

## Using Private-Public Linkages to Regulate Environmental Conflicts: The Case of International Construction Contracts

OREN PEREZ\*

*The article takes a pluralistic view of the 'trade-environment' conflict by exploring one of the settings of this conflict: the lex constructionis – international construction law. It seeks to unravel the way in which the unique structural-cultural attributes of this legal domain have affected its environmental (in)sensitivity. The article's main argument in that context is that the contractual tradition of the lex constructionis (as manifested in the standard contracts that dominate this field) and its unique institutional structure, have created a culture of ecological indifference. This culture has important practical consequences because of the deep ecological problematic of international construction projects. The article develops an alternative contractual model, which depicts the construction contract as a semi-political mechanism, rather than a private tool. This conceptual change seeks to break the public/private separation that characterizes the contractual discourse in the international construction market. The article explores, further, whether this alternative contractual vision could be realized in practice, and proposes several implementing modules which could further this goal. While the article explores a particular international regime, its methodology and conclusions – in particular, the political-constitutional interpretation of the contract and the critique of the public/private dichotomy (see sections III.3 and III.4) – should be relevant to the regulation of many other (national or international) environmental dilemmas.*

The tension between environmental concerns and the global economic system has been a recurrent theme in the recent wave of anti-globalization protests – from Seattle 1998 to Quebec and Genoa 2001. The environmental 'cause' was invoked again and again in numerous street protests, pamphlets,

\* *Faculty of Law, Bar-Ilan University, Ramat-Gan, Israel 52900*

The article draws on the research I did for my PhD thesis during 1997–2000 at the London School of Economics and Political Science. It has benefited from the comments of my two supervisors at LSE, Professor Gunther Teubner and Mr. Damian Chalmers. I would also like to thank Professor Sol Picciotto for his comments on an earlier draft of this article.

and radical websites. The apparent unity of action, which seemed to conjoin these multiple acts of protest, is, however, highly misleading. In the first place, the image of a single-minded, homogeneous movement is clearly unfounded. Behind the protests at Seattle, Quebec, and Genoa lies an amalgam of different groups and multiple ideologies. But this apparent unity is misleading also in that it has projected a false picture of a unified global economic system. The description of the Bretton Woods triad and the multinational enterprises community as a kind of monstrous, anti-social and anti-environmental transnational cartel is clearly too simplistic as a characterization of the global economic field. This article rejects this simplistic binary story. It pursues a different narrative, which is based on the following thesis: the trade and environment conflict should not be seen as a uni-dimensional problematic, a clear binary discord, but, rather, as a reflection of multiple dilemmas – constituted and negotiated by a myriad of institutional and discursive networks.

Developing an understanding of this conflict requires a multi-dimensional perspective. One of the major blind spots of the current legal research in this context is its myopic focus on the World Trade Organization. The ‘trade and environment’ research programme has failed to take into account the pluralistic nature of the contemporary global legal sphere. Far from being homogenous, this sphere consists of multiple systems, which include, on the one hand, traditional, treaty-based legal structures (for example, the WTO or the IMF), and, on the other, a-national, or private legal networks (for example, the *lex mercatoria*); together, this diverse network constitutes a complex web of transnational governance.<sup>1</sup> The influence of this ‘web’ has not been confined, however, to the economic realm; it has encroached deeply into various aspects of our civic life – including the environment.

The thesis of global legal pluralism reconstructs the ‘trade and environment’ conflict, then, as a multi-faceted dilemma, which is not limited to the WTO. It makes clear that international trade – with its various ecological side-effects<sup>2</sup> – is governed by multiple systems of law rather than

1 These a-national, or private networks, are not made of the familiar legal sources of public international law, such as international treaties and state-practice, but are, rather, the result of (private) norm production by trade associations, independent professional organizations, commercial arbitrators, and multinational enterprises. See G. Teubner, ‘“Global Bukowina”: Legal Pluralism in the World Society’ in *Global Law Without a State*, ed. G. Teubner (1997) 3. The establishment of the WTO did not impede the growth of these a-national systems of law. On the contrary, the economic environment of expanded international commerce, which was facilitated and encouraged by the WTO, provided fresh stimulus to these processes of private rule-making.

2 For those who still doubt the existence of these side-effects, see, for example, R. Jha and J. Whalley, ‘The Environmental Regime in Developing Countries’ (paper presented at a NBER/FEW conference on ‘Distributional and Behavioural Effects of Environmental Policy’, Milan, 11–12 June 1999, available at <[www.cid.harvard.edu/cidtrade](http://www.cid.harvard.edu/cidtrade)> and W.D. Sunderlin et al., ‘Economic Crisis, Small Farmers’ Well Being, and Forest Cover Change in Indonesia’ (2001) 29 *World Development* 767.

by any single system. A proper analysis of the trade-environment conflict must be sensitive, therefore, to the composite nature of contemporary global law. This article takes a closer look at one of the 'private' manifestations of this multi-faceted conflict: international construction law (the *lex constructionis*) – an important branch of the *lex mercatoria*.<sup>3</sup> The relevance of this field of law to environmental studies stems from the fact that construction activities – particularly those associated with large infrastructure projects – can generate significant environmental damage.<sup>4</sup> Any construction activity modifies the land or habitat in which it is taking place. This damage, is highly varied, and includes loss of biodiversity, reduction in the stability of land formations, and contamination of water resources. The large volume of waste generated by construction operations can cause further environmental degradation.<sup>5</sup>

The interference of the construction activity in the eco-system and human community, which hosts it, could give rise to bitter social disputes, driven by conflicting interests, values, and discourses. This article explores the way in which international construction law has confronted this construction-environment dilemma. While this exploration takes place in the context of a particular legal regime, its methodology and conclusions – in particular, the critique of the private/public regulatory separation and the cooperative regulatory model (which are developed in sections III.3 and III.4) – should be relevant to many other environmental dilemmas taking place at national or transnational levels. This alternative regulatory vision is consistent with the increasing recognition among environmental researchers that, to be successful, environmental policy must adopt a multi-dimensional strategy.<sup>6</sup>

The article proceeds as follows. Section I outlines the environmental world-view, which guides the discussion in the rest of the article. This world-view is based on a political interpretation of the ecological 'project'. Section II considers the nature of the *lex constructionis* as an autonomous system of law, and attempts to unravel the reflexivity structure of this legal system,

3 The term '*lex constructionis*' was first suggested in C. Molineaux, 'Moving Toward a Construction *Lex Mercatoria*: A *Lex Constructionis*' (1997) 14 *J. of International Arbitration* 55.

4 See, for example, the discussion in G. Ofori and P. Chan, 'Contractual Provisions For Sustainability in Construction in Singapore' (1999) 16 *International Construction Law Rev.* 241.

5 Construction activities also have indirect environmental effects, related to the impact of the construction activity on the general sustainability of the local or global economy, due to their intensive resource utilization and energy use. Ofori and Chan note, for example, that in monetary terms construction activity utilizes up to seven times as much wood, minerals, water, and energy as the rest of the economy (id., p. 242). This article focuses, however, on the direct effects.

6 See, for example, T. Tietenberg and D. Wheeler, 'Empowering the Community: Information Strategies For Pollution Control' (paper delivered at the Frontiers of Environmental Economics Conference, Virginia, 23–25 October 1998, available at the World Bank website, NIPR programme).

focusing on two key factors: its communicative patterns and its organizational features. This dual exploration points to two prominent features of the *lex constructionis*: that its main communicative channel is standard model-forms, and that its norm-production activity is controlled by few non-state actors. The article focuses on one key international player – the International Federation of Consulting Engineers (FIDIC) – which plays a dominant role in the international construction market.

Section III seeks to decode the linkage between the structural-cultural attributes of the *lex constructionis* and its environmental (in)sensitivity. It argues that the contractual tradition of the *lex constructionis*, in particular, its distinction between the ‘public’ and ‘contractual’ orders, have generated a legal culture that was highly inattentive to the ecological aspects of construction practice.<sup>7</sup> This has important practical consequences because of the deep environmental problematic of transnational construction projects. My goal is not confined, however, to an articulation of institutional ‘blindness’. I am interested also in developing pragmatic alternatives. To this end, I draw a distinction between the contractual heritage of the *lex mercatoria* and a counter contractual vision, which depicts the construction contract as a semi-political mechanism, rather than a strictly private tool. This conceptual change seeks to break the traditional separation between the ‘public’ and ‘private’ realms – a division that characterizes most of the standard contracts in the construction market.

Of course, the main challenge lies in developing detailed normative/institutional configurations that would enable the realization of this ‘political/constitutional’ understanding of the contract. These configurations should have a reasonable ‘fit’ with the commercial constraints of the transnational construction market. The article offers some practical reflections, which seek to respond to this challenge.

7 In exploring this ‘inattentiveness’ I was guided by the idea that any communicative structure (for example, the legal system) is necessarily ‘blind’, or ‘closed’ to some features of the world. This blindness, or closure, reflects the fact that communication emerges as a product of coordinated selections at the level of inter-subjective interactions. It is, in other words, the result of a social process, by which a unique domain of possibilities is singled-out collectively, and provides a background for further selections. The emergence of communication (or societal meaning) thus comes, necessarily, at the expense of some other potential distinctions (or selections) which were successfully excluded. Any observer – whether a human being or a social system – by founding his or her observation on this distinction rather than any other, would fail to see what this distinction excludes. Only a second observer can view this failure – but he or she, also, would be subject to the limits of his or her own point of view. See N. Luhmann, “‘What is the Case’ and ‘What Lies Behind It?’ the Two Sociologies and the Theory of Society” (1994) 12 *Sociological Theory* 126, 137. Note, however, that this closure is not all ‘bad’. It also enables the system to act. Thus, changing too much can also be risky – it could undermine the capacity of the system to react to external perturbations.

## I. THE POLITICS OF ECOLOGICAL CO-EXISTENCE

Construction activities constitute a highly visible ecological threat. Environmentalists tend to view this industry, primarily, as a source of ecological disturbance and disfigurement. Indeed, over the last years construction practice has been portrayed, increasingly, as an ecological culprit. This process of 'demonization' is at odds with the positive role that construction practice has played during human history – in providing basic human needs, such as safe dwelling and a tamed environment. The sharp contrast between these two articulations constitutes a difficult dilemma. In developing a legal response to this dilemma I want to contrast between two different environmental world-views, Both have emerged as a counter-response to the capitalist vision of 'nature-as-a-resource'. The first has been mostly associated with the 'deep-ecology' movement, which interprets the idea of 'environmentalism' as a new form of ethic, which 'gives to nature a social role beyond being a means for human well-being'.<sup>8</sup> This alternative, non-anthropocentric ethic sees the motif of 'domination of nature' as the main malady of modern society, leading to two possible resolutions of the nature/society opposition. The first seeks to replace the hierarchical approach to nature, which is characteristic of contemporary society, with an ideology of strict bio-egalitarianism. The second seeks to conflate the nature/society distinction, and to replace it by a holistic vision, in which the boundaries between humanity and nature are completely dissolved.

The practical implications of these interpretations remain unclear. Strict bio-egalitarianism can only lead to social paralysis. If both humans and nature are sanctified, how are we supposed to mediate between them if a conflict arises? The holistic vision is no less problematic. If humanity and nature are conflated into a unitary (non-hierarchical) whole, which becomes the primary object of moral deliberation, how should we understand its various components and envision their intricate relations (for example, in the context of a construction-induced conflict?). It seems that the only way in which these interpretations could be implemented in practice is through a strategy of strict 'social asceticism', which would call for a complete withdrawal from the industrial system and a return to a pre-capitalist society.<sup>9</sup> Only by adopting this vision of stern 'minimalism' could the idea of nature as the embodiment of non-instrumental moral value be given full effect

Bruno Latour's environmental philosophy evolved as a counter-thesis to the ideas of deep ecology. It offers, I believe, a more reasonable framework for thinking about the construction-environment dilemma. Instead of calling for bio-spherical egalitarianism or for the sanctification of nature, Latour

8 K. Eder, *The Social Construction of Nature: A Sociology of Ecological Enlightenment* (1996) 207. See, further, A. Naess, 'The Shallow and the Deep, Long-Range Ecology Movement: A Summary' (1983) 16 *Inquiry* 95.

9 See D. Forman, 'Putting the Earth First' in *Debating the Earth: The Environmental Politics Reader*, eds. J.S. Dryzek and D. Schlosberg (1998) 358.

argues that ecological dilemmas should be conceptualized as political dilemmas. This political vision is based on a radical shift in the way in which ecological dilemmas are observed; a shift from essences to relations. Latour is not interested in investigating the essence of things, in attributing a-priori labels to either humans or non-humans. His interest lies elsewhere: in developing rich articulations of the intricate ways in which humans and non-humans commingle and interact, and of the ways in which this commingling transforms them both (in terms of preferences, properties, and so on).<sup>10</sup> Construction activity is a rich source of such commingling: it provides the setting for a very 'tight' or 'intimate' (in terms of space and time) commingling between humans, eco-systems, and technologies.

But the move from essences to associations does not change just the way in which nature-society dilemmas are observed.<sup>11</sup> It also reformulates their resolution path – from the ethical to the political. To understand this change, Latour argues, 'one has to abandon the false conceit that ecology has anything to do with nature as such'. Rather, political ecology needs to be seen as 'a new way to handle all the objects of human and non-human collective life'; it is 'a collective experimentation on the possible associations between things and people without any of these entities being used, from now on, as a simple means by the others'.<sup>12</sup> By designating this new 'collective', Latour seeks to reformulate our understanding of politics and polity. He thus challenges not just the deep ecologists' dance between sanctification and equality, but also the traditional conceptions of politics and democracy, which have constructed these notions as exclusively human constructs.

Conceptualizing ecology as a political endeavour means – in contrast to the visions of bio-spherical egalitarianism or human domination of nature – that the rights of both humans and non-humans cannot be decided a priori. Rather, these rights can only emerge and be negotiated through a revised – 'ecologized' – political process. The main challenge lies, of course, in developing practical institutional structures in which this new 'ecologized'

10 You could feel, act, and be considered as a bourgeois, ecologically indifferent citizen for a long period but then the risk of a bulldozer transgressing on your neighborhood could turn you into a 'green warrior' or a green voter. And similarly, the bulldozer – once a 'neutral' technical artifact – could be transformed into an anti-nature token. See B. Latour, *Pandora's Hope: Essays on the Reality of Science Studies* (1999) 174–215.

11 This move does not mean that we have to abandon all our prior distinctions. One such basic distinction is between communicating beings, non-communicating beings, and societies (networks of communications). See N. Luhmann, *Ecological Communication* (1989). However, the political shift proposed by Latour provides one possible (and in no sense privileged) standpoint from which the relations between these distinct realms could be conceptualized.

12 See B. Latour, 'To Modernize or to Ecologize? That is the Question' in *Remaking Reality: Nature at the Millennium*, eds. N. Castree and B. Willems-Braun (1996) 221, 234.

polity could be realized.<sup>13</sup> It is on this point that the law and legal scholars can make their most substantial contribution. Devising regulatory structures is, after all, what the law has been doing from the moment it emerged into the social plane.

From this perspective, the solution to the construction-environment dilemma lies in the political domain. My critique of the *lex constructionis* follows this line of thought in that it does not attempt to proceed, deductively, from some universal solution to the trade and environment conflict. Rather, I explore the cultural and institutional features of this body of law, and examine how it could be transformed in order to facilitate a more inclusive ‘ecological dialogue’ which will give nature a more ‘proper’ voice *vis-à-vis* its human associates.

## II. THE FEATURES OF THE *LEX CONSTRUCTIONIS* AS AN AUTONOMOUS LEGAL SYSTEM

### 1. *The basic structure of the international construction market*

The international activity in the construction market takes place in a limited segment of the global construction market – that which involves large-scale projects (such as airports, harbours, sanitary schemes, mines, petrochemical plants, and so on).<sup>14</sup> The international market for construction services has expanded substantially over the last decade;<sup>15</sup> supported by the conclusion, in 1995, of the WTO Agreement.<sup>16</sup> Construction projects are a multi-party operation. As such, they generate a complex web of contracts.<sup>17</sup> In international projects, the principal parties are generally the host nation’s government, the project sponsors, lenders, contractors, operators, and insurers. The contractual framework can vary substantially between different

13 Latour, *op. cit.*, n. 10, p. 214.

14 For a more detailed discussion see the WTO report ‘Construction and Related Engineering Services: Background Note by the Secretariat’ (1998).

15 *id.*, para. 12. The size of this market is huge. In most industrialized economies the share of construction in total GDP is between 5 and 7 per cent (*id.*, para. 7). Construction services are traded, primarily, through the establishment of commercial presence at the site of the works, either by local subsidiaries or through joint ventures between foreign and domestic firms. A good proxy for the scale of the trade in construction services is the total revenues of the top 225 international contractors. According to the WTO, total revenues have grown between 1994 and 1996 from \$62,219.4 millions to \$126,777.2 millions, a 104 per cent increase (*id.*, table 1, p. 9). This economic expansion is likely to yield a parallel expansion in the legal universe that supports the global trade in construction services.

16 Particularly important in this context are the new General Agreement on Trade in Services (‘GATS’), and the Plurilateral Agreement on Government Procurement (Annex 4 to the WTO Agreement), both signed at Marrakesh on 15 April 1994.

17 For a more detailed description of this complex contractual framework, see G.D. Vinter, *Project Finance* (1998).

project types. However, most construction projects include the following three basic types of contracts: a construction agreement, in which the project company and the contractor agree on the terms of the project; funding agreements between the project company and the lenders; and insurance contracts. Where the construction project concerns either an infrastructure service (public utility) or the extraction of natural resources, the contractual framework might include, in addition, a concession agreement in which the host government grants the project company a long-term right to engage in the relevant industry, and an operation agreement, which sets the conditions for the operation of the service.<sup>18</sup>

Of this complex contractual web, international construction law deals, principally, with the construction agreement. In that respect, the *lex constructionis* does not represent the whole legal complexity of the construction endeavour. However, from an environmental perspective, the construction agreement is probably the most interesting element of this contractual web, as this is the 'legal space' which deals directly with the ecological-physical aspects of the project. Any attempt to influence the environmental impact of a construction project should focus, therefore, on the structure and content of the construction agreement.

## 2. *The emergence of the lex constructionis: basic communicative patterns*

The *lex constructionis* is a product of standardized contracts, technical guidelines, and arbitration awards.<sup>19</sup> Standard contractual forms constitute, however, the most important element in this discursive universe: they form the principal communicative channel through which the *lex constructionis* evolves, and maintains its reflexivity.<sup>20</sup> While even the most popular forms are rarely used unamended,<sup>21</sup> they have a profound effect on the formation of normative expectations in this market. They underpin the negotiation process, and accompany the construction process from beginning to end. The common usage of standard contracts generates substantial economic advantages, which seem to ensure the durability of this practice. It has

18 A common type of operation agreement is an output purchase agreement which commits the host country, over a specified period, to purchase a minimum quantity of the project's output at an agreed price.

19 See B.J. Tieder, 'The Globalization of Construction – Evolving Standards of Construction Law' (1998) 15 *International Construction Law Rev.* 550, and Molineaux, *op. cit.*, n. 3.

20 See J. Sweet, 'The American Institute of Architects: Dominant Actor in the Construction Documents Market' (1991) *Wisconsin Law Rev.* 317, and Tieder, *id.*, p. 552. There are significant linkages and cross-dependencies between domestic-oriented forms and internationally-oriented standard contracts, see, for example, H. Lloyd, 'Prevalent Philosophies of Risk Allocation – An Overview' (1996) 13 *International Construction Law* 502. For reasons of space I do not consider these interlinkages here.

21 See W. Hughes and D. Greenwood, 'The Standardisation of Contracts For Construction' (1996) 13 *International Construction Law* 196, 204.

reduced the transaction costs of entering into an international project and has contributed to the evolvement of tendering as a conventional method of obtaining competing quotations.<sup>22</sup> Public international law (both customary and treaty law) has played, in contrast, a very limited role in the development of the *lex constructionis*.<sup>23</sup>

Standard model forms constitute, then, the main channel through which the *lex constructionis* transforms itself. There are, however, several other important communicative channels. Of these the most important is international arbitration. Most of the transactions in the international construction market are subject to arbitration agreements. This means that the majority of construction-disputes are being adjudicated before private arbitrators, usually in one of the main international arbitration centres.<sup>24</sup> However, the capacity of the arbitration channel to instigate legal change is limited, due to several features of the international arbitration field: the lack of precedential practice, the absence of institutional cohesion (which prevents the evolvement of organizational custom), and the lack of a wide and timely circulation of judgments.<sup>25</sup> The increasing dominance of the International Chamber of Commerce (ICC) International Court of Arbitration might rectify, in the future, this lack of organizational cohesion, and could thus increase the role played by the arbitration channel in the evolution of the law.<sup>26</sup> The work of scholars constitutes another important communicative channel. Scholarly publications are a particularly important source of internal observation for the *lex constructionis* because, unlike

22 By ensuring a common basis for the evaluation of tenders, see N. G. Bunni, *The FIDIC Form of Contract: The Fourth Edition of the Red Book* (1991) 3. The WTO Agreement on Government Procurement, which is based on the idea of equal access to governmental contracts, has also contributed to the expansion of the tendering method.

23 The intervention of public international law in the construction market was generally limited to projects with transboundary effects. For a general discussion, see R. Lefeber, *Transboundary Environmental Interference and the Origin of State Liability* (1996) 19–46.

24 See Lloyd, *op. cit.*, n. 20, p. 509. National courts, particularly in England and Wales, are another source of interpretation. Arbitration awards frequently refer to decisions of national courts, see the extracts of ICC arbitral awards on construction contracts, which appeared in the *ICC International Court of Arbitration Bulletin*, vols. 2(1), 9(1), and 9(2).

25 Whereas new electronic forms of storing legal data, such as *Lexis* and *Westlaw*, have changed significantly the pattern of communication in other legal spheres (particularly in the United States of America), in the arbitration world, awards are still available only in a printed form, with poor devices for sorting and ordering, and even that only after a substantial delay. As was noted above, the ICC has made some effort to rectify this problem by publishing extracts from ICC arbitral awards.

26 The prominence of the ICC arbitration centre seems to be guaranteed by the common stipulation in FIDIC's contracts that a contractual dispute should be submitted to ICC arbitration if it can not be resolved in a less contentious way: see C. Wade, 'FIDIC's Standard Forms of Contract – Principles and Scope of the Four New Books' (2000) 17 *International Construction Law Rev.* 5, 9. Other arbitration centres, such as the London Court of International Arbitration, have failed, so far, to establish themselves as prominent players in the construction arbitration market.

arbitration awards which tend to provide an extremely scattered and episodic portrait of the law, the work of scholars provides a comprehensive and updated observation of the law – particularly of new standard forms.<sup>27</sup>

Unlike domestic legal systems, in which legal change is effectuated through two different processes – legislation and judicial decisions – the *lex constructionis* changes principally through the channel of standard contractual forms. Its reflexivity structure is thus much more limited than that of domestic legal systems. This observation leads to two related predictions. First, that the *lex constructionis* would be much more influenced by its history: legal practices might persist even when the historical conditions in which they were formed cease to be relevant. Because of its limited reflexivity, we might reasonably expect such persistence to be more pervasive within the *lex constructionis* than in a domestic system of law. Second, the evolutionary path of the *lex constructionis* should be much more sensitive to the institutional nature and structure of the organizations which control the production of standard forms.<sup>28</sup> I will revisit these predictions in the course of the discussion of the openness of the *lex constructionis* to environmental considerations (section III below). The following section examines the institutional structure of the *lex constructionis*.

### 3. *The institutional setting of the lex constructionis: exclusion and dominance*

The international market for standard construction contracts is dominated by a small group of international organizations.<sup>29</sup> This private control of the norm-production process stands in contrast to the WTO realm in which the norm-production process is divided between a contractual, inter-state realm, and an independent judicial system. The main players are the International Federation of Consulting Engineers (FIDIC),<sup>30</sup> the International European Construction Federation (FIEC), the British Institution of Civil Engineers (ICE), the Engineering Advancement Association of Japan (ENAA), the American Institute of Architects (AIA),<sup>31</sup> and the International Bank for

27 See, for example, the commentaries on FIDIC's Red Book by E.C. Corbett, *FIDIC 4th – A Practical Legal Guide: A Commentary on the International Construction Contract* (1991), and Bunni, *op. cit.*, n. 22. Forums like the *International Construction Law Review* fulfil a similar role. The capacity of scholarly publications to effectuate legal change remains, however, quite limited.

28 Neither of these predictions should lead, a priori, to a conclusion that the *lex constructionis* is inefficient or ecologically indifferent. One cannot rule out the possibility that a legal system will develop very sensitive private-legislative mechanisms that will compensate for the absence of judicial innovations.

29 For a recent survey of these organizations, see Tieder, *op. cit.*, n. 19, pp. 554–79.

30 The acronym stands for the French title: the *Federation Internationale des Ingenieurs – Conseils*.

31 Although AIA model forms are not meant to be used in international projects, their widespread use in the United States market (Sweet, *op. cit.*, n. 20) has turned them into a significant transnational benchmark.

Reconstruction and Development (the World Bank).<sup>32</sup> Other key contributors are UNCITRAL and UNIDROIT, through their more general work on universal contract models.<sup>33</sup> UNCITRAL was involved also in specific work on the construction market.<sup>34</sup> International legal firms are another important player.<sup>35</sup>

I would like to focus, however, on one prominent player in this group – the International Federation of Consulting Engineers.<sup>36</sup> This does not imply that the other players are not important, but FIDIC enjoys a dominant position which justifies, I believe, this special attention. The discussion that follows examines closely the structure of FIDIC's contractual products, and the institutional framework that facilitates the norm-production process.<sup>37</sup> I will nonetheless make comparative references to the contractual products of two other organizations: ENAA and the ICE.

FIDIC was founded in Belgium in 1913.<sup>38</sup> It is an association of national

32 The World Bank's operational directives have a large influence on the operations of other public lending bodies such as the Asian Development Bank, see Tieder, *op. cit.*, n. 19, p. 555. To some extent the World Bank also influences the lending practices of private financial institutions.

33 See Tieder, *id.*, pp. 558–72. In that context, the publication, in 1994, of *UNIDROIT's Principles of International Commercial Contracts* was particularly important. UNIDROIT's principles set themselves with the ambitious task of creating a model contract law for cross-border transactions, see K.P. Berger, 'The *Lex Mercatoria* Doctrine and the UNIDROIT Principles of International Commercial Contracts' (1997) 28 *Law and Policy in International Business* 943. UNCITRAL's most important contribution was the adoption, in 1993, of the Model Law on Procurement of Goods, Construction and Services. This model law deals, however, only with pre-contractual selection practices, and does not address contract performance issues or the settlement of disputes (Tieder, *id.*, pp. 561–2).

34 In 1988 UNCITRAL published its 'Legal Guide on Drawing Up International Contracts for the Construction of Industrial Works' (1988) which was quite widely used, especially by developing countries. Another and more recent contribution is a 'Legislative Guide on Privately Financed Infrastructure Projects' (2001).

35 See Y. Dezalay and B. Garth, 'Merchants of Law as Moral Entrepreneurs: Constructing International Justice from the Competition for Transnational Business Disputes' (1995) 29 *Law and Society Rev.* 27.

36 For the central role of FIDIC in the construction market see ICC, 'Extracts of ICC Arbitral Awards on Construction Contracts Referring to the F.I.D.I.C. Conditions' (1991) 2 *ICC International Court of Arbitration Bull.* 15. The ICC notes in the introduction to this collection that: 'In recent years construction disputes have represented some 21 per cent of cases submitted annually to ICC arbitration. A significant portion of these construction cases is governed by the F.I.D.I.C. ... Contract (International) for Works of Civil Engineering Construction or on conditions modeled on the F.I.D.I.C. Conditions' (*id.*, p. 15).

37 This aspect of FIDIC's work has received little attention in the legal literature. Most of the literature consists of legal analysis of FIDIC and other international standard forms.

38 The following description is based on a paper by John Bowcock who was the chairman of FIDIC's Contracts Committee at the time: J. Bowcock, 'The Four New FIDIC Forms of Contract – Introduction' (FIDIC New Contracts Launch Seminar Series, September – December 1998), available at <[www.fidic.org](http://www.fidic.org)>.

member associations; thus, it does not include as members individual firms of consulting engineers. The original founding countries were France, Belgium, and Switzerland. FIDIC's current membership circle transcends the limited European membership of its inception period. By September 2001 FIDIC's membership encompassed sixty-seven national member associations representing some 560,000 professionals.<sup>39</sup> FIDIC is governed by an executive committee and several specific committees and task groups.<sup>40</sup>

FIDIC has dominated the market for international construction documents since the 1960s, with its standard forms of contract for engineering construction and for the provision of mechanical and electrical plant. The first form, 'Conditions of Contract for Works of Civil Engineering Construction', which came to be known as the 'Red Book', was used mainly for large projects, such as infrastructure and hydropower. The second form, 'Conditions of Contract for Electrical and Mechanical Works including Erection on Site' (also called the 'Yellow Book') – was used mainly for the construction of industrial sites. Both forms have been in widespread use for several decades.<sup>41</sup> FIDIC's Red Book was particularly dominant in the world market.<sup>42</sup> The prominent status of the Red Book was affirmed by the World Bank, which has incorporated it into its standard bidding documents for procurement of works.<sup>43</sup> Other private associations, such as the British Institution of Civil Engineers and ENAA of Japan, have

39 The information was drawn from FIDIC's website, <[www.fidic.org/federation/default.asp](http://www.fidic.org/federation/default.asp)>, visited on 26 September 2001.

40 These include an Assessment Panel for Adjudicators, Business Practices Committee, Contracts Committee, Capacity Building Task Force, Integrity Management Task Force, Quality Management Task Force, Sustainable Development Task Force, and a Risk Management Forum. The data were drawn from FIDIC's website, <[www.fidic.org/about/committees.asp](http://www.fidic.org/about/committees.asp)>, visited 26 September 2001.

41 The Red Book was first published in 1957 and its fourth (and last) edition was published in 1987. The Yellow Book's third edition was published in 1987.

42 For a comprehensive commentary on the Red Book, see Corbett, *op. cit.*, n. 27, and Bunni, *op. cit.*, n. 22. The Red Book has been amended several times since 1987. In 1999 FIDIC published a new series of contracts, which replaced the Red Book. The detailed discussion below is based on FIDIC new contractual products which, as will be explained below, are quite different from their predecessors.

43 See the World Bank Standard Bidding Documents for Procurement of Works ('SBDW') May 2000, electronic version available at <[www.worldbank.org/html/opr/procure/workspage.html](http://www.worldbank.org/html/opr/procure/workspage.html)>, visited 25 September 2001). The SBDW are based on the fourth edition of the Red Book (1987, reprinted 1992 with amendments) and thus do not reflect, as yet, FIDIC's most recent forms. See, also, Molineaux, *op. cit.*, n. 3, p. 59. Additional indication of the normative status of FIDIC's model forms can be found in the recent decision of the World Bank to base its new trial edition (2000) of Bidding Documents for Procurement of Simple Works (of Small Value, Short Duration and Low Risk) on FIDIC's 'Short Form of Contract' (1999). A copy of this sample document is available on the World Bank website, *id.*

also produced important standard documents;<sup>44</sup> however, none of these documents has received the same kind of international stature that was achieved by FIDIC documents, in particular by the Red Book.

The process through which FIDIC has produced its most recent contractual products provides a good illustration to the institutional bounds of the *lex constructionis* (or, in other words, to the openness of the norm-production process). These bounds tend to perpetuate the ecological insensitivity, discussed in the following section. In 1994 FIDIC decided to update the Red and Yellow Books, by initiating a long and varied consultation process.<sup>45</sup> This consultation process was mainly restricted, however, to FIDIC's natural audience: its members and other relevant groups such as law firms, contracting groups, and financing institutions.<sup>46</sup> The consultation process did not extend beyond the limited circle of the potential users of FIDIC's forms. FIDIC has not consulted other groups, such as environmental and labour groups, despite the fact that international construction projects can have a large influence on the life of the people that these groups represent.

The institutional process behind the production of FIDIC's new contracts, reveals, therefore, a clear pattern of exclusion: the contracts were formulated in the closed organizational sphere of the construction industry (including related affiliates like financial institutions).<sup>47</sup> Groups which were not part of this closed circle were left out. The exclusion of other voices, such as those of environmental groups, provides one explanation for the environmental insensitivity of FIDIC contracts, which will be considered in more detail in section III below. However, it would be wrong, I believe, to explain this insensitivity simply in terms of cartelistic behaviour.<sup>48</sup> The cultural orientation of FIDIC cannot be reduced to the business interests of its members. This non-economic background (to which I shall return in section IV below) indicates that the organizational closure, which was sketched above, could be altered.

44 See Tieder, *op. cit.*, n. 19, pp. 576–9.

45 See, Wade, *op. cit.*, n. 26.

46 *id.*, p. 7.

47 The drafting process within other professional associations seems to follow a similar pattern of exclusion. See, for example, the discussion of the American Institute of Architects model contracts in T.L. Stipanowich, 'Reconstructing Construction Law: Reality and Reform in a Transactional System' (1998) *Wisconsin Law Rev.* 463, 526.

48 For this type of argument in the context of standardization, see G. Spindler, 'Market Processes, Standardisation, and Tort Law' (1998) 4 *European Law J.* 316.

### III. ENVIRONMENTAL CLOSURE AND STANDARD CONSTRUCTION CONTRACTS

#### 1. FIDIC's model forms: a general exposition

This section seeks to expose and criticize the environmental record of the *lex constructionis*. Whereas the domestic scene, particularly in the United States of America and Europe, has experienced a burgeoning wave of legal innovations, covering different aspects of the environmental problematic – from corporate liability (moving from traditional notions of individual liability to new forms of collective liability), pollution control (using market mechanisms rather than strict emission standards), to new regulatory tools (such as broad disclosure requirements and eco-labelling),<sup>49</sup> the *lex constructionis* has shown little ‘environmental’ innovation. It has maintained in general an attitude of indifference toward environmental problems. This section seeks to explore the nature of this indifference through a close examination of some of the model forms that dominate the global construction market, in particular the new series of contracts which was published by FIDIC in 1999. I will try to assess to what extent these model forms incorporate and give voice to general environmental concerns.<sup>50</sup> Two other model forms, ENAA’s Model Form of International Contract for Process Plant Construction (ENAA Model Form) and the ICE New Engineering Contract (NEC) will be used as an additional comparative source. I have chosen these two model contracts as a second point of reference, because, although they do not enjoy the same universal stature as FIDIC’s contracts, they are also used commonly in international projects.<sup>51</sup>

49 See, for example, G. Teubner, ‘The Invisible Cupola: From Causal to Collective Liability’ in *Environmental Law and Ecological Responsibility*, eds. G. Teubner, L. Farmer and D. Murphy (1994) 17–48, discussing new doctrines of collective liability, and Tietenberg and Wheeler, *op. cit.*, n. 6, pointing to information strategies as a new form of environmental regulation.

50 The analysis of FIDIC’s new forms does not intend to provide a comprehensive analysis of their provisions. For a more general analysis, see, for example, P.L. Booen, ‘The Three Major New FIDIC Books’ (2000) 17 *International Construction Law Rev.* 24, and Wade, *op. cit.*, n. 26.

51 As was noted before, one indication of the international status of FIDIC’s Red Book was its adoption by the World Bank. The ENAA’s Model Form of International Contract for Process Plant Construction was also adopted by the World Bank, and is used in its ‘Standard Bidding Documents for Supply and Installation of Plant and Equipment’ (November 1997, revised January 1999), electronic version available at <[www.worldbank.org/html/opr/procure/workspace.html](http://www.worldbank.org/html/opr/procure/workspace.html)>. For a commentary on ENAA’s Model Form, see T. Wiwen-Nilsson, ‘The 1996 Edition of the ENAA Model Form – International Contract for Power Plant Construction – A Brief Review’ (1997) 14 *International Construction Law Rev.* 273. ICE’s NEC series, which was first published in 1993 (a second edition was published in 1995), has also significant international profile: see M. Barnes, ‘The New Engineering Contract –

Before proceeding to review the environmental aspects of FIDIC's new contracts it might be worthwhile to consider the general structure of the three model forms, which constitute the core of FIDIC's new contracts-series. FIDIC's new line of contracts<sup>52</sup> reflects a change of thought in FIDIC. The new contracts focus more on the apportionment of responsibilities between the parties, than on the project's type. Thus, the emphasis was shifted from 'civil' versus 'electrical and mechanical' works to 'works being designed by the Employer' versus 'works being designed by the Contractor'. Accordingly, the special task-group established for this purpose decided to develop a new construction book to be used for building/civil/ engineering works designed by the employer or by his representative, the engineer (henceforth, the Construction Contract). Conversely the new *Plant & Design-Build Book* was designed to be suitable for plant/building/ engineering works designed by (or on behalf of) the contractor (henceforth, the Plant Contract).<sup>53</sup> In addition, FIDIC issued a completely new model form, based on a two-party approach, entitled the EPC Contract.<sup>54</sup>

Both the new construction contract and the plant contract kept the traditional three-party structure, which was used in the contracts' previous editions. Within this framework, the engineer, whom the employer (the procurer of the works) employs for this purpose, administers the contract, monitors the construction work, and certifies payments. Whenever the engineer is required to determine any contentious matter or settle any claim for time extension or extra costs, he or she is first required to consult with each of the parties in an endeavour to reach agreement. If agreement is not achieved, the engineer is required to make a fair determination in accordance with the contract. If the engineer's determination is not agreed by either of the parties, or if a dispute otherwise arises, the parties can forward

An Update' (1996) 13 *International Construction Law Rev.* 89, 95. The NEC series comprises six different options, which all share the same core clauses. I will use the NEC option F: *Management Contract (November 1995)* as my reference document.

52 The contracts were published initially in 1998 in a test edition. All my comments refer to the 1999 edition of the contracts.

53 See Wade, *op. cit.*, n. 26, p. 8. In the construction jargon the term 'employer' refers to the entity which initiated the project. In many cases this would be a governmental body of some sort; the term 'contractor' refers to the entity which would be responsible for the actual execution of the project.

54 These three short titles are used in FIDIC publications, the full names being: 'Conditions of Contract for Construction (for Building and Engineering Works Designed by the Employer)'; 'Conditions of Contract for Plant and Design-Build (for Electrical and Mechanical Plant, and for Building and Engineering Works, Designed by the Contractor)'; and 'Conditions of Contract for EPC Turnkey Projects' (EPC stands for engineering, procurement, construction). See FIDIC, 'New Documents Ready For Edmonton' (1998) 1998/2 *FIDIC Q. Report* 2. A fourth form, which was also published in 1999 – *Short Form of Contract* – deals mainly with small-value and simple projects. It is thus less relevant to the international market, and will not be referred to in the following.

the dispute to a dispute adjudication board (DAB).<sup>55</sup> If either party does not accept the DAB's decision and the parties fail to reach an amicable settlement, the matter must be finally settled by international arbitration, usually under the ICC Rules.<sup>56</sup>

During the work on updating the Red and Yellow Books it became apparent to the special task group that there is a demand in the market for a contract that takes a two-party approach, where the engineer plays a less prominent role in the administration of the contract resulting in the EPC contract.<sup>57</sup> This demand was a reflection of the increase in the number of privately financed international projects.<sup>58</sup> The move toward private forms of financing triggered the development of several new models of project delivery. These include the Build-Operate-Transfer (BOT) model, and the Build-Own-Operate (BOO) model. In these concession-type arrangements a private company<sup>59</sup> (the concessionaire) is granted the right and obligation to provide an infrastructure service, usually by the state or a municipality.<sup>60</sup> The service, whether gas, power, water, transport, sanitation, or telecommunications, is provided under terms and conditions specified in a contract or licence. The concessionaire takes over operational responsibility and at least part of the commercial risk of service provision.<sup>61</sup> By granting the concession the state eliminates the need to pay for the construction services once the work is completed.

In such projects, the concessionaire takes most of the responsibility for the financing, construction, and operation of the project. The uncertainty associated with BOO or BOT projects includes, in addition to the 'normal' risks associated with the construction process, also the risks associated with the project's future cash flow. In order to limit their risk exposure, the lenders seek to limit the uncertainties associated with the contract, both by

55 The DAB comprises one or three persons, which should be jointly appointed by the parties, either at the commencement of the contract or on an ad hoc basis. The concept of DAB was imposed on FIDIC by the World Bank, which was not happy with the original Red Book framework, which appointed the engineer – despite being paid by the employer – as the internal disputes-adjudicator of the contract. The DAB concept is discussed in more detail below.

56 See, Wade, *op. cit.*, n. 26, pp. 8–9.

57 *id.*, p. 9.

58 *id.*, p. 10, and World Bank 'Privatization and Environmental Assessment: Issues and Approaches' in *Environmental Assessment Sourcebook Update No. 6*. (1994).

59 The construction company and the operator of the infrastructure service may be different entities.

60 I am interested here mainly in those concession arrangements, which include both a 'service' element (the operation and maintenance of the facilities and the supply of the infrastructure service) and a 'construction' element (the design and construction of the new infrastructure). However, some concession arrangements may include only a service element.

61 See P Guilaim and M. Kerf, 'Concessions – The Way to Privatize Infrastructure Sector Monopolies' *World Bank Public Policy for the Private Sector Series*, October 1995, 4 at <[www.worldbank.org](http://www.worldbank.org)>.

eliminating the ‘engineer’ as an independent contractual persona with semi-arbitrary powers, and by placing the majority of risks associated with the construction of the facility (for example, market and technical risks) on the construction contractor.<sup>62</sup> The EPC Contract reflects the special requirements of privately financed models by placing the total responsibility for the design and construction of the infrastructure or other facility on the contractor, and providing a higher degree of certainty that agreed contract price and time will not be exceeded.

## 2. *Environmental concerns and FIDIC model contracts*

The way in which FIDIC (and other) contracts deal with environmental issues reflects a commitment to a strict public/private dichotomy, and their understanding of environmental responsibility is very much a product of this dichotomy. In analysing the contractual treatment of environmental problems I will use the concept of environmental impact assessment (EIA) as my focal point. EIA constitutes today the preferred regulatory response to the construction-environment dilemma, aiming to provide a comprehensive framework in which the ecological impacts (including long-term effects) of construction activities can be assessed and dealt with. The EIA doctrine is based on the idea of ex-ante assessment – on the adoption of a forward-looking approach, which seeks to examine the environmental impacts of a project at an early stage. Because the EIA process is conducted before the commencement of the construction project – with all the financial commitments that come with it – it opens the way for an early detection of ‘environmental’ mistakes (for example, problems of location, or basic design flaws). EIA enables, therefore, the prevention of nonreversible actions and costly financial commitments. EIA also provides a mechanism for blocking those construction activities, which are completely untenable from an environmental perspective. The extent to which FIDIC’s new contracts incorporate the concept of ‘environmental impact assessment’ can provide, therefore, a good indication of their ecological ‘sensitivity’.

Before turning to the detailed assessment of FIDIC forms, it is important to make more explicit the ecological challenge that is faced by the *lex constructionis* (this would help us to assess the environmental ‘failings’ of this legal system). The scope of this challenge is determined by the sequential fashion in which the construction process is observed by the law. The standard construction contract (FIDIC’s or any other) does not normally govern the contractual phase in which the EIA process takes place. The construction contract regulates the ‘main phase’ of the construction project, the detailed design and execution. In contrast, the EIA process is usually part of a ‘pre-contract’ evaluation process, in which the procurer of the works assesses the feasibility of the development plan and considers possible alternatives. This

62 See Wade, *op. cit.*, n. 26, p. 11.

assessment process comprises, usually, in addition to the EIA element, other studies which examine, for example, the financial feasibility of the project, and its compatibility with local land-use requirements.<sup>63</sup> This stage is governed by a separate set of consultancy contracts, and by extra-contractual legal requirements.<sup>64</sup> The construction contract holds, then, a posterior position in this contractual sequence.

The legal separation between the different phases of the construction project creates two difficulties. The first concerns the issue of implementation and monitoring, the second has to do with unforeseen contingencies. The first problem points to the need for a contractual mechanism, which could ensure that the conclusions of the EIA are actually implemented. Proper monitoring procedures should form an essential element of any such mechanism. The importance of follow-up mechanisms stems from the fact that both the regulatory authority and the developer may find it tempting to use the EIA as a 'pseudo-analysis'.<sup>65</sup> From the authority's perspective, the EIA process could be perceived solely as a pre-decision mechanism, which culminates in the authority's final decision to grant (or refuse) a development consent, and as such has no post-decision (for example, monitoring) implications. From the developers' point of view, once the project is granted a formal consent, they have little interest in developing and implementing a monitoring and post-auditing programme, which would enable them to implement the EIA conclusions (and provide the authority with a convenient supervising mechanism). The EIA literature points, indeed, to that lack of proper post-EIA monitoring as one of the key problems in the current EIA practice, both in the developing and developed world.<sup>66</sup>

The issue of unforeseen contingencies points to a different problem, which stems from the (unwarranted) tendency to treat the conclusions of the EIA process as a closed and final set of prescriptions. This perception ignores the fact that the EIA process, which is conducted before the commencement of the project, cannot provide a complete description of the

63 See, for example, UNCITRAL (1988), op. cit., n. 34, pp. 9–13.

64 The separation between these two phases is further exacerbated by the fact that in most cases the preliminary studies will not be conducted by the contractor that would be engaged to construct the works, but by another firm (mainly because of the risk of conflict of interests). In complex projects this principle could, however, be compromised (id., p. 12).

65 'Pseudo-EIAs' indicates those EIAs which are carried out with the single objective of getting the project cleared, irrespective of the true environmental costs. See A.K. Biswas, 'Summary and Recommendations' in *Environmental Impact Assessment for Developing Countries*, eds. A.K. Biswas and S.B.C. Agarwal (1992) 240–1.

66 For a discussion of the problem of compliance monitoring in the context of the developing world see id.; and see, also, for example, B. Dipper et al., 'Monitoring and Post-auditing in Environmental Impact Assessment: A Review' (1998) 41 *J. of Environmental Planning and Management* 731, 735 (discussing the EU), and L. Canter and R. Clark, 'NEPA Effectiveness – a Survey of Academics' (1997) 17 *Environmental Impact Assessment Rev.* 313, 323–4 (discussing the United States of America).

project's ecological impacts. Once the project unfolds there are bound to be some environmental 'surprises'. Coping with the problem of unforeseen contingencies requires more than a mere implementing mechanism. It requires the development of reflexivity procedures, which would encourage the parties to reassess the environmental impacts of the project (even when such impacts have no functional implications), and would provide the parties with clear procedures through which the original design or work-programme could be updated in response to such contingencies.

The discussion so far has pointed to two main legal challenges (both related to the sequential nature of the construction process): post-EIA monitoring and unforeseen contingencies. None of these problems is treated by FIDIC contracts (or by the ENAA and NEC forms). For reasons of space I will not enter here into a detailed description of the contracts.<sup>67</sup> I will only make some brief references to the actual – and unsatisfactory way – in which FIDIC contracts deal with the environmental issue. A direct reference to environmental concerns can be found only in one clause, which is common to the construction, plant, and EPC contracts. Article 4.18, which is titled 'Protection of the Environment', provides that:

The Contractor shall take all reasonable steps to protect the environment (both on and off the Site) and to limit damage and nuisance to people and property resulting from pollution, noise and other results of his operations.

The Contractor shall ensure that emissions, surface discharges and effluent from the Contractor's activities shall not exceed the values indicated in the Employer's Requirements, and shall not exceed the values prescribed by applicable Laws.<sup>68</sup>

While the inclusion of Article 4.18 in FIDIC's new forms does reflect an awareness of environmental issues, its limited coverage means that it cannot provide an adequate response to many environmental concerns. The duty of care imposed on the contractor by Article 4.18 is limited to the contractor's operations on and off the site; it does not cover the broader and long-term ecological impacts of the construction project as a whole.<sup>69</sup> Moreover, this provision makes no attempt to deal with the challenges of post-EIA monitoring or unforeseen contingencies. The ENAA's model form and the Institution of Civil Engineers NEC do not include even such a limited provision.

67 For a more detailed discussion, see O. Perez, 'Ecological Sensitivity and Global Legal Pluralism: Rethinking the Trade and Environment Debate' (PhD thesis, London School of Economics and Political Science, 2001) ch. 6.

68 Article 4.18 of the construction contract uses the term 'specification' instead of 'employer's requirement'.

69 Article 4.18 can be enforced, of course, only by the employer. The question is whether the employer will bother to enforce this provision in those cases in which its breach does not affect the successful completion of the project. I did not find examples for such litigation with respect to FIDIC contracts (which does not necessarily say that there were no such incidents).

FIDIC's new contracts do not include any other clear environmental provisions, or, to that extent, any direct reference to a pre-contractual EIA statement. This is also the case with respect to the NEC and ENAA's model form. The main other (indirect) route through which the 'environmental' issue enters into the contractual universe of the industry's standard forms concerns the contracts' general compliance provisions, which require the parties to comply with the applicable laws of the host country in the design and execution phases of the project.<sup>70</sup> These would include, of course, any environmental regulation. The underlying assumption behind these provisions is that it is the responsibility of the 'external' law to regulate the environmental aspects of the construction activity, including the EIA process, and any post-EIA requirements. The compliance provisions construct the ecological side-effects of the construction activity, as a 'public order' dilemma – a dilemma that lies outside the contractual realm – and as such should be regulated by the state which hosts the construction project.

### 3. Critique of the contemporary contractual response to the environment-construction dilemma

The response of the *lex constructionis* to the construction-environmental dilemma is, then, based primarily on a strategy of deference, which seeks to externalize the responsibility for regulating the environmental aspects of the construction activity to the 'extra-contractual' realm of the law of the host-state. This is achieved through the employment of 'compliance' provisions, which appear in most of the standard forms. The fundamental assumption behind the deference model is that the contract is a private ordering device. As such it cannot and should not interfere with the kind of issues that fall under the ambit of the 'public order'. Since environmental problems are seen as part and parcel of this 'public order' they are envisaged as falling outside the boundaries of the contractual regime. The contractual order has, under this vision, no original role to play in the field of public order. Its only contribution is to provide legally recognized addressees to which external orders may be directed. The environmental closure of the *lex constructionis* is a clear product of this private/public divide.

This sharp distinction between the private and public orders, which characterizes the *lex constructionis*, has strong roots within the *lex mercatoria*. The purpose of the *lex mercatoria* was understood, historically, as protecting business expectations; the primary task of the *lex mercatoria* was to render business relations more calculable.<sup>71</sup> The *lex mercatoria* was

70 See Articles 1.13, 2.2, of the construction contract, and Articles 1.13, 2.2, 5.4 of the plant and EPC contracts. See, also, Articles 9.3, 9.4, 10.3, and 10.4 of the ENAA model form, Articles 18.1, 31.2, 95.3 (health and safety requirements), and 19.1 and 21.2 (general compliance requirements) of the NEC.

71 See H. Collins, 'Formalism and Efficiency: Designing European Commercial Contract Law' (2000) 1 *European Rev. of Private Law* 211, 216–17.

seen, therefore, as having no interest in other forms of expectations. This 'interest' had to be imposed from the outside. The growing debate among scholars and practitioners of international arbitration with respect to the linkage between mandatory rules of law and the *lex mercatoria* is one example of the influence of this legal conception.<sup>72</sup> The question underlying this debate was to what extent mandatory rules of law, or issues of 'public policy', should interfere with the 'law of the contract'. This question has usually arisen in proceedings for enforcement of foreign arbitral awards, where the 'public policy' argument was invoked as a ground for refusing enforcement. The question has become especially important in the field of competition law. An increasing number of cases deal with the question whether an international contract, which is seen as inconsistent with the competition laws of the country in which it was made or was intended to be executed, should be given effect.<sup>73</sup>

While there are varying opinions with respect to how far mandatory rules can interfere with the realm of the *lex mercatoria*, and how the content of these rules should be determined,<sup>74</sup> the legal debate is, nonetheless, based on the shared and uncontested assumption that the private realm of the *lex mercatoria* can make no positive contribution to the realm of public order. The debate has focused exclusively on the question whether public law can (and should) encroach into the private order of the contract. The opposite question has never been discussed.<sup>75</sup> As one ICC arbitrator has put it: 'Agreements and contractual obligations may not be extended to the field of public orders'.<sup>76</sup>

72 The New York Convention on the Recognition and Enforcement of Foreign Arbitral Awards recognizes the violation of public policy (or *ordre public*) as a ground for refusing recognition/enforcement of foreign awards (see Article V.2). A similar provision is included in *UNCITRAL Model Law on International Commercial Arbitration* (1985), see Article 36.

73 The two leading cases are the US Supreme Court decision in *Mitsubishi v. Soler* 473 US 614 (1985), a case involving the applicability of the US Sherman Act to an arbitration conducted under Swiss law, and the European Court of Justice decision in Case C-126/97 *Eco Swiss China Time Ltd. v. Benetton International NV* [1999] ECR I-3055, where the ECJ considered this question in light of the EU competition rules. For a more detailed discussion of these cases, see A. Sheppard and N. Nassar, *Final Report on Public Policy as a Bar to Enforcement of Arbitral Awards* (2000) 19–20, and D. Hochstrasser, 'Choice of Law and "Foreign" Mandatory Rules in International Arbitration' (1994) 11 *J. of International Arbitration* 57, 75–9.

74 For a detailed discussion of this debate see Sheppard and Nassar, *id.*, and Hochstrasser, *id.*

75 This question was discussed, however, in the domestic context, see, for example, note, 'Private Law Making by Trade Associations' (1949) 62 *Harvard Law Rev.* 1346, 1367 and M.C. Dorf and C.F. Sabel, 'Constitution of Democratic Experimentalism' (1998) 98 *Columbia Law Rev.* 267.

76 See S. Jarvin, 'International Chamber of Commerce Court of Arbitration: Award Rendered in Case No. 3902 in 1984' (1984) 2 *International Construction Law Rev.* 49, 52 (which includes a report of the case).

However, the translocation of the distinction between the contractual and public orders from the *lex mercatoria* to the *lex constructionis* is highly problematic from an environmental perspective. Indeed, it undermines the capacity of the *lex constructionis* to 'see' the deep environmental problematic of the construction practice. There are two aspects to this legal 'blindness'. The first is political; the second is functional. From a political perspective, there is a problematic gap between the fragmented legal image that is generated by the *lex constructionis*, and the actual socio-environmental intimacy that characterizes the construction endeavour. Construction activities, which encroach deeply into the social and ecological localities in which they take place, are highly contextualized activities; they are 'webbed' into their social and ecological surroundings. This embeddedness is highly incongruent with the image of an isolated 'business relation', which underscores the contractual tradition of the *lex mercatoria*. The fragmented discourse of the *lex constructionis* is 'blind', in other words, to the community that is fabricated by the interference of the construction endeavour in a particular geographical space and a delimited time horizon.

This 'blindness' of the *lex constructionis* provides a convenient setting for the externalization of the project's environmental costs to the extra-contractual community. In that respect the contractual tradition of the *lex mercatoria* goes hand in hand with the economic constraints that surround the construction market. Economists view the legal contract as a tool for enhancing the economic value of the business deal for its parties. This economic vision, as its legal counterpart, provides no basis for the consideration of those interests, which are not parties to the 'deal'.<sup>77</sup> The notion of 'efficient risk allocation' further illustrates how this logic of externalization operates. In order to maximize its economic value the contract is expected to provide the parties with an efficient risk-allocation scheme. This should be achieved by allocating particular risks to the party best able to manage them.<sup>78</sup> Any other allocation would inhibit the realization of a surplus-maximizing transaction. The economic vision clearly encourages the parties to allocate environmental risks to the extra-contractual community, when they can do it without any external consequences.<sup>79</sup>

77 Under this economic vision, a perfect, or complete contract is that which 'fully realize[s] the potential gains from trade in all states of the worlds', see I. Ayres and R. Gertner, 'Strategic Contractual Inefficiency and the Optimal Choice of Legal Rules' (1992) 101 *Yale Law J.* 729, 730.

78 See L.W. Carter and G. Bond, *Financing Private Infrastructure* (1996) 67.

79 Indeed, the idea that 'third parties' might need protection from such externalization is used to justify in the national context – the encroachment of the 'freedom of contract' ideal by mandatory rules. A prominent example is antitrust laws, which restrict the power of private parties to enter into exclusive dealing agreements.

But the private/public dichotomy, and the sharp apportionment of roles that accompanies it within the contractual discourse of the *lex constructionis*, is problematic also from a functional perspective. The assumption that the extra-contractual realm can provide the regulatory services that are expected from it under the deference model is highly questionable. The complexity of the construction endeavour requires a cooperative regulatory strategy, which would bring together the problem-solving capacities of the constructing agents, the regulatory establishment, and the community that hosts the project. Thus, for example, successful environmental assessment might require the involvement of both local knowledge and highly technical capabilities. Assessing the environmental and social impacts of a project is a 'fuzzy' and unbounded task. There is no clear candidate to whom this task can be delegated on exclusive terms. The sharp distinction between the internal and external orders inhibits the evolvment of such flexible, trans-domain collaborations. The fact that the regulative capacities of many developing countries are highly limited further emphasizes the need for such collaborations.<sup>80</sup> It is important to note in this context, that the existing international regulatory framework cannot, in its current form, fill the regulatory void that characterizes the developing world.<sup>81</sup>

#### 4. A different contractual vision?

Any attempt to incorporate environmental concerns into the *lex constructionis* would require, then, a change in the current conception of the construction contract. I believe that viewing the construction contract as a semi-political mechanism, rather than a strictly private tool, can provide a useful basis for transforming the current environmental insensitivity of the *lex constructionis*. This transformation should seek to break the traditional

80 Thus, for example, in many developing countries EIA is not required, and, even when it is required, tends to be poorly implemented and monitored. See Biswas and Agarwal, *op. cit.*, n. 65, and the World Bank, *op. cit.*, n. 58, p. 4. The EIA issue is, of course, only one aspect of this institutional weakness. Similar regulatory problems exist in the supervision of industrial pollution, see, for example, S. Pargal et al., 'Formal and Informal Regulation of Industrial Pollution: Comparative Evidence from Indonesia and the United States', World Bank Policy Research Working Paper 1797 (1997).

81 First, the activities of transnational corporations are not subject to a general (and binding) system of international supervision. Second, the issue of EIA itself is subject to a limited international regulation. Even when there is some sort of international regulation, it is limited, usually, to projects with substantial transboundary effects. As it currently stands, international environmental law does not seek to regulate those construction projects which are contained within the boundaries of one jurisdiction, even when they involve multinational cooperation: C. Klein-Chesivoir, 'Avoiding Environmental Injury: the Case for Widespread Use of Environmental Impact Assessments in International Development Projects' (1990) 30 *Virginia J. of International Law* 517, 527.

division (between the public and private realms) that characterizes the regulatory spectrum of the modern welfare state. The cornerstone of this alternative vision is the idea that any construction activity creates, through its interference in a singular geographical space, a micro 'polity', which consists of the inhabitants (humans and non-humans!) of this space.<sup>82</sup> This micro-polity is not just a reflection of common space/time boundaries but, more importantly, of a common dilemma: how to cope, collectively, with the potential impacts of a proposed construction project. Indeed, the fact that this dilemma requires a collective solution is what makes it political.

Under this view the construction contract should constitute an integral part of the constitutional framework through which this collective dilemma is resolved. The construction contract is conceptualized, then, as one of the tools through which the project of 'ecologizing' our political life could be realized. 'Ecologizing' is interpreted in the spirit of Bruno Latour – not as the sanctification of nature but as the invention of new political procedures for managing this construction-induced 'collective'.<sup>83</sup> The deference model and the private/public dichotomy that informs it are, of course, inconsistent with this constitutional vision. This constitutional vision fits nicely with the idea of EIA, which is perceived by many observers not just as a technocratic decision-making tool but as a consensus-building mechanism that aspires to bring within its boundaries all those who might be affected by a construction activity.<sup>84</sup>

The more difficult question, of course, is how to translate this abstract vision into a set of realizable institutional practices. This question is explored in the remaining part of this section. In seeking possible implementation paths I focus on two key points, which seem to me to be the most promising. The first argues for the incorporation of an environmental management system (EMS) into the construction contract. The second seeks to modify the dispute resolution model that dominates the construction world. Consider first the issue of environmental management. The main advantage of the EMS concept is that it provides a way to integrate the environmental cause, in a systematic way, into the decision-making structure of a business endeavour. As such, it provides a way to bring some of the 'externalized

82 As a 'micro-constitution' the construction contract should develop deeper sensitivity to the details of the social situation in which it is embedded, where 'social situation' depicts the totality of societies, living organisms, and physical environment, which interact in the context of a particular ecological problem.

83 See Latour, *op. cit.*, n. 12, pp. 234–5.

84 See, for example, O. Renn et al. (eds.), *Fairness and Competence in Citizen Participation: Evaluating Models for Environmental Discourse* (1995). The World Bank adopted a similar cooperative vision, which views the process of EIA as a cooperative effort that involves the borrower, the Bank, the affected populations, and local NGOs; see the World Bank, 'Public Involvement in Environmental Assessment: Requirements, Opportunities and Issues' in *Environmental Assessment Sourcebook Update No. 5* (1993).

parties' into the contractual universe of the *lex constructionis*. The environmental management system of the International Organization of Standardization, the ISO 14001, is the most likely candidate for such incorporation, since it is currently the most widely used global EMS.<sup>85</sup>

The ISO 14001 standard and its most important rival, the European EcoManagement and Audit Scheme (EMAS)<sup>86</sup> are based on a similar vision, which is to create a framework that will encourage the certified organization to improve, continuously, its overall environmental performance.<sup>87</sup> ISO 14001 attempts to achieve this goal through a very simple scheme, which is based on five general principles: commitment and policy, planning, implementation, measurement and evaluation, and finally, review and further implementation. What links these principles together is a general commitment to a dynamic cyclical process of 'plan, implement, check and review'.<sup>88</sup> Linking this cyclical process to the environmental objectives that were set out in the pre-contractual EIA should provide a mechanism for implementing and reviewing the conclusions of the EIA.

The integrative and reflexive vision of the ISO 14001 and EMAS seems to provide a good setting for confronting some of the key problems of the *lex constructionis*. As was noted before, these problems emanate from the discontinuity between the 'pre' and 'post' phases of the contractual project.

85 In 1998 there were 5,637 ISO sites against 2,141 sites for the competing European scheme (EMAS), see Anonymous, 'ISO 14001 and EMAS Sites World-Wide' (1998) 5 *J. of the Institute of Environmental Management* 3, 6. By the end of 2000 the total number of ISO 14000 certificates has risen to 22,897; see 'ISO Survey of ISO 9000 and ISO 14000 certificates – Tenth cycle: up to and including 31 December 2000', available at <www.iso.ch>.

86 ISO 14001 (1996) Environmental Management Systems – Specification with Guidance for Use is the actual management system. A second standard, the ISO 14004 (1996) Environmental – Management Systems – General Guidelines on Principles, Systems and Supporting Techniques is a guidance manual. The European scheme was established in 1993 by Council Regulation (EEC) 1836/93 29 June 1993, OJ L168, 10 July 1993, 1, and became operative in 1995. The 1993 scheme was revised in 2001 by the Regulation (EC) No. 761/2001 of the European Parliament and of the Council of 19 March 2001 allowing voluntary participation by organisations in a Community eco-management and audit scheme, OJ L114, 24 April 2001, 1 (henceforth EMAS II Regulation). The EMAS II Regulation incorporates ISO 14001 as its environmental management system (see Annex 1 of the revised regulation). EMAS II imposes, however, several additional obligations that go further than the requirements of ISO 14001, particularly in the areas of environmental improvement, external communication, and employee involvement. For a review of the ISO 14000 series, see the ISO website at <www.iso.ch>, and P.C. Murray, 'Inching Toward Environmental Regulatory Reform – ISO 14000: Much Ado About Nothing or a Reinvention Tool?' (1999) 37 *Am. Business Law J.* 35; for a review of the EMAS II Regulation, see the EMAS website: <www.europa.eu.int/comm/environment/emas>.

87 See the ISO 14001 introduction at vi, and Article 3.1, and Article 1(2) of the EMAS II Regulation.

88 ISO 14001, Annex A.1, at 6; Murray. op. cit., n. 86, pp. 45–8.

This discontinuity tends to impede the efficient implementation of a pre-contractual EIA, and, as such contributes to the culture of 'externalization' which characterizes the *lex constructionis*.<sup>89</sup> In order to create a temporal continuity between the different phases of the construction project, the main contract should provide both a monitoring mechanism, which would guarantee that the conclusions of the preliminary EIA are actually implemented (in both the design and execution of the works), and a mechanism for coping with the problem of unforeseen contingencies. A possible response to the latter challenge might be to create a mechanism of second environmental review. This contractual mechanism should fulfill two goals. First, it should provide an opportunity for re-evaluating the conclusions of the preliminary environmental assessment in light of any new information (for example, unforeseen changes to the original design or unpredicted environmental effects). Second, it should provide clear procedures for programme revision, which would enable the parties to incorporate the conclusions of such a 'second review' into the working programme.<sup>90</sup> These two tasks fit quite naturally into the management cycle of the ISO 14001 standard.

Some features of the ISO 14001 standard are, however, inconsistent with the constitutional vision that was promulgated above. In the first place, the ISO 14001 is designed to operate mainly within a given organizational structure – usually a business corporation. In contrast construction activities involve, usually, a multiplicity of agents (owner, designers, constructors, sub-contractors, suppliers, and future operators) who operate either simultaneously or in a sequential fashion. The ISO 14001 system does not provide an adequate answer to this institutional complexity, and it would have to be modified accordingly.<sup>91</sup> A second shortcoming of the ISO 14001 standard, is that it gives the organization a wide discretion, both in devising its environmental plan and in designing the environmental indicators according to which it will measure its performance.<sup>92</sup> If the basic 'regulatory level' is

89 The emphasis on the post-EIA problematique is consistent with the World Bank understanding of the EIA process, which views the idea of post-EIA auditing as an integral part the EIA process. See Articles 12, 13, 15 of *Operational Directive 4.01 on Environmental Assessment* (1991, updated 1996), and Annex C to OD April 2001 (*Environmental Mitigation or Environmental Management Plan*).

90 Article 13 of the new FIDIC forms, which deals with 'Variations and Adjustments', can provide some guidance to the way in which such a review mechanism could be designed. However, Article 13 is based on an either/or risk allocation that is, again, at odds with the cooperative vision that is advocated here. The provisions of the NEC that deal with programme revision (Articles 31, 32) can also provide useful guidance for devising such procedures.

91 For example, the notion of continuous improvement would have to be interpreted as project-specific rather than organization-specific.

92 See Murray, *op. cit.*, n. 86, pp. 49–50. The introduction to ISO 14001 provides that: '... this international standard does not establish absolute requirements for environmental performance beyond commitment, in the policy, to compliance with applicable legislation and regulations and to continual improvement', ISO 14001,

low, as might be the case in many developing countries, the commitment to continual improvement might not mean much.<sup>93</sup> One of the challenges of the *lex constructionis* and the construction industry as a whole is, indeed, to fill this gap. The integrity of the initial EIA has a crucial role in this context.

A final weakness of the ISO 14001 framework, is its undemanding position with respect to public participation. The ISO 14001 standard does not view the notion of public consultation as an integral element of the environmental management system.<sup>94</sup> The involvement of the public is, however, a key element of the contractual vision, which was promulgated here. Public participation is important both in the context of post-EIA monitoring, and in the context of second environmental review. In that respect the revised EMAS regulation provides a more progressive model, both by introducing demanding disclosure requirements,<sup>95</sup> and by requiring any certified organization to

introduction, at vi. Organizations certified under EMAS II will face higher demands. This was achieved by introducing the concept of significant environmental aspects. Article 1(2) of the EMAS II regulation states that 'The objective of EMAS shall be to promote continual improvements in the environmental performance of organisations ...'. Article 2(b) defines 'continual improvement of environmental performance' as 'the process of enhancing, year by year, the measurable results of the environmental management system related to an organisation's management of its *significant environmental aspects*, based on its environmental policy, objectives and targets ...' (my emphasis). The notion of significance is defined in Annex VI (Article 6.4).

- 93 Note, also, that under the ISO 14001 scheme, a firm can legitimately respond to nonconformance by reducing the stringency of its declared goals on the ground that the initial goals were 'inappropriate' (as long as the new goals comply with regulatory guidelines): J. Switzer and J. Ehrenfeld, 'Independent Environmental Auditors: What Does ISO 14001 Registration Really Mean?' (1999) *Environmental Quality Management* 17, 27.
- 94 Article 4.4.3 of ISO 14001 requires the organization only to 'consider processes for external communication on its significant environmental aspects and [to] record its decision' (my emphasis). Furthermore, the ISO 14001 standard does not require the publication of an annual environmental statement (see ISO 14004, Article 4.3.3.1). This of course raises the question of the public accountability of the scheme. This approach to the disclosure issue reflects mainly the concern of the United States business community that such extensive disclosure would act as a platform for criminal or civil litigation, and not as a platform for constructive dialogue; see Murray, *op. cit.*, n. 86, pp. 53–4. Responding to these concerns, several US states have made an attempt to provide firms with certified EMS programmes with either a statutory immunity from liability or a qualified privilege. For a more detailed discussion, see Murray, *id.*, pp. 53–62.
- 95 The organizations that will register under the new scheme will be required to publish, on a yearly basis, an environmental statement, which should provide details of the environmental performance of the organization against its environmental objectives and targets (Art. 3, sub-paragraphs (2)(c) and (c) and (3)(b) of the EMAS II regulation). The environmental statement shall be verified by 'environmental verifier' (Art. 3(2)(d)). Further details with respect to the objectives, structure (including data requirements), and modes of publication, of the environmental statement are given in Annex III. Art. 3.6, which deals with the issue of public availability, encourages the certified organizations to use various communicating channels – including electronic publication, libraries, and so on.

engage in true and open dialogue with its employees and the public at large.<sup>96</sup> The revised EMAS regulation thus makes an attempt to go beyond a purely 'disclosure' model, in which the deliberation is perceived only as an ad hoc exercise, toward a model in which the dialogue between the organization and the public is perceived as a continuous process. This approach fits nicely with the construction context, where it is critical that any deliberation would take place before the project is completed.

It is important to understand that this proposal does not seek to transform the construction contract into some monstrous, all-embracing instrument. Thus, I do not believe that the construction contract should provide a detailed environmental performance schedule, or act as an environmental management manual. Rather, this proposal seeks to encourage a greater use of the construction contract as a coordination mechanism. As a coordinating device the contract can, and should, refer to external sources such as the World Bank's EIA guidelines or the ISO 14001 standard, only modifying them when required.<sup>97</sup> The technical modalities of such incorporation are not complicated. Indeed, FIDIC model forms already use this 'legislative' method, albeit in relation to quality assurance.<sup>98</sup> I believe that this idea could find some support within FIDIC, which has been involved over the last few years in an initiative to introduce the concept of EMS to the construction industry.<sup>99</sup>

A second area, which could be used to advance my 'constitutional' vision, concerns the issue of dispute settlement. As was noted above, most of the model forms include an arbitration agreement. This means that most of the

96 Thus, Article B(3) of Annex 1 of the Revised Regulation, entitled 'external communication and relations', requires that the organization shall be able 'to demonstrate an open dialogue with the public and other interested parties including local communities and customers with regard to the environmental impact of their activities, products and services in order to identify the public's and other interested parties' concerns'. Article B(4) of the same Annex requires certified organizations to involve their employees in the operation of the environmental management system, through, for example, suggestion-book systems, project-based working groups, or environmental committees.

97 As the EMAS II regulation does with respect to ISO 14001.

98 Article 4.9, which appears in almost identical form in the construction, plant, and EPC contracts, provides that: 'The Contractor shall institute a quality assurance system to demonstrate compliance with the requirements of the Contract. The system shall be in accordance with the details stated in the Contract. The Employer shall be entitled to audit any aspect of the system, ...' This is the EPC version. The construction and plant contracts differ only in that they use the term 'Engineer' instead of the 'Employer'. A similar provision could be used to introduce an 'environmental management system' ('EMS') into the contract.

99 FIDIC published in 1995, in cooperation with UNEP and the International Chamber of Commerce, a resource training kit on environmental management, which was inspired, largely, by the ISO 14001 standard and EMAS. However, FIDIC has viewed the concept of EMS as a purely managerial notion, and has made, so far, no attempt to incorporate it into its model forms.

disputes in the global construction market are adjudicated before private arbitrators, usually in one of the main international arbitration centres. The arbitration universe is, however, a closed world; it gives no voice to those parties who are external to the contractual order. This closure, which means that non-parties can raise claims against the contractual order only through the 'external' court system, supports and perpetuates the private/public separation which was criticized earlier. Breaking this separation clearly requires an alternative dispute settlement structure.

The idea of Dispute Adjudication Board (DAB), which was adopted by FIDIC's new model contracts, can provide a useful starting point for thinking about such an alternative structure.<sup>100</sup> The DAB is constructed as an internal adjudicator/mediator, which should deal with any dispute before it is forwarded to an external formal arbitration.<sup>101</sup> The main advantage of the DAB concept is that by being in place at the outset of the project, before the emergence of any dispute, it 'is able to have personal and contemporaneous familiarity with the development of the work under the contract' and to establish regular communication with the parties.<sup>102</sup> This close contact with the project's 'reality' distinguishes the DAB from a post-dispute legal adjudicator, who necessarily relies, in constructing her judgement, on documents and witnesses, rather than on a direct knowledge of the project. It is this close contact, which makes the DAB's opinion with respect to any disagreement more acceptable to the parties. Of course, to create this distinction between the DAB and a legal adjudicator, it is essential that the 'DAB' be appointed by the parties at the commencement of the contract, and will familiarize itself with the project before the occurrence of any dispute.<sup>103</sup>

Under the current construction contract the DAB members are appointed by the parties.<sup>104</sup> This arrangement is unsatisfactory from my

100 See Article 20 to FIDIC new model-forms. The DAB shall comprise either one or three persons.

101 Both parties have the right to submit the dispute to formal arbitration, usually under the ICC Rules, if they do not accept the DAB's decision, and fail to reach an amicable settlement (Article 20.6 of FIDIC's new forms).

102 G.L. Jaynes, 'FIDIC's 1999 Editions of Conditions of Contract For "Plant and Design-Build" and "EPC Turnkey Contract": Is the "DAB" Still a Star?' (1999) 17 *International Construction Law Rev.* 42, 45.

103 The construction contract establishes explicit procedures to enable the DAB to familiarize itself with the project prior to any dispute. These include regular visits to the site and allowing the DAB to request different documents (such as a copy of the contract documents, progress reports, variations instructions, and so on). See Articles 1–4 to the 'Procedural Rules' annex to the 'General Conditions of Dispute Adjudication Agreement' appendix of the construction contract.

104 Article 20.2 provides that 'If the DAB is to comprise three persons, each party shall nominate one member for the approval of the other party. The parties shall consult both these members and shall agree upon the third member, who shall be appointed to act as chairman'.

perspective, because it does not provide a voice to the extra-contractual community. A possible solution would be to appoint a public representative to the DAB. The power to appoint this member could be conferred upon an acceptable third party.<sup>105</sup> This member should have the right to accept complaints from the public and initiate internal discussions within the DAB. A more difficult question is how to link this transformed DAB with the arbitration world. To make this proposal more appealing, it might be more realistic to limit any public-initiated deliberation to the informal discussions at the DAB, and not to carry them further to the arbitration phase. While this would formally give the contractual parties the right to overrule any public-initiated DAB decision, I believe that it would not stop the DAB from having some impact on the social reality of the project. It is clear, however, that this idea requires further experimentation.<sup>106</sup>

The alternative contractual vision that was suggested in this section could find some support in the new contractual paradigms that appeared recently in the construction market. Both the ICE managerial model, which views the contract as a stimulator of ‘good management’,<sup>107</sup> and the ‘partnering ideology’ of the Egan report<sup>108</sup> indicates an increasing willingness within the industry to adopt novel contractual models. The concept of partnering provides a useful counter-metaphor to the public/private image; the ICE model, for its part, includes several interesting ideas on the question of how to use the construction contract as a management tool. Particularly interesting is the attempt of the ICE NEC series to create a flexible framework, which would encourage the parties to seek ‘win-win’ solutions to unexpected problems.<sup>109</sup> However, while these new paradigms do signal a willingness to experiment with alternative contractual models, they do not

105 Such procedure already exists in the contract for cases where the parties fail to nominate a member or chairman to the DAB. See Art. 20.3.

106 For a more detailed discussion of the DAB concept, see Jaynes, op. cit., n. 102, p. 45, and C.R. Seppala, ‘Letter to the Editor (Reply to Jaynes)’ (2000) 17 *International Construction Law Rev.* 1.

107 See Hughes and Greenwood, op. cit., n. 21, p. 197 and Barnes, op. cit. n. 51, for a discussion of the ICE new engineering contract.

108 J. Egan, *Rethinking Construction: Report of the Construction Task Force to the Deputy Prime Minister, John Prescott, on the Scope for Improving the Quality and Efficiency of UK Construction* (1998). For a further discussion of the ‘partnering’ paradigm, see B. Colledge, ‘Obligations of Good Faith in Partnering of UK Construction Contracts’ (2000) 17 *International Construction Law Rev.* 175–7, and Stipanowich, op. cit., n. 47, pp. 568–9.

109 See, Barnes, op. cit., n. 51, p. 93. The NEC includes (Article 16) an ‘early warning’ procedure which obliges the contractor and project manager to give an early warning with respect to any matter that could increase the total cost, delay completion or impair the project. It then provides that either the contractor or the project manager can initiate an ‘early warning meeting’ in which solutions to the unexpected problem should be sought.

provide, in themselves, an appropriate constitutional framework, since their structures still retain a strong private/public perspective.<sup>110</sup>

#### IV. THE ENGINEERING ETHOS AND OTHER CONTRIBUTING FACTORS

The alternative contractual vision, which was sketched in the previous sections, could face strong resistance. The ‘externalization’ culture of the *lex mercatoria* is driven by strong economic interests, which cannot be disregarded. The contractual changes, which were proposed above, are likely to increase the cost of the construction project, and as such are highly inconsistent with the economic perspective of the contract.<sup>111</sup> What I would like to do in this concluding section is to point to some social processes, which, together, could overcome this economic power. The first process is internal to the construction market. It has to do with the cultural context in which FIDIC operates what we might call the ‘engineering milieu’. I believe that this unique institutional ethos – a product of special values, technical competencies, and accumulated experience – could be conducive to an attempt to change the environmental contours of the *lex constructionis*. This unique ethos distinguishes FIDIC from business organizations, in which the edict of profit-maximizing has a much more dominant role.

The engineering ethos is primarily a product of the unique training path of civil engineers. Civil engineers are trained to provide solutions to very pragmatic problems: how to construct bridges, high roads, chemical plants, and so on. Traditionally, it was not their job to guarantee the profitability of the project on which they were employed. Rather, as one commentator put it, ‘their prime responsibility is to ensure the *safety* and *functionality* of their projects. Economics are important but slightly lower than safety in the typical engineer’s hierarchy of values’.<sup>112</sup> The pragmatic orientation of civil

110 The new partnering initiatives, both in the United States and the United Kingdom, still perceive their audience as the construction community, that is, the owner, contractor, subcontractors, and design professionals. The inhabitants who populate the project surroundings are still not conceived of as part of this emerging ‘partnership’, see Egan, *op. cit.*, n. 108, paras. 36–37, and C.L. Noble, ‘Friend of the Project – A New Paradigm for Construction Law Services in a “Partnered” Construction Industry’ (1998) 15 *International Construction Law Rev.* 79.

111 The introduction of an environmental management system and the establishment of a Dispute Adjudication Board (DAB) would increase the cost of the contract. See, for example, Murray, *op. cit.*, n. 86, p. 43, fn. 48 (for the cost of ISO 14001 certification) and Seppala, *op. cit.*, n. 106 (discussing the cost implications of the DAB). These costs should be shared by the contractual community as a whole. Placing all the costs on one party (for example, the contractor) would not only be inconsistent with the political vision promulgated above, but would probably be untenable from a financial perspective.

112 D.S.O. Russell, ‘Insights From the Three Gorges Study’ (1994) 21 *Cnd. J. of Civil Engineers* 541, 545.

engineers means that environmental concerns can be incorporated quite naturally into the set of technical objectives and constraints that constitute a particular 'engineering problem'. From an environmental perspective, the weaker commitment of the engineering community to the edict of profit making constitutes a convenient setting for an agenda of ecological transformation. The cultural framework in which FIDIC operates offers, then, a receptive terrain for green ideas;<sup>113</sup> it distinguishes FIDIC from economic-oriented organizations such as the WTO.<sup>114</sup> Indeed, over the last decade FIDIC has made a substantial effort to develop greater awareness of environmental issues among its members.<sup>115</sup>

The recent environmental awakening within FIDIC has not found its way yet to its normative products. It would be wrong, however, to dismiss

113 A similar process occurred in the chemical industry. In the wake of the Bhopal tragedy in 1984, the chemical industry established a voluntary programme, the Responsible Care Programme, which sought to improve environmental standards in the chemical industry worldwide. See F.L. Reinhardt, 'Bringing the Environment Down to Earth' (1999) 77 *Harvard Business Rev.* 149, 152–3.

114 While one of FIDIC's principal tasks is, indeed, to stand 'as the rightful spokesperson for the *business interests of the industry* in the global forum' (FIDIC, *Engineering Our Future* (1998) i, my emphasis) the business perspective is not the main ethos by which the organization orients itself. Thus, in the same 1998 report we can also find the idea that FIDIC's mission should be 'To promote the business interests of members in relation to the provision of technology-based intellectual services for the built and natural environment, and while doing so, *accept and uphold our responsibilities to society and the environment*' (id., p. 25, my emphasis). Of course, to what extent these broader commitments are realized in practice is a matter for empirical analysis.

115 This effort was reflected by a series of pro-environmental documents and statements. In 1990 FIDIC published a policy statement titled 'Consulting Engineers and the Environment', which promulgates the environmental commitments of a consulting engineer (it calls, for example, on each engineer, to 'evaluate the positive and negative environmental impacts of each project ... [and] suggest alternatives to [his] clients if environmental risks emerge' (Art. 8)). Another recent report, FIDIC, id. – a strategic action plan that should guide FIDIC into the twenty-first century – states that one of the objectives of the organization would be to promote the commitment of FIDIC's members to environmental sustainability. Institutionally, this effort is coordinated by a special task force for sustainable development. In 1999 the sustainable development task force issued another strategy paper, 'Sustainable Development in the Consulting Industry' (1999). The paper is particularly interesting in our context because it is guided by a participatory outlook. It encourages FIDIC members to contribute to the involvement of key stakeholders in the construction process, to be willing to engage in a dialogue with the general public in large and complex projects, and to contribute to the development of new institutional structures in which this participatory outlook can be advanced (id., p. 8). While the paper does not make any references to FIDIC contractual products, its general message seems to be consistent with the contractual vision proposed in this article. All of the documents referred to above are on FIDIC's website: <[www.fidic.org](http://www.fidic.org)>.

FIDIC's green initiatives as mere cheap talk.<sup>116</sup> I believe that as a locus of technical expertise and professional pride, FIDIC has a real potential (much more than business oriented organizations such as the WTO) to act as a bridge between the environmental and business communities. Several recent social developments make this scenario more reasonable. These developments could provide the necessary counterforce to the economic motivations which lie behind the externalization praxis. They include an increased environmental awareness within the realm of international finance,<sup>117</sup> the increasing international presence of environmental NGOs and the news media,<sup>118</sup> and the growing impact of transnational environmental litigation.<sup>119</sup> These different phenomena present a common threat to the discourse of externalization, in that they encourage the participants in construction activities (through different means) to consider more seriously the ecological consequences of their activities.

A final point. It is important to emphasize that the proposals made in this article do not seek to achieve some kind of 'perfect internalization'. While adopting new procedures for project management and dispute settlement should extend the discursive horizon of the *lex constructionis*, they could also create new blind spots. Although I believe that in a transformed form FIDIC's contracts could be more attentive to environmental considerations, some undesired effects are unavoidable. In particular, the reliance on standard eco-management systems such as the ISO 14001 could subscribe the contractual parties to a certain way of constructing and understanding environmental problems. The technical outlook which characterizes the ISO 14001 standard means that environmental dilemmas would be constructed, primarily, as technical problems of management and engineering. This technocratic bias could be further exacerbated by the cultural background –

116 'Cheap talk': a costless signal or communication. It should be noted in this regard that FIDIC's environmental awakening is supported also by economic considerations. The report *Engineering Our Future* argues that the increasing demand for new environmentally related services, such as environmental assessment and environmental management, offer new business opportunities to the engineering profession (FIDIC, id., p. 22).

117 See the discussion in P. Thompson, 'Bank Lending and the Environment: Policies and Opportunities' (1998) 16 *International J. of Bank Marketing* 243; S. Williams, 'U.K. Ethical Investment: A Coming of Age' (1999) 8 *J. of Investing* 58; and K.A. Strasser and D. Rodosevich, 'Seeing the Forest for the Trees in CERCLA Liability' (1993) 10 *Yale J. on Regulation* 493.

118 See the discussion in G. Jordan, 'Indirect Causes and Effects in Policy Change: the Brent Spar Case' (1998) 76 *Public Administration* 713, and P. Wapner, 'Politics Beyond the State: Environmental Activism and World Civic Politics' (1995) 47 *World Politics* 311.

119 See the discussion in F.K. Juenger, 'Environmental Damage' in *Transnational Tort Litigation: Jurisdictional Principles*, eds. C. McLachlan and P. Nygh (1996) 199, and A. Rosencranz and R. Campbell, 'Foreign Environmental and Human Rights Suits Against U.S. Corporations in U.S. Courts (1999) 18 *Stanford Environmental Law J.* 145.

the engineering milieu – in which this concept would be invoked. This interpretative ‘bias’ could lead to the marginalization of other points of view, which offer different understandings of the relationships between humans and nature.

There is no clear answer to this problem. For me, the most plausible response lies in expanding the reflexivity of the contractual package. Flexible participatory procedures should play a prominent role in this effort. These procedures should enable the public to participate, in a meaningful way, in the assessment (and management) of construction projects.<sup>120</sup> Only a genuine commitment to involve the public in the assessment and management of the construction endeavour could guarantee the necessary ‘plurality of thoughts’ which is needed to overcome/supplement the technocratic orientation of the eco-management concept and the engineering milieu.

120 There is an increasing recognition within international bodies of the importance and value of public participation, see the World-Bank, *op. cit.*, n. 84 and UNCITRAL, *op. cit.*, n. 34, p. 202. See, further, Dorf and Sabel, *op. cit.*, n. 75.