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IPBES in a Double Bind: Science, Sovereignty and the Craft of Authority

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ABSTRACT

This article reframes the Intergovernmental Science–Policy Platform on Biodiversity and Ecosystem Services (IPBES) as a site of meta-communication within the international legal order, using Gregory Bateson’s double-bind theory to explain how the Platform manufactures authority while being structurally mandated to both to stay out of politics and to make a difference. The article reconstructs a constitutive sovereignty injunction, anchored in control anxieties over interstate legitimacy and the legally non-binding character of IPBES outputs, alongside a science injunction that demands policy-relevant knowledge capable of orienting conduct across a polycentric governance space. Through close readings of the shift, at IPBES, from ecosystem services to nature’s contributions to people (NCP) and the uptake of ‘transformative change’ as the new normative horizon, the article shows how the framing of choices and procedures operates to manage the science–law interface without breaching mandate boundaries. The paper’s contribution is conceptual and diagnostic: it replaces generic invocations of ‘tension’ and ‘balance’ with a double-bind account that clarifies what IPBES can do as an epistemic institution, and why balancing diagnostic candour with prescriptive constraint is an ongoing craft of authority rather than a design problem that can be resolved once and for all.

KEYWORDS

Law and science, science and policy interface, international environmental law, global environmental governance, double bind theory, Gregory Bateson

1. INTRODUCTION

The relationship between law and science is the lynchpin of much environmental law.¹ The central role of scientific knowledge in both ‘identifying the [environmental] “problem”’ and ‘suggesting appropriate remedies’² has been well established. Such a role harks back to the glorified epistemic origins of the modern Western environmental movement ‘speaking (scientific) truth to power’³ that has continued to reverberate⁴ all the way to the present Anthropocene era.⁵ Within the environmental imagination therefore, scientific findings generally have or aspire to have normative force, in the sense of shaping legal responses, instruments, frameworks and institutions. For mainstream environmental law, science, as a source of (supposed) objective facts, measurements and evaluations, is therefore considered both a source of authority and legitimacy, and an intrinsic technical element that renders any environmental regulatory process possible.⁶

At the international level, the relationship between law and science has been formalised and institutionalised through the creation of major international epistemic

¹ John McEldowney and Sharron McEldowney, 'Science and Environmental Law: Collaboration across the Double Helix' (2011) 13 *Environmental Law Review* 169; A. Dan Tarlock, 'Who Owns Science?' (2002) 10 *Penn State Environmental Law Review* 135.

² Tarlock (n1) at 135.

³ Rachel Carson, *Silent Spring* (Penguin Books 1999/1962)

⁴ See e.g. '[...] the least dependent on the old productive processes and who have had the freest minds, the greater discontent, and the most compelling vision, [s]ome of the leaders forming a new post-industrial future of stability and order may well be scientists.' Donald Worster, *The Wealth of Nature: Environmental History and the Ecological Imagination* (Oxford University Press 1993), p. 181.

⁵ 'Scientists are expected to perform as prophetic figures who not only observe the world, but also actively shape how it is understood and acted upon.' See Alexander Damianos, 'The anxious a priori: An Essay Concerning Science, Law, and the Temporal Politics of the Anthropocene Polycrisis' (2025) e49 *Global Sustainability* 1 at 2.

⁶ McEldowney and McEldowney (n1) 170: 'Scientists thus play a decisive role in the conception and implementation of environmental law; all the regulations adopted in this field, without exception, are based on their calculations, computations or affirmations. In fact no area of public policy is comparably dependant on science.'

institutions, such as the Intergovernmental Panel on Climate Change (IPCC) and the Intergovernmental Science-Policy Platform for Biodiversity and Ecosystem Services (IPBES). An epistemic institution can be defined as ‘any organization that assimilates basic scientific and technical research and applies it to specific legal or policy problems’.⁷ The aim of such bodies is to produce ‘authoritative statement(s) about what is known and what is not in a particular regulatory domain’⁸. Equally, the work of such an institution at the international level can be defined through the idea of epistemic cooperation, meaning ‘the process of creating shared scientific knowledge pertinent to environmental cooperation.’⁹

This article focuses on the latter of the two major international epistemic institutions; the IPBES. Established in 2012, it is considered one of the ‘critical forces in shaping the environmental governance system’¹⁰ and was regarded during the early years of its operation as a ‘milestone in the landscape of international environmental governance’.¹¹ Its main objective is ‘to strengthen the science-policy interface for biodiversity and ecosystem services for the conservation and sustainable use of biodiversity, long-term human well-being and sustainable development’.¹² It is envisaged as operating within a ‘polycentric [environmental governance system]

⁷ Timothy Meyer, 'Epistemic Institutions and Epistemic Cooperation in International Environmental Governance' (2013) 2 Transnational Environmental Law 15 at 16.

⁸ Adi Ayal, Ronen Hareuveny and Oren Perez, 'Science, Politics and Transnational Regulation: Regulatory Scientific Institutions and the Dilemmas of Hybrid Authority' (2013) 2 Transnational Environmental Law 45 at 47.

⁹ Meyer (n7) at 15.

¹⁰ IPBES Dec 2/5 (2013), Annex I, para I. A.

¹¹ Leslie-Anne Duvic-Paoli, 'The Intergovernmental Science-Policy Platform for Biodiversity and Ecosystem Services or the Framing of Scientific Knowledge within the Law of Sustainable Development' (2017) 19 International Community Law Review 231 at 232.

¹² 'Resolution on the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services' Plenary Meeting to Determine the Modalities and Institutional Arrangements for IPBES Second Session (Panama City 16 April–21 April 2012) UNEP/IPBES.MI/2/9 (18 May 2021), Annex I. ('Resolution')

consisting of nested public, private and non-governmental decision-making units operating at multiple scales within rule and value systems that differ from one another'.¹³

The considerable scope and complex operating field covered by the IPBES serves to illustrate the challenges it faces. Scientific communities, member States, other international organizations, non-governmental organizations, Indigenous and/or other social movements constitute some of the elements of the 'polycentric governance system', that is, the prospective 'audiences' that IPBES engages with in its operation. It is obvious that their perceptions and processes for achieving authority and legitimacy differ significantly¹⁴ and thus discovering a 'unifying standard among the disparate interest stakeholders who mutually distrust each other'¹⁵ remains a difficult work in progress. IPBES must tread a fine line in its contributions to epistemic cooperation; both when diagnosing and framing the problem of biodiversity loss and decline, and when proposing appropriate remedies, norms and principles.

This article therefore contributes to debates regarding the process of moving from stark diagnoses of environmental decline and degradation to stark calls for environmental action, both within as well as outside the 'art and craft' of the existing structures of international environmental law.¹⁶ Although it has been well-established in

¹³ IPBES Dec 2/5 (2013), Annex I, para I. A.

¹⁴ Oren Perez, 'The Hybrid Legal-Scientific Dynamic of Transnational Scientific Institutions' (2015) 26 *European Journal of International Law* 391 on the contrast between law and science specifically, but more broadly see Sheila Jasanoff, 'A World of Experts: Science and Global Environmental Constitutionalism' (2013) 40 *Boston College Environmental Affairs Law Review* 439.

¹⁵ Tarlock (n1) at 136.

¹⁶ For 'within' see Daniel Bodansky and Harro van Asselt, *The Art and Craft of International Environmental Law* (2nd edn, Oxford University Press 2024). For 'outside' see Usha Natarajan and Julia Dehm (eds), *Locating Nature: Making and Unmaking International Law* (Cambridge University Press 2022)

the literature that IPBES is not a mere neutral pipeline from science to law/politics,¹⁷ more work is needed on the contours of how the spectrum of ‘reasonable’ and ‘actionable’ advice can encapsulate notions of ‘transformative change,’¹⁸ as well as how such a spectrum is framed by institutional structures and relations with the broader international law context.

The challenges with balancing the diagnostic candour and prescriptive constraints associated with the creation and continued operation of IPBES are explored in this article by drawing on Gregory Bateson’s theory of the double bind.¹⁹ This is a theory of relational dynamics and meta-communication, anchored – in its original mid-20th century form – by the hypothesis that interactions and communication patterns within established relational settings (in the context of the original paper, the family) affect the psychological welfare of the setting’s participants. Persistent contradictory interactions and conflicting messages with such fixed/established settings, the so-called ‘double binds’, place participants in untenable positions as they cannot escape the context nor directly engage with the contradiction, leading to the development of what this theory terms as pathologies.

General notions of a double bind, not derived explicitly from Bateson’s work, have been applied to the field of international law. These applications can be grouped under two clusters, involving feminist and critical/TWAIL-inflected scholarship. For the former

¹⁷ Guillaume Futhazar, Sandrine Maljean-Dubois and Denis Pesche, 'The IPBES, Biodiversity and the Law: Design, Functioning and Perspectives of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services' in Charles R. McManis and Burton Ong (eds), *Routledge Handbook of Biodiversity and the Law* (Routledge 2017); Duvic-Paoli (n11).

¹⁸ Elisa Morgera, 'International Environmental Law: A Case for Transformative Change through the Lens of Children’s Human Rights' (2024) 53 *Environmental Policy and Law* 307

¹⁹ Gregory Bateson et al, 'Toward a Theory of Schizophrenia' (1956) 1 *Behavioral Science* 251; Gregory Bateson, 'Double Bind' in Gregory Bateson (ed), *Steps to an Ecology of Mind* (The University of Chicago Press 2000)

cluster, a significant point of emphasis is the balance between necessary resistance and compromising engagement of political actors with international institutions.²⁰ This scholarship echoes and builds on the foundational work of Margaret Jane Radin²¹ and raises methodological concerns over co-optation and loss of radical edge in the move from the ‘margins’ to the ‘centre’ of the field of international law.²² For the other cluster of TWAIL-influenced double-bind perspectives, the focus is on navigating the contradictions and tensions between international law’s universalist promises, recognition of Indigenous resistances and colonial domination practices.²³ The application of the double bind in this context includes the conditional embrace and concurrent rejection of Western conceptions of human rights,²⁴ as well as the co-production of humanitarian rescue and migration control through regimes of legal indeterminacy.²⁵ This article represents the first application of a double-bind perspective to environmental law.

The article begins by examining the adaptation of Bateson’s double-bind²⁶ theory. This theory has been selected because it was built to diagnose pathological patterns of

²⁰ Sari Kouvo and Zoe Pearson (eds), *Feminist Perspectives on Contemporary International Law: Between Resistance and Compliance?* (Hart Publishing 2011)

²¹ Faye Bird, ‘Is this a Time of Beautiful Chaos?’: Reflecting on International Feminist Legal Methods’ (2020) 28 *Feminist Legal Studies* 179; Margaret Jane Radin, ‘The pragmatist and the feminist’ (1989) 63 *Southern California Law Review* 1699

²² Dianne Otto, ‘Power and Danger: Feminist Engagement with International Law through the UN Security Council’ (2010) 32 *Australian Feminist Law Journal* 97; Hilary Charlesworth, Gina Heathcote and Emily Jones, ‘Feminist Scholarship on International Law in the 1990s and Today: An Inter-Generational Conversation’ (2019) 27 *Feminist Legal Studies* 79; Dianne Otto and Anna Grear, ‘International Law, Social Change and Resistance: A Conversation Between Professor Anna Grear (Cardiff) and Professorial Fellow Dianne Otto (Melbourne)’ (2018) 26 *Feminist Legal Studies* 351

²³ Paulo Ilich Bacca, ‘The Double Bind and the Reverse Side of the International Legal Order: Talking with Silvia Rivera Cusicanqui and El Colectivo’ (2020) 1 *TWAIL Review* 93

²⁴ Kristina Stoeckl and Kseniya Medvedeva, ‘Double bind at the UN: Western actors, Russia, and the traditionalist agenda’ (2018) 7 *Global Constitutionalism* 383

²⁵ Silja Klepp, ‘A Double Bind: Malta and the Rescue of Unwanted Migrants at Sea, a Legal Anthropological Perspective on the Humanitarian Law of the Sea’ (2011) 23 *International Journal of Refugee Law* 538

²⁶ In the article, I use the non-hyphenated double bind when the latter is a noun, and the hyphenated double-bind when the term is used as an adjective. For example, the ‘double-bind perspective’.

communication under contradictory injunctions derived from authority and repetition. The adaptation of this theory proceeds by imagining IPBES's operation as a series of interactions with its member states and other audiences. These interactions occur within the established setting of the international legal order, 'standing in' for the fixed family setting of the original theory. The adaptation then proceeds on the basis that the imprint of this communication can be traced in the texts of the organization; for example, the founding resolution, the conceptual framework and work programmes that guide its overall operation, as well as the various reports and assessments it regularly produces. The examination of these interactions, as documented in textual format, reveals certain double binds that affect IPBES and renders visible the dysfunctions that the institution has carried and navigated since its inception.

The next section introduces Gregory Bateson's work and the double-bind theory before going on to use it to analyse the IPBES in the rest of the article. In section 3, the IPBES's role and functions are analysed through an examination of the international legal context of the institution's creation. It is argued that the institution arose out of a context of alienation between biodiversity science and international environmental law. The next section therefore offers a double-bind interpretation of the IPBES's founding resolution, arguing that the institution's prevailing hybrid (international/transnational) institutional structures reflect general control anxieties about the international legal order and the role of international organizations. This analysis recasts IPBES as a site of meta-communication within the international legal order and illuminates a constitutive contradiction between a sovereignty injunction (protecting member-state control and interstate legitimacy) and a science injunction (demanding authoritative, policy-relevant knowledge that shapes behaviour at multiple governance levels). The fifth section

examines some double binds in action, focusing on the influence of the double-bind on two key concepts of IPBES discourse: nature's contributions to people and the ambitious pursuit of transformative change. These two key concepts are analysed through the constitutive contradiction of the sovereignty and science injunctions outlined in the previous section. The final section concludes by placing this double-bind analysis within the broader context of international environmental law and the engagement of its institutions with environmental concepts.

2. GREGORY BATESON, DOUBLE-BIND THEORY AND ITS ADAPTATION TO INTERNATIONAL LAW

David Lipset was one of Gregory Bateson's students and subsequently became his biographer. Lipset characterised Gregory Bateson as a 'a doubly anachronistic man, [...] both ahead and behind his times'.²⁷ Foundational ideas of social constructionism, systems thinking, autopoiesis and cybernetics can be traced back to Bateson, who exhibited little patience or commitment to academic 'brand-labelling' and the meticulous construction and maintenance of schools of thought.²⁸ Despite strong family roots in biology through his father William Bateson, known as the 'father of genetics' Bateson was originally trained in anthropology, and after a World War II 'interlude' of working for the intelligence services, proceeded to 'travel' through the social sciences, linguistics, psychiatry, semiotics, cybernetics and other fields, in a whirlwind illustration of mid-20th century academia's potentials and pitfalls. Some encounters were longer

²⁷ David Lipset, *Gregory Bateson: The Legacy of a Scientist* (Beacon Press 1982) at xii.

²⁸ 'Gregory must have given the impression, even to his stronger admirers, of taking up and then abandoning a series of different disciplines; sometimes, indeed, he must have felt he had failed in discipline after discipline', see Mary Catherine Bateson, 'Foreword 1999' in Gregory Bateson (ed), *Steps to an Ecology of Mind* (The University of Chicago Press 2000) at viii and xi - xii.

than others, yet all were highly influential.²⁹ Only in the last two decades of his life, from the 1960s onwards, did he begin to integrate the different strands of his work.³⁰

As a result, the take-up of Bateson's work has also been fragmented. Different disciplines have come to know Bateson's work in different ways, engaging with fragmented aspects of his work and focusing on the aspects that speak most to the conceptual box or niche of that discipline. The anthropologists, for example, responded to his South Pacific fieldwork studies,³¹ while the psychiatrists to his 'Bateson project' contributions to the Palo Alto group.³² In the meantime, the cyberneticists reacted to his active participation in the early 'Macy Conferences', and so on. Therefore, the majority of secondary literature on the double-bind theory originates from psychology. In this article this secondary psychology literature is read in conjunction with Bateson's own syntheses of his work.³³

The double bind refers to a communication dilemma in which conflicting messages or demands within an on-going relationship result in the perception of a no-win situation for the recipient of these messages. As explained above, this theory was developed during the 1950s in a psychological context (specifically focusing on family communication).³⁴ In that original context, it was argued that prolonged exposure to the double binds (i.e. conflicting messages and demands) could lead to mental pathology,

²⁹ Gregory Bateson, *A Sacred Unity: Further Steps to an Ecology of Mind* (Triarchy Press 2023).

³⁰ Bateson (n28) at xi.

³¹ Gregory Bateson, *Naven: A Survey of the Problems suggested by a Composite Picture of the Culture of a New Guinea Tribe drawn from Three Points of View* (Stanford University Press 1958).

³² C. Wilder-Mott and J.H. Weakland, *Rigor & Imagination: Essays from the Legacy of Gregory Bateson* (Praeger 1981).

³³ As reflected primarily in Gregory Bateson, *Mind and Nature: A Necessary Unity* (Fontana 1985); Gregory Bateson, *Steps to an Ecology of Mind* (The University of Chicago Press 2000)

³⁴ Bateson et al, n. 31.

i.e. the schizophrenia [sic] mentioned in the title of the original paper.³⁵ That original paper discusses the relationship between a mother and a child,³⁶ whereby the former gives contradictory signals e.g. not accepting the son's hug and then chiding him for not showing affection, leaving him in an unresolvable 'bind'. In general terms therefore, the double bind describes a pattern of contradiction in communication within a fixed setting, with no escape from that pattern being possible.

In the following text, we adapt the double-bind theory to the context of IPBES. In doing so, we treat states and scientific bodies as the 'parties' in an established relationship that can generate double binds. The mandates, functions, and other provisions found in legal documents can therefore be construed as communications and messages which affect the SPI's broader interactions with its constituencies, publics, audiences or 'stakeholders'. In the following sections, we will identify situations where IPBES is tasked with incompatible imperatives or injunctions (for example, scientific vs. political) and cannot satisfy one without failing the other. These situations will be called institutional double binds.

An additional key element of the double bind is that its subject cannot acknowledge or resolve these contradictions outright. In our adaptation, that means that the institutional double binds cannot be overcome by explicit acknowledgement. For example, IPBES cannot abandon or reject the imperatives of biodiversity science or politics. The institution thus perceives its role and operation within the context of double-

³⁵ The term 'pathology' is thus borrowed from Bateson's original theory – here it is used metaphorically, within the overall 'ecology of mind' epistemological framework to describe institutional dysfunctions, not to make light of or posit any analogy between mental illness and institutional problems.

³⁶ Although Bateson would come to regret the gendered and partial emphases of this first double-bind paper. Bateson (n19); Gregory Bateson et al, 'A Note on the Double Bind — 1962' (1963) 2 Family Process 154.

bind patterns, which can lead it to exhibiting signs of dysfunction; what can be referred to as institutional pathologies.

At the heart of IPBES is the need to reconcile contrasting elements or to seek the union of two opposites. This is why we have chosen, in this article, to analyse IPBES through the double-bind perspective, as there is a clear analogy between the communication problems this perspective aims to understand and the institutional problems encountered by the Platform, in its efforts at reconciling contrasting elements. For example, IPBES is established under international law, but not by treaty but rather through a ‘mere’ UNEP (United Nations Environment Programme) resolution. The MEP is deemed to provide independent scientific reports and assessments, but their ‘summary for policymakers’ must be agreed via state consensus at the Plenary and negotiated – line by line if necessary – like any other international agreement.³⁷ Furthermore, IPBES should engage and ‘catalyse’ ‘efforts to generate new knowledge’³⁸ as part of its functions, but ‘should not directly undertake new research.’³⁹ Another example can be seen in the fact that the MEP advises and develops the working groups as needed to produce the various required assessments as part of the institution’s work programmes. However, it is only the Plenary that formally establishes the working groups, and thus it has the final word regarding membership of the experts in these panels.⁴⁰ In other words, ultimate control of the process remains with the member states of the Platform. In addition, the platform is required to operate autonomously of existing multilateral

³⁷ IPBES Dec 1/1 (2013) at Rule 36.

³⁸ Ibid., at Appendix I, para 1(b).

³⁹ Ibid.

⁴⁰ Ibid., at para 7(k).

environmental agreements, while also being mindful of their respective mandates.⁴¹

These are just some of the relevant manifestations of the double-bind logic that permeates the IPBES; it is a pattern that suffuses the organization from top to bottom.

‘Living’ with such contradictions is part and parcel of the compromises and negotiations of international law;⁴² and contradictory -and even irreconcilable- logics are endemic to international law projects of environment and development. The adapted double bind perspective, however, enables a drilling down into these contradictions, examining both their function and effects in greater detail. The application of this perspective to IPBES specifically is a worthwhile endeavour, as it is an institution that straddles and encompasses both the relation between law and science and the relation between international organizations and sovereign states, thus linking epistemology and governance in the process of producing normative authority. As the analysis progresses in the following sections, we can outline and analyse communication frustrations and errors that have become institutional double binds and eventually pathologies that influence the operation and key ideas of the institution. This observation is a process that double bind theory would call, in a psychological context, ‘demystification’.⁴³ This is considered the first step that leads to a ‘de-pathologizing process’.⁴⁴

⁴¹ Resolution (n12) at Art. 2(e).

⁴² For a wider discussion of tensions in international law and their navigation by scholars see Robert Knox, 'Strategy and Tactics' in Jan Klabbers (ed), *The Finnish Yearbook of International Law Vol 21* (Bloomsbury 2012).

⁴³ Paul Gibney, 'The Double Bind Theory: Still Crazy-Making after All These Years' (2006) 12 *Psychotherapy in Australia* 48 at 55.

⁴⁴ *Ibid.*

3. A HISTORY OF ALIENATION: THE INTERNATIONAL LEGAL CONTEXT OF IPBES'S CREATION

This history of what eventually became the IPBES started with strong aversion to the very prospect of independent scientific assessment: ‘ We d i d n ’ t a s k f o r i t , a n d i f i t i s p r o d ⁴⁵ u t h i s w a s r e p o r t e d a s , i n e f f e c t , t h e o v e r a l l i t ! ’ sentiment of national delegates at the Convention on Biological Diversity (CBD)’s subsidiary scientific organ when confronted with the 1995 *Global Biodiversity Assessment*, a scientific report on the global state of biodiversity produced by UNEP. From their perspective, a UNEP assessment would not be legitimate, because it was not authorised by the CBD’s relevant scientific body. The body in question, the Scientific Body for Scientific, Technical and Technological Advice (SBSTTA), did not function as an independent scientific advisory organ. It was, therefore, regarded by commentators as a highly politicised rehearsal space that simply employed scientific information to support arguments for the annual conference of the parties.⁴⁶ From the perspective of the scientific community therefore, a SBSTTA report would not be authoritative, because it would not be produced independently of the convention’s political interests.⁴⁷

Only a few years after its entry into force, the CBD swiftly encountered what have become long standing ‘serious and systemic problems in bringing research across the divide into the policy and political spheres’.⁴⁸ These problems relating to the translation

⁴⁵ Anne Larigauderie and Harold A. Mooney, 'The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services: Moving a Step Closer to an IPCC-like Mechanism for Biodiversity' (2010) 2 *Current Opinion in Environmental Sustainability* 1.

⁴⁶ Christoph Görg, Carsten Neßhöver and Axel Paulsch, 'A New Link Between Biodiversity Science and Policy' (2010) 19 *GAIA - Ecological Perspectives for Science and Society* 183.

⁴⁷ Larigauderie and Mooney (n45) at 2.

⁴⁸ Gemma Dunn and Matthew Laing, 'Policy-makers perspectives on credibility, relevance and legitimacy (CRELE)' (2017) 76 *Environmental Science & Policy* 146 at 146.

of science into action are often expressed in emotional terms, pointing towards a mutual alienation between the two spheres. For example, ‘scientists often *lament* (emphasis added) the limited impact of scientific evidence in informing policy decisions, whilst policymakers are often *frustrated* (emphasis added) by the ‘loading dock’ scientific evidence, which is weakly contextualized and often fails to address real-world problems’.⁴⁹ In the biodiversity field, such concerns regarding the ‘appropriate’ incorporation of science into law both predated and continued after the entry into force of the CBD.⁵⁰ From an international law perspective, the opening statement of this section highlights that there were also additional anxieties present about the normative responses produced on the basis of such scientific assessments and not allowing ‘policy makers at the national and international levels some leeway when they translate the statements into binding legal prescriptions.’⁵¹ In short, laments and frustrations abound at multiple levels; anxiety was the order of the day, and communication between the international and the epistemic imagination was lacking.

The *Global Biodiversity Assessment* thus went nowhere;⁵² nor did efforts by the scientific community to work with the SBSTTA come to fruition.⁵³ These failures highlighted that a separate IPPC-like structure – a platform for ‘a more structured dialogue between the scientists and policymakers [...] to trigger societal responses and

⁴⁹ Ibid.

⁵⁰ See, for example, debates (in a largely US context) contained in Michael E. Soule, 'Conservation and the "Real World"' in Michael E. Soule (ed), *Conservation Biology: the Science of Scarcity and Diversity* (Sinauer 1986); Edward O. Wilson, 'The Biological Diversity Crisis: A Challenge to Science' (1985) 2 *Issues in Science and Technology* 20; Edward O. Wilson (ed), *BioDiversity* (National Academy Press 1988) and analysis of similar concerns in Jessica Dempsey, *Enterprising Nature: Economics, Markets, and Finance in Global Biodiversity Politics* (Wiley Blackwell 2016)[Author 2021].

⁵¹ Perez (n.14) at 395.

⁵² Görg, Neßhöver and Paulsch (n46) at 183.

⁵³ Larigauderie and Mooney (n45) at 2.

inform decision making'⁵⁴ - was needed for scientific advice on biodiversity to attain both legitimacy and authority. In other words, the science-based warnings around biodiversity loss and decline had to be framed in a manner that both international law and ecological science would recognise and accept.

Efforts to achieve this challenging goal of constructing dual authority initially forked into two parallel paths. One fork produced the Millennium Ecosystem Assessment (MEA), which was concluded in 2005⁵⁵ and contributed significantly to the establishment of the concept of ecosystem services. The other fork focused on the process of setting up a standing mechanism, as opposed to a one-off assessment, like the MEA. This was the 'International Mechanism of Scientific Expertise on Biodiversity (IMoSEB) initiative.'⁵⁶ At the start of that initiative, the 2005 Paris Declaration on Biodiversity introduced the prospect of a biodiversity-focused SPI; 'an international mechanism that includes intergovernmental and non-governmental elements' that will provide 'scientifically validated information on the status, trends, and services of biodiversity' and identify 'priorities and recommendations for biodiversity protection'.⁵⁷ Overcoming their history of mutual alienation, the international and the epistemic, i.e. the intergovernmental and non-governmental, were considering their 'merger'.

After further consultations, the two paths were merged, and a concept note regarding the institution that would become IPBES was presented by UNEP at the 9th COP

⁵⁴ Ibid., at 1.

⁵⁵ Millennium Ecosystem Assessment 'Ecosystems and Human Well-being: Synthesis' (2005)

⁵⁶ UNEP 'Summary Report, and Conclusions, of the Consultative Process to Assess the Need for, Modalities of, and Options for an International Mechanism of Scientific Expertise on Biodiversity' (2008) UN Doc UNEP/CBD/COP/9/INF/34.

⁵⁷ 'Paris Declaration on Biodiversity' (2005) 8 Journal of International Wildlife Law & Policy 263.

of the CBD in 2008.⁵⁸ The concept note highlighted ‘a need for a stronger international science-policy platform to allow emerging scientific knowledge to be translated into concrete policy action at all levels’.⁵⁹ UNEP also produced a gap analysis report on the state of action to protect biodiversity that characterised the interface between science and policy in the area of biodiversity as incomplete and fragmented.⁶⁰ The gap analysis report proposed a mechanism that would provide ‘credible, legitimate and salient emerging scientific findings and recommendations’.⁶¹ The merging of the two pathways also confirmed that biodiversity would at least initially be viewed and framed through the lens of ecosystem services, as previously established in the MEA.

At the conclusion of a third international meeting, the contours of this new institution began to take shape: ‘the science-policy interface on biodiversity and ecosystem services must be strengthened at all levels,’ to ensure that ‘the science made available is of the highest quality and independence’. At the same time however, ‘cooperation with relevant United Nations bodies and of building capacity to mainstream biodiversity and ecosystem services’ needed to be enhanced.⁶²

The core elements of IPBES thus were negotiated under the auspices of UNEP. In particular, the merging of the MEA and IMoSEB pathways produced a hybrid institutional structure that merged classical intergovernmental and transnational elements. The

⁵⁸ UNEP, ‘An Intergovernmental and Multi-stakeholder Approach to Strengthening the Science-Policy Interface on Biodiversity and Ecosystem Services’ (2008) UNEP/CBD/COP/9/INF/37/Rev.1 (‘Concept Note’) at para 2.

⁵⁹ Ibid.

⁶⁰ UNEP ‘Gap Analysis for the Purpose of Facilitating the Discussions on How to Improve and Strengthen the Science-Policy Interface on Biodiversity and Ecosystem Services’ (2009) UN Doc UNEP/IPBES/2/INF/1 (‘Gap Analysis’).

⁶¹ Concept Note (n58) at para 3.

⁶² UNEP ‘Report of the Third Ad Hoc Intergovernmental and Multi-Stakeholder Meeting on an Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem services’ (2010) UN Doc UNEP/IPBES/3/3, Annex (The ‘Busan Outcome’).

hybridity is evident in the two primary organs of IPBES. The first is the Plenary. This is the primary intergovernmental decision-making organ made up of representatives of the member states. The second is the transnational Multidisciplinary Expert Panel (MEP), which is made up of scientific experts from around the world that oversee core technical and scientific functions, including reporting and assessment. There is a clear balancing act at play as a result of the ‘merger’: the transnational panel of scientific experts produces the outputs of the platform, but they must be authorised by the plenary, which represents the more traditional international/interstate element.

Following an endorsement by the UN General Assembly,⁶³ the plenary meeting to formally set up IPBES was convened in 2011.⁶⁴ At the conclusion of the meeting, IPBES was established as an independent intergovernmental body through a resolution signed by its founding member states.⁶⁵ The establishment was noted in the ‘Rio+20’ resolution of the UN Conference on Sustainable Development, with the expectation that it would provide the ‘best available policy relevant-relevant information on biodiversity to assist decision makers.’⁶⁶ The platform was also tasked with contributing to Goal 15 of the 2030 Agenda for Sustainable Development Goals.⁶⁷ It thus took approximately seventeen years (from 1995 to 2012) from an outright rejection of independent scientific advice before a fully-fledged SPI was established, operating as an independent intergovernmental body, in the area of biodiversity.

⁶³ UNGA Res 65/162 (20 December 2010) UN Doc A/RES/65/162 at para 17.

⁶⁴ UNEP Dec 26/4 (24 February 2011) UN Doc UNEP/GC.26/19 at para 2.

⁶⁵ ‘Resolution’ (n12) at Appendix I, para 2(e).

⁶⁶ UNGA ‘The Future We Want’ Res 66/228 (27 July 2012) UN Doc A/RES/66/288 at para 204.

⁶⁷ The goal is: ‘*Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and*’ ‘Transforming our World: the 2030 Agenda for Sustainable Development’, UNGA Res. 70/1 (2015).

Given these origins, IPBES was approached in international law scholarship through the legal imaginary of sustainable development.⁶⁸ Its operation is argued to be based on the ‘general principles of the law of sustainable development adopted at the Rio Summit’ and its mandate is enshrined in the ‘semantic framework of the Rio Conference.’⁶⁹ There is strong evidence supporting such an interpretation. The IPBES mandate centres the strengthening of the science policy interface in the context of ‘the conservation and sustainable use of biodiversity, long-term human well-being and sustainable development’.⁷⁰ This mirrors the triumvirate of goals of the CBD, further confirming its lineage. As Duvic-Paoli highlights, the reference to long-term human well-being can be construed as an indirect nod to the principle of intergenerational equity,⁷¹ which is a classical temporal -albeit contested from an international law perspective⁷²- element of sustainable development.

However, and as always, one has to be mindful of the ever-evolving meaning of sustainable development. The concept of the green economy, particularly an inclusive one, which was formally introduced into the lexicon of international law in the Rio+20 summit⁷³, may appear as a more up to date conceptual horizon for IPBES,⁷⁴ that is, as the more contemporary and established operative ‘mutation’ of sustainable development in the context of biodiversity.⁷⁵ After all, as the analysis in the next two sections will

⁶⁸ Duvic-Paoli (n11) at 233.

⁶⁹ Ibid. at 233 and 239.

⁷⁰ Resolution (n12).

⁷¹ Duvic-Paoli (n11) at 246.

⁷² Otto Spijkers, 'Intergenerational Equity and the Sustainable Development Goals' (2018) 10 Sustainability 3836; Zena Hadjiargyrou, 'A Conceptual and Practical Evaluation of Intergenerational Equity in International Environmental Law' (2016) 18 International Community Law Review 248.

⁷³ The Future We Want (n66) at para 56-74.

⁷⁴ Duvic-Paoli (n11) at 268-270.

⁷⁵ Elisa Morgera and Annalisa Savaresi, 'A Conceptual and Legal Perspective on the Green Economy' (2013) 22 Review of European, Comparative & International Environmental Law 14.

illustrate, IPBES seeks to ‘speak’ pragmatically to policymakers and such practice has always been bound up with anthropocentric, economic valuation of nature in various forms in order to achieve this connection. The centring of the economy, within the green economy concept, is the most recent manifestation of this trend. At the same time, as discussed in section 5, IPBES institutionalises plural approaches and gestures, both in its eventual ‘rejection’ of ecosystem services in its conceptual framework and in its values assessment report. In that respect, IPBES may be regarded as embracing an alternative conceptual horizon, embracing the notion of an inclusive green economy as a ‘wolf in sheep’s clothing’, this being an ‘environmental veneer for sustained exploitation’ due to its economic emphasis and vacuous political inclusion.⁷⁶ In the subsequent sections, the double-bind analysis shows how IPBES both embraces and pushes back against the duality of opposites.

4. THE BASIC COMMUNICATION MATRIX: A DOUBLE-BIND READING OF THE 2012 RESOLUTION ESTABLISHING IPBES

The double-bind analysis is relevant when thinking about multiple parts of the IPBES and its function, including in evaluating the founding resolution of IPBES and the sense of anxiety that exudes from the headline ‘message’ delivered by its founding member states: ‘the present resolution and any future decisions of the Platform have a legally non-binding nature’.⁷⁷ In this provision, we can observe that the echoes of the unease around the history of alienation, and the shrill reaction to the possibility that UNEP would

⁷⁶ Julia Dehm, 'Reconfiguring Environmental Governance in the Green Economy: Extraction, Stewardship and Natural Capital' in Usha Natarajan and Julia Dehm (eds), *Locating Nature: Making and Unmaking International Law* (Cambridge University Press 2022).

⁷⁷ Resolution (n12).

produce a scientific assessment of the global state of biodiversity independently of the CBD,⁷⁸ are ever present.

Anxieties over institutional control reverberate throughout IPBES's founding resolution; to further prevent the danger of autonomous runaway evolution of the institutional machinery in unforeseen directions,⁷⁹ the platform is to primarily operate '[f]ocusing on *government* (emphasis added) needs and on priorities established by the Plenary'.⁸⁰ Furthermore, it must be 'mindful of the respective mandates of the multilateral environmental agreements'.⁸¹ The platform is also slightly enclosed in terms of institutional access; it is to respond primarily to requests from states and 'multilateral environmental agreements related to biodiversity and ecosystem services'.⁸² Other UN bodies can participate and offer 'inputs and suggestions'; yet this is clearly envisaged as a communication a tier below that of a request.⁸³ In short, the latter is construed as an obligation to respond, while the input from others is to be welcomed and taken into account⁸⁴. Then there is an even lower rung in the ladder of response: the plenary 'encourages and takes into account, as appropriate' inputs and suggestions from other nongovernmental organizations and stakeholders.⁸⁵ We can interpret this collection of provisions as an initial imperative or injunction to be attentive and protect the sovereignty of its member states, communicated by the latter through the medium of textual

⁷⁸ Both of these conditions were outlined in Section 3 above.

⁷⁹ Author(s) 2024.

⁸⁰ Resolution (n12) at para 1(a).

⁸¹ *Ibid.*, at para 2(e)

⁸² *Ibid.*

⁸³ *Ibid.*

⁸⁴ *Ibid.*, at paras 7(c) and 7(d).

⁸⁵ *Ibid.*

provisions included in the founding resolution. This would constitute the first element of a double bind.

While some hierarchical aspects of these provisions can be debated, they are not unexpected for an intergovernmental body that was established under international law and whose primary members are sovereign states. IPBES, however, is not just another intergovernmental body, it is also an epistemic institution; transnational and international elements were mixed together, creating a so-called hybrid institution⁸⁶. The epistemic aspect translates into the transnational aspect of its structure, highlighted by the MEP which is comprised of scientific experts on biodiversity and ecosystem services. The members of the MEP are thus individual (experts), not states (via their representatives). This transnational panel is obviously fundamental to the core function of producing authoritative scientific statements on the state of biodiversity. However, it must be paired with the intergovernmental aspect, the Plenary of the member states of IPBES, to render these scientifically authoritative statements both legitimate and politically authoritative.

The specific message of the member states to the epistemic and transnational portion of the institution is reflected in the founding resolution. This message is tinged with a certain anxiety regarding controlling how these experts are going to be selected and appointed, and -crucially- how they will operate within the IPBES structure. Hence, while the expert panel is to be ‘scientifically independent’,⁸⁷ the chair and vice chairs of the plenary will also be *ex officio* members.⁸⁸ The actual selection process for the expert

⁸⁶ Perez (n14); Ayal, Hareuveny and Perez (n8).

⁸⁷ Ibid., at para. 2(b).

⁸⁸ Resolution (12) at para 16(b).

panel is placed under the control of the Plenary.⁸⁹ Experts are nominated by member states and elected for their ‘personal expertise and not intended to represent any geographical region’.⁹⁰ Nevertheless, membership is also based on equal geographical representation (one member from each of the five established UN regions). The chairs of external scientific subsidiary bodies of the global biodiversity regime complex (those inefficient politicised, underfunded and ‘unloved’ entities, whose problems IPBES was set up to transcend), as well as of the IPCC, are also given observer status.⁹¹ To operate, the MEP sets up additional working groups to produce the reports and assessments as part of the platform’s work programmes. However, such groups, reports and assessments and work programmes are always to be approved by the Plenary. The same applies to the outputs (reports and assessments) themselves⁹². For the full avoidance of doubt, there is also an ‘all-inclusive’ provision: IPBES scientific advice should possess no direct normative force (i.e. should not be ‘policy-prescriptive’).⁹³ All of the above provisions constitute manifestations of the sovereignty injunction presented above, that is, the tension between setting up an expert panel versus states wishing to remain in control. This is underpinned by anxieties over the control of a transnational group of independent experts at least partially unattached from the rigours and categories of the intergovernmental milieu.

We can again interpret these provisions regarding the transnational expert panel as a rather expected imperative to protect the sovereign interests of member states. The

⁸⁹ Ibid., at para 16(b).

⁹⁰ IPBES Dec 2/1 (2013) UN Doc IPBES/2/1 (‘Rules of Procedure’), Rule 25

⁹¹ Ibid.

⁹² Ibid., at para 7(m).

⁹³ Resolution (n12) at Art. 2(e).

provisions regarding selection and appointment of scientific experts are not dissimilar to processes used for international tribunals and committees; nor is IPBES the first international institution, organization or agency where the ‘summary for policymakers’ document is subjected to extended line-by-line negotiation, in the ‘best’ diplomatic traditions. From an international law perspective therefore, these provisions provide a sensible clarification of the legal status of the institution, its internal structure and its outputs. However, there are also a whole collection of contrasting provisions that prompt the institution to actually engage in ‘normative work’, the implication being that IPBES should not remain within, but transcend from the realm of science. This can be called the science injunction; a mandate to produce authoritative, policy-relevant knowledge that can shape behaviour at multiple governance levels, and the second element of the double-bind that stands in contrast to the sovereignty injunction articulated above.

For example, the resolution explicitly prohibits IPBES from engaging in original research⁹⁴, and its published reports and assessments must assume policy-orientated forms. Furthermore, these forms are to include proposals and recommendations for environmental action *at all levels*, from the international to the domestic and local levels⁹⁵. The institution is, therefore, tasked to at the very least ‘transcend’, if not ‘backstop’ and ‘compel’ (to borrow the well-established terminology from the crossroads of international law and international relations⁹⁶) national, regional and local interests. The science injunction thus requires, to a certain extent, an adversarial relation

⁹⁴ Ibid., at Art. 1(b).

⁹⁵ Ibid.

⁹⁶ Anne-Marie Slaughter and William Burke-White, 'The Future of International Law Is Domestic (or, the European Way of Law)' (2006) 47 Harvard International Law Journal 327

with its member states (or at least between the MEP and the Plenary). Reflecting the nature of the problem of managing biodiversity loss and decline,⁹⁷ IPBES may have to transcend the international/domestic boundary and engage directly with internal environmental governance; its reports may have to serve as a backstop when sovereign states fail to take appropriate regulatory action; the same reports may even compel and shape domestic policy choices in the absence of concerted national action and regulation. This notion of IPBES engaging in normative work at all levels is, however, precisely that which the sovereignty injunction seeks to prevent it from doing.

The IPBES resolution further highlights the expectation of support for the other multilateral environmental agreements, such as the CBD, and the international order in general⁹⁸. In that way, IPBES is expected to support the overcoming of narrow sovereign interests in favour of common or universal interests in biodiversity protection, which institutions such as the CBD represent.⁹⁹ The science injunction thus requires IPBES to, if not break, at least circumvent the sovereignty injunction; at all levels - from the local to the global.

The basic conundrum faced by IPBES therefore, as communicated by the member states to the institution via the founding resolution, can be expressed in double-bind

⁹⁷ A broad range of perspectives agree on the transboundary aspect of the problem Timothy Swanson, 'Why is There a Biodiversity Convention? The International Interest in Centralized Development Planning' (1999) 75 *International Affairs* 307; Ulrich Brand and Christoph Gorg, 'The State and the Regulation of Biodiversity: International Politics and the Case of Mexico' (2003) 34 *Geoforum* 221; Stuart R. Harrop, 'Living in Harmony With Nature'? Outcomes of the 2010 Nagoya Conference of the Convention on Biological Diversity' (2011) 23 *Journal of Environmental Law* 118; Kenneth Iain MacDonald, 'The Devil is in the (Bio)diversity: Private Sector "Engagement" and the Restructuring of Biodiversity Conservation' in Dan Brockington and Rosaleen Duffy (eds), *Capitalism and Conservation* (Wiley-Blackwell 2011); David M. Lansing, Kevin Grove and Jennifer L. Rice, 'The Neutral State: A Genealogy of Ecosystem Services Payments in Costa Rica' (2015) 13 *Conservation and Society* 200

⁹⁸ Resolution (n12) at Art. 2(a).

⁹⁹ Sundhya Pahuja, 'Conserving the World's Resources?' in James Crawford and Martti Koskeniemi (eds), *The Cambridge Companion to International Law* (Cambridge University Press 2012) at 401.

patterns. The institution will have to produce authoritative statements regarding what is known scientifically and factually regarding the problems of biodiversity loss and decline, but without engaging in scientific research directly. I.e. it must produce epistemic authority without following scientific processes in full. The platform will also have to produce authoritative statements about how to address this problem across all governance levels, yet without engaging in politics directly - at least not in a way that affects the sovereign interests of the member states. I.e. it must produce some normative effects, but the type of effects produced need to be constrained.

Applying the double-bind theory, here, to an international organization, this serving as a stand-in for the family setting of the original double-bind theory, we can detect the operation of a communicate double bind. This double bind relates to the interactions between the organisation and its member states, as reflected in the mandates, principles and functions of the organisation. This section has framed this double bind across two contrasting injunctions placed on the institution by its member states in the IPBES's founding resolution. The first, the sovereignty injunction, asks the platform not to engage in politics and remain scientifically authoritative, while restraining its epistemic functions. The second, that is, the science injunction, asks IPBES to engage in politics - because scientific authority is not enough - while restraining its political functions. Thus, the institution is caught within a double bind. This double bind, however, cannot be acknowledged directly, as it is a structural element of IPBES's founding resolution. The various forms of support (political, financial, reputational etc.) provided by the member states to IPBES, are dependent on the double bind which is inherent in its founding resolution. In short, the double bind itself is a necessary part of IPBES's operation within the international legal order.

5. DOUBLE BINDS IN ACTION: KEY CONCEPTS FROM THE WORK PROGRAMMES

This section examines two key concepts that structure the platform's work programmes and operation: 'nature's contributions to people' and 'transformative change'. These concepts have been selected to demonstrate how the institution engages with the structural double-bind patterns of its creation and moves beyond the lens of sustainable development that was deemed foundational to its original context and framing.

This section also argues that IPBES's shift beyond a sustainable development paradigm also signals a secondary shift. That is that that IPBES cannot be understood solely on the basis of its relation to its member states. IPBES's authority is constructed not exclusively, or even not primarily, by reference to its member states, but on the basis of its influence and guidance over a more diverse audience or set of stakeholders, including non-governmental organisations, the private sector and Indigenous and local communities.¹⁰⁰ The audience of its output, with an emphasis on knowledge production that orients conduct and behaviour (decision-making over specific law or rule-making), is also an indication of a different operational context, consisting not just of sovereign states, but a wider array of non-state actors.¹⁰¹

5.1 The Substitution of Ecosystem Services with Nature's Contributions to People

¹⁰⁰ Alejandro Esguerra, Silke Beck and Rolf Lidskog, 'Stakeholder Engagement in the Making: IPBES Legitimization Politics' (2017) 17 *Global Environmental Politics* 59; Cornelia B. Krug et al, 'Stakeholder participation in IPBES: connecting local environmental work with global decision making' (2020) 16 *Ecosystems and People* 197.

¹⁰¹ Esther Turnhout, Katja Neves and Elisa de Lisjter, 'Measurementality' in *Biodiversity Governance: Knowledge, Transparency, and the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES)* (2014) 46 *Environment and Planning A: Economy and Space* 581; Esguerra, Beck and Lidskog (n100) at 59.

The operation of IPBES is guided by a conceptual framework that aims to document and understand the interactions between three main elements: ‘nature,’ ‘nature's contributions to people’ and ‘good quality of life.’¹⁰² This framework is conceived as a ‘highly simplified model’,¹⁰³ i.e. ‘a drastically simplified representation of the links between very heterogenous constellation of societies and an overwhelmingly diverse natural world’,¹⁰⁴ and a type of ‘Rosetta stone’ for translating this complexity of the relation between nature and society.¹⁰⁵ The framework is thus designed to provide common themes and terminology – an ‘operating model’ – for use in the institution’s multiple reports and assessments. This framework has been applied starting from the institution’s very first programme of work, which lasted from 2015 to 2019.

This framework is notable for its major reframing of biodiversity discourse away from the established dominance of the ecosystem services paradigm. This reconfiguration starts with the proposition that the ‘major challenge today and into the future is to maintain or enhance beneficial contributions of nature to a good quality of life for all people’.¹⁰⁶ A new concept of ‘nature's contributions to people’ (NCP) is therefore introduced, defined as ‘all the contributions, both positive and negative, of living nature (diversity of organisms, ecosystems, and their associated ecological and evolutionary processes) to people’s quality of life’.¹⁰⁷ Out of all these contributions, a ‘key

¹⁰² IPBES Dec 2/4 (2013) (‘Conceptual Framework’). The MEP members that were the primary authors of this framework published a number of papers explaining and elucidating on this framework and their motivations for the shifts introduced. This section quotes extensively from this series of publications.

¹⁰³ Sandra Díaz et al, ‘The IPBES Conceptual Framework: Connecting Nature and People’ (2015) 14 *Current Opinion in Environmental Sustainability* 1 (2015) at 4.

¹⁰⁴ *Ibid.*, at 12.

¹⁰⁵ Sandra Díaz et al, ‘A Rosetta Stone for Nature’s Benefits to People’ (2015) 13 *PLOS Biology* e1002040.

¹⁰⁶ Sandra Díaz et al, ‘Assessing Nature's Contributions to People’ (2018) 359 *Science* 270 (2018) at 270.

¹⁰⁷ *Ibid.*

motivation’¹⁰⁸ should be precisely to maintain or enhance the beneficial contributions, while concurrently reducing and decreasing the negative contributions.

The introduction of this headline concept is labelled outright as a ‘paradigm shift’¹⁰⁹ that seeks to replace the established and widely used term of ‘ecosystem services’.¹¹⁰ In support of this shift, the MEP members directly raised epistemological problems related to the need to overcome the mutual alienation between science and politics, and even between natural sciences and other ‘ways of knowing’, such as social sciences, humanities and Indigenous knowledge.¹¹¹ Their arguments point to pluralism – both in terms of knowing as well as valuing nature - as underpinning this radical shift to NCP. ‘Dominated by knowledge from the natural sciences and economics,’¹¹² ecosystem services-inspired ‘studies and policies became increasingly narrow, which in turn led to voluntary self-exclusion of disciplines, stakeholders, and worldviews.’¹¹³ According to this line of pluralist reasoning, ecosystem services -and at least by implicit association biodiversity and conservation discourse - became ‘a research programme’ that ‘proceeded largely without benefiting from insights and tools in social sciences and humanities’;¹¹⁴ hence, the need for the radical reframing proposed by the IPBES conceptual framework.

¹⁰⁸ Ibid.

¹⁰⁹ Ibid., at 272.

¹¹⁰ Unai Pascual et al, 'Valuing Nature's Contributions to People: the IPBES Approach' (2017) 26-27 *Current Opinion in Environmental Sustainability* 7; Díaz et al (n106).

¹¹¹ Díaz et al (n 106) at 270; Richard B. Norgaard, 'Ecosystem services: From eye-opening metaphor to complexity blinder' (2010) 69 *Ecological Economics* 1219.

¹¹² Díaz et al (2018) (n106) at 271.

¹¹³ Ibid.

¹¹⁴ Ibid.

With this radical proposal, IPBES directly engages with one of the many ‘elephants in the room’ of international environmental law and politics, which is the definition and meaning of nature.¹¹⁵ It adopts a pluralist commitment, and thus nature is not only understood scientifically within the natural sciences, but also from other perspectives and forms coming from the social sciences and humanities, as well as Indigenous and traditional knowledge.¹¹⁶

In addition to raising these strong epistemological critiques, MEP members also began to raise some overtly political problematisations in the process of developing the conceptual framework and in their public advocacy for moving beyond the ecosystem services paradigm, as reflected in their presentation of the conceptual framework in academic journals. Ecology had become accustomed to a conceptualisation of the functions and services of nature as ‘flows stemming from ecosystems (stocks of natural capital)’¹¹⁷ and to the use of economics to estimate the monetary value of these flows. This led to a ‘stock-and flow framing of people-nature relationships’.¹¹⁸ These critiques stopped short of a structural challenge to market-orientated environmental governance or the forms of extraction and exploitation inherent within the global economic system and international legal order.¹¹⁹ The risks associated with the commodification of nature through this stock and flow framing are presented as only ‘perceived’ and recognition of

¹¹⁵ Stephen Humphreys and Yoriko Otomo, 'Theorising International Environmental Law' in Anne Orford, Florian Hoffmann and Martin Clark (eds), *The Oxford Handbook of the Theory of International Law* (Oxford University Press 2016), n. 14 Jens Jetzkowitz et al, 'The Significance of Meaning: Why IPBES Needs the Social Sciences and Humanities' (2018) 31 *Innovation: The European Journal of Social Science Research* S38

¹¹⁶ Garry D. Peterson et al, 'Welcoming different perspectives in IPBES: "Nature's contributions to people" and "Ecosystem services"' (2018) 23 *Ecology and Society* 39.

¹¹⁷ Díaz et al (n106) at 271.

¹¹⁸ Ibid.

¹¹⁹ For an example of a continuation of such critiques see Dehm (n16).

environmental justice is eschewed in favour of ‘social equity concerns’ instead.¹²⁰ Therefore, while critiques of ecosystem services are picked up, they are not developed fully into structural critiques of the global political economy of extraction within the IPBES conceptual framework, despite these critiques being present in the broader literature.¹²¹

The resistance - and some would claim downright confusion – prompted by this conceptual shift is almost more interesting than the shift itself.¹²² Ecosystem services is a crucial part of the institution’s intellectual lineage dating back to the MEA and is represented, after all, in its very name, which has not been changed. Now, this previous mantra was being elided in favour of a new concept of nature’s contributions to people. This was not positively received by epistemic communities that had built careers, standing and -seemingly- self-worth on back of the previous paradigm.

Proponents of ecosystem services were ecological pragmatists that identified ‘global biodiversity conservation as a failed project [...] despite the expansion of global biodiversity law and policy and of endangered species legislation’ and proposed ecosystem services as the main solution for making biodiversity conservation resonate with policy makers.¹²³ Anchored by the weight of economic theory and notions of natural capital, this was a realist environmental project of finding ways to ‘make nature pay for

¹²⁰ Díaz et al (n106) at 272.

¹²¹ Jonathan Silvertown, 'Have Ecosystem Services Been Oversold?' (2015) 30 Trends in Ecology & Evolution 641; ; Matthias Schröter et al, 'Ecosystem Services as a Contested Concept: a Synthesis of Critique and Counter-Arguments' (2014) 7 Conservation Letters 514.

¹²² Leon C. Braat, 'Five reasons why the Science publication “Assessing nature’s contributions to people” (Díaz et al. 2018) would not have been accepted in Ecosystem Services' (2018) 30 Ecosystem Services A1; Jasper Kenter, 'IPBES: Don’t throw out the baby whilst keeping the bathwater; Put people’s values central, not nature’s contributions' (2018) 33 Ecosystem Services 40; R De Groot et al, 'Ecosystem services are nature’s contributions to people. Response to Díaz et al. 2018' (2018) Science

¹²³ Dempsey (n50) at 97-100.

itself' and be included in economic and thus political calculations.¹²⁴ A whole field of studies - epistemic communities, academic journals, research programmes - has largely been constructed on back of this term.¹²⁵

From a double-bind perspective, it is interesting to note that the ecosystem services programme, which regarded itself as a realist and pragmatic project of political advocacy in defence of the environment, strongly emphasized science and belittle politics in its encounter with the challenger term of nature's contributions to people. For example, one commentator claimed that a 'semantic analysis' of the shift in 'headline terminology' demonstrated that 'the move by IPBES to replace ecosystem services with NCP is an outcome of politics, not rigorous thinking'.¹²⁶ It is a 'rebranding exercise more driven by politics than substance'.¹²⁷ The implicit assumption of such a comment is that 'branding' is somehow beneath the scientific experts, despite the fact that these experts constantly engage in such practices in their interactions with policy makers and other audiences.¹²⁸ In the mind of the critics, there is a clear division; NCP is 'a political compromise and not a new scientific concept'.¹²⁹ It is clear, therefore, that its

¹²⁴ Robert Costanza et al, 'The value of the world's ecosystem services and natural capital' (1997) 387 *Nature* 253; Dempsey (n50).

¹²⁵ Most obviously in the pages of the *Ecosystem Services* journal e.g. Robert Costanza et al, 'Twenty years of ecosystem services: How far have we come and how far do we still need to go?' (2017) 28 *Ecosystem Services* 1; Leon C. Braat and Rudolf de Groot, 'The Ecosystem Services Agenda: Bridging the Worlds of Natural Science and Economics, Conservation and Development, and Public and Private Policy' (2012) 1 *Ecosystem Services* 4, but spreading throughout ecological economics in particular: James Boyd and Spencer Banzhaf, 'What are ecosystem services? The need for standardized environmental accounting units' (2007) 63 *Ecological Economics* 616; Norgaard For legal applications see Justine Bell-James, 'Integrating the Ecosystem Services Paradigm into Environmental Law: A Mechanism to Protect Mangrove Ecosystems?' (2019) *Journal of Environmental Law* ; V. Mauerhofer, 'The Law, Ecosystem Services and Ecosystem Functions: An In-Depth Overview of Coverage and Interrelation' (2018) 29 *Ecosystem Services* 190; Colin T. Reid and Walters Nsoh, *The Privatisation of Biodiversity? : New Approaches to Conservation Law* (Edward Elgar Publishing 2016)

¹²⁶ Kenter (n122) at 42.

¹²⁷ *Ibid.*, at 40.

¹²⁸ Alexander Damianos, 'Anthropocene angst: Authentic geology and stratigraphic sincerity' (2024) 55 *Social Studies of Science* 444.

¹²⁹ De Groot et al (n122).

introduction was deemed an existential threat that will ‘confuse policy makers and practitioners, and plunge the scientific community into semantic paralysis’.¹³⁰

The underlying assumption of these critiques is obvious: too much politics dilutes scientific authority; scientific rigour and substance is opposed to politics; science is opposed to compromises. The underlying question of this whole conceptual tug of war between proponents of these two master concepts, science and politics, relates to what amounts to appropriate and effective science-based advocacy for environmental protection norms. For example, a NCP critic acknowledges that ‘semantics and what headline terminology we choose are important; the terms we use and emphasise inevitably influence how we frame and think about issues’.¹³¹ However, the importance of framing only extends to the scientific object of analysis, whether it is nature, the environment, biodiversity or ecosystem services.¹³² It does not extend to framing one’s own role, position, community or crucially for the analysis presented in this paper of the scientific institution itself. The ‘we’ in the statement is pointedly left out of the attention paid to framing, because its position as a subject that frames (and not an object to be framed) is established. The overall reaction to the replacement of ecosystem services with the concept of nature’s contributions can be seen as a manifestation of the third aspect of the double bind; the requirement to refrain from directly acknowledging the double bind of the sovereignty and science injunctions; and the adverse reaction when the authors of the conceptual framework attempted to do precisely that.

¹³⁰ Ibid.

¹³¹ Kenter (n122) at 40.

¹³² George Lakoff, 'Why it Matters How We Frame the Environment' (2010) 4 Environmental Communication 70.

5.2 The Pursuit of ‘Transformative Change’

This section first discusses the emergence of the concept of transformative change within the vocabulary of IPBES and then proceeds to examine this concept from the double-bind perspective, focusing on the science injunction directed towards the Platform. The 2019 Global Assessment Report was the pinnacle of first IPBES work programme: it was the very first authoritative, in multiple senses of the term, assessment of the global state of biodiversity and the culmination of a circuitous process initiated in the 1990s with the poorly received Global Biodiversity Assessment.¹³³ The report unequivocally called for ‘transformative change’, defined as ‘a fundamental, system-wide reorganization across technological, economic, and social factors, including paradigms, goals, and values’.¹³⁴ This transformative change was understood as ‘structural,’ and ‘needed [...] for progress [to] be made to achieve the Aichi Biodiversity Targets, the CBD 2050 Vision and the SDGs’.¹³⁵ This transformative change was deemed to be ‘both necessary and inevitable for biodiversity-related issues and sustainable development more broadly’¹³⁶ and was thus to be ‘facilitated by innovative governance approaches’.¹³⁷

In the report, governance was defined as ‘the formal and informal (and public and private) rules, rule-making systems, and actor-networks at all levels of human society (from local to global) that are set up to steer societies towards positive outcomes and

¹³³ This process is recounted in Section 2 above.

¹³⁴ Jona Razzaque et al, 'Chapter 6.Options for Decision Makers' in E. S. Brondizio and others (eds), *Global Assessment Report of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services* (IPBES Secretariat 2020) at 889.

¹³⁵ Ibid.

¹³⁶ Ibid., at 890.

¹³⁷ Ibid.

away from harmful ones’.¹³⁸ While, in the report’s introduction, this change was linked with technological, economic and social structures, as the exploration of the concept develops in Chapter 6 of the Global Assessment Report, it grew to include ‘both personal and social transformation,’ as well as ‘shifts in values and beliefs, and patterns of social behaviour’.¹³⁹

Transformative change was thus to be achieved by transformative governance. ‘Governing transformative change’ is defined as ‘an approach to environmental governance that has the capacity to respond to, manage, and trigger regime shifts in coupled socioecological systems at multiple scales’.¹⁴⁰ This mention of regime shift leaves little doubt about the seriousness of this proposition, derived from academic research on transformations and transitions from multiple fields, as represented in the expansive list of this particular chapter’s authors. The report acknowledges that transformative governance is ‘inherently political,’ which it takes to mean ‘negotiated and contested’.¹⁴¹ The conclusion from this analysis is that transformative governance will require innovative governance approaches which the chapter presents, grouped under four headings of integrative, inclusive, informed and adaptive.¹⁴²

Emerging from a single chapter within the broader first Global Assessment Report, the concept of transformative change has since been incorporated into the second and current work programme of the institution. As part of this work programme, the IPBES Plenary planned and launched a focused ‘thematic assessment on transformative

¹³⁸ Ibid.

¹³⁹ Ibid., at 890.

¹⁴⁰ Ibid., at 891.

¹⁴¹ Ibid.

¹⁴² Ibid., at 891-897.

change’¹⁴³ (TCA) to expand the concept further. According to the scoping document, the aims of the TCA were quite wide and ambitious. Fundamental changes were deemed to be needed in: ‘development paradigms and social-ecological dynamics, which in turn entail changes in society, considering inequality and governance, employing conservation, restoration and the sustainable use of land, water, energy and materials, and rethinking and appropriately modifying production and consumption habits, food systems, and global value chains’.¹⁴⁴

Therefore, there is not much left *off* the table for the TCA. The scope of the assessment is nothing less than presenting and assessing ‘different visions, scenarios, and pathways for a sustainable world’,¹⁴⁵ originating from ‘all corners’: natural and social sciences, local and Indigenous knowledge systems. In addition, the TCA is to identify practical options and active, concrete steps towards realising this multiplicity of visions. The authors of this assessment are asked to identify the ‘psychological, behavioural, social, cultural, economic, political, governance, institutional, demographic, scientific, technical and technological’ factors that ‘can be leveraged to bring about transformative change’.¹⁴⁶

A contributing step towards this TCA was the ‘Methodological Assessment Report on Diverse Values and Valuation of Nature’ (*‘Values Assessment’*), which was completed in 2022.¹⁴⁷ This IPBES assessment ‘explore[d] how people across many different regions

¹⁴³ IPBES 8/1 Annex II (2021) (‘Scoping Report’)

¹⁴⁴ Ibid., at para 2.

¹⁴⁵ Ibid.

¹⁴⁶ Ibid., at para 5.

¹⁴⁷ P. Balvanera et al (eds), *Methodological Assessment Report on the Diverse Values and Valuation of Nature of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services* (IPBES Secretariat 2022).

and social contexts have conceptualised human-nature relationships and proposes a novel and comprehensive typology of nature's values'.¹⁴⁸ Its point of departure was the link between the global environmental problem of biodiversity decline and loss with the prioritisation of a particular valuation of nature that 'prioritises short-term economic gains at the expense of nature and long-term sustainability'.¹⁴⁹ This narrow prioritisation of economic value in turn resulted in decision-making that focused on 'market-based instrumental values of nature, ignoring many non-market values and perspectives of indigenous peoples and local communities'.¹⁵⁰ This echoes the critical approach set out in the overall IPBES conceptual framework, which decried the narrow focus on economic valuation associated with the ecosystem services paradigm. Consequently, the Values Assessment argued that the pursuit of transformative change requires a major shift 'away from values emphasizing short-term individual gains to sustainability-aligned values across society'.¹⁵¹ Such a shift would involve the 'identification and recognition of diverse values of nature, methods for valuation, and how to embed these values into decision-making to support more just and sustainable futures'.¹⁵² This identification is a major aspect of this methodological assessment. The assessment in the end outlines more than 50 different methods for valuing nature.

In their foreword to the Values Assessment, the chair and executive secretary of IPBES stressed that decision-making should be informed by 'plurality of values from a

¹⁴⁸ U. Pascual et al (eds), *Summary for Policymakers of the Methodological Assessment Report on the Diverse Values and Valuation of Nature of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services* (IPBES Secretariat 2022) at 2.

¹⁴⁹ *Ibid.*, at 12.

¹⁵⁰ *Ibid.*

¹⁵¹ *Ibid.*, at 16.

¹⁵² *Ibid.*, at 12.

diversity of stakeholders, towards more just and sustainable futures.’¹⁵³ This is because, they argued, ‘Key knowledge and capacity gaps hinder inclusion of diverse nature values in decisions’.¹⁵⁴ The use of these different values in law and policy making is, they state, to be achieved through ‘fair participation of diverse actors, including indigenous peoples and local communities’.¹⁵⁵ This, they argue, will mitigate these gaps and ‘can advance transformative change needed for global sustainability goals’.¹⁵⁶ Chapter 6 of the Global Assessment Report contends that governance approaches should be ‘integrative, inclusive, informed and adaptive’.¹⁵⁷ From the above it is clear that the ideal-type for environmental decision-making, i.e. ‘transformative governance’, as reflected in both IPBES’s operation itself and its policy advice, includes transparency, inclusiveness, and participation.

The above propositions were all eventually consolidated in the actual TCA assessment that was published, after a few predictable delays, in 2025 ¹⁵⁸ . Transformative change has now been framed as ‘fundamental, system-wide shifts in views, structures and practices’.¹⁵⁹ In this tripartite definition, ‘views’ are understood as ‘ways of thinking, knowing and seeing’;¹⁶⁰ ‘structures’ as ‘ways of organizing, regulating and governing’;¹⁶¹ and ‘practices’ as ‘ways of doing, behaving and relating’.¹⁶² The main

¹⁵³ Balvanera et al (eds) (n147).

¹⁵⁴ Ibid., at 41.

¹⁵⁵ Ibid., at 46.

¹⁵⁶ Ibid.

¹⁵⁷ Razzaque et al (n134) at 890.

¹⁵⁸ IPBES, Summary for Policymakers of the Thematic Assessment Report on the Underlying Causes of Biodiversity Loss and the Determinants of Transformative Change and Options for Achieving the 2050 Vision for Biodiversity of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. O’Brien, K et al (eds.) (22 January 2025) [10.5281/zenodo.11382230](https://zenodo.org/record/11382230) (TCA assessment).

¹⁵⁹ Ibid., at 12.

¹⁶⁰ Ibid.

¹⁶¹ Ibid.

¹⁶² Ibid.

argument of the report is that these shifts in ways, structures and practices must be ‘deliberate’, aiming for ‘a just and sustainable world’ and based on ‘addressing the underlying causes of biodiversity loss and nature’s decline’.¹⁶³

The TCA is also noteworthy for its confirmation of inclusion and pluralism as one of the key guiding principles¹⁶⁴ and, consequently, its commitment to plurality of values as a necessary condition for the articulation of visions and the actual pursuit of transformative change.¹⁶⁵ It is explicitly acknowledged that ‘the diversity of societies, economies, cultures and peoples in the world means that no single vision is appropriate across contexts and scales and that shared transformative visions for a just and sustainable world are more likely to inspire change’.¹⁶⁶ In fact, it is the *combination* of three categories of value that have often been fiercely debated around environmental circles¹⁶⁷ – intrinsic, relational and instrumental – that will yield the ‘most transformative visions of change’.¹⁶⁸

The plural and justice-orientated conceptual horizon of the TCA indicates a further shift beyond the one attempted through the IPBES conceptual framework (which only went as far as ‘social equity concerns’ terminology). By further incorporating normativity into diagnosis, the institution is arguing for a fundamental reworking of all conditions (ideas, institutions, behaviours) that have led to biodiversity degradation. Therefore, the prediction, made while the TCA was being prepared, that IPBES ‘cannot

¹⁶³ Ibid.

¹⁶⁴ Ibid., 12

¹⁶⁵ Ibid., 45-46.

¹⁶⁶ Ibid., 44.

¹⁶⁷ For a classic ‘primer’ see John Alder and David Wilkinson, *Environmental Law and Ethics* (Macmillan 1999)

¹⁶⁸ TCA assessment (n158) at 45.

be simply understood as a ‘scientific actor’, assessing and synthesizing knowledge in a neutral and value-free way, but rather it needs to be understood as a “political actor”, exercising influence and authority in the bargaining, negotiation, and compromise that determines who gets what, when and how’¹⁶⁹ has been confirmed.

From the double-bind perspective, IPBES, through this vision of transformative change, is fulfilling the task of transcending its scientific roots. In this sense, IPBES is ‘leaning into’ the science injunction via the TCA, venturing further away from documenting the state of biodiversity and towards biodiversity policy and action. The assessment is formally a manifestation of the capacity building function of IPBES.¹⁷⁰ In light of the continuing biodiversity decline and the degradation documented and confirmed by the 2019 Global Biodiversity Assessment, the TCA provides necessary knowledge on what form alternative trajectories can assume to inform law and policy. In particular, it does so in the context of having identified the need to make radical changes at all levels to actively challenge the decline in biodiversity conditions. The report is, in effect, a more expansive and detailed treatment of Chapter 6 of the Global Biodiversity Assessment that outlines possible ‘options for decision-makers’. To achieve this, IPBES has followed the science injunction (‘science is not enough’), and has accordingly situated itself as a political agent and a ‘catalyst’ for transformative change.

The question that can then be raised is: can this be done without jeopardising IPBES’s legitimacy to state members? And what about the sovereignty injunction? Viewing the situation through the lens of double-bind patterns, the IPBES’s direction of

¹⁶⁹ Karin M. Gustafsson and Erik Hysing, ‘IPBES as a Transformative Agent: Opportunities and Risks’ (2023) 50 *Environmental Conservation* 7 at 8.

¹⁷⁰ *Ibid.*, at 7; Ian Scoones et al, ‘Transformations to sustainability: combining structural, systemic and enabling approaches’ (2020) 42 *Current Opinion in Environmental Sustainability* 65

travel towards bold and transformative language, as exemplified in the TCA, is simultaneously both a necessary corollary of the diagnosis of terminal decline, as well a dangerous escalation of IPBES authority. The oscillation continues, as the IPBES now finds itself caught between constituting a neutral interface between science and policy and documenting the state of biodiversity, while also positioning itself as an active political agent, that is, a machine for producing transformative intervention, norms and principles. The credibility of IPBES as a conduit of scientific information will inevitably decrease, if its diagnosis, the analysis of the ‘gap’ between where the world is and where it should be in terms of biodiversity, remains bleakly the same. The normative element of IPBES must rise in line with the bleakness of diagnosis, so that the authority of the institution is maintained across the diversity of state and non-state audiences that constitute its stakeholders. Stark diagnoses of extinction must be met by stark calls for action.

The pursuit of transformative change highlights the precarious position of the IPBES within the international legal order as it navigates conflicting expectations from scientists, states and civil society. Given the bleak overall state of biodiversity, as documented across various IPBES reports and assessments, current laws and policies are evidently not enough; they must be transformed via innovative governance and significant, rapid regime shifts. Innovative governance and significant, rapid regime shifts backed by epistemic authority, however, may be deemed to lay outside the scope of IPBES and impinge upon the sovereign rights of the member states to govern themselves in whatever manner they deem fit. There is a pressure to act (or at least to propose actions), given the severity of the environmental emergency. There is also pressure not

to act, given the structure of the interstate/intergovernmental process. Once again, the double-bind rears its head.

6. CONCLUSIONS

Initially comprised of 94 states, IPBES membership has grown to 152 states as of late 2025. In operation now for over twelve years, encompassing two work programmes, the current of which runs to 2030, the platform has produced a consistent stream of deliverables and outputs. Four regional assessments of biodiversity and ecosystem services – for Africa, the Americas, Europe and Central Asia, and Asia Pacific – were produced and approved as part of the first work programme, leading to the first global assessment of the state of biodiversity in 2019.¹⁷¹ Work on the second global assessment is currently underway, with the scoping report highlighting its importance in terms of ‘assisting in the implementation of the CBD, its protocols, the Global Biodiversity Framework and the SDGs’.¹⁷² In addition, several thematic assessments – e.g. on pollinators and food production, invasive alien species, the use of wild species and land degradation and restoration – as well as methodological assessments – such as scenarios and models of ecosystem services and values assessments – have also been completed.

There is no doubt that the production of knowledge on biodiversity has been greatly enhanced by the operation of a ‘purpose-built’ SPI in this field; as predicted by

¹⁷¹ IPBES (2019): Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. <https://doi.org/10.5281/zenodo.3831673>.

¹⁷² IPBES Dec 10/10 (2024), Annex II, ‘Initial scoping report for a second global assessment of biodiversity and ecosystem services’.

the proponents of the institution. In terms of biodiversity knowledge, IPBES has exceeded the *Global Biodiversity Outlook* or anything that the classical subsidiary scientific organs established under multilateral environmental agreements can produce with their limited capacities. The disparate outputs of the MEA and other ‘biodiversity accounting’ initiatives¹⁷³ have all been housed under a single roof. By any quantitative measure, this marshalling expertise and increase in knowledge production has clearly ensured that the IPBES is a successful institution.¹⁷⁴

Yet establishing an institution to address an already difficult communications problem between science and policy, and establishing it also within the confines of the added complexity of the formal international legal process, has inevitably created further challenges. This article has argued that Gregory Bateson’s double-bind theory provides a productive lens for understanding how IPBES works, and, just as importantly, why it so often appears to be working against itself. Recasting IPBES as a site of meta-communication within the international legal order illuminates a constitutive contradiction between a sovereignty injunction (protecting member-state control and interstate legitimacy) and a science injunction (demanding authoritative, policy-relevant knowledge that shapes behaviour at multiple governance levels).

Because such contradictions are structural and cannot be explicitly acknowledged by the institution without jeopardising its authority, they recur as patterns that the Platform must continuously navigate. This is precisely the terrain that the adaptation of double-bind theory to law and institutions presented in this article has

¹⁷³ Such as TEEB, *The Economics of Ecosystems and Biodiversity: Mainstreaming the Economics of Nature: A synthesis of the approach, conclusions and recommendations of TEEB*, 2010)

¹⁷⁴ A detailed examination of the additional IPBES functions, such as capacity building, exceeds the scope of the present article.

sought to make visible: persistent, contradictory messages within a fixed relational setting that cannot be resolved head-on. These contradistinctions, in turn, generate institutional ‘pathologies’. As a result, IPBES is being asked to perform irreconcilable roles simultaneously. It must constitute both the impartial scientific authority on the state of biodiversity, and assume a ‘new role in environmental governance’ as a ‘global agent of transformative change’.¹⁷⁵ In terms of the latter, this means it must thus become a normative catalyst for major and urgent social, political and economic transformations and transitions from the local to the global levels that transcend the specific environmental concern for biodiversity loss or, indeed, the long-standing paradigm of sustainable development.

Seen in this way, features of IPBES that might otherwise look like administrative detail or political compromise acquire analytical significance. The Platform’s hybrid architecture, structured around an intergovernmental Plenary that authorises outputs and a transnational MEP that produces them, encodes and manages the double bind. It does so by coupling scientific independence to plenary approval, by rendering “policy-relevant, not policy-prescriptive” outputs, and by insisting on consensus through line-by-line negotiation of the Summary for Policymakers. These design choices secure interstate legitimacy while constraining the very epistemic autonomy that underwrites credibility. In double-bind terms, IPBES therefore coordinates two injunctions that pull in opposite directions: the need for authoritative knowledge without adequate research; and the call to catalyse change across legal orders without “doing” politics.

¹⁷⁵ Gustafsson and Hysing (n169) at 10.

The double-blind perspective, therefore, provides diagnostic clarity. Rather than general invocations of the tension between science and policy, a double-bind analysis tracks specific communicative framings and counter-framings across key texts and practices. It explains why certain initiatives become pressure points and why others diffuse conflict. Two episodes discussed in the paper, the conceptual reframing from ecosystem services to nature's contributions to people and the growing centrality of transformative change, can both be read as institutional responses that seek to address the double bind. NCP pluralises valuation and invites social sciences, humanities, and Indigenous knowledge, the erstwhile 'peripheries', into the previously established epistemic 'core'. It marks an explicit effort to widen what counts as expertise without surrendering to politicisation. Transformative change articulates a normative horizon commensurate with the scale of biodiversity decline while maintaining the Platform's stance as catalyst rather than rule-maker. Each move is intelligible as a way of making the contradiction navigable rather than solvable.

The double-bind perspective also demonstrates how epistemic cooperation cannot be confined to the production of reports. In polycentric governance spaces populated by states, international organisations, scientists, Indigenous communities, NGOs and corporations, authority is produced over time through iterative, audience-specific meta-communication. Authority relates more to the management of meanings, signals, and expectations and less to the promulgation of formal rules, policies or reports. IPBES' self-conception as an epistemic institution operating within such a polycentric system is not merely descriptive; it signals that the Platform's audience is wider than member states and that authority must be co-produced across those audiences. It requires procedural guarantees that speak directly to participation, inclusion, and

fairness in valuation. Without these values, the pluralism of the NCP risks becoming rhetorical rather than operative. Double-bind theory does not promise escape; it offers demystification—a first step in de-pathologizing the institutional behaviour of an institution that is seemingly asked simultaneously to stay out of politics and to make a difference.

The analysis presented in this article also travels, offering wider insights for international environmental law. For a start, nothing in this diagnosis is unique to biodiversity. The IPCC sits in a structurally analogous position—intergovernmental authority tethered to transnational scientific labour; consensus line-by-line approval; non-prescriptive outputs pitched to diverse audiences. Reading the climate interface through double-bind theory would likely similarly clarify why calls for bolder guidance provoke fears of politicisation, and why ‘solutions-oriented’ assessments struggle to remain within mandate.

The double-bind lens also reframes familiar debates within the field about sustainable development, harmony/discord among instruments, and the place of expertise. Rather than treating ‘sustainable development’, ‘sustainability’, ‘ecosystem services’, the ‘Anthropocene’ or any other similar term as a stable normative platform, double-bind analysis invites a granular attention to how it such terms are operationalised in specific communicative settings and how expertise are positioned vis-à-vis sovereign control.

If IPBES pivots from documenting loss to structuring pathways for change, the temptation is either to hew closely to pure assessment (and risk irrelevance) or to embrace a maximalist transformative vocabulary (and risk contestation of mandate).

Double-bind theory counsels against seeing these as stark alternatives. The Platform's legitimacy and authority can be defended in practice by exposing, monitoring, and managing the very contradictions that constitute it. If stark diagnoses must be met with stark calls for action, then the way to achieve the bringing together of contradictions without eroding authority is to add reflexivity to the repertoire, that is, to show where the fault lines lie, how trade-offs have been made, and why. Legacies, double binds and pathologies must be acknowledged as the global environmental emergency continues to intensify and the very international legal order that enabled such large international undertakings as IPBES continues to unravel. That is how an institution that cannot break its double bind can nonetheless use it, turning the bind from a pathology into a disciplined way of seeing and steering a polycentric, contested science-law interface.