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# Technology obscuring equity: historical responsibility in UNFCCC negotiations

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According to the concept of historical responsibility, the commitments of individual countries to take action on climate change are distributed based on the relative effects of their past emissions as manifested in present climate change. Brazil presented a comprehensive version of the concept to pre-Kyoto negotiations in 1997. The 'Brazilian proposal' originally combined several justice principles; however, following referral to the Subsidiary Body for Scientific and Technological Advice, discussion soon became confined to technical calculations. This case illustrates how disparities in knowledge production and framing can influence the inclusiveness of negotiations. Southern participation in the policy process was restrained due to lack of scientific expertise on the part of Southern countries and due to the non-inclusive biophysical discourse traditionally preferred by Northern policy-makers. The historical responsibility issue became stranded on problems of how to correctly represent physical nature in climate models. This marginalized the original intention that equity should be the guiding principle of the North–South interaction, arguably undercutting a potential angle of approach to advance the climate change negotiations. The article concludes that in the interest of facilitating the North–South dialogue in climate change negotiations, any framing of historical responsibility that excludes equity needs to be redefined.

*Keywords:* Brazilian proposal; burden sharing; climate change; discourse; equity; historical responsibility; North–South

*Conformément à la notion de responsabilité historique, les engagements de chaque pays dans la lutte contre le changement climatique sont répartis selon l'effet relatif de leurs émissions passées telles qu'il se manifeste sur le changement climatique actuel. Le Brésil a présenté une version exhaustive de cette notion lors des négociations du pré-Kyoto en 1997. La « proposition brésilienne » comporte à l'origine plusieurs principes de justice; cependant, suite à son affectation à l'organe subsidiaire de conseil scientifique et technologique (SBSTA), la discussion s'est vite limitée à des calculs techniques. Ce cas illustre comment les différences de formation et de cadrage des connaissances peuvent influencer la nature inclusive des négociations. La participation du sud dans le processus des politiques était restreinte à cause de leur manque d'expertise scientifique et à cause du manque d'intégration du discours biophysique préféré traditionnellement par les décideurs du nord. La question de responsabilité historique a échoué sur des questions de représentation correcte les procédés physiques de la nature dans les modèles climatiques. Les intentions d'origine par lesquelles l'équité devrait être le principe directeur de l'interaction nord-sud ont de ce fait été marginalisées, coupant ainsi un angle d'approche éventuel pour l'avancée des négociations sur le changement climatique. Cet article conclut que dans l'intérêt de faciliter le dialogue nord-sud dans les négociations sur le climat, tout cadrage de la responsabilité historique qui exclue l'équité devrait être redéfini.*

*Mots clés:* bulle de répartition; changement climatique; discours; équité; nord-sud; proposition brésilienne; responsabilité historique

## 1. Introduction

Almost all parties to the UN Framework Convention on Climate Change (UNFCCC) agree that stronger commitments must be made after the commitment period of the Kyoto Protocol ends in 2012. The discussions concerning future commitments set forth in the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol (AWG) and the Dialogue on long-term cooperative action to address climate change by enhancing implementation of the Convention concern two main issues: what individual countries will have to commit to in reducing greenhouse gas emissions and the principles on which future commitments should be based.

Equity is at the heart of the stated norms of UNFCCC: 'Parties should protect the climate system for the benefit of present and future generations of humankind, *on the basis of equity*' (UNFCCC, 1992, Article 3.1, emphasis added). Translating this and other important equity principles, such as common but differentiated responsibilities (CDR) and the polluter pays principle (PPP), into praxis has proven to be the crux of the matter (Muylaert and Pinguelli Rosa, 2002).

Ever since climate change appeared on the international political agenda, many Southern countries have argued strongly for turning CDR into practice through the concept of historical responsibility. In the words of the Southern collective negotiating body, the Group of 77 (G-77), at the onset of the UNFCCC negotiations:

Since developed countries account for the bulk of the production and consumption of environmentally damaging substances, they should bear the main responsibility in the search for long-term remedies for global environment protection and should make the major contribution to international efforts to reduce the consumption of such substances. (G-77, 1989)

The G-77 emphasized that international agreements on climate mitigation not only needed to 'take full account of the existing asymmetry in global production and consumption patterns' but it should also seek to set it right. (G-77, 1989) In current negotiations regarding future commitments, the North–South inequalities associated with climate change policies remain a fundamental stumbling block (Najam, 2005, p. 315; Okereke, 2006, p. 735; Lange et al., 2007, p. 560).

The introduction of the historical responsibility concept constitutes a developing country attempt to introduce a mechanism that addresses perceived inequities. Following this introduction there was a struggle over how to frame historical responsibility in the UNFCCC. This struggle serves as an example of North–South conflict centred on divergent perceptions of equity anchored in different traditions of framing climate change as a whole.

This article analyses how the concept of historical responsibility has been handled in the UNFCCC policy process. How it could be converted to policy has received substantial academic attention (e.g. den Elzen et al., 2005; Rive et al., 2006; Höhne and Blok, 2005; Muylaert de Araujo et al., 2005; Trudinger and Enting, 2005; Pedace et al., 2005). Our article adds to this literature by examining the policy process on historical responsibility in all official reports of UNFCCC bodies (accessible at [www.unfccc.int](http://www.unfccc.int)). Special attention is directed towards the framing of historical responsibility over time.

Three questions are addressed:

- How and why has the concept been taken off the central UNFCCC agenda?
- How has the framing of the concept affected the North–South dialogue on the topic?
- What potential role, if any, can the concept play in the ongoing climate change negotiation?

We start by outlining, in brief, the history of the historical responsibility concept in the UNFCCC context (for a more detailed outline, see Friman 2007a). The story that emerges is one of how proposals focused on equity have been marginalized and out manoeuvred. Throughout the analysis we discuss the importance of framing to procedural ethics. Drawing from the historical examination, we investigate how variations in the framing seem to have affected inclusiveness measured against the norm of equal participation of North and South in terms of numbers and scope. We do so from the perspective of discursive ethics (Laclau and Mouffe, 2001; Habermas, 1990), highlighting procedural dimensions of equity, while focusing on the analytical categories of the global North and South. We apply the complementary perspectives of world systems and dependency theories to our conclusions.

We conclude that the UNFCCC strategy for addressing the lack of inclusiveness in discussions of historical responsibility is insufficient. It is not enough to focus on researcher exchanges and travel funding (see, e.g., UNFCCC, 2003; MATCH, 2003a). We suggest handling this deficiency by re-examining the basic concept of historical responsibility. This would include broader framing than the strictly technical, to include initial attempts to find equity principles for burden sharing. A more inclusive discussion process may promote the dialogue across the North–South divide on commitments in future agreements.

## 2. Technology obscuring equity

In the lead-up to the formulation of the Kyoto Protocol, the Conference of the Parties to the UNFCCC (COP) mandated the Parties to submit proposals for a protocol under the Convention. The aim was to gather ideas that could strengthen and specify in greater detail the commitments of the Convention's Annex 1 parties. The Ad-hoc Group on the Berlin Mandate (AGBM) was established and authorized to lead this process (UNFCCC, 1995).

The Brazilian government acted on this, submitting what has become known as the 'Brazilian proposal'; Brazil, referring to the UNFCCC, stressed the need to prioritize issues of equity. In line with the thoughts of G-77, the Brazilian proposal suggests that Annex 1 burdens should be based on the relative levels of past emissions and their effects as manifested in the present climate (UNFCCC, 1997a).

Basic historical responsibility considerations had been part of UNFCCC deliberations before the Brazilian proposal, particularly in talks concerning the PPP and the fact that past emissions mostly originated from the North (Friman, 2007a). However, the resulting UNFCCC principles were quite vague and open to interpretation, and thus easy for ratifying parties to comply with (Bodansky, 2001, pp. 34 and 38). Brazil in effect concretized these principles in a proposal that could be considered as a serious alternative to other responsibility-attribution and burden-sharing criteria (for examples of pre-Kyoto responsibility-attribution and burden-sharing criteria, see for example Torvanger and Godal, 2004; Ringius et al., 2002). The Brazilian government could be said to have attempted to gain the preferential right of interpretation over the concept (cf. Laclau and Mouffe, 2001; Hajer, 1995), by trying both to initiate and conclude a relatively coherent discourse on the subject.

The Brazilian strategy had at least two consequences. First, the Brazilian proposal became an obligatory reference point for all discussions about operationalizing historical responsibility in the UNFCCC context. For better or for worse, all references to historical responsibility are today largely associated with the Brazilian proposal, a matter to which we will return later. Second, historical responsibility could no longer be disregarded as a loosely defined and interpretively flexible principle. The Brazilian proposal, therefore, became something that could not be ignored but rather had to be tackled.

## 2.1. The Brazilian proposal: historical responsibility and the principle of CDR

Parts of the proposal found their way into a negotiating text prepared by the AGBM (UNFCCC, 1997b), so the Brazilian proposal was off to a fairly successful start. However, late in the preparation of a draft protocol, when the objective was to exclude proposals that were 'hopelessly unwieldy, complete non-starters politically, or outside the terms of the negotiating mandate' (Grubb, 1999, p. 64), these parts were deleted (UNFCCC, 1997c). The AGBM concluded that it had not had enough time to consider the Brazilian proposal deeply enough (UNFCCC, 1997d), but agreed that Estrada-Oyuela, the chairperson, should present an oral statement on the subject to the Kyoto conference. Following the presentation in Kyoto, delegates decided that the Subsidiary Body for Scientific and Technological Advice (SBSTA) should investigate the 'methodological and scientific aspects' (UNFCCC, 1998b, p. 25) of the Brazilian proposal and advise COP4 accordingly. At that time, it was agreed that the SBSTA mandate should not include elaborations of what have traditionally been referred to as political issues.

Nevertheless, in the final days of the Kyoto negotiations, the G-77 requested the reintroduction of parts of the Brazilian proposal relating to the compliance measure called the Clean Development Fund (CDF) (Grubb, 1999). This measure stated that if the mitigation commitments of any Annex 1 party were unfulfilled, the party would have to pay a penalty to the CDF to be used by non-Annex 1 parties in climate change projects (UNFCCC, 1997a). Reintroducing the CDF became the prelude to intense negotiations leading to the creation of the Clean Development Mechanism (CDM). The CDM is one of three instruments designed to contribute to the Kyoto Protocol's ambitions of reducing greenhouse gas emissions in the North, in the first commitment period, to at least on average 5% below 1990 levels (UNFCCC, 1998c, 2005a). It was intended to help achieve this by transferring cleaner technology to developing countries, which Annex 1 parties could count as certified emissions reductions to help them achieve their commitments.

We will not go into detail on all discussions regarding CDF and CDM. However, it might be worth mentioning that some critics of the CDM say that the mechanism helps Annex 1 parties shirk their historical responsibilities, by letting them keep emitting within their borders while using up cheap options for mitigation in the South. This in turn will make it more expensive for non-Annex 1 countries to carry out mitigation projects in the event of future obligations (Najam, 2004). In the original proposal, the CDF assigned a fixed price to a ton of carbon equivalents, the intention being to address non-compliance. The proposal also consisted of strict rules governing the distribution of the proceeds of the Fund in the South. It could thus be said that creating the CDM shifted the focus from distributive mechanisms guided by equity and compliance to mechanisms guided by voluntary action and market competition (cf. Linnér and Jacob, 2005; Bachram, 2004).

In short, the original rationale of the Brazilian proposal became blocked in AGBM and COP discussions and any traces of the historical responsibility concept were erased from the final Kyoto Protocol. The Protocol instead differentiated between the emissions mitigation commitments of Annex 1 and non-Annex 1 countries based on the common but differentiated responsibilities principle (CDR), a division inherited from the Convention. CDR is anchored in both the notion of capacity to act and historical contributions to the present situation (Müller 2003, p. 5–ii). Some claim that this distinction adequately addresses the issue of historical responsibility (cf. Rajamani, 2000), a claim that needs to be addressed at some length. CDRs leave room for each country to define its responsibility and capacity for, as well as contribution to, global environmental degradation. The unspecified time horizon, for example, has made it possible to choose 1990 as the baseline year.

Is the distinction *between* Annex 1 and non-Annex 1 parties, then, based on historical responsibility? In talks regarding the future commitments of the South, this seems not to have been the case. For example: according to Pinguelli Rosa and others, as of 1990 the relative share of energy sector CO<sub>2</sub> emissions for Annex 1 and non-Annex 1 parties were of the order of 75% and 25%, respectively (Pinguelli Rosa et al., 2004; also cf. Miguez, 2002, p. 19). Currently, the focus is on present emission levels in comparison to 1990. If non-Annex 1 parties should commit on these grounds in the future, it would ascribe them much greater responsibility than would, for example, strict responsibilities of contributions to temperature increase or sea level rise. In this example, responsibilities dependent on contributions to climate change or sea level rise, by definition account for *accumulations* of historical emissions which is surely not the same as the focus on emission levels of today relative to 1990 (Miguez, 2002, p. 20). One scientific rationale behind historical responsibility is precisely that today's climate change is not caused solely by present and near present emissions but rather on a long continuum of cumulated emissions from historic times up until the present (IPCC, 2007; Miguez 2002, p. 15; Shukla, 1999, p. 145).

Nor does the mechanism for burden sharing *among* Annex 1 parties resemble in any way the relative historic contributions of Annex 1 parties to the present climate situation (Shukla, 1999). The Kyoto Protocol distributes commitments among Annex 1 parties more or less arbitrarily, based on grandfathered emissions reduction levels (cf. UNFCCC, 1998c, Annex B). Historical responsibility, again as usually defined, would distribute commitments more stringently. These two distributive methodologies obtain radically different results in terms of distributing commitments among the individual Annex 1 parties.

Further, the UNFCCC distinguish between Annex 1 and Annex 2. In the last so-called *economies in transition* (EIT) are excluded from other industrialized countries. The Annex 2 parties, therefore, roughly equal the OECD-countries of Annex 1. Annex 2 parties are obliged, for example, to transfer additional funds (on top of official development assistance), including technology transfers to non-Annex 1 as well as to EITs (UN, 1992, Article 4.3). The transfers are, however, highly voluntary.

Part of the revenues of financing adaptation in the South also arises from a share of the proceeds of CDM projects (projects which are also voluntary). Combined, these transfers too are not based on any common definition of historical responsibilities since such definitions refute aid and voluntarism and focus for example on stringency, strict responsibility, debt or accountability.

In sum, CDR have been operationalized more in line with capacity than historical responsibility, rationalized with the rhetoric of aid, voluntary action and market efficiency, rather than in line with responsibility, liability, guilt, or debt (cf. Agarwal et al., 2001). Instead, historical responsibility, as usually defined (cf. UNFCCC, 1997a; Ringius et al., 2002; Höhne and Blok, 2005), is one proposal for defining CDRs based on the PPP; it assumes that the party that has caused environmental damage should pay the costs of remediation. This is in line with principle 16 of the Rio declaration, which stipulates:

National authorities should endeavour to promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution, with due regard to the public interest and without distorting international trade and investment (UN, 1992).

In short: the UNFCCC negotiations have used self-defined national capacity to mitigate as sorting hat and failed to operationalize the second anchor of CDR, that of the Northern responsibility due to contributions to climate change (cf. UN, 1992, Preamble; Paavola and Adger, 2006, p. 606; Müller, 2003).

## 2.2. After Kyoto

As previously mentioned, after Kyoto the Brazilian proposal was referred to SBSTA. In its eighth session, held in June 1998, the parties to the UNFCCC decided to disregard the proposal for the CDF since, they argued, it had been replaced by the CDM (UNFCCC, 1998c). This constituted a major step towards the 'technification' of historical responsibility, in which talks on equity had to take a back seat to discussions of simple climate models.

The SBSTA further decided to focus on the remainder of the methodological and scientific aspects. This meant that the PPP-based compliance mechanism and the clear rules for distributing funds arising from penalties following non-compliance, as set up in the CDF, were neglected. SBSTA did rather focus on development and evaluation of the methodology for calculating historical contributions. The body reported on its discussions to COP4, the delegates of which took note of the work; however, they decided to await any 'relevant information' (UNFCCC, 1999b, p. 28) emerging from a workshop on the subject, to be hosted by Brazil, and asked SBSTA to report on the issue at COP5.

Concurrently, the Brazilian delegation organized an informal meeting for the purposes of exchanging knowledge regarding the proposal, to allow participants to straighten out their differences before the upcoming workshop (den Elzen et al., 1999). Brazil sought to forge a consensus discourse on historical responsibility.

At the workshop, held in Cachoeira Paulista, Brazil, in May 1999, experts discussed a revised proposal and concluded that while it hugely improved the original calculation model, it still lacked precision in relation to a number of climatic non-linearities. The revised draft was also criticized for making use of several faulty parameters, for failing to include methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O) emissions, and for a paucity of data regarding country-specific land-based carbon dioxide (CO<sub>2</sub>) and anthropogenic CH<sub>4</sub> and N<sub>2</sub>O emissions (den Elzen et al., 1999).

It was agreed that the identified errors should be addressed. Furthermore, and rather surprisingly, considering the focus on uncertainties, the meeting participants concluded that there was after all 'sufficient scientific and technical basis for operating the Brazilian proposal' (den Elzen et al., 1999, p. 96). The experts also called for a second expert meeting with a broader perspective, that is involving more experts from a wider range of fields (den Elzen et al., 1999).

By the time of the SBSTA11 meeting, conclusions on the issue were fairly abundant, and the UNFCCC secretariat was asked to coordinate a review of the Brazilian proposal. Parties were urged to make all their information regarding the proposal available to the experts for evaluation (UNFCCC, 2000a).

Parallel to SBSTA11, COP5 also decided to require further work on the issue; however, by not asking SBSTA to report back on the issue, COP5 made it clear that it did not want to discuss the proposal as a viable option (UNFCCC, 1999a). This marked the last time that the primary decision-making body of UNFCCC took any decision on the Brazilian proposal or, for that matter, any other operational versions of the historical responsibility concept.

## 2.3. The discourse turns technical

By this time, discussions of equity had disappeared from UNFCCC negotiations on operational versions of historical responsibility, replaced by debate on how to represent climate change using an accurate but simple model. In January 2000, a substantially updated calculation model, prepared by Brazil, further enhanced this technical focus. It corrected most of the imperfections identified in the previous calculation model (UNFCCC, 2000b), and as such was presumed to end many of the discussions concerning scientific uncertainties.

Despite these Brazilian actions, the scientific community was slow to act; the UNFCCC secretariat therefore decided to speed up the process by organizing an expert meeting to be held in Bonn in May 2001.

The meeting, though attended by a wider range of specialists, approximately half from non-Annex 1 countries (UNFCCC, 2001b), provided a telling example of how the historical responsibility issue was narrowed to a merely technical definition of ‘methodological and scientific aspects’. This technical line of discussion had already started after SBSTA8 in 1998 (cf. UNFCCC, 1998a), but seemed to escalate into a technical ‘inferno’ at the UNFCCC expert meeting. The experts discussed, for example, the modelling of gases and particles, ranging from the Kyoto gases of carbon dioxide (CO<sub>2</sub>) and methane (CH<sub>4</sub>) to aerosols, such as sulphate (i.e. SO<sub>2</sub>) and non-sulphate aerosols from fossil fuels and aerosols from biomass, carbon monoxide (CO), nitrogen oxides (NO<sub>x</sub>), hydroxyl radicals (OH) and tropospheric ozone.

Although the participants could not agree on how to define ‘methodological and scientific aspects’, both broader and narrower definitions being discussed, the meeting effectively adopted the narrower, technical definition by only allowing for discussions of advanced aspects of the calculation model (UNFCCC, 2001b).

In this process, the experts, in line with the SBSTA assignment, strove for objectivity. The traditional view is that hard science is unbiased, or, in other words, apolitical (Oreskes, 2004; Pielke, 2004). Since equity is usually perceived as politicized while physics and maths, for example, are not, discussions of equity fell outside the definition of the subject under discussion. However, excluding one group’s perspectives and interests (e.g. as included in the Southern framing) that might challenge or add to another’s (i.e. the Northern) is indeed political, whether intentional or not. Despite this, framing historical responsibility in apolitical terms effectively excluded all previous *outspoken* discussions of equity that had been held in the UNFCCC negotiations on historical responsibility. This obviously had implications for the Brazilian drive for consensus, as the procedural rules meant that discussion could no longer directly or openly relate to equity; instead, discussion centred on scientific aspects, relegating equity to the informal discursive field outside the formally sanctioned discourse.

Some noteworthy observations can be made at this point. Issues regarded as unimportant by the Brazilian government were repeatedly put forward as important by the reviewing experts. For example, the original Brazilian proposal downplayed sea level rise and temperature increase rate as indicators of climate change, since they were both regarded as functions of what they saw as the more important global average surface temperature increase (UNFCCC, 1997a). The experts at the Bonn meeting concurred: the other two indicators were further away from historical emissions sources in the cause-effect chain than surface temperature was, and were thus less important; less important, it was said, since sea level rise and increase rate were seen as something like derivatives of the global average temperature increase. Still, instead of dismissing this as of secondary importance, the experts put effort into exploring the issue; whether and why this was done (i.e. for other reasons than technical accuracy) was not mentioned in the official documentation (UNFCCC, 2001b). The benefits of simplicity sought in the Brazilian proposal were ignored as well. Brazil had initially wanted a very simple model for the sake of transparency and to enhance the ability of policy-makers to understand it (UNFCCC, 1997a); this merit was for now, if not lost, at least buried deeply under scientific complexities.

#### **2.4. The technical focus reaffirmed**

In July 2001, SBSTA14 asked the secretariat to carry on its reviewing activities, to disseminate information on the issue, to organize yet another expert meeting, and to broaden participation in the subject matter discussions; the secretariat was to report on its findings during SBSTA17 (UNFCCC, 2001a).



One of the issues discussed at Bonn was validation. The secretariat obviously picked up on this idea, making it the main purpose of the next expert meeting; it invited research institutions to participate in a 'coordinated modelling exercise' (UNFCCC, 2002b, p. 1) in which any group using simple climate models could participate. In Phase I of the exercise, the models had to correspond to results of more advanced global circulation models. The aim of Phase II was to validate the calculation models against each other using an approved set of parameters to calculate global mean changes in emission concentrations, temperature, etc., that could be ascribed to four specific regions.

We note that the modelling exercise led to a failure to achieve fairly equal Northern and Southern participation in Bonn. The modelling exercise gathered participants from thirteen countries, of which only one was a non-Annex 1 country, that is Brazil (UNFCCC, 2005b). Later, we will expand on how this relates to the different traditions of framing climate change and the way that the issue of historical responsibility was framed.

Following the modelling exercise a meeting was held in Bracknell, UK, in September 2002, which followed the previous pattern of discussing technical issues. Yet, even as the formal discussions confined themselves to technical matters, some unspecified participants cited the absurdity of this focus, given the original purpose of the Brazilian proposal (UNFCCC, 2002a). These voices on the discursive periphery touched on the question of whether the model was not already accurate enough for use by policy-makers, and the answer given seems in part to have been 'yes'. The experts concluded that preliminary 'calculations indicate the effects of primary greenhouse gases, such as CO<sub>2</sub>, N<sub>2</sub>O and CH<sub>4</sub>, can be attributed to regional sources' (UNFCCC, 2002a, p. 4). Despite this answer, the experts agreed that the calculation model needed further elaboration; the proposed next stage was Phase III (UNFCCC, 2002a, p. 18), the aim of which was to fine-tune the models so they would better correspond to measured reality.

The suggestions of the experts were adopted, at large, during the SBSTA17 meeting in 2002 (UNFCCC, 2003). Phase III was to be carried out in hopes that it would also include 'developing country experts' (UNFCCC, 2002a, p. 5) and 'other scientific groups' (UNFCCC, 2002a, p. 20). Furthermore, SBSTA decided to refer the issue to the scientific community.

## **2.5. Institutionalization: the establishment of MATCH**

Following this, the ad-hoc group for the Modelling and Assessment of Contributions to Climate Change (MATCH) was established. This ought to have created opportunities for redefining the 'methodological and scientific aspects', but these opportunities were not seized. It was instead decided that MATCH should conduct research in line with the Phase III rhetoric (MATCH, 2003b).

Thus, the establishment of MATCH more or less confirmed the technical definition of the subject under discussion, and, as such, represented an institutionalization of the UNFCCC discourse on historical responsibility. Establishing an institution for a discourse is an effective way of achieving discursive closure, that is limiting the range of a discourse to protect it from alternative interpretations (cf. Hajer, 1995). In this respect, such an institution cannot function autonomously from its initiators and terms of reference (Barnett and Finnemore, 1999). Despite this (we will return to the matter later), the opportunity to venture into the field of discursivity, that is, to seek new definitions, was still in the hands of MATCH (cf. Laclau and Mouffe, 2001).

As was the case at the modelling exercise and the Bracknell meeting, the MATCH meeting saw few Southern participants, this initially being said to stem from a lack of travel funds (MATCH, 2003a). A trust fund to help finance travel costs for Southern experts was discussed, yet, as mentioned by Southern participants at later meetings, travel funds alone would be insufficient to enhance participation (MATCH, 2003a; MATCH, 2004). The Southern experts claimed that additional funds

for the development of climate models would be needed to make the process truly 'inclusive' (MATCH, 2004, p. 5). They obviously drew on research saying that there is a general institutional lack of knowledge-production capacity to support climate change negotiations in many G-77 countries, particularly regarding the associated technical issues (cf. Najam, 2004; Linnér and Jacob, 2005).

From our perspective, even addressing this knowledge-generation shortfall is off target. Schooling people in the workings of a closed discourse – that is a predefined way of framing an issue – is not the same as promoting an inclusive process. The lack of Southern participation might just as well have been connected with the technical focus as such. Such a focus often obscures connections between the environment and development, for example by hiding disparities in global flows of resources and finance under discussions on ecological interconnectedness. As Daniel Bodansky points out, representatives of the South often hesitate to take on global environmental issues unless these development dimensions are openly discussed (2001, p. 30). In the case of historical responsibility, funding Southern travel, accommodation and education have had irrefutable value; however, redefining the issue, in particular by broadening the definition to include political-economic perspectives that allow for discussions of equity, would most likely do much more to enhance inclusiveness both in numbers and scope.

When it came to the rest of the discussions at the first MATCH meeting, most topics were in line with what had been debated before. Nevertheless, from the perspective of this article, the single most important finding was also a relatively new one. A research team led by Michel den Elzen from the Dutch National Institute for the Environment had studied the influence of policy choices and scientific uncertainties on responsibility calculations and concluded 'that the impact of scientific uncertainties is still limited compared to the impact of policy choices' (MATCH, 2003a, p. 3). Further, late in the MATCH-process, the Group has started to distinguish between contribution to climate change and responsibilities due to the contributions. The difficulties in upholding this distinction epitomize the difficulties in separating scientific conclusions and policy positions.

This again suggests that the scientific basis of historical responsibility, although problematic, is less important when it comes to policy. This focus on policy choices is rather surprising in the context of such a highly technical discourse. If this direction were followed to its logical conclusion, stressing the importance of policy ought to have led to the reintroduction of equity considerations. Discussing policy choices could extend the limits of what can be discussed within technical discourse as a whole.

In the ensuing three meetings, MATCH representatives prepared a number of articles intended for peer-review. They dealt with, for example, a test of the Brazilian proposal and its scientific uncertainties (MATCH, 2005a; MATCH, 2004). Interestingly, in this process some suggested developing a simple climate change attribution tool for use by policy-makers. Such a tool should illuminate policy choices and allow policy-makers to test outcomes depending, for example, on the outcomes attained using different timeframes or indicators. The tool would display striking similarities to the Brazilian concept of a simple, workable model. Nevertheless, others objected, claiming that 'developing a tool is going beyond what the MATCH group should do and in addition would be politically sensitive' (MATCH, 2005a, p. 5). In the end, the notion of tool development was rendered more or less moot when MATCH reaffirmed the view that it should not officially undertake it (MATCH, 2005b); the terms of the discourse, once more, blocked a proposal that was controversial in relation to its discursive boundaries.

Notably, the idea was characterized as 'politically sensitive' in that it would go 'beyond what the MATCH group should do'. This indicates a continuation to exclude discussion of equity concerns on the grounds that pure science is essentially separated from social and political objectives. It also indicates ambivalence in the group concerning the appropriate framing of historical responsibility.

The next MATCH meeting, held in March 2006, centred on the need to complete arrangements for the remaining work and investigate possibilities for extending the mandate of MATCH. This created a forum in which the ambivalence became overt; most Brazilian representatives argued that the work on a manuscript entitled *Attributing a fraction of climate change to a nation's historical emissions* clearly diverged from the original intention of the Brazilian proposal in that, for example, it only reached back to 1990 in seeking a basis for calculations. They suggested that efforts should instead focus on extending the time scale, fine-tuning historical datasets, and addressing the concept of common but differentiated responsibilities outlined in the preamble and Article 3 of UNFCCC, as well as the Rio Convention. One European delegate countered by suggesting that the scope of MATCH be broadened: it should go beyond the Brazilian proposal to include other models as well and provide policy-makers with an apolitical analysis of different models. This suggestion was rejected by yet another Brazilian participant on the grounds that MATCH should achieve its original aim before creating new ones (MATCH, 2006). This debate, more than ever before, displayed the discord inherent in the discourse, reflecting the disparities in framing traditionally preferred by the North and South.

It was agreed that continuing these discussions would depend on the reaction of SBSTA24 (MATCH, 2006), to which the group had submitted its results thus far (MATCH, 2006; UNFCCC, 2006a). The MATCH report to SBSTA stressed that the scientific uncertainties are less significant in a policy context, while requesting more time to continue fine-tuning the model and quantifying uncertainties (UNFCCC, 2006a). SBSTA agreed and set a new deadline for the end of October 2007; the issue is expected to be finally discussed at SBSTA28, in June 2008 (UNFCCC, 2006b).

MATCH discussed its new mandate in Cologne, in November 2006, when the issue of including equity in its agenda was brought up, not least following a presentation of preliminary results of this article. The conclusion was that the new mandate gave MATCH the ability to complete its work but hardly to redefine its scope, for example, by including a paper on equity. This decision did not come easily. North American researchers strongly disagreed with MATCH working on equity, a topic that they found too politicized and that would run counter to their mandate to report to SBSTA. The Brazilians, on the other hand, thought that writing a paper on how to interpret the group's findings so that equity issues are taken account of ought to be done. Eventually, it was agreed that some bullet points on equity should be included in the final report to SBSTA27; however, the group would not cover the topic in a separate paper (Friman, 2006).

At the next MATCH meeting in late May and early June 2007, researcher Benito Müller highlighted the distinction between calculations of contributions to climate change and the moral responsibilities thereof. This shed light on the ambivalence between scientific and policy conclusions (Friman, 2007b). It also resulted in a report proposed for submission to SBSTA, additional to the MATCH report but written by members of the MATCH group (Müller et al., 2007). As it turned out, thus, MATCH continued to marginalize equity and emphasize science as apolitical but a fraction of the group wrote a special submission on this issue. They highlighted that contributions to climate change are not necessarily equal to responsibility for it. Further, that calculations of contributions are not rid of traditional political choices although it might seem like the science stands on autonomous grounds (Müller et al., 2007, p. 6).

## **2.6. Montreal, Nairobi and Bali: three examples of a live conflict**

Even though the Brazilian proposal is no longer an agenda item at COP, its underlying rationale is very much alive in the negotiations. COP11 and the first meeting of the Parties to the Protocol (MOP), held in Montreal in 2005, is one of several instances that exemplify this. In these negotiations,

G-77/China at first resisted any talks touching on the future undertakings of developing countries. They emphasized that Article 3.9 of the Kyoto Protocol, regarding future commitments, only referred to Annex 1 countries. It was the rich countries that had caused the present problem, so it should first and foremost be their responsibility to deal with it (Linnér, 2005).

A second example of this living rationale occurred at the second session of the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol (AWG), held at COP12/MOP2 in Nairobi in 2006. The Brazilian delegation then presented its original calculations, intentionally using outdated results of historical responsibility modelling to highlight the principles of historical responsibility rather than the scientific update as given by MATCH (UNFCCC, 2006c). At the same session, the South African delegation gave a presentation on historical responsibility, using calculations of contributions starting in 1950, clearly without accounting for the findings of MATCH (UNFCCC, 2006d).

A third, most recent example, is United Nations Secretary-General Ban Ki-moon's statement at the press briefing following the opening of the High-Level segment of COP 13 at Bali. He stressed that due to their 'historical responsibilities', industrialized countries must take the lead in tackling climate change. He also, implicitly, distinguished historical responsibility from the capacity side of CDR, by stating that in addition to their historical responsibility, these countries had the necessary technological and financial capacity to assume the lead (UNFCCC, 2007).

This situation leaves the history of historical responsibility in the UNFCCC hanging. In the backwaters of COP/MOP, where the North–South conflict surfaces in discussions of the rationale underlying the historical responsibility concept, discussions of operational versions of it avoid the 'trigger point' of North–South gridlock, that is equity (cf. Najam et al., 2003; Lange et al., 2007). The conflict is hidden beneath a biophysical framing that limits Southern participation; however, the conflict now seems to be re-emerging in discussions under the auspices of AWG.

### **3. Discussion: disparities in traditional framing, knowledge production and global economic exchange**

Since 1997, the issue of historical responsibility, as articulated in official UNFCCC documentation, has shifted from discussions of North–South responsibilities in terms of equitable mechanisms for distributing commitments to concentrating specifically on a technically accurate atmosphere–surface calculation model. The issues admittedly overlap: a model is crucial within the framework of equitable historical responsibility. However, discussion within UNFCCC, as described above, has displayed few signs of permitting any overlap.

The institutions involved have officially communicated an honest interest in an inclusive process. Despite these ambitions, however, such a process has not been achieved. The remedy sought has been to assist the South with funding for travel and accommodation, something that has proven to be of only limited usefulness; despite funding, Southern participation is very limited.

This article has highlighted another solution, namely, loosening up the technical discursive demarcations relegating issues such as equity to a space outside the formal discourse (also cf. Müller, 2003; DeCanio, 2003, p. 154). After the first UNFCCC expert meeting in Bonn, it was clear that historical responsibility was to be dressed in solely technical garb; subsequently the following UNFCCC meeting saw a dramatic drop-off in Southern participation. The UNFCCC deliberations' confinement of equity to a silent realm, point to links between North–South knowledge disparities, a technical framing, the exclusion of global economic exchange and constrained Southern participation in discussion processes.

One objection to this analysis may be that this is rather a scientific conflict between the ‘two cultures’ of the scientific community – social and natural science – rather than one between geographical categories. This may have some explanatory value in relation to exceptions from our geographical categories, however a limited one. It is clear that the primary division line goes between representatives of the North and South. Also, later Southern representatives in discussions on historical responsibility have predominantly natural science training. Despite so, they most often stress a different perspective than that from their Northern colleagues.

Anyhow, many developing countries are at a disadvantage in international negotiations; they lack natural scientific and technological capability compared to the larger negotiation groups of richer countries, as well as richer countries’ access to domestic expertise supporting the negotiators. This holds for international negotiations in general (Karlsson et al., 2007; Arunachalam, 1999; Selin and Linnér, 2005) and the climate change negotiations in particular (Pinguelli Rosa and Munasinghe, 2002, p. 2; Karlsson et al., 2007, p. 679; Kandlikar and Sagar, 1999; Linnér and Jacob, 2005). Two factors contribute to this being the case in the climate change regime: first, the expensive investment in equipment and skilled labour needed to be able to conduct research into global warming; and, second, the biophysical focus upheld by the North at the expense of the political–economic framing preferred by the South (Linnér and Jacob, 2005).

The dominant biophysical framing forces researchers to strive for ever greater expertise, especially to program and run equipment, which in turn reinforces the technical framing of the issue. Breaking the Northern hegemony on this self-reinforcing technology–expertise dyad is likely to be very difficult for Southern researchers, as indicated all too well by the treatment of historical responsibility within the UNFCCC. Moreover, inter- and intra-generational equity, openly normative issues that traditionally belong in a political–economic framing, are definitely not regarded as issues for a positivistic biophysical framing. Thus, equity, at least in the context of historical responsibility, has been pushed off the agenda. Many argue that this also holds at a general level in UNFCCC negotiations (cf. DeCanio, 2003, pp. 8, 93 and 154; Pinguelli Rosa and Munasinghe, 2002; Najam, 2004).

#### **4. Conclusions**

The case of historical responsibility constitutes an important lesson to be learned by negotiators in climate talks in particular and in environment and development talks in general: if discussions are to be inclusive, the framing is of paramount importance.

The Brazilian proposal managed to kick-start the operationalization of equity principles when considering historic responsibility. However, when the proposal largely failed to gain support, historical responsibilities became associated with an unsuccessful direction in the negotiations. The Brazilian proposal was referred to an ongoing series of technical reports and meetings, whereas the Kyoto mechanisms were elaborated in practice, policy and research. However, historical responsibility is again being brought up on the agenda in relation to the burden-sharing of mitigating and adaptation to climate change. The report from the second session of the AWG group also chose to lift the marginalized equity principle of polluter pays in connection to discussions on historical responsibility:

Reviewing historic responsibility and present as well as future capabilities can assist in allocating the required overall emission reductions to individuals [sic] Parties. The polluter-pays principle is also relevant in determining the burden sharing. (UNFCCC, 2006e)

The rationale underlying historical responsibility also seems to be reappearing in discussions of how to finance adaptation in the South, as these discussions are again focusing on equity. In this context, the UNFCCC discussion process dealing with the Brazilian proposal, with its history of excluding equity, could serve as a strong argument *against* referring the issue for more scientific consideration. Calculations of casual contributions to climate change, as a basis for establishing historical responsibility, have improved dramatically since 1997. So far efforts to counter the technologically framed objections have been like the hare trying to close the gap between it and the tortoise; time and time again, it can only close half the distance towards meeting the requirements.

Recalling Najam (2004), lines of North–South conflict centred on different conceptions on the importance of equity cannot be wished away. Thus, moving equity to the fore by framing the issue in more political–economic terms would not only complement the biophysical framing and enhance inclusiveness, but would also open up dialogue across the North–South divide – certainly an urgent task if one wishes to strengthen the UNFCCC. The need for including other disciplines than the natural scientific is highlighted in other arenas of climate research too. In the words of IPCC chairperson Rajendra Pachauri: ‘There is ... still a greater need for social scientists to get involved in work related to climate change, so that the biophysical aspects of climate change can be converted and interpreted effectively in socio-economic terms’ (IPCC, 2004, p. 1).

Given that scientific uncertainty, compared to the effects of policy choices, plays only a minor role in calculations of historical contributions, it is difficult to suggest that more research is needed to guide policy-makers (cf. den Elzen et al., 2005). This fact could possibly open up discussions of equity, which represent the true Gordian knot of North–South disagreement (DeCanio, 2003; Najam, 2004; Shukla, 1999). As such, the process of discussing historical responsibility is now, in a new turn of events, even better served to contributing to enhance the exchange of ideas on the rationale of commitments. We suggest that in the interest of facilitating the North–South dialogue in climate change negotiations, discussions must be inclusive. At least in the case of historical responsibility, this means that any framing that excludes equity needs to be redefined.

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