

# HAGUE INTERNATIONAL TRIBUNALS INTERNATIONAL COURT OF JUSTICE

## Scientific Fact-finding at the International Court of Justice: An Appraisal in the Aftermath of the *Whaling* Case

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### Abstract

The 2014 judgment of the International Court of Justice, regarding *Whaling in the Antarctic*, brought into focus scientific fact-finding in disputes before the Court. This article examines the Court's practice with respect to first, the mode of appointment and method of examining experts assisting the Court in fact-finding; and second, the standard of review employed in analysing a scientific fact to arrive at a judicial decision. In doing so, the article also refers to jurisprudence of the World Trade Organization to draw parallels and best practices therefrom. This analysis is aimed at structuring a coherent and predictable approach for scientific fact-finding before the International Court of Justice.

### Key words

Scientific fact-finding; experts; International Court of Justice Statute Article 50; standard of review; World Trade Organization

## I. INTRODUCTION: THE INCREASING RELEVANCE OF SCIENTIFIC FACT-FINDING AT THE INTERNATIONAL COURT OF JUSTICE

In March 2014, the International Court of Justice (ICJ or the Court) rendered its judgment in the dispute between Australia and Japan, with New Zealand intervening, regarding Japan's whaling programme in the Antarctic.<sup>1</sup> The primary issue for the Court to decide was whether, as Australia contended, Japan's Whale Research Program in the southern hemisphere (JARPA II) breached certain provisions of the International Convention for the Regulation of Whaling<sup>2</sup> (ICRW) or if it was saved, as Japan countered, by the exception carved into Article VIII of the ICRW,<sup>3</sup> that authorizes contracting governments to issue special permits to its nationals to kill

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1 *Whaling in the Antarctic (Australia v. Japan: New Zealand Intervening)*, Merits, Judgment of 31 March 2014 (not yet published).

2 1946 International Convention for the Regulation of Whaling, 161 UNTS 72 (ICRW).

3 ICRW, *supra* note 2, Art. VIII(1).

whales ‘for purposes of scientific research’.<sup>4</sup> The majority of the Court found in favour of Australia.<sup>5</sup> The way the Court conducted its proceedings and the manner in which it reasoned its decision has brought to the fore several questions of vital importance to international dispute settlement proceedings.

In the *Whaling in the Antarctic* case, complex scientific issues<sup>6</sup> arose, intertwined with legal issues. Questions involved the definition of ‘scientific research’ in Article VIII of the ICRW, a term whose meaning and scope was crucial to the dispute.<sup>7</sup> Dissenting opinions hotly debated whether certain issues that the majority decided were indeed legal issues or scientific issues requiring expert determination.<sup>8</sup> Adjudicating upon such questions, especially when deciding mixed questions of law and fact, makes it a precarious task for the Court to determine its role as a judicial organ and the role to be carved out for scientific experts, if any. At the same time, it is important to consider whether the Court should rely on evidence provided by party-appointed experts, or appoint experts of its own.

This case is not an isolated example: the ICJ is now increasingly faced with cases that need a sound understanding and examination of the underlying science.<sup>9</sup> However, its methods of handling such evidence have not been uniform over the years.<sup>10</sup> The specific challenges associated with understanding and evaluating scientific and technical evidence require the legal system to adopt tools and mechanisms designed to confront and overcome these challenges.<sup>11</sup> The purpose of this article is thus to conduct an examination and analysis of the past practice of the ICJ with respect to distilling of relevant facts in disputes that involved issues relating to science in any aspect – whether the physical sciences or geographical sciences or any other technical issues. The aim is to, first, attempt to locate a pattern in the Court’s behaviour when ‘finding’ scientific and technical facts in the past disputes brought before it and second, to recommend effective procedures for the Court, while engaging in the task of scientific fact-finding, with the ultimate goal of efficient and fair resolution of scientific and technical disputes. In doing so, the article examines the ways in which the Court has relied on external assistance in conducting fact-finding: by taking into consideration opinions of experts. It thereafter analyzes how this expert advice is, and can be, incorporated into judicial reasoning: in other words, the ‘standard of review’.

4 *Whaling in the Antarctic*, *supra* note 1, para. 49.

5 *Whaling in the Antarctic*, *supra* note 1, para. 247(2).

6 Scientific facts cover the broad array of facts pertaining to ‘the structure and behaviour of the physical and natural world’: *Concise Oxford English Dictionary* (2008), 1287.

7 *Whaling in the Antarctic*, *supra* note 1, paras. 73–86.

8 *Whaling in the Antarctic (Australia v. Japan: New Zealand Intervening)*, Merits, Judgment of 31 March 2014 (not yet published) (Judge Owada, Dissenting Opinion), para. 25; (Judge Abraham, Dissenting Opinion), para. 36; (Judge Yusuf, Dissenting Opinion), para. 44; (Judge Xue, Separate Opinion), para. 15; (Judge Sebutinde, Separate Opinion), para. 9.

9 *Pulp Mills on the River Uruguay (Argentina v. Uruguay)*, Merits, Judgment of 20 April 2010, [2010] ICJ Rep. 108, at 109 (Judges Al-Khasawneh and Simma, Joint Dissenting Opinion).

10 See Section 3, *infra*.

11 J.G.S. Coutasse and E. Sweeney-Samuels, ‘Adjudicating Conflicts over Resources: The ICJ’s Treatment of Technical Evidence in the Pulp Mills Case’, (2011) 3 *Goettingen Journal of International Law* 447, at 454.

The article then examines the trends in the Court's scientific fact-finding process as discernible from the Court's past decisions. Thereafter, in light of the patterns discerned from the Court's past practice and with reference to certain practices of panels and the Appellate Body of the World Trade Organization (WTO), the article attempts to weigh the possibilities of a nuanced or more predictable approach to assessing scientific facts at the ICJ.

## 2. THE SPECIFIC NATURE OF SCIENTIFIC FACT-FINDING

Although the function of the Court is to decide disputes 'in accordance with international law',<sup>12</sup> fact-finding is also an essential, indeed indispensable component of the Court's function. Without facts, law as 'clarified'<sup>13</sup> or 'developed'<sup>14</sup> by international courts and tribunals would be a mere abstraction. Sound fact-finding is required to deal efficiently with 'the complexities involved in the serious and rigorous sifting of evidence'.<sup>15</sup> Thus, it is important to distinguish between judicial knowledge of, and control over, the law and the facts. If the 'law lies within the judicial knowledge of'<sup>16</sup> the 'international judge'<sup>17</sup> (*jura novit curia*), facts lie at the periphery of judicial control and demand to be rationalized through the adjudicatory process.<sup>18</sup> In other words, the judge, already being trained in, and having specialized knowledge of, the law, ascertains facts with the help of external tools, that is, evidence.<sup>19</sup>

Yet, judges cannot be expected to have knowledge of all subject-matters that require special education or training, such as science,<sup>20</sup> just as scientists, irrespective of their potential contribution to the dispute settlement process, cannot be expected to resolve disputes 'by the application of principles and rules of international law'.<sup>21</sup> An important task for the Court is thus to clearly identify scientific issues, as separate from legal issues. Scientific and technical evidence are terms used in disputes that involve elements requiring explanations from specialized individuals or organizations in the wide-ranging fields of modern science and technology.<sup>22</sup>

12 1945 Statute of the International Court of Justice, 33 UNTS 993, Art. 38(1) (Statute of the Court).

13 On the idea of international courts and tribunals acting as 'law-clarifiers' and not as 'law-makers', see, for example, Appellate Report *United States – Measures Affecting the Imports of Wool Shirts and Blouses From India*, adopted 25 April 1997, WT/DS33/AB/R, at 19. See also *South West Africa Cases (Ethiopia v. South Africa; Liberia v. South Africa)*, Preliminary Objections, Judgment of 21 December 1962, [1962] ICJ Rep. 465, at 540 (Judges Percy Spender and Gerald Fitzmaurice, Joint Dissenting Opinion).

14 See H. Lauterpacht, *The Development of International Law by the International Court* (1958), xiii.

15 E. Lauterpacht, *Aspects of the Administration of International Justice* (1991), 18.

16 *Fisheries Jurisdiction Case (Germany v. Iceland)*, Jurisdiction of the Court, Judgment of 2 February 1973, [1973] ICJ Rep. 49, at 56.

17 D. Terris, C.P. Romano, L. Swigart et al., *The International Judge: An Introduction to the Men and Women who decide the World's Cases* (2007), xi–xii.

18 See C. Foster, *Science and the Precautionary Principle in International Courts and Tribunals: Expert Evidence, Burdens Of Proof and Finality* (2011), 5.

19 See, e.g., *Military and Paramilitary Activities in and against Nicaragua (Nicaragua v. United States of America)*, Merits, Judgment of 27 June 1986, [1986] ICJ Rep. 14, at 25: 'As to the facts of the case, in principle the Court is not bound to confine its consideration to the material formally submitted to it by the parties'.

20 See, e.g., *Legality of Threat or Use of Nuclear Weapons*, Advisory Opinion of 8 July 1996, [1996] ICJ Rep. 226, at 236–7.

21 *Border and Transborder Armed Actions (Nicaragua v. Honduras)*, Jurisdiction and Admissibility, Judgment of 20 December 1988, [1988] ICJ Rep. 69, at 91.

22 A. Riddell and B. Plant, *Evidence Before the International Court of Justice* (2009), 344.

As an example, in the *Kishenganga* arbitration, the arbitral tribunal, dealing with a dispute between Pakistan and India under the Indus Waters Treaty, recognized that ‘technical matters’ are better handled by people with skills and qualifications such as ‘highly qualified engineer(s)’ and that parties to arbitral proceedings could even choose to only appoint for instance engineers as their party-appointed arbitrators or as the chairman of an arbitral court to deal with scientific and technical evidence.<sup>23</sup>

Scientific fact-finding ought to be construed as a distinct category of fact-finding because it has certain specific features. These features are a combination of judicial reasoning and fact-finding. Since, indisputably, courts and tribunals must weigh and select between conflicting pieces of evidence to make findings of fact,<sup>24</sup> there is thus always an exercise of the judicial function even in such fact-finding.<sup>25</sup> Scientific facts should, however, be established by taking recourse to ‘accepted fundamental laws and facts of nature known through the methods of science’,<sup>26</sup> and not through purely legal methods. In spite of being, in the dominant part, empirical in nature, and thereby resembling traditional fact-finding, it often involves discovery of the ‘uncertain fact’ thus distinguishing it from other kinds of fact-finding.

For example, in the *Pulp Mills* case, the Court was, arguably, called upon to engage in scientific fact-finding in deciding whether the future construction of pulp mills along the river Uruguay would pollute the river and damage its environment.<sup>27</sup> The Court received several scientific studies and reports from the parties, aside from those experts that appeared as counsel before the Court. The nature of issues (e.g., water quality, maintenance of ecological balance, and pollution) involved and the parties’ submissions clearly point towards the scientific character of this dispute and the need, therefore, for ‘scientific fact-finding’. Several judges stressed that the *Pulp Mills* case belonged to a category of cases that required different methods of fact-finding.<sup>28</sup> A recent ICSID case (presided by a former President of the ICJ, Judge Peter Tomka) – the *Perenco* case<sup>29</sup> – also shows that scientific fact-finding should be perceived as a distinct category of fact-finding in international adjudication. In *Perenco*, the arbitral tribunal decided to appoint an independent environmental expert to assist the Tribunal ‘in ascertaining the environmental condition of the Blocks in accordance

23 *Indus Waters Kishenganga Arbitration (Pakistan v. India)*, Partial Award of 18 February 2013, [www.pcacases.com/web/view/20](http://www.pcacases.com/web/view/20), accessed 23 February 2016, para. 486.

24 Appellate Report *European Communities – Measures Concerning Meat and Meat Products*, adopted 16 January 1998, WT/DS26/AB/R, WT/DS48/AB/R, para. 135.

25 See *Abyei Arbitration (Sudan/Sudan People’s Liberation Movement/Army)*, Final Award of 22 July 2009, [www.pcacases.com/web/view/92](http://www.pcacases.com/web/view/92), accessed 23 February 2016, para. 477 (drawing a distinction between the task of ‘merely ascertain[ing] the facts’ and the task of ‘scientifically research[ing], select[ing] and weigh[ing] such facts’ with respect to the ‘complex constellation of historical, anthropological and geographic facts (many of which remain obscure to this day)’ that confronted the tribunal in that case). J. D’Aspremont and M.M. Mbengue, ‘Strategies of Engagement with Scientific Fact-finding in International Adjudication’, (2014) 5 *Journal of International Dispute Settlement* 240, at 244.

26 D’Aspremont and Mbengue, *supra* note 25, at 246.

27 *Pulp Mills on the River Uruguay (Argentina v. Uruguay)*, Merits, Judgment of 20 April 2010, [2010] ICJ Rep. 14.

28 *Pulp Mills*, *supra* note 9, at 109; *Pulp Mills on the River Uruguay (Argentina v. Uruguay)*, Merits, Judgment of 20 April 2010, [2010] ICJ Rep. 135, at 191 (Judge Cançado Trindade, Separate Opinion); *Pulp Mills on the River Uruguay (Argentina v. Uruguay)*, Merits, Judgment of 20 April 2010, [2010] ICJ Rep. 216, at 219 (Judge Yusuf, Declaration).

29 *Perenco Ecuador Ltd v. Republic of Ecuador*, ICSID Case No. ARB/08/6, Interim Decision on the Environmental Counterclaim, 11 August 2015.

with the legal and factual findings made by the Tribunal in this Decision'.<sup>30</sup> The fact that the Tribunal made a distinction between its own factual findings and the need for an expert to determine/assess facts regarding the environmental condition of Blocks situated in the Ecuadorian Amazonian region, reveals that the Tribunal acknowledged that there might be two layers in the fact-finding process before international courts and tribunals: one layer is that of traditional fact-finding and another layer (the one requiring an expert on environmental issues) is that of 'scientific fact-finding'.

Moreover, treaties negotiated in the recent past, or being currently negotiated, reveal a widespread recognition that scientific fact-finding, given its specialized nature, requires resort to expert opinion, unlike other types of fact-finding.<sup>31</sup> The draft Transatlantic Trade and Investment Partnership (TTIP) and Trans-Pacific Partnership (TPP) both consider the possibility of a tribunal requiring expert reports, 'on any factual issue concerning environmental, health, safety, or other matters raised by a disputing party',<sup>32</sup> or 'concerning scientific matters' generally. This indicates acknowledgement that scientific fact-finding is indeed peculiar in its nature and content, and requires tools outside of those generally at the disposal of a dispute settlement forum.

A common thread discerned from the above examples is that recourse to expert opinion is a very useful and often indispensable tool in the process of scientific fact-finding. This important aspect of scientific fact-finding will be further elaborated in the later sections of this article.

Scientific fact-finding enunciates 'probabilities' while traditional fact-finding methods validate 'veracities'.<sup>33</sup> The peculiarity of scientific fact-finding lies in the tools and methods that the international adjudicators use to 'find' scientific facts, unlike the resort to legal rules of evidence in the normal course of fact-finding – the use of scientific methods to find scientific facts, albeit 'only so far as required for the application of international law'.<sup>34</sup> Thus, the Court needs to apply its judicial mind to scientific data, for the effective application of international law.

This intertwining of a fact-finding exercise and a legal function makes scientific fact-finding very hybrid in nature – it is an empirical as well as a cognitive operation.<sup>35</sup> This leads to the issue of determining the mode of ascertaining a scientific fact. The question is, in doing so, whether to take the path of traditional fact-finding, or to solely use judicial reasoning, or whether to use another, perhaps hybrid, path altogether – combining these various methods. There is, so far, no ready answer.

30 Ibid., para. 611(8).

31 Trans-Pacific Partnership, 5 November 2015, Chapter 9: Investment, [www.mfat.govt.nz/downloads/trade-agreement/transpacific/TPP-text/9.%20Investment%20Chapter.pdf](http://www.mfat.govt.nz/downloads/trade-agreement/transpacific/TPP-text/9.%20Investment%20Chapter.pdf), accessed 17 November 2015 (TPP); EC Draft Text of Transatlantic Trade and Investment Partnership, 16 September 2015, Trade in Services, Investment and E-Commerce, Chapter II – Investment, [trade.ec.europa.eu/doclib/press/index.cfm?id=1364](http://trade.ec.europa.eu/doclib/press/index.cfm?id=1364), accessed 17 November 2015 (TTIP).

32 TTIP, *supra* note 31, Chapter II, Section 3, Art. 24; TPP, *supra* note 31, Art. 9.26.

33 D'Aspremont and Mbengue, *supra* note 25, at 246.

34 *Continental Shelf (Tunisia/Libyan Arab Jamahiriya)*, Merits, Judgment of 24 February 1982, [1982] ICJ Rep. 18, at 53–4.

35 D'Aspremont and Mbengue, *supra* note 25, at 247.

If courts and tribunals thus recognize *de facto* ‘scientific fact-finding’ as a distinct category of fact-finding, it would at least become far easier to creatively modify the techniques of evidence currently in use in fact-finding. Before attempting to answer that question in Section 4 below, it is useful to have an overview of the way the Court has dealt with scientific issues in the past.

### 3. THE PAST PRACTICE OF THE COURT WITH SCIENTIFIC ISSUES

This section of the article provides an overview of the instances in which the Court has been faced with scientific or technical issues: instances which arguably required scientific fact-finding. This section explores the approach the Court took, the tools at its disposal, and the tools it eventually utilized in carrying out its task of scientific fact-finding. As mentioned above, recourse to expert opinion is a very useful tool in the process of fact-finding, and the discussion in the remainder of this section will be informed by that consideration.

Article 50 of the Statute of the ICJ (identical to the provision in the Statute of its predecessor) empowers the Court to ‘entrust any individual, body, bureau, commission, or other organization that it may select, with the task of carrying out an enquiry or giving an expert opinion.’ The Rules of Court make it clear that the Court may call for an enquiry or expert opinion even after the oral proceedings close.<sup>36</sup> Parties are also permitted to call experts to oral proceedings.<sup>37</sup> It is also evident from the Statute and Rules of Court that oral hearings include oral testimony from,<sup>38</sup> and cross-examination of,<sup>39</sup> experts.

The Permanent Court of International Justice had made use of Article 50 once, though not for scientific issues but quantification of damages.<sup>40</sup> The ICJ’s first ever contentious case, too, saw the use of Article 50 when a report from naval experts was sought.<sup>41</sup>

In the *Temple of Preah Vihear* case,<sup>42</sup> a land boundary dispute, the majority of the Court did not deem it necessary to consult experts for delimitation of the boundary, relying instead on Thailand’s tacit acceptance of a map for its veracity. The only experts involved in the dispute were those employed by the two state governments, and acting as part of the counsel teams.<sup>43</sup> Dissenting Judge Koo was however of the opinion that since a relevant treaty delimited the boundary by reference to the watershed line along a mountain range,<sup>44</sup> the boundary determination, a task ‘of a technical character’ should have been done with assistance from an expert or group

36 Rules of the International Court of Justice, as amended on 14 April 2005, in: *Acts and Documents No. 6* (2007), Art. 67 Rules of the Court.

37 *Ibid.*, Arts. 57, 63.

38 Statute of the Court, *supra* note 12, Art. 43; Rules of the Court, *supra* note 36, Art. 62.

39 Statute of the Court, *supra* note 12, Art. 51; Rules of the Court, *supra* note 36, Art. 65.

40 *Factory at Chorzów (Germany v. Poland)*, Merits, Judgment of 13 September 1928, PCIJ Rep. Series A No. 17.

41 *Corfu Channel Case (United Kingdom v. Albania)*, Merits, Judgment of 9 April 1949, [1949] ICJ Rep. 4, at 21.

42 *Temple of Preah Vihear (Cambodia v. Thailand)*, Merits, Judgment of 15 June 1962, [1962] ICJ Rep. 6.

43 *Ibid.*, at 7, 8.

44 *Temple of Preah Vihear (Cambodia v. Thailand)*, Merits, Judgment of 15 June 1962, [1962] ICJ Rep. 75, at 98 (Judge Wellington Koo, Dissenting Opinion).

of experts appointed by the Court under Article 50 of the Statute.<sup>45</sup> This dissent highlights the possibility that the Court was too hasty in arriving at a decision without considering relevant geographical factors that may have been brought to light had they consulted those with expertise on the subject.

It is interesting to note in light of this judgment that a few decades later, in the *Gulf of Maine* case, without referring to any statutory provision in their *compromis*, Canada and USA requested the Chamber constituted for this case to appoint a technical expert to assist it in delimiting a maritime boundary.<sup>46</sup> Notwithstanding the reference in the *compromis*, the Court, in its Order appointing an expert, referred to Article 50 of its Statute,<sup>47</sup> seeming to indicate that it drew its power therefrom. The expert's report provided the data for delimiting the maritime boundary,<sup>48</sup> and the Court relied on this data for delimiting the boundary based on geometrical calculations rather than the strict equidistance rule.<sup>49</sup>

An important opportunity for the Court to grapple with scientific issues was the *Gabčíkovo-Nagymaros* case,<sup>50</sup> where it was called upon to decide whether Hungary's suspension of project work was necessitated due to a risk of environmental damage to the surrounding ecosystem. The Court instead, largely avoiding adjudicating on these issues, ruled that it was 'not necessary in order to respond to the questions put to it in the Special Agreement for it to determine which of those points of view is scientifically better founded.'<sup>51</sup> The reason for such a course of action was the legal requirement for establishing a state of 'necessity' that Hungary had argued. A mere risk of environmental damage, especially the 'uncertain' ecological impact that Hungary repeatedly emphasized, was insufficient to establish 'necessity' for suspending the treaty in question.<sup>52</sup> Hungary, however, had repeatedly requested new scientific studies by the two parties, before commencement of the dispute,<sup>53</sup> but the Court did not consider the possibility of conducting such studies of its own accord, through appointment of experts, given that it did not consider scientific evidence put forth by parties. Judge Weeramantry, in a separate opinion, lamented the lack of technical rules of procedure for adjudicating on scientific issues.<sup>54</sup> In his opinion, in adjudicating upon issues concerning the environment that affect the greater interests of humanity, rules governing *inter partes* litigation may be inadequate. In other words, perhaps the Court should have stepped into an inquisitorial

45 Ibid., at 100.

46 *Delimitation of the Maritime Boundary in the Gulf of Maine Area (Canada v. United States of America)*, Merits, Judgment of 12 October 1984, [1984] ICJ Rep. 246, at 253 (*Compromis*, Art. II.3); Riddell and Plant, *supra* note 22, at 65.

47 *Delimitation of the Maritime Boundary in the Gulf of Maine Area (Canada v. United States of America)*, Appointment of Expert, Order of 30 March 1984, [1984] ICJ Rep 165.

48 *Gulf of Maine*, *supra* note 46, at 333.

49 Ibid., at 337.

50 *Gabčíkovo-Nagymaros Project (Hungary v. Slovakia)*, Merits, Judgment of 25 September 1997, [1997] ICJ Rep. 7.

51 Ibid., at 42.

52 Ibid.

53 Ibid.: 'Hungary on several occasions expressed, in 1989, its "uncertainties" as to the ecological impact of putting in place the Gabčíkovo-Nagymaros barrage system, which is why it asked insistently for new scientific studies to be carried out.'

54 *Gabčíkovo-Nagymaros Project (Hungary v. Slovakia)*, Merits, Judgment of 25 September 1997, [1997] ICJ Rep. 88, at 118 (Judge Weeramantry, Separate Opinion).

role when deciding on such fundamental rights and obligations as those relating to the environment. Commentators have criticized this approach of the Court in deciding on the immediacy and gravity of environmental peril without accounting for the abundant scientific data that the parties submitted.<sup>55</sup>

In the *Kasikili/Sedudu Island* case, Botswana and Namibia had requested the Court, by special agreement, to determine the boundary between the two countries around this island, when a joint team of technical experts was unable to do so.<sup>56</sup> Judge Oda, in his separate opinion, expressed regret that the Court had ‘made no attempt to obtain the opinion of an expert regarding the main channel of the Chobe river and relied instead on the opinions of experts who were members of the parties’ respective teams.’<sup>57</sup> According to him, the criteria for determining the main channel of the river were different from technically applying those criteria to the facts. The first may be determined by applying the law, with assistance of scientific knowledge, but the second was clearly not a legal task. The majority had performed this task merely by relying on parties’ pleadings, ‘without the benefit of objective scientific knowledge, which it could have obtained itself but chose not to.’<sup>58</sup> The Court’s approach here may be likened to its approach in the *Preah Vihear* decision. Here, too, the majority arrived at a decision without a holistic understanding of the geographical issues involved. Its scientific fact-finding remained limited to what could be obtained from parties’ pleadings.

Subsequently, two questions of a technical nature, relating to maritime geography, arose in *Qatar v. Bahrain*.<sup>59</sup> Here, the Court gracefully evaded both questions.<sup>60</sup> Parties had filed expert reports as part of their written submissions,<sup>61</sup> and there was conflicting expert opinion on both these issues.<sup>62</sup> The Court nevertheless undertook the requested delimitation considering both these geographical features as ‘special circumstances’,<sup>63</sup> relying on its past jurisprudence on maritime delimitation. Judge *ad hoc* Torres Bernárdez dissented, categorizing the above questions as ‘essentially technical questions of physical geography’.<sup>64</sup> Just as Judge Oda in *Kasikili/Sedudu Island*, he expressed regret that, given conflicting expert opinions presented by parties, the Court had not made use of its powers to request of its own accord, an expert

55 Riddell and Plant, *supra* note 22, at 348; L.G.J. Thompson, ‘The ICJ and the case concerning the Gabčíkovo-Nagymaros Project: The Implications for International Watercourses Law and International Environmental Law’, (1999) 3. Centre for Energy, Petroleum and Mineral Law and Policy Annual Review, [www.dundee.ac.uk/cepmlp/gateway/?news=27951](http://www.dundee.ac.uk/cepmlp/gateway/?news=27951), accessed 12 April 2015, para. 3.2.

56 *Kasikili/Sedudu Island (Botswana v. Namibia)*, Merits, Judgment of 13 December 1999, [1999] ICJ Rep. 1045, at 1049.

57 *Kasikili/Sedudu Island (Botswana v. Namibia)*, Merits, Judgment of 13 December 1999, [1999] ICJ Rep. 1116, at 1142 (Judge Oda, Separate Opinion).

58 *Ibid.*, at 1119.

59 *Maritime Delimitation and Territorial Questions between Qatar and Bahrain (Qatar v. Bahrain)*, Merits, Judgment of 16 March 2001, [2001] ICJ Rep. 40, at 97, 98. The questions related to, *inter alia*, the existence of a permanently navigable channel between an island and a low tide elevation, and whether another (separate) landmass was an island or a low-tide elevation.

60 *Ibid.*

61 *Ibid.*, at 46–8.

62 *Ibid.*, at 98, 99.

63 *Ibid.*, at 109.

64 *Ibid.*, at 275.



opinion or enquiry on these two questions under Article 50 of the Statute.<sup>65</sup> However, the judgment rendered by the majority in this case is an interesting example of a judicial opinion based largely on legal definitions of technical terms and the use of previously established legal criteria to resolve a technical (maritime, in this case) dispute.

The *Pulp Mills* case,<sup>66</sup> concerning the possible harm to the river Uruguay due to Uruguay's construction of pulp mills over it, is very important in terms of scientific evidence and 'scientific-fact' finding. In the course of proceedings, Argentina and Uruguay submitted a large amount of scientific evidence from consultancy firms<sup>67</sup> and national technical expert bodies,<sup>68</sup> apart from including experts on their counsel teams,<sup>69</sup> who in turn contradicted one another.<sup>70</sup> The Court, in deciding to 'principally weigh and evaluate'<sup>71</sup> the data itself to ascertain the effect of the proposed pulp mills on the river environment, was faced with a wide range of scientific issues. It concluded, on every scientific issue it examined, that Argentina had not met the required burden of proof.<sup>72</sup> As pointed out by dissenting judges Al-Khasawneh, Simma, and Yusuf, the Court did not take recourse to Article 50 of its Statute to appoint independent experts.<sup>73</sup> The majority opinion also received strong criticism from several dissenting judges, who felt that 'the Court has approached it in a way that will increase doubts in the international legal community whether it, as an institution, is well-placed to tackle complex scientific questions'.<sup>74</sup> The belief was that independent experts appointed by the Court 'in a scientific case such as the present dispute', would provide 'the insights to make sound legal decisions',<sup>75</sup> and help the Court to 'gain a more profound insight into the scientific and technical intricacies of the evidence submitted by the Parties'.<sup>76</sup> Although stressing that the final task of judicial determination rests with the Court, the use of experts was contended to be imperative in cases with complex technical facts to establish the 'verity or falsehood of the Parties' claims'.<sup>77</sup> This case also brought into focus the Court's frequent use of technical experts employed temporarily as part of its internal staff.<sup>78</sup> They are

65 Ibid.

66 *Pulp Mills*, *supra* note 27.

67 See, e.g., the 2006 Cumulative Impact Study conducted by EcoMetrix on behalf of the International Finance Corporation: *Pulp Mills*, *supra* note 27, at 25.

68 See, e.g., the 2005 Environmental impact assessment of the Orion Mill, conducted by National Directorate for the Environment of the Uruguayan Government (DINAMA): *Pulp Mills*, *supra* note 27, at 89.

69 *Pulp Mills*, *supra* note 27, at 23–5.

70 Ibid., at 72.

71 Ibid.

72 Ibid., at 93, 96–101.

73 *Pulp Mills*, *supra* note 9, at 111; *Pulp Mills* *supra* note 28.

74 *Pulp Mills*, *supra* note 9, at 109; *Pulp Mills*, *supra* note 28, at 216–20; *Pulp Mills on the River Uruguay (Argentina v. Uruguay)*, Merits, Judgment of 20 April 2010, [2010] ICJ Rep. 266, at 291 (Judge *Ad Hoc* Vinuesa, Dissenting Opinion).

75 *Pulp Mills*, *supra* note 9, at 111.

76 *Pulp Mills*, *supra* note 28, at 216.

77 *Pulp Mills*, *supra* note 9, at 113.

78 *Pulp Mills*, *supra* note 9, at 114; see Coutasse and Sweeney-Samuels, *supra* note 11, at 468–9; R.Y. Jennings, 'International Lawyers and the Progressive Development of International Law', in J. Makarczyk (Ed.), *Theory Of International Law At The Threshold Of The 21st Century: Essays In Honour Of Krzysztof Skubiszewski* (1996), at 416.

referred to as ‘*experts fantômes*’ or ‘ghost experts’, and could be appointed from varied fields, including cartography, hydrography, geography, and linguistics.<sup>79</sup> However, neither their identities nor their advice and opinions are disclosed at any time.<sup>80</sup> Dissenting judges have stressed that,

While such consultation of ‘invisible’ experts may be pardonable if the input they provide relates to the scientific margins of a case, the situation is quite different in complex scientific disputes, as is the case here. Under circumstances such as in the present case, adopting such a practice would deprive the Court of the above-mentioned advantages of transparency, openness, procedural fairness, and the ability for the Parties to comment upon or otherwise assist the Court in understanding the evidence before it. These are concerns based not purely on abstract principle, but on the good administration of justice.<sup>81</sup>

Thereafter, they referred at length to the procedure employed by dispute resolution panels of the WTO, when expert assistance is required to decide a dispute.<sup>82</sup> Clearly, these ICJ judges were in favour of the Court actively considering and adopting some of the best practices within the WTO dispute settlement system in this regard.<sup>83</sup>

Scholarly opinion in reaction to the *Pulp Mills* decision stressed on the Court’s need for greater engagement with scientific and technical evidence.<sup>84</sup> The Court was criticized for not placing special emphasis on ‘scientific facts’ as a distinct category of facts.<sup>85</sup> A few years later, therefore, it was a refreshing change to see the Court’s new approach in the case concerning *Whaling in the Antarctic*.

In the *Whaling* case, parties had produced copious amounts of expert evidence, written statements of experts to be produced at hearings were exchanged, and opposing parties were given the opportunity to comment on such expert statements as well.<sup>86</sup> At the oral hearings, the expert witnesses were examined and cross-examined, as well as questioned by judges.<sup>87</sup> It is interesting to note the departure from the *Pulp Mills* case in several aspects – not only the different approach by parties, but the structured, novel approach by the Court. Parties appointed experts as witnesses to present their statements as form of evidence, rather than as counsel, as was done in the *Pulp Mills* case. The procedure for presenting scientific evidence followed a strict and rapid schedule. The written expert statements were exchanged between all the states involved (including New Zealand, the intervener). The Registrar of the

79 Jennings, *supra* note 78, at 416.

80 P. Couvreur, ‘Le règlement juridictionnel’, in A. Pedone (Ed.), *Le processus de délimitation maritime: étude d’un cas fictif: Colloque international de Monaco du 27 au 29 mars 2003* (2004) 349, at 384.

81 *Pulp Mills*, *supra* note 9, at 114, relying on C. Tams, ‘Article 50’, in A. Zimmermann, C. Tomuschat and K. Oellers-Frahm (Eds.), *The Statute of the International Court of Justice: A Commentary* (2006) 1109, at 1118.

82 *Pulp Mills*, *supra* note 9, at 115–16.

83 *Ibid.*, at 115.

84 Coutasse and Sweeney-Samuels, *supra* note 11, at 464; C.R. Payne, ‘Pulp Mills on the River Uruguay (Argentina v. Uruguay)’, (2011) 105 AJIL 94; D’Aspremont and Mbengue, *supra* note 25, at 254; see generally C. Foster, ‘New Clothes for the Emperor? Consultation of Experts by the International Court of Justice’ (2014) 5 JIDS 139.

85 M.M. Mbengue, ‘International Courts and Tribunals as Fact-Finders: The Case of Scientific Fact-Finding in International Adjudication’ (2011) 34 *Loy. L.A. Int’l & Comp. L. Rev.* 53, at 58.

86 *Whaling in the Antarctic*, *supra* note 1, paras. 14–17.

87 *Whaling in the Antarctic*, *supra* note 1, paras. 20–1. This procedure was also followed in *Construction of a Road in Costa Rica along the San Juan River (Nicaragua v. Costa Rica)*, Merits, Judgment of 16 December 2015 (not yet published).

Court thereafter informed parties that they could submit written responses to the opposing party's expert statement within a fixed time-frame. Both disputing parties took this opportunity and submitted such written responses. The Court then called the experts for examination during the oral phase of the proceedings, permitting the experts to be present in Court before and after their examination. However, experts were not permitted to be examined during the second round of oral argument.<sup>88</sup>

The President of the Court also laid out a detailed, albeit *ad hoc*, procedure to be followed during the examination of experts. The agent or counsel of the party calling the expert would begin the examination-in-chief, which could last up to a maximum of 30 minutes. The expert could give his evidence in the form of a statement and/or as replies to questions put to him by the party having called him, at the option of the said party. The other party to the dispute would then be given an opportunity to cross-examine the expert for a period not exceeding 60 minutes. The scope of the cross-examination would be confined to written and oral statements already made by any of the experts. The party calling the expert would then be asked by the President of the Court if it wished to re-examine him. The attention of the parties was drawn to the fact that any such re-examination could not exceed 30 minutes and would be limited in scope to issues already dealt with in cross-examination. Thereafter, judges could put questions to experts.<sup>89</sup>

This was the first time the Court had established such a thorough procedure of examination, cross-examination, and re-examination in a dispute before it, and was indeed a commendable effort.<sup>90</sup> The Court's transparency with respect to such a procedure demonstrates a growing awareness of the complexity of scientific disputes and the need for the ICJ to cast 'as much light as possible ... upon the matters discussed by the Court'<sup>91</sup> in environmental disputes involving a vast amount of scientific facts.<sup>92</sup>

The Court was, however, criticized for its handling of several mixed technical and legal questions.<sup>93</sup> According to Judge Owada,

On the question of what constitutes activities 'for purposes of scientific research', ... this Court, as a court of law, is not professionally qualified to give a scientifically

88 Public Sitting held on Wednesday 26 June 2013, at 10a.m., at the Peace Palace, President Tomka presiding, in the case concerning *Whaling in the Antarctic (Australia v. Japan: New Zealand intervening)*, Verbatim Record, CR 2013/7, at 16–18.

89 Public Sitting held on Thursday 27 June 2013, at 10a.m., at the Peace Palace, President Tomka presiding, in the case concerning *Whaling in the Antarctic (Australia v. Japan: New Zealand intervening)*, Verbatim Record, CR 2013/9, at 38.

90 See, however, *Corfu Channel*, Pleadings, Oral Arguments and Documents, Volume III: Oral Proceedings (First Part), 22 November 1948, Morning, at 427–8 (sowing the seeds of this procedure: the Agent will put to his witness his first question. This may be a very general question, one that will allow the witness to say all that he wishes to say or that he knows, or the questions may be presented in detail, one after another. Then the Agent and the Counsel for the opposite side will have the right to put new questions to the witness. The President of the Court and the members of the Court will then also have the right, if they think fit, to put questions to the witness.)

91 *Corfu Channel*, Pleadings, Oral Arguments and Documents, Volume III: Oral Proceedings (First Part), 22 November 1948, Morning, at 428.

92 D'Aspremont and Mbengue, *supra* note 25, at 257.

93 *Whaling in the Antarctic*, *supra* note 8 (Judge Owada, Dissenting Opinion), para. 25, (Judge Abraham, Dissenting Opinion), para. 36, (Judge Yusuf, Dissenting Opinion), para. 44, (Judge Xue, Separate Opinion), para. 15, (Judge Sebutinde, Separate Opinion), para. 9.

meaningful answer, and should not try to pretend that it can, even though there may be certain elements in the concept that the Court may legitimately and usefully offer as salient from the viewpoint of legal analysis.<sup>94</sup>

Going a step further than its approach in earlier decisions, the Court explained the standard of review it would apply to the scientific issues at hand.<sup>95</sup> The Court's majority posited the standard of review it adopted in assessing Japan's scientific evaluation as an 'objective one', while also assessing the 'reasonableness' of these standards in relation to their stated objectives.<sup>96</sup> However, it stopped short of describing in sufficient detail what this standard of review really entails. From the Court's affirmation of certain aspects of the parties' contentions, it is possible to gain some clarity on the articulation of 'objective reasonableness' – to be objectively reasonable, a state's decision should be 'supported by coherent reasoning and respectable scientific evidence and . . . , in this sense, objectively justifiable'.<sup>97</sup> However, without an understanding of 'coherent reasoning', 'respectable scientific evidence', and an 'objective' standard, there remains much to be clarified with regard to this test. The lack of clarity regarding these stated parameters of objectivity and reasonableness may have contributed towards undermining a clear articulation of the standard of review.<sup>98</sup> An insight into the origin of this articulation of the standard of review may be found in the dissenting opinion of Judge Owada.

He too, relied on WTO's jurisprudence to contend that the task of a court of law is legal analysis, not scientific analysis.<sup>99</sup> Deference must thus be given to the state's (*in casu*, Japan's) understanding of the scientific data, as long as it is backed by sound scientific analysis.<sup>100</sup> This is not an approach of total deference, but an 'objective standard of review', objectively reviewing the state's method of scientific analysis. Judge Owada was, essentially, affirming the essence of the standard of review adopted by the majority of the Court, though criticizing the misapplication of the standard probably resulting from the judicial economy that the majority employed in laying down this standard.<sup>101</sup>

The most recent judgment of the Court addressing scientific fact-finding, deciding two disputes between Nicaragua and Costa Rica, did not raise the subject of 'standard of review' again,<sup>102</sup> either in the judgment of the Court, or in the various separate and dissenting opinions appended to it. It is however not possible to compare this approach with that taken in the *Whaling* case, since here, the Court was not faced with the task of assessing any action taken by a party based on scientific evidence.

94 *Whaling in the Antarctic*, *supra* note 8, para. 24.

95 Such an approach was not seen thereafter in the *Certain Activities carried out by Nicaragua in the Border Area (Nicaragua v. Costa Rica)*, Merits, Judgment of 16 December 2015 (not yet published)/*Construction of a Road in Costa Rica along the San Juan River*, *supra* note 87, decisions either.

96 *Whaling in the Antarctic*, *supra* note 1, para. 67.

97 *Ibid.*, para. 66.

98 G. Gros, 'The ICJ's handling of Science in the Whaling in the Antarctic Case: A Whale of a Case?', (2015) 6 *Journal of International Dispute Settlement* 578, at 592–3.

99 *Whaling in the Antarctic*, *supra* note 8, para. 20.

100 *Ibid.*, para. 21.

101 *Ibid.*, para. 34.

102 *Certain Activities carried out by Nicaragua in the Border Area (Costa Rica v. Nicaragua)*, *supra* note 95; *Construction of a Road in Costa Rica along the San Juan River (Nicaragua v. Costa Rica)*, *supra* note 87.

Rather, questions related to an estimation of the amount of sediment in a river,<sup>103</sup> and the establishment of whether sedimentation caused by construction of a road harmed the river's morphology and navigation.<sup>104</sup> The question of reviewing a party's scientific judgment did not, therefore, come into play.

This section did not aim to enumerate an exhaustive list of cases where the Court dealt with or had the opportunity to deal with scientific issues. Yet, a recapitulation of these decisions provides an insight into how the Court has approached the issue of scientific fact-finding over the years. These cases indicate that the Court, in the recent past, has shown a clear reluctance towards appointing its own experts under Article 50 of the Statute. Though it is not the thrust of this article that Court-appointed experts are necessary for scientific fact-finding, it is problematic that in several disputes (with the notable exception of the *Qatar v. Bahrain* case) the Court found it a better alternative to rely solely on party submissions and avoid tackling scientific issues rather than appoint experts to assist in fact-finding of a specialized nature. Of course, it is not necessary that issues of international law that are also scientific issues cannot be resolved by the use of solely legal tools.<sup>105</sup> It is merely the author's submission that a more comprehensive decision could be arrived at by using all tools at the Court's disposal (through its Statute or Rules). Undoubtedly, the Court would have more specialized knowledge at its disposal, which could only further a sound and well-reasoned judgment.

Only with the *Whaling* case was there a marked departure from earlier practice, with the Court taking a bold step towards streamlining the presentation of expert testimony, written and oral, as well as taking efforts at directly tackling scientific issues unlike in its past decisions. In judicially analyzing the scientific questions before it, the Court also took pains to identify the standard of review it employed, unlike past decisions where the methodology used was never clearly defined.

In the Court, of course, one case does not make a precedent, and it remains to be seen whether the procedures and methodologies from the *Whaling* case are replicated in further disputes of a similar nature. In the two years subsequent to the proceedings in the *Whaling* case, the Court has seen experts appearing before it in joint proceedings of two disputes between Nicaragua and Costa Rica.<sup>106</sup> There are similarities as well as differences between these proceedings and the ones witnessed previously in the *Whaling* case.

In the later case between Nicaragua and Costa Rica, the Registrar informed the parties that the Court would find it useful if, during the hearings, they could call the experts whose reports were annexed to the written pleadings, and also asked parties for suggestions as to the procedure to follow for the examination of those experts.<sup>107</sup> The Court thereafter communicated its decision relating to examination

103 Ibid., paras. 193–4.

104 Ibid., paras. 197–207.

105 M.M. Mbengue and R. Das, 'The ICJ's Engagement with Science: To Interpret or Not to Interpret?', (2015) 6 *Journal of International Dispute Settlement* 568, at 574–5.

106 *Certain Activities carried out by Nicaragua in the Border Area*, *supra* note 95; *Construction of a Road in Costa Rica along the San Juan River*, *supra* note 87.

107 Public Sitting held on Tuesday 14 April 2015, at 10 a.m., at the Peace Palace, President Abraham presiding, in the case concerning *Certain Activities carried out by Nicaragua in the Border Area (Costa Rica v. Nicaragua)*;

of experts by a letter sent to parties. This required parties to transmit the names and written statements of experts they intended to call at oral proceedings. These statements were to serve as the examination-in-chief.<sup>108</sup> At the oral hearings, the party calling the expert would only ask the expert to confirm his written statement, which would complete the examination-in-chief.<sup>109</sup> This was a departure from the procedure followed in the *Whaling* case, where, notwithstanding the written statements, oral proceedings had yet another public examination-in-chief prior to the cross-examination. The time allocated for cross-examination and re-examination were also different – 40 minutes for one case and a 100 minutes for the other.<sup>110</sup> However, these seem to depend on the nature and complexity of the dispute, and an assessment by the Court of the time required. Procedures for cross-examination, re-examination, and questions from the judges remained the same as in the *Whaling* case.<sup>111</sup>

In arriving at a decision in the *Nicaragua/Costa Rica* case, the Court's conclusions were often drawn from the fact that experts of both parties were in agreement on certain issues.<sup>112</sup> In other situations, conclusions were drawn from estimates made by parties' experts,<sup>113</sup> and rulings in favour of raw data as opposed to expert opinions.<sup>114</sup> Scientific questions as complex as in the *Whaling* case did not arise in this dispute.

In both these proceedings, it is important to note that the procedures governing experts were established through a combination of letters exchanged between the Court and parties and by oral statements of the President of the Court in open court. No formal orders were issued in either of the disputes. In light of this, two questions remain unresolved in the context of scientific fact-finding at the Court. These questions concern expert appointment and the procedure in proceedings once appointed, and the nature of judicial analysis of the scientific facts, once they are ascertained. Both these questions are discussed in the next section.

#### 4. NEED FOR A NUANCED APPROACH?

Judges Al-Khasawneh and Simma succinctly summarized in their joint dissenting opinion in the *Pulp Mills* case,

the adjudication of disputes in which the assessment of scientific questions by experts is indispensable ... requires an interweaving of legal process with knowledge and

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*Construction of a Road in Costa Rica along the San Juan River (Nicaragua v. Costa Rica)*, Verbatim Record, CR 2015/2, at 5.

<sup>108</sup> *Ibid.*, at 6.

<sup>109</sup> *Ibid.*

<sup>110</sup> Public Sitting held on Tuesday 14 April 2015, at 3 p.m., at the Peace Palace, President Abraham presiding, in the case concerning *Certain Activities carried out by Nicaragua in the Border Area (Costa Rica v. Nicaragua)*; *Construction of a Road in Costa Rica along the San Juan River (Nicaragua v. Costa Rica)*, Verbatim Record, CR 2015/3, at 13.

<sup>111</sup> *Ibid.*

<sup>112</sup> *Certain Activities carried out by Nicaragua in the Border Area*, *supra* note 95; *Construction of a Road in Costa Rica along the San Juan River*, *supra* note 87, paras. 90, 105.

<sup>113</sup> *Ibid.*, paras. 193–4.

<sup>114</sup> *Ibid.*, para. 203.

expertise that can only be drawn from experts properly trained to evaluate the increasingly complex nature of the facts put before the Court. . . . The Court on its own is not in a position adequately to assess and weigh complex scientific evidence of the type presented by the Parties.<sup>115</sup>

It is therefore increasingly argued that the Court must seek the assistance of experts in deciding complex questions of science and technology.

Since the judicial mind is applied to scientific and technical evidence, the dispute, at its core, remains a legal dispute, keeping the judges in control of the proceedings as well as decision-making. The purpose served by the expert opinion is assisting the Court in establishing and elucidating the facts to adjudicate upon the issues presented to it,<sup>116</sup> while the Court determines the relative significance of these facts,<sup>117</sup> draws conclusions therefrom, and applies relevant rules of international law to those facts it has found to exist.<sup>118</sup> Thus, the fear that greater recourse to expert opinions would endanger the Court's judicial function and inadvertently delegate the same to experts<sup>119</sup> is unfounded.<sup>120</sup>

Two concerns seem to have arisen in the context of scientific fact-finding in litigation before the Court. The first is the use of experts, and questions regarding the method of appointment, appointing entity, and procedure once appointed (Section 4.1). The second is the nature of analysis to be undertaken by the Court once it has been presented with a large amount of varied scientific evidence (Section 4.2).

#### 4.1. Method of appointment of experts and testimony

Recourse to expert assistance, even for inherently legal questions, does not undermine in any way the Court's legitimacy as a judicial organ; indeed, some argue that it is likely to be enhanced with the resort to independent expert evidence.<sup>121</sup> The mode of appointment of experts and procedure for obtaining their evidence through oral proceedings are important considerations that could contribute to strengthening the Court's role in dispute settlement.<sup>122</sup>

115 *Pulp Mills*, *supra* note 9, at 110.

116 *Application for Revision and Interpretation of the Judgment of 24 February 1982 in the Case concerning the Continental Shelf (Tunisia/Libyan Arab Jamahiriya) (Tunisia v. Libyan Arab Jamahiriya)*, Judgment of 10 December 1985, [1985] ICJ Rep. 228; see also *Pulp Mills*, *supra* note 28, at 219.

117 G.M. White, *The Use of Experts by International Tribunals* (1965), 164.

118 *Pulp Mills*, *supra* note 27, at 72–3.

119 White, *supra* note 117, at 11–12.

120 *Pulp Mills*, *supra* note 28, at 219, para. 10: 'the question arises as to whether there is a risk that the resort to an expert opinion may take away the role of the judge as the arbiter of fact and therefore undermine the Court's judicial function? My answer is in the negative. First, it is not for the expert to weigh the probative value of the facts, but to elucidate them and to clarify the scientific validity of the methods used to establish certain facts or to collect data. Secondly, the elucidation of facts by the experts is always subject to the assessment of such expertise and the determination of the facts underlying it by the Court. Thirdly, the Court need not entrust the clarification of all the facts submitted to it to experts in a wholesale manner. Rather, it should, in the first instance, identify the areas in which further fact-finding or elucidation of facts is necessary before resorting to the assistance of experts.'

121 Foster, *supra* note 84, at 144.

122 F. Jacur, 'Remarks on the Role of Ex Curia Scientific Experts in International Environmental Disputes', in: N. Boschiero et al., *International Courts and the Development of International Law* (2013) 441, at 444; Foster, *supra* note 84, at 152.

There are three possible ways in which experts can make appearances in a dispute before the Court. First, as seen in the *Temple of Preah Vihear* case, and used less frequently today, experts could appear in the form of counsel, as part of a party's delegation.<sup>123</sup> Secondly, the evidence presented by parties could include testimony from experts selected by the respective parties.<sup>124</sup> When states adopt this strategy, experts act as witnesses. Thirdly, the Court itself could appoint experts under Article 50 of its Statute to elucidate on certain technical issues arising in a case. Instances of recourse to Article 50 are now rare.<sup>125</sup>

Notable differences exist between the procedures for hearing each type of expert. The first kind of appointment of experts, though permissible under the Statute,<sup>126</sup> is not advisable, especially if the only expert involved in the case acts as counsel.<sup>127</sup> Such experts, appearing under Article 43 of the Statute,<sup>128</sup> are not cross-examined by the opposing parties, which is an important procedural safeguard and due process norm, leading to greater transparency in the decision-making process.

This is available to the second category of experts, those appointed under Article 63 of the Rules,<sup>129</sup> and appearing as witnesses. The Rules permit parties to call experts for examination in the oral proceedings,<sup>130</sup> under oath.<sup>131</sup> Of course, such a category also has its disadvantages to the extent that, as Judge Weeramantry noted in the *Gabcikovo-Nagymaros* case, the Court may not conduct its own enquiries, solely relying on evidence provided by parties. Further, it could be difficult for the Court to decide on the more persuasive of two competing scientific opinions. Two recent disputes<sup>132</sup> before the Court saw expert witnesses appointed by both parties. Parties exchanged written expert statements and commented upon them. At the oral hearings, experts were cross-examined and even questioned by judges. In both these disputes, the Court followed the procedure as described in [Section 3](#) of this article.<sup>133</sup>

It may be too soon to discern a trend from the procedures followed in the two hearings, and it may be too early to assume that the Court was consciously following the practice in its previous decision, the *Whaling* case, during the *Nicaragua/Costa Rica* case hearings. This is largely due to the lack of a formalized process in laying down the expert examination protocol, as well as the fact that there was a discussion with parties, seeking their opinions, before a final procedure was established.

<sup>123</sup> *Pulp Mills*, *supra* note 27.

<sup>124</sup> *Whaling in the Antarctic*, *supra* note 1.

<sup>125</sup> *Corfu Channel*, *supra* note 41.

<sup>126</sup> Statute of the Court, *supra* note 12, Art. 43.

<sup>127</sup> See *Pulp Mills*, *supra* note 27, para. 167: 'The Court indeed considers that those persons who provide evidence before the Court based on their scientific or technical knowledge and on their personal experience should testify before the Court as experts, witnesses or in some cases in both capacities, rather than counsel, so that they may be submitted to questioning by the other party as well as by the Court.' See also, *Pulp Mills on the River Uruguay (Argentina v. Uruguay)*, Merits, Judgment of 20 April 2010, [2010] ICJ Rep. 221, para. 27 (Judge Greenwood, Separate Opinion).

<sup>128</sup> *Pulp Mills*, *supra* note 9, at 111.

<sup>129</sup> Rules of the Court, *supra* note 36, Art. 65.

<sup>130</sup> *Ibid.*, Arts. 57, 63, 65.

<sup>131</sup> *Ibid.*, Art. 64.

<sup>132</sup> *Whaling in the Antarctic*, *supra* note 1; *Certain Activities carried out by Nicaragua in the Border Area*, *supra* note 95; *Construction of a Road in Costa Rica along the San Juan River*, *supra* note 87.

<sup>133</sup> See text accompanying notes 79–83.



There may be concerns that these party-appointed experts are not ‘neutral’. Yet, this is perhaps the most useful manner of including experts in the proceedings. In a field, such as science where opinions and discoveries are often overturned by new research and conflicting opinions are common, the Court would be well-served by the opportunity to assess evidence put forth by opposing parties and then arrive at its own conclusion with the assistance of diverse experts. There is also the added benefit of cross-examination, absent in other avenues of expert-appointment. With the similar approaches in the last two cases, it is hoped that this procedure is formalized, perhaps included in the Rules of Court in the future, or at least issued as Practice Directions for parties to adhere to, in all future disputes.

The third category of experts is the kind that the Court itself may appoint – whether an organization or an individual.<sup>134</sup> The Court-appointed expert is asked to prepare a report, on which the parties are given opportunity to comment.<sup>135</sup> Experts under this category are however, not subject to cross-examination and thus may not further the cause of due process<sup>136</sup> as much as a party-appointed expert witness. However, the advantage available to the Court is the ability to call for an expert report at any stage of the dispute, even when oral proceedings are not on-going. A court-appointed expert could also supplement the evidence presented by parties and their experts, and assist the Court in understanding technical evidence that the parties put forth.

A system similar to Court-appointed experts can be seen in the WTO dispute settlement process. In the absence of explicit rules regulating individual expert appointments, WTO panels have developed sophisticated procedures for the appointment of independent experts and the collection and examination of scientific evidence.<sup>137</sup> Panels may even appoint an Expert Review Group, whose report is subject to comments by parties before submission to the panel.<sup>138</sup> Often, specialized international organizations, such as the International Monetary Fund (IMF) and the World Intellectual Property Organization (WIPO),<sup>139</sup> have been sought out as experts.<sup>140</sup> During the proceedings, panels have the ability to ‘ask specific questions to each expert, to add questions during the process, to interrogate the experts

<sup>134</sup> Statute of the Court, *supra* note 12, Art. 50.

<sup>135</sup> Rules of the Court, *supra* note 36, Art. 67.

<sup>136</sup> *Indus Waters Kishenganga Arbitration (Pakistan v. India)*, Letter to the Parties, dated 17 August 2012, PCA Arbitration Tribunal, para. 5: ‘the Court considers that its paramount duty is to maintain both Parties’ due process rights, in particular the right to be heard on the matters on which the Court will render its decision, and the equally important right of the other Party to have adequate opportunity to contradict all those matters.’

<sup>137</sup> M.M. Mbengue, ‘Between Law and Science: A commentary on the Whaling in the Antarctic Case’, *Questions of International Law* (19 April 2015), [www.qil-qdi.org/between-law-and-science-a-commentary-on-the-whaling-in-the-antarctic-case-2/](http://www.qil-qdi.org/between-law-and-science-a-commentary-on-the-whaling-in-the-antarctic-case-2/).

<sup>138</sup> Understanding on the Rules and Procedures Governing the Settlement of Disputes, 15 April 1994, WTO Doc. LT/UR/A-2/DS/U/1, Art. 13.2, Annex 4.1, 4.6 (WTO DSU).

<sup>139</sup> *Panel Report India – Quantitative Restrictions on Imports of Agricultural, Textile and Industrial Products*, adopted 22 September 1999, WT/DS90/R, as upheld by *Appellate Report India – Quantitative Restrictions on Imports of Agricultural, Textile and Industrial Products*, adopted 22 September 1999, WT/DS90/AB/R; *Panel Report United States – Section 110(5) of the US Copyright Act*, adopted 27 July 2000, WT/DS160/R.

<sup>140</sup> WTO DSU, *supra* note 138, Art. 13.1 (‘Each panel shall have the right to seek information and technical advice from any individual or body which it deems appropriate.’); Art. 13.2 (‘Panels may seek information from any relevant source and may consult experts to obtain their opinion on certain aspects of the matter.’);

orally ... [and] to obtain the individual opinion of each expert.<sup>141</sup> Expert appointment has proved to be much more commonplace and frequent in case of WTO panels, than the ICJ.<sup>142</sup> A WTO panel appoints experts in a two-step consultation procedure, with both written and oral phases. Parties have a joint meeting in the oral phase, where they comment on the expert reports and on the comments of the opposing party on these expert reports. Thus, the panel and parties get the opportunity to understand the principles underlying the scientific arguments in a particular case.<sup>143</sup> Even ICJ judges have observed that the practice of WTO panels with respect to experts 'has most contributed to the development of a best practice of readily consulting outside sources.'<sup>144</sup>

In practice, as mentioned before, the Court has resorted to a fourth category of experts – the *experts fantômes*, where it essentially uses its power under Article 50, albeit clandestinely. Such recourse to expert opinion has been criticized repeatedly,<sup>145</sup> for good reason. The procedural impropriety arising with resorting to such assistance is that judges are making their decisions based on advice from persons that are unknown, giving advice that is unknown outside the judges' chambers. Parties are not given an opportunity to comment on the choice of expert, the expert's opinions or findings, unlike experts appointed by parties themselves. Thus, there is a lack of transparency in the proceedings and the reasons for the decision may become unclear. A well-reasoned decision leads to a greater chance that the parties would abide by it, and in turn leads to legitimacy of the judicial system and good administration of justice.<sup>146</sup>

#### 4.2. The Court's roles in finding scientific facts: Lessons from the WTO dispute settlement system

The debate over scientific fact-finding is not confined to the appointment of experts to assist the Court in ascertaining scientific facts. Ambiguity remains in the legal methods that the Court must employ in making choices between conflicting scientific opinions and integrating the same into the judgment.

For example, the *Gabcikovo-Nagymaros*, *Pulp Mills*, and *Whaling* cases saw the Court employing different arguments to justify its rejection of one party's scientific arguments, or its selection of certain evidence over the other.

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J. Pauwelyn, 'The Use of Experts in WTO Dispute Settlement', (2002) 51 *International & Comparative Law Quarterly* 325, at 328.

141 Pauwelyn, *supra* note 140, at 328.

142 See, e.g., *Appellate Report European Communities – Measures Concerning Meat and Meat Products (Hormones)*, adopted 13 February 1998, WT/DS26/AB/R, WT/DS48/AB/R; *Panel Report United States – Continued Suspension of Obligations in the EC – Hormones Dispute*, adopted 14 November 2008, WT/DS320/R, as modified by *Appellate Report United States – Continued Suspension of Obligations in the EC – Hormones Dispute*, adopted 16 October 2008, WT/DS320/AB/R; *Panel Report Canada – Continued Suspension of Obligations in the EC – Hormones Dispute*, adopted 14 November 2008, WT/DS321/R, as modified by *Appellate Report Canada – Continued Suspension of Obligations in the EC – Hormones Dispute*, adopted 14 November 2008, WT/DS321/AB/R; *Panel Report European Communities – Measures Affecting the Approval and Marketing of Biotech Products*, adopted 21 November 2006, WT/DS291/R, WT/DS292/R, WT/DS293/R, Add.1 to Add.9, and Corr.1.

143 *Pulp Mills*, *supra* note 9, at 115–16.

144 *Ibid.*, at 113.

145 *Ibid.*, at 114–15; Coutasse and Sweeney-Samuels, *supra* note 11, at 468–9.

146 Tams, *supra* note 81, at 1109, 1118; *Pulp Mills*, *supra* note 9, at 114.

Judge Owada in the *Whaling* case made certain pertinent observations which could provide useful guidance to the Court in future instances of scientific fact-finding. The majority in the *Whaling* case had based its ruling on an ‘objective standard of review’, which reviewed Japan’s whaling programme to examine whether it was ‘for purposes of scientific research’. According to Judge Owada, the Court seemed to have based this standard of review on Japan’s submissions which drew analogies from jurisprudence of the WTO Appellate Body.<sup>147</sup> The WTO Appellate Body has, on several occasions, been faced with ‘the issue of judicial review of sovereign decisions of its Member States over scientifically controversial issues’.<sup>148</sup> The Appellate Body clarified this objective standard of review, relying on Article 11 of the WTO Dispute Settlement Understanding in an attempt to distinguish between law and science, and delineate a WTO panel’s role when scientific opinions do not provide a single clear answer.<sup>149</sup> Judge Owada was of the opinion that the ICJ transposed this principle from the WTO Appellate Body and applied it incorrectly to the case at hand.<sup>150</sup>

Thus, it is useful to have an understanding of the way the WTO dispute settlement organs address scientific issues. The WTO Appellate Body has also clarified in its report in the *EC – Hormones* case a standard of review for fact-finding by panels – ‘neither *de novo* review as such, nor “total deference”, but rather the “objective assessment of facts”’.<sup>151</sup> This ruling is especially relevant in context of scientific fact-finding.

Often, a WTO panel is required to review the risk assessment by a WTO member to evaluate the validity of a measure on which the risk assessment is based. In that case, the scope of the word ‘review’, that is, the task of the panel, is not to assess the risk on its own accord, thereby rendering it a *de novo* review. Instead, the panel’s duty is ‘to determine whether that risk assessment is supported by coherent reasoning and respectable scientific evidence and is, in this sense, objectively justifiable’.<sup>152</sup> Thus, the Appellate Body has not favoured an investigative approach by panels, preferring rather that panels do not find in favour of a complaining member if it fails to establish a *prima facie* case on its own.<sup>153</sup>

Admittedly, the language of ‘objective assessment’ is expressly set out in Article 11 of the WTO Dispute Settlement Understanding, while no such language is present in the Statute of the ICJ. However, this difference does not preclude the application of the objective assessment standard before the Court, given that the judicial nature of the Court’s function<sup>154</sup> would necessitate an objective assessment even absent a specific provision in the Statute.

147 *Whaling in the Antarctic*, *supra* note 8, para. 33.

148 *Ibid.*

149 *Whaling in the Antarctic*, *supra* note 8, para. 34; *United States – Continued Suspension*, *supra* note 142.

150 *Whaling in the Antarctic*, *supra* note 8, para. 34.

151 *European Communities – Hormones*, *supra* note 142, para. 117.

152 *United States – Continued Suspension*, *supra* note 142, para. 590.

153 *Appellate Report Japan – Measures Affecting Agricultural Products*, adopted 22 February 1999, WT/DS76/AB/R, paras. 129–30; *Panel Report European Communities – Measures Affecting Asbestos and Asbestos-Containing Products*, adopted 18 September 2000, WT/DS135/R, para. 8.81. In contrast, see C. Foster, *supra* note 18, at 101 (suggesting that the Court takes an investigative approach rather an adversarial one, since this ‘may better enable the court or tribunal to build up a solid and coherent understanding of the science’).

154 Statute of the Court, *supra* note 12, Arts. 1, 38.

Another key feature of the Appellate Body's ruling in *Hormones* is that the dispute concerned the Agreement on Sanitary and Phytosanitary Measures (SPS Agreement). This aspect is worth noting when transposing the concept of 'standard of review' into any other context. Most WTO disputes involving science arise under the SPS Agreement. This Agreement permits WTO members to choose their own 'appropriate level of protection',<sup>155</sup> while requiring them to act scientifically,<sup>156</sup> thus enabling each member to adopt one of several scientifically justifiable actions. This is the broad nature of circumstances under which scientific questions arise in WTO disputes.

On the other hand, there are two distinct categories of situations where a scientific question may arise before the Court – first, where there is a substantive obligation on a party to act scientifically, such as to refrain from whaling except for scientific purposes, and second, where a scientific question needs to be resolved for arriving at a conclusion on a factual issue, such as where the course of a river marks the boundary between two parties. In the first set of circumstances, there would be reasons to borrow the objective assessment standard employed by the WTO Appellate Body, while in the latter category, the Court will have to arrive at its own conclusion on the scientific question using all the judicial tools available to it, including opinions of experts appointed by a party or by the Court.

At least in instances where the substantive obligation before the Court is one which requires a state to act scientifically, for example to conduct certain acts only for scientific purposes, an approach similar to the one adopted by the WTO Appellate Body would be justified before the Court. That is the Court, in those instances, would need to examine whether the party in question acted scientifically, not whether the Court itself would have chosen that particular course of action as a scientific actor. Taking the example of the *Whaling* case, where the Court itself undertook the exercise of ascertaining whether Japan's whaling programme was 'for purposes of scientific research', one could ask whether it exceeded its competence, overstepped its boundaries as a judicial forum, and applied its own scientific judgment to the issue. In the words of Judge Owada,

when a court of law or a judicial body is engaged in the legal assessment of a scientific matter where scientists hold divergent views, the judicial institution is under an intrinsic limitation on its power and must not exceed its competence as the administrator of the law, by straying into an area which lies beyond its delimited function.<sup>157</sup>

The question then arises as to how the Court can ascertain whether a certain scientific assessment by a party is objectively justifiable. Yet again, drawing from the WTO Appellate Body's observations, the scientific basis for the party's argument 'need not reflect the majority view within the scientific community but may reflect divergent or minority views.'<sup>158</sup> Instead, what is important is that the scientific theory must

155 WTO Agreement on the Application of Sanitary and Phytosanitary Measures, 15 April 1994, 1867 UNTS 493, Preamble, Art. 3.3.

156 *Ibid.*, Arts. 2.2, 5.1.

157 *Whaling in the Antarctic*, *supra* note 8, para. 37.

158 *United States – Continued Suspension*, *supra* note 142, para. 591.

emanate from a respected and qualified source and must 'have the necessary scientific and methodological rigour to be considered reputable science.'<sup>159</sup> Thus, the task of the experts assisting in the case is not to put forth their own theories on the scientific issue in dispute, but to help the Court in understanding whether the theory put forth by a state party is justifiable, objective, and coherent, according to respected members of the same scientific community.<sup>160</sup> In other words, the standard of proof in proving scientific issues should be only to establish whether the reasons put forward by the scientific theory 'sufficiently warrant'<sup>161</sup> the actions taken by the party.

Even though the comparisons drawn from the WTO here are in the specific context of the SPS Agreement, the reasoning adopted by the Appellate Body on the 'objective standard of review' may well be adopted and implemented in the ICJ's domain as well. Although it could be said that the Court adopted the very same standard in the *Whaling* case, the debate surrounds the precise scope of this standard, which, it could be argued, the Court did not elaborate in sufficient detail in its judgment. The clear and cogent criteria for assessing the facts based on an 'objective standard of review' could well be borrowed from the WTO Appellate Body, and could integrate well into the Court's own stance on the standard of review, as postulated in the *Whaling* case. A well-reasoned judgment could better serve the cause of transparency and justice.

## 5. CONCLUDING OBSERVATIONS

Weighing and adjudicating upon complex technical issues is increasingly becoming an unavoidable reality of international disputes. However, in several past disputes involving scientific fact-finding, the approach of the Court has not been predictable or uniform. The mode of appointment of experts as well as the subsequent analysis of scientific issues has varied considerably over the years. This article has attempted to suggest effective procedures in both these stages – expert appointment as well as analysis of scientific fact, with the ultimate objective of resolving disputes involving scientific issues most efficaciously.

The suggestions put forth here are not the most widely accepted. Some strongly favour use of Article 50 of the Statute of the Court, advocating Court-appointment of experts, with close interaction between the Court and the appointed experts, while keeping the Court in charge of deciding the case.<sup>162</sup> However, this does not take into consideration the undeniable importance of due process and transparency in the proceedings, which might, for instance, require cross-examination of the experts by parties, apart from commenting on the expert reports.

Another proposal suggests that the Court maintains a standing 'Scientific Advisory Body',<sup>163</sup> much like certain expert groups existing within the WTO framework. The argument in favour of such a body is that it would 'discourage fragmentation

159 Ibid.

160 *United States – Continued Suspension*, *supra* note 142, para. 592.

161 Ibid., para. 591; *European Communities – Hormones*, *supra* note 142, para. 193.

162 Foster, *supra* note 84, at 152; Jacur, *supra* note 122, at 442.

163 Coutasse and Sweeney-Samuels, *supra* note 11, at 466–7.

and decrease the frequency with which the Court would need to seek out experts or form ad hoc commissions to provide expertise in complex environmental cases.<sup>164</sup> However, as the proponents of this suggestion themselves admit, the Court would then lose flexibility in appointing experts specifically suited to each case, apart from the financial and administrative burden of maintaining a standing body.<sup>165</sup>

Scientific fact-finding has its limitations in a court of law, and that must be recognized even in the context of the ICJ. Even with experts appointed by parties and cross-examined in open court, the onerous task of interpreting and extracting the 'scientific fact' from varied expert opinions rests on the judge. In certain circumstances, such as the case where a state makes an assertion based on its interpretation of scientific data, the interests of justice may well be served by the objective standard of review proposed and adhered to within the WTO dispute settlement system, and followed to some extent by the ICJ in the *Whaling* case. These lessons from the proceedings and judgment in the *Whaling* case represent important steps by the Court towards streamlining the process of scientific fact-finding in cases of this nature before it.

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164 Ibid.

165 Coutasse and Sweeney-Samuels, *supra* note 11, at 466.