
The Precautionary Principle in International Law: Lessons from Fuller's Internal Morality

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In contrast to the assimilative capacity approach, the precautionary principle in international law points to the limitations of the scientific understanding of complex phenomena. Under this principle, possible uncertainty about a cause-effect linkage between an activity and harm must not be a reason to postpone taking measures to protect the environment when risks of harm exist. The point at which the risks become unacceptable and whether the minimization of these risks is justified from an economic and social standpoint become questions of policy.

The authors analyze the precautionary principle through the lens of Lon Fuller's concept of the internal morality of law and suggest that even though some decisions made under the precautionary principle may offend law's internal morality, the principle cannot be said to be in conflict with it. Nothing inherent in the principle, or the decision-making processes under it, offends any of Fuller's eight precepts of internal morality—provided that decision makers carefully balance relevant considerations. By way of example, the article then demonstrates the central role that the precautionary principle played in the European Union's decision to ban the imports of hormone-treated beef.

The authors conclude that the benefits and pitfalls of the precautionary principle can only be seen by analyzing specific processes through which political choices are made under the principle, rather than by looking at the principle in the abstract.

Par opposition à l'approche dite de «capacité assimilative», le principe de précaution en droit international révèle les limites d'une compréhension scientifique de phénomènes complexes. D'après ce principe, la possible incertitude quant à l'existence d'un lien de causalité entre une activité et un préjudice ne saurait justifier le report de mesures de protection de l'environnement lorsque existent des risques de préjudice. Savoir à quel point ces risques deviennent inacceptables et dans quelle mesure la réduction de ces risques est justifiée d'un point de vue économique et social deviennent alors des questions de politique publique.

Les auteurs analysent le principe de précaution sous l'angle du concept de «moralité interne du droit» développé par Lon Fuller. Ils suggèrent que même si certaines décisions prises sous le principe de précaution peuvent contrevenir à la moralité interne du droit, le principe lui-même ne lui est pas opposé. Rien d'inherent au principe ou aux méthodes de prise de décision développées sous son autorité n'enfreint l'un des huit préceptes de la moralité interne du droit édictés par Fuller — dans la mesure où les décideurs soupèsent avec soin les facteurs pertinents. À titre d'exemple, l'article examine le rôle central du principe de précaution dans la décision de l'Union Européenne de bannir les importations de viande de bœuf traité aux hormones.

En conclusion, les auteurs affirment que les bénéfices et inconvénients du principe de précaution ne sauraient être considérés que dans le contexte d'une analyse des processus particuliers où des choix politiques sont faits sous son égide, plutôt qu'au terme d'un examen abstrait.

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Introduction

The precautionary principle, conceived of as an approach to decision-making regarding toxic or hazardous chemicals in conditions of uncertainty about the impact of these substances once released into the environment,¹ has itself become a source of a good deal of uncertainty. Debates are continuing about its status in various legal systems; its meaning, both in general and in particular contexts; and its implications for commerce, industry, trade, health, agriculture, and—with only slight exaggeration—virtually every area of human endeavour.²

Like all good and useful principles that are pitched at a high level of generality—some others include reasonableness, good faith, best interests of the child, and state sovereignty—the precautionary principle has its benefits and pitfalls, but these cannot readily be understood in the abstract. The principle's capacity both for good and evil can become truly apparent only when it is invoked, discussed, criticized, and—in some form or another—applied or avoided in a particular context. Furthermore, contributions of the principle to the resolution of disputes and problems depend much more on the processes in which it is taken up than on its inherent features.

In what follows, we seek to contribute to the ongoing debates by addressing precaution as a principle of international environmental law and by generalizing about the ways in which it is deployed. We will present a critique and defence of the principle, with the aid of Lon Fuller's conception of the internal morality of law. Fuller's approach helps us to understand better how the principle can be invoked in a manner that promotes environmental and human health goals while at the same time respecting the integrity of the legal system. We will then conclude with a discussion of the implications of the principle for process in international law.

¹ For discussions of the origins and evolution of the precautionary principle in international law, see John M. Macdonald, "Appreciating the Precautionary Principle as an Ethical Evolution in Ocean Management" (1995) 26 *Ocean Devel. & Int'l L.* 255; Owen McIntyre & Thomas Mosedale, "The Precautionary principle as a Norm of Customary International Law" (1997) 9 *J. Envtl. L.* 221; David Freestone, "The Precautionary Principle" in Robin Churchill & David Freestone, eds., *International Law and Global Climate Change* (London: Graham & Trotman, 1991); David Freestone & Ellen Hey, "Origins and Development of the Precautionary Principle" in David Freestone & Ellen Hey, eds., *The Precautionary Principle and International Law: The Challenge of Implementation* (Cambridge: Kluwer Law International, 1996) 3.

² The principle has been described in the European context as having general application. See Laurence Boy *et al.*, "Analyse de la Communication de la Commission européenne de février 2000 au regard des débats actuels sur le principe de précaution" (2001) *R.I.D.E.* 127 at 130; EC, *Communication from the Commission on the Precautionary Principle* (Brussels: EC, 2000) [EC, *Communication on the Precautionary Principle*].

I. The Precautionary Principle: An Attempt at Definition and Description

We shall begin with a brief account of what the principle does *not* do. It does not tell decision-makers or individual actors what to do or when; it does not reverse the burden of proof, requiring the proponents of a particular activity to prove that it is free of risks; and it does not place environmental concerns ahead of social and economic ones. What it does do is propose a course of action to be followed in instances where the impact of a given substance or activity on human health or the environment gives rise to questions or concerns, but where the cause-effect linkage between the substance or activity and harm cannot be identified with certainty. Belief in the existence of a possible cause-effect linkage may be based on theoretical knowledge—for example, on scientific knowledge of the properties of the substance in question or substances with similar qualities. It may also be based on a limited data set that gives rise to suspicions and questions but no firm conclusions. Or it may be the result of the limitations of scientific understanding of complex phenomena and interrelationships.

There is no single accepted definition of the precautionary principle. The version found at Principle 15 of the *Rio Declaration* is the best known. It states:

In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.³

This version contains two elements that are not ubiquitous features of definitions of precaution and that are controversial: the reference to serious or irreversible damage as a trigger for application of precaution and the reference to the cost-effectiveness of measures taken pursuant to the principle. The common elements of various expressions of the principle—a baseline version—might be captured as follows:

Where threats of harm to the environment exist, scientific uncertainty will not be used as a reason to postpone the taking of measures for the protection of human life or health or the environment.

The use of negative terms⁴ implies that the principle does not give rise to an obligation to take environmental protection measures.

The best way to appreciate the role played by the precautionary principle is to consider it alongside another, competing paradigm—the assimilative capacity approach. This approach is based on the assumptions that environmental media have a

³ *United Nations Conference on Environment and Development: Rio Declaration on Environment and Development*, 14 June 1992, 31 I.L.M. 874.

⁴ Christopher Stone counts three negatives in the precautionary principle: scientific *uncertainty* does *not* mean that measures will *not* be taken: "Is there a Precautionary Principle?" (2001) 31 *Envtl. L. Rep.* 10790.

certain capacity to assimilate pollutants and that science is capable of identifying the limits of this capacity with some precision.⁵ As a result, the burden of justifying environmental protection measures is placed on proponents of such measures, who must demonstrate that assimilative capacity has been or is about to be exceeded. A further underlying assumption is that social goods other than environmental protection, such as resource exploitation and economic development, are to be given priority unless a clear threat to environmental integrity is established. Furthermore, environmental protection is not regarded as being an end in itself, but rather a means to protect human interests in environmental and natural resources.⁶

The precautionary principle, by contrast, points to the modest extent of scientific understanding of the nature and function of ecosystems and of the effects of human activities upon them. It suggests that the burden of uncertainty should not necessarily fall on the environment or on human populations, but rather that in some cases the imposition of costs in order to reduce the risk of environmental harm may be justified.

One of the most important contributions of the precautionary principle is that it implies a new division of labour between scientists and political decision-makers.⁷ Whereas under the assimilative capacity approach decision-makers defer to science, awaiting proof of causal links between activities and harm before placing restrictions on the activities, the precautionary principle acknowledges that the identification of the threshold at which action becomes necessary is a matter of policy, informed by science.⁸

Scientific assessment permits the identification of risks of environmental damage posed by human activities and the assessment of the nature and level of these risks. Scientists may have certain information about, for example, the impact of a given level of exploitation on a fisheries resource, but can say little about the extent to which a given society is willing to run the risk of overexploitation in exchange for benefits such as the survival of an industry, provision of food, or perhaps the maintenance of certain coastal communities. Even less can scientists explain how the costs of reduced fishing quotas should be distributed among states, participants in fishing-related industry, or communities. Thus, the questions of at what point do risks

⁵ See Warwick Gullett, "Environmental Protection and the 'Precautionary Principle': A Response to Scientific Uncertainty in Environmental Management" (1997) 14 *Envtl. & Plan. L.J.* 52 at 56; Ellen Hey, "Hard Law, Soft Law, Emerging International Environmental Law and the Ocean Disposal Options for Radioactive Waste" (1993) 40 *Nethl. Int'l L. Rev.* 405 at 441; Ellen Hey, "The Precautionary Concept in Environmental Policy and Law: Institutionalizing Caution" (2002) 4 *Geo. Int'l Env'tl. L. Rev.* 303 at 305 [Hey, "Precautionary Concept"]; John S. Gray, "Integrating Precautionary Scientific Methods into Decision-Making" in Freestone & Hey, *supra* note 1 at 133.

⁶ Ellen Hey, "The Protection of Marine Ecosystems, Science, Technology and International Law" (1997) *Hague Y.B. Int'l L.* 69 at 70-72.

⁷ See Boy, *supra* note 2 at 150; Hey, "Precautionary Concept", *supra* note 5 at 307.

⁸ See Konrad von Moltke, "The Relationship Between Policy, Science, Technology, Economics and Law in the Implementation of the Precautionary Principle" in Freestone & Hey, *supra* note 1 at 97; Hey, "Precautionary Concept", *ibid.*

become unacceptable and at what point does the minimization of risks impose excessive social and economic costs, are political matters that involve the establishment of priorities among various values and interests and the assessment of the consequences of various courses of action on interested actors.⁹

Decisions about environmental measures, like all political decisions, impose costs, risks, and benefits. Decisions about environmental measures in the face of uncertainty regarding cause-effect linkages are even more complex, and require reflection on values, priorities, possible options, and approaches to dealing with the undesirable outcomes of various policy options. Democratic principles suggest that such decisions should be made in light of input of those likely to be affected. Thus, decision-making processes that respect the precautionary principle must be accessible to members of the public who bear the risks and costs in question.

II. Lon Fuller's Internal Morality of Law and the Precautionary Principle

Many of the objections that are raised regarding the precautionary principle reflect certain assumptions about the role of principles and legal norms. Much of the criticism levelled at the precautionary principle seems to flow from a belief that legal norms must contain a precise definition of the circumstances in which they will apply and must give precise instructions to their addressees. If the norm leaves too much decision-making responsibility in the hands of authorities, it is suggested, there is a risk of confusion and of arbitrariness. The precautionary principle is extremely frustrating when looked at in this light because the only instruction that it contains is not to use uncertainty as an excuse for postponing environmental or health and safety measures. It does not tell addressees what to do with the uncertainty that they inevitably encounter.

The decision-making processes that take place when uncertainty is present are central to the precautionary principle. In order to understand how this principle operates, one must look at the process through which the principle is interpreted and applied. The precautionary principle is not alone among legal norms in raising problems of interpretation and application, and the manner in which it addresses these problems in light of what one believes the principle is meant to accomplish is key to understanding the principle itself. We have chosen to discuss the precautionary principle through the lens of Lon Fuller's conception of the morality of law because

⁹ See David S. Favre, "The Risk of Extinction: A Risk Analysis of the Endangered Species Act as Compared to CITES" (1998) 6 N.Y.U. Envtl. L.J. 341; Holly Doremus, "Listing Decisions Under the Endangered Species Act: Why Better Science Isn't Always Better Policy" (1997) 75 Wash. U. L.Q. 1029; Hey, "Precautionary Concept", *ibid.* at 309-10. This point is recognized explicitly in EC, *Communication on the Precautionary Principle*, *supra* note 2 at para. 5.2.1: "The appropriate response in a given situation is thus the result of an eminently political decision, a function of the risk level that is 'acceptable' to the society on which the risk is imposed."

of the light that Fuller's approach sheds on the way in which legal rules and principles are taken up and used by those most closely associated with them, namely their addressees.

Fuller's approach is based on what Gerald Postema refers to as an "interaction thesis", which draws attention to the implication of individual actors in legal systems.¹⁰ This is reflected in Fuller's definition of law as "the enterprise of subjecting human conduct to the governance of rules,"¹¹ an enterprise in which the law's addressees—not only legal officers but also the individuals who are expected to take the law into account in their day-to-day affairs—participate. Fuller focuses on what he regards as a long-neglected aspect of the law, namely its internal morality, with attention to procedural rather than substantive issues. This attention to procedure reflects a concern "with the ways in which a system of rules for governing human conduct must be constructed and administered if it is to be efficacious and at the same time remain what it purports to be."¹² A good legal system will not necessarily be one that issues good instructions to its addressees. It will be a system that does not make unreasonable or impossible demands on its addressees, such as to respect contradictory rules, or to follow rules that are not published or whose content is unclear.

The type of legal system that Fuller envisages is, however, demanding of its addressees in other ways: it requires them to participate in the project of the law, interpret, make decisions, and seek to resolve difficulties. It is a legal system into which law's addressees insert themselves and in which they participate as subjects, rather than a system that imposes itself on actors as objects.¹³ He is interested in the "human element" of a legal system, arguing that "the successful functioning of a legal system depends upon repeated acts of human judgment at every level of the system."¹⁴ Fuller's attention to the processes that occur when actors seek to interpret and apply rules makes his approach particularly useful for examining the precautionary principle, which is often accused of violating one or several of Fuller's features of the internal morality of law.

The impact of the precautionary principle, measured in terms of the number of references to it in international and municipal law and policy, is nothing short of astonishing. The formerly ubiquitous question of whether the principle represents a binding norm of international law—whether the principle is authoritative—has not

¹⁰ Gerald J. Postema, "Implicit Law" in Willem J. Witteveen and Wibren van der Burg, eds., *Rediscovering Fuller: Essays on Implicit Law and Institutional Design* (Amsterdam: Amsterdam University Press, 1999) 255 at 255, 260.

¹¹ Lon L. Fuller, *The Morality of Law*, rev. ed. (New Haven: Yale University Press, 1969) at 96 [Fuller, *Morality*].

¹² *Ibid.* at 97.

¹³ See e.g. Fuller's discussion of the common law in Lon L. Fuller, *Anatomy of the Law* (New York: Frederick A. Praeger, 1968) at 84ff. [Fuller, *Anatomy*].

¹⁴ *Ibid.* at 39.

been definitively settled, but has been supplemented by a range of other questions, which constitute the focus of this paper. Questions regarding the effectiveness of the principle have come to occupy centre stage. Does the principle have any impact on actors' behaviour? Will it bring about undesired consequences? Will the costs of implementing the precautionary principle be greater than the benefits? Does it promote environmental protection, sound resource conservation and management, and the protection of human health? Questions regarding fairness play a supporting role. Will the burden of precautionary action be equitably distributed? These questions will be addressed in light of Fuller's eight principles comprising the internal morality of law.¹⁵

A. Generality

The first requirement of law's internal morality identified by Fuller is generality. Fuller does not argue for a principle according to which the rules must apply to all equally; instead, he states that there must be rules. In other words, the legal system cannot be a series of particular commands directed by an authority to the various actors within its jurisdiction.¹⁶

Commentators have raised a number of concerns relating to the issue of generality and the precautionary principle. One of the concerns is that it is inappropriate to apply this principle in a general fashion. While precaution may be appropriate for certain issues—notably control of toxic substances or dangerous activities—its application to other types of environmental protection, resource management, and public health issues is often seen as undesirable.¹⁷ Another concern related to generality is that the principle has no content or substance—in other words, that it conveys no information to its addressees as to how they are meant to act. It is not a rule; those charged with its application therefore have virtually unfettered discretion to issue “precautionary” commands.¹⁸

Let us begin with the first criticism, namely that the principle is not necessarily generalizable to a wide range of activities. We would suggest that those who raise this criticism are confounding the principle with specific applications in given contexts.

¹⁵ The features of law's internal morality will be described briefly in the course of the discussion, but for ease of reference they are: generality, promulgation, nonretroactivity, clarity, absence of contradiction, absence of impossible requirements, constancy through time, and congruence between official action and declared rules.

¹⁶ See Fuller, *Morality*, *supra* note 11 at 46ff.

¹⁷ John M. Macdonald argues that the principle must be applied differently in the pollution context and in the context of the management of living resources: see Macdonald, *supra* note 1. For a more critical approach to the impact of precaution on fisheries, see S.M. Garcia, “The Precautionary Principle: Its Implications in Capture Fisheries Management” (1994) 22 *Ocean & Coastal Mgmt.* 99.

¹⁸ This is a particularly common criticism of the principle. See *e.g.* Giandomenico Majone, “What Price Safety? The Precautionary Principle and Its Policy Implications” (2002) 40 *J. Common Mkt Stud.* 89.

The version of the principle found in the *Rio Declaration* and our generic version are extremely open-ended and can be adapted to a number of very different circumstances. Certainly, the process of adaptation may result in bad rules or rules with unintended and undesirable consequences. This will be the result of a policy to apply the same precautionary regime to a wide variety of different circumstances, if no sufficient attention is paid to the context of the problem at hand.

The second criticism—that the principle is not a rule at all and therefore gives rise to unfettered discretion—points to the tension between demands that the principle say what it does¹⁹ on the one hand, and the need to frame the principle differently when it is applied to different areas of endeavour on the other. To the argument that the principle is too vague and general to be useful, the answer can be phrased in the form of a question: useful to what end? Certainly, the principle does not describe to actors what form of behaviour they are to adopt. However, as we noted above, this is precisely because it is a principle and not a rule. It is not a useful exercise to render the principle *as a principle* more precise or specific. The process of operationalizing the principle is a process of regime design in particular contexts and with respect to particular issue areas.

B. Promulgation

Promulgation is simply a requirement that laws be presented in some form so as to make them accessible to the public. This requirement is intended to prevent a range of evils, including the inability of citizens to comply with the law because it is unknown to them; the ability of administrators to disregard the law because they cannot be caught; and the inability of citizens to criticize the law.²⁰

The precautionary principle might be regarded as incompatible with this requirement in a few ways. First—particularly at the international level—it is not clear whether the principle may be considered a legally binding rule at all, since its status as a customary norm of international law is not a settled question. Second, the implications the attainment of this status raises are not clear; this takes us back to the vagueness and generality of the principle.

The uncertainty regarding the status of the precautionary principle as a rule of customary law is, however, not unique to the principle, but is a common feature of customary legal norms, both international and domestic. Because these rules emerge from a combination of behaviour and belief over time, and are not promulgated in the way that a piece of legislation or an international convention would be, the moment of their crossing over the threshold into the category of customary law, as well as their content and their scope of application, will inevitably be subject to uncertainty. As a

¹⁹ Nicholas Onuf, "Do Rules Say What They Do from Ordinary Language to International Law" (1985) 26 Harv. Int'l L.J. 385.

²⁰ See Fuller, *Morality*, *supra* note 11 at 49ff.

result, actors may find themselves in the position of being subject to a legal rule that they did not believe had attained this status. Efforts to reduce this uncertainty take the form of declarations by states regarding their opinions on the legal status of the principle and of the drafting of conventions in an effort to introduce greater specificity about the meaning and application of the principle in specific contexts.

C. *Retroactivity*

Retroactivity is the problem of laws transforming behaviour that was legal when it was carried out into illegal behaviour.²¹ Although the precautionary principle does not seem inherently to call for the retroactive application of legislation, one can imagine a case in which a tax is imposed retroactively on an activity that is found, subsequent to its being engaged in, to cause harm or generate risk. Fuller raises this type of example and acknowledges that while a person may have organized her affairs in a certain way on the assumption that she would not be liable to pay a tax, and while it might seem unfair to then impose a tax retroactively, it is impossible to state in the abstract that such a measure will always be unjustifiably unfair.²² Once again, the context and the particular consequences of various possible rules become crucial.

D. *Clarity*

The need for clarity in law gives rise to a good deal of confusion. Clarity does not require that the law be drafted such that actors know exactly what it is commanding them to do. This, Fuller notes, is to conflate “fidelity to law with deference for established authority.”²³ This is one of the most apparently difficult issues regarding the precautionary principle, and the point at which the bulk of criticism is levelled. In a sense, however, these criticisms are the easiest to dispose of.

Critics argue that the principle is too vague; that it does not tell the actors to whom it is addressed what to do.²⁴ It is our contention that these criticisms miss the mark. Telling actors what to do is not the vocation of the precautionary principle,²⁵ nor of any principle, nor, arguably, of any rule. The principle rather guides the development, interpretation, and application of law and policy. Furthermore, it serves as a benchmark against which rules, standards, and behaviour can be evaluated. This benchmark role is not the same, it must be noted, as an evaluation whose purpose is to determine into which of the binary categories—legal or illegal—a given action falls.

²¹ *Ibid.* at 51ff.

²² *Ibid.* at 59-60.

²³ *Ibid.* at 63.

²⁴ See e.g. Majone, *supra* note 18 at 90; Timothy O’Riordan & Andrew Jordan, “The Precautionary Principle in Contemporary Environmental Politics” (1995) 4 *Envtl. Values* 191 at 192.

²⁵ See the discussion of this point in Elizabeth Fisher, “Precaution, Precaution Everywhere: Developing a ‘Common Understanding’ of the Precautionary Principle in the European Community” (2002) 9 *M.J.E.C.L.* 7 at 15.

Where specific rules inspired by the precautionary principle are developed to apply to a particular situation, the demand for clarity can be misunderstood. Even very specific rules are incapable of telling their addressees exactly what to do; in any event, this is not their purpose. The articulation of a rule might be understood as the point of departure (or the continuation, if one assumes that rules' addressees have been involved in the process of rule articulation) for a dialogue between the promulgator and the addressee of the rule.

E. Contradictions in the Law

Fuller is particularly concerned with rules whose coexistence deprives each of "any sensible legislative purpose".²⁶ The precautionary principle does not directly raise problems of contradictions between rules, but an analogous problem is the creation or exacerbation of conflicts between policy goals. Many authors, including those who defend and promote the precautionary principle, introduce a false dichotomy between protection of human populations and the environment from environmental hazards, on one hand, and the interests of economic actors such as industry on the other.²⁷ Rules that prohibit certain substances and activities have a wide range of consequences, direct and indirect, intended and unintended. Concern is often expressed that extremely high risk aversion among policy-makers and members of the public could lead to the suppression of substances that may pose certain risks but that bring significant benefits as well.

An excellent example of this conundrum is the use of dichlorodiphenyl-trichloroethane ("DDT") in the control of vector-borne diseases, such as malaria. While many of the effects of DDT are well known, the impact of DDT on human health is still not known for certain. Conversely, it is not a matter of uncertainty that banning DDT altogether would have a negative impact on populations exposed to vector-borne diseases. Other means of controlling mosquitoes exist, but they present different problems, such as expense, difficulty of application, and decreased effectiveness.

The need to consider the consequences of banning substances and activities, along with the consequences of permitting them, is nothing more nor less than a basic

²⁶ See Fuller, *Morality*, *supra* note 11 at 68.

²⁷ A hint of this attitude is to be found in the summary of the EC, *Communication on the Precautionary Principle* (*supra* note 2 at 3): "[D]ecision-makers are constantly faced with the dilemma of balancing the freedom and rights of individuals, industry and organisations with the need to reduce the risk of adverse effects to the environment, human, animal or plant health." See also O'Riordan & Jordan (*supra* note 24 at 194): The precautionary principle "requires that risk avoidance becomes an established decision norm where there is reasonable uncertainty regarding possible environmental damage or social deprivation arising out of a proposed course of action."

In fact, in a large number of cases, the problem is one rather of choosing between different types and levels of risk of different adverse effects on a given population of people, animals, or plants, and/or the distribution of different risks of different effects across different populations.

principle of good decision-making. In every circumstance in which the precautionary principle is applied, contemplation of the consequences of all available courses of action must be incorporated into decision-making processes.

F. Laws Requiring the Impossible

Fuller is not so much concerned with laws that would fall into the category of the absurd—that demand things that are really not possible. Rather, he has in mind laws that place too high a burden on their addressees, perhaps in the hope that the addressees will strive for, though not attain, some desirable goal and thereby achieve a positive outcome.²⁸ He also makes reference to cases in which legal consequences for an act are imposed, even though at the time the act was carried out, the chances of its causing those consequences could not be known or the consequences could not have been avoided.²⁹

This is another area of controversy. If the precautionary principle were taken to mean that activities posing risks cannot be engaged in, it would be requiring the impossible. However, only in certain limited circumstances has this approach been taken.³⁰ The result is, of course, that the regulated activity must simply be abandoned; indeed, this is the objective of such policies.³¹

A more serious source of difficulties involves cases in which the reduction of risk would result in costs so high and measures so onerous that, as a practical matter, the activity is no longer viable, even though the decision-maker did not necessarily intend for it to cease. For example, a law might require the use of technology that does not yet exist or that is not widely available. This problem is most apparent in the context of developing countries that do not have the means or the capacity to implement certain techniques or technologies or to verify compliance. This issue can, however, be dealt with in a variety of ways. For example, the principle of common but differentiated responsibilities addresses itself to this matter.

²⁸ See Fuller, *Morality*, *supra* note 11 at 71.

²⁹ *Ibid.* at 71ff.

³⁰ This approach has been taken with respect to the dumping of low-level nuclear waste at sea (International Maritime Organization, *1996 Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972 and Resolutions Adopted by the Special Meeting*, Annex 1, para. 3, online: London Convention <<http://www.londonconvention.org/documents/dc72/PROTOCOL.pdf>>); the utilization of large-scale pelagic drift nets (UN GAOR, 46th Sess., 79th Plen. Mtg., UN Doc. A/RES/46/215 (1991); UN GAOR, 50th Sess., 81st Plen. Mtg., UN Doc. A/RES/50/25 (1995); UN GAOR, 51st Sess., 77th Plen. Mtg., UN Doc. A/RES/51/36 (1996); UN GAOR, 52d Sess., 57th Plen. Mtg., UN Doc. A/RES/52/29 (1998); UN GAOR, 53d Sess., 69th Plen. Mtg., UN Doc. A/RES/53/33 (1999)).

³¹ In a good decision-making process, the consequences of forcing actors to abandon a particular activity would also have to be canvassed. For example, if disposal at sea of hazardous substances is banned, does this mean that they will be incinerated, buried, or simply warehoused instead? In that case, what risks might be created and how do they compare to those created by disposal at sea?

Fuller refers to the case of strict liability as a type of rule that might require the impossible, that is, avoiding causing harm in circumstances in which one cannot reasonably know that a given activity would lead to harm. Such cases are of great relevance in the context of precaution, particularly in those cases where there is no scientific evidence of a causal relationship between the activity and harm. In those cases, it is impossible to rule out such a relationship, as it is impossible to prove the absence of risk. Our concerns about the activity in question might come from certain features—for example, those that are common to analogous situations in which a causal link was found to exist. An example of such a situation is persistent organic pollutants. Some commentators argue that a precautionary approach to substances that persist in the environment for extended periods of time and that accumulate in the fatty tissues of animals and humans would require their prohibition, irrespective of evidence of toxicity.³²

Fuller notes that despite the fact that circumstances will arise in which an actor could not have known that he should have behaved differently to avoid harm, the legislator may decide to impose strict liability to reapportion the costs that arise as a result of the activity. If this imposition of liability has a punitive or deterrent purpose, it is ineffective in fulfilling this purpose. If it is the result of political choices about distribution of burdens of risk and costs, it seems much more reasonable. The identification of situations in which it will be deemed appropriate to impose strict liability will depend on an appreciation of a range of circumstances and, finally, on the weighing of a range of consequences that would likely follow from various possible courses of action. The application of the precautionary principle to support the imposition of strict liability may, in certain instances, give rise to unfairness. The question is not necessarily how to eliminate this unfairness, but rather to discover whether it is less acceptable than the unfairness that would result from letting the loss lie where it fell.

Another range of cases will involve the imposition of standards whose application will give rise to high costs, in some cases making the targeted activity unviable. Industries often complain that environmental regulation would put them out of business. There are also, however, examples of firms that decide to innovate not only in order to meet the standards but also in order to capitalize on a new demand for pollution control technology or new, less polluting processes. Legislators may take calculated risks by imposing high standards and assuming that firms are capable of adjusting to and even profiting from them.

³² See e.g. International Persistent Organic Pollutant Elimination Network, "IPEN Bangkok SAICM Statement" (7 January 2004), online: IPEN <http://ipen.ecn.cz/index.php?z=&l=en&k=documents&r=viewtxt&id=75&id_rubriky>.

G Constasy of the Law Through Time

While laws must be responsive to changing circumstances or to the need to make modifications as a result of their unintended consequences, if the law changes too rapidly, it can give rise to many of the same problems experienced in the case of retroactive legislation.³³ This is another point of contention. The precautionary principle calls for regular review and adjustment of rules and standards. The obligations that actors must meet therefore do not remain constant but are subject to ongoing modification. This could create practical difficulties as actors must adjust to these new measures. In addition, their activities will be subject to uncertainty as they cannot be sure that the conditions under which they make investments will remain in a number of months or years. Regulations could be strengthened, or certain activities or substances could be prohibited. Rapidly changing rules are also susceptible of dramatically increasing the transaction costs of conforming to the rules, as investments in pollution reduction equipment or processes are rendered valueless through regulatory obsolescence.

One technique that is compatible with the precautionary principle is the imposition of a rule that firms must use the best available technology and best environmental practices. In this manner, it is not necessary to continue to change the standard as new practices and technology become available; furthermore, firms are encouraged to innovate. Where this technique is used, there must be some way of accounting for the time that it takes for new technologies and practices to be diffused and for existing facilities and processes to be retrofitted.

One major source of pressure on industry is not legislators or international organizations changing their minds about what the rules should be, but rather increased levels of risk aversion among members of the public. This risk aversion is sometimes the result of lack of information, poor understanding, media hype, or doubt about assurances given by public scientific agencies that a given product or process is safe. Consumers may also have other valid reasons for not wanting to be exposed to a certain product. For example, even if consumers believe the assurances that administering growth hormones to cattle poses no health risk to humans, they may still object because they are concerned about farming practices, animal rights, or preserving the viability of small-scale, family-run farms and the lifestyle that goes with them. In short, providing such consumers with precise scientific information on growth hormones and human health may simply fail to answer their moral objections or concerns about the broader social and economic consequences of certain production methods.

³³ See Fuller, *Morality*, *supra* note 11 at 79-80.

H. Congruence Between Official Action and Declared Rules

Fuller notes that an absence of congruence between official actions and declared rules can arise from a wide variety of circumstances. It may result from the deliberate decisions of authorities to avoid or abuse the law; from carelessness and inadvertence; or from an insufficient attachment to the project of law, to name a few.³⁴ The congruence principle gives rise to two kinds of problems from the point of view of the precautionary principle. In the first place are cases in which the precautionary principle, although formally applicable, leads to onerous or inappropriate results and is therefore sidestepped. Here we must make a distinction between the precautionary principle as a principle and a particular regulatory regime that seeks to incorporate the principle. If we are talking about the principle, this problem is unlikely to arise. It must be recalled that the principle is phrased in the negative and does not require any regulatory action at all. If, however, there is a particular regulatory regime that seeks to operationalize the principle, we may very well encounter the problem of standards that are found after the fact to be too strict or burdensome. This is precisely why it is important to avoid a one-size-fits-all approach to the principle and to take care when designing precautionary regimes. It may also signal the need for some measures to facilitate compliance, such as grants, subsidies, or loans to ease the cost of transition to new technologies.

In the second place are cases in which the generality and vagueness of the principle lead to vastly different interpretations in different circumstances. Regulated actors might question the extent to which administrative agents are relying on the regulation, or on some other list of criteria, in issuing their decisions. In response to these concerns, we must recall that the vocation of a principle is not the same as that of a rule. There might be good reasons to apply the principle differently in different circumstances; therefore, congruence need not be regarded as a problem at all. In these cases, we must be highly attentive to the justifications being put forth for particular interpretations and applications of the precautionary principle; once again, process is crucial.

III. Implications for Process

As must be apparent from the above discussion, issues of process are of fundamental importance in translating the precautionary principle into individual rules or other forms of legal outcomes.³⁵ The precautionary principle can offer guidance on the design of decision-making processes and on the elements that decision-makers should take into consideration, but ultimately, weighing the consequences of different courses of action and making determinations about how to proceed is, as the European Commission so aptly indicates,³⁶ a political matter. As such, reference must

³⁴ *Ibid.* at 81.

³⁵ See also Fisher, *supra* note 25 at 17.

³⁶ EC, *Communication on the Precautionary Principle*, *supra* note 2.

be made not only to the best available scientific data, but also to the preferences and priorities of the population that will feel the impacts of the decision. Thus, members of the public must be implicated in decision-making processes in one way or another.

The precautionary principle places a heavy burden on deliberative spheres. This is a problem in international society, where, for practical as well as political and structural reasons, only certain types of actors have ready access to the deliberative fora that play an important role in international legal processes. It might, however, be possible for deliberations taking place in a number of fora—domestic and international, formal and informal—to overlap and intersect. Habermas argues that as long as parliamentary processes are not a closed system, but are instead embedded in broader discursive processes taking place in the wider society, the processes of law formation may be responsive to the interests and priorities of the broader public.³⁷ This would mean, in the international context, that it would not be necessary to create new formal processes to incorporate the opinion- and will-formation that goes on in civil society into international legal processes. Of course, finding ways to ensure that international legal processes are embedded in and responsive to wider processes of discourse taking place in international and domestic societies is an extremely tall order.

Assuming that we can rely on various intersecting discursive processes in international and domestic societies to inform legal processes about the priorities and preferences of members of these various societies, and assuming also that sufficient information about the activities, risks, and alternative rules is circulated to ensure that these debates and discussions are informed, we must nevertheless acknowledge that differences in preferences and priorities among (and within) different populations will not be eliminated. This means that ways will have to be found to accommodate different levels of risk aversion, different sets of preferences and priorities, and uneven and inequitable distribution of the costs and benefits of measures taken. The extent to which such accommodation is possible will depend on the ability of the international (and domestic) legal system(s) to perform various functions. In an ideal world, the legal system would ensure sufficient information flows and a sufficiently robust and inclusive debate so that all would come to be convinced that a given rule or outcome is appropriate.³⁸ To accomplish this, it is not enough to have consensus on overarching goals. Conclusions such as “trade is good” or “public health is good” are easy enough to defend, but questions such as how much trade/health, where, when, and at what cost are obviously more difficult.

³⁷ See Jürgen Habermas, *Faktizität und Geltung: Beiträge zur Diskurstheorie des Rechts und des demokratischen Rechtsstaats* (Frankfurt am Main: Suhrkamp, 1998) at 426ff.

³⁸ Boy captures this notion nicely in her discussion of the importance of public debate: “Il semble, en effet, que le débat doive nécessairement s’inscrire dans la durée pour permettre de passer de la notion de risque ‘acceptable’ à celle de risque ‘accepté’” (*supra* note 2 at 143).

As a second best option, individuals or groups on whom costs are imposed would believe that either the rule (or outcome) itself or the system that produced it is a good one, and therefore worthy of support. A third-ranked option would involve making side payments and compensating for the costs imposed. This may, but need not, be instrumental and strategic. It may be that in some cases a reorientation of the distribution of costs and benefits is called for not only to ensure support by various parts of a population and to bolster the overall viability of a rule or regime, but also out of considerations of equity and fairness. Strategies inspired by the principle of common but differentiated obligations can be described in both strategic and principled terms, and there is some truth in both sets of descriptions. At the bottom of the list of ways to deal with those who must pay the costs of precautionary action is simply the imposition of decisions—whether by taking advantage of different levels of power and capacity or by the use of legal means of coercion. Legal systems that seek to integrate precaution into their decision-making processes probably need to use various combinations of all these approaches, but cannot rely on coercion alone.

Decision-making processes that facilitate the production and distribution of information about alternative courses of action, consequences, risks, and the extent of uncertainty will permit populations to be more well-informed, with the result that preferences and priorities may change. These processes must also be designed to maximize perceptions of legitimacy and reliability, which means that they must be open and transparent, as well as responsive to the concerns and fears that are being expressed among members of the public. However, at the end of the day, it is almost inevitable that different levels of risk aversion will remain.

A decision taken in accordance with the precautionary principle will ultimately be one that pays close attention to preferences and priorities. Different states will, therefore, ultimately have to tolerate laws and policies that they do not agree with or that differ from their own. This is not, however, to say that laws and policies need not be explained or justified in other jurisdictions. On the contrary, they will be criticized in informal ways and through diplomatic channels. In addition, in certain instances, a process will exist through which the laws can formally be challenged—for example, when the laws have impacts on international trade. Therefore, another requirement of precautionary legal processes is that they be capable of providing well-reasoned justifications, addressed to as broad an audience as possible, on outcomes and on the preferences and priorities that underlie them. Furthermore, precautionary legal systems must be charged with the task of seeking solutions to the unintended consequences, both foreseeable and unforeseeable, of their outcomes. This will require that those legal systems be well-positioned to gather information on such consequences, and particularly to maintain communication with affected populations, most notably those that have to absorb costs of precautionary legal outcomes.

The issue of who bears the burden of uncertainty comes down to a question of thresholds. The criteria for identifying the threshold cannot, we argue, be identified at the global level but rather must be worked out in the context of specific regimes. Nevertheless, it may be assumed that the threshold will be identified with reference to

the amount of scientific evidence of a risk, the likelihood of the risk manifesting itself, and the seriousness of the probable consequences. Where a given risk is deemed to be over threshold, environmental measures may be justified; otherwise, they will not.

However, as suggested above, there will be cases in which a given society is more risk averse than others and will therefore want to take measures in a given instance even if the threshold criteria are not met. Must the risk-averse society simply tolerate a risk it deems unacceptable until it is able to muster the necessary scientific evidence? In such instances, a range of possible responses is likely to be available. For example, a measure short of a prohibition may be in order—labelling may be preferable to an import ban, for instance.³⁹ The risk-averse society may be in a position to invest in precautionary measures to reduce the risk while permitting an activity to take place. Temporary measures may be justified. Or, as in the *Beef Hormones* case, the risk-averse society may choose to maintain a prohibition (in this case an import ban) and pay a penalty or make a side payment.

IV. *Excursus: The Beef Hormones Case—Operationalization of the Precautionary Principle*

The precautionary principle has recently been put to a test of sorts—or rather two tests. The first is a test of the capacity of an international trade regime, in this case the World Trade Organization (“WTO”), to operationalize the principle by transforming it into a rule contained within the Agreement on the Application of Sanitary and Phytosanitary measures.⁴⁰ The second is a test of the openness of that rule to a precautionary measure.

In 1989, the European Union (“EU”) (then the European Economic Communities) implemented its first directive banning imports of beef treated with certain growth hormones.⁴¹ The ban was subsequently reaffirmed in a final directive that maintained the moratorium on the administration of hormones for growth purposes within the EU and, of particular importance for our discussion, on imports of hormone-treated beef. The import ban became the subject of a WTO dispute in 1997 between the EU on the one hand and the United States and Canada on the

³⁹ See Katy Eiseman, “Food Labeling: Free Trade, Consumer Choice, and Accountability” in Edith Brown Weiss & John H. Jackson, eds., *Reconciling Environment and Trade* (Ardsley, N.Y.: Transnational Publishers, 2001) 373.

⁴⁰ WTO, *Agreement on the Application of Sanitary and Phytosanitary Measures*, online: WTO <http://www.wto.org/english/docs_e/legal_e/15-sps.pdf> [SPS Agreement].

⁴¹ See EC, *Council Directive 96/22 of 29 April 1996 concerning the prohibition on the use in stockfarming of certain substances having a hormonal or thyrostatic action and of B-agonists, and repealing Directives 81/602/EEC, 88/146/EEC and 88/299/EEC*, [1996] O.J. L. 125/3. The ban followed a period of intense public concern in Europe over the negative human health effects associated with one such hormone, diethylstilbestrol (or DES), which was found in baby food made of veal: see Christopher Bisgaard, “Assessing the Standard of Review for Trade-Restrictive Measures in the Sanitary and Phytosanitary Agreement” in Weiss & Jackson, *supra* note 39, 353 at 375.

other.⁴² The dispute turned on the interpretation of several key provisions of the *SPS Agreement* (“Agreement”).

The EU sought to justify its import ban on the basis of precaution. Specifically, the EU argued that the higher, cautious level of protection it had chosen was appropriate in circumstances where “health hazards ... only became apparent long after substances or products had been assumed to be safe.”⁴³ In other words, the EU’s concern was based not on knowledge of risk but on an appreciation of levels of ignorance and uncertainty regarding the health effects of beef hormones. The EU sought to accord “the benefit of doubt to the consumer ... in cases where the potential risks might affect very large parts of the population,” rather than to the producer as the United States had done.⁴⁴ The EU did not, however, invoke article 5.7 of the *SPS Agreement*, which is generally acknowledged to sanction some degree of precautionary decision-making:

In cases where relevant scientific evidence is insufficient, a Member may *provisionally* adopt sanitary or phytosanitary measures on the basis of available pertinent information ...⁴⁵

It may be argued that this measure represents a reversal of the burden of proof, something which we stated above the precautionary principle does not require. It might further be argued that this reversal imposes an impossible burden on beef-importing states, namely to prove absence of risk. Of course, as we suggested above, it is open to the legislator to impose a difficult or impossible condition on the ground that if the condition cannot somehow be met, the activity in question should simply not proceed. The potential difficulty here is that different jurisdictions, representing different societies and sets of preferences, must arrive at some agreement regarding the consequences of such a measure.

The Appellate Body found that the EU had failed in its obligations under articles 3.3 and 5.1 of the Agreement by neglecting to perform a risk assessment as defined in article 5 and Annex A, and therefore concluded that the EU’s import ban brought the EU into contravention of its trade obligations. The Appellate Body concluded with the caveat that its identification of precautionary provisions in the Agreement was not exhaustive, thereby leaving the door open in future disputes to a potentially more flexible interpretation of precaution within the WTO food safety regime.

⁴² *EC Measures Concerning Meat and Meat Products (Hormones) (Complaint by the United States)* (1997), WTO Doc. WT/DS26/R/USA (Panel Report), online: WTO <<http://docsonline.wto.org>> [Panel Report]; *EC Measures Concerning Meat and Meat Products (Hormones)* (1998), WTO Doc. WT/DS26/AB/R (Appellate Body Report), online: WTO <<http://docsonline.wto.org>> [*Beef Hormone Case (Appellate Body)*].

⁴³ Panel Report, *ibid.* at IV.2.(e)(vii)c.

⁴⁴ *Ibid.* at IV.2.(e)(vii)a. See also Eiseman, *supra* note 39 at 377.

⁴⁵ *SPS Agreement*, *supra* note 40 [emphasis added].

It appears to be too early to conclude that the *SPS Agreement* is not open to precautionary measures. The EU adduced into evidence a handful of reports indicating the possible carcinogenicity of the hormones under scrutiny, but provided no evidence of risks posed by the hormones as administered. None of the materials supplied by the EU attested to or indicated that research had been conducted to determine any specific risk to consumers posed by residues from growth hormones in beef dedicated for human consumption. Effectively, the EU failed to meet a due diligence standard in justifying its chosen level of protection—"zero level of tolerance"⁴⁶—as necessary and proportional or rationally connected within the science-based nexus required by the *SPS Agreement* of risk, policy objective, and chosen measure.

It would have been open to the EU to impose a temporary ban and to gather further evidence of a specific risk; this it decided not to do. One may, however, question the appropriateness of this provision. As precaution is a policy response to risk born of uncertainty, which in turn is a product of the limits of science at any given time to definitively ascertain the panoply and magnitude of risks posed to human health and the environment as a by-product of human behaviour, the temporal limit on precautionary action in the Agreement appears counter-intuitive. One can no more predict *when* the uncertainty will be resolved than *how* it will be resolved. This requirement appears to entrench a policy fear in respect of constancy of law over time. A more reasonable interpretation of the term "provisional", consonant with precautionary decision-making, might be the period of time over which uncertainty persists,⁴⁷ circumscribed by the procedural requirements parsed in subsequent dispute proceedings, such as the obligation to continue seeking additional justification for the measure in question and to engage periodic review of the measure in light of any new information.⁴⁸

On the one hand, putting a relatively high justificatory burden on parties seeking to impose precautionary measures could be seen as an attempt to prepare the ground for a consensus. Parties can disagree on the values at stake and can therefore disagree with one another's decision, but the framework provided by precautionary rules can permit them to understand and, eventually, accept one another's positions. The precautionary principle can help a party to articulate its concerns over uncertainty, giving weight to these concerns that they would not otherwise have.

On the other hand, there will be cases in which parties simply have different approaches to the importance to be attributed to the various risks, uncertainties, and

⁴⁶ *Beef Hormone Case (Appellate Body)*, *supra* note 42 at para. 83.

⁴⁷ See Regine Neugebauer, "Fine-Tuning WTO Jurisprudence and the SPS Agreement: Lessons from the Beef Hormone Case" (2000) 31 *Law & Pol'y Int'l Bus.* 1255 at 345.

⁴⁸ See *Japan—Measures Affecting Agricultural Products* (1999), WTO Doc. WT/DS76/AB/R (Appellate Body Report), online: WTO <<http://docsonline.wto.org>>; *Australia—Measures Affecting Importation of Salmon* (1998), WTO Doc. WT/DS18/AB/R (Appellate Body Report), online: WTO <<http://docsonline.wto.org>>.

values that fall to be considered. Precaution functions as a barometer for a society's risk aversion—the tolerance threshold of a group or society to risk—to a particular product, process, or practice. The more risk averse a society is to a given product, process, or practice, the less open that society is likely to be to its introduction or continued presence in the society. Risk aversion is a social phenomenon with cultural, economic, and political dimensions. The precautionary principle enables the incorporation of these dimensions—not without controversy—into policy debates on the acceptable level of risk to a particular society as a whole. As such, it legitimates these factors as an integral part of the public deliberative process on the management of risks posed to human health and the environment. This would appear to be the case here: citizens of EU countries may be described as having different levels of risk aversion to those of North American countries. This higher risk aversion translates into different policy preferences which cannot always be reconciled through the application of rules and decision-making procedures.

The decision of the Appellate Body is, of course, not the end of the story. The EU chose to stand by its import moratorium, despite the fact that this meant incurring penalties as a result.⁴⁹

Conclusion: Anatomy of a Precautionary Legal Process

Establishing preferences among known values is a difficult task. When uncertainty about the nature of values is introduced, the difficulties multiply. Of course, we should not exaggerate this point: one always makes choices in the face of uncertainty about the consequences of making one decision as opposed to another. As a result, choices always require the exercise of judgment. When these choices have consequences for other actors, we also require reasons to explain the manner in which our judgment was exercised.

The precautionary principle is about process—the processes through which choices are made and justified in the face of scientific uncertainty. We have sought to show that there is nothing inherent in the principle that brings it into conflict with Fuller's precepts of internal morality. On the other hand, there are myriad ways in which attempts to apply it can, and often do, offend against internal morality. The conclusion to be drawn from this is that the precautionary principle must always be interpreted and applied with a close eye on the context and in light of the range of other principles that are or may be pertinent in the circumstances. The concept of internal morality provides an extremely useful guide to determining when a particular method of operationalizing of the principle is problematic.

⁴⁹ See WTO, *European Communities—Measures Concerning Meat and Meat Products (Hormones) (Recourse by the United States to Article 22.7 of the DSU)* (1999), WTO Doc. WT/DS26/21, online: <<http://docsonline.wto.org>>; WTO, *European Communities—Measures Concerning Meat and Meat Products (Hormones) (Recourse by Canada to Article 22.7 of the DSU)* (1999), WTO Doc. WT/DS48/19, online: WTO <<http://docs.online.wto.org>>.

As an approach applying Fuller's internal morality of law indicates, the problem is not so much with the precautionary principle as with expectations of what the law can and should do. If we regard the precautionary principle as a detailed checklist or instruction manual, we will find it wanting. We will be frustrated by the fact that the content of the principle leaves us with more questions than answers and does not absolve us of the responsibility of making and justifying a decision. Furthermore, the mere fact that the precautionary principle has been considered and applied, either in the development of new rules or in decisions about courses of action, does not eliminate the possibility of bad decisions and undesirable outcomes. As Fuller notes,

[t]he human element can of course fail, and it can fail not simply because of corruption or sloth, but for lack of a sense of institutional role and a failure to perceive the true nature of the problems involved in constructing and administering a legal system. But if the human element is a possible source of failure, it is also an indispensable ingredient in any just and humane legal system. ... The complex undertaking we call "law" requires at every turn the exercise of judgment, and that judgment must be exercised by human beings for human beings.⁵⁰

The precautionary principle can contribute to a common vocabulary, a set of shared understandings, a guideline for the development of decision-making procedures, and a template for evaluating decisions or decision-making processes and a range of other goals. That which takes place within these decision-making processes and their outcomes is our responsibility.

⁵⁰ Fuller, *Anatomy*, *supra* note 13 at 39-40.