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Dangerous Experiments:

Scientific Integrity in International Environmental Adjudications after the ICJ's Decision in *Whaling in the Antarctic*

Remi Moncel*

Scientific questions are central to many international environmental adjudications. They bear on the risk of harm to the environment and human health of many of the national policies and regulations challenged before international courts. Despite the importance for people and the environment of international courts correctly resolving these scientific questions, there is a surprising lack of procedural law governing courts' admission and handling of scientific evidence. This Note argues that this lack of procedure grants international courts too much discretion. The Note analyzes the recent International Court of Justice decision in Whaling in the Antarctic to explain why the status quo in international environmental adjudications threatens scientific integrity. The Note also draws on the International Court of Justice's decision in Pulp Mills and the World Trade Organization's rulings in the Beef Hormones dispute to further explain the need for greater procedural clarity. In closing, the Note offers possible solutions to improve scientific integrity in international environmental adjudications.

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INTRODUCTION

Science matters to the global environment. Misunderstanding or mishandling scientific information can have grave consequences for the environment and people. For example, imagine the next round of international climate change negotiations: By how much should countries commit to reducing greenhouse gas emissions? The answer depends in part on a value

judgment, including how much risk and how much warming we are willing to tolerate. But it also depends on scientific integrity. Accurate scientific information is essential to determine, for example, how much various gases contribute to global warming, and the relationship between greenhouse gas levels in the atmosphere and a rise in global temperatures. If we get those data wrong or fail to properly rely on them to set our global policy, we are sure to miss our stated climate change goals.

This Note focuses on science's central role in international environmental adjudications. There too, scientific integrity matters. To take one example, does a country restricting imports of beef raised on growth hormones have a reasonable fear for its citizens' health and environment, or is that country just shielding its domestic industry from international competition?¹ Unfortunately, international courts and tribunals² do not have clear or consistent procedures for hearing scientific evidence. While the Administrative Procedure Act and the Federal Rules of Evidence in the United States set procedural standards for federal agencies and courts, no similar universal code exists internationally. A wide constellation of institutions conduct environmental adjudications: public international tribunals of general jurisdiction, such as the International Court of Justice (ICJ); treaty-specific tribunals of specialized jurisdiction, such as the World Trade Organization's (WTO) Dispute Settlement Body and the United Nations Convention on the Law of the Sea's International Tribunal for the Law of the Sea; investment and commercial arbitration panels addressing environmental matters; and global administrative bodies reviewing state or company compliance with environmental and social norms, such as multilateral development banks. Each institution has its own procedural rules.

This Note defines scientific integrity in the international context as the integration of accurate and relevant scientific information into the judicial resolution of international environmental disputes to allow international courts to make sound factual and legal determinations. Scholars writing about scientific information in international environmental adjudications have described the courts' procedures in handling scientific evidence.³ Building on these contributions, this Note uses the ICJ's decision in *Whaling in the*

1. See *infra* Part II.A.2 (discussing the World Trade Organization's (WTO) Beef Hormones dispute).

2. This Note refers to international adjudicatory bodies interchangeably as tribunals and courts.

3. CAROLINE FOSTER, SCIENCE AND THE PRECAUTIONARY PRINCIPLE IN INTERNATIONAL COURTS AND TRIBUNALS: EXPERT EVIDENCE, BURDEN OF PROOF AND FINALITY 5-6 (2011); Luigi Fumagalli, *Evidence before the International Court of Justice: Issues of Fact and Questions of Law in the Determination of International Custom*, in INTERNATIONAL COURTS AND THE DEVELOPMENT OF INTERNATIONAL LAW 137 (N. Boschiero et al. eds., 2013); Andrew Guzman, *Food Fears: Health and Safety at the WTO*, 45 VA. J. INT'L L. 1, 6-10 (2004); Cecile Levesque, *Science in the Hands of International Investment Tribunals: A Case for Scientific Due Process*, 20 FINNISH Y.B. INT'L L. 259 (2009); Makane M. Mbengue, *Scientific Fact-Finding by International Courts and Tribunals*, 3 J. INT'L DISP. SETTLEMENT 509 (2012).

*Antarctic*⁴ to highlight the lack of clear and consistent judicial procedures protecting scientific integrity in international environmental adjudications and to discuss the risks this gap poses to environmental protection.⁵ The Note argues for greater transparency and inclusiveness in international environmental adjudications as well as consistency across four procedural elements: rules governing what scientific evidence may be introduced in court; the standard of proof required for a court to find a scientific fact; who carries the burden of proof; and how much deference a court should give a state's or international institution's scientific assessment.

This Note argues that *Whaling in the Antarctic* is a step towards scientific integrity and environmental protection in some respects. The ICJ's ruling that a Japanese whaling program violated the International Convention on the Regulation of Whaling (ICRW)⁶ is not only a victory for conservation; it elevates environmental protection and respect for international environmental law above realist political considerations. The ICJ relied on an extensive written and oral scientific record to rule against a powerful state, thereby embodying a commitment to enforce environmental treaties against political headwinds. This ICJ case likely will persuade some international tribunals to follow suit, thereby contributing to the development of a more predictable and science-driven global administrative order.

But this decision is also problematic for two main reasons. First, it is an isolated case. *Whaling in the Antarctic* is binding precedent neither on the ICJ nor on other international tribunals. In the next international environmental dispute, a court might give scientific integrity short shrift. Limited resources, state political pressure, lack of scientific expertise, or limited transparency could tilt the balance against scientific integrity. In short, it is dangerous to leave environmental protection at the mercy of international tribunals' ad hoc procedural experiments.

Second, some of the court's procedures in this case were not consistent with scientific integrity. The proceedings were relatively transparent but fell short on inclusiveness because the ICJ still generally does not allow third parties to submit amicus briefs. In addition, the court only partially clarified its procedural standards. While it confronted the question of how much deference to give states' scientific findings, it did not articulate a standard for the admission of scientific evidence, a standard of proof, or who bore the burden of proving the scientific facts. The lack of procedural clarity in this case is symptomatic of the broader phenomenon this Note explores: the paucity of binding international judicial procedural law and the wide discretion international courts consequently enjoy.

4. *Whaling in the Antarctic* (Austl. v. Japan: N.Z. Intervening), Judgment, 2014 I.C.J. 148 (Mar. 31) [hereinafter Judgment], available at www.icj-cij.org/docket/files/148/18136.pdf.

5. *Id.*

6. International Convention for the Regulation of Whaling of 1946, Dec. 2, 1946, 62 Stat. 1716, 161 U.N.T.S. 72 [hereinafter Whaling Convention].

This Note proceeds as follows. Part I defines scientific integrity and presents the Note's analytical framework. Part II begins by reviewing two recent international environmental cases that illustrate international tribunals' wide discretion in hearing and weighing scientific evidence: the ICJ's *Argentina v. Uruguay* and the WTO's decisions in the Beef Hormones dispute. This Part then reviews the relatively scarce international norms governing the treatment of scientific evidence at international tribunals and explains why this paucity undermines scientific integrity. Part III introduces *Whaling in the Antarctic*. It describes the international regime governing whaling, including the current moratorium on commercial whaling and the exemption states can claim if they pursue "scientific research." This Part then presents the Japanese whaling program at issue in the case and the ICJ's stated reasons for striking down the program. Part IV provides a more specific positive account of the ICJ's procedural approach in that case, including how the court admitted scientific evidence and how it evaluated the parties' claims. Finally, Part V shifts to a normative analysis of *Whaling in the Antarctic*, assessing the case's significance for scientific integrity in future international environmental disputes. The conclusion offers recommendations for promoting scientific integrity in international environmental adjudications in the wake of *Whaling in the Antarctic*.

I. SCIENTIFIC INTEGRITY: AN ANALYTICAL FRAMEWORK

A. *Scientific Integrity Generally*

This Note defines scientific integrity in the international context as the integration of accurate and relevant scientific information into the judicial resolution of international environmental disputes to allow international courts to make sound factual and legal determinations. Scientific integrity in environmental decision making consists of two inquiries: a factual inquiry aimed at understanding what the science says about a specific environmental harm, and a political inquiry aimed at ensuring that the decision makers (in our case, judges) properly rely on that scientific information.⁷

The factual prong of scientific integrity requires the submission to the court of accurate scientific facts to help the court reach the correct result. Scientific facts in the health and environment arenas are particularly hard to establish because they are often uncertain.⁸ Moreover, "science" in

7. See Holly Doremus, *Scientific and Political Integrity in Environmental Policy*, 86 TEX. L. REV. 1601, 1620–39 (2008) (defining "scientific integrity" and "political integrity" and arguing that both are necessary for good environmental policy).

8. FOSTER, *supra* note 3, at 5–6; Mbengue, *supra* note 3, at 513; Holly Doremus & A. Dan Tarlock, *Science, Judgment, and Controversy in Natural Resource Regulation*, 26 PUB. LAND & RESOURCES L. REV. 1, 8 (2005) ("The hard reality is that the scientific information available to support environmental and natural resource policy decisions is frequently incomplete, ambiguous, and contested.").

environmental policy often comes from a variety of disciplines, each with its own methods, values, and goals.⁹ The parties to an international environmental adjudication or stakeholders affected by its result may try to feed inaccurate or incomplete information or interpretations to the court, or restrict the information the court sees.¹⁰ The litigants may selectively introduce scientific evidence that best supports their position and label as “junk science” evidence submitted by the other side.¹¹

This counsels for some process to ensure that the information on which the court relies is accurate.¹² It also suggests that stakeholders beyond the litigants should have an opportunity to contribute accurate and relevant information, either in the domestic regulatory process that is the subject of an international dispute, or in the international dispute itself through amicus briefs or related mechanisms.

The political prong of scientific integrity requires that judges properly apply the law to the scientific facts of the case. Political pressures or biases may lead judges to portray complicated scientific facts in a way that justifies a given result.¹³ Litigants and judges may stretch scientists’ findings beyond what the data reasonably support, or they may label as scientific “facts” what are actually value judgments: scholars have observed that regulators sometimes “camouflage” tough decisions as science to evade political or legal accountability.¹⁴ The same risk likely exists in international environmental adjudications.

In addition, where procedural rules are vague and scientific facts complex, judges may use their discretion to make law, rather than just interpret the law. And where scientific questions are involved, litigants and the public are less likely to notice that a court is making rather than interpreting law, because

9. See generally Eric Biber, *Which Science? Whose Science? How Scientific Disciplines Can Shape Environmental Law*, 79 U. CHI. L. REV. 471 (2012).

10. See Doremus, *supra* note 7, at 1602 (“Information contributors may have a variety of reasons to spin or even falsify the data and interpretations they contribute to the regulatory process.”).

11. See generally Roger A. Pielke, Jr., *When Scientists Politicize Science: Making Sense of Controversy over The Skeptical Environmentalist*, 7 ENVTL. SCI. & POL’Y 405 (2004) (arguing that advocates as well as scientists evaluate and promote scientific studies that buttress their desired political goals).

12. See Doremus, *supra* note 7, at 1602 (arguing for “some mechanism for ensuring the accuracy and reliability of input information” fed into the regulatory process).

13. Cf. *id.* (explaining in the regulatory context that an agency will sometimes “undermine a statutory scheme by responding more to political pressures or the personal biases of agency personnel than to the evidence and the goals articulated by the legislature”); Wendy E. Wagner, *The Science Charade in Toxic Risk Regulation*, 95 COLUM. L. REV. 1613, 1645–46 (1995) (arguing that a “premeditated charade” exists wherein agencies sometimes select science that justifies policy decisions made in advance).

14. See, e.g., Doremus, *supra* note 7, at 1613 (warning against scientists and regulators “not fully and accurately reporting the limits of their data, and drawing conclusions the data do not reasonably support”); Wagner, *supra* note 13, at 1617 (arguing the “science charade” leads agencies to “exaggerate the contributions made by science in setting toxic standards in order to avoid accountability for the underlying policy decisions”).

observers often mistake political questions for straightforward scientific ones.¹⁵ For example, even where scientists know that a chemical causes cancer in mice at high doses, they may not be able to tell whether this chemical causes cancer in humans at low levels; yet a decision to limit human exposure to that chemical might improperly be cast as “scientific.”¹⁶ The problem here is one of agency: states, private litigants, and observers should ask whether international courts and tribunals are acting within the bounds of the authority given to them by politically accountable bodies.¹⁷ For example, is a court asking for more scientific evidence of harm than the signatories to the treaty really meant to require from a plaintiff? If so, the court could in effect be weakening—and rewriting—the treaty. Similarly, should a court defer to the scientific findings of national regulatory agencies because they are more politically accountable, or should the court review their findings *de novo*? Should a court defer to the findings of international scientific bodies because they have relevant expertise? These are inherently political questions that courts will resolve, unless the political branches impose on courts clear procedural rules that guarantee both political and factual scientific integrity.

B. *Transparency and Inclusiveness in Judicial Proceedings*

A transparent and inclusive judicial process fosters scientific integrity by giving both the litigants and other affected parties an opportunity to submit and critique scientific information relevant to the case.¹⁸ A fuller judicial record can help the court reach the right result. A transparent judicial process makes it less likely that the litigants or the court will “masquerade as science” a political question.¹⁹ Transparency also reduces the risk of undue political influence and abuse of judicial power.²⁰ An inclusive judicial process may result in a greater

15. *Cf. Wagner, supra* note 13, at 1627 (noting that although some questions cannot be answered by science, “they generally appear to outside observers to be resolvable by contemporary science and thus are often mistaken for straightforward scientific questions”).

16. *See id.* at 1619 (discussing the risk of formaldehyde).

17. *Cf. Doremus, supra* note 7, at 1630 (describing the principal-agent problem in the context of rule making).

18. Recent legal scholarship has sought to infuse into the workings of international regulatory and adjudicatory bodies the principles of transparency, accountability, and public participation familiar in domestic administrative law. *See, e.g., Benedict Kingsbury et al., The Emergence of Global Administrative Law*, 68 *LAW & CONTEMP. PROBS.* 15, 17 (2005) (defining global administrative law as “the mechanisms, principles, practices, and supporting social understandings that promote or otherwise affect the accountability of global administrative bodies, in particular by ensuring they meet adequate standards of transparency, participation, reasoned decision, and legality, and by providing effective review of the rules and decisions they make”).

19. *Cf. Doremus, supra* note 7, at 1646 (recommending enhanced transparency in rule making to reduce improper political influence over science); *see also* J.B. Ruhl & James Salzman, *In Defense of Regulatory Peer Review*, 84 *WASH. U. L. REV.* 1, 5 (2006) (arguing for a form of peer review of agencies’ “search, selection, or use of scientific data to support a proposed regulatory decision”).

20. *Richmond Newspapers, Inc. v. Virginia*, 448 U.S. 555, 592 (1980) (Brennan, J., concurring) (“[O]pen trials are bulwarks of our free and democratic government: public access to court proceedings is one of the numerous ‘checks and balances’ of our system, because ‘contemporaneous review in the

pool of scientific studies for the court to draw from to make an accurate assessment of the science. At the national level, this inclusiveness can take the form of consultations with communities affected by possible environmental harm before issuing new science-based regulations vulnerable to an international court challenge. At the international level, courts can open the proceedings to the public and solicit views through amicus briefs from affected parties beyond the litigants. International courts can also make public on their websites the judicial record, including the parties' briefs, transcripts of oral arguments, and court orders.

C. Consistency Across Procedural Elements

While various elements of judicial procedure can affect scientific integrity in international environmental adjudications, this Note focuses on four whose effect on a dispute's outcome is significant: (1) the standard to admit scientific evidence in court; (2) the standard of proof required to show a scientific fact; (3) who bears the burden of proof; and (4) how much deference to grant states and specialized international scientific bodies.

First, what scientific evidence to allow in the judicial record determines, for example, what proof of an alleged environmental harm a plaintiff may introduce before the international court. It determines also which of the parties' expert witnesses the court can hear. Standards for the admission of scientific evidence can protect the judicial process from unreliable or tainted evidence. Consistency and transparency over those admissibility standards also ensures that the litigants understand what evidence is admissible and that the court is unable to admit or reject scientific evidence without a valid reason. In the United States, for example, courts inquire into the scientific evidence's reliability, whether an expert is qualified to testify, and whether an expert grounds his or her opinion in reliable scientific methods.²¹

Second, what standard of proof an international court requires to find scientific facts also affects scientific integrity. The standard of proof in a case can determine an environmental dispute's outcome, especially when the science underlying the dispute is unclear. Higher burdens of proof make it harder to establish liability against an alleged environmental polluter. They might also make it harder for a polluter to claim an exception to an environmental treaty. Without announcing a standard of proof *ex ante*, a court can manipulate the proceedings to impose a higher standard of proof on the party against which it wishes to rule. Powerful parties may also unduly lean on the court to require the other side to adduce more evidence in support of its position than the relevant treaty actually requires. Even if the science underlying an environmental decision is clear, a manipulative court can always shift the

forum of public opinion is an effective restraint on possible abuse of judicial power.'" (internal citations omitted)).

21. FED. R. EVID. 702; *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579, 589–90 (1993).

goalpost and craft an ad hoc standard of proof that requires the party seeking redress to produce even more evidence.

Third, who bears the burden of proving a given scientific fact also affects scientific integrity. A plaintiff may struggle to produce compelling direct evidence of environmental harm because the science on the issue is unsettled or because the defendant has greater or exclusive access to probative evidence. In terms of factual integrity, if the burden of proof is placed on the party least able to access the relevant evidence, the court may improperly infer a lack of relevant scientific information or might come to the wrong conclusion based on an incomplete scientific record. Hence, in cases where the potential environmental harm to a plaintiff's community is great, the precautionary principle may justify shifting the burden of proof onto the defendant. And in terms of political integrity, a court could manipulate the judicial proceedings and outcomes by improperly placing the burden of proof on the party against which the court, or a powerful state influencing it, seeks to rule.

Fourth, how much deference an international court gives a state's or international institution's scientific assessment matters to scientific integrity as well. International environmental agreements sometimes set up specialized bodies charged with conducting scientific assessments.²² Other times, the states have a duty to conduct scientific assessments and report results internationally.²³ As a policy matter, judicial deference might turn on factors similar to the ones encountered in U.S. administrative law.²⁴

Factual integrity may counsel international courts to defer to national regulatory agencies, which are often comprised of scientists equipped with more scientific expertise than judges. On the other hand, a searching judicial review at the international level could foster factual integrity by allowing qualified scientific expert witnesses to review the state agency's scientific determinations. Deference is also relevant to political integrity. International courts reviewing scientific claims evaluate scientific and political determinations often made by democratic governments, which arguably are better placed than courts to assess how much environmental risk the affected nationals are willing to take. On the other hand, political integrity may call for international courts to closely review state agencies' determinations, because judges can protect the interests of the other treaty signatories. For example, in the WTO context, the tribunals will conduct a quasi-de novo review of states' health and safety regulations to ensure that these regulations do not amount to

22. See *infra* Part III (discussing the International Whaling Commission's Scientific Committee as an example).

23. For example, the International Convention on the Regulation of Whaling delegates to states the duty to grant their nationals special whaling permits "for purposes of scientific research," a process through which the states are supposed to ensure the permits' compliance with international law. Whaling Convention, *supra* note 6; see *infra* Part III.C (discussing Japan's permitting process).

24. Cf. *Chevron U.S.A., Inc. v. Nat. Res. Def. Council, Inc.*, 467 U.S. 837 (1984); *Skidmore v. Swift & Co.*, 323 U.S. 134 (1944).

hidden protectionism.²⁵ But international tribunals concerned about encroaching on states' national sovereignty are sometimes reluctant to overrule a state agency's factual or legal determination, lest states should refuse to consent to their jurisdiction in the future.²⁶

As the preceding paragraphs show, there are multiple ways to structure these four procedural elements. Various approaches have merit, and this Note is agnostic as to how best to structure these elements. But it argues, as a modest first step, for courts to apply these standards transparently and consistently. Consistency across international environmental adjudications offers two benefits. First, it fosters predictability. Clear procedural standards allow litigants and relevant stakeholders to plan their litigation strategy accordingly. Predictability may benefit vulnerable states and populations more than powerful ones. Vague rules are more likely to benefit powerful actors who can afford sophisticated legal advice and can pressure international courts to use judicial discretion in their favor.

Second, predictability reduces international courts' discretion on matters of procedure. Generally, flexibility can help courts respond to the specific needs of each case. But where courts have significant discretion in setting the four procedural standards described above, they have the power to affect the proceedings' scientific integrity and outcome. Imprecision in the rules and great judicial discretion create a risk that a court will fashion ad hoc procedural rules that fit the desired outcome in a particular case.²⁷

II. THE CURRENT PROCEDURAL GAP: SCIENCE IN INTERNATIONAL ENVIRONMENTAL DECISIONS

A. *Science in Recent International Environmental Disputes*

The following cases illustrate international tribunals' wide discretion in hearing and weighing scientific evidence by comparing approaches across the procedural elements relevant to scientific integrity: procedures to make the judicial proceedings transparent and accessible to nonstate parties; standards for the admission of scientific evidence in court; the standard of proof required for a court to find a scientific fact; who carries that burden of proof; and how much deference a court should give a state's or international institution's scientific assessment. This overview is not comprehensive. It aims to ground this Note's discussion of judicial procedures in concrete examples that preceded *Whaling in the Antarctic*.

25. See *infra* Part II.A.2 (discussing the WTO Beef Hormones case).

26. See FOSTER, *supra* note 3, at 14–15; Eric A. Posner & John C. Yoo, *Judicial Independence in International Tribunals*, 93 CALIF. L. REV. 1, 21 (2005) (arguing that the international courts' dependence on the consent of the litigants for jurisdiction makes it more likely that international courts will attempt to please states).

27. Cf. Wagner, *supra* note 13, at 1645–46 (arguing that a “premeditated charade” exists wherein agencies sometimes select science that justifies policy decisions made in advance).

1. *The ICJ's Pulp Mills on the River Uruguay (Argentina v. Uruguay)*

In 2010, the ICJ decided the case *Pulp Mills on the River Uruguay*, in which scientific claims were central to the dispute.²⁸ Argentina sued Uruguay, alleging a violation of a bilateral treaty regulating the two states' use of the River Uruguay.²⁹ The treaty required each state, before constructing any works affecting navigation or water quality, to notify a dedicated international commission.³⁰ The treaty also called on Argentina and Uruguay "to protect and preserve the aquatic environment and, in particular, to prevent its pollution."³¹ The treaty referred any disputes to the ICJ.³²

The dispute in this case concerned a pulp mill a Uruguayan pulp producer built on the Uruguay River.³³ Argentina alleged that Uruguay ignored information requests from the international commission and failed to timely notify Argentina of the mill's construction.³⁴ Argentina also claimed that Uruguay violated substantive treaty obligations, including the obligation to prevent pollution and preserve the aquatic environment.³⁵ The ICJ held that Uruguay had failed to notify Argentina,³⁶ but it found no substantive violation of the treaty's environmental standard.³⁷

The **transparency and inclusiveness** of the ICJ proceedings in this case were typical for the court. While the party's submissions were made public on the ICJ website, and the hearings were open to the public, no third parties submitted amicus briefs.

The ICJ also faced the question of **what expert evidence** to admit. Both states during the proceedings gave the court "a vast amount of factual and scientific material," including studies by experts.³⁸ Each state questioned the reliability of the other's evidence but never subjected the evidence to cross-examination because the experts appeared as counsel for the parties rather than as witnesses.³⁹ The ICJ acknowledged in its opinion that it would have been useful for the experts to appear instead as expert witnesses under Articles 57 and 64 of the Rules of Court to allow for cross-examination.⁴⁰ The court also

28. *Pulp Mills on the River Uruguay (Arg. v. Uru.)*, Judgment, 2010 I.C.J. 14, ¶¶ 165–66 (Apr. 20) [hereinafter *Pulp Mills*], available at <http://www.icj-cij.org/docket/files/135/15877.pdf>.

29. *Id.* ¶ 169; Statute of the River Uruguay, Uru.-Arg., Feb. 26, 1975, 1295 U.N.T.S. 340.

30. *Id.* art. 7.

31. *Id.* art. 41(a).

32. *Id.* art. 60.

33. For a more detailed account of the case and the disagreements between Argentina and Uruguay surrounding this treaty, see Daniel Kazhdan, *Precautionary Pulp: Pulp Mills and the Evolving Dispute between International Tribunals over the Reach of the Precautionary Principle*, 38 *ECOLOGICAL Q.* 527, 541–45 (2011).

34. *Pulp Mills*, *supra* note 28, ¶ 121.

35. *Id.* ¶¶ 190–266.

36. *Id.* ¶ 282(1).

37. *Id.* ¶ 282(2).

38. *Id.* ¶ 165.

39. *Id.* ¶¶ 165–67.

40. *Id.* ¶ 167.

refused to articulate a rule for the admissibility or reliability of scientific evidence, stating only that “it is the responsibility of the Court” to assess its probative value.⁴¹ The parties disputed the reliability and independence of each others’ studies and experts; for example, Uruguay argued that reports “prepared by retained experts for the purposes of the proceedings” should be treated with caution, whereas the court should give reports of competent international organizations “special weight.”⁴² But the ICJ found it unnecessary “to enter into a general discussion on the relative merits, reliability and authority of the documents and studies prepared by the experts and consultants.”⁴³

Turning to the **standard of proof**, the court did not clearly or consistently explain how much evidence would convince the court that Uruguay breached the treaty. At different points in its decision, the ICJ held Argentina to a standard of “convincing,” “clear,” and “conclusive” evidence, and the court never defined those terms.⁴⁴

Next, would Argentina or Uruguay **bear the burden** of proving that the pulp mill would not cause significant harm to the environment? In less than one page, the court invoked the general principle that “it is the duty of the party which asserts certain facts to establish the existence of such facts,” thus placing the burden on Argentina.⁴⁵ In so holding, the ICJ summarily dismissed Argentina’s argument that the precautionary principle should shift the burden to Uruguay, the party undertaking the potentially harmful project.⁴⁶ Neither could Argentina persuade the court that because Uruguay had greater—if not exclusive—access to factual evidence, Uruguay should bear a greater-than-ordinary burden of proof.⁴⁷ And although the bilateral treaty imposed procedural and substantive obligations on Uruguay to protect the environment, the court held that “there is nothing in the [treaty] itself to indicate that it places the burden of proof equally on both Parties.”⁴⁸

The court’s approach was consistent with scientific integrity in some respects. The court reviewed a large amount of scientific evidence to inform its ruling on Uruguay’s alleged substantive violations.⁴⁹ But the court could have done more. For example, without citing a source for its ruling, and despite its later ruling that it would consider all expert opinion regardless of its

41. *Id.* ¶ 168.

42. *Id.* ¶ 166.

43. *Id.* ¶ 168.

44. Kazhdan, *supra* note 33, at 545.

45. *Pulp Mills*, *supra* note 28, ¶ 162.

46. *Id.* ¶ 164.

47. *Id.* ¶ 226.

48. *Id.* ¶ 164.

49. *See, e.g., id.* ¶ 165 (“Both Argentina and Uruguay have placed before the Court a vast amount of factual and scientific material in support of their respective claims.”); *id.* ¶ 167 (“The Court has given most careful attention to the material submitted to it by the Parties. . . .”).

admissibility or reliability,⁵⁰ the ICJ sustained Uruguay's objection to a video Argentina sought to introduce into evidence.⁵¹ Commentators also criticized that scientific experts appeared before the court as advocates for the parties rather than as witnesses; indeed, the ICJ procedural rules would have allowed these experts to appear as witnesses.⁵²

In addition, the *Pulp Mills* case confirms a trend commentators have criticized: the ICJ applies various standards of proof across cases without clearly defining them.⁵³ In addition, the court's stance on the precautionary principle conflicts with the WTO's and the International Tribunal for the Law of the Sea's views,⁵⁴ thereby adding to procedural inconsistency across international tribunals. Unlike the latter two tribunals, the ICJ in *Pulp Mills* held that the precautionary principle did not justify lowering the plaintiff's burden of proof or shifting it to the defendant.⁵⁵

2. *The World Trade Organization's Beef Hormones Dispute*

The Beef Hormones dispute between the United States and the European Union was one of the WTO's most contentious and long-running controversies.⁵⁶ It centered on the scientific merits of the European Union's ban on imports of U.S. beef raised with certain growth hormones. Cattle producers in the United States, Canada, New Zealand, and other countries use growth-promoting hormones to more quickly and cheaply raise animals with a

50. *Id.* ¶ 168 (“As for the independence of [the parties’] experts, the Court does not find it necessary in order to adjudicate the present case to enter into a general discussion on the relative merits, reliability and authority of the documents and studies prepared by the experts and consultants of the Parties. It needs only to be mindful of the fact that, despite the volume and complexity of the factual information submitted to it, it is the responsibility of the Court, after having given careful consideration to all the evidence placed before it by the Parties, to determine which facts must be considered relevant, to assess their probative value, and to draw conclusions from them as appropriate. Thus, in keeping with its practice, the Court will make its own determination of the facts, on the basis of the evidence presented to it, and then it will apply the relevant rules of international law to those facts which it has found to have existed.”).

51. Donald K. Anton, *Case Concerning Pulp Mills on the River Uruguay (Argentina v. Uruguay) (Judgment) [2010] ICJ Rep (20 April 2010)*, 17 AUSTL. INT’L L.J. 213, 222 (2010).

52. *Id.* at 222; Cymie R. Payne, *Pulp Mills on the River Uruguay: The International Court of Justice Recognizes Environmental Impact Assessment as a Duty under International Law*, 14 ASIL INSIGHTS, no. 9, Apr. 22, 2010, available at <http://www.asil.org/insights/volume/14/issue/9/pulp-mills-river-uruguay-international-court-justice-recognizes>.

53. See *infra* Part II.B (discussing burdens of proof, including the ICJ's practice).

54. Kazhdan, *supra* note 33, at 549.

55. *Id.*; *Pulp Mills*, *supra* note 28, ¶ 226.

56. Appellate Body Report, *United States—Continued Suspension of Obligations in the EC—Hormones Dispute*, WT/DS320/AB/R (Oct. 16, 2008) [hereinafter 2008 Appellate Body Report]; Panel Report, *United States—Continued Suspension of Obligations in the EC—Hormones Dispute*, WT/DS320/R (Mar. 31, 2008); Appellate Body Report, *EC Measures Concerning Meat and Meat Products (Hormones)*, WT/DS26/AB/R, WT/DS48/AB/R (Jan. 16, 1998); Panel Report, *EC Measures Concerning Meat and Meat Products (Hormones)*, WT/DS26/R/USA (Aug. 18, 1997) [hereinafter 1997 Panel Report].

leaner carcass.⁵⁷ While the U.S. Food and Drug Administration and U.S. Department of Agriculture maintain that giving these hormones to cattle has no physiological significance for humans, the European Union believes this practice poses a health risk.⁵⁸

E.U. regulations in the 1980s and in 2003 banned the use of synthetic hormones, preventing U.S. beef from entering the E.U. market.⁵⁹ The United States sued the European Union, alleging that the regulations were actually meant to shield the European Union from foreign competition and thus violated international trade law.⁶⁰ The European Union claimed that WTO law permitted the beef hormone regulations, which aimed to protect the health and safety of its citizens.⁶¹ Following two decades of disagreement, the latest WTO tribunal decision in 2008 allowed both the European Union to maintain its ban on U.S. imports and the United States to impose trade sanctions against the European Union.⁶²

Most relevant to this Note is the way the WTO tribunals handled the parties' scientific claims. The Agreement on Application of Sanitary and Phytosanitary Measures (SPS Agreement) governs countries' use of national regulations protecting human, animal, and plant life.⁶³ SPS measures protect residents from such risks as imported pests, diseases, contaminants, and toxins, so the E.U. regulations on beef hormones fell under the SPS Agreement.⁶⁴ Countries may not use these measures to disguise restrictions on international trade.⁶⁵

Countries must, among other requirements, ensure that an SPS measure "is based on scientific principles and is not maintained without sufficient scientific evidence."⁶⁶ Domestic health and safety measures may be stricter than

57. RENÉE JOHNSON & CHARLES E. HANRAHAN, CONG. RESEARCH SERV., R40449, THE U.S.-EU BEEF HORMONE DISPUTE 1–2 (2010), available at <http://fas.org/sgp/crs/row/R40449.pdf>.

58. *Id.*

59. For the original regulations, see Council Directive 81/602/EEC, 1981 O.J. (L 222) 32; Council Directive 88/146/EEC, 1988 O.J. (L 70) 16. In 2003, in response to a first WTO ruling against it, the European Union adopted a new regulation purportedly better supported by scientific evidence. This second regulation banned the hormone estradiol-17 β and provisionally banned five other hormones. Council Directive 2003/74/EC Amending Council Directive 96/22/EC Concerning the Prohibition on the Use in Stockfarming of Certain Substances Having a Hormonal or Thyrostatic Action and of Beta-agonists, 2003 O.J. (L 262) 17.

60. 1997 Panel Report, *supra* note 56, at 12.

61. *Id.* at 13, ¶ 3.4.

62. 2008 Appellate Body Report, *supra* note 56. To resolve the stalemate, both sides then moved towards a political compromise. *New Issues Arise in EU-US Beef Trade Dispute*, BIORES (June 26, 2009), <http://www.ictsd.org/bridges-news/biores/news/new-issues-arise-in-eu-us-beef-trade-dispute> (describing the E.U.-U.S. agreement).

63. WTO Agreement on the Application of Sanitary and Phytosanitary Measures, Annex A, ¶ 1, Apr. 15, 1994, 1867 U.N.T.S. 493 [hereinafter SPS Agreement].

64. *Id.*

65. *Id.* art. 2.3.

66. *Id.* art. 2.2.

international standards⁶⁷ “if there is a scientific justification,” or if the measures are based on a risk assessment that takes into account available scientific evidence.⁶⁸ In addition, where “relevant scientific evidence is insufficient,” a country may provisionally adopt SPS measures “on the basis of available pertinent information,” but the country must seek additional scientific information “within a reasonable period of time” and review the provisional measure accordingly.⁶⁹

In determining whether sufficient scientific evidence justified the E.U. ban, the WTO tribunals had to consider the elements of scientific integrity this Note laid out in Part I. The WTO agreements provide incomplete guidance on procedure, so the tribunals applied the relevant rules where they existed and made ad hoc procedural decisions where those agreements were ambiguous or silent.

On the **admission of scientific evidence**, “there are few rules of evidence or formal due process that govern panel procedures. Each panel creates its own procedures based on ‘boilerplate’ found in the DSU.”⁷⁰ The Dispute Settlement Understanding (DSU) is a WTO agreement that specifies procedures to resolve trade disputes between states.⁷¹ Its provisions apply unless one of the “covered agreements” (including the SPS) contains a specific dispute settlement provision.⁷² The DSU says a WTO tribunal “should make an objective assessment of the matter before it, including an objective assessment of the facts of the case and the applicability of and conformity with the relevant covered agreements.”⁷³ Tribunals “may seek information from any relevant source and may consult experts to obtain their opinion on certain aspects of the matter.”⁷⁴ The SPS Agreement adds that in a dispute “involving scientific or technical issues, a panel should seek advice from experts chosen by the panel in

67. Examples of international standards include those of the International Organization for Standardization, the Codex Alimentarius Commission, and the International Electrotechnical Commission. See, e.g., Jack A. Bobo, *Two Decades of GE Food Labeling Debate Draw to an End—Will Anybody Notice?*, 48 IDAHO L. REV. 251, 252, 256–58 (2012) (discussing the Codex standards’ guidance on genetically modified organisms and the implications for countries’ regulations challenged under the WTO’s SPS Agreement). Sanitary or phytosanitary measures that conform to international standards are presumptively consistent with the SPS Agreement. SPS Agreement, *supra* note 63, art. 3.2. For a discussion of the international standards system, see MICHAEL J. TREBILCOCK & ROBERT HOWSE, *THE REGULATION OF INTERNATIONAL TRADE* 328–30 (2013).

68. SPS Agreement, *supra* note 63, art. 5.

69. *Id.* art. 5.7.

70. TREBILCOCK & HOWSE, *supra* note 67, at 203. WTO tribunals are composed of “Panels” at the initial stage and an “Appellate Body” on appeal. *Understanding the WTO: Settling Disputes*, WTO, https://www.wto.org/english/thewto_e/whatis_e/tif_e/disp1_e.htm (last visited June 25, 2015).

71. Understanding on Rules and Procedures Governing the Settlement of Disputes, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 2, 1869 U.N.T.S. 401, 33 I.L.M. 1226 [hereinafter DSU].

72. *Id.* art. 1.2.

73. *Id.* art. 11.

74. *Id.* art. 13.

consultation with the parties to the dispute.⁷⁵ The Appellate Body in the Hormones dispute added that “[a] panel may and should rely on the advice of experts in reviewing a WTO member’s SPS measure.”⁷⁶ All of these provisions give WTO tribunals wide discretion to solicit submissions from the parties and third parties.⁷⁷ In the Hormones dispute, the panel asked the parties to the dispute to name one expert each and then named three experts itself.⁷⁸ The tribunals reviewed a range of studies submitted by both parties.⁷⁹

The above provisions speak to *who* may submit information to the tribunal rather than *what* scientific evidence is admissible. The Appellate Body briefly addressed the latter issue when it said that “while the correctness of the views need not have been accepted by the broader scientific community, the views must be considered to be legitimate science according to the standards of the relevant scientific community.”⁸⁰ This standard gives the tribunals a lot of discretion over what evidence to admit and consider persuasive.⁸¹ Scholars have warned about letting judges “pick and choose among scientific evidence and expert testimony” when these judges have no scientific background and appear to misunderstand scientific conclusions.⁸²

Turning to the **standard of proof**, the tribunals provided little guidance, except to recall that the DSU calls on tribunals to “make an objective assessment of the matter before it, including an objective assessment of the facts of the case and the applicability of and conformity with the relevant covered agreements.”⁸³ The Appellate Body noted in another case that the party seeking to establish a claim needed to “adduce[] evidence sufficient to raise a presumption that what is claimed is true.”⁸⁴ The same tribunal added that “precisely how much and precisely what kind of evidence will be required to establish such a presumption will necessarily vary from measure to measure, provision to provision, and case to case.”⁸⁵

In the Hormones case, however, the Appellate Body explained that in limited circumstances, a country could justify its SPS measure with a lower

75. SPS Agreement, *supra* note 63, art. 11.2.

76. Appellate Body Report, *EC Measures Concerning Meat and Meat Products (Hormones)*, ¶ 592, WT/DS26/AB/R, WT/DS48/AB/R (Jan. 16, 1998) [hereinafter 1998 Appellate Body Report].

77. TREBILCOCK & HOWSE, *supra* note 67, at 195–96.

78. *Id.* at 307.

79. *See, e.g.*, 1997 Panel Report, *supra* note 56, ¶¶ 8.108–09.

80. 1998 Appellate Body Report, *supra* note 76, ¶ 591.

81. *See* TREBILCOCK & HOWSE, *supra* note 67, at 294 (“[T]he complexity of the scientific issues that arise as part of many SPS disputes and the consequent necessity of using scientific experts to clarify the issues has raised issues of how much discretion WTO panels have in interpreting complex scientific issues . . .”).

82. *Id.* at 307–08.

83. DSU, *supra* note 71, art. 11.

84. Appellate Body Report, *United States—Measure Affecting Imports of Woven Wool Shirts and Blouses from India*, 14, WT/DS33/AB/R (Apr. 25, 1997) [hereinafter *United States—Blouses*].

85. *Id.*

standard of proof.⁸⁶ Article 5.7 of the SPS Agreement authorizes member states to take provisional SPS measures “where relevant scientific evidence is insufficient,”⁸⁷ in effect embracing a variation of the precautionary principle.⁸⁸ But some showing of evidence is still required: the provisional measure must be based on “available pertinent information” at the time, a threshold the tribunals did not define,⁸⁹ and the member state must “seek to obtain the additional information necessary” and adjust its measure accordingly within a reasonable period of time.⁹⁰ In the Beef Hormones case, the European Union had provisionally banned four growth hormones, and the Appellate Body reversed the panel’s findings without resolving whether the European Union’s provisional measures were consistent with Article 5.7 of the SPS agreement.⁹¹ This decision “leave[s] room for considerable interpretation—in particular, what constitutes ‘insufficient’ scientific information in the eyes of the Panel and Appellate Body?”⁹²

On the question of **who bore the burden of proving** a violation of WTO rules, the tribunals were clearer, but they did not extinguish all ambiguities. Drawing on an earlier WTO case, the Appellate Body explained:

The initial burden lies on the complaining party, which must establish a prima facie case of inconsistency with a particular provision of the SPS Agreement on the part of the defending party, or more precisely, of its SPS measure or measures complained about. When that prima facie case is made, the burden of proof moves to the defending party, which must in turn counter or refute the claimed inconsistency.⁹³

Similarly, a party seeking to assert a defense bears the burden of establishing it.⁹⁴

The question of **which standard of review** WTO tribunals should apply to states’ regulatory decisions is one of the most fundamental and controversial in the international trade regime. Some believe the WTO should not second-guess states’ substantive regulatory decisions on health and safety, while others believe reviewing state decisions’ compliance with international trade

86. 2008 Appellate Body Report, *supra* note 56, ¶¶ 675–81.

87. SPS Agreement, *supra* note 63, art. 5.7.

88. TREBILCOCK & HOWSE, *supra* note 67, at 298.

89. See 2008 Appellate Body Report, *supra* note 56, ¶¶ 712, 721–35 (rejecting the panel’s finding that a “critical mass” of new evidence or information is necessary to justify a country’s adoption of provisional measures, but articulating no clear alternative standard).

90. For a more detailed discussion of the WTO jurisprudence on SPS cases where scientific evidence is insufficient, see TREBILCOCK & HOWSE, *supra* note 67, at 296–99.

91. See 2008 Appellate Body Report, *supra* note 56, ¶¶ 735, 736(d)(vi).

92. TREBILCOCK & HOWSE, *supra* note 67, at 296.

93. 1998 Appellate Body Report, *supra* note 76, ¶ 98 (citing *United States—Blouses*, *supra* note 84, at 14).

94. TREBILCOCK & HOWSE, *supra* note 67, at 193.

procedures is necessary to prevent states from disguising protectionist measures as health and safety regulations.⁹⁵

Despite this question's inherently political nature, only one of the WTO agreements—the Antidumping Agreement—explicitly states which standard of review a WTO tribunal should apply.⁹⁶ Measures states adopt under other WTO agreements would be reviewed under the standard procedures of the DSU, which contain no specific guidance for WTO tribunals on how much they should defer to states' assessments of necessity or rationality.⁹⁷ In the *Hormones* case, the Appellate Body fashioned a standard of review out of Article 11 of the DSU Agreement, which does not directly illuminate the question.⁹⁸ The tribunal in that case laid out an “objective assessment” standard that fell somewhere in between *de novo* and total deference.⁹⁹ Still, in practice, the WTO tribunals review state regulations *de novo*, “even where their handling of scientific evidence is reasonable,” to assess whether that country's SPS measures are consistent with the SPS Agreement.¹⁰⁰

Scholars have argued that the WTO's review of state regulations is too intrusive, because it is not consistent with WTO agreements and because it may infringe upon state sovereignty. One author argues that “the WTO's review of SPS measures is inappropriately intrusive and generates unnecessary costs to the trading system.”¹⁰¹ Others write that ambiguous treaty provisions are partly to blame for these “unnecessarily intrusive” WTO reviews of state regulations.¹⁰²

Overall, scholars have largely ignored the scientific reasoning that underlies risk assessments.¹⁰³ A clearer process for the admission of scientific

95. See, e.g., Guzman, *supra* note 3, at 5–6.

96. TREBILCOCK & HOWSE, *supra* note 67, at 194. The Antidumping Agreement provides in Article 17.6 that “[i]f the establishment of the facts [by national authorities] was proper and the evaluation was unbiased and objective, even though the panel might have reached a different conclusion, the evaluation shall not be overturned.” *Id.* (citing Agreement on Implementation of Article VI of the General Agreement on Tariffs and Trade 1994 (Anti-dumping Agreement), art. 17.6, Apr. 15, 1994; Marrakesh Agreement Establishing the World Trade Organization, 1868 U.N.T.S. 201).

97. JOHN H. JACKSON ET AL., LEGAL PROBLEMS OF INTERNATIONAL ECONOMIC RELATIONS 290 (6th ed. 2013) (“The DSU gives no guidance on [the extent to which a panel or the Appellate Body should defer to the challenged governments' assessment of necessity or rationality] beyond directing panels to make an objective assessment of the matter before them.”).

98. The relevant section of the DSU Agreement states in part that “a panel should make an objective assessment of the matter before it, including an objective assessment of the facts of the case and the applicability of and conformity with the relevant covered agreements.” DSU, *supra* note 71, art. 11. Professors Michael Trebilcock and Robert Howse argued that “[i]t is difficult to see how the [Appellate Body] was able to understand Article 11 as illuminating with respect to where on the spectrum between *de novo* review and total deference the appropriate benchmark is to be found.” TREBILCOCK & HOWSE, *supra* note 67, at 194.

99. 1998 Appellate Body Report, *supra* note 76, ¶¶ 587–90; see also TREBILCOCK & HOWSE, *supra* note 67, at 194.

100. TREBILCOCK & HOWSE, *supra* note 67, at 295.

101. Guzman, *supra* note 3, at 4.

102. TREBILCOCK & HOWSE, *supra* note 67, at 216, 295.

103. *Id.* at 330.

evidence in WTO cases would help ensure, for example, that the information presented is reliable and untainted by the self-interest of the governments or the third parties sponsoring and conducting the scientific studies.¹⁰⁴ Reflecting on ways to improve the review of health and safety regulations at the WTO, scholars have observed:

As a growing number of products based on cutting-edge scientific technology reach the market, the need for consistent interpretation of scientific evidence with regard to risk assessment will continue to grow. As it stands, however, the approach used by WTO panels to interpret scientific evidence will only exacerbate disputes, reflecting as it does a flawed understanding of the principles of scientific research.¹⁰⁵

Neither are WTO adjudications a model of transparency and inclusiveness, although things have improved in recent years. Panel deliberations and proceedings, as well as parties' written submissions, are confidential,¹⁰⁶ but several national governments choose to routinely make their submissions available to the public on their websites.¹⁰⁷ Since 2005, several cases have had public hearings thanks to the agreement of the parties involved.¹⁰⁸ In addition, the Appellate Body has interpreted the WTO agreements as permitting tribunals to solicit amicus briefs from third parties, which can be either other governments or civil society organizations.¹⁰⁹

B. International Procedural Norms Relevant to Scientific Integrity

Stepping back from these examples, this Note surveys the sources of international law relevant to scientific integrity. It looks at norms concerning the procedural elements relevant to scientific integrity and explains how these elements, if applied inconsistently, can undermine scientific integrity.

International norms affecting scientific integrity can be binding or nonbinding. There are four binding sources of international law: treaties; customary state practice; general principles of law recognized by civilized nations; and judicial decisions and the teachings of the most highly qualified publicists of the various nations.¹¹⁰ By contrast, nonbinding norms are known as "soft law."¹¹¹ Examples of soft law include United Nations General Assembly resolutions, the decisions of international environmental institutions,

104. *Id.*

105. *Id.* at 332.

106. DSU, *supra* note 71, art. 14.

107. TREBILCOCK & HOWSE, *supra* note 67, at 203.

108. *Id.* at 204.

109. *See id.* at 189–90 (describing the practice of WTO tribunals in admitting amicus briefs).

110. Statute of the International Court of Justice, art. 38, available at <http://www.icj-cij.org/documents/?p1=4&p2=2> [hereinafter ICJ Statute].

111. *See, e.g.,* Andrew T. Guzman & Timothy L. Meyer, *International Soft Law*, 2 J. LEGAL ANALYSIS 171 (2010) (defining soft law).

such as the United Nations Environment Program's Governing Council, and international court decisions binding only on the parties before the court but relevant to a broader issue in international law.¹¹² Soft law is important because despite its nonbinding nature, it shapes state behavior, and international courts sometimes choose to rely on it to interpret a treaty or decide what judicial procedure to adopt.¹¹³ In addition, soft law can gradually turn into binding international law if it is so widely followed by states that it represents customary international law.¹¹⁴

International judicial decisions setting procedural standards are a form of "soft law" also relevant to scientific integrity. Although the decisions of international tribunals do not form a corpus of precedents binding on future courts, they have persuasive value.¹¹⁵ For example, an ICJ decision interpreting an environmental treaty or the precautionary principle is not binding on other courts or even on the ICJ itself in a future case.¹¹⁶ Nevertheless, international tribunals often try to be consistent with their own prior precedents and look to other courts for guidance.¹¹⁷ Decisions of the ICJ in particular carry great persuasive weight.¹¹⁸

112. See, e.g., *id.* at 216 ("The United Nations General Assembly, for example, issues resolutions that, though not binding as a matter of international law, are widely acknowledged to impact the legal obligations of states."); *id.* at 221 ("Among those that seek to influence the international understanding of soft law norms are the UN General Assembly, the OECD, the IMF, the World Bank, the Human Rights Committee, the International Labor Organization, Greenpeace, Amnesty International, Human Rights Watch, and many others."); *id.* at 202–03 (discussing the authority international court decisions enjoy even from parties on whom the decisions are not binding).

113. The Helsinki Final Act is often cited as an example of an international political agreement that was not legally binding but nevertheless heavily influenced state signatories' behavior by disciplining Eastern and Western states during the Cold War. JEFFREY DUNOFF & STEVEN RATNER, *INTERNATIONAL LAW NORMS, ACTORS, PROCESS: A PROBLEM ORIENTED APPROACH* 93–94 (3d ed. 2010) (discussing the Helsinki Final Act); see also Guzman & Meyer, *supra* note 111, at 213 ("Compliance with nonbinding norms and decisions . . . becomes one guidepost for states to use in assessing whether future behavior is compliant with the underlying legal rules."), 219 ("That courts, judges, and scholars do regularly treat [United Nations] General Assembly resolutions as if they have freestanding legal effect is obvious from a cursory inspection of major judicial opinions.").

114. See ICJ Statute, *supra* note 110, art. 38 (explaining that consistent state practice can be evidence of binding customary international law). For example, the United Nations Declaration of Human Rights is a resolution of the United Nations General Assembly that was not binding when adopted in 1948 but is now customary international law and hence binding. See, e.g., Jochen von Bernstorff, *The Changing Fortunes of the Universal Declaration of Human Rights: Genesis and Symbolic Dimensions of the Turn to Rights in International Law*, 19 EUR. J. INT'L L. 903, 913 ("[T]he reference to customary law has become a standard argument in discussions of the legal nature of the Declaration and individual provisions thereof.").

115. Guzman & Meyer, *supra* note 111, at 178.

116. See *id.* at 187–88 (citing ICJ Statute, *supra* note 110, art. 59).

117. See, e.g., 1998 Appellate Body Report, *supra* note 76, ¶ 98 (citing an earlier Appellate Body Report to determine which party bore the burden of proof); see also FOSTER, *supra* note 3, at 3 ("Though there is no formal doctrine of precedent in international adjudication, courts and tribunals do look to one another's decisions for insight—on both substantive and procedural matters.").

118. For example, the WTO Appellate Body looked to "various international tribunals, including the International Court of Justice," to clarify which party, under WTO law, bears the burden of proof. *United States—Blouses*, *supra* note 84, at 14.

Looking first at standards for the admission of scientific evidence, there is no treaty similar to the Federal Rules of Evidence or the Administrative Procedure Act that specifies judicial procedure for *all* international tribunals. Unlike U.S. law, for example, international law generally places “little restriction on the admissibility of evidence” by international tribunals.¹¹⁹ Instead, international tribunals frequently settle on evidentiary procedures after hearing the views of the parties at the start of the litigation.¹²⁰ But sometimes, international tribunals’ organic treaties will specify certain procedures, such as the appointment of experts. For example, the ICJ may appoint independent experts to help it decide a case, although it has done so only once since its creation in 1946.¹²¹ In contrast, the WTO commonly appoints experts to help it resolve disputes of a scientific nature.¹²²

Next, tribunals’ procedural rules rarely specify a standard of proof, and their practice is inconsistent. Different tribunals, and sometimes the same tribunal, have used a wide array of terms to describe the applicable standard:

International courts and tribunals appear ready to “establish which relevant facts [they] regard as having been convincingly established by the evidence,” to find “from any quarter” a fact not “suggesting the slightest doubt,” to identify “evidence that can safely be relied on in a court of law,” to look for “clear and compelling evidence,” to “attain the . . . degree of certainty . . . that the facts . . . are supported by convincing evidence,” to acknowledge the absence of “doubt,” to “satisfy [themselves] that [they are] in possession of all the available facts,” and to determine “established facts.”¹²³

Relatedly, although some issue-specific treaties provide some guidance, no universal rule in international law specifies who bears the burden of proof. Few international courts’ procedural rules address this question,¹²⁴ and the courts’ practices vary. Some international courts and commentators have noted a general presumption that the party asserting a claim bears the burden of

119. FOSTER, *supra* note 3, at 4.

120. *Id.*; see also, e.g., Rules of Court, 1978 I.C.J. Acts & Docs., art. 58(2), available at <http://www.icj-cij.org/documents/index.php?p1=4&p2=3&p3=0>.

121. ICJ Statute, *supra* note 110, art. 30; Caroline E. Foster, *New Clothes for the Emperor? Consultation of Experts by the International Court of Justice*, 5 J. INT’L DISP. SETTLEMENT 139, 142–43 (2014) (reviewing the ICJ’s procedures for appointing experts in proceedings).

122. See *supra* Part II.A.2 (discussing the use of experts in WTO proceedings).

123. Mbengue, *supra* note 3, at 514 (internal citations omitted); see also *supra* note 44 and accompanying text (discussing the ICJ’s description of the burden of proof in its *Pulp Mills* decision, holding at various points in the decision the plaintiff to a “convincing,” “clear,” or “conclusive” evidence standard without defining those terms).

124. FOSTER, *supra* note 3, at 193 (“The statutes of the Permanent Court of International Justice, the International Court of Justice and the International Tribunal for the Law of the Sea are silent on [the allocation of the burden of proof], and indeed, they say little on questions of procedure more generally.”).

proving it,¹²⁵ but this is not a rule international courts have always clearly stated.¹²⁶ Moreover, some international courts believe the precautionary principle creates a rebuttable presumption of environmental harm where scientific information about a significant environmental risk is not yet known—in effect shifting the burden of proof to the defendant.¹²⁷ Some have argued that the WTO shifts the burden of proof in this way when it requires the state challenging another state's health-protection measures to prove that those measures violate the SPS Agreement.¹²⁸ And even where the WTO rules are silent on burden of proof, such as for Article XX claims, the tribunal sometimes follows the same approach.¹²⁹ However, in *Pulp Mills*, the ICJ refused to invoke the precautionary principle to shift the burden of proof to the defendant, where the applicable treaty was silent on the burden-of-proof question.¹³⁰

Similarly, there does not appear to be an explicit international norm specifying when an international tribunal should defer to a state's or specialized agency's scientific determinations. Some international decisions suggest that states are sometimes entitled to deference. The WTO's Dispute Settlement Body has sometimes deferred to national agencies' findings on health and safety,¹³¹ but on other issues it struck a balance between de novo review and full deference.¹³² Where a treaty grants a state wide authority to implement a treaty, an international court sometimes gives deference to that state's interpretation of the treaty.¹³³ For example, the European Court of Human Rights grants states a "margin of appreciation" to interpret their obligations under the European Convention on Human Rights, an approach that could be embraced by other courts.¹³⁴ Japan borrowed this European approach in the

125. See, e.g., 1998 Appellate Body Report, *supra* note 76, ¶ 98 (citing *United States—Blouses*, *supra* note 84, at 14).

126. See *infra* Part IV.D (discussing the ICJ's failure in *Whaling in the Antarctic* to explain in its opinion who bore the burden of proof).

127. FOSTER, *supra* note 3, at 264.

128. *Id.*

129. *Id.* at 264 (arguing that in the *Shrimp Turtle* dispute "it was as though a precautionary reversal of the burden of proof were at work").

130. *Pulp Mills*, *supra* note 28, ¶ 164; see also Kazhdan, *supra* note 33, at 528 (arguing that the ICJ's decision in *Pulp Mills* "eviscerated" the precautionary principle).

131. FOSTER, *supra* note 3, at 14 ("Findings like those of the Appellate Body in the *Continued Suspension of Obligations* cases are sometimes understood to . . . establish[] a level of deference that is to be shown towards the national level decision-making of sovereign states.")

132. See *supra* Part II.A.2 (discussing the WTO's deference to the European Union's ban on imports of beef raised with growth hormones); see also FOSTER, *supra* note 3, at 17 (discussing the WTO Appellate Body decision in *European Communities—Measures Concerning Meat and Meat Products (Hormones)* and noting that the Dispute Settlement Understanding requires a panel to make "an objective assessment of the matter before it").

133. See, e.g., Sonia E. Rolland, *Whaling in the Antarctic (Australia v. Japan: New Zealand Intervening)*, 108 AM. J. INT'L L. 496 (2014).

134. See generally Yuval Shany, *Toward a General Margin of Appreciation Doctrine in International Law?*, 16 EUR. J. INT'L L. 907, 909–10 (2005).

Southern Bluefin Tuna dispute.¹³⁵ In that case, Japan insisted that its disputed fishing program complied with a treaty protecting the Southern Bluefin Tuna, an endangered species.¹³⁶ Japan argued that the arbitral tribunal should grant it a “margin of appreciation” in implementing the treaty and should only overturn irrational or fundamentally flawed national determinations.¹³⁷ Australia and New Zealand opposed granting Japan this much deference, but the tribunal never reached the question.¹³⁸ The ICJ heard and resolved a similar request for deference—also from Japan—in *Whaling in the Antarctic*, discussed in Part III.D below.

Lastly, the following are examples of transparency-oriented international standards. According to a recent ICJ decision, it is now “a requirement under general international law” for states to undertake an environmental impact statement when there is a risk of significant adverse transboundary environmental impact.¹³⁹ Several environmental treaties require prior informed consultation or consent by affected states or communities.¹⁴⁰ A regional convention and several United Nations decisions enunciate people’s right to transparency, public participation, and access to justice in matters affecting the environment.¹⁴¹ Ironically, despite these varied calls for inclusiveness in environmental matters, the ICJ generally does not accept *amicus curiae*

135. Southern Bluefin Tuna Case (Austl. & N.Z. v. Japan), Award on Jurisdiction and Admissibility, Aug. 4, 2000, Arbitral Tribunal Constituted under Annex VII of the United Nations Convention for the Law of the Sea [hereinafter Bluefin Tuna Case], available at <https://icsid.worldbank.org/apps/ICSIDWEB/about/Pages/Southern-Bluefin-Tuna-Case—Australia-and-New-Zealand-v.-Japan.aspx>.

136. Government of Japan, Memorial on Jurisdiction, ¶ 2, Bluefin Tuna Case, *supra* note 135.

137. *Id.* ¶¶ 165, 172; see also FOSTER, *supra* note 3, at 15–16 (discussing this case).

138. See FOSTER, *supra* note 3, at 15–16.

139. *Pulp Mills*, *supra* note 28, ¶ 204; see also Convention on Environmental Impact Assessment in a Transboundary Context, Feb. 25, 1991, 1989 U.N.T.S. 309.

140. See, e.g., Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, Sept. 10, 1998, 2244 U.N.T.S. 337; Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal arts. 6–7, Mar. 22, 1989, 1673 U.N.T.S. 57 (requiring a state exporting hazardous wastes to notify and secure the written consent of the prospective states of import and transit).

141. Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, June 25, 1998, 2161 U.N.T.S. 447; United Nations Conference on Environment and Development, Rio de Janeiro, Braz., June 3–14, 1992, Rio Declaration on Environment and Development, Principle 10, U.N. Doc A/CONF.151/26 (Aug. 12, 1992), available at <http://www.un.org/documents/ga/conf151/aconf15126-1annex1.htm>; UNITED NATIONS ENV’T PROGRAMME, GOAL AND PRINCIPLES OF ENVIRONMENTAL IMPACT ASSESSMENT OF THE UNITED NATIONS ENVIRONMENT PROGRAMME (1987), available at <http://www.unep.org/Documents.multilingual/Default.asp?DocumentID=100&ArticleID=1658&l=en>.

briefs¹⁴² and some international proceedings about environmental issues are closed to the public.¹⁴³

In sum, international procedural rules relevant to scientific integrity vary from tribunal to tribunal. Some scholars claim that procedural practice across tribunals has been relatively consistent because courts voluntarily follow each other's procedures.¹⁴⁴ Still, this apparent consistency hides several gaps and risks for scientific integrity.

C. *Problems Posed by the Relative Lack of International Procedural Standards*

Claims that judicial procedures are consistent across international tribunals may be exaggerated: The preceding review of judicial procedures relevant to scientific integrity shows important variations from tribunal to tribunal and even from case to case at the same tribunal. Recall the discussion of standards of proof and the wide variation in the terms courts use without defining.¹⁴⁵ Recall also international courts' disagreement about the precautionary principle and whether it ever shifts the burden to the defendant.¹⁴⁶ With so much imprecision and judicial discretion, there is a risk that a court will fashion ad hoc burden-of-proof rules that fit the desired outcome in a particular case.

Even if international tribunals' procedures are relatively consistent, they are incomplete. In the *Pulp Mills* case, the ICJ denied Argentina's request to admit a video recording in support of its allegations of environmental harm against Uruguay, but the court cited no authority.¹⁴⁷ The ICJ may well have had valid reasons to reject the evidence, such as doubts about its authenticity. But ruling on the admission of scientific evidence with no reasoning and with no public evidentiary rule in the backdrop could lead to abuse or injustice. For

142. Philippe J. Sands & Ruth Mackenzie, *International Courts and Tribunals, Amicus Curiae*, MAX PLANCK ENCYCLOPEDIA PUB. INT'L L., ¶¶ 6–10, <http://opil.louplaw.com/view/10.1093/law:epil/9780199231690/law-9780199231690-e8> (last updated Jan. 2008).

143. See *supra* Part II.A.2 (discussing the relative lack of transparency of WTO proceedings). In addition, international arbitrations are typically closed to the public and their outcomes confidential. See Eugenia Levine, *Amicus Curiae in International Investment Arbitration: The Implications of an Increase in Third-Party Participation*, 29 BERKELEY J. INT'L L. 200, 204–205 (2011) (describing the appeal of investment arbitration for the litigants because of the privacy and confidentiality that surrounds the proceedings); Julie A. Maupin, *Transparency in International Investment Law: The Good, the Bad and the Murky*, in TRANSPARENCY IN INTERNATIONAL LAW 142 (Andrea Bianchi & Anne Peters eds., 2013) (contrasting the relative transparency of the North American Free Trade Agreement with the International Center for Settlement of Investment Disputes and United Nations Commission on International Trade Law practices).

144. FOSTER, *supra* note 3, at 3 (“There is increasing commonality in the procedural rules that international courts and tribunals apply in relation to matters of proof and procedure.”).

145. See *supra* note 123 and accompanying text.

146. See *supra* notes 124–130 and accompanying text.

147. Anton, *supra* note 51, at 222.

example, how will communities affected by transboundary environmental harm know what evidence to collect and how to present it to the court?

Since there is no such thing as international *stare decisis*, international tribunals are free to depart from past procedural practices and norms they or their peers have enunciated.¹⁴⁸ Not only does this create a lack of predictability for the parties to the dispute, it also poses a risk to scientific integrity because a court could suddenly severely restrict access to scientific information, limit cross-examination, or shift burdens of proof. Without clear rules, an international court can arbitrarily leave out scientific evidence that is relevant to the case and consistent with scientific standards, thereby contributing to a decision that poorly aligns with scientific evidence.

Finally, international tribunals are creating *ad hoc* procedural rules with limited political legitimacy and accountability. This poses two problems for scientific integrity. First, with few exceptions, there is no way to appeal the decisions of international courts and tribunals, so there is no judicial remedy if a court commits a procedural error or misunderstands crucial scientific information.¹⁴⁹ Scientific information risks being improperly set aside or distorted during the proceedings, leading to an erroneous application of international environmental norms. Second, international tribunals are developing *ad hoc* procedural rules without an explicit mandate from states or much political oversight. Political checks do exist, including the power of states to remove judges, to alter a court's budget, to withdraw from a treaty, or to no longer submit international disputes to the international court in question. But the lack of clear procedural rules and the vast discretion it gives international courts may not be sufficiently visible to government officials for them to notice and sanction abuses. Moreover, international courts are not required to look beyond the litigants to the interests of the general public.

This Part painted a broad picture of the pre-2014 international procedural landscape within which international courts resolved environmental disputes involving scientific questions. The next Part summarizes the ICJ's decision in *Whaling in the Antarctic*.

III. OVERVIEW OF THE WHALING CONVENTION AND THE ICJ'S DECISION IN *WHALING IN THE ANTARCTIC*

A. *Scientific Whaling under the ICRW*

The International Convention for the Regulation of Whaling (ICRW) is the main international instrument regulating states' whaling practices.¹⁵⁰ The

148. See *supra* note 115 and accompanying text (discussing the lack of an international common law).

149. See, e.g., *supra* note 70 (describing the WTO's two-tiered dispute-resolution mechanism).

150. Whaling Convention, *supra* note 6.

1946 treaty counts eighty-eight parties.¹⁵¹ Although the Convention's stated goal is to "ensure proper and effective conservation and development of whale stocks" and the "orderly development of the whaling industry,"¹⁵² states disagree about its precise purpose. In 1982, the ICRW imposed a moratorium on the killing of whales from all stocks for commercial purposes.¹⁵³ The moratorium was supposed to remain only until states agreed on a system to set and periodically revise sustainable commercial whale catch limits.¹⁵⁴ But the negotiations over this regime have been deadlocked, in effect making the temporary moratorium permanent.¹⁵⁵ While the Convention initially regulated the whaling industry primarily to prevent overexploitation, more and more states now view it as a forum for conservation.¹⁵⁶ In addition to banning commercial whaling, the Convention establishes protected areas, including the South Ocean Sanctuary in the Antarctic region.¹⁵⁷ Critically, however, the Convention's Article VIII authorizes state parties to issue whaling permits for "scientific research," even in the South Ocean Sanctuary.¹⁵⁸

Article VIII establishes so-called permit whaling, which involves states as well the International Whaling Commission (IWC), the Convention's intergovernmental decision-making and coordination body.¹⁵⁹ As an exemption from its various prohibitions on whaling, the Convention gives states wide discretion to permit nationals to kill or take whales in certain circumstances. It requires that such permits be "for purposes of scientific research" but lets each state issue the permits, revoke them, and impose on its nationals any conditions it thinks fit.¹⁶⁰ While each state "shall report" to the IWC the details of the

151. *Membership and Contracting Governments*, INT'L WHALING COMM'N, <http://iwc.int/members> (last visited Oct. 8, 2014).

152. Whaling Convention, *supra* note 6, pmbl.

153. Schedule to the International Convention for the Regulation of Whaling of 1946, Dec. 2, 1946, 62 Stat. 1716, 161 U.N.T.S. 72, ¶ 10(e) [hereinafter Whaling Convention Schedule].

154. *Revised Management Scheme*, INT'L WHALING COMM'N, <http://iwc.int/rmp> (last visited Oct. 8, 2014).

155. *See id.*; Jochen Braig, *Whaling*, MAX PLANCK ENCYCLOPEDIA PUB. INT'L L., ¶¶ 30–35, <http://opil.louplaw.com/view/10.1093/law:epil/9780199231690/law-9780199231690-e1236?rskey=KgZxOF&result=1&prd=EPIL> (last updated Mar. 2013). For an overview of the current disagreements at the International Whaling Commission (IWC) and proposals to overcome them, see Tara Jordan, *Revising the International Convention on the Regulation of Whaling: A Proposal to End the Stalemate within the International Whaling Commission*, 39 WIS. INT'L L.J. 833 (2012).

156. Jordan, *supra* note 155, at 841; Braig, *supra* note 155, ¶¶ 10, 47.

157. Whaling Convention Schedule, *supra* note 153, ¶ 7(b).

158. To qualify for Article VIII's exemption for scientific whaling programs, states must share the details of their programs with the IWC. Whaling Convention, *supra* note 6, art. VIII.1; Whaling Convention Schedule, *supra* note 153, ¶ 30.

159. *See General Information*, INT'L WHALING COMM'N, <http://iwc.int/iwcmmain> (last visited Oct. 8, 2014).

160. Article VIII(1) states:

Notwithstanding anything contained in this Convention any Contracting Government may grant to any of its nationals a special permit authorizing that national to kill, take and treat whales for purposes of scientific research subject to such restrictions as to number and subject to such other conditions as the

permits it issues, the IWC enjoys no approval power.¹⁶¹ Before issuing permits, states must submit to the Commission such details as the research objectives and the number and stock of the animals to be taken, but all the Commission can do is provide nonbinding comments on the state's program.¹⁶²

B. *Judicial Review of States' Scientific Whaling Programs*

The ICRW provides limited guidance to courts hearing disputes over a state's scientific whaling program. The Convention does not explain what constitutes permissible "scientific research" under Article VIII. Yet, the IWC's nonbinding review of states' permits does provide some clues. The Commission's Scientific Committee, which reviews such permits, concentrates on six factors, which an international tribunal could adopt:

- (1) the permit adequately specifies its aims, methodology and the samples to be taken;
- (2) the research is essential for rational management, the work of the Scientific Committee or other critically important research needs;
- (3) methodology and sample size are likely to provide reliable answers to the questions being asked;
- (4) the questions can be answered using non-lethal research methods;
- (5) the catches will have an adverse effect on the stock;
- (6) the potential for scientists from other nations to join the research is adequate.¹⁶³

Some scholars have in fact used these factors to evaluate Japan's whaling activities.¹⁶⁴

In addition, the Scientific Committee's own evaluations of Iceland's and Japan's scientific whaling programs could guide the courts. The Committee is a specialized body composed of 200 leading cetacean scientists whose expertise, accountability to the IWC, and familiarity with the ICRW might justify judicial deference.¹⁶⁵ But these reports are only soft law, so courts presumably have no

Contracting Government thinks fit, and the killing, taking, and treating of whales in accordance with the provisions of this Article shall be exempt from the operation of this Convention. Each Contracting Government shall report at once to the Commission all such authorizations which it has granted. Each Contracting Government may at any time revoke any such special permit which it has granted.

Whaling Convention, *supra* note 6, art. VIII(1).

161. *Id.*

162. Whaling Convention Schedule, *supra* note 153, ¶ 30.

163. *Scientific Committee Review of Special Permits*, INT'L WHALING COMM'N, <https://iwc.int/spw-scientific-review> (last visited Oct. 8, 2014).

164. See, e.g., Howard S. Schiffman, *Scientific Research Whaling in International Law: Objectives and Objections*, 8 ILSA J. INT'L & COMP. L. 473 (2002) (opposing Japan's whaling program).

165. See *Commission Sub-Groups*, INT'L WHALING COMM'N, <http://iwc.int/commission-sub-groups> (last visited Oct. 8, 2014).

obligation to follow them to interpret the Convention or assess a state's compliance with the Convention.¹⁶⁶

A second challenge for courts is that the Convention, unlike other international agreements,¹⁶⁷ does not contemplate international judicial disputes between states.¹⁶⁸ The ICJ heard Australia's claim against Japan because the countries agreed elsewhere to the court's compulsory jurisdiction, not because the ICRW refers disputes to the ICJ.¹⁶⁹ The Convention is silent on judicial standards of review, burdens of proof, and evidentiary rules. For example, should a court defer to the IWC's comments on the affected state's scientific program? Since the Convention grants states a lot of discretion in implementing Article VIII's "scientific research" exemption, should courts defer to states' claims that their own programs advance legitimate scientific goals? Does the state pursuing the contested whaling program carry the burden of proving that its whaling activities conform with Article VIII, or does the state objecting to the program need to rebut a presumption of legality? What scientific evidence may the states introduce in the litigation? The Convention does not say.

C. Japan's Disputed Whaling Program

Japan and Iceland have relied on Article VIII to continue to whale.¹⁷⁰ Governments and activists have accused Japan of disguising commercial whaling as scientific research to evade the Convention's moratorium.¹⁷¹ The Japanese government often retorts that whale hunting and consumption are central to Japanese culture and that the country's whaling practices comply with international law.¹⁷²

166. See *supra* Part II.B (discussing soft law).

167. See, e.g., United Nations Convention on the Law of the Sea art. 188, Dec. 10, 1982, 1833 U.N.T.S. 3 (referring disputes to the International Tribunal for the Law of the Sea or binding commercial arbitration); Statute of the River Uruguay, Uru.-Arg., art. 60, Feb. 26, 1975, 1295 U.N.T.S. 340 (referring disputes to the ICJ).

168. Whaling Convention, *supra* note 6, art. IX (relying on states to prosecute violations that take place in their jurisdictions).

169. The ICJ is a court of limited jurisdiction. The ICJ found jurisdiction in this case on the basis of declarations Australia and Japan made under Article 36.2 of the ICJ statute, which authorizes the court to resolve disputes of treaty interpretation between countries that consent to the ICJ's jurisdiction. Judgment, *supra* note 4, ¶¶ 30–41.

170. Other states have resorted to other provisions outside the scope of this paper. Iceland objected to the Convention's moratorium on commercial whaling so is not bound by it. Braig, *supra* note 155, ¶¶ 37–39. Denmark, Russia, the United States, and St. Vincent and the Grenadines rely on the Convention's permission for aboriginal subsistence whaling. *Id.* ¶ 36.

171. See, e.g., *id.* ¶ 25 (noting that the IWC has adopted several nonbinding resolutions "calling on the government of Japan not to issue special permits for certain seasons or certain areas, such as the Southern Ocean sanctuary"); Jordan, *supra* note 155, at 842 ("[O]ther member countries have accused Japan of whaling for commercial purposes under the guise of science." (internal citation omitted)).

172. See, e.g., Hilary Whiteman, *Japan's PM Shinzo Abe Suggests Return to Antarctic Whaling during "Whale Week"*, CABLE NEWS NETWORK (June 11, 2014), <http://www.cnn.com/2014/06/10/world/asia/japan-whaling-abe>.

From 1987 to 2005, Japan oversaw a whaling program called the Japanese Whale Research Program under Special Permit in Antarctic (JARPA) that killed 6700 Antarctic minke whales.¹⁷³ In 2005, Japan created the successor program at issue in the ICJ case: the Japanese Whale Research Program under Special Permit in the Antarctic Phase II (JARPA II). Each season, JARPA II targeted approximately 950 whales from three species in the Southern Ocean Sanctuary.¹⁷⁴ Japan claimed that JARPA II permitted whaling only for purposes of “scientific research,” thereby complying with Article VIII of the ICRW.¹⁷⁵

JARPA II’s stated goals were fourfold. First, the program sought to monitor the Antarctic ecosystem by tracking biological data on three whale species: Antarctic minke whales, humpback whales, and fin whales.¹⁷⁶ The plan purported to survey several indicators, including prey density and consumption, pregnancy rate, and age at maturity.¹⁷⁷ Second, JARPA II endeavored to “model[] competition among whale species and future management objectives.”¹⁷⁸ The program purported to understand why different whale species had been competing and whether this competition might result in a decrease in Antarctic minke whale stocks.¹⁷⁹ The third objective was the “[e]lucidation of temporal and spatial changes in stock structure,” meaning changes over time in the number and location of several whale species.¹⁸⁰ Fourth, JARPA II would “[i]mprov[e] the management procedure for Antarctic minke whale stocks.”¹⁸¹ Building on the other three objectives, this facet of the program was meant to assess whether internationally agreed-upon catch limits for Antarctic minke whales were unnecessarily low.¹⁸²

JARPA II’s means were the following. The program began in 2005 and had no end date; Japan explained that monitoring the Antarctic ecosystem required a continuing research program.¹⁸³ JARPA II contained six-year phases, each of which was supposed to be followed by a review to consider revisions to the program.¹⁸⁴ Although the program’s first phase ended in the 2010 to 2011 season, the first review had not yet begun when the ICJ reached its decision.¹⁸⁵

173. Judgment, *supra* note 4, ¶ 104.

174. *Id.* ¶ 123.

175. *Id.* ¶ 30.

176. *Id.* ¶¶ 113–14.

177. *Id.* ¶ 114.

178. *Id.* ¶ 115.

179. *Id.*

180. *Id.* ¶ 113. For fin whales, the program purported to compare current and historic stock structure, and for humpback whales and Antarctic minke whales, the program claimed to investigate shifts in stock boundaries. *Id.* ¶ 117.

181. *Id.* ¶ 113.

182. *Id.* ¶ 118.

183. *Id.* ¶¶ 103, 119.

184. *Id.* ¶ 119.

185. *Id.*

The program employed both lethal and nonlethal means. Each season, the plan called for the killing of a sample of whales: 50 fin whales, 50 humpback whales, 850 Antarctic minke whales (plus or minus 10 percent) (see Table 1).¹⁸⁶ To track the whales' migration patterns and other behaviors, JARPA II also called for nonlethal means, including satellite tagging, sighting surveys, and biopsies "to the extent practicable."¹⁸⁷

Table 1: Japanese Whaling Program Objectives and Lethal Sampling

	JARPA	JARPA II
Planned time frame	1987–2005	2005–indefinite
Actual time frame	1987–2005	2005–2014
Objectives¹⁸⁸	<ul style="list-style-type: none"> • Research on the southern hemisphere minke whale • Preliminary research on Antarctic marine ecosystem • Estimate stock size of southern hemisphere minke whales to provide a scientific basis for resolving problems facing the IWC relating to divergent views on the moratorium 	<ul style="list-style-type: none"> • Monitoring of the Antarctic ecosystem • Modeling competition among whale species and future management objectives • Elucidation of temporal and spatial changes in stock structure • Improving management procedure for Antarctic minke whale stocks
Lethal sampling target per year¹⁸⁹	<u>Fin whales:</u> 0 <u>Humpback whales:</u> 0 <u>Antarctic minke whales:</u> initially proposed 825; then 300 (1987–1994); then 400 +/- 10% (1995–2005)	<u>Fin whales:</u> 50 <u>Humpback whales:</u> 50 <u>Antarctic minke whales:</u> 850 +/- 10%
Actual catch¹⁹⁰	<u>Fin whales:</u> 0 total <u>Humpback whales:</u> 0 total <u>Antarctic minke whales:</u> 6700 total	<u>Fin whales:</u> 18 total <u>Humpback whales:</u> 0 total <u>Antarctic minke whales:</u> 853 during the 2005–2006 season and an average of approximately 450 per year thereafter

186. *Id.* ¶ 123. The program also contained a protocol for hunting the target species, including specific routes for the vessels and guidelines to determine how many whales to target when a sighting occurred. *Id.* ¶ 125.

187. *Id.* ¶ 124. For a more detailed description of these nonlethal means, see GOVERNMENT OF JAPAN, PLAN FOR THE SECOND PHASE OF THE JAPANESE WHALE RESEARCH PROGRAM UNDER SPECIAL PERMIT IN THE ANTARCTIC (JARPA II) - MONITORING OF THE ANTARCTIC ECOSYSTEM AND DEVELOPMENT OF NEW MANAGEMENT OBJECTIVES FOR WHALE RESOURCES, SC/57/O1, available at <http://www.icrwhale.org/pdf/SC57O1.pdf> (last visited Sept. 14, 2014).

188. Judgment, *supra* note 4, ¶¶ 104, 113.

189. *Id.* ¶¶ 104, 123.

190. *Id.* ¶¶ 104, 201, 202.

D. Party Positions and the ICJ's Holding in Whaling in the Antarctic

Australia sued Japan at the ICJ on May 31, 2010, alleging that by approving JARPA II, Japan violated the ICRW.¹⁹¹ Australia claimed that JARPA II's true purpose was not "scientific research" as required by Article VIII of the Convention and that Japan hence violated the Convention's moratoria on commercial whaling and whaling in the Southern Ocean Sanctuary.¹⁹² Japan countered that JARPA II's scientific purpose satisfied Article VIII of the Convention and thus exempted the program from the Convention's moratoria.¹⁹³

The ICJ clarified that whaling that qualified as "scientific research" under Article VIII of the Convention was not subject to the Convention's various moratoria.¹⁹⁴ The ICJ then embraced a broad interpretation of the phrase "scientific research": While Australia argued that "scientific research" should support the conservation and management of whales,¹⁹⁵ the court explained that such research "may pursue an aim other than either conservation or sustainable exploitation of whale stocks."¹⁹⁶

Wishing to pass no judgment on the scientific merit of Japan's stated goals,¹⁹⁷ the court accepted that the Japanese whaling program's four purported research objectives could "broadly be characterized as 'scientific research.'"¹⁹⁸ Instead, the court decided to examine, under an objective standard, whether "in the use of lethal methods, [JARPA II's] design and implementation [were] reasonable in relation to achieving its stated objectives."¹⁹⁹

First, the court took issue with Japan's lethal methods. Lethal methods are not per se unreasonable, the court clarified, as long as states do not use them "on a larger scale than is reasonable in relation" to stated scientific objectives.²⁰⁰ The ICJ recognized that Japan's lethal methods were necessary to

191. New Zealand intervened in the proceedings in support of Australia, pursuant to Article 63.2 of the ICJ Statute. Judgment, *supra* note 4.

192. See Whaling Convention Schedule, *supra* note 153, ¶¶ 10(e), 7(b), 10(d) (outlining the Convention's moratoria on commercial whaling and designation of the Southern Ocean Sanctuary). Australia argued separately that Japan was late in submitting information about JARPA II to the IWC and that the information it submitted was incomplete. The ICJ rejected this procedural claim. Judgment, *supra* note 4, ¶ 238.

193. Judgment, *supra* note 4, ¶ 30.

194. *Id.* ¶¶ 54–55.

195. Memorial of Australia ¶ 5.36, Whaling in the Antarctic (Austl. v. Japan: N.Z. Intervening), Judgment (May 9, 2011), available at <http://www.icj-cij.org/docket/files/148/17382.pdf> [hereinafter Memorial of Australia].

196. Judgment, *supra* note 4, ¶ 58.

197. *Id.* ¶ 88.

198. *Id.* ¶ 127. The court reasoned that JARPA II's stated goals came "within the research categories identified by the Scientific Committee." *Id.*

199. *Id.* ¶ 67; see also *id.* ¶ 88.

200. *Id.* ¶ 142.

obtain at least *some* of the data sought by JARPA II researchers.²⁰¹ But the court held that Japan had failed to assess the potential to reduce JARPA II's sample sizes by using modern nonlethal means.²⁰²

Next, the court compared JARPA and JAPRA II's objectives and means, because Japan argued that the second program's distinct goals called for the sampling of Antarctic minke whales on a larger scale as well as the sampling of two additional species—fin whales and humpback whales.²⁰³ The ICJ found "considerable overlap between the subjects, objectives, and methods" of JARPA and JARPA II, since both largely focused on the role of Antarctic minke whales in the Antarctic ecosystem and relied extensively on lethal sampling of those whales (see Table 1).²⁰⁴ Because the two programs were so similar, the court was skeptical of Japan's argument that JARPA II's objectives called for larger lethal sampling than its predecessor program.²⁰⁵ In addition, Japan did not wait for the results of JARPA's scientific assessment before launching JARPA II.²⁰⁶ The court found this to further undermine Japan's claim that it designed JARPA II for scientific purposes and in relation to JARPA's results.²⁰⁷

The court also examined whether the sample sizes for the three different species were reasonable in relation to JARPA II's stated scientific objectives. The ICJ recognized that sample sizes should vary depending on Japan's desired statistical accuracy and research time frame.²⁰⁸ The court said it would not "pass judgment" on the scientific merit of JARPA II's objectives.²⁰⁹ But it nevertheless found Japan's sample sizes problematic for several reasons. The court noted in particular that the sample size for fin and humpback whales assumed a twelve-year research program, while the sample size for Antarctic minke whales assumed a six-year research program.²¹⁰ The court found this discrepancy problematic given that JARPA II purported to monitor the three species and their competition in the Antarctic ecosystem at the same time.²¹¹ In addition, the sample sizes for fin and humpback whales (fifty for each per season) were too small, the court found, to precisely measure all the indicators

201. *Id.* ¶¶ 133, 135. For example, examining a whale's internal organs and stomach contents is not possible with nonlethal means. *Id.* ¶ 133.

202. *Id.* ¶¶ 137–44. The court rejected Japan's claims that nonlethal means were impractical and cost-prohibitive because Japan gave "no explanation of the relative costs of any methods or a comparison of how the expense of lethal sampling, as conducted under JARPA [or JARPA II] might be measured against the cost of a research programme that more extensively uses non-lethal alternatives." *Id.* ¶ 143.

203. *Id.* ¶ 150.

204. *Id.* ¶¶ 151–53.

205. *Id.* ¶ 153.

206. *Id.* ¶ 154.

207. *Id.* ¶¶ 154, 156.

208. *Id.* ¶ 163.

209. *Id.* ¶ 172.

210. *Id.* ¶¶ 176–77.

211. *Id.* ¶ 178.

JARPA II purported to track.²¹² The sample sizes for Antarctic minke whales were also problematic, the ICJ said, because JARPA II did not transparently explain why the sample size of 850 was chosen.²¹³ While a lack of transparency was not necessarily proof of a lack of scientific merit, the court explained that in the context of the Convention, Article VIII obliges countries to “allow one to understand why that sample size is reasonable in relation to achieving the programme’s objectives.”²¹⁴

Lastly, the court compared JARPA II’s target sample size to its actual take and noted a “significant gap.”²¹⁵ The actual catch of fin whales fluctuated between zero and ten per year.²¹⁶ No humpback whales were killed.²¹⁷ And with regard to Antarctic minke whales, 450 specimens were killed on average per year, with catches as low as 103 in the 2012 to 2013 season.²¹⁸ Japan advanced several reasons for these variations but failed to convince the court, particularly because it never adjusted JARPA II’s objectives or target sample sizes in light of actual catch numbers.²¹⁹

Ultimately, the court held that Japan’s JARPA II program did not qualify as a scientific program under ICRW Article VIII because the program’s stated goals did not align with its design and implementation.²²⁰ Accordingly, the killing of whales under JARPA II was not exempt from the Convention’s moratoria, and Japan violated its obligations under the Convention.²²¹ The ICJ ordered Japan to “revoke any extant authorization, permit or license granted in relation to JARPA II, and refrain from granting in pursuance of that programme.”²²²

IV. WHALING IN THE ANTARCTIC: THE ICJ’S PROCEDURAL APPROACH

Following criticism for its handling of scientific evidence in the *Pulp Mills* case,²²³ the ICJ set up a more robust—though imperfect—process to submit and hear competing scientific claims. This Part reviews the ICJ’s approach along the procedural elements relevant to scientific integrity outlined in Part I.

212. *Id.* ¶ 179.

213. *Id.* ¶ 195.

214. *Id.*

215. *Id.* ¶ 199. The court also examined and took issue with other aspects of JARPA II, including its open-ended timeframe and limited scientific output to date. *Id.* ¶¶ 213–22.

216. *Id.* ¶ 201.

217. *Id.*

218. *Id.* ¶ 202.

219. *Id.* ¶¶ 206, 209.

220. *Id.* ¶ 227.

221. *Id.* ¶¶ 228–33.

222. *Id.* ¶ 247(7).

223. *See supra* Part II.A.1.

A. Transparency and Inclusiveness of Judicial Proceedings

After consulting the parties to the dispute, the court posted on its website the parties' written submissions.²²⁴ The court later posted records from the oral proceedings.²²⁵ Relying on Article 63, paragraph 2, of the Statute of the Court, the ICJ allowed New Zealand to intervene in the proceedings, thereby permitting it to make written submissions and participate in the oral argument.²²⁶

However, as is customary for the court, the ICJ did not allow third parties to intervene at oral argument or submit amicus briefs.²²⁷

B. Process for Admitting Scientific Evidence

The court does not appear to have articulated a standard for the admission of scientific evidence, such as reliability, but the court explained when the litigants could submit written and oral evidence. The parties exchanged lengthy written submissions supported by several scientists' opinions. Australia submitted a complaint (known as a "Memorial") of 1251 pages that included a scientist's analysis of the Japanese program's conformance with traditional scientific methods.²²⁸ Japan countered with a response (known as a "Counter-Memorial") of 1757 pages that initially contained no scientific expert analysis similar to the Australian Government's.²²⁹ Australia then submitted additional opinions by two scientific experts.²³⁰ In response, Japan submitted the opinion of an expert in support of its whaling program.²³¹ In turn, one of the scientists commissioned by Australia submitted yet another opinion.²³² During oral argument, the scientific experts appeared as witnesses, were examined, cross-examined, and re-examined.²³³ The ICJ judges asked the scientific experts

224. *Whaling in the Antarctic (Australia v. Japan: New Zealand intervening)*, INT'L CT. JUST., <http://www.icj-cij.org/docket/index.php?p1=3&p2=1&case=148&code=aj&p3=1> (last visited July 3, 2015).

225. *Id.* (follow "oral proceedings").

226. *See* Judgment, *supra* note 4, ¶ 8.

227. *See supra* note 142 and accompanying text (discussing the general ICJ practice of not allowing third parties to submit amicus briefs).

228. Memorial of Australia, *Whaling in the Antarctic (Austl. v. Japan; N.Z. Intervening)*, May 9, 2011, available at <http://www.icj-cij.org/docket/files/148/17382.pdf>.

229. Counter-Memorial of Japan, *Whaling in the Antarctic (Austl. v. Japan; N.Z. Intervening)*, Mar. 9, 2012 [hereinafter Counter-Memorial of Japan], available at <http://www.icj-cij.org/docket/files/148/17384.pdf>.

230. Judgment, *supra* note 4, ¶¶ 12, 15.

231. *Id.* ¶ 13.

232. M. Mangel, *Response to "Scientific Review of Issues Raised by the Memorial of Australia Including Its Two Appendices" by Professor Lars Walløe*, May 31, 2013, available at <http://www.icj-cij.org/docket/index.php?p1=3&p2=1&case=148&code=aj&p3=1>.

233. Public sitting held on Thursday 27 June 2013, at 10 a.m., at the Peace Palace, President Tomka presiding, *in the case concerning Whaling in the Antarctic (Austl. v. Japan: N.Z. Intervening)*, ¶ 85, available at <http://www.icj-cij.org/docket/files/148/17396.pdf>.

questions directly as well.²³⁴ The advocates for Australia²³⁵ and Japan²³⁶ also provided their own detailed accounts of the scientific merit of the contested Japanese whaling program.

C. Standard of Proof

Turning next to the standard of proof, the ICJ reviewed the scientific parties' and experts' scientific claims very closely in its opinion but never articulated a burden of proof. At one point the court concluded that, "[t]aking into account all the evidence," no single reason could explain the gap between the Japanese program's target sample sizes and the program's actual takes.²³⁷ Elsewhere, the court found "no evidence" that Japan considered increasing its use of nonlethal means to achieve its stated objectives.²³⁸ Later, the "evidence suggest[ed]" that the whaling program's design compromised its ability to achieve its stated objectives.²³⁹ Ultimately, the court concluded that "[t]aken as a whole" JARPA II's activities could be broadly characterized as scientific research, but "the evidence [did] not establish" a reasonable relation between the program's stated objectives and its design and implementation.²⁴⁰

D. Who Bears the Burden of Proof

Neither is it clear from the opinion who bore the burden of establishing whether Japan's program complied with the Convention. The parties debated this issue in their written submissions and at oral argument. Japan argued that "Australia carries the burden of persuading the Court that Japan's considered determination that JARPA II is a scientific research program that can properly be authorized under the Whaling Convention's Article VIII, is legally invalid and must be set aside."²⁴¹ Australia and New Zealand countered that the precautionary principle placed on Japan the burden of proving its whaling program's compliance with international law,²⁴² but Japan opposed this

234. See, e.g., *id.* at 33–71.

235. Public sitting held on Thursday 27 June 2013, at 3 p.m., at the Peace Palace, President Tomka presiding, *in the case concerning Whaling in the Antarctic* (Austl. v. Japan: N.Z. Intervening), starting at 40, available at <http://www.icj-cij.org/docket/files/148/17398.pdf>.

236. Public sitting held on Tuesday 2 July 2013, at 3 p.m., at the Peace Palace, President Tomka presiding, *in the case concerning Whaling in the Antarctic* (Austl. v. Japan: N.Z. Intervening), starting at 14, available at <http://www.icj-cij.org/docket/files/148/17424.pdf>.

237. Judgment, *supra* note 4, ¶ 206.

238. *Id.* ¶ 141.

239. *Id.* ¶ 196.

240. *Id.* ¶ 227.

241. Public sitting held on Thursday 4 July 2013, at 10 a.m., at the Peace Palace, President Tomka presiding, *in the case concerning Whaling in the Antarctic* (Austl. v. Japan: N.Z. Intervening), at 16, available at <http://www.icj-cij.org/docket/files/148/17438.pdf>.

242. Judgment, *supra* note 4, ¶ 27; Public sitting held on Thursday 4 July 2013, at 3 p.m., at the Peace Palace, President Tomka presiding, *in the case concerning Whaling in the Antarctic* (Austl. v. Japan: N.Z. Intervening), at 32, available at <http://www.icj-cij.org/docket/files/148/17442.pdf>.

view.²⁴³ In the alternative, New Zealand maintained that because Japan sought the protection of Article VIII of the Convention as a defense, Japan bore the burden of proving that Article VIII applied in this case.²⁴⁴ The ICJ acknowledged the states' differing views but explained neither whether the precautionary principle applied to this case nor whether the burden of proof should be borne by Australia or Japan.

E. Standard of Review: Judicial Deference to States and the IWC

How much should the ICJ defer to the states in determining whether their whaling programs conform with the Convention? This question was hotly debated. Recall that the Convention grants countries wide discretion in issuing Special Permits under Article VIII, and the IWC has no approval power over those permits.²⁴⁵ Japan maintained that Article VIII granted broad discretion to state parties to both issue special whaling permits and to determine on their own whether those permits fell within the scope of Article VIII.²⁴⁶ Accordingly, Japan argued, the ICJ should defer to Japan's judgment on the scientific character of the disputed whaling program and overturn the state's determination only if it was "arbitrary or capricious, manifestly unreasonable, or made in bad faith."²⁴⁷

Australia and New Zealand called for the court to independently assess whether the program satisfied Article VIII rather than defer to Japan's judgment on the issue.²⁴⁸ On this view, Article VIII does not grant states complete discretion to subjectively determine what whaling activities comply with the Convention. Rather, the Convention establishes an "objective requirement" with which states must conform when issuing special whaling permits to their nationals, and the ICJ should independently review the permits' compliance with that objective standard.²⁴⁹

The ICJ acknowledged that Article VIII gives state parties discretion to issue whaling permits, but the court conducted its own analysis of those permits' conformity with international law: "[W]hether the killing, taking, and treating of whales pursuant to a requested special permit is for purposes of

243. Public sitting held on Thursday 4 July 2013, at 3 p.m., at the Peace Palace, President Tomka presiding, *in the case concerning Whaling in the Antarctic* (Austl. v. Japan: N.Z. Intervening), at 29–30, available at <http://www.icj-cij.org/docket/files/148/17442.pdf>.

244. Public sitting held on Monday 8 July 2013, at 10 a.m., at the Peace Palace, President Tomka presiding, *in the case concerning Whaling in the Antarctic* (Austl. v. Japan: N.Z. Intervening), at 29, available at <http://www.icj-cij.org/docket/files/148/17444.pdf>.

245. See *supra* notes 159–162 and accompanying text.

246. Public sitting held on Monday 15 July 2013, at 10 a.m., at the Peace Palace, President Tomka presiding, *in the case concerning Whaling in the Antarctic* (Austl. v. Japan: N.Z. Intervening), at 24, available at <http://www.icj-cij.org/docket/files/148/17458.pdf>.

247. Judgment, *supra* note 4, ¶ 65 (internal quotation marks omitted).

248. *Id.*

249. *Id.* ¶ 60.

scientific research cannot depend simply on that State's perception."²⁵⁰ In so holding, the court was probably concerned that leaving states a wide "margin of appreciation" in implementing the Convention would render it toothless.²⁵¹

A related question was how much the ICJ should defer to the IWC's resolutions on Japan's whaling program. Over the years, the IWC issued several skeptical resolutions on Japan's program. Yet, because they are not binding (being only soft law), Japan maintained that it had no legal responsibility to comply with them, implying that the court should draw no legal conclusion from the IWC's findings.²⁵² On the contrary, Australia argued that the court should rely on the IWC's interpretation of Article VIII because they comprised "subsequent agreement between the parties regarding the interpretation of the treaty" and "subsequent practice in the application of the treaty which establishes the agreement of the parties regarding its interpretation."²⁵³

The ICJ seemed to give IWC resolutions some deference. The court paid particular attention to one IWC resolution adopted by consensus that "call[ed] upon States parties to take into account whether research objectives can practically and scientifically be achieved by using non-lethal research methods."²⁵⁴ Nevertheless, the court did not defer to the IWC's opinions on JARPA II; instead, the ICJ conducted its own analysis of the program's compliance with the Convention.

V. WHALING IN THE ANTARCTIC: SIGNIFICANCE FOR INTERNATIONAL ENVIRONMENTAL LAW

While the preceding section gave a positive account of *Whaling in the Antarctic* along the five procedural elements relevant to scientific integrity, this Part assesses more critically this case's treatment of scientific evidence and its likely influence on future international environmental adjudications.

A. General Observations

This decision likely will impact future international adjudications. While the ICJ decision binds only Japan and concerns only JARPA II, the ICJ is a de facto standard-setter among international institutions.²⁵⁵ Consequently, the ICJ's pronouncements and practice in this case will likely influence future cases requiring the assessment of scientific claims. This is particularly true

250. *Id.* ¶ 61.

251. *See* Counter-Memorial of Japan, *supra* note 229, ¶ 9.7 (arguing that states enjoy a "margin of appreciation" in implementing the ICRW).

252. Public sitting held on Monday 15 July 2013, at 10 a.m., at the Peace Palace, President Tomka presiding, *in the case concerning Whaling in the Antarctic* (Austl. v. Japan: N.Z. Intervening), at 56–57, available at <http://www.icj-cij.org/docket/files/148/17458.pdf>.

253. Judgment, *supra* note 4, ¶ 79 (internal quotation marks omitted).

254. *Id.* ¶ 83.

255. *See supra* Part II.B (discussing the persuasive weight of the ICJ).

about *Whaling in the Antarctic* because of the way the ICJ exercised jurisdiction. The court did not hear the case because of an automatic referral under the ICRW;²⁵⁶ rather, it relied on the declarations of jurisdiction from Australia and Japan.²⁵⁷ To be sure, the ICJ was interpreting the specific provisions of the ICRW, but this procedural posture arguably makes the ICJ's approach less specific to the ICRW and more likely to be followed by other international institutions. Accordingly, the court's persuasive authority could foster, in other international courts, more transparent and consistent use of procedural standards affecting scientific integrity.

B. *Some Advances for Scientific Integrity*

Fundamentally, this ICJ decision is a victory for whale conservation and for science in global environmental protection. The ICJ exercised jurisdiction and reached the merits of the issue despite the politically charged question of whether Japan's whaling practices violated the purpose of the Convention. This dispute took place against the backdrop of political gridlock at the IWC on the future of commercial whaling, and the court might have avoided resolving a dispute perhaps best left to the political process.²⁵⁸

The court also solicited detailed scientific input from the parties and took pains to review those scientific data in depth. The ICJ reached a level of detail rarely seen in U.S. courts in its analysis of goals, indicators, and sample sizes.

Interestingly, the ICJ stayed deferential to states by challenging Japan's means of implementation rather than its stated goals.²⁵⁹ This approach is reminiscent of U.S. administrative law. There, courts reviewing agencies' policy determinations refrain from questioning an agency's policy goals but scrutinize that agency's implementation to ensure a rational relation between the policy's means and goals.²⁶⁰ Unlike in U.S. administrative law, however, the ICJ did not presume Japan's legal determination of JARPA II's compliance with the ICRW to be valid.²⁶¹

In sum, this decision contributes to the development of a global administrative order where the politically accountable actors (states) remain in

256. See *supra* Part III.B (explaining that the ICRW does not specify a dispute-resolution mechanism).

257. See *supra* note 169 and accompanying text.

258. The ICJ's decision to exercise jurisdiction here is consistent with scholarship showing that the ICJ has refused to develop an international counterpart to the American "political question" doctrine. THOMAS J. BODIE, *POLITICS AND THE EMERGENCE OF AN ACTIVIST INTERNATIONAL COURT OF JUSTICE* 1-2 (1995).

259. *Accord* Rolland, *supra* note 133, at 499 (arguing that despite its ruling against Japan, the ICJ granted Japan a "high degree of deference").

260. See, e.g., *Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 52 (1983).

261. See *Chevron U.S.A., Inc. v. Nat. Res. Def. Council, Inc.*, 467 U.S. 837, 844 (1984) (holding that an agency's reasonable interpretation of an ambiguous federal statute is entitled to judicial deference).

charge of setting political priorities, but international courts hold states accountable for developing transparent, scientifically grounded regulations consistent with those priorities.

C. *Scientific Integrity Remains at Risk*

In several ways, *Whaling in the Antarctic* highlights scientific integrity's uncertain future in international environmental adjudications. Despite its bold outcome, the ICJ's ruling is a conservative one. To preserve its legitimacy, and likely out of deference to states, the court stopped short of declaring Japan's stated goals inconsistent with the purpose of the Convention. Without more clearly condemning Japan's whaling practices, the court left the door open to a subsequent, modified Japanese program in the Antarctic. Indeed, Japan has stated its intent to develop a new program for the Antarctic in keeping with the ICJ ruling.²⁶² And because this dispute concerned only Japan's whaling program in the Antarctic, Japan's other "scientific" whaling program in the Northern Pacific continues unabated.

More concerning are the opacity and wide discretion with which the ICJ set rules along the four procedural elements reviewed in this Note. The court articulated no consistent standard for the admission of scientific evidence; instead, the court agreed with the parties on the number of submissions and the modalities of oral argument. The court also did not articulate a clear standard of proof. As noted above, failure to notify parties *ex ante* of the applicable standard of proof creates opportunities for powerful parties and for the court to manipulate procedure to achieve a desired result.²⁶³ Similarly, the court eluded the question of who bore the burden of proof in *Whaling in the Antarctic*. And transparency and inclusiveness were only partly achieved, since the court did not invite amicus briefs.

The most noteworthy procedural element in this case was the court's review of Japan's special permits. The court balanced state sovereignty with judicial review by looking for a reasonable relation between the Japanese program's stated goals and its means. This approach did little to promote consistency across international environmental adjudications: the court neither

262. Andrew Drummond, *Japan Prepares Whaling Submission*, AUSTRALIAN (Oct. 29, 2014, 3:53 PM), <http://www.news.com.au/national/breaking-news/japan-prepares-whaling-submission/story-e6f1rku9-1227106138499>; Jamie Morton, *Scientists Seek to Ban Proposal to Kill Whales for Research*, N.Z. HERALD (May 25, 2015), http://www.nzherald.co.nz/world/news/article.cfm?c_id=2&objectid=11454375; Adam Wernick, *Japan Vows to Continue Its Whaling Program, Despite an International Ruling Ordering It to Stop*, PUB. RADIO INT'L (Oct. 26, 2014, 11:15 AM), <http://www.pri.org/stories/2014-10-26/japan-vows-continue-its-whaling-program-despite-international-ruling-ordering-it>.

263. *See supra* Part I.C.

explained where that reasonableness test came from,²⁶⁴ nor whether it might apply to future cases not involving the ICRW.

Moreover, the close attention scientific issues received in this case is no guarantee of similar treatment in a future case. The procedures the ICJ adopted in this case are not binding on itself or other international tribunals hearing environmental claims. Those procedural approaches are not embedded in the ICRW, the ICJ Statute, or the United Nations Charter. A future international court will be at liberty to depart from the ICJ's approach, and in doing so, it may damage scientific integrity. Without clear procedural rules, scientific integrity is at the mercy of international courts' dangerous institutional experiments. Courts may treat scientific information differently from case to case based on the resources available to them, their interest and expertise in the issue, or the political pressure of the parties to the dispute.

CONCLUSION

The ICJ's decision in *Whaling in the Antarctic* is a good case study to understand international courts' treatment of scientific information in international environmental adjudications. When compared to other international environmental cases and viewed against international law's procedural guidance, this case reveals five main findings. First, international law offers little guidance on procedures relevant to scientific integrity, namely, how transparent and inclusive judicial proceedings should be; what scientific evidence may be admitted in court; what standard of proof the court employs to find scientific facts; who bears the burden of proof; and how much judicial deference courts owe states or specialized international bodies. Second, this procedural gap gives international courts wide discretion to fashion ad hoc procedural rules to hear scientific evidence in each case. Third, international courts have been more or less successful in designing procedural rules that promote scientific integrity, and the ICJ's *Whaling in the Antarctic* decision made several advances that are likely to influence other international tribunals. Fourth, despite its rigorous analysis of the parties' scientific claims in the case, the ICJ still fell short in some respect—for example, by failing to articulate clearly procedural rules or their sources and by giving third parties no opportunity to submit amicus briefs. Finally, the lack of clear and consistent international procedural rules poses risks for scientific integrity and environmental protection: international courts could use their wide discretion to

264. Rolland, *supra* note 133, at 500 (“[T]he Court’s choice of a reasonableness standard to test JARPA II remains somewhat lacking in legal support.”).

purposely or inadvertently undermine scientific integrity for the sake of judicial efficiency, political pressure, or for lack of expertise.

How to foster greater consistency and predictability in international procedural rules to benefit scientific integrity merits further research. The following are preliminary recommendations. Retaining their wide discretion, international courts could exercise restraint by hewing to common principles of international procedure accessible to all, for example, in the form of a restatement. Over time, a body of international procedural decisions could develop which, even if nonbinding, could nevertheless persuade other institutions resolving international environmental disputes. In addition, international courts and tribunals could integrate those common principles of procedure into their respective rules of court. And international courts' consistent and wide implementation of adequate procedures could ripen into a binding norm of customary international law.

If international courts resist change, the political "branches" (states) could put pressure on them to move towards clarity and consistency. Since states currently have a lot of influence in shaping ad hoc procedural rules at the start of an international dispute, they could influence the tribunals hearing their claims. In addition, states in concert could adopt procedural policies applicable across disputes, for example by adopting resolutions, amending treaties to specify more detailed procedures for the resolution of specific international environmental disputes, amending courts' governing treaties (such as the Statute of the ICJ), or adopting a procedural treaty applicable across disputes and tribunals akin to the U.S. Administrative Procedure Act.

