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IPRs and Environmental Protection after Cancún

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IPRs and Environmental Protection after Cancún^{*}

A. Introduction

Only two contentious Intellectual Property Rights (IPR)-issues found their way to the floor of Cancún, namely the instruction of the TRIPS-Council to continue its work on Art. 27.3 (b) TRIPS (Paragraph 23 Draft Cancún Ministerial Text, Second Revision from Sept. 13, 2003, DCMT) and on geographical indications (Paragraphs 8 and 13 DCMT, Paragraph 18 Doha Ministeral Declaration, DMD).¹ In the preparatory process, following the Doha-Mandate,² four additional items were discussed: the general relationship between the TRIPs-Agreement and the Convention on Biological Diversity (CBD) (Paragraph 31 (i) DMD), observer status of the CBD-Sekretariat to the TRIPs-Council (Paragraph 31 (ii) DMD), mandatory disclosure of geographical origin as part of the patent application procedure and the ultimate question whether patents on life forms can be banned under the WTO-Agreement on Trade Related Intellectal Property (TRIPS) (both, Paragraphs 19 and 32 (ii) DMD). In respect to the contentious issue of observer status, only the proposal for observership/"invitee status" of MEAs to the Special Sessions of the WTO-Commission on Trade and Environment (CTE) found its way to the negotiation table (Paragraphs 9 and 10 DCMT).

At first glance, this result is puzzling as one expects much more attention to be given to IPR related questions. As globalisation accelerates, IPRs are becoming a vital asset to economic transactions. They do not only indicate a potential of innovative growth. With increasing diversification and outsourcing, a strategic economic need has been growing to commodify information as a vehicle of techniology transfer. This functional approach is fueled by global competition – appealing to legal instruments of "fair" trade countering product piracy. Thus, industry seeks stronger and expanded property rights and patent offices grant them. As a result of strengthening these rights, IPRs are pulled into the regulatory framework that instrumentalises them for societal and environmental goals. This dynamic provides the policy ground for debates on biopiracy that counters the product piracy argument, catering to both the environmental and North-South policy debate. However, a closer examination reveals that the IPR debate is demanding a new set of governing rules. It is part of the overall international governance debate that is challenging the traditional concept of sovereignty. This is the more profound reason why regulatory rules on IPRs encounter strong state resistance.

From a historically informed perspective, the regulatory perspective of IPRs is anything but revolutionary. IPRs have never been "property" in the sense of natural law. They have always been economic incentive instruments: In the time of the renaissence, they were migration incentives for

^{*} The article is an enlarged version of the contribution to the Conference "Moving Forward From Cancún" organised by Ecologic in Berlin on the 30./31. October 2003.

¹ <u>Http://www.wto.org/english/thewto_e/minist_e/min03_e/draft_decl_rev2_e.htm</u>; the reference to the revision process of Art. 27.3 (b) TRIPS was only included during the negotiations in Cancún following the proposal of India, ICTSD-Bridges Trade Biores, Vol. 3, No. 16 (Sept. 19, 2003), p. 3.

² Doha Ministerial Declaration adopted on Nov. 14, 2001; WT/MIN (01)/DEC/1.

craftmen.³ In the 20th centuary they became incentives to invent.⁴ In the 21st century the focus shifts to investment incentives.⁵ What is new, however, is that IPRs have become policy instruments in the framework of sustainable development. By evolving into regulatory, complex legal institutions, their former sole concern of technology promotion is compromised.

The article focuses on IPRs as part of the evolving normative architecture of global international governance that challenges traditional power politics. It will not discuss in detail the contentious issues listed above. Especially, I will not elaborate on the systematic tension between TRIPs and CBD⁶ as an exemple of the WTO-MEA⁷ relationship as mandated by Paragraph 31 (i) DMD. The article seeks to carve out the civilising influence of emerging legal rules as exemplified by the IPR debate in the WTO context - even if they are often bypassed in the day-to-day business of WTO power politics. The article is looking into the conditions under which the IPR system is taming instead of accelerating globalisation. The CBD, supplemented by the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA), is at the core of the global IPR-Debate and appears to be a formidable example. The CBD being an offspring of the Rio Conference in 1992 builds on a concept of mutual supportiveness of economic incentives and environmental protection. I will argue that the global IPR-regime is evolving into an example of a new institutional set for regulating economic globalisation – if essential material conditions are met and contracting parties stick to their commitments and do not evade. These linkages between economic and environmental regimes have the potential to render the environmental regimes more effective. Additionally, these may serve as blue prints for the evolving constitutional framework of global governance. Thus, it explores the rule of law in it's most distinguished function, setting boundaries to despotism and power politics.

The article analyses the emergence of three pillars of this emerging architecture of global environmental governance that modify traditional principles of international law, transnational duties, differential duties and horizontal coordination. It concludes that the modern, regulatory issues of IPRs did not find their way to Cancun because they were especially controversial. The ones that were tabled

³ Kurz, P. (2000), Weltgeschichte des Erfindungsschutzes: Erfinder und Patente im Spiegel der Zeiten, Köln etc., Heymann, Kap. III.

⁴ Cornish, W. R. (1999), Intellectual Property. London, Sweet&Maxwell, p. 129-134.

⁵ Endorsing a double function: generate profits and commodify information, Godt, C. (2004), Eigentum an Information - ein Beitrag zur Rückführung der Patenttheorie an die allgemeine Eigentumstheorie am Beispiel genetischer Information.
⁶ The author has contributed to this TRIPS-CBD debate an in-depth analysis of argumentative schemes like lex

⁶ The author has contributed to this TRIPS-CBD debate an in-depth analysis of argumentative schemes like lex posterior–lex anterior, lex specialis-lex generalis, rule and exception and "mutual supportiveness", Godt, C. (2003), International Economic and Environmental Law - Exercises in Untangling the Dogmatic Conundrum, in: L. Krämer (Ed.), Recht und Um-Welt-Essays in Honour of Prof. Dr. Gerd Winter, Groningen, Europa Law Publishing, 235-252.

⁷ For the doctrinal tensions between GATT and MEA trade measures, Winter, G. (2003), The GATT and Environmental Protection: Problems of Construction, Environmental Law Journal (15/2), 113-140. An approach via the Convention on the Law of Treaties proposes Tarasowsky, R. G. (1996), Ensuring Compatibility between Multilateral Environmental Agreements and GATT/WTO, Yearbook of International Environmental Law (7), 52-74. A good overview of positions provide Cottier, T., E. Tuerk et al. (2003), Handel und Umwelt im Recht der WTO: Auf dem Wege zur praktischen Konkordanz, ZUR, 155-166, p. 164. For the developing countries' perspective see Rott, P. (2004), WTO Law and Environmental Standards: Lessons from the TRIPS Agreement? in: R. Brownsword and N. D. Lewis (Eds.), Global Governance and the Search for Justice, Oxford.

were controversial as well. The one that were not tabled were left out because both, industrialised and developing countries were not yet ready to capture their modernising potential as part of the newly evolving international governance structure. In Cancún and in the preparatory process before hand, industrialised and developing countries alike were preoccupied with safeguarding their sovereign rights. They were not willing to compromise their competing interests. However, it is not probable that this stalemete will hold. Rather, the incrementally emerging regime building process inside of the CBD that is responding to actual problem pressure will force the WTO to respond and to modify its traditional policies.

B. Three pillars of gobal environmental governance

1. From national to transnational duties

The first transforming principle is sovereignty. Out of this principle flows the idea that states only pursue national interests and negotiate international treaties only to coordinate their regulatory, national self interests. The flip side of this very idea is, that international treaties give only rise to duties confined to the national realm and confined to national discretion.8 However, in pursuing environmental goals, this concept has turned into a procrustean bed.

aa) Historical Evolution

The first historical experience of the transformation of sovereignty were extraterritorial effects of national environmental regulation. Consistent with the traditional concept of sovereignty, national regulation with extraterritorial effects became explicitly discredited by the WTO-rule in the Tuna/Dolphin-Dispute I in 1991.9 However, it was rehabilitated under the rule of prior coordination established in the Shrimps-Turtle-case.10

The second experience was the UN-Framework Convention on Climate Change (UN-FCCC), especially the Kyoto Protocol from 1997.11 It not only fixes quantitatively differential duties for countries in respect to higher and lower emission rates. It also adopts two mechanisms that enable

⁸ Coined as "multi-unilateral" by Moltke, K. v. (2003), Information Exchange and Observer Status: The World Trade Organisation and Multilateral Environmnetal Agreements. Paragraph 31 (ii) of the Doha Ministerial Declaration. Hanover, NH-USA; Winnipeg MB-Can.; Paris-F, Europäische Union, www.iisd.org/pdf/2003/trade wto meas 21., p. 11.

 ⁹ BISD/ 39S/155. The Report was not adopted by the GATT contracting parties. Ginzky, H. (1997), Saubere Produkte, schmutzige Produktion. Düsseldorf, Werner, p. 181; Stoll, P.-T. and F. Schorkopf (2002), WTO - Welthandelsordnung und Welthandelsrecht, Köln, Berlin, Bonn, München, Heymann, p. 253; Wiers, J. (2002), Trade and Environment in the EC and the WTO, Amsterdam, Europa Law Publishing, pp. 276-278.
 ¹⁰ WTO-Appellate Body, WT/DS58/AB/R, 12. Oct. 1998.

¹¹ It is supplementary to the UN-Framework Convention on Climate Change (UNFCCC) from 1994.

Parties to meet part of their Kyoto targets by reducing greenhouse gas emissions in other countries at lower costs: the Joint Implementation (JI) and the Clean Development Mechanism (CDM). Rules and Modalities for both instruments have been agreed upon at the UN-FCCC Conference of Parties in Marrakech in November 2001. Joint Implementation projects are to be undertaken in developed countries or countries with economies' in transition (Annex I Parties to the UNFCCC). These projects involve countries where emissions are limited.12 Clean Development Mechanism projects have to be operated in developing countries (non-Annex I Parties to the UNFCCC, without quantitative emission reduction targets). Annex I Parties can use CDM credits to offset an increase in their domestic emissions during a commitment period.13 In the EC, the Marrakesh Accord is going to be implemented by an Annex of the Directive establishing a scheme for greenhouse gas emission allowance trading.14 The proposed Art. 11 a of the directive provides for the recognition of JI and CDM credits as equivalents to EU emission allowances.15

Thirdly, a new quality is arising under CBD. The treaty envisions regulatory duties of one contracting party that build on regulation of another contracting party. Confined to traditional thinking, national administrators usually sidestep this atypical feature. They focus on what they are used to: the duty to implement nationally, here in the policy field of nature conservation through protected areas (Art. 8 CBD). However, the CBD is not a treaty on nature conservation. Art. 1 CBD provides for three objectives. Conservation is only one of them. It is complemented by sustainable use and equitable benefit sharing. Pursuing all three goals together, the CBD envisions complementary rights and duties. Building on the sovereign right to exploit the "own" resources pursuant to their "own environmental policies", it provides for the "responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of the other States or of areas beyond the limits of national jurisdiction" (Art. 3 CBD). Thus, it presupposes national access regulation that manages sustainable exploitation (Art. 15 CBD). Beyond this conditio sine qua non, it demands transnational responsabilities: activities in one country shall not cause harm in another country. This reasoning is familiar to environmental lawyers, as it reflects duties in respect to movable pollutants and global environmental goods, eg. chemicals that cumulate in products and natural medias; transboundary emissions (SO2/NOx - acid rain16; CO2-ozon-layer17). In respect to natural resources, the closest

¹² Emission reductions from Joint Implementation projects are called emission reduction units ("ERUs") and issued by the country in which the project is implemented (the "host country"). The implementation of a JI project results in a transfer of ERUs from one country to the other, but the total emissions permitted in the countries remains the same (a "zero sum operation"). The host country benefits from minimising the part of its assigned amount to transfer, while the investor country benefits from maximising the number of assigned amount units it acquires, COM (2003) 403 final, p. 3.

¹³ Clean Development Mechanism credits called certified emission reductions ("CERs"), which are issued by CDM Executive Board, a UNFCCC-body. As the CDM mechanism has also the potential to undercut the overall goals of the UNFCCC, the Executive board supersises the validity and the amount of emission credits resulting from the CDM activity.

¹⁴ Council and European Parliament agreed upon the proposal on July 2, 2003 (http://ue.eu.int) 11025/03 (press 194).

¹⁵ COM (2003) 403 final from July 23, 2003; The first reading in the European Parliament is not expected before

Spring 2004. ¹⁶ An overview over the regime of transboundary air pollution provides Gehring, T. (1997), Das Internationale Regime über weiträumige grenzüberschreitende Luftverschmutzung. in: T. Gehring and S. Oberthür (Eds.), Internationale Umweltregime, Opladen, Leske & Budrich, 45-62.

parallel are genetically modified organisms. The Treaty obliges countries, where these organisms are produced, to ensure that no harm will be caused by the GMO in a third country. The Biosafety Protocol to the CBD of 2003 provides for the international framework.18

However, the CBD goes beyond this well-known problem perception. Nourished by the economic incentive and implementation debate in the 80s, Art. 3 CBD gave rise to discussions on support measures in one country that provide a compliance incentive for access regulation in another country, thus conceiving complementary regulation. On this line, patent regulation of patentability, thus building on access (and benefit) regimes in biodiversity-rich countries. Access rules to natural resources are essentially impossible to implement by coercion like border controls. Permit requirements are easily bypassed by smuggling small quantities out of the country. The information, what has been done with the material, lies outside the control of the country of origin anyway, as long as research grants, permits or patents are neither needed nor applied for in the country itself. Thus, the idea is that rules shall be put in place that have a preventive effect on the compliance with access and benefit regimes. This is a revolutionary idea. It makes a sovereign act of a CBD contracting party a precondition of one's own sovereign act – thus binding sovereign power.

bb) Content of the state duty

However, it is highly contested what the CBD exactly requires and what TRIPs exactly prohibits. Positions can be aligned along the following fault–line. Roughly speaking, the countries of origin argue that the CBD requires legislation in industrialised countries, making the "tripod" a condition to patentability.19 The tripod consists of: (1) the disclosure of origin, (2) compliance with public law

¹⁷ Ott, H. Ibid. Das internationale Regime zum Schutz des Klimas, 201-218., Maier, M. L. (2002), Negotiating Greenhouse Gas Emission Limits in the European Union. San Domenico di Fiesole (Florence), It., European University Institute.

¹⁸ In force since Sept. 11, 2003; Meyer, H. (2004).Das Biosafety Protokoll, ZUR (forthcoming), Bail, C., R. Falkner, et al., Eds. (2002), The Cartagena Protocol on Biosafety - Reconciling Trade in Biotechnology with Environment and Development? Sustainable Development Programme, London, Earthscan; Buck, M. (2000), Das Cartagena Protokoll über Biologische Sicherheit in seiner Bedeutung für das Verhältnis zwischen Umweltvölkerrecht und Welthandelsrecht, ZUR, 319-330.

¹⁹ Resulting in refusal, revocation or non-enforcebility of a patent, see Communication by Brazil, China, Cuba Dominican Republic, Ecuador, India, Pakistan, Thailand, Venezuela, Zambia, Zimbabwe, IP/C/W/356, from June 24, 2002, para. 10. With more precision in respect to the broad condition "biological resources and traditional knowledge used or involved" Joint Communication from the African Group, IP/C/W/404, June 26, 2003, para. II (D); also "The Relationship between the TRIPS Agreement and the Convention on Biological Diversity and the Protection of Traditional Knowledge", Submission by Bolivia, Brazil, Cuba, Dominican Republic, Ecuador, India, Peru, Thailand, Venezuela, IP/C/W/403 from June 24, 2003, para. 14. For a detailed analysis of these submissions see Correa, C. M. (2003). Establishing a Disclosure of Origin Obligation in the TRIPs Agreement. Buenos Aires, Quaker United Nations Office, www.quno.org: 11. For a technical synthesis see WIPO-Draft Technical Study on Disclosure Requirements related to Genetic Resources and Traditional Knowledge", WO/GA/30/7 Add. 1 from Aug. 15, 2003. For a former account see Carvalho, N. P. d. (2000), Requiring Disclosure of the Origin of Genetic Resources and Prior Informed Consent in Patent Applications without Infringing the TRIPS Agreement: The Problem and the Solution, Washington University Journal of Law and Policy 371 (2), 371-401.

access regulation, (3) a (usually contractual) benefit sharing arrangement. As far as TRIPS arguably forbids additional patentability requirements, TRIPS has to be amended. In contrast to this position, the industrialised countries argue that either the CBD has to yield to TRIPS20 or they claim mutual supportiveness of both treaties.21 The common dominator of the industrialised countries' position is that they dismiss any influence of the disclosure requirement on the validity of the patent as a violation of TRIPS ("self-standing requirement").22 An exception is Switzerland. It tabled a proposition that is based on a fraudulent misappropriation concept.23 They argue that the Bonn Guidelines on Access and Benefit Sharing of 2002 are not binding, but only provide guidance for voluntary measures. In the wording of the World Summit on Sustainable Development in Johannesburg in August/September 2002, mandatory disclosure requirements in patent regulation provide a "possible compliance measure".24 Thus, the intergovernmental discussions on the mandatory disclosure requirements have been framed in terms of the well known conflict between TRIPS and the CBD.

Disregarding the debate on the exact degree of the legal obligation, from a functional perspective of the CBD, access and benefit sharing regulations in the country of origin are in practice not implementable by coercion. However, the CBD demands access and benefit regimes in order to reach the final goal to preserve global biodiversity. Rules with preventive effect react to this specificity of biodiversity regulation. Access rules without a compliance regime are meaningless. Thus, normatively, it is in the interest of all contracting parties to enact complementary regulation adopted to the specificities of the regulated field.

cc) Conclusion

The CBD defines a common goal and requires a mutual implementation effort: Whereas the the Kyoto Protocol differentiates duties quantitatively and provides for transfer mechanisms, the CBD differentiates qualitatively. Thus, the CBD creates a true transnational duty. Two qualitatively different regulations in two different countries shall be complementary and interact with each-other. One essential condition for successful division of labour is the acceptance of building on the work of

²⁰ Political Position of the US, accademically formulated by Straus, J. (1998), Biodiversity and Intellectual Property. AIPPI Yearbook 1998, 99-119, Spranger, T. M. (2002), Der Zugriff auf pflanzliche Genressourcen im internationalen Regelungsgeflecht, Archiv des Völkerrechts (40), 64-89, p. 115.

²¹ Review of Article 27.3 (b) of the TRIPS Agreement, and the Relationship between TRIPS Agreement and the Convention on Biological Diversity (CBD) and the Protection of Traditional Knowledge and Folklore. A Concept Paper." Communication from the European Community and its Member States, IP/C/W/383 from Oct. 17, 2002.

²² *Ibid* (Communication from the EC), para, 55.

²³ "...national patent law may foresee that the validity of a granted patent is affected by a lacking or incorrect declaration of the source, if this is due to "*fraudulent intention*". This could, for example, be the case if the patent applicant submits an intential wrongful declaration that the source is unknown", "Article 27.3 (b), The Relationship between TRIPS Agreement and the Convention on Biological Diversity, and the Protection of Traditional Knowledge", Communication from Switzerland, IP/C/W/400, from May 28, 2003, para. 8.

²⁴ A communication of the European Commission on the implementation of the Bonn Guidelines is announced for the end of November 2003.

others – in legal terms something close to mutual recognition – even if mutual recognition can still be conditional.25

2. From equal to differential duties

Common international law teaches that all parties to an international contract submit to the same duties. The WTO-order strengthens this concept through the historically most efficient Most-Favoured-Nation-Principle.26

Beyond the known existing departures from the MFN-Principle (esp. Art. XXIV GATT), there are two evolving principles that transform the equality rule – thus countering the "one size fits all"-approach.

a) Principles of Differentiation

aa) Joint but Differential Responsabilities

International environmental law has developed the principle of "joint but differential responsabilities".27 Prime exemple has become the Kyoto Protocol as it provides for the possibility of different emission reduction targets. The principle has become the characteristic feature of environmental regimes. These regimes do not focus on the one legal implementation duty, but envision incremental progress in time, conceived as gradual steps, revisible in time (like drop out clauses) and differentiated tasks.28

Early environmental governance theory tended to reduce the principle to just being adapted to the imponderabilities of environmental regulation (uncertainty and lack of scientific knowledge). Today, it is consented that regimes have become successful as they were able to overcome intergovernmental deadlocks.29 By abstaining from self executing duties and fostering negotiations and flexibility they

²⁵ As compliance with a mutually convened scheme of certificates that give evidence of access permits and prior informed consent, see Glowka, L. (2001), Towards a Certification System for Bioprospecting Activities, Schweizer Staatssekretariat für Wirtschaft, www.biodiv.org/doc/meetings/cop/cop-06/other/cop-06-ch-rpt-en.pdf. and Barber, C. V., S. Johnston, et al. (2003), User Measures - Options for Developing Measures in User Countries to Implement the Access and Benefit Sharing Provisions of the Convention on Biological Diversity. Tokyo, UN University Institute of Advanced Studies (UN/IAS), p. 33.

²⁶ For an appraisal see Jackson, J. H. (2000), The World Trading System. Cambridge, Mass (USA), London (UK), MIT Press, pp. 157-173.

 ²⁷ Oberthür, S. and T. Gehring (1997), Internationale Umweltpolitik durch Verhandlungen und Verträge, in: T. Gehring and S. Oberthür (Eds.), Umweltregime, Opladen, Leske & Budrich, 219-235, pp. 228 ff.
 ²⁸ See only Keohane, R. O. (2002), Power and governance in a partially globalized world, London, Routlege;

²⁸ See only Keohane, R. O. (2002), Power and governance in a partially globalized world, London, Routlege; Hasenclever, A., P. Mayer et al., Eds. (1997), Theories of international regimes, Cambridge, Boston Ma., Cambridge University Press.

²⁹ Oberthür, S. and T. Gehring (1997), Internationale Umweltpolitik durch Verhandlungen und Verträge, in: T. Gehring and S. Oberthür (Eds.), Umweltregime, Opladen, Leske & Budrich, 219-235, p. 222.

are geared to problem solving and are less concerned with mainstream politics. Analyses revealed that they all share constitutive features, like time tables, opting-out clauses, phase-in measures and financing mechanisms. However, at the core of all these features is the respect of differences as a prerequisite of achieving the common goal.

bb) Special and Differential Treatment

Prior to the evolution of environmental regimes, first in the UN-framework30 – later in the WTOframework,31 the principle of special and differential treatment has gained ground. It contrasts the fundamental GATT-principle of the MFN-Principle. However, even if it was not explicitly embraced by the Uruguay Round as a building principle, it has become an integral part of the system.32 Transition periods are granted, measures on technology transfer and financial aid are provided, duties are systematically differentiated according to the classification of industrialised, less developed and least developed countries.33 The principle is explicitly acknowledged in several paragraphs of the DMD.34 After Egypt proposed a "S&D box" to the form used notifying SPS-measures to the WTO, the SPS-committeee agreed in March 2003 on a compromise, proposed by Canada, on a special procedure for consulations prior to dispute.35

cc) Conclusion

Thus, the differentiation of duties has become a building block of modern international economic governance, although it directly contrasts the principle of equality.

b) CBD

 ³⁰ Framed as International Law of Development, see Petersmann, E.-U. (1974), "Entwicklungsvölkerrecht",
 "Droit International du Dévelopment", "International Economic Development Law": Mythos oder Wirklichkeit,
 German Yearbook of International Law (17), 145-176.
 ³¹ Rott, P. (2002), Patentrecht und Sozialpolitik unter dem TRIPS-Abkommen, Baden-Baden, Nomos Verl.-Ges.,

³¹ Rott, P. (2002), Patentrecht und Sozialpolitik unter dem TRIPS-Abkommen, Baden-Baden, Nomos Verl.-Ges., pp. 120-133. ³² The Principle is explicitly seemed in A (12 TPT)

 ³² The Principle is explicitely named in Art. 12 TBT-Agreement. Another example are the transitions rules in Art. 66 TRIPS. For a systematic analysis see "Implementation of Special and Differential Treatment Provisions in WTO Agreements and Decisions ", Note by the Secretariat, WT/COMTD/W/77 from Oct. 22, 2000.
 ³³ Rott, P. (2002), Patentrecht und Sozialpolitik unter dem TRIPS-Abkommen, Baden-Baden, Nomos Verl.-Ges.,

p. 131; Stoll, P.-T. and F. Schorkopf (2002), WTO - Welthandelsordnung und Welthandelsrecht, Köln, Berlin, Bonn, München, Heymann, p. 21.

³⁴ For an analysis of the legal quality of the DMD see Charnovitz, S. (2002), The Legal Status of the Doha Declaration, JIEL (5), 207-211.

³⁵ Http:://www.wto.orgg/english/news_e/news03_e/sps_1_3apr03_1.htm; the equivalent has also been proposed in respect to the conflict of MEA and GATT-rules. In this respect is was not agreed upon, see Cottier, T., E. Tuerk et al. (2003), Handel und Umwelt im Recht der WTO: Auf dem Wege zur praktischen Konkordanz, ZUR, 155-166, p. 164.

Also the CBD provides for differential duties. In principle, every contracting party has the duty to set benefit sharing mechanisms in place.

Art. 15 Sec. 7 CBD reads:

"Each Contracting Party shall take legislative, administrative or policy measures, as appropriate, in accordance with Articles 16 and 19 and where necessary, through the financial mechanism established by Articles 20 and 21 with the aim of sharing in a fair and equitable way the results of research and development and the benefits arising from the commercial and other utilization of genetic resources with the Contracting Party providing such resources. Such sharing shall be upon mutually agreed terms."

The treaty reads "each Party" and "shall", not "should". The obligation to take measures for benefit sharing is conditioned by two formulas: "as appropriate" and "in accordance with Articles 16 and 19", thus cross-referencing consistency with "adequate and effective protection of intellectual property rights" and Biosafety. Thus, in principle, the CBD envisions measures in every country. The central functional idea of the CBD is that biodiversity will only be conserved when people who live with the natural resource can make a living by conserving it. The CBD seeks mechanisms that make the flow of money possible from where profits are generated to where nature and biodiversity are conserved. One possible mechanism is the share in profits being made in commercially exploited patents that build on natural resources or genetic information –initially provided for by countries of origin and their communities. Patents are a means of private bilateral coordination.

The disclosure requirements in the patent application could at least provide the information as to where the resource was gathered. This information of the country of origin establishes a correlation between it and the country of intended commercial use. This information cannot be generated by border controls in the country of origin. Patent law disclosure regulation can provide for the public disclosure of the link between those who have the legal control of resources and knowledge and those who commercially use them.

In principle, the CBD envisions disclosure requirements in every country's patent regulation. However, from the functional CBD perspective countries with small markets are of secondary importance. Here, profits by exploiting a patent are small so that the share in these profits would not provide a strong incentive to conserve, if at all. An incentive is provided by sharing the profits in industrialised countries that enjoy economies of scale. Therefore, it is in the interest of every contracting party (not only the countries of origin) that industrialised countries introduce disclosure rules in patent regulation that make the mechanism of benefit sharing happen. The obligation to introduce disclosure rules is not only a means to distribute wealth between North and South. The obligation is due to the economic incentive rationale of the CBD that builds on differential duties.

c) Conclusion

The international order has developed a differentiated system where the principle of equality is complemented by the principle of differentiation – mirroring the double face of the full fledged non-discrimination principle. By taking concurring principles on board, the WTO is moving towards constitutionalising its order. Only by adapting competing principles is it possible to conceive of procedures that reconcile normative tensions. The coordination of competing interests by law is a building block of a civilised international governance scheme.

3. From national to international horizontal coordination

a) Concept

Traditional legal theory builds on a strict divide between national horizontal and international vertical coordination. Compromising different and competing policy interests shall only happen in sufficiently legitimized bodies.36 Democratic institutions are only envisioned on the national level. On the international level, policy makers shall be restricted to coordinate their policies in segmented institutions. For coordination theory, the legitimacy of the WTO is exclusively founded on trade liberalisation. The coordination between trade and environmental policy were beyond its powers. Only the judicial dispute resolution bodies may cautiously coordinate treaties pursuing the principle of "practical concordance"37 - borrowed from constitutional law theory. However, the more national parliaments are ruled out by international decision making, the more the principle of horizontal coordination as a democratic safeguard becomes questionable. Today, parliaments are supposed to underwrite internationally convened decisions that already compromise social and economic interests.

Therefore, the traditional concept of legitimacy that restricts horizontal coordination to the nation state undergoes change. A model of an "Open-Architecture Integrated Governance" is under discussion.38

³⁶ Gehring, T. (2002), Schutzstandards in der WTO? in: M. Jachtenfuchs and M. Knodt (Eds.), Regieren in internationalen Institutionen, Opladen, Leske + Budrich, 111-139.

³⁷ Cottier, T., E. Tuerk et al. (2003), Handel und Umwelt im Recht der WTO: Auf dem Wege zur praktischen Konkordanz, ZUR, 155-166, Hilf, M. and S. Puth (2002), The Principle of Proportionality on its Way into WTO/GATT law. in: A. v. Bogdandy, P. Mavroidis and Y. Mény (Eds.), European Integration and International Cooperation. Studies in Honour of Claus-Peter Ehlermann, Den Haag, Kluwer International Law, 199-238. Although it is highly contested, which dispute resolution mechanism of which convention will be applicable, see Winter, G. (2003), The GATT and Environmental Protection: Problems of Construction." Environmental Law Journal 15(2), 113-140, examplifing the conflict in respect to CITES.

³⁸ Abbott, F. M. (2002), Distributed Governance at the WTO-WIPO: An Evolving Model for Open-Architecture Integrated Governance, in: M. C. E. J. Bronckers and R. Quick (Eds), New Directions in International Law -Essays in Honour of John H. Jackson, The Hague, London, Boston, Kluwer, 15-33, Jachtenfuchs, M. and M. Knodt, Eds. (2002), Regieren in internationalen Institutionen. Opladen, Leske + Budrich; Slaughter, A. M. (2000), Governing the Global Economy through Government Networks, in: M. Byers, The Role of Law in International Politics, Oxford, Oxford Univ. Press, 177-205.

It encompasses structured information exchange,39 observer status,40 the request for technical expertise,41 the distribution of responsabilities,42 a coordinated action plan in respect to one policy goal.43 Two examples, the observer status and distributed responsabilities, shall be more closely explored in the following.

b) Two Examples of Horizontal Coordination

aa) Observer Status

One of the most contested measures of cooperation between the WTO and MEAs is the granting of observer status. The measure is meant to facilitate information exchange. The discussion on criteria has been mandated by Para. 31 (ii) DMD. The discussion is part of an overall, highly controversial debate about the measure of observer status between International Organisations (IO) in general, and at the WTO especially.44 A balance needs to be struck between meaningful coordination, complexity, manageable workload and demands of legitimacy. Thus, the measure of observer status is at the heart of the international governance debate as far as horizontal coordination is concerned. In respect to MEAs, the EC has argued that they "should be considered prima facie differently than other IGOs".45 In 2001 a number of IOs requested and were granted observer status to the CTE Regular Session.46 The EC counts UNEP47 and four MEAs,48 namely CBD, CITES, ICCAT49 and UNFCC. Beyond

³⁹ See "Existing Forms of Cooperation and Information exchange between UNEP/MEAs and the WTO", Note by the WTO-Secretariat from June 10, 2002, TN/TE/S/2. The EC differentiates between environmental and labor policies, WT/GC/W/391 from Nov. 12, 1999.

 ⁴⁰ Moltke, K. v. (2003), Information Exchange and Observer Status: The World Trade Organisation and Multilateral Environmnetal Agreements. Paragraph 31 (ii) of the Doha Ministerial Declaration, Hanover, NH-USA; Winnipeg MB-Can.; Paris-F, Europäische Union, www.iisd.org/pdf/2003/trade_wto_meas_21.pdf.
 ⁴¹ E.G. Protection of Traditional Knowledge by IP-instruments was relegated from the CBD to WIPO. The latter installed a Workgroup in 2000.

⁴² Being the argument that the other international organisation "is more competent", like WIPO in respect to the WTO-TRIPs Council (see Abbott, F. M. (2002), Distributed Governance at the WTO-WIPO: An Evolving Model for Open-Architecture Integrated Governance, in: M. C. E. J. Bronckers and R. Quick (Eds.), New Directions in International Law - Essays in Honour of John H. Jackson, . The Hague, London, Boston, Kluwer, 15-33, p. 18), the WHO/FAO Codex Alimentarius Comission (CAC) in respect to the SPS-Council. The latter is explicitly cross referenced by Art. 3 SPS-Agreement. The regulatory scheme is that national standards in compliance with CAC approved standards enjoy the rebuttable assumption to be in compliance with SPS and GATT (Art. 3 sec. 3 SPS).

GATT (Art. 3 sec. 3 SPS). ⁴³ Already in 1996-1997 WTO-Member states initiated an Integrated Framework involving WTO, UNCTAD, ITC, IMF, World Bank and UNDP for providing technical assistance to least developed countries. However, the results of the Framework have been modest, see Report of the International Institute for Sustainable Development on the WTO's High Level Symposium on Trade and Development in Geneva in March 1998 (http://www.wto.org). ⁴⁴ See only the contested decision about the observer status of the Vatican State, Krajewski, M. (2001),

⁴⁴ See only the contested decision about the observer status of the Vatican State, Krajewski, M. (2001), Verfassungsperspektiven und Legitimation des Rechts der Welthandelsorganisation (WTO), Berlin, Duncker & Humblot, p. 82.

⁴⁵ Ref. 440/02-Rev 2 from Oct. 10, 2002, para. 14.

⁴⁶ WT/CTE/W/41/Rev. 8 from Sept. 19, 2001.

⁴⁷ Being a precision of the already existing Coorperation Arrangement between the WTO and UNEP Secretariats from Nov. 1999, see Note from the WTO-Secretariat: TN/TE/S/2, p.2.

⁴⁸ Ref. 440/02-Rev 2 from Oct. 10, 2002, para. 17.

⁴⁹ International Commission for the Conservation of Atlantic Tunas.

these four "single issue-MEAs", the status was granted to the UN-Commission for Sustainable Development (CSD) and the International Plant Genetic Resource Institute (IPGRI) – both being involved in environmental policy discussions. Still in Oktober 2002, the EC advocated to grant generously observer status to all MEAs that had participated in MEA informational Sessions, to both regular and special sessions, and not restricted to the right to answer questions.

Bowing to the rising pressure, the CTE-SS on February 2003 granted as an interim solution an ad hoc special invitee status (not full observer status!) to UNEP and to 6 MEA-Secretariats, thus unblocking the impasse after Doha.50 This ad hoc status was renewed in the following Sessions.51 In June 2003, the EC moved to a proposition to grant observer status only to CTE-Special sessions, but to all MEAs that participated in the informational sessions and are listed in the so called Matrix document of the WTO-Secretariat.52 In the last session prior to the Ministerial, the CTE-SS could not agree on a precise proposal to be tabled in Cancún.53 The TRIPS-Council and the SPS-Committee54 continue to refuse observer status to the CBD-Secretariat, although the CBD-Conference of Parties repeatedly asked the CBD-Secretariat to renew the request.55 However, the situation in the named WTO-bodies is fundamentally different: The observer status was opposed in the CTE-SS by developing countries and in the TRIPS-Council by industrialised countries.

Analysing the different discussions in the CTE on the one hand, and in the SPS-Committee and the TRIPS-Council on the other hand, one cannot but conclude that the opposition to observer status has only been determined by power politics. Thus, the measure of horizontal coordination as an instrument to enhance the quality of debates is compromised– thus undermining goals of international governance. What is needed are rules that guide countries in pursuing a serious debate between international organisations on the trade and environment and secure quality of debates.

bb) Distrubutional Governance

⁵⁰ "The bodies' attendance [is] on a provisional basis and will be reviewed at each session", http://www.ictsd.org/biores/03-02-21/index.htm.

⁵¹ CTE-Special Session on May, 1./2., 2003: TN/TE/R/6, para. 44 ff; CTE- Special Session on July 8, 2003: TN/TE/R/7, para. 15 ff.

⁵² JOB(03)/116 from June 17, 2003. About the political motives one can only speculate: Was the EC in search of a compromise with developing countries? Or was the EC looking out for a deal to release pressure from the TRIPS-Council?

⁵³ TN/TE/R/7 from Aug. 1, 2003, para. 14.

⁵⁴ Http://www.wto.org/english/news_e/news03_e/sps_1_3apr03_1.htm.

⁵⁵ See only COP5-Desion V/26 B, as reported in UNEP/CBD/WG-ABS/1/4 (Aug. 10, 2001), para. 102; COP-6 decision in May 2002, as included in the Draft decision (Bridges, 18.4.2002).

A prime example of distributional governance in IP-policies is the interaction between the CBD, the TRIPS-Council and WIPO.56 The CBD has requested the TRIPS-Council to take the protection of genetic resources and traditional knowledge into account when reviewing Art. 27 Sec. 3 (b) TRIPS as mandated (due in 1998). It also asked WIPO to support the CBD in examining positive protection from biopiracy by geographical indication and negative protection by excluding those inventions from patentability that "pirate" traditional knowledge and geentic resources.57 WIPO had undertaken a broad study with nine fact-finding missions since 1998, and in 2000, it set up a special Intergouvernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore.58 It reported on national laws of 14 countries, from which four have sui generis systems in place.59 it submitted a technical study on the disclosue requirement60 and informed parties on contractual Practises and clauses relating to IP, access and benefit sharing.61 In the assembly of WIPO on Sept. 22, 2003 it was now requested to focus more on the international dimension.62

What has happened is, that discussions in the TRIPS-Council on reviewing Art. 27 Sec. 3 (b) came to a hold. In particular, the US-delegation deflected discussions by arguing that they must await the outcome of the WIPO-examinations. In parallel, they pushed for further IP-harmonisation in the WIPO-negotiations on the Patent Law Treaty.63 In the meantime, developing countries have become frustrated and are now trying to move back from WIPO to the TRIPS-Council. They feel, that WIPO is too much of a "secretariat-driven" organisation, whereas the WTO is more "member driven".64

Here, the argument of special competence of an organisation seems to successfully cover up traditional intergovernmental power plays. Thus, countries take advantage of the instrument of distributed governance as a means of forum shopping. 65

⁵⁶ Complemented by FAO, UNCTAD, UNHCR, see Correa, C. M. (2001), Traditional Knowledge and Intellectual Property, http:// www.quno.org., p. 20-23.

⁵⁷ Recommendation of the CBD-Intersessional Meeting on the Operation of the Convention in June 1999, Ibid.

p. 20. ⁵⁸ Thus compromising the resistence of Columbia against further negotiations on the Substantive Patent Law Treaty, Ibid., p. 19. These negotiations center around the ban of additional patentability criteria. Such criteria include mandatory requirements for disclosure of the origin of genetic resources and traditional knowledge, ICTSD-Bridges, Oct. 3, 2003 (http://www.ictsd.org/biores/03-10-03/story1.htm).

⁵⁹ WIPO/GRTKF/IC/INF/2 from April 4, 2003.

⁶⁰ See Fn. 15: WIPO-Draft Technical Study on Disclosure Requirements related to Genetic Resources and Traditional Knowledge", WO/GA/30/7 Add. 1 from Aug. 15, 2003 – prepared at the request of the CBD for CBD-COP-7.

⁶¹ WIPO/GRTKF/IC/5/9 from March 31, 2003.

⁶² Bridges, Oct. 3, 2003.

⁶³ After they had quit WIPO-delibertions on the revision of the Paris Convention in favor of negotiating the TRIPS-Agreement in WTO in the 80s, Stoll, P.-T. (1994), Technologietransfer: Internationalisierungs- und Nationalisierungstendenzen, Berlin etc, Springer-Verlag, p. 324 ff.

⁶⁴ "Cancún casts shadow over WIPO-Assembly", http://www.ictsd.org/biores/03-10-03/story1.htm.

⁶⁵ For a general account see Braithwaite, J. and P. Drahos (2000), Global Business Regulation, Cambridge, London, Cambridge University Press, p. 564 ff (IP on p. 566).

c) Conclusion

Horizontal coordination, obviously, is one building block in the "open architecture of international governance". It also seems to be of utter importance in regard of the "trade and environment" interface. However, the evolving forms of horizontal coordination appear to have a variety of pitfalls. The measure of observer status risks to be instrumentalised by countries pursuing their short sighted power policies, thus undermining the potential to enrich discussions and to link trade and environmental policies. Distributed governance risks to be instrumentalised as a means of forum shopping. Asymetrical institutional structure represent a third challenge to meaningful coordination.66 New rules that foster serious deliberations have to be devised.67 One measure would be granting observer status. Another one would be to set time-lines to summarize publicly the progress of negotiations. Another one would be NGO-oversight and transparency.

C. Conclusion

As globalisation proceeds and regulatory decisions cannot be confined to the national realm, international law is under pressure to change. It has to endorse both regulatory demands as well as legitimacy claims. Up to now, both have been confined to the nation state. As environmental policy started out as an internationalised field of law since the beginning, it is this field of policy where institutions have emerged first that foster cooperation and constrain crude sovereignty. Thus, their normative building blocks serve as a blue print for the constitutionalising international order. In addition, they have embraced economic policy tools, searching for a mutually supportive relationship between economic growth and environmental protection. Thus, they have developed institutional linkages that strengthen both the environmental regimes and the stability of the economic framework. The international IPR regime has set out to take part in this international law, these beginnings would be doomed to fail. For this reason it will be important to transform the general rules of play of traditional law.

⁶⁶ See Moltke, K. v. (2003), Information Exchange and Observer Status: The World Trade Organisation and Multilateral Environmnetal Agreements. Paragraph 31 (ii) of the Doha Ministerial Declaration, Hanover, NH-USA; Winnipeg MB-Can.; Paris-F, Europäische Union

www.iisd.org/pdf/2003/trade_wto_meas_21.pdf: 51, p. 13, refering to the different organisational structure and missions of MEA secretariats and the WTO-Secretariat.

⁶⁷ In respect to the constitutional limitations of the WTO to deliberations see Joerges, C. and J. Neyer (2003), Politics, risk management, World Trade Organisation governance and the limits of legalisation, Science and Public Policy 30(3), 219-225.

Literature

- Abbott, F. M. (2002), Distributed Governance at the WTO-WIPO: An Evolving Model for Open-Architecture Integrated Governance, in: M. C. E. J. Bronckers and R. Quick (Eds.), New Directions in International Law - Essays in Honour of John H. Jackson, . The Hague, London, Boston, Kluwer, 15-33.
- Bail, C., R. Falkner et al., Eds. (2002), The Cartagena Protocol on Biosafety Reconciling Trade in Biotechnology with Environment and Development? Sustainable Development Programme. London, Earthscan.
- Barber, C. V., S. Johnston, et al. (2003), User Measures Options for Developing Measures in User Countries to Implement the Access and Benefit Sharing Provisions of the Convention on Biological Diversity, Tokyo, UN University Institute of Advanced Studies (UN/IAS).
- Braithwaite, J. and P. Drahos (2000), Global Business Regulation, Cambridge, London, Cambridge University Press.

Buck, M. (2000), Das Cartagena Protokoll über Biologische Sicherheit in seiner Bedeutung für das Verhältnis zwischen Umweltvölkerrecht und Welthandelsrecht, ZUR, 319-330.

- Carvalho, N. P. d. (2000), Requiring Disclosure of the Origin of Genetic Resources and Prior Informed Consent in Patent Applications without Infringing the TRIPS Agreement: The Problem and the Solution, Washington University Journal of Law and Policy 371 (2), 371-401.
- Charnovitz, S. (2002), The Legal Status of the Doha Declaration, JIEL (5), 207-211.

Cornish, W. R. (1999), Intellectual Property, London, Sweet&Maxwell.

- Correa, C. M. (2001), Traditional Knowledge and Intellectual Property, www.quno.org.
- Correa, C. M. (2003), Establishing a Disclosure of Origin Obligation in the TRIPs Agreement. Buenos Aires, Quaker United Nations Office, <u>www.quno.org</u>.
- Cottier, T., E. Tuerk et al. (2003), Handel und Umwelt im Recht der WTO: Auf dem Wege zur praktischen Konkordanz, ZUR, 155-166.
- Gehring, T. (1997), Das Internationale Regime über weiträumige grenzüberschreitende Luftverschmutzung. in: T. Gehring and S. Oberthür (Eds.), Internationale Umweltregime, Opladen, Leske & Budrich, 45-62.
- Gehring, T. (2002), Schutzstandards in der WTO? in: M. Jachtenfuchs and M. Knodt (Eds.), Regieren in internationalen Institutionen, Opladen, Leske + Budrich, 111-139.
- Ginzky, H. (1997), Saubere Produkte, schmutzige Produktion, Düsseldorf, Werner.
- Glowka, L. (2001), Towards a Certification System for Bioprospecting Activities, Schweizer Staatssekretariat für Wirtschaft, www.biodiv.org/doc/meetings/cop/cop-06/other/cop-06-ch-rpt-en.pdf.
- Godt, C. (2003), International Economic and Environmental Law Exercises in Untangling the Dogmatic Conundrum, in: L. Krämer (Ed.), Recht und Um-Welt-Essays in Honour of Prof. Dr. Gerd Winter, Groningen, Europa Law Publishing, 235-252.
- Godt, C. (2004), Eigentum an Information ein Beitrag zur Rückführung der Patenttheorie an die allgemeine Eigentumstheorie am Beispiel genetischer Information.

Hasenclever, A., P. Mayer, et al., Eds. (1997), Theories of international regimes, Cambridge, Boston Ma., Cambridge University Press.

- Hilf, M. and S. Puth (2002), The Principle of Proportionality on its Way into WTO/GATT law. in: A. v. Bogdandy, P. Mavroidis and Y. Mény (Eds.), European Integration and International Cooperation. Studies in Honour of Claus-Peter Ehlermann, Den Haag, Kluwer International Law, 199-238.
- Jachtenfuchs, M. and M. Knodt (Eds.) (2002), Regieren in internationalen Institutionen, Opladen, Leske + Budrich.

Jackson, J. H. (2000), The World Trading System, Cambrige, Mass (USA), London (UK), MIT Press.

- Joerges, C. and J. Neyer (2003), Politics, risk management, World Trade Organisation governance and the limits of legalisation, Science and Public Policy 30(3), 219-225.
- Keohane, R. O. (2002), Power and governance in a partially globalized world, London, Routlege.
- Krajewski, M. (2001), Verfassungsperspektiven und Legitimation des Rechts der Welthandelsorganisation (WTO), Berlin, Duncker & Humblot.

Kurz, P. (2000), Weltgeschichte des Erfindungsschutzes: Erfinder und Patente im Spiegel der Zeiten, Köln etc., Heymann.

Maier, M. L. (2002), Negotiating Greenhouse Gas Emission Limits in the European Union. San Domenico di Fiesole (Florence), It., European University Institute.

Meyer, H. (2004), Das Biosafety Protokoll, ZUR.

Moltke, K. v. (2003), Information Exchange and Observer Status: The World Trade Organisation and Multilateral Environmnetal Agreements. Paragraph 31 (ii) of the Doha Ministerial Declaration, Hanover, NH-USA; Winnipeg MB-Can.; Paris-F, Europäische Union, www.iisd.org/pdf/2003/trade_wto_meas_21.pdf.

- Oberthür, S. and T. Gehring (1997), Internationale Umweltpolitik durch Verhandlungen und Verträge, in: T. Gehring and S. Oberthür (Eds.), Umweltregime, Opladen, Leske & Budrich, 219-235.
- Ott, H. (1997), Das internationale Regime zum Schutz des Klimas, in: T. Gehring and S. Oberthür (Eds.), Internationale Umweltregime, 201-218.

Petersmann, E.-U. (1974), "Entwicklungsvölkerrecht", "Droit International du Dévelopement", "International Economic Development Law": Mythos oder Wirklichkeit, German Yearbook of International Law 17, 145-176.

Rott, P. (2002), Patentrecht und Sozialpolitik unter dem TRIPS-Abkommen, Baden-Baden, Nomos Verl.-Ges.

Rott, P. (2004), WTO Law and Environmental Standards: Lessons from the TRIPS Agreement? in: R. Brownsword and N. D. Lewis (Eds.), Global Governance and the Search for Justice, Oxford.

Slaughter, A. M. (2000), Governing the Global Economy through Government Networks, in: M. Byers, The Role of Law in International Politics, Oxford, Oxford Univ. Press, 177-205.

Spranger, T. M. (2002), Der Zugriff auf pflanzliche Genressourcen im internationalen Regelungsgeflecht, Archiv des Völkerrechts (40), 64-89.

Stoll, P.-T. (1994), Technologietransfer: Internationalisierungs- und Nationalisierungstendenzen, Berlin etc, Springer-Verlag.

Stoll, P.-T. and F. Schorkopf (2002), WTO - Welthandelsordnung und Welthandelsrecht, Köln, Berlin, Bonn, München, Heymann.

Straus, J. (1998), Biodiversity and Intellectual Property, AIPPI Yearbook (9), 99-119.

Tarasowsky, R. G. (1996), Ensuring Compatibility between Multilateral Environmental Agreements and GATT/WTO, Yearbook of International Environmental Law (7), 52-74.

Wiers, J. (2002), Trade and Environment in the EC and the WTO, Amsterdam, Europa Law Publishing.

Winter, G. (2003), The GATT and Environmental Protection: Problems of Construction, Environmental Law Journal (15/2), 113-140.