THE USE OF EXPERTS IN WTO DISPUTE SETTLEMENT

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I. INTRODUCTION

In seven years of WTO dispute settlement (1995–2001), six panels appointed scientific experts,[2] two panels requested expert advice from other international organisations[3] and one panel nominated a linguistic expert.[4] Under GATT 1947, in contrast, only one panel saw the need to seek expert advice.[5] Very often also the *parties* to a WTO dispute nominate experts on their delegation, be they lawyers, economists, scientists or linguists. In addition, an increasing number of 'outsiders' or *amici curiae*, such as NGOs, but also industry and academics, have pressed their (expert) opinion on WTO panels and the Appellate Body.

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[2] European Communities—Measures Affecting Livestock and Meat (Hormones), complaint by Canada (WT/DS48) and complaint by the United States (WT/DS26), Panel and Appellate Body reports adopted on 13 Feb 1998 [hereafter *EC—Hormones*] (same set of experts for two panels); United States—Import Prohibition of Certain Shrimp and Shrimp Products, complaint by India, Malaysia, Pakistan, and Thailand (WT/DS58), Panel and Appellate Body reports adopted on 6 Nov 1998 [hereafter *US—Shrimp/Turtle*] (experts in original panel only); Australia - Measures Affecting the Importation of Salmon, complaint by Canada (WT/DS18), Panel and Appellate Body reports adopted on 6 Nov 1998 [hereafter *Australia—Salmon*] (experts were appointed twice: original panel and implementation panel, appointing a different set of experts); Japan—Measures Affecting Agricultural Products, complaint by the United States (WT/DS76), Panel and Appellate Body reports adopted on 19 Mar 1999 [hereafter *Japan—Varietals*] and European Communities—Measures Affecting the Prohibition of Asbestos and Asbestos Products, complaint by Canada (WT/DS135), Panel and Appellate Body reports adopted on 5 Apr 2001 [hereafter *EC—Asbestos*].

[3] India—Quantitative Restrictions on Imports of Agricultural, Textile, and Industrial Products, complaint by the United States (WT/DS90), Panel and Appellate Body reports adopted on 22 Sept 1999 [hereafter *India—Quantitative Restrictions*] (advice from the International Monetary Fund on balance of payments measures) and United States—Section 110(5) of the US Copyright Act, complaint by the European Communities (WT/DS160), Panel report adopted on 27 July 2000 [hereafter *US—Copyright Act*] (advice from the World Intellectual Property Organisation on the Berne Convention).

[4] Japan—Measures Affecting Consumer Photographic Film and Paper, complaint by the United States (WT/DS44), Panel report adopted on 22 Apr 1998.

[5] Thailand—Restrictions on importation of and internal taxes on cigarettes (BISD 37S/200), requesting WHO advice.

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The WTO also has a number of expert-*political* bodies (such as the Committee on Regional Trade) whose role and relationship to dispute settlement has been scrutinised.

This paper examines the increasing importance of expert advice in WTO dispute settlement. At least five reasons can be found to explain this increased importance. First, WTO agreements themselves became more technical, both in the trade/economic sense (refer, for example, to the agreement on Customs Valuation and the agreement on Agriculture) and the factual/scientific sense (refer to the SPS and TBT agreements).[6] Secondly, a number of WTO obligations adopt an explicit economic/scientific criterion of legality. This criterion is set out either in the WTO treaty itself—such as the requirement to 'base' sanitary measures on a 'risk assessment'[7]—or developed in WTO jurisprudence, such as the condition of a certain degree of 'competitive relationship' for products to be 'like' under GATT Article III.[8] Thirdly, WTO dispute settlement has been 'legalised': panels have compulsory jurisdiction, panel reports are virtually automatically adopted and the legal aspects of a dispute are subject to review by an Appellate Body. This stands in contrast to the GATT 1947 diplomatic approach to settling disputes where a panel often had to decide only issues of law to be applied to a 'cluster of undisputed facts'. The new rules-based process has increased the number of reluctant defendants as well as the incentive to dispute the facts. Hence, the need to bring in neutral experts. Fourthly, and linked mainly to the phenomenon of *amicus curiae* briefs, the stakes at play in WTO disputes are no longer limited to government-to-government trade concessions. WTO rules have a direct impact also on individual economic operators, including consumers and citizens at large. This means that WTO member-governments need to explain the positions they take before a WTO panel, as well as the outcome finally obtained, to an ever wider domestic audience. This may provide another incentive for 'aggressive litigation'. Another consequence of this 'indirect effect'[9] of WTO law is that affected private parties—which are perhaps not always fully heard by their governments—increasingly want to express their (expert) opinion directly before the panel. Fifthly, expert advice is keenly sought after and accepted by panels because of the important role it can play in the legitimising of WTO decision-making.

The tendency to involve experts in both political and judicial decision-making is not unique to the WTO. It can be witnessed also in, for example, the

[6] Respectively, the Agreement on the Application of Sanitary and Phytosanitary (SPS) Measures and the Agreement on Technical Barriers to Trade (TBT).

[7] SPS Art 5.1.

[8] See Appellate Body report on *EC—Asbestos*.

[9] The term used by the Panel on United States—ss 301–10 of the Trade Act of 1974, complaint by the European Communities (WT/DS152), Panel report adopted on 27 Jan 2000 (no appeal) [hereafter *US—Section 301*], at para 7.78.

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European Union[10] and other international adjudicating bodies such as the International Tribunal for the Law of the Sea (ITLOS)[11] and the Permanent Court of Arbitration(PCA).[12]

Although broader in scope, the focus of this paper will be on *scientific* experts *appointed by panels*. A recurring theme will be the division of powers between: (i) the disputing parties; (ii) the judicial decision-makers; and (iii) the experts. During the discussion, other important systemic tensions will come to the fore, namely: (i) the largely adversarial nature of adjudication *versus* the almost unfettered 'right to seek information' granted to WTO panels in DSU Article 13;[13] (ii) the confidentiality of the WTO process versus the need to examine complex factual disputes in a transparent way; (iii) the objective of prompt settlement of trade disputes versus the often long period of time required to examine factually complex cases; and (iv) the traditional government-to-government examination of disputes versus an increased input from non-governmental sources, including private parties. In short, an assessment of the use of experts in the WTO reveals itself as more than an exercise in procedural law. It sheds light on the very nature and structure of WTO dispute settlement.

Section II (the players) sets out the different types of expert evidence that may be put before panels and the Appellate Body. Section III (the process) examines how panels appoint experts, gather expert advice and make use of that advice. Section IV offers some conclusions and summarises the practical suggestions made in the body of this paper.

II. THE PLAYERS

A. Scientific experts appointed by the panel: individual experts or an expert group?

Two possibilities arise in case a panel wants to appoint its own experts. First, the panel can set up a so-called expert review group pursuant to DSU Article 13.2, for which the procedures in DSU Appendix 4 apply (these are copied, for

[10] Note, in particular, the recent creation of a European Food Authority where scientists play a crucial role (see < http://europa.eu.int/comm/food/fs/intro/index_en.html>). On the judicial side, the Treaty of Nice (not yet in force, at <http://europa.eu.int/eur-lex/en/treaties/dat/nice_treaty_en.pdf>) provides that '[t]he Council . . . may create judicial panels to hear and determine at first instance certain classes of action or proceeding brought in specific areas'. Judicial panels could, for example, be set up to handle complex scientific cases.

[11] See Art 289 of UNCLOS : 'In any dispute involving scientific or technical matters, a court or tribunal exercising jurisdiction under this section may, at the request of a party or proprio motu, select in consultation with the parties no fewer than two scientific or technical experts chosen preferably from the relevant list prepared in accordance with Annex VIII, Art 2, to sit with the court or tribunal but without the right to vote.'

[12] See the 2001 Optional Rules for Arbitration of Disputes Relating to Natural Resources and/or the Environment (posted at <http://www.pca-cpa.org/EDR/ENRrules.htm>). Art 27, para 5 of these Rules allows for the creation of a panel of environmental scientists who can provide expert scientific assistance to the parties and the arbitral tribunal.

[13] WTO Understanding on Rules and Procedures Governing the Settlement of Disputes.

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TBT disputes, in TBT Article 14.2 and TBT Annex 2 on Technical Expert Groups).[14] So far not a single panel has set up an expert review group. Secondly, panels can appoint individual experts. This is what all six panels that resorted to scientific experts have done so far. Each time a party wanted to have an expert review group instead (most often this was the defendant, in particular the European Community), the panel insisted on appointing individual experts. The Appellate Body has upheld this preference based on the broad language of DSU Article13 (referring to expert review groups as an option only). It did so even for TBT disputes where TBT Article 14.2 exclusively refers to technical expert groups, not to individual experts.[15]

What explains this panel preference for individual experts? First, expert groups must produce a 'report' (para 6, DSU App 4). This may be perceived as transforming the expert group into a form of 'tribunal within a tribunal'. Panels may be afraid to tie their hands, both in terms of the flexibility of the process of gathering advice and the end result. Nominating individual experts, in contrast, allows a panel to ask specific questions to each expert, to add questions during the process, to interrogate the experts orally, etc. In terms of end result, the appointment of individual experts also allows the panel to obtain the individual opinion of each expert, there where the report of an expert group may stimulate the experts to come up with some vague and monolithic consensus position. Moreover, although the group's report is only advisory (para 6, DSU App 4), it would be difficult for a panel to downplay, let alone, overrule any common position taken by the expert group.

Secondly, an expert group is most likely to take a great amount of time. Appointing individual experts already makes it impossible for panels to keep within the time-limits imposed by the DSU (in principle, a maximum of nine months as between the panel establishment and the circulation of the report to members, DSU Article 12.9).[16] An expert group is likely to take even more

[14] Also SPS Art 11.2 explicitly refers to the possibility for a panel to establish 'an advisory technical experts group', although unlike the TBT agreement, it does not include a copy of Appendix 4 to the DSU. The disparities between the DSU, SPS and TBT agreements in this respect (referring, for example, to 'expert review groups', 'advisory technical experts group' and 'technical expert groups' respectively) do not seem to have legal consequences. They are there because all three agreements were negotiated side by side and only brought together under one umbrella at the very end of the Uruguay Round.

[15] Appellate Body report on *EC—Asbestos*. SPS Art 11.2, in contrast, refers to both 'advice from experts' generally and the possibility for a panel 'when it deems it appropriate' to establish an expert group.

[16] Recall that this nine months period includes the often long lapse of time as between the establishment of a panel by the Dispute Settlement Body (DSB) and the appointment of panel members to serve on the panel as well as the time required for parties to comment on an interim report and the time needed for translation of the final report into all three official WTO languages. In practice, this leaves the panel about five months to do the actual work. The panel on *EC—Asbestos* broke all records in this respect: the DSB established the panel on 25 Nov 1998, the panel members were selected on 29 Mar 1999; the final report went to the parties on 25 July 2000, and, after translation, it was circulated to all WTO members on 18 Sept 2000, that is, almost two years after the panel's establishment.

time: first, because the group must come up with a report (first a draft report on which parties may comment, then a final report, para 6, DSU App 4); secondly, because the group has, in turn, the right to consult and seek information from 'any source they deem appropriate' (para 4, DSU App 4).

The above reasons, mainly of a practical nature, make the consistent selection by panels of individual experts quite understandable. From a systemic point of view, however, it is not clear that this preference should stand.[17] Individual experts may make the process of gathering and using expert advice more flexible and less time consuming. But at the same time it runs the risk of panels having to decide, or seek a minimum common ground, as between competing scientific experts. And panels (mostly lawyers or economists) are not qualified to do this. For panels to nonetheless intervene in, or even decide, substantive scientific debates would exceed their competence and stain the legitimacy that is traditionally linked to science-based outcomes. It increases the risk of panels 'getting it wrong' and WTO members shying away from the WTO when it comes to resolving complex factual disputes. The appointment of an expert review group, under the control of the panel, may well avoid those pitfalls. Common ground could then be found by discussions among the scientists, not by the panel comparing at first sight contradictory statements that, for scientists, may not be all that contradictory after all. Appointing an expert group would also be more in line with the letter of the WTO treaty. If three WTO agreements explicitly refer to and regulate such groups, why only appoint individual experts, an eventuality not even elaborated upon in the treaty? The one thing that must then be changed, however, is the panel's timeframe. Extra time must be accounted for (i) to allow panels to frame clear and to the point terms of reference for the expert review group, and (ii) to let that group do its work in a serene and objective manner.

B. Other information that can be gathered by the panel: the scope of DSU Article 13

DSU Article 13 grants panels the almost unfettered right 'to seek information and technical advice from *any individual or body which it deems appropriate*' (DSU Article 13.1) and to 'seek information *from any relevant source*' (DSU Article 13.2). The investigative power attributed to WTO panels is, therefore, not limited to seeking *scientific* advice, nor limited to seeking *expert* information. With reference to DSU Article 13, panels may, for example, 'force' the parties to a dispute to submit certain information not yet on record (if not, panels are allowed to draw adverse inferences).[18]

[17] For an empathic call that panels should, indeed, appoint expert groups, not individual experts see Theofanis Christoforou, *Genetically Modified Organisms: Colloquium Article Settlement of Science-Based Trade Disputes in the WTO: A Critical Review of the Developing Case Law in the Face of Scientific Uncertainty*, 8 NYU Envtl LJ 622 (2000).

[18] See the Appellate Body report on Canada—Measures Affecting the Export of Civilian Aircraft, complaint by Brazil (WT/DS70), adopted on 20 Aug 1999.

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On the basis of DSU Article 13, panels have also accepted *amicus curiae* briefs that were not requested by the panel but submitted, for example, by NGOs at their own initiative (thus interpreting the word 'seek' in Article 13 rather broadly). To make this practice work, an end must be made at the confidentiality of party submissions to a panel. If private parties (or any other potential *amici curiae*) do not even know what is going on in a dispute, how could they ever contribute to the discussion in any meaningful way?

It is important to distinguish between expert and other information that a panel may receive pursuant to DSU Article 13. Expert advice is information that the panel cannot normally provide itself. It comes from a source that is, in the particular field, more knowledgeable than the panel. For that reason, the panel must give deference to expert advice, even if it is not strictly speaking legally bound by it.[19] Scott Brewer characterises experts as 'epistemically superior beings'[20] and rightly argues that 'the nonexpert practical reasoner [*in casu*, the panel] must defer epistemically to the theoretical expert to reach the practical judgment'.[21] The 'epistemic authority' of experts is what gives expert-based WTO decisions their extra legitimacy. It highlights further why panels ought not intervene, let alone, decide, substantive scientific controversies, an argument used above in favour of expert review groups.

A panel may also seek or acknowledge other, non-expert information to complete its record, either because it is in the hands solely of one of the parties or because doing so more accurately reflects the interests at stake in a dispute (interests that are not necessarily reflected in the submissions of the disputing parties, as is often the case for *amicus curiae* briefs). Non-expert information is then admitted not because of its 'epistemic superiority' but because it completes or balances the debate.

Nonetheless, the aim of seeking or accepting both expert and non-expert information is the same, namely to enhance the legitimacy of the final judgment. In this regard, Daniel Bodansky refers to, respectively, 'expert legitimacy' and 'popular' or 'participatory legitimacy' (both of which he distinguishes from 'normative' or 'legal legitimacy').[22] He rightly points at

[19] As HLA Hart put it : 'To be an authority on some subject matter a man must in fact have some superior knowledge, intelligence, or wisdom which makes it reasonable to believe that what he says on that subject is more likely to be true than the results reached by others through their independent investigations, so that it is reasonable for them to accept the authoritative statement without such independent investigation or evaluation of his reasoning' (Hart, *Essays on Bentham: Studies in Jurisprudence and Political Theory*, 261–2, 1982).

[20] Scott Brewer, *Scientific Expert Testimony and Intellectual Due Process*, 107 Yale LJ 1535, at 1589 (1998).

[21] Ibid, 1578.

[22] Daniel Bodansky, *The Legitimacy of International Governance: A Coming Challenge for International Environmental Law*, 93 AJIL 596 (1999), concluding on 622: 'Authority should be exercised in accordance with law and principle (legal legitimacy). The decision-making mechanisms should be transparent and give people an opportunity to participate (participatory legitimacy). Furthermore, decisions should be based on the best scientific expertise (expert legitimacy). But these are minimum conditions. They contribute to legitimacy (and their absence undermines it), but by themselves do not provide a firm basis for legitimacy.' The latter forum of legitimacy

the inherent contradiction between relying on both expert and non-expert information, ie between expert legitimacy and popular legitimacy as follows:

> Just as we rely on expertise rather than democratic decision making to build airplanes and to cure diseases, we might believe that, if economists were to make economic decisions and environmental experts environmental decisions, this would lead to the best outcomes . . . Expert decision making stands in sharp contrast to public participation. The fact that both are sources of legitimacy reflects the fact that people want government institutions to be both effective in solving problems and subject to public control.[23]

As far as *expert* advice under DSU Article 13 is concerned, such advice may be other than scientific. It may fall within any field: technical, economic, linguistic, sociological, etc. So far not a single panel appointed economic experts (in contrast, for example, to US courts where, especially in anti-trust cases, courts often appoint economists to help them). In cases involving complex economic matters, panels should, however, overcome their professional pride (many panelists have themselves an economic background) and appoint economic experts. To have such experts on board could only enhance the legitimacy and broad-based validity of WTO decisions. This would be particularly so in respect of decisions on the 'likeness' or 'competitive relationship' between products (GATT Articles I and III) or on the 'equivalence' between the damage caused by a WTO inconsistent measure and the economic countermeasures proposed in response (in arbitration disputes under DSU Article 22.7).[24]

DSU Article 13 is not limited either in terms of the individuals or bodies that may be contacted by a panel. With reference to DSU Article 13, panels have, for example, also asked the opinion of other international organisations such as the International Monetary Fund (IMF) and the World Intellectual Property Organisation (WIPO).[25] Given these precedents, nothing would seem to prevent WTO panels to seek information or advice from WTO *political* organs such as the DSB or the General Council or more technical WTO bodies such as the Textiles Monitoring Body or the Committees on Balance of Payments or Regional Trade. If panels can seek information *outside* of the WTO (eg at the IMF or WIPO), why not *within* the WTO?

is described by Bodansky as 'normative legitimacy', related to 'the crucial question of who should make decisions and how they should do so' (ibid, 600), that is, 'referring to whether a claim of authority is well founded—whether it is justified in some objective sense' (ibid, 601), eg, based on state consent or democratic decision-making.

[23] Ibid, 619-20.

[24] This would not be a first in international adjudication. In the *Chorzow Factory (Claim for Indemnity)* case, eg, the Permanent Court of International Justice ordered an inquiry into the value of an expropriated undertaking for the purpose of determining the compensation due (PCIJ, Ser A, No 17 (1928)). However, the parties reached a settlement out of court before the experts had terminated their inquiry. See also the expert process set up by the International Court of Justice (ICJ) to determine the amount of damages in the *Corfu Channel* case (ICJ Reports 1949, 238) and, generally, Gillian White, *The Use of Experts by International Tribunals* (1965), ch VII.

[25] See above n 3.

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Finally, nothing limits DSU Article 13 to factual issues. Panels could also seek information enlightening them on legal questions. The Appellate Body procedures on *amicus curiae* briefs, for example, are explicitly limited to matters of law. The panel asking for advice from WIPO seemed to go to great pains to portray its questions as factual ones (repeating the word 'factual' not less than three times in its one-page letter to WIPO). Nonetheless, what it did in reality was asking information as to how it should interpret certain legal provisions in a WIPO convention referred to in the WTO's TRIPS agreement.[26] Although WTO panels must be assumed to know the law (*iura novit curia*), other institutions or individuals may be more knowledgeable than they are on certain specialised legal matters (this being one of the reasons why panels and other international tribunals refer to doctrinal writings of other jurists).[27] On that basis, WTO panels could seek legal information from other international organisations concerning conventions that were not concluded under the auspices of the WTO (be it a WIPO convention or a multilateral environmental treaty).[28] Some similarities exist with domestic courts seeking expert advice on foreign law (although in that instance the foreign law is mostly a matter of *fact* to be proven by the party invoking it).

As with other expert advice, the panel would not be bound by the legal information thus provided, but it would need to give deference to it. This would be particularly so in case the panel request for expert advice were directed at another international *tribunal*, say, the International Court of Justice (ICJ) or the ITLOS (even if, as the law stands today, these other tribunals could arguably not respond, their power to issue advisory opinions could be extended so as to include also opinions at the request of WTO bodies).[29] For a panel to request the opinion of other courts or tribunals may

[26] The panel put it thus : 'Given that the International Bureau of WIPO is responsible for the administration of [the Berne] Convention, the Panel would appreciate any *factual* information available to the International Bureau on the *provisions of the Berne Convention* (1971) relevant to the matter, in particular the negotiating history and subsequent developments and practice concerning those provisions referred to by the Parties to the dispute' (emphasis added, Panel report, Annex 4.1, 245).

[27] Scott Brewer (above n 20, at 1587–8) refers in this respect to the 'persuasive authority' of 'epistemic near-equals': 'A "persuasive authority" functions to some degree as an epistemic authority even for decisionmakers who are themselves substantially competent in the areas the persuasive authority addresses. An eminent treatise writer might give a judge compelling reason to believe that the law is as the writer claims . . . it functions as persuasive, though not dispositive, advice.'

[28] On the role of non-WTO rules of international law in WTO dispute settlement, see this author's, *The Role of Public International Law in the WTO : How Far Can We Go?*, 93 *AJIL* 535 (2001).

[29] See, eg, the statements by President Chirac of France in a Feb 2000 speech at the ICJ, where he called for the ICJ to be invested with a 'regulatory role, advising the international organizations' ('When international law on the environment, trade, and labour standards conflict, we need a place where they can be reconciled. Why not request advisory opinions from your Court in such cases?'). He also suggested that 'treaties containing dispute-settlement mechanisms ought to establish an explicit linkage with the Court . . . When these treaties set up a new jurisdiction, would it not be desirable for that jurisdiction to be able to refer questions to the Court for prelim-

be borderline between, on the one hand, transferring jurisdiction to another body without the agreement of the parties (something that a panel cannot do) and, on the other hand, seeking advice from an 'epistemically superior' institution (something that ought to enhance the legitimacy of the WTO process). However, an important additional argument in favour of WTO panels entering into a dialogue with other international tribunals is that it would enhance the co-ordination between different branches of international law and decrease the risk of conflicting judgments being issued by different tribunals. In short, even if these tribunals may not necessarily be more knowledgeable on the matter, seeking their advice could constitute an important catalyst towards the unity of international law notwithstanding its fragmented enforcement by a series of different courts and tribunals. To further formalise this dialogue one could even oblige panels to send certain matters of non-WTO law to other, more specialised international tribunals for a binding preliminary ruling.[30]

To complete the picture of expert advice received by panels reference could be made also to the advice they obtain from the WTO secretariat pursuant to DSU Article 27.1 ('especially on the legal, historical and procedural aspects of the matters dealt with'). In practice, a panel is assisted by a legal officer (working either for the legal affairs division or the rules division) and a secretary (not only providing secretarial support, but also substantive input on the more technical matters of the WTO agreements involved).[31]

C. Experts on the delegation of the disputing parties

Crucially, experts appointed by the panel itself must be distinguished from experts sitting on the delegation of parties to the dispute. The Appellate Body made it clear that each WTO member has the sovereign right to compose its delegation as it deems fit. A member's delegation must thus not be limited to government officials. It may include also private legal counsel[32] or independent scientific[33] or economic experts. These party-appointed experts may provide advice to the parties behind the scenes (as many law firms do), prepare independent economic or technical studies[34] that the parties then put on the panel record and/or be present at panel hearings themselves either to present

inary ruling, for guidance on points of law of general interest?' (*Report of the ICJ, 1 August 1999–31 July 2000*, para 320 (<http://www.icj-cij.org/icjwww/igeneralinformation/igeninf_Annual_Reports/iICJ_Annual_Report_1999-2000.htm>).

[30] See above n 29.

[31] Hence, in case of an SPS dispute, the secretary would come from the Agriculture division, ie the division that deals with the SPS agreement.

[32] See Appellate Body ruling in European Communities—Regime for the Importation, Sale and Distribution of Bananas (WT/DS27/AB/R), adopted on 25 Sept 1997.

[33] See, eg, the EC delegation in *EC—Hormones*.

[34] As is often the case in GATT Art III discrimination cases where, eg, the complainant commissions a market-study to prove the 'likeness' or 'directly competitive or substitutable' relationship between its exports and the domestic product to which protection is allegedly afforded.

the arguments of the party concerned or to support the party's position by giving their 'independent' opinion.

It goes without saying that the opinions expressed by panel-appointed experts will carry more weight than those expressed by party-experts. Even if the latter are presented as 'neutrals', it is difficult not to see them as 'hired guns'. Hence, a party is better off trying to get 'its' experts appointed by the panel, rather than putting them on its own delegation. No rules or quality controls are provided in respect of whom parties to a dispute can appoint as experts. Of course, the opposing party can always cross-examine party-appointed experts and disclose their incompetence or partiality.

Finally, it should be recalled that in addition to the main disputing parties, WTO disputes most often involve also a large number of third parties. These third-party WTO members may also have experts on their delegation and further add to the record before the panel.

D. Expert advice before the Appellate Body

An appeal before the Appellate Body 'shall be limited to issues of law covered in the panel report and legal interpretations developed by the panel' (DSU Article 17.6). Hence, the Appellate Body can review the law as it was declared by the panel. It cannot touch the facts as they are set out, confirmed or weighed by the panel (only wilful distortion of the facts would be seen as a legal error in the eyes of the Appellate Body).[35] The Appellate Body cannot, *a fortiori*, widen the factual record that was before the panel. It is restricted to that record. Hence, the Appellate Body cannot appoint, for example, scientific experts to enlighten its understanding of a case. It must be hoped that whatever advice the panel gathered is sufficient to clarify the minds of the Appellate Body members. The terms of DSU Article 13 do not apply to the Appellate Body.

This limited mandate may be problematic in case the Appellate Body, after having reversed a panel finding, 'completes the legal analysis', ie continues the analysis by applying another legal provision, not looked at by the panel, to the factual record that was before the panel. In that instance, the Appellate Body acts as a first instance court, applying the law to the facts *as they were argued before the panel*. The fact that it did not hear the experts *in persona* and cannot put its own questions to the experts, enhances the risk of factual misunderstandings. The extremely short timeframe within which the Appellate Body must decide (90 days) only worsens the situation.

[35] See the Appellate Body report on *EC—Hormones*. In recent case law, this extremely hands-off approach of the Appellate Body was somewhat softened. In *US—Wheat Gluten*, the Appellate Body noted that it cannot condemn the panel for not having made an 'objective assessment' as called for in DSU Art 11 'simply on the conclusion that we might have reached a different factual finding from the one the panel reached. Rather, we must be satisfied that the panel has exceeded the bounds of its discretion, as the trier of facts, in its appreciation of the evidence' (United States —Definitive Safeguard Measures on Imports of Wheat Gluten from the European Communities, WT/DS166/AB/R, para 151).

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Still, the Appellate Body as well receives expert advice, albeit advice limited to legal issues. First, the WTO has a separate Appellate Body secretariat, composed exclusively of lawyers and administrative support staff, who provide the Appellate Body division dealing with a case with 'administrative and legal support as it requires' (pursuant to DSU Article 17.7, normally two lawyers per case). Secondly, the parties to an appeal may, as before a panel, freely compose their delegations, so as to include, for example, private legal counsel. Thirdly, the Appellate Body confirmed that it, as well, can receive *amicus curiae* briefs. In *EC —Asbestos*, it even adopted a case-specific procedure on how such briefs must be submitted, including a procedure of application for leave to file such submissions. To obtain this leave, the essential requirement is that the potential *amicus* explains

> why it would be desirable, in the interests of achieving a satisfactory settlement of the matter at issue, in accordance with the rights and obligations of WTO Members under the DSU and the other covered agreements, for the Appellate Body to grant the applicant leave to file a written brief in this appeal; and indicate, in particular, in what way the applicant will *make a contribution to the resolution of this dispute that is not likely to be repetitive* of what has been already submitted by a party or third party to this disput'.[36]

Once such leave has been granted, the submission itself must, however,

> set out a precise statement, *strictly limited to legal arguments*, supporting the applicant's legal position on the issues of law or legal interpretations in the Panel Report with respect to which the applicant has been granted leave to file a written brief.[37]

The interplay between panels and the Appellate Body in a given dispute is particularly interesting. As pointed out, in a number of cases the Appellate Body, after having reversed a panel finding, has itself 'completed the legal analysis'. After such reversal, the Appellate Body does *not* remand the remainder of a case for decision by the original panel. Doing so would, however, preserve the right of appeal (if the Appellate Body itself 'completes the legal analysis', no appeal is possible). Remand would also allow the original panel to expand the factual record so as to enable it to make a decision under the claim which it did not originally examine. In contrast, when the Appellate Body seeks to 'complete the legal analysis' and finds that the factual panel record is insufficient, it cannot itself expand that record and will simply dismiss the case. It will then do so not because the claim is unfounded with reference to what the *complainant* submitted to it, but because the *panel* had not made enough factual findings. The complainant may then bring a new case, but encounter obstacles of *res judicata* (normally a new case on the same

[36] Appellate Body report on *EC—Asbsestos, amicus curiae* procedures, para 3(f), emphasis added.

[37] Ibid, para 7(c), emphasis added.

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grounds and as between the same parties can only be filed in case of 'new evidence' unknown to the parties at the time of the first judgment).[38]

The current situation is less than satisfactory. A better solution would be to allow the Appellate Body to remand cases to the original panel. This power to remand could be explicitly granted in a DSU review or found by the Appellate Body itself as part of its implicit appellate powers (the way it considered receiving *amicus curiae* briefs to be part of its implicit powers as an international adjudicator). Remand would avoid the dismissal of cases simply because the panel did not do its 'factual job' and preserve the right to appeal, ie to see one's case decided by two different judges. Crucially for present purposes, it would clarify and streamline the division of powers between panels (factual and first instance) and the Appellate Body (review of legal issues only). Once again, however, remand would necessitate longer timeframes. But the extra time required would seem to be largely compensated by the more thorough and consistent resolution of the dispute that remand would bring about.

Finally, as much as panels should be able to ask the legal opinion of other international organisations or even judicial bodies, such as WIPO, the IMF, the ICJ, or the ITLOS (see above), the same should be true for the Appellate Body (as long as the process of seeking advice remains 'advisory', ie as long as it does not delegate the jurisdiction that WTO members granted to the Appellate Body to another judicial body). The same two reasons set out earlier apply: first, other institutions or individuals may be more knowledgeable (ie 'epistemically superior'); secondly, streamlining the position of different institutions would be highly beneficial for the unity of international law. If the Appellate Body is authorised to receive unsolicited briefs on legal matters from NGOs or individual law professors, why would it not be authorised to receive or even seek the opinion of other international organisations or tribunals (presumably more knowledgeable on the matter)?

E. Special permanent expert bodies

As hinted at before, the WTO treaty itself has set up a number of expert bodies. First, Article 24 of the Subsidies agreement directs the Committee on Subsidies (a political organ on which all WTO members are represented) to establish a Permanent Group of Experts (PGE). This group is composed of five independent experts 'highly qualified in the fields of subsidies and trade relations'. The PGE has three functions: (1) it may be requested to assist a *panel* 'with regard to whether the measure in question is a prohibited subsidy' (Article 4.5 of the Subsidies agreement); much like expert review groups, the

[38] See, eg, the revision procedure of ICJ judgments, set out in Art 61 of the ICJ Statute, referring to 'the discovery of some fact of such a nature as to be a decisive factor, which fact was, when the judgment was given, unknown to the Court *and also to the party claiming revision*'. That WTO reports do carry the weight of *res judicata*, see Appellate Body report on *US—Shrimp/Turtle* (implementation dispute).

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PGE must then submit a report to the panel, but unlike expert review groups, the PGE's conclusions 'shall be accepted by the panel without modification'; (2) the *Committee* on Subsidies may seek an advisory opinion 'on the existence and nature of any subsidy'; and (3) any *WTO member* may consult the PGE and the PGE may give advisory opinions 'on the nature of any subsidy proposed to be introduced or currently maintained by that member'; such advisory opinions are confidential and may not be used in dispute settlement proceedings regarding actionable subsidies. Much for the same reasons as those set out in respect of a panel's reluctance to appoint an expert review group, so far panels have never asked the assistance of the PGE. Given the complex nature of many subsidy disputes and the limited technical capabilities of most panel members, panels should reconsider this practice (one that arguably reduces Article 4.5 of the Subsidies agreement to a nullity). The injection of PGE expert advice into the process could only benefit the legitimacy and overall validity of WTO judgments.

Secondly, Article 18.2 (as specified in Annex 2) of the Agreement on Customs Valuation establishes the Technical Committee on Customs Valuation under the auspices of the Customs Co-operation Council. Each WTO member has the right to be represented on this Committee. Its functions and operation are set out in Annex 2 of the Customs Valuation Agreement. Article 19.4 of that Agreement provides that panels 'may request the Technical Committee to carry out an examination of any question requiring technical consideration'. It must then submit a report which is, like the report of expert review groups (but unlike PGE reports) *not* binding on the panel ('The panel shall take into consideration the report of the Technical Committee'). So far this advisory procedure has never been utilised.

Thirdly, Article 8 of the Textiles Agreement establishes the Textiles Monitoring Body (TMB) 'to examine all measures taken under this Agreement and their conformity therewith, and to take the actions specifically required of it by this Agreement'. The TMB consists of a Chairman and 10 members, discharging their function on an *ad personam* basis. The TMB does not provide expert advice to panels. Rather, it is itself a body making findings and recommendations in WTO textiles disputes. This TMB process intervenes after bilateral consultations between the parties were proven unsuccessful. However, before either of the parties can request a panel, they must first argue their case before the TMB. WTO panels are not bound by TMB findings. Still, they will play an influential role in a panel's conclusions.

The three expert bodies outlined above are proof of the resolve of WTO drafters to settle disputes with reference to expert advice. Unlike experts called in on an *ad hoc* basis in a particular dispute, those three bodies are permanent bodies. Unlike the political organs examined next, these three bodies are staffed with appointed individuals. They are neither judicial in nature nor political. They epitomise the 'expert group' called in to assist both the political and the judicial decision-maker.

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F. The role of WTO political organs

Finally, a few words must be said about the role that considerations and decisions of specialised *political* WTO organs may play in WTO dispute settlement. Such considerations and decisions may, effectively, constitute 'expert advice' before a WTO panel. In addition, they fulfil a political function in that they represent the common understanding of all WTO members in a given case (all WTO decisions are, in practice, taken by concensus). The Committees on Balance of Payments and Regional Trade, for example, (on which all WTO members are represented) are empowered to make findings in respect of the WTO conformity of, respectively, balance of payments measures and regional trade arrangements. Given that these political bodies may benefit of wider technical expertise (and hence be 'epistemically superior' to the panel) as well as reflect the common understanding of WTO members (and hence play a role in the interpretation of WTO provisions), WTO panels would surely be inclined to take into account whatever these political bodies have expressed or decided.

Nonetheless, the Appellate Body made it clear that notwithstanding the functions of these political committees, WTO panels remain competent to review the WTO consistency of balance of payments measures and regional arrangements (and this even if such disputes involve complex technical/economic questions such as those under GATT Article XXIV: 5(a)).[39] This remains the case even if the above mentioned political committees have already dealt with the specific matter or are considering the matter concurrently with the panel. At the same time, the Appellate Body stressed that 'panels should take into account the deliberations and conclusions of' these Committees.[40] Hence, although their deliberations and conclusions are not binding, like other expert advice, they would be very influential.

This division of powers between political WTO organs and the WTO judiciary (the latter remaining competent even in the light of decisions or considerations expressed by the former), is particularly instructive. It not only raises the question of expert advice that can be offered by WTO political bodies. More importantly, it goes to the heart of the institutional balance between the WTO judiciary and the WTO legislature/executive. It proves the independent, judicial nature of WTO dispute settlement. WTO panels and the Appellate Body are not simply organs created by, and subject to the control of, political WTO bodies. They lead a separate existence as the judicial branch of the WTO.

[39] See the Appellate Body reports on *India—Quantitative Restrictions* and *Turkey—Restrictions on Imports of Textile and Clothing Products* (WT/DS34/AB/R), adopted on 19 Nov 1999. See also the discussions at the DSB in the *Philippines—Autos case* (*Philippines—Measures Affecting Trade and Investment in the Motor Vehicle Sector, complaint by the United States*, WT/DS195), where the United States requested a panel notwithstanding the fact that the issue was being dealt with by the Committee on Trade-Related Investment Measures and the General Council.

[40] *India—Quantitative Restrictions*, para 103.

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III. THE PROCESS

A. The appointment of panel experts

1. Who decides that panel experts are needed?

It is for the panel to decide whether it will appoint experts. The parties may so request, but the panel is not under an obligation to accede to such request. Moreover, even if none of the parties request the panel to appoint experts, the panel may do so at its own initiative.

In *Argentina—Footwear*, for example, Argentina asked the panel to obtain the advice from the IMF. The panel saw no need to do so and refused. On appeal, the Appellate Body noted the discretionary nature of the panel's authority to seek expert advice. What counts is whether panels have made an 'objective assessment of the matter before it' (DSU Article 11) and in that case, the Appellate Body found, the panel did so even if it refused to seek information from the IMF.[41]

In many cases, however, it will be quite difficult for a panel to refuse a party's request to appoint experts. Not to do so may question the legitimacy of a panel's factual findings. To play it safe, panels will be easily convinced of a need to obtain expert advice. They are not normally technical experts themselves and have nothing to loose, except for time. The cost of the experts is borne by the WTO budget (travel and subsistence allowance plus 600 CHF per day of work), but panel members themselves are not directly affected by this budget (apart from the fact that they receive the same rather low payment, if they receive anything at all).[42]

In contrast, in *US —Shrimp/Turtle* none of the parties requested the panel to appoint experts. Still, the panel sought expert advice. As noted before, it may do so to increase its credibility, even if it knows up-front that the expert advice may, in the end, not be used in its legal considerations. Appointing experts sends out a signal that the panel takes the issue seriously and wants to obtain as much information as possible (not just the facts pre-selected by the parties). This may explain why panels do not act only at the request of the parties. Moreover, from the point of view of the parties, to request that the panel appoint experts may be seen as acknowledging weakness as to the facts on which they will build their case. Indeed, to ask the panel to appoint experts

[41] Note, however, that GATT Art XV:2 does impose an obligation to consult the IMF in cases 'concerning monetary reserves, balances of payments or foreign exchange arrangements'. Advice thus obtained from the IMF must even be accepted as final. It is still an open question whether this obligation imposed on GATT Contracting Parties (now WTO members) applies also to WTO panels. See *infra* n 73.

[42] Panel members employed by the government of a WTO member are not paid. Non-governmental panel members get 600 CHF per day of work (plus travel expenses and *per diem* when they are in Geneva, costs that are also reimbursed to governmental panel members). The same amount is given to experts. Hence, their fee is minimal and most panel members as well as experts do it for the experience and prestige, not the money.

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at the very beginning of a panel process may somehow signal that the party in question does not think that it will, in and of itself, be able to convince the panel or to clearly explain its case. To overcome this strategic reluctance on behalf of the parties, the panel ought to appoint experts at its own initiative whenever it considers that expert advice could be of assistance, albeit indirectly only, in the resolution of the dispute.

The broad discretion bestowed on panels to decide whether or not to appoint experts is somewhat limited in the SPS agreement. SPS Article 11.2 states: 'In a dispute under this Agreement involving scientific or technical issues, a panel *should* seek advice from experts chosen by the panel.' The TBT agreement does not include a similar direction. This explains why in all four SPS panels that were active to date, scientific experts were appointed. In recent SPS cases (such as the Article 21.5 *Australia—Salmon* case and *Japan—Varietals*), the panel did not even await the first submissions of the parties but informed the parties already at the very beginning of the panel process (ie at the organisational meeting) that it planned to seek expert advice. It does so because of the wording of SPS Article 11.2, but also in order to safe time and get the experts appointed as quickly as possible.

2. Who can be appointed as expert?

Once the panel has decided that it will appoint experts, who can be appointed? No explicit rules are provided in case the panel appoints *individual* experts (this being perhaps another reason why most panels have chosen this track). Still, the rules that are provided in Appendix 4 to the DSU for expert review *groups* (copied in Annex 2 to the TBT Agreement) have been applied by analogy. Paragraph 2 of Appendix 4 restricts an expert review group to 'persons of professional standing and experience in the field in question'. They shall serve in their 'individual capacities' and citizens of parties to the dispute shall not serve without the joint agreement of the parties 'except in exceptional circumstances when the panel considers that the need for specialised scientific expertise cannot be fulfilled otherwise' (para 3). This exception may be fulfilled, for example, if the dispute raises a very country-specific disease or in case technical advice is needed on the very legislation of the defendant. Government officials of parties to the dispute shall not serve on an expert review group. This prohibition seems to be an absolute one which applies even if the exceptional circumstances referred to earlier are met.

In addition, the Rules of Conduct for the DSU that apply, for example, to panel and Appellate Body members, apply also to panel experts.[43] The guiding principle of these rules is that experts 'shall be independent and impartial,

[43] WTO doc WT/DSB/RC/1, dated 11 Dec 1996.

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shall avoid direct or indirect conflicts of interest and shall respect the confidentiality of proceedings of bodies' (Rule II, Governing Principle). Before a panel can appoint an expert, the expert must sign a 'disclosure form', annexed to the Rules of Conduct. In the event of objections, it is the Chair of the DSB who decides whether 'a material violation' of the Rules occurred, in consultation with the Director-General of the WTO and the Chairs of the relevant WTO Councils and after having heard the expert involved as well as the disputing parties.[44]

In practice, it may be difficult for a panel to know up-front the fields of expertise that it will need during its deliberation. In *Australia—Salmon*, for example, the panel appointed experts in three fields: general risk assessment procedures, fish diseases and the procedures of the International Office for Epizootics (OIE). Still, given its strict timeframe, it is crucial for a panel to appoint experts as soon as possible and to start expert procedures even before it has received the first submissions of the parties. In addition, new questions may arise during panel proceedings for which none of the experts that had been appointed so far have sufficient expertise. In *EC —Hormones*, for example, the EC insisted on having a cancer specialist appointed rather late in the proceedings. The panel agreed to this request. Here again, tension arises between the strict timeframe within which panels must work and the need for high-quality expert advice. In the long run, preference must be given to the latter. It may require more time, but to get expert advice from the real experts in a given field is more important. As Scott Brewer put it:

> the nonexpert [*in casu*, the panel] must be ever vigilant to keep the expert within his proper epistemic domain. The price of rational deference [by the panel to experts] is eternal vigilance.[45]

To find out whether an expert has expertise in a particular field that came up only during the panel process, a panel will have to rely, firstly, on the integrity of the expert itself, and secondly, on the comments and cross-examination by the parties.

Recall further that paragraph 4 of Appendix 4 allows, in turn, that expert review groups 'seek information and technical advice from any source they deem appropriate'. This provision enables the group to seek expert advice on areas the panel did not think of when appointing the original group, that is, on matters for which the original group may not have sufficient expertise. Assuming that the experts part of the original group still have more knowledge than the panel in respect of the new area on which additional expertise is needed, it may, indeed, be better to let those experts appoint other experts. At the same time, an expert review group should not use this power lightly. Paragraph 1 of Appendix 4 stresses that expert groups 'are under the panel's

[44] Rule VII: 5 to 10.
[45] See above n 20, at 1588.

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authority' and that the 'terms of reference and detailed working procedures' of experts groups shall be decided by the panel. The primary responsibility of the expert process lies with the panel. The group should thus normally seek the approval of the panel (as well as comments from the parties) before it seeks outside expert advice.

3. How are experts appointed?

No provisions were made on how experts are to be appointed. Only SPS Article 11.2 deals with the issue indirectly, referring to 'experts chosen by the panel in consultation with the parties to the dispute'. In *EC—Hormones*, the parties appointed one expert each, where after the panel appointed four additional experts drawn from a list of experts provided to it by the Codex Alimentarius Commission, a list of names on which the parties had been allowed to comment. In subsequent cases, the panel has no longer allowed the parties to appoint panel experts. Instead, the panel itself appointed all experts, based on a list of names it had received from the relevant international organisation dealing substantively with the factual issues at stake. In disputes where no such organisations exist, the parties themselves were invited to suggest names on which the other parties could then comment. In cases where a panel has sought the advice of, for example, the IMF or WIPO, such advice was gathered not on an *ad personam* basis, but by sending an official panel letter to the director-general of the organisation concerned.

What is the appropriate number of experts? It would seem that an odd number is needed. Normally three should do, but this will depend on the number of disciplines involved. If there are many and widely divergent fields of expertise required, one may end up with a high number of experts (say, at least 2, preferably 3, for each field so that the panel does not rely on the views of just one individual). In *EC—Hormones* six experts were appointed; in *US—Shrimp/Turtle* five; in *Australia—Salmon* four (in the Art. 21.5 case, only three with only one of the three having served also for the original panel); in *Japan—Varietals*, three; and in *EC—Asbestos*, four. The only serious constraint that applies is, once again, time. In terms of cost, as noted before, it is the WTO budget, not the parties, that bear the relatively minor burden (travel and subsistence allowance plus 600 CHF per day of work). The trend seems nonetheless to be towards a rather low number of experts, even if different disciplines must be covered. Appointing an expert with some expertise in both fields may save the WTO some money, but it risks missing out on the best experts in the field.

4. Does the panel get the best experts?

The two criteria that must be referred to in deciding whether a panel gets the best experts, following the procedures set out above, are: neutrality and expertise. As

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Richard Posner remarked:

> the conclusions of the agreed-upon expert would be credible because of the combination of neutrality and expertise. You don't have to understand a proposition to be justified in believing it; you need only be able to repose a justified trust in the truthfulness and expertise of the person who assures you that the proposition is true.[46]

Or as Scott Brewer put it:

> A non-expert cannot independently and directly check complex theoretical propositions that do not have simple observational consequences . . . Whatever checking the nonexpert can manage must rely on indirect devices like demeanor, credentials, and reputation.[47]

As seen above, different actors are involved in the selection process. First, the original list of names is, in most cases, provided by the international organisation working substantively on the factual issues at stake, such as the Codex Alimentarius when it comes to food safety and the International Office of Epizootics (IOE) when it comes to animal health. Panel members are not experts themselves, so for them it is impossible to come up with such list. Critics of these international organisations (in particular developing countries and certain consumer protection NGOs) may point out, however, that these organisations have their own agenda and are driven mainly by export interests, in particular the interests of developed nations and those of big multinationals. In addition, the point has been made that experts suggested by international organisations that are involved in standard setting 'may be unfairly biased in favor of maintaining their organization's standards and recommendations . . . [and] against the challenged WTO member which has departed from the international standards set by those organizations'.[48] Furthermore, for those disputes where WTO rules do not explicitly refer to a given international organisation (as was the case in the *EC—Asbestos* dispute), it may be difficult for the parties to agree on which international organisation should propose the names.

Still, the international organisations in question should normally bring together the best scientists of the world in working groups and special committees. The names on the list provided by these organisations are, moreover, not officials working for the organisation, but most often independent scientists, working for public authorities, universities, or private research institutions. They are people with an international standing and if they are appointed and express bogus positions, they will be subject to peer pressure. Although the reputation costs are not as high as in domestic procedures where experts are repeat players, not to give neutral advice to a WTO panel is likely to ruin the international reputation of a scientist.

[46] Richard Posner, 'The Law and Economics of the Expert Witness', *Journal of Economic Perspectives*, vol 13, no 2 (1999), 91–9, at 96.

[47] See above n 20, at 1604.

[48] Theofanis Christoforou, above n 17, 630–1.

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Secondly, an important role is played by the disputing parties themselves. They are allowed to comment on all names suggested and may object to the nomination of certain individuals. They will often be requested to rank them by preference. When they object to individuals they will be asked to give reasons. But much like what happens in the nomination process of panel members (on the suggestion of the WTO secretariat), it will be difficult for the panel to appoint someone against whom either party has explicit objections. This would run the risk of undermining the legitimacy of the panel's conclusion. Nonetheless, as with the selection of panel members, too easily accepting party objections may lead to the exclusion of the best people. The best people are normally those that have published in the field, thus expressed views in the field and hence taken position. Obviously, the party *against* whom they have taken position may then object to that individual being appointed. In the end, one may, therefore, be able to gather consensus only around those people that have not expressed views, hence that are not normally the best experts. In terms of panel members, this may not be that bad (people with an open mind may, after all, be very good decision-makers). However, when it comes to expert advice, this may be catastrophic. There, no excuse is good enough not to appoint the best people.[49]

Thirdly, the end decision in the appointment of experts lays with the panel, assisted by the WTO secretariat staff assigned to the case. The latter will often play an important role, in particular the secretary to the panel who comes from the operational division and maintains the day-to-day contact with the relevant international organisation. It is normally the panel secretary who obtains the list of names and hears views about the names suggested from colleagues in the field. Still, in the end of the day, neither the panel members nor the WTO secretariat staff are real experts on the matter, and cannot therefore ensure that the best people are selected merely by looking at a CV, a list of publications and hearsay coming from colleagues of other organisations.

(a) What then could be changed for the better?

First, from a theoretical point of view, the optimal solution would be to have panelists who are themselves able to select the best experts. But then, given this expertise of the panel, there would, arguably, be no more need to appoint experts. Indeed, in trade disputes where the only controversy is a question of fact, not one of WTO law (say, whether or not a substance presents a risk), WTO members could be advised not to settle their dispute through the normal panel process, but by means of special arbitration under DSU Article 25. They

[49] As Posner remarked (at 94): 'An expert witness who has a record of academic publication will be "kept honest"' by the fact that any attempt to repudiate his academic work on the stand will invite devastating cross-examination.' Note, however, that the current process of appointing panel experts is still much better than relying exclusively on party-appointed experts where the risk of having so-called 'hired guns' is much greater.

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could then ask a panel of scientists to settle their dispute.[50] Nonetheless, to improve the selection capabilities of *normal* panels, one could also nominate individuals on the panel that have some scientific background enabling them to give a prima facie evaluation of the CVs of candidate-experts and to at least understand the terminology used by the scientists. Such panel members ought not be scientific experts themselves, but could, for example, have a degree in science on top of their trade expertise. To actually put a real scientific expert *on the panel itself* (that is, as actual decision-maker, not constantly subject to the control of the parties) is not a good idea. It risks that the expert/panel member in question exerts too much uncontrolled power over the other two panelists. It would also dangerously blur the line between expert-advisor and judicial decision-maker. Note, however, that certain other international adjudicators do have the explicit right to appoint experts that actually sit on the bench and assist in the deliberations even though they do not have the right to vote. The ICJ, for example, can appoint scientific 'assessors', actually sitting on the Court but without a vote, on top of the possibility to nominate scientific 'experts' simply advising the Court .[51] Also the experts that advise the ITLOS 'sit with the court or tribunal but without the right to vote'.[52]

Another way to increase the scientific background of the panel itself (allowing it, among other things, to make a better selection of the experts advising it) would be to appoint scientists as part of the WTO secretariat staff assisting the panel. So far the expertise of professional staff working for the WTO secretariat is mainly, if not exclusively, in the area of trade. The WTO secretariat could, for example, set up a liaison office, staffed with scientists and other non-trade experts, that keeps touch with the scientific community and assists panels in the selection of scientific experts. Such liaison office could also play a role in the general co-ordination of trade and non-trade policies decided at the international level.

Secondly, instead of increasing the competence of the *panel*, one could leave the selection of panel experts more or less up to the *parties*. One could, for example, revert to the original appointment procedures adopted in *EC—Hormones* and let the parties appoint one or two experts each. However, instead of the panel then appointing a number of additional experts, the experts appointed by the parties could select additional experts, the way party-appointed arbitrators often select the presiding member of an arbitration panel.[53] No WTO rule obliges panels to involve international organisations in

[50] DSU Art 25 could then be used to institute special arbitration the way UNCLOS disputes can be solved by special arbitration composed of experts pursuant to Annex VIII to UNCLOS for disputes 'relating to (1) fisheries, (2) protection and preservation of the marine environment, (3) marine scientific research, or (4) navigation, including pollution from vessels and by dumping' (Art 1 of Annex VIII).

[51] See, respectively, Art 30, para 2 of the ICJ Statute and Art 9 of the Rules of the Court and Art 50 of the ICJ Statute and Art 67 of the Rules of the Court.

[52] Art 289 of UNCLOS, quoted above in n 11.

[53] In support Richard Posner, above n 46.

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the selection process. This is a practice that developed through case law. If parties, together with the experts they appoint, were thus made the focal point of the selection process, they should realise that it is in their own (long term) interest to appoint the best experts.

Thirdly, if relevant international organisations continue to play a crucial role in the selection of experts, the criticisms set out above (are they truly representative and neutral?) ought to be taken into account. It is for the parties to make specific objections and for the panel to weight them appropriately in each case. In order to increase the control of WTO members over the lists of experts maintained by these organisations, one could learn from the example set in Annex VIII, Article 2, to UNCLOS. Annex VIII on special arbitration for disputes related to, *inter alia*, fisheries and protection and preservation of the marine environment, calls for the establishment of lists of experts in particular fields. These lists are 'drawn up and maintained' by relevant international organisations. However, every State Party to UNCLOS is 'entitled to nominate two experts in each field whose competence in the legal, scientific or technical aspects of such field is established and generally recognized and who enjoy the highest reputation for fairness and integrity' (Article 2, para 3). Similarly, for WTO purposes, one could oblige organisations such as Codex Alimentarius to draw up and publicise lists of experts, but allow each WTO member to appoint two experts on each list, the way they appoint potential panel members on the Indicative List of Panelists pursuant to DSU Art 8.4. An alternative to letting those inter-governmental organisations control the lists of experts, could be to let *private* international associations (composed of individual scientists) manage those lists. Lessons could be learnt here from the US experience where, for example, the American Association for the Advancement of Science (AAAS) has compiled lists of scientists who might be available to courts.[54]

B. The gathering of expert advice

1. How is the advice conveyed?

As noted above, an expert review group is required to submit a report, based on terms of reference set by the panel. It must first issue a draft report, on which the parties may comment, after which a final report will be handed out.

The practice of obtaining advice from *individual* experts shows the following.[55] As soon as experts are appointed they obtain the entire panel record. The panel drafts questions and receives comments on these questions from the

[54] See *Court Appointed Experts: A Demonstration Project of the AAAS* (at <http://www.aaas.org/spp/case/case.htm>) and, generally, David Faigman, *The Law's Scientific Revolution: Reflections and Ruminations on the Law's Use of Experts in Year Seven of the Revolution*, 57 Wash & Lee L Rev 661 (2000).

[55] For a clear overview, see the expert procedures adopted by the panel on *Japan—Varietals*.

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parties before they are sent out to the experts (as revised on the basis of the parties' comments). The experts are asked to provide written answers to those questions in respect of which they consider themselves competent. The parties may comment on the expert answers in writing. Thereafter, an oral hearing is held with the panel, parties, and experts, where the experts summarise their views, answer additional panel question, and may be cross-examined by the parties. This hearing is normally held just before the second substantive meeting with the parties. Subsequently, the panel holds its deliberations and may ask additional question to the experts in writing (always allowing for comments by the parties). Once the descriptive part of the panel report is ready, the experts are given a copy of those parts of the report in which their views are reflected so as to make sure that their views were understood correctly (in one case, *Japan—Varietals*, the panel even sent a section of its legal conclusions to the experts so as to make sure that its factual findings correctly reflected the expert views). The final panel report includes the *verbatim* transcript of the hearing with the experts as well as the panel questions to the experts with a summary of expert answers.

The publication of expert answers in the final panel report cannot be overestimated. It ensures peer pressure which, in turn, constitutes an incentive for experts to be neutral and truthful (if experts know that their answers will be published, they will think twice before answering). Publication also benefits the transparency of the whole expert procedure, both for governments and civil society (including the scientific community at large). Publication of the expert record stands in contrast to the prevailing principle of confidentiality in WTO dispute settlement. It is high time to make *all* panel documents publicly available. Or is it not disturbing that *expert* answers are publicised, there where the submissions of *governments* remain, in principle, confidential?

(a) The admissibility of expert evidence

Crucially, unlike many domestic legal systems, WTO procedures do *not* set out restrictions on the admissibility of evidence. In the United States, in contrast, most discussions on scientific evidence turn around the admissibility of such evidence and the extent to which the judge should be a gatekeeper, preventing the jury to be unduly influenced by so-called junk science.[56] In WTO proceedings, parties can put whatever evidence they want on the panel record. This freedom to *submit* evidence is one thing. The *weight* that a WTO panel will ultimately give to this evidence is, of course, quite another matter. The same principle would seem to apply to panel-appointed experts. In reply

[56] The leading case in this respect remains *Daubert v Merrell Dow Pharmaceuticals* 113 SCt 2786 (1993) focusing on the relevance and reliability of the evidence for it be admissible. See David Bernstein, *Junk Science in the United States and the Commonwealth*, 21 *Yale Journal of International Law* 123 (1996). For more recent discussions, see above n 54 and Peter Gross *et al*, 'Clearing Away the Junk: Court-Appointed Experts, Scientifically Marginal Evidence, and the Silicone Gel Breast Implant Litigation', 56 *Food Drug LJ* 227 (2001).

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to panel questions, they can submit whatever they like. Arguably, submissions that fall outside a panel's questions (or, for an expert review group, outside the pre-determined terms of reference of that group), should not be accepted on the panel record. However, for practical purposes, it will often be difficult for a panel to draw the line between information falling within and without the scope of its questions. More generally, the reluctance of international adjudicators to exclude evidence from the record stems from the fact that the parties in dispute are sovereign states, not individuals. As Durward Sandifer put it in his treatise on *Evidence Before International Tribunals*:

> International judicial proceedings derive a distinctive character from the fact that the parties are sovereign states. From this fact it follows that the consequences of error or a failure to ascertain the facts in reaching a decision are, in many instances, more far-reaching in their effect than in litigation between ordinary private parties in municipal tribunals. The vital interests of states, directly concerning the welfare of thousands of people, may be adversely affected by a decision based upon a misconception of the facts. The maintenance of friendly relations between the states involved may well depend upon the fairness and thoroughness of the proceedings through which a decision is reached.[57]

This consideration (gaining all its prominence when it comes to WTO health or food safety disputes), together with the fact that the judicial enforcement of international law remains the exception, not the rule, explains why procedures before international tribunals tend to be free from detailed rules on evidence known in municipal law. The only genuine restriction on evidence before a WTO panel remains one of timing. Normally, all evidence ought to be submitted during the first round of submissions and hearings (not in the rebuttal stage, let alone, beyond that). But even there, upon a showing of good cause, a panel would be pressed to nonetheless accept the new evidence.[58] Note, in this respect, the contrast between, on the one hand, WTO disputes on health or food safety where the defendant can, in theory, come up with scientific justification for its measure as late as the day before the panel judgment[59] and, on the other hand, cases brought against anti-dumping measures or safeguards, where the panel in its decision on WTO conformity is limited to the evidence that was before the national authority when it enacted the contested measure.[60]

(b) Cross-examination of experts

The process of cross-examination of the panel experts by the parties is not well developed.[61] Cross-examination is, nonetheless, an important tool enabling

[57] Durward Sandifer, *Evidence Before International Tribunals* (1975) 4–5 .

[58] This is also what the standard working procedures of WTO panels provide.

[59] In *EC—Hormones*, the Appellate Body rejected the idea put forward by the panel that there is a procedural leg to SPS Art 5.1 requiring that national authorities actually took account of the evidence *when they enacted* the contested measure.

[60] See Appellate Body report on *US—Wheat Gluten*.

[61] In support Theofanis Christoforou, above n 17, at 632: 'The character of the expert question-

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the judge to distinguish junk from real science, especially in a system like the WTO where, in principle, all evidence is admissible. Often, the parties will even wait to comment on the expert views until the actual substantive meeting with the panel, ie at a point in time where the experts can no longer respond. This should be avoided and the confrontation between experts and parties (including experts sitting on the delegation of parties) should be increased. One reason that may explain the reluctance of parties to criticise and cross-examine panel-appointed experts is, perhaps, fear of upsetting those experts, knowing that in the end of the day their views will weigh very heavily on the panel's decision. On top of that, notwithstanding the 'legalisation' of WTO dispute settlement, the way panel meetings are actually held is still closer to a diplomatic gathering (where participants shy away from openly criticising each other), than a court hearing. For one thing, panels and the Appellate Body meet in the same rooms where normal diplomatic WTO meetings take place. It may, in this respect, be a good idea to create genuine WTO 'court rooms', preferably outside of the current WTO building.

To facilitate proper cross-examination, panels should, first of all, ensure that all the evidence submitted by the parties is also available to the experts. New evidence submitted after the consultation with the experts, if contested, should still be send to the experts for their comments. The experts should, in turn, submit all documentary evidence on which they base their views. This would not only facilitate cross-examination by the parties but also avoid 'on the back of an envelope' calculations or purely speculative statements by experts that may easily impress panels. As one author noted in the US context: 'in the mind of the typical lay juror [and, for that matter, most WTO panelists], a scientific witness has a special aura of credibility. Thus, by her credentials alone, a "science expert" holds special authority in the minds of jurors [panel members], regardless of the merits of her opinions'.[62] Most often the panel wants simple and clear answers, even if science may not always have such answers. Upon some insisting by the panel, an expert may nonetheless be tempted to make a guess. Even if she acknowledges that this guess is not backed by empirical research, it may carry a lot of weight on the panel's mind. It may be something that panel members easily understand, more than intricate scientific considerations in which the nuances of a position are highlighted. This risk materialised in *EC—Hormones*, where Dr Lucier, after some insistence by the panel and without empirical studies in support, expressed an opinion that there was, in his view, between 0 and 1 in a million risk of cancer based on added hormones in beef production. This statement was taken very seriously by both the panel and the Appellate Body, seemingly because it put a number on a complex factual question (albeit a very vague and low one) and this even though it was not

answer session used by panels is a far cry from the cross-examination of a witness by lawyers, as practiced in common law jurisdictions.'

[62] Peter Gross *et al*, above n 56, 228.

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supported by any particular study. To avoid that such 'calculated guesses' unduly influence panels or the Appellate Body, all statements by experts should be backed up by data or studies. If not, upon an objection by either party, panels should not give weight to them. Especially for the Appellate Body it may be difficult to attribute the exact meaning and weight to expert opinions. It never meets with the experts, nor does it get an opportunity to ask questions to them.

Besides trying to achieve a certain symmetry of information between the parties and the experts, another method to enhance cross-examination would be to extend the oral hearings that panel and parties hold with the panel experts. Most often these hearings do not last longer than a day. Still, it is for parties to demand such extension, something that will, once again, need to be weighed against the strict timeframe imposed on panels. Another practical matter to increase the transparency of the expert process would be to explicitly prohibit any *ex parte* communications between the panel and the panel-appointed experts (albeit it in the form of seemingly innocent welcoming lunches or dinners). The disputing parties should get an opportunity to comment on all input provided by the experts, no matter how trivial it may seem.

Although more cross-examination is needed in the WTO, a word of caution is appropriate concerning the possible excesses of a purely adversarial expert system, in particular where only party-appointed experts guide the judge. One US author refers to the need 'to preserve scientific fact from adversarial wrangling'.[63] Another commentator put it thus:

> Adversarial process is indeed a wonderful instrument for deconstructing 'facts,' for exposing contingencies and hidden assumptions that underlie scientific claims, and thereby preventing an uncritical acceptance of alleged truths. The adversarial system is much less effective, however, in reconstructing the communally held beliefs that reasonably pass for truth in science. Cross-examination, in particular, unduly privileges skepticism over concensus. It skews the picture of science that is presented to the legal factfinder and creates an impression of conflict even where little or no disagreement exists in practice.[64]

The fact that WTO panels are advised mainly by panel-appointed experts, though subject to cross-examination, as well as the overall control that panels should exercise over the expert process, ought to avoid the pitfalls of excessive adversarialism.

2. What may the expert advice cover?

In *Japan—Varietals* the Appellate Body set out the limits of panel authority in obtaining expert advice. There, the United States had claimed that the varietal

[63] Ibid, 227.

[64] Sheila Jasanoff, 'What Judges Should Know About the Sociology of Science', 32 *Jurimetrics J* 345 (1995), at 353–4.

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testing measure imposed by Japan violated SPS Article 5.6 on the ground that there were less trade-restrictive alternatives available to Japan so as to achieve the same level of plant protection. The United States referred, in particular, to testing, not variety-by-variety (say, first granny apples, then golden apples), but testing by entire product range (say, apples *tout court*). The panel rejected the United States alternative, but on the basis of the expert advice it received, as discussed by the parties, the panel concluded nonetheless that Article 5.6 was violated and this on the ground that testing on the basis of the sorption level of products would be a valid alternative. The Appellate Body reversed this panel finding as follows:

> Article 13 of the DSU and Article 11.2 of the *SPS Agreement* suggest that panels have a significant investigative authority. However, this authority cannot be used by a panel to rule in favour of a complaining party which has not established a *prima facie* case of inconsistency based on specific legal claims asserted by it. A panel is entitled to seek information and advice from experts and from any other relevant source it chooses . . . to help it to understand and evaluate the evidence submitted and the arguments made by the parties, but not to make the case for a complaining party.
>
> In the present case, the Panel was correct to seek information and advice from experts to help it to understand and evaluate the evidence submitted and the arguments made by the United States and Japan with regard to the alleged violation of Article 5.6. The Panel erred, however, when it used that expert information and advice as the basis for a finding of inconsistency with Article 5.6, since the United States did not establish a *prima facie* case of inconsistency with Article 5.6 based on claims relating to the 'determination of sorption levels'. The United States did not even *argue* that the 'determination of sorption level' is an alternative measure which meets the three elements under Article 5.6'.[65]

In *Canada—Aircraft*, the Appellate Body specified that this does not mean that a panel can only seek expert advice once the parties themselves have established a *prima facie* case.[66] It only means that expert advice may not constitute the basis of a finding of violation in respect of something which the complaining party 'had not even alleged or argued before the panel, let alone something on which [it] had submitted any evidence'.[67]

The general argument underlying the Appellate Body's approach in *Japan—Varietals* is convincing: panel experts should not make the case of either party, they must act as 'neutral' advisors to the panel. However, the more specific findings in that case are open to critic.

First, the United States *had made* a *claim* under SPS Art. 5.6 (albeit one based on the *argument* of testing by product), hence this claim *was* before the

[65] *Japan—Varietals*, paras 129–30.

[66] *Canada—Aircraft*, para 192: 'A panel may, in fact, need the information sought in order to evaluate evidence already before it in the course of determining whether the claiming or responding Member, as the case may be, has established a *prima facie* case or defence.'

[67] Ibid, para 193.

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panel. What the panel did was evaluating an additional argument under a claim that was before it. The United States had submitted one factual argument, testing by product. However, on the basis of expert examination and discussions as between the parties and the experts, it became obvious that the US claim was, indeed, founded but largely on the basis of different arguments, arguments that had not been made originally by the United States, but that arose during the expert process (ie testing on the basis of sorption levels) and which the United States subsequently supported. It is the Appellate Body itself which stressed the importance of distinguishing between claims and arguments in *EC —Hormones*:

> Panels are inhibited from addressing legal claims falling outside their terms of reference. However, nothing in the DSU limits the faculty of a panel to freely use arguments submitted by any of the parties—or to develop its own legal reasoning— to support its own findings and conclusions on the matter under its consideration. A panel might well be unable to carry out an objective assessment of the matter, as mandated by Article 11 of the DSU, if in its reasoning it had to restrict itself solely to arguments presented by the parties to the dispute.

In *EC —Hormones*, the issue was not that the panel had developed its own *legal* arguments. Rather, much like what Japan did in *Japan—Varietals*, the European Community, on appeal, complained about the fact that the panel had found a violation under SPS Article 5.5 on the basis of a *factual* argument not made by the complainants, namely 'a supposed difference of treatment between artificially added or exogenous natural and synthetic hormones when used for growth promotion purposes compared with the naturally present endogenous hormones in untreated meat and other foods (such as mil, cabbage, broccoli or eggs)'. In *EC—Hormones*, the Appellate Body allowed the panel to come up *itself* with this additional factual argument under the complainants' claim of SPS Article 5.5. In contrast, in *Japan —Varietals*, the Appellate Body bashed the panel for doing exactly the same in respect of a claim made by the United States under Article 5.6 and this even if in that case the additional factual argument had not been developed by the panel itself, but by the experts advising the panel.

Indeed, if panels can obtain further factual as well as legal information on the basis of *amicus curiae* briefs that it did not request in the first place, why would panels not be able to rely on facts submitted by its own experts?

This brings us to a more general critic of the Appellate Body finding in *Japan –Varietals* (distinct from the claim/argument distinction and the question as to whether 'testing on the basis of the sorption levels' is a claim or an argument). That is, the finding that expert advice pursuant to DSU Article 13 must be limited to explaining or evaluating 'the evidence submitted and the arguments made by the parties'.

This restriction seems, first of all, unworkable in practice. Will not all explanation and evaluation of a piece of evidence *add* evidence on the record? Moreover, will objective explanation and evaluation in respect of contested

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evidence not always require choosing sides, that is, as the case may be, lead experts to 'make the case for a complaining party'? The line between, on the one hand, providing advice on what is already on record and, on the other, making the case for either party, will often be thin and difficult to control. In *Japan —Varietals*, for example, it would have been enough for the panel to explain to the United States that it would not accept the US alternative of testing by product and to ask the United States whether it would, in these circumstances, not explicitly adopt the alternative of testing by sorption level. If the panel had done so, the experts' evidence on sorption levels would have become that of the complainant and all would have been acceptable to the Appellate Body. But it is quite easy to understand why the United States, in the circumstances, did *not* suggest testing by sorption as an alternative. For strategic reasons, it had to stick to its preferred alternative, testing by product. If not, it would have damaged the credibility of its primary case, namely that all varieties of the same product represent no difference in terms of plant risk.

Secondly, from a more systemic point of view, the Appellate Body's focus on the record *provided by the parties* wrongly portrays the panel process as a purely adversarial system. Obviously, pursuant to the *non ultra petita* principle, a panel can only examine those claims put to it by the parties. Nonetheless, to make an objective examination of those claims (as DSU Article 11 requires), ie to discover the 'truth' about those claims, panels, like all international tribunals, will often have to go beyond the confines of the record provided to them by the parties. This inquisitorial aspect of the panel process is common to all international tribunals (and distinguishes it from the common law tradition). As Durward Sandifer put it:

> The law of evidence in international tribunals gives much wider scope for the ascertainment of truth in the absolute sense . . . international tribunals are, in general, preoccupied with getting at the facts of the questions presented for their decision. They are as a result intolerant of any restrictive rules of evidence that might tend to confine the scope of a search after those facts. With certain exceptions, they do not hesitate to supplement, upon their own initiative, the evidence supplied by the parties if they regard it as inadequate'.[68]

The inquisitorial role thus exercised by international tribunals flows mainly from the fact that the disputing parties are states, not individuals (a factor pointed out earlier). The interests involved transcend the often narrow positions taken by government officials. The risk of a panel 'getting it wrong', because the parties did not present certain information, has consequences that may effect millions of people, both within the disputing states and in other

[68] Above n 57, at 3–4. Witenberg goes even further, referring to 'the obligation imposed upon the international judge to participate in the search for the truth . . . The judge not only enjoys the right but has the obligation personally to engage in the development of the facts' (Witenberg, 'Onus Probandi devant les Jurisdictions Arbitrales', 55 *Rev Gen De Droit Int'l Pub* 321, 335 (1951)). See also Gillian White, above n 24, at 6.

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countries. This is so in respect of all WTO disputes, WTO rules having a direct impact on private operators, and particularly the case for WTO disputes in the field of health or food safety.

DSU Article 13 explicitly confirms that panels have this, what the Appellate Body itself refers to as, 'significant investigative authority'. To limit the information that panels can obtain under DSU Article 13 to explanations and evaluations of 'the evidence submitted and the arguments made *by the parties*' is a restriction not found in DSU Article 13 itself nor in DSU Article 11 (which refers to an 'objective assessment of the *facts of the case*', not the facts submitted by the parties) nor in the general practice of international tribunals.[69] It unduly restricts the inquisitorial role of WTO panels as international tribunals and constitutes an unwarranted transplantation of common law principles into the WTO process.[70] Inconsistently with the Appellate Body approach to *amicus curiae* briefs, it would effectively prevent the submission of such briefs. One of the requirements that the Appellate Body imposed to obtain leave to submit an *amicus curiae* brief was, indeed, that it 'will make a contribution to the resolution of [the] dispute that is not likely to be repetitive of what has been already submitted by a party or third party'.[71]

This does not mean, of course, that panels ought to exploit DSU Article 13 to make a *de novo* review of, say, the health measures adopted by WTO members. A panel should nonetheless make an 'objective assessment of the matter before it' and 'the facts of the case', including any information obtained pursuant to DSU Article 13 even if that information goes beyond what the parties have submitted (and as long as it falls within the confines of the parties' legal claims). Not to allow panels to take account of obvious alternatives that make scientific sense, would achieve the required level of protection and allow for trade to flow, would prevent panels from making an 'objective assessment of the matter' (DSU Article 11) and be against the basic purpose of WTO dispute settlement, namely to offer a positive resolution to disputes (DSU Article 3.7). In this respect it is particularly instructive to note that even though the panel's alternative in *Japan—Varietals* (that is, testing by sorption level) was disregarded by the Appellate Body, it was nonetheless the solution that Japan and the United States ultimately notified to the WTO as ending this dispute.[72]

[69] Recall, in this respect, that both ICJ and ITLOS procedures go even further than DSU Art 13: they actually allow for experts to sit on the bench, albeit without a vote (see above nn 51 and 52). As they sit on the bench, they are to a great extent beyond the control of the parties and are hence likely to submit whatever view or information they deem fit. The outstanding example of the use of experts (as opposed to assessors) by the ICJ is the *Corfu Channel (Merits)* case where three experts were appointed to examine aspects of the North Corfu Strait. See Gillian White, above n 24, at 107 ff.

[70] For another example, see WTO case law on burden of proof and its emphasis on establishing a prima facie case. For a discussion, see this author's, 'Evidence, Proof and Persuasion in WTO Dispute Settlement, Who Bears the Burden?', 1 *Journal of International Economic Law* (1998) 227.

[71] See above n 36.

[72] WT Doc WT/DS76/12.

C. The use of expert advice in coming to a legal conclusion

1. Expert advice: binding or not?

The report of expert review groups as well as the opinions of individual experts are advisory only (para 5 of DSU App 4). Only advice gathered from the IMF under GATT Article XV:2 and from the Permanent Group of Experts under Article 4.5 of the Subsidies Agreement is binding.[73]

Expert advice is, in principle, not binding because the disputing parties have entrusted the jurisdiction to decide the case with the panel, not with any other body or individual. Of course, even if expert advice is advisory only, it will be difficult, if not impossible, for a panel to overrule a consensus position expressed by the experts. Given the presumed 'epistemic superiority' of the experts, who is the panel to contradict the experts that it appointed? This explains why a panel should only reject or downplay certain expert answers on the ground that they are not relevant, not specific enough,[74] that there is no documentary support for them or that the expert who expressed the view is not neutral or experienced enough in the field. In this respect, the criteria offered in US case law for the admissibility of scientific evidence (in particular, the *Daubert* case), centred around the relevance and reliability of the evidence and the principles and methodology on which the evidence is based (not the conclusions that they generate), may be particularly helpful.[75]

2. What in case experts contradict each other?

Science is progressive. By a process of observations and experiments, discovery and falsification, it approaches closer and closer to understanding the nature of the world. As a result, science is changing and advancing, although its core can be regarded as very secure.[76] Science is also future-oriented in that its findings are replicable and universal. Judicial decision-making, in contrast, requires a quick and definitive response to a controversy thought desirable to settle then and there. Law's methodology to come to a result is not repeated trials or observations, it is based on rules of evidence and burden of proof.[77]

This contradiction between science (constantly evolving) and law (requiring a firm decision at a given point in time), leads to the possibility that a judge—having to make a decision here and then on, say, the health risks

[73] In respect of GATT Art XV:2, the Appellate Body on *India—Quantitative Restrictions* left it open as to whether *panels* (not GATT contracting parties or WTO members, the subject referred to in Art XV:2), seeking advise under GATT Art XV:2, would be bound by such advice. The United States answered the question in the affirmative, India in the negative.

[74] See *EC—Hormones*.

[75] See above 56.

[76] See Lewis Wolpert, 'What Lawyers Need to Know About Science' in *Current Legal Issues: Law and Science*, 1998, vol 1 (ed Helen Reece), 289 at 297.

[77] See DH Kaye, 'Proof in Law and Science', 32 *Jurimetrics* J 313 (1995), at 317.

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related to hormone beef—be faced with conflicting scientific evidence. Scientists may disagree on the facts, focus on different aspects of the question or express opinions with different degrees of certitude. Hence, especially if a panel asks advice from *individual* scientists, there is a serious risk that the scientists it appointed disagree (an expert group, on the other hand, has opportunity to sort out internal differences, although in the end individual scientists could still express a dissenting opinion in the final group report). If faced with disagreement, opposing experts may cancel each other out and the panel, in search of the 'one and only' legal answer may be back to square one. How should panels then react?

In the face of opposing scientific opinions the following two elements will offer a way out:

(i) the substantive legal criterion at issue;
(ii) rules on burden of proof and standard of review.

(a) The substantive legal criterion: based on science

In terms of the substantive legal requirement that refers to science, the issue was addressed squarely by the Appellate Body under the SPS Agreement and its requirement to 'base' a sanitary measure 'on a risk assessment' (SPS Article 5.1). This requirement was interpreted by the Appellate Body in *EC — Hormones* to mean that 'the results of the risk assessment must sufficiently warrant—that is to say, reasonably support—the SPS measure at stake'. It added the following:

> We do not believe that a risk assessment has to come to a *monolithic conclusion* that coincides with the scientific conclusion or view implicit in the SPS measure. The risk assessment could set out both the prevailing view representing the 'mainstream' of scientific opinion, as well as the opinions of scientists taking a divergent view. Article 5.1 does not require that the risk assessment must necessarily embody only the view of a majority of the relevant scientific community. In some cases, the very existence of divergent views presented by qualified scientists who have investigated the particular issue at hand may indicate a state of scientific uncertainty. In most cases, responsible and representative governments tend to base their legislative and administrative measures on 'mainstream' scientific opinion. In other cases, equally responsible and representative governments may act in good faith on the basis of what, at a given time, *may be a divergent opinion coming from qualified and respected sources.* By itself, this does not necessarily signal the absence of a reasonable relationship between the SPS measure and the risk assessment, *especially where the risk involved is life-threatening in character and is perceived to constitute a clear and imminent threat to public health and safety*.[78]

In *Japan —Varietals,* the Appellate Body reiterated this view in respect of the requirement under SPS Article 2.2 to only maintain health measures with

[78] *EC—Hormones*, para 194, emphasis added.

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'sufficient scientific evidence', interpreted to mean that there be a 'rational or objective relationship' between the health measure, on the one hand, and the scientific evidence put forward by the member concerned, on the other.[79] It added what follows:

> Whether there is a rational relationship between an SPS measure and the scientific evidence is *to be determined on a case-by-case basis and will depend upon the particular circumstances of the case, including the characteristics of the measure at issue and the quality and quantity of the scientific evidence*.[80]

In *EC —Asbestos*, the Appellate Body confirmed its intention to uphold a measure even if it would be based only on a 'divergent opinion coming from qualified and respected sources' in respect of GATT Article XX(b) and the exception contained therein for measures 'necessary to protect' health. It added:

> A Member is not obliged, in setting health policy, automatically to follow what, at a given time, may constitute a majority scientific opinion. Therefore, a panel need not, necessarily, reach a decision under Article XX(b) of the GATT 1994 on the basis of the 'preponderant' weight of the evidence.[81]

The Appellate Body further confirmed the *EC —Hormones* approach by stating that 'the more vital or important the common interests or values pursued, the easier it would be to accept as 'necessary' measures designed to achieve those ends'.[82]

In sum, a WTO member may validly impose a health measure (i) even if it does so on the basis of a health risk shown only by a 'divergent' or 'minority' opinion of scientists, as long as that opinion comes from (ii) 'qualified and respected sources'. Such divergent or minority opinion will be enough in particular if (iii) the risk at stake or the value pursued is 'vital or important', ie 'life-threatening in character', constituting 'a clear and imminent threat to public health and safety'.

To put it differently, there is, first of all, no need to find that at least a majority of the scientific community is in favour of a proposed health measure. *A fortiori*, the fact that there are dissenting scientific opinions does not prevent a Member from imposing the measure. In terms of 'quantity' of the overall scientific evidence, minority opinions may range from anything between 49 per cent of the scientific community to close to 0 per cent. The bigger the minority, the more likely that it is found to be sufficient.

[79] *Japan—Varietals*, para 77.
[80] Ibid, paras 73 and 84 (emphasis added, footnote omitted).
[81] *EC—Asbestos*, para 178.
[82] Ibid, para 172 (paraphrasing its earlier finding in *Korea—Beef*, para 162, on GATT Art XX(d)), adding that in *EC—Asbestos* 'the objective pursued by the measure is the preservation of human life and health through the elimination, or reduction, of the well-known, and life-threatening, health risks posed by asbestos fibres. The value pursued is both vital and important in the highest degree'.

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Secondly, the minority opinion must nonetheless come from 'qualified and respected sources'. Hence, if the evidence on which the measure is based does not come from a reputable or independent source—say, a retired scientist who could well have been paid to come to certain conclusions, or evidence backed up only by scientists employed by the government imposing the measure—the measure may not pass the test.

Thirdly, in case of an alleged or perceived 'lower risk', either in terms of quantity or quality or both, the required quantum of scientific evidence increases. In other words, *a 'lower risk'*, say, animal or plant health (as opposed to human health) or 0.0001 in a million risk (versus 100 in a million risk), will normally require *more scientific evidence*.

How these three criteria (quantity and quality of the evidence and seriousness of the risk) will interact may provide an interesting development. Would it, for example, be enough if, say, 30 per cent of the scientific community supports the measure, but this 30 per cent seems to be the less reputable or less credible part of the community and the risk at stake is 'only' a minor animal disease?

The above applies to what *WTO members* must come up with in terms of scientific evidence for their measures to be WTO consistent. The scientific evidence referred to is, therefore, that submitted *by the defendant party* (not that submitted by the panel's experts). Where does this leave our panel faced with opposing expert opinions (be they form the parties' experts or from the panel's experts)? The Appellate Body in *EC —Asbestos* applied the same criteria to a panel as those that it applied in *EC —Hormones* to a regulating WTO member, ie 'a panel need not, necessarily, reach a decision . . . on the basis of the "preponderant" weight of the evidence'. In other words, the panel as well may put aside conflicting scientific opinions and base its legal findings on minority opinions, as long as they are 'qualified and respected'. On the latter requirement, the Appellate Body noted that in case the traditional procedures for expert selection by panels (set out above) are followed and if it is made clear by the panel that experts are to answer only those questions that fall within their area of expertise, '[t]he panel was entitled to assume that the experts possessed the necessary expertise to answer the questions, or parts of questions, they chose to answer'.[83]

Hence, under most substantive legal criteria in which reference is made to scientific evidence, a solid minority opinion must suffice for a panel to find that the measure at issue is WTO consistent. Panels are, in other words, not called upon, nor competent, to make substantive decisions on scientific disagreements.[84] At the most, what they can do is to check criteria such as

[83] Appellate Body report on *EC—Asbestos*, para 180.

[84] Or as Brewer (above n 20, at 1595) put it: 'ex hypothesi, the nonexpert does not have sufficient competence in the expert discipline to be able to make the choice on substantive grounds, so how can the nonexpert make that choice? . . . we are expecting greater ability to discern the scientific truth from the nonexpert than we are from the expert.'

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relevance, specificity and reliability of the evidence or neutrality and expertise of the expert submitting it.[85] In all SPS cases so far, this threshold of a solid minority opinion was *not* met. In the one GATT Article XX(b) case, it was held that the evidence in support of the measure was overwhelming, hence largely majoritarian. The 'hard cases' are still to come.

WTO members when concluding the SPS agreement selected 'good science' as the decisive criterion to determine whether a health measure is WTO consistent. If a measure is backed by science, it is presumed *not* to be protectionist and thus to be WTO consistent. In the GATT, in contrast, a negative criterion is used: a measure is WTO *in*consistent if, but only if, it protects domestic products or is otherwise discriminatory. The SPS agreement offers the advantage of defining more precisely when a measure is deemed to be protectionist (ie in case it is not based on science). With the benefit of hindsight, however, one could question the validity of this presumption. Equating protectionism with the absence of science does raise problems of both over-inclusion and under-inclusion. In terms of over-inclusion, is it not possible to have a health measure that is *not* based on science, *nor* protectionist, but imposed, for example, to alleviate consumer fear so as to sustain the market of the product involved, be it domestic or imported (this was arguably the case of the *EC —Hormone* ban).[86] In terms of under-inclusion, given that a solid minority opinion suffices to justify a health measure, is there not a risk that protectionist measures fall between the cracks and are found to be WTO consistent just because some maverick scientist suddenly finds a remotely plausible scientific theory in support of the measure? This is not to say that WTO panels ought to reject such minority opinions. They should not since they are not competent to make such decisions. The point is rather that to inject science as the decisive legal criterion for WTO consistency has the potential not only of prohibiting measures that are not protectionist (over-inclusion), but also of letting go measures that are clearly protectionist (under-inclusion).

(b) Burden of proof and standard of review

As a fall-back solution for panels confronted with conflicting expert opinions, resort may be had to WTO rules on burden of proof. In short, it is for the member challenging the inconsistency of a measure to prove this inconsistency,

[85] Or as Christoforou (above n 48, at 635–6) put it: 'the most that can properly be done by panels . . . is to examine whether the evidence upon which the parties rely is based on scientific principles and methods and whether it possesses the minimum attributes of scientific inquiry . . . They are limited to an examination of whether the scientific basis of a contested measure is a scientifically plausible alternative to the scientific theory advocated by the complaining party, and whether the measure has a rational relationship to the performed risk assessment.'

[86] Note that the Appellate Body itself found that the hormone ban was *not* imposed to protect domestic beef producers, but that it still found the ban to fall foul of the SPS agreement (at para 245: 'We are unable to share the inference that the Panel apparently draws that the import ban on treated meat . . . were not really designed to protect its population from the risk of cancer, but rather to keep out US and Canadian hormone-treated beef and thereby to protect the domestic beef producers in the European Communities).'

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hence, to prove that there is, for example, under SPS Article 2.2 *no* 'sufficient scientific evidence'. However, as soon as the complainant succeeds in establishing a presumption that what it claims is true, the burden to come forward with evidence shifts to the defendant. It will then be up to the defendant to prove that there *is* 'sufficient scientific evidence'. In respect of exceptions, though, such as GATT Article XX(b), the defendant bears the original burden of proving, for example, that the measure imposed *is* 'necessary to protect' health. There, the burden of proof is shifted. This is one of the main distinguishing features between justifying health measures under the TBT and SPS agreements, on the one hand (burden on the complainant), and GATT Article XX, on the other (burden on the defendant).

Obviously, under this theory, the main question is: what is required to establish a presumption or prima facie case that what is claimed is true? That is, what is the actual level or standard of proof required to win a case (in the absence of a sufficiently strong rebuttal)? On this issue, the Appellate Body made the following, rather disturbing, statement:

> In the context of the GATT 1994 and the WTO Agreement, 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.[87]

Elsewhere I have argued that the Appellate Body's focus on presumptions compounds, rather than resolves, the question of burden of proof and that it should concentrate rather on providing a consistent and predictable level or standard of proof.[88] In other words, to win a WTO case, must a member meet its burden of proof by a 'preponderance of the evidence' (as is mostly the case in domestic civil cases) or by 'proof beyond reasonable doubt' (as is the case in municipal criminal matters) or should another standard apply? As noted above, in respect of health disputes, the Appellate Body rightly rejected 'preponderance of the evidence' as the standard of proof (a solid minority opinion can be sufficient). It goes against the very essentials of legal predictability not to have a pre-determined standard of proof for a certain class of cases. Without knowing this standard, how can the parties predict whether they have a chance of winning a case? Moreover, without knowing the benchmark for a panel to be convinced, how can the parties appeal a panel's conclusion and how can the Appellate Body review whether the panel made an 'objective assessment'? The Appellate Body may find different standards of proof for different types of disputes (say, health cases versus safeguard or taxation cases) and is well advised to do so. However, that the matter of standard or level of proof 'will necessarily vary from measure to measure, provision to provision, and case to case' cannot be accepted.

[87] Appelate Body Report, United States—Measure Affecting Imports of Woven Wool Shirts and Blouses from India, WT/DS 33/AB/R, adopted on 23 May 1997, 14.
[88] See above n 70.

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In deciding which standard of proof ought to apply to a particular type of cases, it should be recalled that the function of a standard of proof is to 'instruct the factfinder concerning the degree of confidence our society thinks he should have in the correctness of factual conclusions for a particular type of adjudication'. Thus the 'standard serves to allocate the risk of error between the litigants and to indicate the relative importance attached to the ultimate decision'.[89] In cases where the standard of proof is a mere 'preponderance of the evidence', the parties share the risk of error in roughly the same degree. However, in criminal cases or, for that matter, WTO health disputes as between two sovereign states, the interests of the defendant are of such magnitude that the standard of proof is designed as nearly as possible to eliminate the likelihood of an erroneous judgment. In those cases, the requirement is for proof of guilt, or absence of scientific justification, 'beyond a reasonable doubt' (in the WTO, proof not contradicted by even a solid minority opinion).[90] As one prominent SPS commentator noted in respect of the *Australia —Salmon* case:

> Suppose that Australia complies with the WTO ruling, allows in Canadian salmon, and then suffers a huge loss from foreign salmon disease. Who would bear the cost of the WTO panel being wrong about the danger of alien pathogens? Not the panel surely. Not the Canadian exporter. Not the WTO. No, it would be Australia that would suffer that cost.[91]

Finally, the standard of review to be respected by WTO panels may also offer help in dealing with conflicting scientific evidence. This standard *of review* must be distinguished from the level or standard *of proof* required to discharge the burden of proof. The standard of review in the WTO is 'an objective assessment of the matter before it' (DSU Article 11), not a 'reasonableness test' or 'complete deference test' nor a *de novo* review. Unlike most domestic law regimes, international adjudication does not know the principle of judicial restraint in highly technical cases (where it is, in domestic law, presumed that the administration, being the expert in the field, must be given a certain margin of discretion).[92] In international law (where there is no separation of powers,

[89] US Supreme Court in *Addington*, 441 US 418, at 423, quoted in Lee Loevinger, 'Standards of Proof in Science and Law', 32 Jurimetrics J 323 (1995), at 333.

[90] For the actual meaning of these different standards in US law, see *Brown v Bowen*, 847 F2d 342 (7th Cir 1988): 'All burdens of persuasion deal with probabilities. The preponderance standard is a more-likely-then-not rule under which the trier of fcat rules for the plaintiff if it thinks the chance greater than 0.5 that the plaintiff is in the right. The reasonable doubt standard is much higher, perhaps 0.9 or better. The clear and convincing standard is somewhere in between.'

[91] Steve Charnovitz, 'Improving the Agreement on Sanitary and Phytosanitary Standards', in *Trade, Environment and the Millennium* (United Nations University Press, 1999), 171, at 186.

[92] See the *Chevron* doctrine in US law (*Chevron USA, Inc v Natural Resources Defense Council, Inc*). Note, however, that for anti-dumping disputes, Art 17.6 of the Dumping Agreement provides for a more deferential 'reasonableness' test. In terms of policy, there is no good reason why panels ought to show more deference when examining a dumping case as opposed to when they examine a health measure. On the contrary, one would have expected that for health issues, more deference would be warranted.

but essentially states only, being one legal entity), no such distinction is made and normal rules of treaty interpretation and burden of proof apply in order to determine whether a state has breached its obligations. Still, since the litigants are sovereign states and because of the high risk related to 'getting it wrong', a degree of built-in deference will be found also in the international adjudication of factually complex disputes, as seen earlier, both in terms of the interpretation of substantive requirements and the standard or level of proof imposed on defendants.

In sum, WTO panels are well-equipped to handle conflicting expert opinions. Most substantive legal criteria involving scientific evidence are fulfilled as soon as a solid minority opinion can be pointed at. The difficulty (often arising in domestic law disputes) of panels having to make a substantive choice between two scientific theories does not, therefore, arise. In addition, rules on burden of proof and standard of review offer a general fall-back for panels to deal with conflicting evidence. Moreover, DSU Rules of Conduct as well as the expert selection process and the way of gathering expert advice (especially with an increase in cross-examination) should ensure the integrity of panel experts and the high quality of expert answers.

IV. CONCLUSION

The WTO judiciary makes an increasing use of expert advice. This development must be applauded. It ensures the quality, transparency, and legitimacy of WTO decisions, in particular those that cut across a number of societal values. The input of expert and other 'outside' opinions highlights the complex nature of WTO dispute settlement. It forms a process in which a large number of agents interact: the panel, the Appellate Body, the parties and third parties, party-appointed experts and panel experts, standing technical bodies and political WTO organs, *amici curiae* and other international organisations. As long as the WTO judiciary remains in control of this complex interaction and each of these experts stick to their field of expertise, this dialogue can only be beneficial.

The practical suggestions in this paper can be summarised as follows:

1. In disputes where experts are likely to disagree, WTO panels should appoint an expert review group instead of individual experts. It is not for the panel to seek common ground as between individual experts. It is better for experts to do so among themselves in an expert review group.
2. To allow for an effective expert process, the strict timeframes imposed on WTO panels must be extended. The DSU should explicitly add an indicative period of, for example, 4 months, in cases where panels seek expert advice.
3. To enable and foster the submission of high-quality expert information, including *amicus curiae* briefs, an end must be made at the confidentiality of WTO panel proceedings. One cannot have it both ways, ie recog-

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nise the benefits of outside information and at the same time hold panel proceedings behind closed doors.

4. Panels ought to seek advice and information not only from scientific experts or *amici curiae*, but also from other types of experts such as expert economists, specialised WTO bodies (including the Permanent Group of Experts in the area of subsidies) and legal experts (in particular other international organisations) especially when they refer to non-WTO treaties.
5. To avoid the fragmentation of international law, provision should be made also for panels to ask advisory opinions, or even preliminary rulings, from other international tribunals.
6. Although the Appellate Body cannot expand the factual record, like panels under DSU Article 13, it should be allowed to seek expert legal advice, including advice from other international organisations or tribunals. It already does so by accepting *amicus curiae* briefs that must be restricted to issues of law.
7. To enhance appropriate fact-finding and avoid that cases are dismissed by the Appellate Body simply because the panel did not do its fact-finding job, the Appellate Body should be given the right to remand cases to the original panel. Remand would also preserve the right to appeal and more appropriately restrict the Appellate Body to issues of law.
8. Given the relatively low cost and the huge benefits, both in terms of quality and legitimacy of their report, panels should not hesitate to appoint experts, preferably even more than one, in each field of expertise.
9. It is of capital importance that panels appoint the best experts. Expertise and neutrality are the only criteria panels can control. They have no competence to decide substantive scientific questions.
10. When a dispute hinges mainly or exclusively on a factual question, parties could settle it by means of special arbitration under DSU Article 25 (appointing a panel of experts), rather than through normal panel proceedings.
11. Although appointing a scientific expert on the panel itself would not seem appropriate, preference may be given to at least one panelist who has some scientific background. The WTO secretariat could also hire a number of scientists to assist panels and to keep touch with the scientific community.
12. To let international organisations suggest expert names is an appropriate procedure, although it must be checked on a case-by-case basis for inherent biases or prejudice. To formalise the process, these organisations could be asked to draw up formal lists of experts. WTO members could then be allowed to nominate experts on those lists.
13. The alternative would be to let the parties appoint one expert each and then to ask these two experts to complete the expert group. A role could be played also by private international associations of experts.
14. Cross-examination of experts must be stimulated. It provides a good instrument to check the validity of the advice and the competence of the

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expert. To that end, experts should submit all the studies and evidence on which they base their views and the oral hearings with the experts should be extended. To get away from the traditional diplomatic setting, the WTO could create special court rooms, instead of meeting in the usual WTO rooms.

15. The expert advice that a WTO panel can take into account ought not be limited to 'the evidence submitted and the arguments made by the parties' (as the Appellate Body found in *Japan—Varietals*). Although it should not go beyond the claims made by the parties, WTO panels, like all international tribunals (but unlike common law courts), have an inquisitorial role. DSU Article 13 confirms this.
16. In the face of conflicting scientific evidence, panels are not called upon, nor competent, to make substantive decisions on scientific disagreements. At the most, what they can do is to check criteria such as relevance, specificity and reliability of the evidence or neutrality and expertise of the expert submitting it.
17. Guidance must be offered on the level or standard of proof in WTO dispute settlement. For health and other disputes where the risk of getting it wrong is very serious, a standard ressembling the one for domestic criminal cases ought be selected, that is, 'proof beyond reasonable doubt'. For purely pecuniary WTO disputes or cases where the consequences of error are reversible, a less stringent standard, such as 'preponderance of the evidence', could suffice.

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