

Weighting the World: IPBES and the Struggle over Biocultural Diversity

Hannah Hughes and Alice B. M. Vadrot*

Abstract

This article has two aims. The first is to provide an account of the struggle over the term *biocultural diversity* during the intergovernmental approval of the first IPBES thematic assessment report. Second, in detailing this struggle, we aim to contribute to scholarship on global environmental negotiating processes and the place and power of knowledge within these by introducing the notion of a *weighted concept*. Our analysis starts with the observation that the emergence of new scientific terms through global assessments has the potential to activate political struggle, which becomes part of the social construction of the concept and may travel with it into other international negotiating settings. By analyzing the way in which the term *biocultural diversity* initiated reaction from delegates negotiating the Summary for Policy Makers of the Pollination Assessment, we illuminate the distribution of authority or symbolic power to determine its meaning and place in the text. We suggest that the weighted concept enables us to explore the forms of knowledge underpinning political order and, in this case, unpack how biocultural diversity challenges the primacy of scientific knowledge by authorizing the place of indigenous knowledge in global biodiversity politics, which initiated attempts to remove or confine its usage in the text.

In February 2016, member governments of the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) successfully approved the first

* Earlier drafts of this article were presented at the Sustainable Places Research Institute, University of Cardiff, in 2016; the Political Ecology Group, Department of Geography, University of Cambridge, in 2016; the ISA Annual Convention in 2017; the Knowledge Societies research group, University of Vienna, in 2017; the International Politics Department at Aberystwyth University in 2018; and the UC Berkeley workshop on the special section in 2018. We are grateful to all participants and for all comments received at these events. A big thank-you in particular goes to Aleksandar Rankovic, the authors of the special section—Peter Haas, Kimberly Marion Suiseeya, Kate O’Neill, Matthew Paterson, Jonathan Pickering, and Laura Zanotti—as well as the reviewers and *GEP* team for all their hard work and thoughtful comments. Alice B. M. Vadrot’s research was supported by an Erwin Schrödinger Fellowship (J-3704) from the Austrian Science Fund. Hannah Hughes’ research was supported by the School of Law and Politics, and by early career support from Cardiff University.

Thematic Assessment on Pollinators, Pollination and Food Production (IPBES 2016a). This was a significant moment for IPBES in terms of process and products. The final report and accompanying Summary for Policy Makers (SPM) offered an opportunity for IPBES to demonstrate its relevance as a global knowledge producer to member governments and the fields of biodiversity science and politics more broadly. In this regard, undertaking a Pollination Assessment (PA) was strategically important for IPBES to capture North American and European Union interest, where risks to pollinators from pesticides had become an important issue (Duperray et al. 2016). The intergovernmental approval of the SPM itself, modeled on the line-by-line approval of Intergovernmental Panel on Climate Change (IPCC) reports, was IPBES' first attempt at an assessment practice that enables member governments to approve the final wording of the report's key findings. It is this approval process, and the controversy initiated by a US intervention over *biocultural diversity*, that is the focus of this article. The strength of the US intervention and its need to consult with the "capital" drew attention and gave visibility to a concept that structured chapter 5 on biocultural diversity, pollinators, and their sociocultural values. This chapter assessed the non-economic valuation of pollinators and aimed to include the visions, approaches, and knowledges of indigenous and local communities in the assessment.

This article aims to provide an account of the controversy over biocultural diversity and use it as a site for illuminating the social and political struggles that characterize the approval of intergovernmental texts by exploring how this contestation imprints on the concepts and actors negotiating them. To achieve this, we introduce the notion of a *weighted concept* and break with conventional ways of understanding intergovernmental expert bodies like the IPCC and IPBES as science–policy interfaces by analyzing the intergovernmental approval sessions as negotiating sites. We use the notion of a weighted concept and the account of this approval session to illuminate three different aspects of negotiations over terminology in these settings:

1. *repetition*: how struggles over terms in assessment bodies relate to political processes in other fora, how the discussions and debates become entrenched over time, and how this leads to repetition and reproduction of position taking in the negotiation of intergovernmental texts,
2. *transposition*: how these struggles become transposed upon the concept—that is, *weighted*—and potentially reignited the next time the object reappears, and
3. *political order*: the object of these struggles is the constitution and distribution of authority and ultimately international political order, which struggles over objects of knowledge initiate and reflect, and have the potential to reinforce or reshape.

We begin by reviewing how IPBES has been studied, identifying recent innovations in the study of global environmental negotiating processes, and exploring

how these innovations could inform how we understand and study global environmental knowledge production exercises as negotiating sites.

Studying Intergovernmental Expert Bodies

Research into intergovernmental assessment bodies, like IPBES, has focused on sociohistorical emergence (Charvolin and Ollivier 2017; Granjou et al. 2013; Vadrot 2014a, 2014b); the relationship between science and politics (Brand and Vadrot 2013; Compagnon and LePrestre 2016; Gustafsson and Lidskog 2018; Hrabanski and Pesche 2016; Morin et al. 2017; Turnhout et al. 2014, 2016); and the structural, geographical, and disciplinary makeup of the organization and its products (Duperray et al. 2016; Esguerra et al. 2017; Kovács and Pataki 2016; Montana 2017; Montana and Borie 2016; Oubenal et al. 2017; Timpote et al. 2018; Vadrot et al. 2018a, 2018b). The intertwining between science and politics, and how to characterize it, is a central scholarly focus in IPBES and IPCC scholarship (see, e.g., Haas 2004; Hoppe et al. 2013; Miller 2004; Shackley and Wynne 1996; Skodvin 2000). Despite this, relatively little analytical attention has been given to one of the most important meeting sites: the intergovernmental acceptance and approval of text.¹ This is the moment in the assessment's production when government delegates, co-chairs of the assessment, and authors are brought together for the purpose of approving the assessment's key findings in the SPM.

The most informative accounts of these approval sessions are descriptions provided by those who participated in or observed them (Brenton 1994; Houghton 2008; Leggett 1999; Schneider 2009). These identify the level of controversy that these sessions initiate and the attempts to maintain boundaries between scientific and political authority to alter the final text (Fogel 2005; Petersen 2006). However, the analytical apparatus for understanding and analyzing these sessions is presently narrowed by regarding the IPCC and IPBES as intergovernmental processes distinct from other international negotiating fora, such as conferences of the parties (COPs) to the Convention of Biological Diversity (CBD) and the United Nations Framework Convention on Climate Change (UNFCCC).

The different approaches to studying intergovernmental assessment processes (IPCC and IPBES) versus the intergovernmental negotiating processes they inform (UNFCCC, CBD, etc.) have in part emerged from how the role of science and expert communities has been theorized in international relations (IR) (Lidskog and Sundqvist 2015). Traditionally, theorists in IR have regarded the separation between science and politics as a necessary condition to producing "truth" or "usable knowledge" to inform government interests in regime

1. The main focus of research on SPMs has been in relation to readability and communication (see Barkemeyer et al., 2016; Mach et al., 2016).

formation and negotiation (Haas 1990, 2004; Haas and Stevens 2011). Empirical study has questioned the degree to which science and politics are separated in practice. Studies highlight how investment in global environmental assessment activities shapes scientific interests and the knowledge produced (Hughes and Paterson 2017), and once produced, knowledge is available to all to incorporate in their discursive strategies and struggle to frame the issue (Hajer 1995; Litfin 1994). Observation of IPCC and IPBES plenary proceedings, and in particular the approval sessions of SPM text, makes apparent the analogous nature between these meetings and the drafting of decisions in UNFCCC or CBD COPs. Furthermore, by viewing the SPM approval process as a site of negotiation, a range of methodological reflections that have arisen from the study of global environmental meetings comes into view.

In this article, we draw on insights provided through metaphors of theater (Campbell et al. 2014b; Craggs and Mahony 2014; Death 2011; Hajer 2005; Leander 2011). We also identify the contribution of collaborative event ethnography (CEE) scholarship, which draws scholarly attention to the critical importance of studying inside these meetings, and the necessity of collaborating to cover these multiple “field sites” (Campbell et al. 2014a).

The Drama of Negotiations

Theater has proven a useful metaphor for illuminating the purposes served by global environmental meetings. Carl Death (2011) first used metaphors of theater and performance to draw attention to the symbolic role of summits in global environmental governance. Since then, theater has been used to explore the performative element of activities taking place inside these meetings (Craggs and Mahony 2014) and their imprint on final texts (Weisser 2014). These accounts make clear that the performance of negotiating processes and their effect on the outcome only become apparent when researchers gain access to, observe, and document proceedings. CEE is a significant methodological innovation in this regard. Through establishing a shared analytical approach, researchers work together to cover multiple sites at megaevents simultaneously (see Campbell et al. 2014a; Suiseeya and Zanotti, this issue). CEE research conceptualizes each conference as a single node in a network of global environmental governance, and the politics of performance is one of the shared frameworks used to analyze the proceedings (Campbell et al. 2014a, 2).

This is relevant to our study because when we started collaborating, we had distinct analytical approaches and knowledge of intergovernmental assessment bodies gained from observation at different sites (Hughes 2012; Vadrot 2014b). The initial objective of our research was to understand the political sociology of IPBES—the actors, activities, and social forces that shape the organization—to compare it to the IPCC. As is the case for CEE researchers, studying these processes collaboratively required developing a shared lens for analyzing the multiple sites that constitute these organizations (Corson et al. 2014). Theater provided a

practical starting point for our collaboration—a shared metaphor for describing and presenting our knowledge of the multiple meetings and varied actors we observed (see the online appendix https://www.mitpressjournals.org/doi/suppl/10.1162/glep_a_00503/suppl_file/glep_a_00503_supplement.pdf).

In this article, to facilitate identifying, describing, and analyzing the relations that structured the approval of the IPBES' first thematic assessment report, we use the metaphor of theater to help “set the scene” and describe the staging of the meeting. This enables us to identify the different actors that make up the intergovernmental approval session, to describe actors' role in the proceedings, and to explore their distinct strategies and forms of authority to shape the construction of the text. We also use it to sensitize us to the importance of identifying scripts and the repetitive nature of interventions that take place in these settings and how these roles and scripts solidify over time. The second move we make is to introduce new conceptual apparatus into analyses of intergovernmental settings with the notion of a *weighted concept*. We introduce this concept to explore our observation of delegates' attempts to remove new terminology from an assessment.

The weighted concept helps us to analyze the struggles that the appearance of new objects of knowledge generate, by situating this contestation within the field of political action that these objects have the potential to shape. While this concept has been developed specifically in relation to the intergovernmental processes observed within the IPCC and IPBES, it is relevant to any site where the meaning of a concept or term is being negotiated and contested, including at CBD and UNFCCC COPs and meetings of the parties. In fact, it is particularly relevant to these and their subsidiary bodies, because the practice of negotiating SPM texts is informed by delegates' experiences and practices within these meeting venues.

Bourdieu, Knowledge, and Global Environmental Order

The notion of a weighted concept is inspired by the sociological approach of Pierre Bourdieu. Aspects of Bourdieu's analytical toolbox have already been used within global environmental politics (GEP), such as his notion of “doxa” to interrogate the formation of commonsense thinking on environmental issues (Epstein 2008) and “field” and “symbolic power” to situate organizations in political space (Hughes 2015; Hughes and Paterson 2017). The weighted concept, as a conceptual innovation, arises from research informed by Bourdieu's stress on the significance of “naming” (Bourdieu 1991, 105). Regarding the social world as the “site of continual struggles to define what the social world is” (Wacquant 1989), Bourdieu suggested that social scientists take the “operations of *naming* and the rites of institution through which they are accomplished” as central objects of study (Bourdieu 1991, 105). The critical element is Bourdieu's stress that the ultimate purpose of struggle is not the designation of meaning per se but the particular state of “power relations”—or social order—that successful acts of naming “fix forever by enunciating and codifying” (Bourdieu 1986, 480).

Political struggle to designate the meaning of environmental objects is readily apparent in intergovernmental negotiating settings, where state delegates struggle to assert, constrain, and contest the definition of technical objects, as observed by members of the CEE team studying “biofuels” (Scott et al. 2014). The stakes in these struggles are high, because where these objects of knowledge appear and how they are defined structures and reflects how states act both within and beyond that setting. As Scott et al. indicate in their study, scientific and technical knowledge is a critical component of these struggles. This knowledge gives authority and, in Bourdieu’s terms, contributes to an actor’s symbolic power to determine the content of a text, which means both the definition of the object and the basis of actors’ authority to revise the text become constituents of struggle in intergovernmental negotiating settings (see Bourdieu 1991; Hughes 2015). The symbolic power that is assigned to particular interventions, contestations, and proposals for alternative definitions—and thus their success—is often dependent on the knowledge used to underpin and justify them.

To date, scientific and technical knowledge, predominantly produced by actors and institutions within industrialized countries or modeled on these approaches to scientific knowledge production (Corbera et al. 2016), have provided the most powerful rationales for asserting the meaning of reality (Scott et al. 2014). This has meant that interventions and revisions proposed by governments deploying this cultural resource have been most effective in determining text and thus the form global environmental action takes. However, these definitions of reality, even if eventually successful, rarely pass through the negotiating process uncontested. The studies reviewed below provide evidence of how some developing states and indigenous actors are drawing on cultural understandings of authoritative knowledge to contest and identify alternative definitions for global environmental objects.

While so-called alternative forms of knowledge, often identified as indigenous and local knowledge (ILK), are not recognized as equivalent to scientific knowledge, they are increasingly shaping the outputs of both IPBES (Gustafsson and Lidskog 2018; Obermeister 2018; Tengö et al. 2017) and CBD (Suiseeya 2014; Witter et al. 2015).² Within IPBES, contestation over scientific framings, such as the use of “ecosystem services,” has shaped the organization and its conceptual basis (Borie and Hulme 2015; Vadrot 2014a, 2014b), and the inclusion of ILK is now explicitly recognized within IPBES products (Díaz et al. 2015, 2018; Pascual et al. 2017). The contestation by Bolivia has been important, ensuring the inclusion of Mother Earth in the IPBES conceptual framework (Borie and Hulme 2015), which is also where we see the notion of biocultural diversity appearing in IPBES outputs for the first time (IPBES 2013).

2. This is demonstrated in the CBD’s stated aim to “preserve, and maintain knowledge and practices of indigenous and local communities, and encourage the equitable sharing of the benefits arising from the utilization of such knowledge and practices.” How such knowledge informs negotiating processes is constituent of the struggle and contestation (Brand and Vadrot 2013; Chennells 2013; Rosendal 2011, 77).

It is not only ILK that the Global South relies on to contest and propose alternative definitions. Increasingly, and as identified by Scott et al. (2014), countries in the Global South are generating their own scientific knowledge, reports, and expertise to counter Northern countries' domination over the legitimate forms of authority to know and represent the environment. However, we are concerned that our scholarly capacity to detect and analyze these shifts in the power of knowledge is limited by our conceptual apparatus. Studies exploring the role of knowledge and its translation into new technical objects through negotiating processes rely on analytical concepts developed within science and technology studies, such as boundary or fire objects (Borie and Hulme 2015; Campbell et al. 2014b; Gray et al. 2014; Scott et al. 2014). These bring into focus the processes of negotiation and translation that realize co-produced or hybrid scientific and political objects. While these concepts have attuned us to the intertwinement between knowledge, political authority, and social order, we still find ourselves unable to analyze the mechanisms through which this is realized and reproduced in practice.

In particular, we want to better understand and render visible the constitution and distribution of actors' power *within* these settings and its relation to social and political order beyond. It is here that Bourdieu's approach is critical, extending our analytical focus from the apparent object of struggle—the definition of a single object in a given international agreement or assessment report—to the basis of authority: the forms of knowledge that imbue a particular actor and definition with the symbolic power to name reality and shape social order. As Bourdieu reminds us, it is ultimately this—the social order—that is at stake in all social struggle and thus the core of global environmental politics. At present, governments of the Global North can assert and remake their dominance because global environmental activities reflect a political order that is built upon the authority endowed to scientific knowledge recognized and generated within and by these societies, which gives delegates from the Global North greater symbolic power to know and revise reality, as written in intergovernmental texts. However, this dominance is always contested. And even if the definition of a given problem or concept appears fixed—determined by the dominant—it contains within and has the potential to reopen the struggle and contestation that it generated and suppressed. It is this political struggle and the distribution of symbolic power—or social order—that underpins it that we want to explore through the notion of a weighted concept.

To further unpack the weighted concept, we need to return to the approval of the PA at the Fourth Plenary Session of IPBES in February 2016. In the following sections, informed by the metaphor of theater, we describe the staging of this intergovernmental meeting—the actors present, their forms of authority and strategies during the proceedings, and the controversy that emerged over the concept of biocultural diversity. Through this description, we aim to identify how objects of knowledge come to be weighted and how this weight reflects (1) the contestation over the definition and/or place in the text, (2) the potential

for particular terms to structure intergovernmental negotiations and political action, and (3) ultimately, the potential for those terms to reproduce or undermine the distribution of symbolic power that underpins global environmental order. Importantly, what we aim to demonstrate through the notion of a weighted concept is that meaning does not lie simply in the definition of a given concept but also in the historical, social, and political struggles that determine the definition and its place within negotiated text. Our account of the struggle is informed by three layers of data collection as indicated in Table A1 of the online appendix: (1) participant observation and recordings of IPBES 4; (2) fifteen interviews with the assessment co-chairs, authors, government delegates, and members of the IPBES bureau and the Multidisciplinary Expert Panel (MEP); and (3) documentary analysis of draft and final assessment text, IPBES documentation, and ENB reports.

IPBES and the Pollination Assessment

At its second plenary meeting, hosted in Antalya in December 2013, IPBES member governments approved the undertaking of the first Thematic Assessment of Pollinators, Pollination, and Food Production, or the PA (IPBES 2013, 2). The IPBES conceptual framework was also adopted during this plenary (Borie and Hulme 2015; IPBES 2013). The conceptual framework is designed to guide the work of the platform by providing “common ground” on the conceptual basis of IPBES and ensuring representation of the diversity of views on biodiversity, ecosystem services, and human well-being in IPBES products (Díaz et al. 2015, 4). It is through the conceptual framework that the concept of biocultural diversity was first introduced into government-approved IPBES documentation and the PA (IPBES 2013). The concept of biocultural diversity was used extensively in chapter 5, on biocultural diversity, pollinators, and their sociocultural values, which assessed the noneconomic valuation of pollinators and ensured that “the experience of indigenous and local communities” was included in the assessment, particularly in relation to the impacts of pollinator decline, and management and mitigation options (IPBES 2013, 29, Decision 2_5). In the chapter, biocultural diversity was defined as

the total variety exhibited by the world’s natural and cultural systems, explicitly considers the idea that culture and nature are mutually constituting, and denotes three concepts: first, diversity of life includes human cultures and languages; second, links exist between biodiversity and cultural diversity; and last, these links have developed over time through mutual adaptation and possibly co-evolution.

The assessment was developed over the course of three author meetings, held from June 2014 to July 2015.³ The authors were selected by the IPBES

3. For a list of PA events, see IPBES (n.d.).

bureau and MEP members from government and stakeholder nominations, and they were guided in their work by the PA co-chairs, the ILK Task Force, and the conceptual framework.⁴ Workshops also informed and broadened authors' perspectives. For example, the Global Dialogue Workshop on ILK on Pollination and Pollinators Associated with Food Production, hosted in Panama in December 2014, aimed to identify possible ILK case studies to include in the report. Although chapter 5 was focused on noneconomic valuation and the experience of ILK holders, only two members of the twelve-author team were social scientists (see Table A3). One of the social scientists, and the third convening lead author (CLA), Rosemary Hill, joined the chapter at the second author meeting in Brazil in March 2015, after it became apparent that further expertise on ILK was needed.⁵ She also joined the drafting team for the SPM and, as such, became the chapter member responsible for representing the chapter's key findings during the intergovernmental approval session. The key findings of the PA were drafted into an SPM by eleven authors, including the co-chairs, the technical support assistant, and seven other representatives of the report. In preparation for the approval session, drafting authors attended a workshop at Cambridge University in March 2015,⁶ where invited IPCC authors advised on the line-by-line approval process.⁷ Skype sessions were also held for authors attending the approval session, to ensure that all participants arrived at the meeting prepared for the proceedings and equipped with the necessary background knowledge and scientific references to defend the report's key messages.⁸

The Approval Session

The fourth plenary session of the IPBES was held in Kuala Lumpur, Malaysia, from February 22 to 29, 2016. There were 373 recorded participants at the meeting, including member governments, nongovernmental organizations, United Nations bodies and agencies, universities, research institutes, and scientific networks (IPBES 2016b). Eighty of the 124 IPBES member countries attended, and more than one-third (217) of listed participants were part of a national

4. The IPBES bureau is composed of fifteen government-nominated experts, two from each UN region, including the chair and vice-chair of IPBES. The bureau oversees communication and outreach activities, advises the plenary on coordination between IPBES and other institutions, and reviews progress in the implementation of plenary decisions. The MEP advises the platform on scientific and technical aspects; manages the peer-review process; and examines how to bring different knowledge systems, including ILK, into IPBES processes and products (IPBES 2012). Several Task Forces were established with IPBES, including capacity building, knowledge and data, and ILK. The ILK Task Force is composed of two bureau members and three members of the MEP, plus up to twenty experts on indigenous and local knowledge systems.
5. A researcher at the Commonwealth Scientific and Industrial Research Organisation (CSIRO) in Australia and a member of the IPBES expert panel on ILK.
6. The Confidence (Uncertainty) Framework Workshop, held at Cambridge University from March 23 to 24, 2015.
7. Interview with bureau member, November 14, 2016; interview with author, July 26, 2016.
8. Interview with author, July 10, 2016.

delegation. The size of delegations varied, ranging from eleven in the French, ten in the German, seven US delegates, five UK delegates, and one delegate representing Brazil (IPBES 2016b). The PA was not the only approval process; delegations were divided between the simultaneous approval of the methodological assessment. This makes the size of the delegation significant; small delegations do not have the capacity to attend parallel sessions. The larger delegations were typically composed of civil servants representing different government departments, for example, agriculture, environment, and foreign affairs, with observable overlap between delegates in attendance at CBD COP and Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) meetings. Many delegations had not significantly changed in composition since the first multi-stakeholder meeting to establish IPBES (Vadrot 2014b). This continuity between delegations and crossover with CBD is important. These delegates are long-term participants in the key issue areas and political struggles within the field of biodiversity politics, which informs their position taking on the emergence of new objects in IPBES.

Approval of the PA started on Monday, February 22, with the introduction of the technical report by the executive secretary of IPBES Anne Larigauderie (IPBES 2016a) and a presentation on the assessment's key findings by the co-chairs, Simon Potts (UK) and Vera Lucia Imperatriz Fonseca (Brazil). The overall setting and arrangement of the meeting resembled other multilateral negotiation settings. Government delegates sat in alphabetical order with the text projected on three large screens at the front (see Figure 1). Facing the delegates, on the stage, sat the PA co-chairs accompanied by the authors whose chapter was under discussion, MEP and bureau representatives, and secretariat staff (Figure 1). The approval session was chaired by the newly elected chair to IPBES, Sir Robert Watson, or MEP member (and long-standing representative of



Figure 1
View of the Staging of the Pollination Assessment Approval Session

Photograph courtesy of ENB Reporting Services.

Ghana to CBD) Alfred Oteng Yeboah. This organization of the room reflects the purpose of the session. Thus, when governments sought clarity or proposed revisions, the authors on the stage could present the scientific background and ensure that any proposed revisions remained true to the science in the underlying assessment.

In the evening of the second day, roughly twenty minutes before translation ended, and after many delegates had left the room, attention came back to biocultural diversity. Earlier in the day, discussions around text on food sovereignty, biocultural diversity, and free prior and informed consent—language that related to party obligations and past political struggles in the CBD over indigenous knowledge and access and benefit sharing (Bavakatte and Robinson 2011; Nijar 2013)—were “delegated to an informal group to discuss divergent views among delegates” (Antonich et al. 2016, 1). Informal groups, or “friends of the chair” meetings, are a method available to the chair to move protracted discussions out of the plenary. These smaller group sessions are attended by the delegates raising objection and the authors responsible for the text, and they are chaired by a bureau or MEP member. The idea behind these smaller groups is to enable delegates to have more intricate discussion with authors, clarify confusion, and produce an acceptable compromise. Any text agreed is taken back to plenary for approval. As soon as a concept or term is identified and objected to, the potential for struggle is initiated, particularly if disagreement results in further discussion outside of plenary. Suddenly, other delegations—who may not have considered the text previously—start to pay attention. Thus objecting can be a gamble, drawing attention and in the process initiating struggle and contestation, which weights the term and its usage.

When the notion of biocultural diversity appeared for the second time that day, and this time in relation to the value of ILK in supporting pollination (IPBES 2016c, 19), the US delegate intervened:

My government is in the position where we cannot accept the use of the term biocultural diversity, and certainly we cannot accept a definition that has not been discussed and negotiated among governments. The best that I can do at this point is to send this entire paragraph to Capital for consultation. But I will flag that I think it is very difficult for us to have a repeated use in a way of a concept that is unclear in the policy, people and governmental realm and is now being in addition valued. We are in a difficult position as governments to deal with the concept that is very unclear from a governmental point of view and does not have an agreed definition, in general. (transcribed from recording)

The member of the US delegation taking the floor for this intervention was Christine Dawson. Dawson is deputy assistant secretary of state for environment and head of the US delegation to CBD COP 13 in Mexico in 2016. Each national delegation is a complex object of study composed of distinct, even competing, individual and institutional interests and investments in IPBES. This is readily observed in the US delegation, where actors may have a role in

proceedings both as a member of the national delegation and as a task holder within the organization. Ann Bartuska, for example, is under secretary for research, education, and economics in the Department of Agriculture (USDA) and was a member of the IPBES MEP from 2013 to 2015. Bartuska is recognized as a leading member in the establishment of the IPBES (Inouye 2014). As a MEP member, Bartuska was involved in establishing the processes and procedures for realizing IPBES and the conceptual framework (Díaz et al. 2015). The workshop in Panama, mentioned above, which identified ILK case studies for inclusion in chapter 5, was supported by the USDA (Lyver et al. 2015). On the US delegation, Bartuska represented her department alongside other department representatives, including the US Geological Survey, the Environmental Protection Agency, and USAID.

The State Department coordinated the delegation, with relevant positions and required expertise identified prior to arrival and updated daily during proceedings.⁹ While some technical issues may be covered by the relevant expert, the controversy over biocultural diversity was identified as high-level negotiating policy related to the CBD and thus led by the State Department.¹⁰ Dawson's intervention centered on how the term *biocultural diversity* was assessed on page 15 of the draft SPM (see Table A2). The section highlighted the role that cultural practices have in supporting "pollinators, and maintaining valued biocultural diversity." It further linked these supporting practices to the recognition of rights, suggesting that "many communities are losing land they have occupied for centuries because of limited recognition of their rights" (Table A2). Australia followed the US intervention. Supporting the US position, Australia indicated surprise at an elaborated paragraph on biocultural diversity after the earlier discussion. Canada also intervened in support and suggested that the earlier agreement on replacing *biocultural diversity* with *biological and cultural diversity* could be a suitable way forward.

The content and order of government interventions offer insight into key motivations that animate the approval of intergovernmental text. These include government interests and concerns over the potential risk of new concepts and their implications for political action, one's perceived role and the accrual of symbolic power in the organization (i.e., through supporting allies, being a friend to the chair, and a broker of solutions), and the aesthetic of the text. There may also be personal interests or stakes intertwined with the above, and these too can become inscribed on the weight of the concept. Delegate motivations, strategies, and sources of symbolic power are distinct from the authors and the chairs of the session. This can be illustrated through the position of chair, whose own authority depends on the capacity to balance and channel social and political forces in the approval of the text. Bob Watson was chairing this session. Watson played a leading role in the establishment of IPBES and was a central actor in the IPCC, including chair of the IPCC Third Assessment Report (2001).

9. Interviews with delegates, September 16, 2016, and August 14, 2017.

10. Interview with delegate, September 16, 2016.

He was elected as IPBES chair preceding the approval session. Watson has extensive experience of these situations and a well-developed way of channeling plenary forces (see Fogel 2005).

Watson requested the previously agreed paragraph be projected on the screen and asked delegates whether they could accept the replacement of biocultural diversity with “terms ... used in the other accepted language.” The Australian delegate, Peter Bridgewater—a member of the ILK Task Force to IPBES—again intervened, this time as “a friend” to the chair (from recording). Bridgewater recalled the previous solution that he helped broker, which was to replace biocultural diversity with “biological diversity and cultural diversity and the links between them.” Bridgewater could be identified as having a personal stake in this solution, first because he was central to brokering it,¹¹ second because he was an expert member of the ILK Task Force, and most significantly because he had previously published literature on biological and cultural diversity (Bridgewater et al. 2007; see also Bridgewater 2016). However, in this instance, Bridgewater suggested that using the substitution in this paragraph could make it “a very elaborated thing.” Watson acknowledged this but recommended delegates accept the proposal. He voiced his concern over time and the loss of translation and appealed to delegates to overlook the appearance “from an editorial standpoint” when in a situation of “political difficulty.” Watson’s suggestion and readiness to bend to the requirement of powerful platform members, however, were not acceptable to the authors.¹²

The key role of authors during plenary approval is to ensure that suggested revisions are true to the science of the underlying report. The symbolic power of authors in this setting is their scientific authority and knowledge of the subject. Authors present the scientific background to the assessment’s key messages and respond to comments and questions from government delegates. Divergence from this role may be challenged by member governments, and delegates have been known to offer sharp reminders on the distinction between “a scientist” and “a representative of a sovereign nation” (Schneider 2009, 140). The first chapter 5 author to speak was a female biologist from Indonesia, Damiyanti Buchori. Buchori offered background on the chapter and explained the challenge that authors had assessing noneconomic valuation of biodiversity as biologists. Her intervention turned to a moral argument, tying biocultural diversity to traditional knowledge and wisdom. She suggested that the term’s usage “is about how we used to interact with nature and trying to capture that wisdom back into this document that is very scientific” (transcribed from a recording). Watson followed Buchori’s intervention, making what he identified as “a totally different point,” by turning to procedure.

Knowledge and deployment of “correct” procedure for producing and agreeing text can be a valuable resource for chairs and authors when attempting to limit government revision of the text. Speaking “specifically to the US,”

11. Interview with author, July 26, 2016.

12. Interview with authors, July 10 and 26, 2016.

Watson reminded the delegation that “the whole chapter is entitled ‘biocultural’ and that the word appears throughout the underlying report. Watson then asked whether the US government had requested the elimination of *biocultural* during the government review. He further added that the term *biocultural* had already been adopted by the plenary, through the plenary approval of the conceptual framework. This turn to procedure, however, inadvertently draws the conceptual framework into the contestation.¹³ The US delegate acknowledged the appearance of biocultural diversity in the conceptual framework but highlighted that “there is absolutely no definition with it” and stated that it appeared alongside “a number of other concepts that are undefined, ill-defined, unclear.” Dawson’s challenge extends beyond the approval of the PA attacking and potentially undermining the conceptual basis of the platform and thereby the platform itself.

Watson appealed to the US delegation and the authors: could the United States accept the appearance of *biocultural diversity* without a definition, as it appears in the conceptual framework? And could the authors accept the fix of the earlier friends of the chair group? While the US delegate indicated that the section would have to remain bracketed until consultation with the Capital, the CLA of chapter 5, Rosemary Hill, took the floor. Acknowledging the inter-governmental character of the platform and its dependence on government decision-making, Hill brought the “work” of the authors and time of indigenous and local people into play:

I have to be honest with you and say that I do think if this concept cannot be quoted in the SPM then really chapter 5 should not be accepted, as this is the key underpinning scientific basis of our ability to link between indigenous and local communities, knowledge systems and the science of culture and nature, which we know has been separated. Biocultural diversity is the scientific concept that links those things and therefore as a team of scientists that has been the key organising concept of our chapter.

Through this intervention, Hill raised the stakes of the US objection, which now potentially jeopardized both the approval of the SPM and the underlying report. In response, Dawson suggested that “no one is disputing that this may be a valid, useful scientific approach” and reminded the floor that she comes “with instructions.” It is not, as she had suggested earlier, the scientificity of the term that the US government is disputing but the processes followed: “to move a scientific concept that is not well defined into a political arena, there are processes for doing that. From my government’s perspective this was not the appropriate one.” Dawson’s intervention reminds us that governments too can deploy and contest “appropriate” procedure. Watson responded here by acknowledging the delegate’s instructions and drawing the proceedings to a close.

13. On the intergovernmental approval of the conceptual framework, see Borie and Hulme (2015).

By morning, the United States had arrived with a proposal that (1) removed biocultural diversity from the key messages and accompanying footnote on page 7 (see Table A2), (2) placed all appearances of biocultural diversity in quotation marks, and (3) added the bracketed phrase “for the purposes of this assessment, biological and cultural diversity and the links between them are referred to as ‘biocultural diversity.’” This proposal initiated a string of interventions from Mexico, Guatemala, Argentina, and Bolivia, each identifying biocultural diversity as central to cultural understandings of nature. This indicates how the struggle over a term can increasingly attract and draw in energy with each appearance, especially when it becomes linked to past contestation and there is time to confer overnight.¹⁴ Bolivia’s intervention is an example of this; the delegate acknowledges “vivir bien” in harmony with Mother Earth and identifies the national position on recognizing diverse conceptions of nature. Bolivia strongly advocated for this plurality during the establishment of IPBES and the conceptual framework (Borie and Hulme 2015; Vadrot 2014a) and attaches the content of these earlier struggles to biocultural diversity through this intervention. However, perhaps what is most noteworthy about Bolivia’s intervention is that it was not made by Diego Pacheco, who usually heads the Bolivian delegation to IPBES and CBD, but who was unable to attend this plenary.¹⁵ Had Pacheco been present, he—like the United States—may have also seen the potential for biocultural diversity in the CBD and defended it as an essential element of the existing plurality of perspectives on nature.¹⁶

Pacheco’s absence highlights the significant role that resources, organization, and continuity within delegations play for realizing national concerns and shaping intergovernmental text. Instead, however, Watson was able to address the delegates, “what degree of flexibility is there and is there a pragmatic solution forward?” He reiterated US unwillingness to accept the term *biocultural diversity* without a clause, despite it being “a very common term” in the “scientific literature” as well as among “many cultures and some governments.” He described how biocultural diversity would appear in the SPM and chapter 5 and then “pleads ... in the spirit of flexibility,” asking “once more” whether there were any objections to the proposal. The Australian delegate intervened in support, suggesting that he did not hear anything in the interventions that “is not catered for” in the chair’s suggestion. Watson thanked Australia, and when no country flag was raised, signaled the approval of the SPM with his gavel.

The Final Outcome

Identifying the changes to the approved text reveals the United States’ success in shaping the place and content of *biocultural diversity* in the PA (see Figure 2). While the United States did not manage to remove reference to *biocultural*

14. Interview with author, July 10, 2016.

15. Interview with delegate, April 26, 2017.

16. Interview with delegate, April 26, 2017.

A number of cultural practices based on indigenous and local knowledge contribute to supporting an abundance and diversity of pollinators and maintaining valued “biocultural diversity” (for the purposes of this assessment, biological and cultural diversity and the links between them are referred to as “biocultural diversity”) (established but incomplete). This includes practices of diverse farming systems; of favouring heterogeneity in landscapes and gardens; of kinship relationships that protect many

Figure 2

How Biocultural Diversity Appears and Is Defined in the Final SPM Text (excerpt shown here)

Note: Highlighting has been added for emphasis.

diversity completely, they did manage to move it further back in the SPM, confine its definition, and, at the same time, reduce reference to the recognition of rights to a table and remove any reference to the loss of land (see Table A1). The question then becomes, why did the United States seek to remove, or at the very least contain, the definition and usage of *biocultural diversity*? According to US interventions, the government objected to a term that linked biodiversity to cultural diversity because (1) its definition had not been discussed and negotiated by governments and (2) this was not the appropriate procedure for bringing a scientific term into the political arena, identified in interviews, as the CBD. However, this is what international environmental assessment bodies like the IPCC and IPBES—through the government approval of the SPM—are designed to do. It is a process that carries risks for governments, introducing new concepts into global biodiversity negotiating processes with potential effects—the “fear” being, as one “seasoned observer” noted, that these words “may take on a life of their own and pre-empt discussions in more policy-oriented fora” (Antonich et al. 2016, 2). We suggest that the IPBES is a particularly important site for the United States to control the knowledge inputs into the CBD because they have not ratified this convention (Blomquist 2002) and thus cannot officially participate in determining meaning once these objects reach CBD COP negotiations. IPBES offers the United States a site to influence the terminology that travels to the CBD and the actors and forms of knowledge these authorize. As is clear from its usage in the PA (see Table A2), biocultural diversity is a concept that recognizes, acknowledges, and values diverse indigenous knowledges and practices that protect and maintain abundant biodiversity.

Looking beyond US motivations for contesting biocultural diversity, the weighted concept suggests that this struggle has the potential to transpose on the object of focus, weighting it within both organizational proceedings and the minds of those present. The effect is that the next time this object reappears in the production of an IPBES assessment or plenary proceedings,

or even when it travels outside of this context, through a reference in CBD or SBSTTA text, the struggles outlined above have the potential to impact actors' reception of and position toward it in their next encounter. There is evidence of this weighting process within IPBES over its conceptual apparatus, and scholarly accounts take these back to the bodies' establishment and the controversy over ecosystem services. During the establishment of IPBES, the United States advocated for a science-driven process focused on ecosystem services (Vadrot 2014a, 181), while Bolivia contested the ecosystem framing and sought greater plurality of worldviews represented (Borie and Hulme 2015). In our account of biocultural diversity, this position taking is transposed upon and becomes the weight of the concept. This weighting process may help us to explain why negotiating fora appear repetitive, scripted, and staged—both to observing researchers and to participants. This is well illustrated by the comments of the former president to the Maldives and head delegate to the UNFCCC at COP 24 Mohamed Nasheed:

Almost 10 years since I was last at these climate negotiations, I must say, nothing much seems to have changed. We are still using the same old, dinosaur language. Still saying the same old words. Still making the same tedious points.¹⁷

Conclusions

We set out to use the notion of a weighted concept to illuminate how social and political struggles take place over new terminology in approval sessions and to identify how these struggles become transposed on the objects of knowledge. By doing this, we wanted to extend our analysis of agreement making to the sites where the knowledge that underpins global environmental action is assessed by expert authors and approved by member governments. This enabled us to explore three different aspects of these settings:

Repetition. When you observe plenary approval proceedings as a researcher, and as authors have commented during interviews, government delegates appear to be conducting a performance, offering seemingly prepared and scripted interventions. Even more striking is when you attend several plenary sessions and delegates make the same point repeatedly within a session, across sessions, and between fora. By documenting the struggle over biocultural diversity, we aimed to explore this repetition and continuation between position taking by governments. In IPBES, and in relation to the negotiation over biocultural diversity, this repetition was observable in the United States' attempt to narrow the recognition and inclusion of ILK, and in Bolivia's attempt to expand

17. BBC online news, December 16, 2018.

the conceptual basis of the platform beyond a focus on ecosystem services.

Transposition. The main innovation that we aim to introduce to the study of objects of knowledge in negotiating processes is how this position taking becomes transposed on the object of focus, literally becoming its weight, so that when it next appears, it has the potential to reignite struggle. Importantly, through documenting the contestation over biocultural diversity, we aimed to make clear that meaning is not just in the text or how the text identifies or defines a given concept. The weight that producing an acceptable meaning generates is also a component of the meaning, because the next time that concept resurfaces in the same or perhaps a new setting with either the same actors present or actors aware of what has gone before, those struggles to constitute the concepts' meaning have the potential to structure how it is received. The weighted concepts indicate, then, that it is not just terms that are carried between texts or between fora; it is also the historical journey and social and political struggles that finalize the terminology and its position in the text.

Political order. The explanation that we offer for this repetition and transposition is that the basis of the struggle over biocultural diversity, and all struggles over terminology, is the authority or symbolic power to determine reality and, ultimately, one's location in the global political order through that reality. By promoting the primacy of science and scientific knowledge, the United States seeks to retain the basis of its own primacy in this order. Widening the forms of knowledge that are valued and authorized to know and define how environmental degradation is represented and acted on is a significant threat, and one best diffused by removing *ill-defined* terms, and their potential, from the text.

By introducing the notion of a weighted concept, we aim to direct our analytical gaze to where terms and concepts in negotiating processes are often introduced, and to sensitize our study to how the definition and reception of these objects of knowledge become structured by existing forces and struggles within the field of political action. By providing this account, we aim to render these processes more transparent, perhaps even enabling actors that cannot be present in every informal and parallel session to follow proceedings and identify their significance to their own negotiating interests or scholarly research. This, of course, is not likely to lessen struggle but may enable more diverse representations in the weight of the concept.

Hannah Hughes is a lecturer in international relations at Cardiff University. Her central concern is the relationship between knowledge and power in the global response to environmental degradation and developing the methodological tools to interrogate this. She has explored this relationship extensively in the

Intergovernmental Panel on Climate Change (IPCC), including with her most recent publication, with Matthew Paterson, “Narrowing the Climate Field: The Symbolic Power of Authors in the IPCC’s Assessment of Mitigation,” in *Review of Policy Research* 34 (6), 2017.

Alice B. M. Vadrot is assistant professor in international politics at the University of Vienna. Her research addresses the role of knowledge and science in global environmental politics and policies. She has conducted extensive research on the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES), is author of *The Politics of Knowledge and Global Biodiversity* (2014), and is editor of a special volume on the social sciences and humanities in IPBES (*Innovation: The European Journal of Social Science Research* 31 [Suppl. 1], 2018). Vadrot holds an ERC Starting Grant to develop and apply a new methodology for grounding the analysis of science–policy interrelations in international marine biodiversity politics in empirical research.

References

- Antonich, B., S. Jungcurt, K. Louw, and D. W. Nyngi. 2016. IPBES 4. *Earth Negotiation Bulletin* 31: 25.
- Barkemeyer, R., S. Dessai, B. Monge-Sanz, B. G. Renzi, and G. Napolitano. 2016. Linguistic Analysis of IPCC Summaries for Policymakers and Associated Coverage. *Nature Climate Change* 6: 311–316.
- Bavakatte, K., and D. F. Robinson. 2011. Toward a People’s History of the Law: Bio-cultural Jurisprudence and the Nagoya Protocol on Access and Benefit Sharing. *Law, Environment, and Development Journal* 7 (1): 35–51.
- Blomquist, Robert F. 2002. Ratification Resisted: Understanding America’s Response to the Convention on Biological Diversity, 1989–2002. *Golden Gate University Law Review* 32: 493–586.
- Borie, M., and M. Hulme. 2015. Framing Global Biodiversity: IPBES between Mother Earth and Ecosystem Services. *Environmental Science and Policy* 54: 487–496.
- Bourdieu, P. 1986. *Distinction: A Social Critique of the Judgement of Taste*. London, UK: Routledge.
- Bourdieu, P. 1991. *Language and Symbolic Power*. Cambridge, UK: Polity.
- Brand, U., and A. B. M. Vadrot. 2013. Epistemic Selectivities and the Valorisation of Nature: The Cases of the Nagoya Protocol and the Intergovernmental Science–Policy Platform for Biodiversity and Ecosystem Services (IPBES). *Law, Environment, and Development Journal* 9: 202–220.
- Brenton, T. 1994. *The Greening of Machiavelli: The Evolution of International Environmental Politics*. London, UK: Royal Institute of International Affairs, Energy and Environmental Programme/Earthscan.
- Bridgewater, P. 2016. The Intergovernmental Platform for Biodiversity and Ecosystem Services (IPBES)—A Role for Heritage. *International Journal of Heritage Studies* 23 (1): 65–73.
- Bridgewater, P., A. Salvatore, and J. Scott. 2007. Biological Diversity and Cultural Diversity—The Heritage of Nature and Culture through the Looking Glass of Multilateral Agreements. *International Journal of Heritage Studies* 13 (4–5): 405–419.

- Campbell, Lisa M., C. Corson, N. J. Gray, K. I. MacDonald, and J. P. Brosius. 2014a. Studying Global Environmental Meetings to Understand Global Environmental Governance: Collaborative Event Ethnography at the Tenth Conference of the Parties to the Convention on Biological Diversity. *Global Environmental Politics* 14 (3): 1–20.
- Campbell, L. M., S. Hagerman, and N. J. Gray. 2014b. Producing Targets for Conservation: Science and Politics at the Tenth Conference of the Parties to the Convention on Biological Diversity. *Global Environmental Politics* 14: 41–63.
- Charvolin, F., and G. Ollivier. 2017. *La biodiversité entre science et politique: La formation d'une institution internationale*. Paris, France: Editions PETRA.
- Chennells, R. 2013. Traditional Knowledge and Benefit Sharing After the Nagoya Protocol: Three Cases from South Africa. *Law, Environment and Development Journal* 9 (2): 163–184.
- Compagnon, D., and P. LePrestre. 2016. IPBES and Governance of the International Biodiversity Regime Complex. In *The Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES): Meeting the Challenge of Biodiversity Conservation and Governance*, edited by Marie Hrabanski and Denis Pesche, 18–40. London, UK: Routledge.
- Corbera, E., L. Calvet-Mir, H. Hughes, and M. Paterson. 2016. Patterns of Authorship in the IPCC Working Group III Report. *Nature Climate Change* 6 (1): 94–99.
- Corson, C., L. M. Campbell, and K. I. MacDonald. 2014. Capturing the Personal in Politics: Ethnographies of Global Environmental Governance. *Global Environmental Politics* 14: 21–40.
- Craggs, R., and M. Mahony. 2014. The Geographies of the Conference: Knowledge, Performance and Protest. *Geography Compass* 8 (6): 414–430.
- Death, Carl. 2011. Summit Theatre: Exemplary Governmentality and Environmental Diplomacy in Johannesburg and Copenhagen. *Environmental Politics* 20 (1): 1–19.
- Díaz, S., S. Demissew, J. Carabias et al. 2015. The IPBES Conceptual Framework: Connecting Nature and People. *Current Opinion in Environmental Sustainability* 14: 1–16.
- Díaz, S., U. Pascual, M. Stenseke et al. 2018. Assessing Nature's Contributions to People. *Science* 359: 270–272.
- Duperray, F., M. Hrabanski, and M. Oubenal. 2016. First Thematic Assessment on Pollution: Between the Legitimization of IPBES and Tensions Regarding the Selection of Knowledge and Experts. In *The Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES): Meeting the Challenge of Biodiversity Conservation and Governance*, edited by Marie Hrabanski and Denis Pesche, 211–227. London, UK: Routledge.
- Epstein, C. 2008. *The Power of Words in International Relations: Birth of an Anti-whaling Discourse*. Cambridge, MA: MIT Press.
- Esguerra, A., S. Beck, and R. Lidskog. 2017. Stakeholder Engagement in the Making: IPBES Legitimization Politics. *Global Environmental Politics* 17 (1): 59–76.
- Fogel, C. 2005. Biotic Carbon Sequestration and the Kyoto Protocol: The Construction of Global Knowledge by the Intergovernmental Panel on Climate Change. *International Environmental Agreements* 5: 191–210.
- Granjou, C., I. Mauz, S. Louvel, and V. Tournay. 2013. Assessing Nature? The Genesis of the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES). *Science, Technology, and Society* 18 (1): 9–27.

- Gray, N. J., R. L. Gruby, and L. M. Campbell. 2014. Boundary Objects and Global Consensus: Scalar Narratives of Marine Conservation in the Convention on Biological Diversity. *Global Environmental Politics* 14: 64–83. https://doi.org/10.1162/GLEP_a_00239.
- Gustafsson, K. M., and R. Lidskog. 2018. Organizing International Experts: IPBES's Efforts to Gain Epistemic Authority. *Environmental Sociology* 4 (4): 445–456.
- Haas, Peter M. 1990. Obtaining International Environmental-Protection through Epistemic Consensus. *Millennium Journal of International Studies* 19: 347–363.
- Haas, Peter M. 2004. When Does Power Listen to Truth? A Constructivist Approach to the Policy Process. *Journal of European Public Policy* 11: 569–592.
- Haas, Peter M., and C. Stevens. 2011. Organized Science, Usable Knowledge, and Multilateral Environmental Governance. In *Governing the Air: The Dynamics of Science, Policy, and Citizen Interaction*, edited by Rolf Lidskog and Göran Sundqvist, 125–162. Cambridge, MA: MIT Press.
- Hajer, M. A., 1995. *The Politics of Environmental Discourse: Ecological Modernization and the Policy Process*. Oxford and New York: Clarendon Press.
- Hajer, Maarten A. 2005. Setting the Stage: A Dramaturgy of Policy Deliberation. *Administration and Society* 36 (6): 624–647.
- Hoppe, R., A. Wesselinck, and R. Cairns. 2013. Lost in the Problem: The Role of Boundary Organisations in the Governance of Climate Change. *Wiley Interdisciplinary Reviews: Climate Change* 4 (4): 283–300.
- Houghton, J. 2008. Madrid 1995: Diagnosing Climate Change. *Nature* 455: 737–738.
- Hrabanski, M., and D. Pesche. 2016. *The Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES): Meeting the Challenge of Biodiversity Conservation and Governance*. London, UK: Routledge.
- Hughes, H. 2012. Practices of Power and Knowledge in the Intergovernmental Panel on Climate Change. PhD dissertation, Department of International Politics, Aberystwyth University.
- Hughes, H. 2015. Bourdieu and the IPCC's Symbolic Power. *Global Environmental Politics* 15 (4): 85–104.
- Hughes, H., and Matthew Paterson. 2017. Narrowing the Climate Field: The Symbolic Power of Authors in the IPCC's Assessment of Mitigation. *Review of Policy Research* 34 (6): 744–766.
- Inouye, D. W. 2014. IPBES: Global Collaboration on Biodiversity and Ecosystem Services. *Frontiers in Ecology and the Environment* 12: 371–371.
- IPBES. 2012. Report of the Second Session of the Plenary Meeting to Determine Modalities and Institutional Arrangements for an Intergovernmental Science–Policy Platform on Biodiversity and Ecosystem Services. Available at https://www.ipbes.net/sites/default/files/downloads/UNEP_IPBES_MI_2_9_EN_0.pdf, last accessed March 19, 2019.
- IPBES. 2013. Decision IPBES-2/4: Conceptual Framework for the Intergovernmental Science–Policy Platform on Biodiversity and Ecosystem Services. Available at http://www.ipbes.net/sites/default/files/downloads/Decision%20IPBES_2_4.pdf, last accessed March 19, 2019.
- IPBES. 2016a. Deliverable 3a: Technical Report of the Assessment on Pollinators, Pollination and Food Production. Available at <https://www.ipbes.net/system/tdf/downloads/IPBES-4-INF-1.pdf?file=1>, last accessed March 19, 2019.

- IPBES. 2016b. Plenary of the Intergovernmental Science–Policy Platform on Biodiversity and Ecosystem Services, 4th session. Kuala Lumpur, Malaysia, February 22–28, Draft List of Participants.
- IPBES. 2016c. Summary for Policymakers of the Assessment Report of the Intergovernmental Science–Policy Platform on Biodiversity and Ecosystem Services on Pollinators, Pollination and Food Production. Available at https://www.ipbes.net/system/tdf/downloads/pdf/ipbes_4_19_annex_ii_spm_pollination_en.pdf?file=1, last accessed March 19, 2019.
- IPBES. n.d. Pollination Assessment Dates. Available at <https://www.ipbes.net/pollination-assessment-events>, last accessed March 19, 2019.
- Kovács, E., and G. Pataki. 2016. The Participation of Experts and Knowledges in the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES). *Environmental Science and Policy* 57: 131–139.
- Leander, A. 2011. The Promises, Problems, and Potentials of a Bourdieu-Inspired Staging of International Relations. *International Political Sociology* 5: 294–313.
- Leggett, J. K. 1999. *The Carbon War: Dispatches from the End of the Oil Century*. London, UK: Allen Lane.
- Lidskog, R., and G. Sundqvist. 2015. When Does Science Matter? International Relations Meets Science and Technology Studies. *Global Environmental Politics* 15: 1–20.
- Litfin, K. 1994. *Ozone Discourse: Science and Politics in Global Environmental Cooperation—New Directions in World Politics*. New York: Columbia University Press.
- Lyver, P., E. Perez, M. Carneiro da Cunha, and M. Roué, eds. 2015. *Indigenous and Local Knowledge about Pollination and Pollinators Associated with Food Production: Outcomes from the Global Dialogue Workshop (Panama 1–5 December 2014)*. Paris: UNESCO. Available at http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/SC/pdf/IPBES_Pollination-Pollinators_Workshop.pdf, last accessed March 19, 2019.
- Mach, Katharine J., P. T. Freeman, M. D. Mastrandrea, and C. B. Field. 2016. A Multistage Crucible of Revision and Approval Shapes IPCC Policymaker Summaries. *Science Advances* 2: e1600421.
- Miller, Clark A. 2004. Climate Science and the Making of a Global Political Order. In *States of Knowledge: The Co-production of Science and Social Order*, edited by Sheila Jasanoff, 46–66. London, UK: Routledge.
- Montana, J. 2017. Accommodating Consensus and Diversity in Environmental Knowledge Production: Achieving Closure through Typologies in IPBES. *Environmental Science and Policy* 68: 20–27.
- Montana, J., and M. Borie. 2016. IPBES and Biodiversity Expertise: Regional, Gender and Disciplinary Balance in the Composition of the Interim and 2015 Multidisciplinary Expert Panel. *Conservation Letters* 9 (2): 138–142.
- Morin, J. F., S. Louafi, A. Orsini, and M. Oubenal. 2017. Boundary Organizations in Regime Complexes: A Social Network Profile of IPBES. *Journal of International Relations and Development* 20 (3): 543–577.
- Nijar, G. S. 2013. Traditional Knowledge Systems, International Law and National Challenges: Marginalization or Emancipation. *European Journal of International Law* 24 (4): 1205–1221.
- Obermeister, N. 2018. Local Knowledge, Global Ambitions: IPBES and the Advent of Multi-scale Models and Scenarios. *Sustainability Science* 1–14.

- Oubenal, M., M. Hrabanski, and D. Pesche. 2017. IPBES, an Inclusive Institution? Challenging the Integration of Stakeholders in a Science–Policy Interface. *Ecology and Society* 22 (1): 11.
- Pascual, U., P. Balvanera, S. Díaz, G. Pataki, E. Roth, M. Stenseke, R. T. Watson et al. 2017. Valuing Nature’s Contributions to People: The IPBES Approach. *Current Opinion in Environmental Sustainability* 26–27: 7–16.
- Petersen, Arthur C. 2006. *Simulating Nature: A Philosophical Study of Computer-Simulation Uncertainties and Their Role in Climate Science and Policy*. Apeldoorn, Netherlands: Het Spinhuis.
- Rosendal, Kristin G. 2011. Biodiversity Protection in International Negotiations: Cooperation and Conflict. In *Beyond Resource Wars: Scarcity, Environmental Degradation, and International Cooperation*, edited by Shlomi Dinar, 59–86. Cambridge, MA: The MIT Press.
- Schneider, S. 2009. *Science as a Contact Sport: Inside the Battle to Save Earth’s Climate*. Washington, DC: National Geographic.
- Scott, S., E. M. Hitchner, J. L. Maclin, and B. Dammert. 2014. Fuel for the Fire: Biofuels and the Problem of Translation at the Tenth Conference of the Parties to the Convention on Biological Diversity. *Global Environmental Politics* 14 (3): 84–101.
- Shackley, S., and B. Wynne. 1996. Representing Uncertainty in Global Climate Change Science and Policy: Boundary-Ordering Devices and Authority. *Science Technology and Human Values* 21: 275–302.
- Skodvin, T. 2000. *Structure and Agent in the Scientific Diplomacy of Climate Change: An Empirical Case Study of Science–Policy Interaction in the Intergovernmental Panel on Climate Change*. Advances in Global Change Research 5. Dordrecht, Netherlands: Kluwer.
- Suiseeya, K. M. 2014. Negotiating the Nagoya Protocol: Indigenous Demands for Justice. *Global Environmental Politics* 14: 102–124.
- Tengö, M., R. Hill, P. Malmer, C. M. Raymond, M. Spierenburg, F. Danielsen, T. Elmqvist, and C. Folke. 2017. Weaving Knowledge Systems in IPBES, CBD and Beyond—Lessons Learned for Sustainability. *Current Opinion in Environmental Sustainability* 26–27: 17–25.
- Timpte, M., J. Montana, K. Reuter, M. Borie, and J. Apkes. 2018. Engaging Diverse Experts in a Global Environmental Assessment: Participation in the First Work Programme of IPBES and Opportunities for Improvement. *Innovation: The European Journal of Social Science Research* 31 (Suppl. 1): 15–37.
- Turnhout, E., K. Neves, and E. de Lijster. 2014. “Measurementality” in Biodiversity Governance: Knowledge, Transparency, and the Intergovernmental Science–Policy Platform on Biodiversity and Ecosystem Services (IPBES). *Environment and Planning A* 46 (3): 581–597.
- Turnhout, E., A. Dewulf, and M. Hulme. 2016. What Does Policy-Relevant Global Environmental Knowledge Do? The Cases of Climate and Biodiversity. *Current Opinion in Environmental Sustainability* 18: 65–72.
- Vadrot, A. B. M., M. Akhtar-Schuster, and R. T. Watson. 2018a. The Social Sciences and the Humanities in the Intergovernmental Science–Policy Platform on Biodiversity and Ecosystem Services (IPBES). *Innovation: The European Journal of Social Science Research* 31 (Suppl. 1): 1–9.
- Vadrot, Alice B. M., A. Rankovic, R. Lapeyre, P. M. Aubert, and Y. Laurans. 2018b. Why Are Social Sciences and Humanities Needed in the Works of IPBES? A Systematic

- Review of the Literature. *Innovation: The European Journal of Social Science Research* 31 (Suppl. 1): 78–100.
- Vadrot, A. B. M. 2014a. The Epistemic and Strategic Dimension of the Establishment of the IPBES: “Epistemic Selectivities” at Work. *Innovation: The European Journal of Social Science Research* 27 (4): 361–378.
- Vadrot, A. B. M. 2014b. *The Politics of Knowledge and Global Biodiversity*. London, UK: Routledge.
- Wacquant, Loic J. D. 1989. Towards a Reflexive Sociology: A Workshop with Pierre Bourdieu. *Sociological Theory* 7 (1): 26–63.
- Weisser, F. 2014. Practices, Politics, Performativities: Documents in the International Negotiations on Climate Change. *Political Geography* 40: 46–55.
- Witter, R., K. R. M. Suiseeya, R. L. Gruby, S. Hitchner, E. M. Maclin, M. Bourque, and J. P. Brosius. 2015. Moments of Influence in Global Environmental Governance. *Environmental Politics* 24: 894–912.