaluates the appropriate regulatory basis for achieving effective occupational health and safety regulation. He argues that the command-and-control approach used in the past is inadequate on several fronts: there has been a growing inability for traditional direct regulation to grapple with increasingly difficult and sophisticated problems; it is unresponsive to the demands of enterprise; unable to generate sufficient knowledge to function efficiently; unable to control adverse occupational health and safety consequences of commercial organizations; and generally too inflexible, costly, cumbersome and inefficient for business compliance.

Given this litany of inadequacies, the author argues for the development of a systems-based approach that is rooted in continuous improvement, benchmarking and internal self-regulation. However, Gunningham acknowledges that some form of "persuasion by coercion by law" remains a necessary condition for the effective establishment of the incentive-based voluntary regime upon which a systems-based approach is founded. He also concludes that the systems-based approach is only appropriate to some sectors, and to some types of enterprise. So, in the end, some direct regulation may be necessary under a regime of "regulatory pluralism."

Also, in an article mentioned earlier, John Braithwaite, "The new regulatory state and the transformation of criminology," *British Journal of Criminology,* the author promotes the value of self-regulation, particularly

in the context of what he refers to as "communities of common fate." In industries where major mistakes will receive widespread public attention that will hurt the entire industry, there has been a demonstrable incentive for those in the industry with the most advanced risk management systems to share their knowledge across the sector. In this away, a *de facto* industrial self-regulation is instituted. Braithwaite gives examples from both the financial services and nuclear energy sectors as examples of this kind of voluntary self-regulation being successfully adopted within the industry.

On the other side of the ledger, with those critical of such notions, there is Carol Morris, "Quality assurance schemes: A new way of delivering environmental benefits in food production," *Journal of Environmental Planning and Management.* She examines the place of environmental concerns within the design and operation of quality assurance schemes – products of private sector self-regulatory institutions. She is particularly interested in such schemes as means of addressing consumer concerns about food production and their related potential for environmental benefits. The author concludes that quality assurance schemes are unlikely to produce environmental outcomes characteristic of public sector agri-environmental schemes, though they could contribute to raising baseline best environmental practices in agriculture.

Richard Schofield and Jean Shaoul, "Food safety regulation and the conflict of interest: The case of meat safety and E. Coli 0157," *Public Administration,* examine the legislation to establish in Britain The Food Standards Agency. This agency is promoted as a means to remove conflict of interest between food producers and consumers, to restore consumer confidence in light of recent well-publicized regulatory failures, and to do so by better protecting public health. The authors look at the nature, source and consequences of those producer-consumer conflicts, and do so in the context of evaluating the proposal for the Food Standards Agency. They use as their test case the food safety regulation of E. Coli 0157.

They argue that deficiencies in regulatory conception, design and

implementation of the Food Safety Act, which was fundamentally deregulatory in nature, privileged producer interests at the expense of food safety. Furthermore, they conclude that problems of food safety will not be adequately regulated unless the disproportional power of big business in public policy formation is addressed.

Bucking the earlier observed trend in more neutral positions on self-regulation as it relates to the health care sector is the article by Peter D. Jacobson, "Regulating health care: From self-regulation to self-regulation," *Journal of Health Politics, Policy and Law.* The author builds upon Kenneth Arrow's groundbreaking work promoting the need for intervention to optimize health care markets. Jacobson outlines the market and non-market responses that have risen since the publication of Arrow's seminal 1963 essay to fill the optimality gap that Arrow had identified. The author argues that there is an identifiable regulatory trajectory that begins with physician self-regulation and is now dominated by health care system self-regulation through private sector accreditation. While Arrow might have approved of this development – given his emphasis on the role of ethical codes – Jacobson concludes that accreditation entities are unlikely to provide adequate regulatory effect. Rather, an updated formulation of Arrow's regulatory framework could provide needed insight into how to restore a proper balance between health care regulation and market.

Steve Tombs and David Whyte, "Capital fights back: Risk, regulation and profit in the UK offshore oil industry," *Studies in Political Economy,* examine the regulatory fallout from the Piper Alpha disaster of July 1988. They argue that an opportunity to significantly strengthen the occupational health and safety regulatory regime for the UK offshore oil industry was squandered in the name of self-regulatory goal setting approaches. In the absence of a strong counterforce to challenge the goals set and to watch over the achievement of those goals, they conclude, any progressive elements of self-regulation disintegrates: self-regulation becomes *de facto* deregulation.

Again, there were articles that didn't arrive at strong positions on either side of the debate. Kathleen Segerson and Thomas J. Miceli, "Voluntary environmental agreements: Good or bad news for environmental protection," *Journal of Environmental Economics and Management,* evaluate the effectiveness of voluntary agreements as instruments of environmental regulation. They look at both carrot and stick incentives to voluntary participation in regulatory objectives: threat of mandatory regulation and promise of cost-sharing subsidies. Their conclusions are mixed, suggesting that success depends on a variety of factors including the allocation of bargaining power, the magnitude of the threat and the social cost of funds.

Panagiotis Karamanos, "Voluntary environmental agreements: Evolution and definition of a new environmental policy approach," *Journal of Environmental Planning and Management,* analyzes the main characteristics of voluntary environmental agreements. Such agreements among the corporate, government and/or non-profit sectors are a new approach, he says, that have been growing in popularity. They are diverse in form, incorporating various objectives, incentives and procedures. The author provides a definition that identifies key characteristics of the agreements. He also examines their evolution, analyses trends and identifies some important links between voluntary environmental agreements and the more traditional environmental regulatory framework.

Finally, to conclude this section, Christine Parker, "Compliance professionalism and regulatory community: The Australian Trades Practice Regime," *Journal of Law and Society,* provides an instructive overview of the vicissitudes of a regulatory authority's endeavour to encourage the corporate culture necessary for the success of self-regulation. She focuses on the role played by corporate compliance advisors in constructing corporate citizenship from the inside. She argues that encouraging internal corporate compliance requires regulators to move beyond compliance-oriented enforcement strategies, and persuasion techniques.

Basing herself on an examination of the Australian trade practices regime, Parker concludes that regulators will produce only a feeble corporate commitment to compliance unless they make two key changes in orientation. First, they must build the capacity for corporations to deliberate internally about, and implement, compliance programs by nurturing compliance professionalism. Second, they must increase corporate accountability by concentrating financial and intellectual resources on the "meta-evaluation" of corporate compliance efforts. These prescriptions, she concludes, will help constitute the required compliance community to make self-regulation meaningful, and in which effective corporate citizenship becomes a viable possibility.

3. Devolution of Regulatory Responsibility

An idea circulating in regulatory theory and scholarship is that regulatory objectives might be better achieved at regional or even local levels of government. This has led to discussion about the merits and challenges of regulatory devolution. This issue finds particular salience in relation to countries with some form of federal governance, such as Canada. Devolution is some times pejoratively referred to as downloading – in which the higher level government dumps its regulatory responsibilities onto the lower level. As we will see in the reviewed literature, though, the processes and relations between higher and lower governments aren't always as straightforward as this popular depiction might suggest.

A successful example of devolution is reviewed by Sofie Adolfson Jörby, "Local Agenda 21 in four Swedish municipalities: A tool towards sustainability?" *Journal of Environmental Planning and Management.* Through a process entailing diverse input from across the society, the Swedish government has developed a comprehensive, thorough environmental strategy geared to local implementation. Four small to medium-sized municipalities were chosen by the author to study their

efforts at enacting this Local Agenda 21, as it is known. He finds a significant impact resulting from these municipal efforts, including the generation of new ideas, the joining of fields and the extending of relevant dialogue. While Local Agenda 21 does not seem to have great influence on which natural resources are dealt with, it does effect how they are dealt with. New stakeholders have been identified and more comprehensive approaches to problems have been developed.

In a slightly different vein, Peter Vincent-Jones, "Values and purpose in government control – local relations in regulatory perspective," *Journal of Law and Society*, applies insights drawn from Michel Foucault's governmentality theory to flesh out and redefine theoretical perspectives in responsive and regulation law. Among the many issues he emphasizes are governmentalily's focus on the micro-mechanisms of disciplinary regulation within modern institutional settings and the tendency to internationalization of that disciplinary regulation exercised by the routines of such institutions. The disciplinary practices of governmentality instill in the body, and induce in the conduct, appropriate self-conduct and self-governance. This suggests to him a parallel with the business literature's emphasis on self-regulation.

In this context the author proposes the role of what he calls "responsibilization" in the relations between central and local levels of government. He argues that specifically in the UK context this responsibilization in the relationship between central government and local councils has occasioned a shift from adversarial and conflictual orientations to partnership and cooperation. Three techniques characterize this "responsibilized autonomy": accounting, audit and contracting. The interlocking effects of these three techniques has been a "micro-managing" of local government much akin to the governmentality analysis in which the councils are minutely disciplined in the fine details of governance regimes that themselves originate with the policy objectives of the central government. Such matters, though, contain other nuances in the context of

federated forms of government.

R. Daniel Keleman, "Regulatory federalism: EU environmental regulations in comparative perspective," *Journal of Public Policy*, develops a theory of regulatory federalism to explain how the basic institutional structures of federal systems mediate struggles over regulation and shape the development of environmental regulation specifically. He tests the theory with a comparative analysis of Canada, Australia, and the U.S., as well as his primary focus, the European Union. He makes two basic claims; First, divisions of power between federal and state governments, and the evolution of the resulting divisions of regulatory competence leads to federal governments taking on a large policy-making role, while state (or provincial) governments control most implementation. Second, the greater the degree of power fragmentation in the structure of the federal government, the lower the degree of discretion granted to state (or provincial) governments in their role as implementing agent of the federal government.

Also concerned with federalism, Barry G. Rabe, "Federalism and entrepreneurship: Explaining American and Canadian innovation in pollution prevention and regulatory intervention," *Policy Studies Journal,* sets out to test what he considers the conventional wisdom that promotes decentralization and delegation of authority as the preferred mechanisms for achieving environmental outcomes such as pollution prevention and regulatory integration. He suggests that Canada's far-reaching deference to the provinces on environmental matters makes it a fertile case for testing the decentralization thesis. However, he argues, that comparative analysis of select sub-national governments suggests that in general the U.S. states are far ahead of Canada's provinces in these areas of innovation.

The role and processes of regulatory devolution in the U.S., though, is more complicated. For example, Eric Gorovitz, *et. al.* "Preemption or prevention? Lessons from efforts to control firearms, alcohol and tobacco," *Journal of Public Health Policy,* take a largely critical approach in their

analysis of the U.S. judicial doctrine of preemption. By allowing superior levels of government to preempt lower levels of government's regulatory agendas, they argue, the doctrine has created an opportunity for industries to promote legislation that inhibits state and local governments' effort to prevent illness, injury and death. They examine the preemptive legislation on tobacco, alcohol and firearms.

On a similar note, Rosalie Liccardo, *et. al.*, "State medical marijuana laws: Understanding the laws and their limitations," *Journal of Public Health Policy,* examine state medical marijuana laws in the U.S., identifying four different ways that the states statutorily enable the medical use of marijuana. They also consider the tension between these state laws and federal laws, and the complexity arising from the states' efforts to circumvent those federal laws. They examine as well the implications for access to medical marijuana in this context, and the implication of various supply approaches on the enforcement of other state marijuana laws.

4. Privatization of Regulation

This is by far the shortest section of the review. It certainly has not received its own section on the strength of its representation in the literature, but rather as a pointer to a gaping hole in that literature. The extent and significance of this lacuna has been suggested by Colin Scott, "Private regulation of the public sector: A neglected facet of contemporary governance," *Journal of Law and Society.* Scott sheds light on this neglected area of regulation scholarship dealing with circumstances under which private sector organizations act as regulators of public sector operations. These he argues are an important, if neglected, aspect of contemporary governance arrangements. Such private regulators are empowered and authorized by means of a legal mandate. Statutory powers are exercised by private regulators where they are delegated or contracted out. Some private regulators, however, operating both nationally and

internationally lack such a legal mandate for their activities and yet exercise the capacity to constrain governments and public agencies.

In some cases, private regulators operate more complete regulatory regimes – controlling standard setting, monitoring and enforcement – than is true of many public regulators. While private regulators may enhance scrutiny of public bodies (enhancing regimes of control and accountability), their existence and operation raises questions about the conditions under which such private power is obtained and wielded. Scott suggests that such conditions could call for a kind of "reverse form of co-regulation," stimulating democratic input into the determination of the values appropriate for informing such regimes of private regulation in the public interest.

Surprisingly, given the apparent importance and complication of such regimes, the literature reviewed for this essay only turned up a single case study of such operations: Mark S. Winfield, *et. al.*, "Public safety in private hands: A study of Ontario's Technical Standards and Safety Authority," *Canadian Public Administration.* These authors examine the case of Ontario's Technical Standards and Safety Authority as just such an example of government regulatory restructuring – transferring regulatory responsibility to non-governmental actors. They look at the history, rationale, mandate, structure and function of the TSSA. It is assessed as a service provider by criteria of governance, performance and accountability in comparison to its predecessor. In this regard, the authors argue that significant gaps remain in the provincial government's oversight functions and the TSSA's accountability requirements, as measured against those of conventional government agencies.

5. International Regulation of National Regulation

Reflection on the vagaries of multilevel regulatory jurisdictions leads us into an examination of the international regulation of national states and

their own regulatory regimes. Among the key themes found in the literature are the exploration of options for transnational regulatory networks; discussion of the harmonization of national regimes – an idea challenged, in one way or another, by most of the authors; debate about the historical and political impact of international bodies and agreements (ISO and the WTO particularly); and questions about the very idea that it is the international bodies and agreements regulating the national state – suggesting such international fora may be actually agents for the purposes of the ostensibly regulated nation states.

In the *Journal of Law and Society* special issue discussed in the introduction, a couple of authors address the interesting area of transnational regulatory networks emerging in relation to the new international conditions. Imelda Maher, "Competition law in the international domain: Networks as a new form of governance," *Journal of Law and Society*, examines the emergence of transnational networks of competition officials and experts with regulatory responsibility under the conditions generally referred to as globalization. This emergence has occasioned the internationalization of competition law, and the networks have occupied three fields of operation: coordination of enforcement; technical assistance; and the development of overarching competition principles at the level of the WTO.

Previous debates over the internationalization of competition norms have been characterized by early failures – largely resulting from the absence of networks – and the politicalization of competition policy within a UN context that saw the emergence of an OECD centred network. The current focus, asserts Maher, is on coordination and the development of a competition law regime at the WTO level, as spearheaded by the European Union. The U.S. has been the major disputant in this process, advocating instead bilateral arrangements restricted to agreements on regulatory enforcement and technical assistance.

Maher argues that the influence and importance of networks have

affected the evolution of this debate over the last ten years, leading the protagonists to modify their positions. Her analysis emphasizes the centrality of such networks to this aspect of contemporary international governance – though supplementing rather than displacing traditional forms of internationalism. Finally, and emphasizing a point frequently raised by authors in both this and the next section on alternate regulatory approaches, Maher suggests that, while the networks may conceive themselves as technocratic, current pressures on international policy-making has required them to attend to the process aspects associated with the legitimacy requirements of democratic process.

Louise Davies, "Technical cooperation and the international coordination of patentability of biotechnological inventions," *Journal of Law and Society,* argues that trilateral cooperation is an informal transgovernmental regulatory network of bureaucratic, technical specialists, which evolved from the common interests of the Trilateral Offices initially in harmonizing procedural patent issues. This procedural coordination has far exceeded the coordination achieved in substantive patentability. Consequently, increased costs and legal uncertainly for patent-seekers in multiple jurisdictions have encouraged informal cooperation through these "global patent networks."

Further, the inter-relationship between procedural and substantive law issues has led the Trilateral Patent Offices to pursue harmonization of patent law issues, primarily in contentious areas of patentability such as biotechnology. Their ability to achieve this is always limited by their respective national patent and case law. Their ability to develop consensus positions, though, can be influential in formal international negotiation as well as in national examination regulations and practices. She concludes, also, by suggesting that greater public input into these networks would be welcomed.

Other authors have regarded this question of harmonization more critically and even cynically, though. Henry Rothstein, *et. al.* "Regulatory

sciences, Europeanization, and the control of agrochemicals," *Science, Technology and Human Values,* question the objective presence of this harmonization. Taking UK agrochemicals as their test case, the authors consider the importance of local and national factors within ostensibly standardized international sectors, with particular reference to the impact of Europeanization. Embedded social relations of regulatory science, including institutional practices, judgements of expertise and bonds of trust, they argue, create a "nation centredness" and divergence of regulatory cultures in the face of putative harmonization.

Graham Lewis and John Abraham, "Making harmonization work: The politics of scientific expertise in European medicines regulation," *Science and Public Policy,* concede the reality of harmonization, but question its impact on scientifically sound regulatory practices. They examine the underlying dynamics that have facilitated successful regulatory harmonization in European medicines. A convergence of institutional interests of national regulatory agencies and the medicine industry, they argue, has led regulators to seek compromise and consensus, resulting in rapid drug approvals. This new system, "mutual recognition," involves national regulators competing for regulatory work; it extends, but perhaps undermines, peer review; and diminishes the role of national expert science advisors in member states. Consequently, the authors argue, an important form of independent peer review is being compromised in this regulatory harmonization.

Milton Terris, "The neoliberal triad of anti-health reforms: Government budget cutting, deregulation and privatization," *Journal of Public Health Policy,* on the other hand, takes a more polemically critical stance against the normative value of harmonization. He provides a sweeping critique of the processes that have characterized the New Public Management agenda and the purported rise of the regulatory state. Deregulation and privatization particularly – along with budget cutting – are condemned as neoliberal anti-health reforms, imposed by influential

international bodies such as the World Bank and the IMF. Causes are analyzed and alternatives suggested. The role of epidemiology in documenting the damages to health resulting from these reforms is also discussed.

This perspective on harmonization serves as a segue into the debates on the broader impacts and relevance of the international bodies and agreements that putatively weave together this new regulatory governance system. G.T. McDonald and M.B. Lane, "Forest management systems evaluation: Using ISO 14000," *Journal of Environmental Planning and Management,* focus on the implementation of sustainable forest management practices as defined by the criteria and indicators developed through a range of international activities and agreements. They particularly consider how to identify needed reforms in forest management systems.

They accomplish this with an explanation and evaluation of the International Standards Organization's environmental management system's ISO 14000/EMS approach, adopted for this purpose in Australia. The approach was applied as a key element in the regional forest agreements prepared to meet the Australian National Forest Policy Statement. They find that the ISO 14000/EMS, in conjunction with the sustainable forest management criteria, provides a systematic approach to assessing forest management systems so as to reveal the adequacy of the legislative, planning, implementation and monitoring of forest management.

On the other hand, Ellen Wall and Barbara Beardwood, "Standardizing globally, responding locally: ISO 14000, and Canadian agriculture," *Studies in Political Economy,* arrive at a less salutary evaluation of ISO 14000. They take the Salters' article on "The new infrastructure," published a few years earlier in the same journal as their point of departure. They extend that analysis with an examination of ISO 14000 in the context of Canadian agriculture. Characterizing ISO 14000 as part of a national deregulation complemented by a global regulation of that national deregulation, they conclude that the environmental standard will reinforce the promotion of

industrial farms. Furthermore, the discouraging of smaller or medium-sized farming enterprises will come without guarantee of improved environmental benefits. In their estimation, ISO's concern is not to establish minimum regulatory protection, but to harmonize procedures, products and systems in the interest of expanding global trade and commerce.

Similarly, diverging conclusions are reached regarding the impact of the WTO. Patti Goldman and J. Martin Wagner, "Trading away public health: WTO obstacles to effective toxics control," *Journal of Public Health Policy,* critically evaluate the impact of the WTO on health and safety issues, including regulation. One of their criticisms is that the WTO's operative assumptions preclude the utilization of the precautionary principle. The precautionary principle errors on the side of prudence, in the face of inconclusive scientific evidence. The authors argue, though, that the WTO requires conclusive scientific evidence of a risk before food product trade may be restricted. The WTO operative assumptions could also challenge the use of eco-labeling, a potential market-oriented regulatory measure.

Yet, Terence Sullivan and Esther Shainblum, "Trading in health: The World Trade Organization (WTO) and the international regulation of health and safety," *Health Law in Canada*, consider the actual and potential impact of WTO rulings on health and safety regulations around the world. They conclude that, while the WTO has not been concerned with health and safety matters to date – focused exclusively on liberalizing trade – there are several possibilities for the organization to benefit health and safety regulation. First, the WTO could give the broadest interpretation of existing relevant provisions; second, it could use the concept of "likeness" to improve standards through examining methods of production; third, the WTO could respond to public opinion more rigourously and explicitly. The authors see the WTO's *Asbestos* ruling against Canada as a hopeful sign for such developments.

From a different perspective, other authors regard these international

bodies and agreements as actual or potential agents of national objectives, as suggested by Wall and Beardwood above. For instance, Alexander Thompson, "Canadian foreign policy and straddling stocks: Sustainability in an interdependent world," *Policy Studies Journal*, argues that fish stocks which straddle Canadian waters and the high seas cannot be effectively managed as a national project. Effective regulatory management of such stocks requires Canada to enter rule-making multilateral fisheries organizations.

Perhaps a little more ominously, Robert Marshall, "Autonomy and sovereignty in the era of global restructuring," *Studies in Political Economy*, uses the role of intellectual property rights in the pharmaceutical patent regime as his case study. In this context, he argues that the internationalization of regulation – the regulation of the nation state by international or transnational bodies and agreements – does not constitute so much the hollowing out, or decline, of the sovereign nation state as it does a redirection of regulatory authority. The governments of nation states, according to Marshall, use international regulatory bodies and agreements to impose regulation on themselves in ways that short-circuit public input and potential criticism, while subverting the potential for subsequently elected governments of striking off in different policy and regulatory directions.

These arguments of Thompson and Marshall, open up the larger question of the diverse instruments and regimes of regulation available under the putative decentred governance of the new regulatory state, as well as their political and economic consequences.

6. Regulatory Alternatives

Starting with a narrower purview, this area of the reviewed literature reveals wide ranging discussions over the merits of particular regulatory instruments: rewards, fines and penalties, emission permits, contracts and

taxes are the most commonly discussed techniques. There also is discussion of other alternative approaches: public disclosure, negotiation, ADR, co-management and civil law. Finally, the section concludes with a review of the extensive debate over the merits of prohibitionist, punitive and mandatory approaches to regulation.

John Braithwaite "Rewards and regulations," *Journal of Law and Society*, offers an instructive introduction to the debate over the merits of punishment and rewards in regulation. He takes issue with what he considers the widespread opinion in the responsive or reflexive regulatory school that rewards are preferable to punishments in the regulatory process. While rewards have some value when deployed functionally at the bottom of a regulatory pyramid, their general us, he argues, exacerbates free-riding, fosters game playing and defiance, and undermines compliance motivation. Rewards encourage "creative compliance," or "playing to the gray," in which a strict respecting of the letter of the regulation is respected while its spirit is purposefully undermined. Furthermore, the larger the reward, the more complex the phenomenon being regulated, the worse the creative compliance will be. Also, he states, fear of criticism for having unclear regulations discourages regulators from punishing such creative compliance when it's discovered.

Distinguishing between competitor and fixer mentalities, he notes the confusion of those who want to use market forces for regulatory purposes. In most instances, a competitor mentality is more rational in markets where there are usually too many factors and forces to effectively fix them. In dealing with a regulator, though, most regulatees only have one regulator to deal with around any one issue. Hence, it is more rational in this context to use a fixer strategy in the absence of the contestability characteristic of markets. This is why creative compliance will usually be the preferred approach of the regulatee in such circumstances.

Other reasons Braithwaite criticizes rewards is that they can serve to reward recalcitrance and send the message that compliance should pay –

hence undermining intrinsic motives and the moral content of the law. Rewards, he concedes, can be effective in regulation under conditions of transparency and regulatee weakness. It also can be useful to induce market place rewards by giving regulatees incentives to compete for those rewards in achieving regulative objectives.

Within regulation itself though most use of rewards, he argues, are best kept at the level of informal praise. Praise is usually viewed more as a gift than a reward, so it is less likely to undermine intrinsic motivation. Unlike incentive-based rewards, praise cannot be calculated into the cost-benefit analysis of balancing it against possible punishment.

Surabhi Kadambe and Kathleen Segerson, "On the role of fines as an environmental enforcement tool," *Journal of Environmental Planning and Management,* in their efforts to evaluate the effectiveness of fines as environmental regulatory instruments, make the distinction between two kinds of effects. A direct effect refers to the effect of an increased fine on the expected cost of a violation, holding the probabilities of enforcement constant. An indirect effect refers to the effect of the fine on the probability of a violation through its effects on the probabilities of enforcement by the regulator.

Focusing specifically on the context in which the enforcement process involves significant interaction between violator and enforcer, they argue that, in the absence of indirect effects, increased fines unambiguously promote greater compliance. However, if indirect effects are a factor – say because a change in the fine can change the likelihood that an enforcer will take certain actions, or the likelihood that the violator would challenge the enforcer's action – the impact of fines is more ambiguous. If such indirect effects are positive and large, an increase in the fine can actually reduce the likelihood of compliance. Hence, they conclude, increased fines are regulatory tools of dubious benefit.

Sarah L. Stafford, "The effect of punishment on firm compliance with hazardous waste regulations," *Journal of Environmental Economics and*

Management, focuses on the record for implementing increased penalties by the U.S. Environmental Protection Agency. Responding to two reports that criticized its application of enforcement penalties, the EPA revised its Resource Conservation and Recovery Act (RCRA) penalty policy. Penalties were increased ten to twenty times over previous levels. They were also structured to "fit the crime," as it related to probability of harm and degree of deviance.

Stafford examines the impact of this new penalty policy on compliance levels with hazardous waste regulation. She finds that, although the EPA's RCRA Information System shows an increase in detected violations, once inspection levels are incorporated into the analysis through a censored bivariate probit model, violations are revealed to have actually decreased since the penalty change. The decrease in violations appears small relative to the increase in recommended penalty levels. She also finds that inspection and compliance rates are significantly variable across regions.

Another disputed area is the use of taxes as regulatory instruments. Hans Gersbach and Amihai Glazer, "Markets and regulatory hold-up problems," *Journal of Environmental Economics and Management,* look at regulatory hold-up problems in which firms sabotage regulatory objectives by strategically not investing in the means to reduce the cost of compliance. Carried to its extreme such a strategy can undermine regulatory objectives, forcing the regulator to abandon the regulation. The authors argue that imposition of an emissions tax is not an effective remedy for such hold-up problems. Rather, the resolution of the problem is better achieved by tradable permits.

Gregory S. Amacher and Arun S. Malik, "Instrument choice when regulators and firms bargain," *Journal of Environmental Economics and Management,* investigate which instrument yields lower social costs when a regulator bargaining with a firm has access to an emissions tax or an emissions standard. They particularly focus on the case in which the firm and regulator differ over the preferred abatement technology and, in the

bargaining context, the regulator chooses to offer the firm a more lenient regulation in return for adopting its preferred technology. Even if information is systematic, the tax and standard lead to different outcomes, with contrasting social costs.

On the other hand, C.W. Rougoor, *et. al.* "Experience with fertilizer taxes in Europe," *Journal of Environmental Planning and Management,* examines the policy merits of a tax on nitrogen fertilizers, using the real cases of such taxes in several European countries: Austria, Finland and Sweden. Though there are variations in the tax rates, the methods of implementation, and other external influences, the authors conclude that the taxes did contribute to decreased fertilizer use, and the reduction of nitrogen load to the environment. While not without its problems, the authors argue that such fertilizer taxes can be a valuable part of an effective policy mix.

Also, Nick Johnson, *et. al.* "The environmental consequences of tax differentiation by vehicle age in Costa Rica," *Journal of Environmental Planning and Management,* conduct a simulated evaluation of Costa Rica's use of increased tax rates on imported used cars, and that tax's potential environmental benefits. Costa Rica, which has a major motor vehicle caused pollution problem, has in fact had a fiscal policy that favoured used car importation. A used car tax, though, according to the authors, would provide a valuable proxy for taxes based directly on emission levels. Their simulation suggests that such a tax would entail considerable improvement in the emission levels of several key pollutants.

Other authors explore instead the use of bankable and/or tradable emission permits. For example, Robert Innes, "Stochastic pollution, costly sanctions and optimality of emission permit banking," *Journal of Environmental Economics and Management,* considers the merits in regulatory schemes that allow potential polluters to bank or borrow emission permits over time. Given the high cost of regulatory sanctions against non-compliant firms, Innes finds that such a system provides a cost effective incentive for firms to conscientiously pursue pollution abatement

without the need for costly government enforcement actions that would otherwise be required. He explains both the economic gains and the preferable systems design, for such an intertemporal tradable emission permit approach.

Juan-Pablo Montero, "Permits, standards, and technological innovation," *Journal of Environmental Economics and Management,* compares the relative merits of standards and permits as a factor in inducing environmental technology research and development efforts. He further dissects these categories down into four policy instruments: emission standards, performance standards, tradable permits and auctioned permits. Because research and development incentives depend on direct and strategic effects, standards can offer greater incentives than do permits. This is because the strategic effects under standards is always positive, in that a firm's research and development investment reduces its own costs but not those of its rivals, allowing the firm to increase outputs and profits. Under permits, however, the strategic effect may be negative because a firm's research and development investment spills over thereby helping its rivals to increase output. The exception to this is under conditions of perfectly competitive markets. Under these conditions, permits provide equal incentives that are similar to emissions standards and greater than those offered by performance standards.

Curtis Carlson, *et. al.*, "Sulfur dioxide control by electric utilities: What are the gains from trade, " *Journal of Political Economy,* provide an econometric analysis of estimated marginal abatement cost functions for power plants under a system of transferable sulfur dioxide emissions allowances. They find significant savings, which may reach $700-$800 million per year, compared to an "enlightened" command-and-control program characterized by a uniform emission rate standard. They find though that the flexibility to take advantage of technical changes and price falls is a more important source of cost reductions than the trading *per se*.

In looking for post-command-and-control regulatory approaches,

contracts and the processes of their negotiation receive much attention. Oren Perez, "Using private-public linkages to regulate environmental conflicts: The case of international construction contracts," *Journal of Law and Society*, argues that the contractual tradition of the *lex constructionis* (as manifested in the standard contracts that dominate the field) and its unique institutional structure, have created a culture of ecological indifference. This culture has important practical consequences because of the deep ecological problematic of international construction projects. He wants to demonstrate how the structural-cultural attributes of this legal domain gives rise to this environmental (in)sensitivity.

Perez develops an alternative contractual model, depicting the construction contract as a semi-political mechanism, rather then as a private tool, and explores the practicality of this alternative model. He wants to break the public/private separation that characterizes the contractual discourse in the international construction market, while proposing several implementing modules which could further the advance of his alternative vision. While his case study is the international construction contract regime, Perez argues that his methodology and conclusions are relevant to the regulation of many other national or international environmental dilemmas.

Yacov Tsur and Amos Zemel, "The regulation of environmental innovations," *Journal of Environmental Economics and Management*, offer a mechanism for regulating the innovation of environmental research and development. This is particularly problematic under conditions in which several candidate firms are capable of carrying out the research and development though each possesses an efficiency level that's only privately known; the accumulated effort or knowledge necessary to innovate is not known in advance by any of the parties to the process; hence, the appropriate time-frame is also unknown; yet, the need to induce the firm to operate according to the social interest (which differs, in principle, from the firm's own interest) is environmentally compelling. The authors describe

these conditions as intertemporal and indivisible, and involving high monitoring costs. The mechanism they propose consists of an auction to select the performing firm and a contract with this firm specifying the transfer the firm will receive, and a *firm time limit* for the completion of the project, decided by the innovator.

David Kelly, "Contracts between physicians and governments need to change to reform our primary care system," *Policy Options,* proposes a more rigourous stipulation of services to be provided in a reformed "billing number contract" relationship between physicians and government. He argues that the current system is quite specific with respect to the government's (or payer's) responsibilities, but too open ended on the physician's responsibilities. The reform Kelly proposes would allow government greater regulatory effect in influencing the structure of primary care provision, perhaps requiring operational association with nurses, pharmacists, etc.; limiting the location of practice, thus correcting service inadequacy for rural, inner city and some ethnic communities; and stipulating particular practice patterns, thus addressing the current inadequacy of care for the chronically ill and the elderly.

He acknowledges that such a rigourous regulatory regime would have to be complemented by explicit opted-out clauses. While he expects more physicians would use that clause under the conditions he proposes, he believes the overwhelming majority of Canadians would stay with the public system, and thus creating the incentive for most physicians to do so as well.

While endorsing what he perceives as an "almost universal consensus" on the design and operational inefficiency of U.S. environmental, health and safety regulation, William F. Pedersen, "Contracting with the regulated for better regulations," *Administrative Law Review,* says that these criticisms miss the deepest cause of regulatory malaise and overlook the best suited reform for that malaise. He argues that failures to distinguish between the *ends* a regulatory program seeks, and *means* it employs, along with the

failure to prioritize among competing ends, constitutes a major cause of regulatory dysfunction. Under these conditions it becomes nearly impossible to measure performance and identify success or failure. As a remedy, he proposes "regulatory reform contracts." These contracts would enable agencies to accept offers from the regulated to comply with a set of regulatory obligations different from the obligations defined by existing law, as long as "equal social benefits" would result.

In addition to providing a specifically tailored means to achieve a clearly focused end, such contracts would be subject to public comment and limited judicial review. Also, such contracts' dialogic character dovetails with the arguments in favour of regulatory co-management and cooperation. The negotiative dimension of Pedersen's proposed regulatory reform contracts opens up the discussion to the larger field of alternative regulatory approaches.

Clare M. Ryan, "Leadership in collaborative policy-making: An analysis of agency roles in regulating negotiations," *Policy Sciences*, considers the complex roles required of a regulatory agency in the context of collaborative regulatory negotiations. Basing herself on the study of three regulatory negotiation cases conducted by the U.S. EPA, she sets out to identify and analyze the roles a regulatory agency plays in a collaborative policy-making context such as regulatory negotiation. She finds that in these cases the EPA fulfilled the multiple roles of expert, analyst, stakeholder, facilitator and leader. Also, while the EPA interpreted its own role narrowly as that of experts, other participants to the process expected far more of the agency – particularly to act as a leader. For the collaborative process to be successful, the agency must learn how to effectively merge and wield these diverse roles, and take on a more complex leadership function.

Also on the EPA's innovations in regulatory processes, in light of its decision to expand its already pioneering use of alternative dispute resolution (ADR) processes, Rosemary O'Leary and Susan Summers

Raines, "Lessons learned from two decades of alternative dispute resolution and processes at the U.S. Environmental Protection Agency," *Public Administration Review,* conduct an evaluation of ADR use in enforcement actions at the EPA during the last two decades. They find an extremely high level of satisfaction with the historical operation of the EPA's ADR processes among their four target study groups: EPA ADR specialists; potential defendants; mediators and facilitators to EPA cases; and agency enforcement attorneys who have participated in agency ADR processes. Despite the high level of satisfaction, the authors do consider potential obstacles and suggest possible improvement of the ADR process at the EPA. They draw lessons for other public programs and organizations looking at ADR options, based on the EPA's success.

Another alternative approach is the use of public disclosure. Jérôme Foulon, *et. al*., "Incentives for pollution control: Regulation or information?" *Journal of Environmental Economics and Management,* compare the merits of traditional regulation and enforcement (fines and penalties) with those of structured information programs – public disclosure. The lack of resources necessary to undertake appropriate monitoring, and the reluctance to use stringent enforcement actions, they say, has long impeded the rigourous enforcement of environmental law, regulations and standards. This has given rise to an increasing number of regulators supplementing the traditional enforcement practices by public disclosure efforts that publicize the polluter's performance. The authors perform an empirical analysis of the comparative impact of the two strategies within the context of a single program. Their findings confirm that the public disclosure strategy does create additional and strong incentives for pollution control.

Among the other innovative approaches explored by authors in the reviewed literature is that of K.A. Armson, "Canada needs a new forestry system," *Policy Options*. Armson, Ontario's provincial forester from 1986-1989, argues for a revised regime of forest ownership in Canada. New

international competition in marketing the resource, which has historically been the country's most lucrative, and remains the largest single contributor to Canada's balance of trade, requires more aggressive cultivation practices, and more efficient management practices. He argues that the best incentive for encouraging these practices would be the establishment of new forestry management firms with expanded operational latitude and rights agreements of at least 100 years. Such firms would be required by regulation to sell the forest products on the open market. Upper levels of harvesting and specific management plans would be subject to legislated regulation.

Another innovative approach was to explore the lessons regulatory law might learn from civil law. Kenneth Jull, "Costs, the Charter and regulatory offences: The legal version of 'Who wants to be a millionaire?'," *Canadian Bar Review,* seeing a return to regulatory orientations in Canada, sets out to review the conditions under the country's legal regime for establishing fairness in regulatory practice. After a review of the restricted role of costs in criminal and quasi-criminal proceedings and the elements of modern regulatory offences that mirror civil proceedings, Jull looks at some principles for reform. Arguing that access to justice is one of the most important challenges to the legal system today, he compares civil and regulatory law.

In the civil system, access to justice has been enhanced by mediation, cost rules and class action legislation. Regulatory proceedings, which mirror civil proceedings in many respects, are lagging behind, Jull argues. He submits that the civil components inherent in proving due diligence in a regulatory trial ought to be accompanied by a modified costs rule, which would serve to level the playing field. He concludes that a justice system can only pride itself in fairness, when all can afford to enter the courtroom.

Finally, this section concludes with a review of the articles in the literature that have taken on the broader questions of prohibitionist, punitive and mandatory approaches to regulation – their merits and consequences. This has been another area subject to much dispute within the literature.

Among those who have affirmed the more traditional approach: Thomas Isaac, "The *Marshall* decision and the government's duty to regulate," *Policy Options,* insists upon Canadian governments' obligation to exercise regulatory leadership in areas affecting the delicate matter of aboriginal treaty rights.

He argues that recent Supreme Court of Canada decisions, such as *Marshall* and *Gladstone* (both 1996) go beyond the former standard of *Sparrow* (1990), calling for government to take the initiative in establishing regulatory policy in such areas. The difficulty of balancing the competing imperatives has left many governments erring either on one side or the other, or simply avoiding responsibility. Issac argues, though, that in the interest of all concerned – aboriginals, non-aboriginals and the resources in question – governments have a duty to confront these issues, and establish appropriate regulation. Governments need to re-tool their existing regulatory regime to reduce exposure to judicial overturning of existing laws and rules, while maintaining their social responsibility to govern in the public interest.

In a similar vein, but even more stridently positioned, Steve Tombs, "Understanding regulation? A review essay," *Social and Legal Studies,* takes issue with the trend toward more cooperative and dialogic approaches to regulation emphasizing co-management, interpretative communities and negotiated contracts. He regards such approaches as being naïve about the existence, and implications, of power inequality between the parties to such processes. Rather, he argues that all talk of regulatory compliance obscures the key issue: corporate crime is real crime. The best regulation is therefore to treat such crime as real crime from both a policing and judicial perspective. He examines the promise of such an approach as it has been adopted and applied in Finland.

On the other side of the ledger, Benedikt Fischer, *et. al.* "Cannabis use in Canada: Policy options for control," *Policy Options,* consider options for regulating cannabis use that deter its use and harmful effects while not

imposing new harms in the social costs and individual consequences of criminal enforcement practices. Such enforcement practices have entailed considerable social and individual costs with little demonstrable deterrent impact or other benefits. They point to the positive experiences of jurisdictions employing less punitive approaches to cannabis possession in advocating the abandoning of jail terms and the minimizing of criminal records for apprehended offenders. They propose instead consideration to including cannabis possession as a civil offense under the federal *Contraventions Act.*

Also, a couple of articles addressing the human reproductive regulatory regime in Canada take issue with the federal government's prohibitionist approaches. Timothy Caulfield, *et. al.* "Regulating NRGTs: Is criminalization the solution for Canada?" *Health Law in Canada*, critically review the Canadian federal government's Bill C-47, of June 13, 1996, that addressed new reproductive and genetic technologies. They find that the Bill provides neither a narrowly focused criminal legislation nor a national policy statement. The latter, they believe, is called for, and the Bill will become a *de facto* statement, but hasn't been conceived with the rigour and clarity necessary to fulfill that purpose. They conclude with concern that a broader, more diverse, regulatory approach was forsaken in the interest of an extreme criminal approach.

Similarly, Melody Chen, "Wombs for rent: An examination of prohibitory and regulatory approaches to governing preconception arrangements," *Health Law in Canada*, critically examines the federal government's Bill C-13, on assisted human reproduction, which prohibits commercial surrogacy or preconception agreements under threat of criminal sanction. Comparing C-13 to the Ontario Law Reform Commission's alternative regulatory approach proposal, Chen concludes that the regulatory approach is more effective than prohibition in governing commercial and non-commercial surrogacy arrangements. Regulation minimizes the potentially exploitative aspects of surrogacy and provides

legal protection to both parties. The child born of such arrangements is also best served and protected by regulation.

A number of authors addressing this complex of issues arrived at more mixed conclusions on the relative merits of such approaches. Celeste Murphy-Greene and Leslie A. Leip, "Assessing the effectiveness of Executive Order 12898: Environmental justice for all," *Public Administration Review,* examine the implementation, promotion and enforcement of a law intended to protect farm workers in Florida from pesticide exposure. They conclude that the law has not been effective in achieving its objectives, and provide recommendations on how it might better achieve those objectives.

A.C.L. Davies, "Mixed signals: Using educational and punitive approaches to regulate the medical profession," *Public Law,* examines the tensions in a system of medical profession regulation that combines punitive and education approaches. Ideally, the former approach would punish incompetent physicians for their mistakes, while helping to improve the performance of competent physicians with benefit of their having reported their mistakes. The key dilemma is how to encourage the latter to report their potentially educational mistakes, if the reporting of mistakes might open them to punishment. Or, as the author puts it somewhat mischievously, how to avoid confusing the mistakes of the competent with those of the incompetent.

Davies argues that the two approaches can be mixed into a successful model if four principles are adhered to: First, the overall flavour of the regulatory regime should be educational. Second, punishable errors must be clearly defined. Third, the two approaches should be applied by separate agencies. Fourth, the system must be rigourous, effective and consistent so that reporters can understand and rely upon it.

In response to a Canadian federal government proposal to increase penalties for those driving while impaired, Anindya Sen, "Do stricter penalties deter drinking and driving? An empirical investigation of

Canadian impaired driving laws," *Canadian Journal of Economic*, studies the impact of deterrence-intended stricter penalties on the level of Canadian impaired driver deaths. There has in fact been little empirical Canadian research to support such a correlation, and the author's findings further undermine what might seem an intuitive truism. Looking at the period 1976 to 1992, on average, penalties for impaired driving have had limited impact on impaired driving fatalities. However, trends in impaired driving deaths are significantly correlated with the enactment of mandatory seatbelt legislation. This suggests that a greater focus on enhancing vehicle safety may be a more productive focus for government initiatives to reduce impaired driving fatalities, though it hardly endorses mandatory or punitive approaches in general.

7. Costs of Regulation

A handful of articles in the reviewed literature address at different levels, in different contexts, the costs of regulation. The impact on trade, capital stock, productivity and demography were among the issues addressed. Paavo Eiste and Per G. Fredriksson, "Environmental regulations, transfers, and trade: Theory and evidence," *Journal of Environmental Economics and Management,* respond to the findings of recent decades that have seemed to contradict conventional economic theory regarding the relationship between environmental regulation and trade. In contrast to the conventional view that such regulations should adversely affect trade, over the years researchers have found only modest effects at work. And, in one instance (A.B. Jaffe, *et. al.*, "Environmental regulation and the competitiveness of U.S. manufacturing," *Journal of Economic Literature,* 33, 1995, pp. 132-163) the evidence suggested a *positive* impact of more stringent regulation on trade, causing a rise in exports.

The authors seek to explain this counter-intuitive result. They do so by arguing that important aspects of the problem have been neglected. They

point specifically to the effects of compensation received by firms for environmental protection associated costs that offset the effects and costs of regulation.

Michael Greenstone, "The impacts of environmental regulations on industrial activity: Evidence from the 1970 and 1977 Clean Air Act Amendments and the Census of Manufactures," *Journal of Political Economy,* compares the consequences to counties in the U.S. that did or did not attain the required measures for pollution control under the 1970 and 1977 Clean Air Act Amendments. The non-attainment counties were subject to greater regulatory oversight. The consequences of non-attainment, according to Greenstone, during the first fifteen years of the Act was a loss in those counties of approximately 590,000 jobs, $37 billion in capital stock, and $75 billion (1987 dollars) of output in pollution-intensive industries.

Tony Jackson, "The employment and productivity effects of environmental taxation: Additional dividends or added distractions," *Journal of Environmental Planning and Management,* argues that claims of employment and productivity gains from environmental taxation cannot be conclusively established. Nevertheless, he states, the resulting data has clarified guidelines for designing and implementing specific environmentally based taxes. He looks specifically at the development and application of such economic instruments of environmental regulation in the UK context.

G. Cornelis van Kooten and Sen Wang, "Estimating economic costs of nature protection: British Columbia's forest regulations," *Canadian Public Policy,* want to rectify what they see as a serious lacuna in public policy analysis. Regulations to protect nature in British Columbia, they state, have been implemented with minimal economic analysis of their cost-benefit impact. The authors undertake such a cost-benefit analysis, comparing the cost of B.C.'s Forest Practices Code with the benefits of recreational and annual non-use or preservation values. They argue that estimated costs of

B.C.'s Forest Practices Code significantly exceed the Code's social and environmental benefits. This is a matter of some considerable concern, they suggest, for the province of British Columbia, which owns some 95 per cent of the total B.C. forestlands, and for whom stumpage fees are a major source of income. They do qualify their findings with the observation that quality data on these matters is difficult to obtain.

Randy Becker and Vernon Henderson, "Effects of air quality regulations on polluting industries," *Journal of Political Economy*, argue that the unintended effects of air quality regulation in the U.S. include reduction of births for polluting industries in non-attainment areas by 26-45 per cent, according to data covering 1963-92. Industries and sectors with bigger plants are affected the most. This effect shifts industrial structure toward less regulated single plant firms. While pre-regulation, larger, firms benefit from grandfathering, both grandfathering and small-scale new plants, they contend, undermine the objectives of the air quality regulation.

With a slightly different take on "costs" of regulation, Brian Byrnes, *et. al.* "Contingent valuation and real economic commitments: Evidence from utility green pricing programmes," *Journal of Environmental Planning and Management*, examine the "contingent valuation method." This method estimates resource values by asking people to report their maximum willingness to pay to have a particular good or amenity provided, or to avoid injury. In the particular context of two "green pricing" studies conducted to evaluate public support of utilities' investments in renewable energy technologies, they find that while the method can accurately indicate willingness to pay, it is an unreliable predictor of who actually will pay. This finding, they argue, has important implications for aggregating mean "willingness to pay" estimates of the value of environmental benefits.

8. Regulatory Disputes

In efforts to minimize social, political and economic costs of regulation, governments enter into disputation processes. A few articles in the review address such disputes. These articles are not only concerned with disputes over regulation, but often also disputes that entail regulation, its enforcement bodies and instruments, as either the terrain or weapon of conflict. Interestingly, all three articles in this section are particular to the Canadian context.

Marc Benitah, "Canadian softwood lumber: What is the significance of the recent Canadian victory before the WTO," Policy Options, reviews the July 26, 2002, WTO ruling in favour of Canada in its dispute with the U.S. about whether or not Canadian stumpage rates constituted a benefit conferred under the auspices of the WTO Subsidies Agreement. Benitah explains that the Canadian-favouring ruling was based on a serious methodological error in the presentation of the U.S. case against Canada. They based their comparison of public stumpage fees in Canada to private fees charged in the U.S., despite the Agreements requirement that price comparisons be determined by market conditions in the country of provision or purchase. This ruling did not find an absence of a government financial contribution. Thus, while the author believes a bilateral agreement between the two countries is probable, a new petition to the WTO, correcting the faulty methodology, is still possible.

Jeff Colgan, "Green or greedy? Canada's Kyoto credits," *Policy Options,* challenges Canada's argument for carbon credits under the Kyoto Protocol. He says that Canada's position against raising the price of its natural gas exports to reflect environmental cost of greenhouse gas emissions is unreasonable. Although, he acknowledges a certain sense in the Canadian case that increases in export costs could push American consumers to replace Canadian natural gas with more damaging substitutes, Colgan provides an economic analysis to show that the levels of credits requested are uncalled for. Those levels of credits are way out of line with the degree of potential impact on levels of greenhouse gas emission

increases that would be reasonably expected.

Julie A. Soloway, "Environmental regulation as expropriation: The case of NAFTA's Chapter 11," *The Canadian Business Law Journal*, argues that disputes over the trade restricting use of environmental regulation under the NAFTA agreement have not been adequately dealt with. A key explanation for this inadequacy has been the tendency for firms to challenge such regulation directly under the Chapter 11 expropriation provisions of the agreement, rather than by Chapter 20, which was intended for this purpose. There have been specific problems in the applications and implications of Chapter 20 that have led to this situation.

However, Soloway argues, the investor-state dispute settlement mechanism of Chapter 11 does not have the requisite capacity in terms of its rules of legal process and substance to deal adequately with issues of broad public concern such as the environment. She examines the conditions that have created this situation, and proposes some solutions. Questions over the correct use of regulation provides a segue into the concluding sections of this review.

9. Scientific Contributions

This bibliographic essay concludes with a look at the literature on two contested sources of legitimacy and opinion in the regulatory process: scientific expertise and public participation. Often these two constituencies are seen as irreconcilable in their orientations and assumptions. The public, in such a view, represents political passions; the scientists represent dispassionate empirical evidence. The scientists are needed for objective validity, but the public is needed for democratic legitimacy. As the articles reviewed suggest, though, neither this irreconcilability, nor the terms in which it is depicted, are necessarily so straightforward.

This complex of problems begins to be addressed in Lynn Frewer and Brian Salter, "Public attitudes, scientific advice and the politics of

regulatory policy: The case of BSE," *Science and Public Policy.* These authors use the 1996 UK BSE crisis as a vehicle for examining the political problem that rises in the interface of scientific advice, policy formation and communication of risk with the wider public. This crisis points to the larger, more general, problem of the political implications for the relationship between expert bodies and regulatory practice.

The authors argue that to regain public trust, expert scientific advice must be evaluated against criteria such as the quality of the advice and the effectiveness of communications. This latter point calls for recommendations on best practices for public consultation. Also, such consultation, and scientific advice, should be explicitly assessed for their impact on policy development. The authors claim that such practices are necessary to guard against scientific opinion lapsing into a style and culture of positivistic science when faced with complex problems.

Finally, they conclude, to the extent that government and its expert advisors misperceive public acceptance of risk, regulatory actions designed for public trust are bound to be flawed. The decline of scientific authority in society, the rise of citizen activism and the emergence of loosely coordinated public opinion prepared to use its consumer discretionary power, have all contributed to the redefinition of a once simpler, more straightforward relationship.

Frewer and Salter's article is part of an extensive discussion of these issues that has been conducted over the years in the pages of the journal *Science and Public Policy.* For instance, G. Bruce Doern and Ted Reed, "Science and scientists in regulatory governance: A mezzo-level framework for analysis," *Science and Public Policy,* argue that most approaches to the role of science in regulatory governance focus on macro and micro levels of analysis, which overlooks what they call the mezzo-level framework. They go on to provide such a framework. Their proposed mezzo-level framework centres on five processes: regulation-making and standard setting; product approval; overall compliance; post-market monitoring; and management of

the science base. Such an orientation to specific practices, they argue, is necessary to get a workable grasp on the actual role of science and scientists in regulatory governance.

Louise Wells Bedsworth and William E. Kastenberg, "Science and uncertainty in environmental regulation: Insights from the evaluation of California's Smog Check program," *Science and Public Policy,* address the difficult matter of scientific uncertainty. They analyze the evaluation of an environmental regulatory program – California's motor vehicle inspection and maintenance program – to grasp the interaction of science and policy. In light of recent calls for decision-making frameworks that emphasize holistic approaches – incorporating technical and non-technical expertise, and broad-based participation of affected parties – the authors' analysis demonstrates the influence of institutional goals and commitments in the use of science, facing uncertainty, in the regulatory process. They argue that understanding the science-uncertainty interface provides a strong conceptual and analytic foundation for the evaluation of environmental decision-making.

Also addressing this matter is Andrew B. Whitford, "Threats, institutions and reg….????." Can regulators respond to threats marked by both potentially high costs and fundamental uncertainty? Standard guidelines such as maximizing expected value to the society over a period of time may be ineffective; yet, state action is often the most demanded for such situations. The author argues that the precautionary principle of reserved rationality helps explain the ability of regulators to choose appropriate actions under conditions of such uncertainty.

Another concern around the role of scientific expertise in regulation is the question of apparently value-neutral concepts and language, and their broader regulatory and social implications. Katherine Barrett and Elizabeth Abergel, "Breeding familiarity: Environmental risk assessment for genetically engineered crops in Canada," *Science and Public Policy,* analyze the concepts of "familiarity" and "substantial equivalence" and

their current application in Canadian regulation of genetically engineered crops. They conclude that the practical implication of these concepts is toward the de-regulation of such crops, promoting genetic crop engineering, and biotechnology generally, as an innovative and competitive technology. This though they conclude downplays environmental hazards.

Les Levidow and Claire Marris, "Science and governance in Europe: Lessons from the case of agricultural biotechnology," *Science and Public Policy,* also address the question of how allegedly value-neutral science can conceal particular social and political agendas in the regulatory process. They also look at the related need to reconsider the role of scientific expertise in regulatory decision-making. The authors argue that the tendency to try and resolve this legitimacy crisis by grafting a "rhetoric of openness" onto the prevailing models will not suffice. Using the case of agricultural biotechnology, they conclude that a more fundamental institutional change in the promotion of innovation and regulation of risk will be required.

Angela C. Halfacre, *et. al.* "Regulating contested local hazards: Is constructive dialogue possible among participants in community risk management?" *Policy Studies Journal,* use focus group generated data to explore issues of miscommunication and distrust between local populations, experts and regulators. They are particularly concerned with how these matters pertain to issues of scientific uncertainty and environmental risk. They take the clean-up of U.S. nuclear weapons facilities as their case study. The authors conclude that, despite communication and perception problems, there are grounds for optimism on expanding public participation in this kind of regulatory policy-making process.

10. Populist Considerations

As has been seen throughout this review, questions about the public's

role in defining regulatory regimes have been raised time and again. One could easily prepare a bibliographic essay exclusively exploring the literature on the prospects for public participation at both the policy-making and regulatory-operation levels. In light of the potentially dubious consequences for democratic control under the conditions of the decentred governance characteristic of the regulatory state, such concerns can be well understood.

Space considerations only allow a brief sampling of some of the more salient issues raised under this theme. An instructive point of departure is Debora L. VanNijnatten, "Participation and environmental policy in Canada and the United States: Trends over time," *Policy Studies Journal*, which suggests that Canada has always lagged behind the U.S. in terms of public participation in environmental policy-making. While Canada did begin to address this situation in the late 80s and early 90s, opening up new participatory opportunities, in the late 90s the situation reverted back to the earlier relation with Canada once more lagging well behind. These diminished opportunities were found to be occasioned by a scaling back of the environmental regulatory framework in Canada generally.

The author argues that these divergences can be significantly attributed to the differences in the two countries' institutional structures. The high concentration of power under the Canadian system, she explains, has allowed the federal and some provincial governments to pursue rapid and decisive rollback of environmental regulation, and related industrial regulation. The multiple power centres in the U.S. though have created significant obstacles to much of this rollback, and deregulatory agenda.

Another interesting analysis, from an article already examined in some depth here, is the Salters' critique of what they call "stakeholderization." Liora Salter and Rick Salter, "The new infrastructure," *Studies in Political Economy*, in the context of discussing the erosion of the conventional regulatory perception of distinct public-private roles under the new regulatory state, address this phenomenon. Stakeholderization, they argue,

is the consequence of segmenting public participation in the new regulation into a series of stakeholder consultations and mediation processes. This tendency biases a regard for public input as fitting into one or another interest group agenda, clouding the ability to recognize or understand any overarching public interest.

This critique raises the question of government's framing of public participation and democratization of regulatory governance. Much is written about the need and opportunity for public input, but there is much less written on how such participation might be effectively and meaningfully achieved. So this essay concludes with a brief overview of the contributions of the most sophisticated scholar of these matters uncovered by the literature review. Julia Black's work attempts to get at the core of public participation – not as an appendix to already established processes, but as an element in the discursive construction of regulative frameworks and operations. In Julia Black, "Regulatory conversations," *Journal of Law and Society,* she explores this under theorized area of regulatory scholarship with the application of discourse analysis. Regulation, she contends, is in large part a communicative process. Furthermore, social action is based in discourse: it builds objects, worlds, minds, identities, and social relations, not just reflects them.

In applying this analysis she makes five contentions: 1) the meaning of language is in its use, therefore contextual; 2) communication produces identities which thereby form the basis of social action; 3) language frames thought and re/produces knowledge; 4) language has power in its functions of framing and encoding perspectives, opinions and judgements; and 5) the specific content of the above four processes is always open to contestation, thus never fixed (much as it may sometimes appear to be) and always is open to change.

These contentions apply to regulatory conversations in several ways. One: regulation – in the common circumstance in which regulation relies on written norms, and entails discretion – requires interpretation. No amount of

good intention to achieve transparency of meaning eludes the requirement to interpret utterances coming from the past, purporting to govern the future. Two: Where regulation confronts uncertainty, for instance in the regulation of risk, meaning and significance must be interpreted out of complex and shifting definitions of regulatory need. Three: "proceduralization" (a term we will return to briefly) and "co-regulation," constitute regulatory conversations that generate meaning and need to be decoded to be understood. Likewise, four: any consultative or consensual regulatory process entails conduct susceptible to discourse analysis.

As the making of meaning, identity and significance out of regulatory practice relies on these conversational gestures and efforts, the analysis of such discourse enables "regulationists" and regulators to understand regulatory processes and regimes: How they're formed, understood and contested, as well as the strategies used to form or contest those understandings. It is then Black's concrete evaluation of the conditions for effective exercise of such regulatory conversations with which this essay concludes.

Julia Black, "Proceduralizing regulation," *Oxford Journal of Legal Studies,* is a two-part essay in which she explores what is involved in the much-vaunted promotion of democratic participation as the remedy to a range of regulatory challenges. She uses the term "proceduralization" to identify these developments. In the first part of the essay she contrasts what she calls "thin" and "thick" proceduralization, which she characterizes as "liberal" and "deliberative" democratic models, respectively. Black uses a critical appropriation of the much-celebrated work of Jurgen Habermas to lay the foundation of her position, though she finds Habermas' approach to be ultimately inadequate.

In the more practical second part of the essay, she explores the extensions of Habermas necessary to develop a thick, deliberative proceduralization. Central to Black's analysis here is the necessity of "mediation" to successful public participation in and democratization of

regulation. Her use of the term mediation is more complex than its colloquial use. Implied for her in this term is "translation," mapping and resolving discourse, and the adoption of a relevant dispute resolution strategy. Key though is her emphasis on "translation," and the major obstacles to regulators carrying out this vitally important mediative task.

Different groups participating in the regulatory process – members of local neighbourhoods, expert advisors, business owners or managers, public administrators, *etc*. – are likely to speak different languages, in cultural terms. They have incompatible worldviews. Even a presumption to fall back on "rational discourse" occludes the way that such a language implicitly excludes other kinds of equally legitimate expression. In a very real sense, she argues, ecologists and economists, accountants and artists, scientists and ethicists, speak different languages. Therefore, a genuine and effective, what she calls "thick," proceduralization requires translation between these languages. One option for achieving this translation is for the public administration/regulator to play this role, as we saw with the EPA's negotiation and ADR initiatives discussed above.

However, Black warns, if the administration/regulator that has the final say in any conversation must also mediate, it all too easily becomes an arbitrator – and a biased one at that (since it has its own language and worldview) – and consequently contributes to the reestablishment of the very hierarchies that public deliberation was intended to remove. This problem is further complicated with the thorny issue of the regulator's responsibility. Mediation requires a solution that serves the interests of the parties participating in the process. Whereas the regulator is supposed to serve the state's articulation of the public interest. How are these differences to be bridged when the regulator mediates? These are complex and difficult problems.

While Black emphasizes that there is no substitute for a vigorous civil society, and acknowledging the very real various dangers of cooptation and distortion, she permits it may be possible and necessary for the state,

through its regulatory agents, to open up the public space of deliberative fora that would allow for the mediation of such conflicting languages and cultures. An salutary example, she cites, as a successful effort of this sort was the Alaskan Native Review Commission of 1983 in Canada, headed by Justice Thomas Berger. In her estimation, that inquiry provided an effective forum for conflict resolution within the field of its purview and helped constitute the Inuit as a political community.

So, while it must be approached with caution, and awareness of the inherent dangers and obstacles, Black proposes that regulators can and maybe should institute such processes and fora – acknowledging that some regulators or levels of government will be better equipped than others to play this role. It is no panacea, but such proceduralization practices might be a necessary, if halting, step in the right direction.

Finally, Black concludes with a warning that echoes through much of the literature reviewed in this essay: "although proceduralization [public participation and democratic process] may seem an attractive cure for modernity's ills, it cannot be yet freely or unproblematically prescribed."