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Assessing Nature? The Genesis of the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES)

CÉLINE GRANJOU, ISABELLE MAUZ, SÉVERINE LOUVEL and VIRGINIE TOURNAY

On the basis of an analysis of the creation of an Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES), our contribution addresses the progressive stabilisation of an institutional design for assessing Nature. Social science literature has widely promoted norms of transparency, openness and participation regarding the implementation of new forms of environmental governance. But so far, few researchers have focused on the way this disclosure model now concretely weighs down on real institutions and institutionalisation processes. Moreover, little attention has been paid to the way this requirement can combine with other requirements or older models of action. In the case of IPBES, our goal is to question how the requirements of participation and transparency are put into practice. We will highlight the role of UNEP (United Nations Environment Programme) in the institutionalisation process of IPBES and see how the disclosure model is combined with other requirements that simultaneously involve the re-creation of 'enclosure' (that is, the need for academic sound-science, or the usual way in which things are done at UNEP—that is, bureaucratic practices). Our work is based on an empirical study including documentation analysis (official reports available on websites) and interviews.

Introduction

THE CREATION OF an Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) in December 2010 is an important step in the history of international environmental governance. Yet, biodiversity issues are certainly not new

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to the international agenda. The Convention on Biological Diversity was created in 1992 and the word ‘biodiversity’ itself was coined in 1986 by a group of US biology conservationists (Takacs, 1996). However, it progressively became clear that the protection targets fixed for 2010 would not be reached. And over the last few years, new words have been used to express biodiversity concerns, taking these concerns beyond the simple protection of endangered species. For instance, the ever more popular idea of ‘ecosystem services’ conveys the idea that biodiversity is to be protected not only for itself, but because it is essential for human life and society.¹ From a more critical point of view, the success of this notion has also to do with the commodification of the biosphere and the idea that the risk of ecological extinctions should be transferred to the financial markets and managed on a for-profit basis (Boisvert and Tordjman, 2011; Brockington and Duffy, 2011; Daccache et al., 2011). This new representation of Nature and its relationship with society reflects a specific project to measure and assess biodiversity and ecosystem services. Today, both notions often appear side by side, as in the name of IPBES.

The ongoing project to create a science-policy platform on biodiversity, which started in 2005, clearly echoes this new way of thinking about Nature. It is frequently called the ‘IPCC² for biodiversity’ (Larigauderie and Mooney, 2010) and the case of the Intergovernmental Panel on Climate Change (IPCC) is very often referred to as a model or even as ‘the gold standard’ (to quote the terms of one interviewee) for the biodiversity platform. The IPCC is considered to have turned the climate question into a global object that can be seen and seized upon in politics as a major public issue. However, the climate is more visible to politics than biodiversity: while global tools (modelling) and generic metrics (like the ‘equivalent carbon tonne’) are generally considered to be sufficient means of describing climate change, a diversity of geographic and political levels of description and management apply to biodiversity. So the crucial problem for IPBES is to invent ‘the Nature that politics can see’,³ to paraphrase Robertson (2006).

On the basis of an analysis of the birth of the IPBES project, our contribution seeks to scrutinise the progressive emergence of a biodiversity regulatory science-based institution. By ‘regulatory science’ we mean a science designed to be useful for regulatory activities rather than a science that firstly aims to understand and explain mechanisms. Our aim is not to promote normative principles complying with a given model of environmental democracy (Millstone and van Zwanenberg, 2000). Instead, it is to address the progressive stabilisation of an institutional design for assessing Nature, relying on the definition of an institution as a temporary materialised socio-material network proposed in (Tournay, 2011). As Miller (2001) suggests in his study focussed on the definition of climate expertise, our goal is to study the ‘political work’ at stake in the progressive stabilisation of this international science-based institution for biodiversity.

Literature in social science has widely promoted norms of transparency, openness and participation in the invention and implementation of new forms of environmental (and health) governance. This ‘disclosure model’ is often considered

as guaranteeing the enactment of technical democracy. Many studies have criticised the scientific experts' and the official representatives' monopoly on public assessment and decision-making; they have pointed to the fact that official science does not include all valuable knowledge and have called for a broader participation of laypeople and citizens (Alphandery and Fortier, 2001; Bocking, 2004; Bonneuil, Joly and Marris, 2008; Brown, 2009; Fischer, 2003; Jasanoff, 1998; Levidow, 2007; Szerzynski, Lash and Wynne, 1996; Wynne, 1992), also proposing various procedures and criteria to organise participatory devices (Callon, Lascoumes and Barthe, 2009; Rowe and Frewer, 2000). These calls reflect a disclosure model that wants to go beyond the traditional political organisation referred to by Bruno Latour (1993) as the 'Great Divide' between citizens and representatives on the one hand and scholars and laypeople on the other hand. In his long-term study of HIV policies, Dodier (2003) shows the co-existence of what he calls a model of 'disclosure', where institutions draw on their capacity to open themselves up and turn outside pressures into organised participation in the institutions' work itself and a model of 'enclosure', where the institutions' legitimacy and reliability rely on their capacity to protect themselves from outside pressures. Tensions are real between such a disclosure model and other requirements or usual ways of going about things in organisations and policies. Tensions can be found, for instance, between the requirement for a broad definition of knowledge that goes beyond academic science alone and the need for authority and legitimacy that often results in mobilising or claiming 'stamped' scientific knowledge (Eden et al., 2006). Noortje Maares (2007) also suggests that emphasis on inclusion and accountability through participation procedures is not sufficient to achieve democracy and that we should also consider the processes of publicisation and de-publicisation of issues characterising the trajectories of such procedures. However, little empirical attention has been given to the existence of such tensions when it comes to participation or disclosure requirements and to the way such requirements are met or at least addressed by institutions and policies.

Furthermore, it is crucial to note that the promotion of a disclosure model does not remain within the confines of academic literature. Disclosure requirements also circulate in the 'real world' and have an impact on the way institutions are currently shaped and reformed in 'real life': institutions are now expected to base their legitimacy on disclosure, meaning participation, transparency and openness. These requirements are for instance included in the International Aarhus Convention (1998) on information and public participation in decision-making and in the European directive INSPIRE (2007) on access to geographic information. So far, few researchers have focused on the way the disclosure model now concretely weighs down on real institutions and institutionalisation processes as a new and very real normative requirement (Blondiaux and Sintomer, 2002). Little attention has been paid to the way this requirement can combine with other requirements such as legitimacy and efficiency or older models of action conveyed by existing organisations (see Benamouzig and Besancon (2005) on the implementation of a new food health agency in France, Dodier (2003) and his long-term study of HIV

policies, or Laurent (2010) on nanotechnology policies where he shows the impact of a ‘responsible innovation’ model).

In the case of IPBES, our goal is to identify practices of disclosure by questioning how the requirements of openness, participation and transparency are put into practice. We shall see that the way this disclosure model is implemented has a lot to do with the role of UNEP (United Nations Environment Programme) in the institutionalisation process of IPBES and with the usual practices and modes of action in this international environmental organisation (Ivanova, 2007, 2010; Mauz et al., 2013). By scrutinising the political work conducted by UNEP and other actors promoting the creation of IPBES, we shall highlight how the enactment of the disclosure model is combined with other requirements (i.e. the need for academic sound–science) and the usual way in which things are done at UNEP (that is bureaucratic practices) and which involve the simultaneous recreation of ‘enclosure’.

Our work here is based on an empirical survey and includes the analysis of official reports and 12 recorded and transcribed one to two hour interviews with actors [scientists, decision-makers, members of UNEP and International Union for Conservation of Nature (IUCN)] involved in the IPBES project (see Table 1).⁴ Institutional websites were a very important source of information for this survey. As we shall see, they are indeed extremely detailed, giving access not only to meeting reports but also to many preparatory documents and notes and, sometimes, to individual comments on important documents. However, this thorough traceability is also overshadowed by grey or dark areas, informal co-optation mechanisms or invisible decision–making processes. Working on the ongoing process of

TABLE 1
List of Interviewees

<i>Interviewee</i>	<i>Date</i>	<i>Place</i>	<i>Institution</i>	<i>Profession</i>
A	01/02/10	Grenoble (by phone)	Diversitas	Scientist
B	08/01/10	Montpellier	IMoSEB	Programme manager
C	08/01/10	Montpellier	ImoSEB	Programme manager assistant
D	27/01/11	Paris	French Foundation for Research on Biodiversity	Scientist
E	08/02/10	Montpellier	French Ministry of the Environment	Scientist
F	19/03/10	Paris	French Ministry of the Environment	Scientists + decision maker
G	16/02/10	Paris	WCMC	Scientist
H	15/02/10	IUCN, Gland	IUCN	Programme manager
I	08/02/10	IUCN, Gland	IUCN	Programme manager
J	02/02/20	IUCN, Gland	IUCN	Scientist
K	08/12/09	UNEP-DEWA-GRID, Geneva	UNEP-DEWA-GRID	Scientist
L	08/06/10	UNEP, Geneva	UNEP	Scientist

creating IPBES allowed us to observe this play between opening and closing and the mechanisms implemented to frame the process and finally to avoid retrospective explanations of results.

First, we shall provide a brief overview of the IPBES genesis chronology, showing that the project, after being born in the world of academia, was gradually taken over by UNEP. We shall underline how the involvement of UNEP induced both a bureaucratic⁵ and administrative turn in the process⁶ and a strengthened claim for transparency and traceability. This claim is channelled through the use of the internet and is in accordance with the usual modes of action of UNEP and other international environmental organisations. In spite of the wish to open up the future platform to various types of knowledge and knowledge holders, we shall see that the future institution might above all draw on a biodiversity regulatory science relying on indicators, databases and computer projections, backed up with input from the social sciences, rather than on ‘Traditional Ecological Knowledge’ (Jasanoff and Martello, 2004). While we do not claim that UNEP is deprived of an ideal disclosure model, we stress the importance of considering the different requirements and modes of functioning that have an impact on the IPBES institutionalisation process, that is on the political work at stake when attempting to construct ‘the Nature that politics can see’.

Involvement of UNEP: Bureaucracy and Traceability

The idea of creating a global organisation in charge of biodiversity and ecosystem services was born in the scientific world. However, scientists soon turned to the world of intergovernmental relationships and, in particular, to the United Nations Environment Program (UNEP), to implement the concept. UNEP had already created the IPCC in 1988, together with another branch of the United Nations, the World Meteorological Organization (WMO). UNEP is active in a number of international agreements and manages the Secretariat of several international conventions like the Convention on Biological Diversity (CDB) and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

Insights into the Chronology of a Long Birth

Three main stages can be distinguished in the process of creating IPBES (see Table 2).

The Consultation Stage: IMoSEB

The forerunner of IPBES was the International Mechanism of Scientific Expertise on Biodiversity (IMoSEB) between 2005 and 2008. Consultation meetings were organised on the six continents (North America, Africa, Europe, Asia, Latin America and the Pacific). Seventy countries and about 300 people (members of governments, NGOs, private sector representatives, scientists, etc.) were involved.

TABLE 2

Main Dates and Official Documents Related to the IPBES Genesis

-
- 1988: Creation of the IPCC.
 - 2001–2005: MA.
 - January 2005: Paris conference on ‘Biodiversity, Science and Governance’: Decision to launch IMoSEB.
 - 2006–2007: Consultation processes on the six continents; their results were compiled in the IMoSEB final report: ‘Strengthening the science-policy interface on biodiversity. Results of the consultative process towards an IMoSEB’ (Babin D. et al., 2008).
 - 2008: First meeting towards an IPBES (Putrajaya, Malaysia); a preparatory ‘concept note’ was written by UNEP for this first meeting, which was then revised after the results of the meeting (UNEP, 2008).
 - 2009: Second meeting towards an IPBES (Nairobi, Kenya); a gap analysis was conducted between the first and the second meeting in order to see if there was indeed room to create a new institution given existing institutions.
 - 2010: Third meeting towards an IPBES (Busan, South Korea); it resulted in the ‘Busan outcome’ (UNEP, 2010).
 - December 2010: Official UNEP decision to create an IPBES.
 - May 2011: International expert meeting on IPBES and capacity-building (Trondheim, Norway). A preparatory document was written about the IPBES capacity-building function (UNEP, 2011a).
 - June 2011: Meeting of scientific organisations interested in the platform convened by the International Council for Science (Paris, France). A preparatory document was written about the IPBES function to catalyse the generation of knowledge (UNEP, 2011b).
 - July 2011: Informal pre-plenary scientific international workshop on the assessment function of the IPBES (Tokyo, Japan). A preparatory document is still to be released about the IPBES assessment function.
 - October 2011: Plenary meeting (first session) to organise the work of IPBES, Nairobi, Kenya.
 - April 2012: Plenary meeting (second session), Panama.
-

The Diplomatic Stage: Preparatory Meetings Convened by UNEP

In 2007, the IMoSEB leaders decided to convene an intergovernmental meeting and to invite the United Nations Environment Program (UNEP). At this meeting in 2008, the IMoSEB project evolved into the IPBES project, which was to be aligned with the Millennium Ecosystem Assessment (MA) follow-up strategy.⁷ UNEP organised three multi-stakeholder preparatory meetings in 2008, 2009 and 2010.

The Implementation Stage

The decision to create an IPBES was officially announced by the United Nations Plenary Assembly at the end of the ‘Year of Biodiversity’ (December 2010). For IPBES to become fully operational, a first meeting was scheduled (3–7 October 2011) to discuss principles and procedures and the governance structure; a second meeting (in 2012) considered the detailed draft work programme.

The lengthiness of the creation process can be partially explained by the fact that the international biodiversity landscape was already full of institutions more or less devoted to nature protection and management (for example, the Convention

on Biological Diversity, the Ramsar Convention on wetlands, the Convention on International Trade in Endangered Species, the International Union for Conservation of Nature, or UNEP itself). While everybody agreed on the need for a better science–policy interface, they simultaneously defended the interests of their own institution. Moreover, mega-diverse⁸ countries (like Brazil) were afraid of losing their sovereignty over national resources, while the United States, until 2010, saw no point in creating yet another institution. That is why, at the end of 2010, there was still uncertainty about the creation of IPBES. Many governments and environmental institutions wondered whether such an institution was actually needed.

However, when UNEP took control over the project in 2008, it progressively became more concrete. A number of general options addressed through the IMoSEB consultation process, such as widening the existing IPCC in order to create a group devoted to biodiversity or creating a ‘network of networks’ rather than a separate institution, were abandoned. At the end of 2011 the final design of IPBES was summarised by an organisation chart with four main functions: catalysing the generation of new knowledge, capacity–building, assessment and policy support (tools and methodologies). The first working meeting of IPBES will take place in January 2013.

A Bureaucratic Turn

The shift from IMoSEB to IPBES can be analysed as a bureaucratic turn in the project with the adoption of a more administrative and diplomatic style.

In fact, the IMoSEB had never been seen as a long-lasting institution: it was conceived of as a very wide consultation process to know how and to what extent, a new institution could and should be created. Significantly, its leitmotiv was ‘this consultation belongs to you!’ Moreover, this first step was mostly initiated and led by scientists. After being officially launched during the international conference on ‘Biodiversity, science and governance’ organised in Paris (France) in January 2005, the IMoSEB was relaunched by the international scientific community represented by the program *Diversitas* (the international programme in charge of promoting biodiversity studies) at its first ‘Open science conference’ in Oaxaca (Mexico) (Loreau and Oteng-Yeboah, 2006). Its executive committee was led by Michel Loreau (France), who was the former director of *Diversitas*.⁹

The shift from IMoSEB to IPBES meant international recognition of the project and the introduction of specialists in intergovernmental relations to a process that had been initiated and led by scientists. It gave the process a new trademark. Since then, IPBES-related documents have been headed by the UNEP logo while their style has become very administrative: short numbered paragraphs, many official titles and references to previous IPBES-related documents. The style has become so bureaucratic that laypeople sometimes have difficulty reading the documents. The arrival of UNEP also meant a change in the creation pace to match the typically lengthy intergovernmental negotiations. Indeed, once UNEP had taken over the process, it became more ‘political’ and more ‘bureaucratic’ to quote the terms of many interviewees—notably scholars—explaining why they did not get involved

in the IPBES preparatory process. Some of these people were disappointed because they felt that the scientific level had been removed from the project and replaced by a diplomatic focus.

Reference to the IPCC ‘gold standard’, which had been pervasive since the beginning, also took on a more concrete meaning. It was no longer one option among many others from which the future institution might draw inspiration as to the way it should operate, but a model for a ‘policy-relevant’ institution. Thus, from 2008 onwards, the goal was re-defined as being to create a policy-relevant institutional arrangement with an intergovernmental status, like the IPCC, which would clearly respond to political needs and demands. The idea was to avoid a situation where ‘*the scientific community come[s] together and say[s] “Okay, you policy guys, you need our science and we’re going to get you something and think about how that might best work”*’, to quote a member of UNEP (K). That is also why the name of the future institution was discussed at length: it seemed important that the acronym start with the same two letters as IPCC and include the word ‘Intergovernmental’ rather than ‘International’ as in the IMoSEB. However, the word ‘platform’ was found to be preferable to the word ‘panel’ to prevent it from sounding exactly like the IPCC: platform was regarded as vaguer and offering more latitude than panel. Robert Watson, chairman of the IPCC from 1997 to 2002, played an important role as a broker, helping to recycle and adapt the designs or principles of the IPCC so that they could be applied to the new biodiversity interface project.¹⁰ He was a member of the IMoSEB executive committee and co-chair of the three IPBES meetings. He played a crucial role in explaining the practical functioning of the IPCC during these meetings.

Lastly and strikingly, the IPBES project has become genuinely independent. Today, it stands out as a separate communication project that seeks to create and mobilise an audience in favour of an institution yet to be legally created. Many documents related to the future institution end with a call to involve people in IPBES, to ‘promote awareness of IPBES’ (to quote an official document) and to ensure full participation in the institutional endeavours. A recent proposal suggests that IPBES could draw on celebrities and have a real communication strategy mobilising professionals. But scholars constitute the first target of IPBES communication and mobilisation endeavours. As the IPBES project has made headway, the notion of environmental protection that it enshrines has been entirely internalised. Each IPBES meeting has been introduced by prominent people, representatives of governments and intergovernmental organisations, who have invoked the pressing problems threatening the environment and society as a whole. However, while every speech has started out with an alarm bell awakening society to the world’s environmental crisis, this topic has gradually taken on a more ritualistic aspect, which the IPBES project has transformed into an autonomous institutional process of creation and promotion. One of the important points in this process is the writing of the next meeting report to be archived on the IPBES Web page and serve as the starting point for a future meeting. A number of IPBES features seem to have been stabilised through a web of texts governed by a system based on quotes and repetition. The text entitled ‘Busan outcome’ (UNEP 2010),

which was written after the third IPBES preparatory meeting (June 2010), was a key step in the process during which older proposals were transformed into recommendations (with frequent reference to the word ‘should’), which were then quoted as irreversible principles or decisions. Thus, IPBES has progressively gained consistency via an accumulation of bureaucratic literature resulting from and drawing on the discussions and exchanges taking place during meetings. This literature largely stems from UNEP’s ability to formulate ideas and draft texts.

Shaping and Showing IPBES: Traceability on Stage

In the previous section, we showed how UNEP has introduced a bureaucratic turn into the IPBES genesis. Simultaneously, UNEP has strengthened the claim for participation and transparency, thereby generating a dual movement of enclosure and disclosure.

When we speak of disclosure, we do not only mean consultative meetings where texts are collectively written and re-written (Charvolin 2010); the interesting point is also the traceability implemented before and after these meetings. The use of the internet, here, is crucial and appears to be an important informal ‘rule’ that UNEP has used in leading the IPBES process over the last four years now—it is also a feature of many other environmental international organisations (see for instance the Millennium Ecosystem Assessment).¹¹ A wide range of official documents are uploaded on the IPBES web site, most of them being available in six languages (Arabic, English, Spanish, French, Chinese and Russian).¹² They are divided into ‘official documents’ (8 different files regard the October 2011 meeting), ‘information documents’ (17 files) and ‘documents presented at previous meetings’ (12 files). There are 34 documents and reports for the third preparatory meeting alone. A number and a code are given to each document. An open archive system was tested for some IPBES documents: in the case of the concept note (UNEP, 2008), 600 commentaries were collected and published on the IPBES website.¹³ It is important here to remember that, until the end of 2010, the future existence of IPBES remained uncertain. Accumulating documents and promoting traceability has also been used as a way of giving something to see and mobilise a broad audience made up of those interested in the potential IPBES. For instance, the section entitled ‘frequently asked questions on IPBES’ does not only allow access to information to anyone interested—offering social scientists a precious archive to be studied—but also encourages participation (one question reads ‘how can I get involved in IPBES as an individual?’). This type of web page provides a view of a specific institution together with its history (before it even exists)¹⁴ for ordinary browsers but also for a public of interested people, who are supposed to ask questions about the main IPBES features. Lastly, browsers are invited to receive an information–letter by mail and talk about the IPBES project on twitter.

What conclusions can be drawn about such detailed traceability of the process? Of course, it provides anyone interested in following the process with a very broad public access. However, although most documents are headed ‘Note by the

secretariat', meaning the secretariat of the UNEP Environmental Policy Implementation Division, the composition of this secretariat is nowhere to be found on the web site or in the documents.¹⁵ As regards effective participation, this can prove to be difficult. Announcements for the future schedule of meetings often arrive too late to make it possible to plan the trip abroad or even to register. For instance, the first session of the Plenary meeting organised in early October 2011 was only announced in the late summer (and registration closed on 31 August). Participating in some meetings is on an invitation basis. For the first Plenary in October 2011, a 'stakeholder day' was supposed to take place the day before the official opening of the meeting. This special day for stakeholders might be considered a means of encouraging participation, but it can also be seen as a means of keeping stakeholders outside the real decision-making arena. There are also limits to the availability of information and documents on the Web, some of which are marked to be 'posted soon'. Lastly, real decision-making sometimes seems to take place not during the meetings themselves but behind the scenes, that is, when reports and other documents are being written. Each meeting is prepared by a note or a study proposed by the UNEP Secretariat as a preparatory text to be discussed. This 'underground' work shapes the direction of future discussions and debates.

The IPBES web site thus offers a mass of reports, preparatory notes and chronological data but it is above all a practical means of giving the public 'something to see' while the institution itself has not yet officially been created. Meanwhile, other IPBES features are being shaped or decided upon in other less visible places. Nevertheless, traceability and openness, albeit incomplete, are undeniable features of the IPBES shaping process, with real effects. Transparency is in fact always a question of selecting between what is made visible and what remains opaque. For Hilgartner (2000), this play between front stage and backstage is at the core of the scientific advice process, where the aim is to achieve credibility and authority. Hilgartner shows that constructing credible scientific assessments requires signs of front stage authority (academic belonging, extended knowledge, etc.) while back-staging other features (for example, doubts). In our case, analysing how UNEP uses the Internet to release information on the IPBES process shows that front-staging some features while back-staging others also characterises the process of shaping an institution with credible features. And it is interesting to note that, in our case, credibility is not only about giving evidence of scientific authority but also about answering critics of technocracy and giving evidence of openness and transparency: demonstrating traceability and transparency is an important condition for the shaping of a credible science-policy platform on biodiversity, where openness itself is put on stage.

A Platform for Diverse Knowledge Systems or a Regulatory Science-based Institution?

The idea of opening up the future platform to different types of knowledge and knowledge holders has been present since the launch of the IMoSEB-turned-IPBES

process. On the IMoSEB web site, most pictures show large meetings in different places involving a high number of participants from different parts of the world, some dressed in local traditional clothes. Unlike with the climate, the underlying idea for IPBES is not only to conduct global assessments but also for countries or other organisations to be able to conduct ‘sub-global assessments’ on their own territories or topics. It must not be forgotten, however, that for most people, reliability and authority must come from a peer-reviewed scientific state of knowledge:

We expect that it [IPBES] will become the kind of gold standard mechanism for internationally peer-reviewing biodiversity science and information [...] At the moment, if the CBD or any other institution wants to make a decision around something relating to biodiversity policy, they may put out a call for information, it may be posted on the CBD website or something, and you may get ten or fifty or five hundred responses from individuals, NGOs, and scientific institutions. And I think IPBES would be the process by which you end up with a benchmark: you end up with an agreed- especially important intergovernmentally agreed-scientific state of knowledge... (an IUCN representative)

Once more, organising ‘a dialogue among diverse knowledge systems’ enacting an open definition of knowledge and achieving ‘scientifically credible’ assessments, meaning academic sound–science, are two requirements weighing down on the future institution. However, we shall see that disclosing the types of knowledge needed to assess Nature is anything but easy. Mobilising the social sciences is a practical but probably limited means of achieving this, at least when compared to the claim of mobilising ‘Traditional Ecological Knowledge’. IPBES could probably benefit above all from a regulatory form of biodiversity science based on indicators, databases and computer projections.

A Platform Open to Various Systems of Knowledge Beyond Academic Sound-science?

Several statements in official documents seem to reflect a decision to take non-academic knowledge into consideration. For instance, IMoSEB documents state the need for ‘insights from the relevant sciences and other forms of knowledge’; the concept note for IPBES (UNEP, 2008) states that the platform should promote ‘dialogue among diverse knowledge systems and understandings...’ and include various ‘knowledge holders’ such as scientists, local communities and the private sector (elsewhere ‘experts from scientific bodies, academia, governments and civil society’ are mentioned); the Busan outcome (UNEP, 2010) itself (which is a very important document for making IPBES more concrete), puts forward the recommendation to ‘recognize and respect the contribution of indigenous and local knowledge to the conservation and sustainable use of biodiversity and ecosystems’. More recently, documents have mentioned ‘experiential (as opposed to data-oriented) knowledge’. This adds a different slant to the concept. This probably aims to avoid qualifying the concept of knowledge system with the words ‘traditional’ or ‘indigenous’ by using

a less connoted term.¹⁶ Whatever the objective, it still means mobilising different types of knowledge and not the academic system of knowledge only.

Despite all these calls for the integration of different types of knowledge, the question of how non-academic knowledge should be integrated into the process remains unresolved. This is probably in part because academic knowledge and the holders of academic knowledge, that is scholars, are better identified than other types of knowledge and knowledge holders. In fact, the words speak for themselves: scientists are identified as such, while ‘other knowledge holders’ is a vague reference (elsewhere these other knowledge systems are designated by the even vaguer expression ‘new approaches of scientific endeavour’). Basically, the academic system of research is based on a principle that guarantees its legitimacy and authority, that is, it involves a peer-review process: IPBES documents very often refer to the need to rely as far as possible on peer-reviewed literature and organise peer-review processes for its own assessments.

Certain documents suggest a distinction between what relates to knowledge—which must be scientific to be valid—and what relates to participation—which must be widely open.¹⁷ The organisation might reflect such a two-level system of legitimacy: the UNEP concept note in 2008 suggests setting up a purely scientific body (a scientific steering group made up solely of ‘prominent scientific experts’ and in charge of organising assessments) and two other bodies open to the participation of diverse stakeholders (the plenary assembly). The same kind of distinction between science and participation is to be found in a recent outline of IPBES (UNEP, 2011a) where the research community is represented by a separate box with respect to the box for ‘other stakeholders’, which includes NGOs, indigenous groups and businesses (there are four boxes in all, the two remaining boxes being for governments and a box for international conventions). In this type of diagram, it is clear that knowledge relates to academic science while non-scientists are considered legitimate stakeholders rather than legitimate knowledge holders. The idea is to distinguish between the right to participate in decision-making, which belongs to everyone in a democracy and the right to contribute knowledge for decision-making, which belongs to experts only.

Lately, the calls for integrating different systems of knowledge suggest a more interdisciplinary organisation. Many recent documents stress the need to involve social scientists at an early stage or even “to consider a preparatory expert meeting to examine how to improve input of the social sciences’ (UNEP, 2011a). It may be that ecologists are expected to speak for the diversity of non-human living beings and social scientists for the diversity of societies, peoples and their knowledge systems. Whatever the case, while the requirement to include non-academic knowledge systems sometimes appears purely incantatory, the requirement for an interdisciplinary approach, meaning the inclusion of the social sciences, is very clear. Integrating the social sciences is considered to be a means for IPBES to open up to social concerns and avoid being overly conservation-orientated. As stipulated in the UNEP (2011a) document, the idea is ‘to prevent mass extinction

and to more effectively protect the biodiversity that underpins society' (UNEP, 2011a). In other words, the social sciences have an important role to play in assessing the Nature that politics can see: they are particularly expected to speak about ecosystem services. Integrating the social sciences is also a broader concern of international environmental governance: for instance, people now want to integrate socio-economic observations in existing major databases on ecosystems, like the GEOBON¹⁸ (Perrings et al., 2011).

A Biodiversity Regulatory Science: Indicators, Databases and Computer Projections

The most recent documents suggest that the type of science mobilised in IPBES is a description and prediction-orientated science, drawing on data, indicators and computer-modelling. It corresponds to the project of making Nature visible for politics by providing some general pictures and linking these up to political options: a description and prediction-orientated science is above all a regulatory science, that is, a science designed to be useful for regulatory activities rather than a science that primarily aims to understand and explain mechanisms. Data, indicators and computer-modelling make it theoretically possible to store ecosystem features from all over the world and predict their changes.

Computer-projections are meant to assess the consequences of different policy programmes and options. According to Perrings et al. (2011), IPBES assessments 'should take the form of conditional predictions of the consequences of [specific] policies and programs'. Reports should enable policy-makers to evaluate the relative merits of mitigation, adaptation and stabilisation strategies. In the report on the IPBES function of catalysing new generation of knowledge (UNEP, 2011b), scenario-building is presented as one of the priorities for biodiversity research. 'Modelling' is associated with the more general goal of political relevance, as the idea is to model 'stakeholder-driven scenarios' (UNEP, 2011a).

Moreover, the latest documents stress the need for biodiversity data and indicators. For the report on the IPBES function of capacity-building¹⁹ (UNEP, 2011a), but also for the report on the IPBES function of catalysing new generation of knowledge (UNEP, 2011b), it is time to produce more data but also to provide broader access to data through big accessible databases.²⁰ This matches the objective to forge generic and universal metrics and tools to measure biodiversity changes—as with the climate. In documents, this aspect is well developed and might even be seen as one of the most concrete dimensions of capacity-building approached so far.

All this means a kind of science with technical, bureaucratic and esoteric features, drawing on big databases and sophisticated computer tools and programmes. We can wonder how this kind of change is to co-exist with indigenous or 'experiential' types of knowledge—and even with human and social sciences—and whether it might not actually steamroll all other ways of knowing biodiversity. The rise of biodiversity modelling and scenarios is by no means specific to the IPBES²¹ project. However, in this specific context, it has specific political significations.

It may favour modelling specialists over specialists of other disciplines, making laypeople's access to the debate difficult. Like the role played by the community of climate modellers in the IPCC, the modelling and probabilistic scenarios and their sophisticated approaches may silence other representations of problems and useful knowledge and prevent non-specialists from joining the discussion (Demeritt, 2001; Shackley and Wynne, 1996). Furthermore, storing data and making computer projections lead to a specific representation of knowledge but also to uncertainty. In modelling, the problem is how to assess the uncertainties that characterise models and projections. This involves defining uncertainty as something that can be measured, tamed and reduced with more research. Such uncertainty has almost nothing to do with the ideas of threat, indeterminacy or even ignorance. However, this latter representation of uncertainty is not completely absent from the IMoSEB and the IPBES project. The IMoSEB claimed to act as an 'early-warning' system for 'emerging threats' while IPBES aims to recognise 'uncertainty and risks, including recognizing critical thresholds and identifying emergent and urgent issues' (UNEP, 2011b).²² The distinction between the periodic assessment function and the policy support function now allows IPBES to be more autonomous and to contribute to this early-warning mission: it does not have to wait to be asked to assess a topic considered important. However, the importance of quantitative projections relating to biodiversity can lead to underestimating uncertainties that may be embedded in the very choice of a knowledge system or in the hypothesis about the social practices embedded in the modelling hypothesis.

Conclusion

Our study firstly shows how expectations surrounding the creation and implementation of IPBES are numerous and varied. Beyond the core idea of preventing biodiversity loss, IPBES is expected by some people to link academic community with stake-holders or to promote biodiversity-modelling and scenario-making. Others expect that a body such as IPBES gives more space for other kinds of knowledge, in particular Traditional Ecological Knowledge (TEK). Still others wish that IPBES complete an international assessment system (with the IPCC) led by international environmental organisations such as UNEP. In this study we analysed the early stage of the IPBES project to highlight some of these co-existing or even competing expectations which weigh down on the implementation of the institution's future. Our study of the on-going creation of IPBES remains necessarily exploratory if compared to the kind of long-term retrospective study that will be conducted in several years on the IPBES functioning. However, scrutinising the birth of a new *Nature's* assessment institution could be really relevant not only from an academic point of view but also from a political one: it enables us to be more aware of the plurality of projects which the institution originates from and of the importance taken by some actors and strategies they developed in the course of the events. Retracing the different projects and hopes in which the institutionalisation process is anchored at its early stage can

enable us not to be fooled by the mainstream narrative which is being constructed by leading actors and could quickly become the sole official foundation narrative of this institution.

This analysis also shows how institution-making is currently weighed down by a model of disclosure, openness and participation. Perhaps not surprisingly, it has clearly become impossible for practitioners themselves to ignore social scientists' firm recommendations against technocratic monopolies on public assessment and management processes. Environmental concerns have certainly played a pioneering role in this respect. The political and practical requirement to disclose institutional processes is all the more present in the case of IPBES given that this project follows on naturally from older institutions involved in environmental or health assessments, the most famous of which is probably the IPCC.²³ The IPCC itself was criticised for being overly academic and closed to the participation of other knowledge holders, notably from Southern countries and had to revise the way it operated. UNEP was also considerably involved in creating the IPCC and the way it operates. In the future, the IPCC and IPBES will partly work together as the latter uses the scenarios made by the IPCC's third working group. Future research might look more closely into different forms of disclosure practices and how these become concrete in the case of climate change and biodiversity. The aim of such research might be to understand the extent to which climate and biodiversity progressively influence one another.

Our aim here was not to praise or assess the way in which the IPBES institutionalisation process complied or did not comply to the norms of disclosure and openness. Nor was our aim to promote this kind of norm or criticise the frequent emphasis placed on procedures for public participation to achieve democracy (Marres, 2007). Instead, we wanted to highlight the 'practices of disclosure' at stake in the case of the IPBES genesis and scrutinise the effects of UNEP involvement in this process. The involvement of UNEP certainly appears to have contributed in some way to putting disclosure into practice, for instance by stressing transparency through the use of the internet. But it has also helped to recycle an established culture of bureaucratic control as can be seen by the very important role played by documents written by the UNEP Secretariat. On the other hand, UNEP does not appear to have settled the dilemma between the requirement to open up the definition of expertise to various types of knowledge and the need for labelled academic science with figures, indicators and probabilistic scenarios. The disclosure model, therefore, appears to be but one requirement among different requirements to be met by UNEP for the institutionalisation process to be both efficient and legitimate. Our work highlights the shifts and tensions between a now well established requirement for participation and transparency and other requirements or usual ways of going about things in international organisations where enclosure mechanisms are at work. Ideally, the next step would be to study the implementation and functioning of IPBES over the coming years to see whether the initial options to meet different types of requirements are taken up and to study any changes occurring. In particular, it would be worth scrutinising the effective role of the modelling community in this

institution in order to better understand the type of regulatory science implemented to measure and assess Nature.

NOTES

1. The notion of ecosystem services was popularised by the Millennium Ecosystem Assessment (2005). Such services are defined as functions that are fulfilled by living organisms and useful for human beings, like for instance the pollination of flowers, climate regulation, or the cycle of water or soil regeneration. For the chairman of one of the MA (Millennium Ecosystem Assessment) working groups: 'it was a new way of thinking about linking the environment and people [...] which has led to a recognition that the environment needs to be valued because of the benefits it provides to people rather than as a vulnerable luxury.'
2. Intergovernmental Panel on Climate Change.
3. Robertson (2006) analysed the ecosystem services idea as an attempt to translate environmental issues from scientific into economic terms in order to define 'the Nature that capital can see'.
4. This empirical survey was carried out within two projects focusing on the international institutions of biodiversity governance: GLO-rete (Globalisation and re-territorialisation of public environmental action) funded by the Swiss Foundation for research and Pan-Bioptique (the new institutions of biodiversity: inventorying, digitising and expertising nature), funded by the French agency for research.
5. Bureaucratisation, as Max Weber (1978 [1921]) analysed it, takes place when an autonomous level is constituted to deal with certain functions in a group or a society.
6. S. Gaberell (see note 4) similarly suggested how, in the case of the Carpathian cooperation, UNEP was the main driver of the institutionalisation process, thanks to its legal know-how.
7. The MA was carried out between 2001 and 2005 to assess the consequences of ecosystem changes on human well-being. It involved more than 1300 experts worldwide. An MA follow-up strategy was then established to implement the MA and to address the issues it had left unanswered (http://www.unep-wcmc.org/ma-follow-up_557.html).
8. Countries or places having especially rich fauna and flora.
9. With Alfred Oteng-Yeboah (Ghana). The Executive committee included 15 persons, including prominent researchers in biology, economy or anthropology and official representatives of NGOs, governments, intergovernmental organisations (IUCN, UNEP) and scientific organisations related to biodiversity.
10. When mentioned by interviewees, the recent criticism of the IPCC was generally considered as not undermining its credibility.
11. IMoSEB also includes a newsletter and a very detailed web site on its activities. A Web forum and a web questionnaire are proposed:

You can contribute to the consultation by providing the Executive Secretariat with your views, comments and propositions on the regional consultations report and on the 'need & options' document. You can also directly express your views through the web-questionnaire. Reports, documents and a Web questionnaire are available at <http://www.imoseb.net>. Contact the Executive secretariat at executive-secretariat@imoseb.net (B3.5, Imoseb final report).

12. During the IPBES meetings, every speech is translated into the official UN languages.
13. However, these are no longer available on the web site.
14. It includes the following questions: 'What is IPBES?', 'Do we need an IPBES?', 'What will IPBES do?', 'What are its principles?' and 'What has been the process for an IPBES to date?'. It also provides a list of documents tracing IPBES decisions and recommendations adopted to date.
15. Only the first IPBES information letter written in September 2011 is personally signed by Anne Larigauderie, executive director of Diversitas and member of the International Council for Science (ICSU).

16. Promoting 'indigenous knowledge' can itself contribute to maintaining the idea of a significant difference between science and other types of knowledge (Jasanoff and Martello, 2004).
17. For instance, one IPBES principle is to 'recognize the unique biodiversity and scientific knowledge thereof within and among regions, and also recognize the need for the full and effective participation of developing countries and for balanced regional representation and participation in its structure and work' (preparatory document for the Plenary, October 2011).
18. Global Earth Observing (GEO) Biodiversity Observation Network (BON), part of GEOSS (Global Earth Observing System of Systems).
19. Capacity-building ranges from organising fellowship programmes, in order to allow participants—from Southern countries in particular—to be trained especially in ecological approaches, to supporting national environmental assessments and even free online access to scientific literature and databases, notably to encourage countries to undertake national assessments.
20. Spokespersons for the Biodiversity Indicators Partnership and for the global partnership for Wealth Accounting and Valuation of Ecosystem Services (linked to World Bank) participated in the meeting on capacity-building (Trondheim, 2011).
21. See Mauz, I. and Granjou, C., 2013. Also, see CBD Technical Series No. 50: Biodiversity scenarios: projections of 21st century change in biodiversity and associated ecosystem services. A technical report for the Global Biodiversity Outlook 3.
22. See also the concept note, where the IPBES mission is described as 'horizon scanning', that is to say being 'proactively alert to emerging issues and threats'.
23. The idea of learning from previous or other similar experiences is very present in the IMoSEB and IPBES' projects: we have suggested the importance of the climate change model but other precedents are frequently cited in terms of lessons to be learnt.

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