

Rent is crucial for Article 8(j) & ABS: Non-fungible Public Good for Billionaire Philanthropy

*Submission of View in response to request for possible institutional arrangements and their
modus operandi for the implementation of Article 8(j) and other provisions
in decision 15/10 of the Convention on Biological Diversity*

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KEY MESSAGES

- **Justification for economic rents joins Article 8(j) with ABS.**
- **Traditional knowledge is artificial information; genetic resources, natural information.**
- **Artificial information can be easily mistaken as natural information.**
- **Reductionism enables holism for diverse world views of how to live within limits.**
- **Finance for requisite infrastructure is non-fungible and ideal for billionaire philanthropy.**

Acknowledgments:

I am grateful to The IUCN Environmental Law Center for publishing "Reflecting Financial and Other Incentives of the TMOIFGR" (2007).¹ Core ideas presented here originate there and in the antecedent The Biodiversity Cartel (CARE & IADB/CONADE Project, 2000) and "White Paper: Six Case Studies from Latin America and the Caribbean", Summit of the Americas, Bolivia 1996.² Ideas newly integrated into this submission are so identified. I am also grateful for errors spotted by copyeditors of the French, Portuguese and Spanish translations, which are forthcoming.

¹ Open access in English, French and Spanish, at respectively, <http://www2.ecolex.org/server2neu.php/libcat/docs/LI/MON-083597.pdf#page=65>, <https://www.iucn.org/fr/resources/publication/une-cible-mobile-ressources-genetiques-et-options-de-localisation-et-de>, <https://spda.org.pe/wpfb-file/un-blanco-en-movimiento-pdf/>

² Open access in English, Portuguese and Spanish at, respectively, <http://www.bioline.org.br/request?py97005>, <http://www.bioline.org.br/request?py97205>, <https://intranetua.uantof.cl/crea/prodiversitas.pdf>

Introduction

The desire for holism is palpable in the Conferences of the Parties (COP) to the Convention on Biological Diversity (CBD). The Preamble to Decision 15/10 is explicit: "Recognizing the need for a more holistic, forward-looking and integrated programme of work..."³ Implicit is the assumption that only holism will enable fairness and equity in the sharing of benefits arising from the utilization of traditional knowledge, which is the aspiration of Article 8(j) of the CBD.⁴ Parties have likewise assumed that holism is requisite for the resolution of access to genetic resources and the fair and equitable sharing of benefits arising from their utilization, known as ABS.

That reductionism has failed is, however, a false premise. A truly reductionist approach to Article 8(j) and ABS has never been vetted much less implemented. In this submission, I shall argue for reductionism yet concede that Article 8(j) cannot be separated from provisions on ABS. Indeed, their separation into Decisions 15/9 and 15/10 contradicts the very holism advocated in the Preamble to Decision 15/10.⁵ Due to the inseparability of Article 8(j) and ABS,⁶ I will use the ampersand in reference to the two issues, i.e. Article 8(j) & ABS, much as one would Research and Development (R&D).

Reduction demands abstract thinking. Five "what" questions arise when thinking about institutional arrangements and their modus operandi for the implementation of Article 8(j) & ABS. The first and second are a Janus-head: What is the object of access for the addition of value to genetic resources? And what is the object of access for the addition of value to traditional knowledge associated with genetic resources?

³ "Decision Adopted by the Conference of the Parties to the Convention on Biological Diversity", CBD/COP/DEC/15/10, 19 December 2022, <https://www.cbd.int/doc/decisions/cop-15/cop-15-dec-10-en.pdf>

⁴ "Subject to its national legislation, respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilization of such knowledge, innovations and practices;" Article 8(j), Convention on Biological Diversity, <https://www.cbd.int/convention/articles/?a=cbd-08>

⁵ My 19 March 2023 Submission of View to Decision 15/9 argues that any multilateral mechanism on DSI is isomorphic with the Global Multilateral Benefit-Sharing Mechanism (GMBSM) of Article 10 of the Nagoya Protocol. Hence, the invitation to submit views on the issues set out in the Annex to Decision 15/09 reduces to yet another invitation to submit a view on the GMBSM. See Prof. Joseph Henry Vogel, Observer, Notification 2023-03, <https://www.cbd.int/notifications/2023-003>

⁶ Inseparability is newly integrated idea into the research trajectory for the proposed modality of GMBSM "bounded openness". At COP13, my co-presenters and I still believed that access and benefit sharing from utilization of traditional knowledge could be separated from that of genetic resources. See, Side Event "New Approaches to Access and Benefit Sharing: The Case for Bounded Openness and Natural Information", COP13, 9 December 2016. Transcript, pp. 36-37, 42-43, <http://www.actualidadambiental.pe/wp-content/uploads/2017/12/TranscriptSideEventCOP13BoundedOpenness.pdf>

In the case of random bioprospecting, the object of access is "natural information".⁷ In the case of ethno-bioprospecting, "artificial information"⁸. Consideration of the distinctions and a commonality in these two classes of information is essential for successful implementation of Article 8(j) & ABS. Outstanding among the distinctions: most natural information can usually exist without human support of the medium; artificial information usually cannot.⁹ The commonality: the cost structure of producing information is asymmetric: opportunity costs are high for maintenance or creation¹⁰ and the cost of reproduction, extremely low.

A thought experiment elucidates the policy implications of the asymmetrical cost structure for Article 8(j) & ABS. If there is unbounded openness to natural or artificial information, anyone can benefit without compensating anyone else. For Parties to the CBD, free-of-cost access means providers of natural information will not capture any of its "use value",¹¹ which could have incentivized conservation. Providers of artificial information will similarly not capture the use value of traditional knowledge, which could have incentivized disclosure of what they know. When the opportunity costs of natural or artificial information are high for providers yet the price of access nominal for users, the land does not get conserved nor the traditional knowledge, disclosed.

To fully understand the implications of economics for Article 8(j) & ABS, one must distinguish the economic meanings of words also used in everyday speech. Conflation of meanings is the fallacy of equivocation. Leading the list is "public good", defined in economics as a good where-

⁷ "Natural information" is defined as "[a]ny unintentional distinction, non-uniformity or difference extracted from matter that is living or was once alive." J.H. Vogel, Manuel Ruiz Muller, Klaus Angerer, Dino Delgado-Gutiérrez, Alfredo Gálvez Ballón, "Bounded openness: A robust modality of access to genetic resources and the sharing of benefits", *Plants People Planet*, Vol 4 Issue 1, 2022, <https://nph.onlinelibrary.wiley.com/doi/10.1002/ppp3.10239>

⁸ "Artificial information: Artificial Information: Any human-made distinction, non-uniformity or difference that is intentional." Ibid.

⁹ "Most" and "usually" are indispensable modifiers: "Most natural information can exist...": Dan Janzen writes about wild species that are the "living dead", i.e. they cannot survive without intervention. See D. H. Janzen, D.H., "Latent extinction - the living dead", *Encyclopedia of Biodiversity*, Elsevier, vol. 4, 2013, pp. 590–598, <https://doi.org/10.1016/B978-0-12-384719-5.00085-X>. But most species seem to rebound once anthropogenic pressures are removed. See Sean B. Carroll *The Serengeti Rules: The Quest to Discover How Life Works and Why It Matters*, Princeton University Press, Princeton, NJ, 2016. "[A]rtificial information usually cannot": Contrariwise, some well domesticated species have become feral weedy, but most have not. See, Elistrand, Norman C et al. "Crops gone wild: evolution of weeds and invasives from domesticated ancestors", *Evol Appl*. Vol 3 Issue 5-6, 2010 (September), pp. 494–504, doi:10.1111/j.1752-4571.2010.00140.x

¹⁰ The opportunity costs for traditional knowledge are not just the value of the hours spent interviewing and recording community members; they include the peace of mind extinguished for the interviewees who divulged what will no longer be exclusive inter-generational cultural transmission within the community.

¹¹ "Use value" has a meaning in economics that hazards equivocation with common speech, <https://www.economicsdiscussion.net/articles/value-value-in-use-and-value-in-exchange/2018>. Although associated with classical political economics, use value also enters modern economics through the question of optimal taxation and "excess burden". See "Ramsey Rule", *Oxford Reference*, <https://www.oxfordreference.com/display/10.1093/oi/authority.20110803100403456;jsessionid=813D30-FA6B92CD77B1B4E9531E49858E>

by consumption by one person does not diminish simultaneous consumption by any other.¹² When others consume information without paying anything, the market provides a suboptimal quantity and quality of information. Economists call the dynamic "free-riding" and the resultant sub-optimality, "market failure".

Apparent abundance can obscure free-riding and market failure for genetic resources and traditional knowledge.¹³ To the extent that enough of both exist today for R&D, most commercial users could care less about collapse tomorrow.¹⁴ Discounting financial flows is bedrock in the MBA education of managers in all industries. Biotechnology is no exception.

Hypocrisy is also rife. Recognizing how free-riding dampens innovation in the sciences and arts, industry spokespersons justify intellectual property rights (IPR), which are limited-in-time monopolies. Patents are the exclusionary mechanism to prevent the free riding of R&D; copyrights, the free-riding of artistic expression. The bounds they place on openness have become global through the 1995 Agreement of Trade Related Intellectual Property Rights (TRIPS) of the World Trade Organization (WTO). Although this justification for protecting artificial information could also apply for natural information, universalism has not yet obtained. Limited-in-time oligopolies¹⁵ could be institutionalized through an amendment to the Nagoya Protocol (NP).¹⁶

My co-authors and I call the ABS modality for a Global Multilateral Benefit-sharing Mechanism (GMBSM) of Article 10 of the NP "bounded openness over natural information".¹⁷ I explain the

¹² Non-rivalry and excludability are twin criteria in most but not all textbook definitions. For a comparison of nuances, contrast the entry for Public Good in the Glossary of Harvey S. Rosen, *Public Finance*, United States, 1992, p. 605 with that of Tyler Cowen, "Public Goods and Externalities", Library of Economics and Liberty, <https://www.econlib.org/library/Enc1/PublicGood-sandExternalities.html>. Emphasis on non-rivalry rather than excludability helps expose the nature of whatever is the good or service under consideration. Art is a good example. Although someone may own and never exhibit a Marc Chagall, the exclusion of others does not diminish the nature of the painting as a public good. Others could have enjoyed viewing the painting without diminishing the enjoyment to be had. A bird in a cage is still a bird.

¹³ See Sociedad Peruana de Derecho Ambiental, "5.2 Cases as Thought Experiments: Genus Conus in Conidae", *Fairness, Equity and Efficiency for the Convention on Biological Diversity and the Nagoya Protocol: Analysis of a Rodent, a Snail, a Sponge and a Virus*. Report. The ABS Capacity Development Initiative, Eschborn, Germany, 2021, pp. 47 to 54, <https://www.abs-biotrade.info/fileadmin/Downloads/Resources/Fairness-Equity-Efficiency-for-the-CBD-and-the-NP/Study-Fairness-Equity-Efficiency-for-the-CBD-and-the-NP-2021.pdf>

¹⁴ Some economists hold precisely this view. Seen thus, the economics of ABS reduces to the discounting problem. See "4. Foundations and Applications", in Sociedad Peruana de Derecho Ambiental, *Fairness, Equity and Efficiency*, pp. 35-38, *ibid*,

¹⁵ Because endemism is rare, protection would be oligopolistic rather than monopolistic. An oligopoly is a coordinated group of sellers which acts as a monopoly. Oligopolies will be required because most genetic resources are spread over taxa and species, across jurisdictions.

¹⁶ See Appendix VI, pages 110-114 in Sociedad Peruana de Derecho Ambiental, *Fairness, Equity and Efficiency*, Note 13. For Spanish translation, see Anexo 1, pages 121 to 128 in Manuel Ruiz Muller, *Recursos genéticos como información natural: Implicancias para el Convenio de Biodiversidad y el Protocolo de Nagoya*, segunda edición, SwissAid, SPDA, Lima, Peru, 2017, https://spda.org.pe/?wpfb_dl=4131

¹⁷ See Note 7.

ABS modality for the GMBSM in my Submission of View on the Annex to Decision 15/09 and the voluminous literature cited therein.¹⁸ Here I shall explain how the proposed modality can also accommodate institutional arrangements and their *modus operandi* for the implementation of Article 8(j). Let me re-iterate: none of this is a radical application of economics. On the contrary, "bounded openness" differs from the economic rationale for TRIPS only by degree. My co-authors and I place a greater emphasis on the openness rather than on the bounds.

Lest I digress any further from the abstract thinking demanded by reductionism: Complementing the Janus-head "What is the object of access?" are three more questions for Article 8(j) & ABS: What is rent? What is in the public domain? What is the best option for sustaining traditional knowledge within the current options from TRIPS?¹⁹

A cascade ensues. Answers to these "What's" raise "How's", "Why's" and "Who's", for which each question invites more questions. How would rents on traditional knowledge promote living within limits? Why is fungibility an overarching concern for the earmarking of benefits from ABS but not one for those of Article 8(j)? Who deserves the benefits for the discovery of lost traditional knowledge? I address these and other questions in the sections captioned below.

Lastly, I am realistic about how the COP will decide the institutional arrangements and their *modus operandi* for the implementation of Article 8(j) & ABS. I recognize that logic and evidence do not prevail.²⁰ My realism harkens back to "The Enlightenment Fallacy", so coined by billionaire philanthropist George Soros.²¹ How do we persuade delegates for whom logic and evidence are not sufficiently persuasive to change course? Who can speak truth to power and hope to change the system? This is the *realpolitik* with which I close this submission.

What is rent?

Keynes supposedly said "Words ought to be a little wild, for they are the assault of thoughts on the unthinking".²² Heeding that advice, I titled the 2000 anthology *The Biodiversity Cartel*,

¹⁸ See Note 5.

¹⁹ The World Intellectual Property Organization lists six main types in "What is Intellectual Property?" <https://www.wipo.int/about-ip/en/>

²⁰ Joseph Henry Vogel, "The Tragedy of Unpersuasive Power: The Convention on Biological Diversity as Exemplary," *International Journal of Biology*, 2013. Vol 5, No. 4, December 2013, pp. 44-54, <http://www.ccsenet.org/journal/index.php/ijb/article/view/30097/18019>

²¹ Soros distinguishes between cognitive and manipulative functions of political discourse. The latter is not concerned with reality but attaining and maintaining power. False arguments are not only tolerated but sometimes welcome. Self-deception reinforces indulgences bestowed on those in power. The Enlightenment Fallacy is the false assumption that reasoning, so successfully applied to natural phenomena, will also prevail in the social sphere. See, Soros: Open Society, 9 October 2009, <https://www.ft.com/content/5714b216-bfea-11de-aed2-00144feab49a>

²² Paul Krugman, "Great Keynes Quote", The Conscience of a Liberal, *The New York Times*, 18 October 2008, <https://archive.nytimes.com/krugman.blogs.nytimes.com/2008/10/18/great-keynes-quote/>. See also the snarky comment by DRDR 10:46 AM.

which was sponsored by the Sanrem Project of CARE and a cooperative project of the Inter-American Development Bank and CONADE, Ecuador. Chapter contributors were a lawyer, an ethnobotanist, a software engineer and myself, an economist. The anthology explains the transformation of traditional knowledge into trade secrets and the extraction of rents for the finance of public-good projects in traditional communities.

Implicit in the word "cartel" is the concept of rents, which is mathematically the difference between what is paid and what would have been paid in a competitive market. Worthy of repetition is this: competition makes the production of information uneconomic and therefore justifies exclusion through the limited-in-time monopolies of an IPR regime. Rents allow fixed costs to be recouped and risks, undertaken. This justification for a monopoly can extend to an oligopoly over genetic resources and associated knowledge, in which cartel members act like a monopoly to fix the price and distribute the rents among themselves.

What is in the public domain?

Inventions predate the emergence of *Homo sapiens sapiens* and expanded exponentially 5,000 years ago with the advent of writing.²³ Useful innovations entered the public domain with *apparently* little ever lost to posterity. The importance of the adverb in italics in the preceding sentence will soon be elaborated. Of relevance to Article 8(j) & ABS are decades-old or centuries-old inventions that are still in use today but no longer enjoy intellectual property protection. Their current public-domain status is a huge and forgotten gift of profit-driven innovation through limited-in-time monopoly IPRs.²⁴

Many ancient innovations fall into a class of public-domain information which never enjoyed a period of protection. Obtained by hook or by crook,²⁵ almost all non-Western traditional knowledge belongs to this class. A large-scale, multi-year, international project to create a network of community databases and manage traditional knowledge could identify inventions which were never published and could now be transformed into trade secrets. The integration of hundreds of these databases would also reveal public-domain traditional knowledge from other communities hitherto unknown to each other. Awareness of what is public domain but not known locally is a tremendous benefit for all traditional communities worldwide. Worthy of emphasis is this expectation: almost all of the data that enters into the databases will match with traditional knowledge already published.

²³ See Encyclopedia Historica, https://history.fandom.com/wiki/Timeline_of_historic_inventions. For those lost, see "Amazing Inventions Lost Through Time", ZME Science, <https://www.zmescience.com/research/inventions/amazing-inventions-lost-14022017/>

²⁴ Charles R. McManis, "The Moral Foundations of Intellectual Property and Conservation through Access and Benefit-Sharing" in Joseph Henry Vogel (ed), *The Museum of Bioprospecting, Intellectual Property and the Public Domain*, London, Anthem Press, 2010, pp. 73-88.

²⁵ A view of how recognition of past injustices can help build a just future is captured in Chris Feliciano Arnold "Captain Chain Saw Delusion: The Amazon was never a 'land without men'", *The New York Times*, 4 October 2020.

Transforming unpublished traditional knowledge into trade secrets has not been the strategy of World Intellectual Property Organization (WIPO). A critical mass of WIPO members and stakeholders favors a *sui generis* regime. Nuno Pires de Carvalho provides a first-hand account of their travails in "Sisyphus Redivivus? The work of WIPO on Genetic Resources and Traditional Knowledge".²⁶ Between Pires de Carvalho's Introduction and Conclusion, are four fact-filled sections titled, respectively: "Shaping the Rock", "Pushing the Rock uphill", "Sixteen years later, still pushing", "IGC's [Intergovernmental Committee's] real curse: rather than a difficult task, an impossible one". Although Pires de Carvalho's arguments are persuasive, another one exists which may be the coup de grâce.

Rather than alluding to Greek mythology or Albert Camus, I have chosen a metaphor closer to contemporary business culture: "claw back". Its etymology lies in the victims of Bernie Madoff's Ponzi scheme, who sought relief from other investors who cashed out in the nick of time.²⁷

Is claw-back an effective strategy for fairness, equity and efficiency in the implementation of Article 8(j) & ABS? Clawing back traditional knowledge from the public domain would invite a similar claw back for inventions whose IPRs expired years, decades or even centuries ago. This alone is reason enough to oppose *sui generis* legislation. But a related and even better reason lies in the economic abstraction of rents. Exceptions beget exceptions. Clawing back *just* traditional knowledge undercuts the plea for equal treatment. Without rents from equal treatment between natural and artificial information, the benefits of clawed-back traditional knowledge will be even lower than that contemplated in the literature on a rent-free Multilateral Mechanism for DSI, i.e. 0.01%-1%.²⁸

Sharing one hundredth of one percent, one tenth of one per cent, or even one percent (0.01%, 0.1%, 1%), raises a question of scale: Why bother? I have repeatedly asked this question to the

²⁶ Nuno Pires de Carvalho, "Sisyphus Redivivus? The work of WIPO on Genetic Resources and Traditional Knowledge" in Charles R McManis and Burton Ong (eds) *Routledge Handbook of Biodiversity and the Law*, Routledge, London and New York, 2018, pp. 337-349

²⁷ "Digging in: The Roots of a "Clawback", Visual Thesaurus 17 July 2012, <https://www.visualthesaurus.com/cm/wc/digging-in-the-roots-of-a-clawback/>

²⁸ The 0.01% was floated on page 21 in Amber Hartman Scholz et al, "Finding Compromise on ABS and DSI in the CBD and NP: Requirements and Policy Ideas from a Scientific Perspective", WiLDSI Project, Germany, 2020, https://www.dsmz.de/fileadmin/user_upload/Collection_allg/Final_WiLDSI_White_Paper_Oct7_2020.pdf

Rents remained absent in the Submission of View on Decision 15/9 co-authored by the lead author of "Finding Compromise". For example "[F]unds could be directed towards efforts to support the conservation and sustainable use of biological diversity, with Indigenous Peoples and Local Communities (IPLCs) as key beneficiaries." A large percentage of an infinitesimal one is an even smaller one. See, Michael Halewood, Margo A. Bagley, Marcus Wyss and Amber Hartman Scholz, "Co-authors of journal submission 'Benefit-sharing and the new multilateral mechanism for Digital Sequence Information'", Notification 2023-003, <https://www.cbd.int/notifications/2023-003>

"experts" on DSI in the chatrooms of multiple Webinars on DSI²⁹ as well as in refereed publications.³⁰ No one ever answers.

What is the best option in the intellectual property regime?

The answer to the underscored question in the title of the last section melds into the answer to this one: trade secrets. The complexities of the infrastructure to transform traditional knowledge into trade secrets are significant but not overwhelming.³¹ Nevertheless, MBA's in the biotechnology sector will discount the expected costs from the expected revenues and calculate huge losses. So what?

Economics teaches that the worthwhileness of any economic activity is not just its profitability. One must also sum the values of attributes that are public good in nature.³² In the case of transforming traditional knowledge into trade secrets, just the value of community access to global public-domain traditional knowledge is enough to make government provision of the network worthwhile. The catch: government provision requires community databases operative over diverse jurisdictions and many decades.

Communities rich in traditional knowledge are often located in capital-scarce countries, where political philosophies alternate with the election cycle (e.g., recent governments in Bolivia, Brazil, Colombia, Ecuador, etc). A State financed mega-project of community-based databases would have to be coordinated among bordering countries whose political philosophies are seldom in sync. Even should they be miraculously coincident, the benefits for the government in power would suffer the NIMTO syndrome, viz., "Not In My Term of Office"³³.

Might the multilateral agencies step up and in? User Party resistance to the issue of rents in Decision 9/12 does not bode well for any mega-project grounded in rents. User Parties are the principle donors to the multilateral agencies. The prospects seem poor for private, government or multilateral finance.

²⁹ "A comparative analysis of policy options for DSI under the CBD", The Global Plant Council, November 2022, <https://www.youtube.com/watch?v=yPETz9xYhAI>. Simultaneous interpretation in Spanish, https://www.youtube.com/watch?v=ZP-Do2pEq_rQ&t=0s

³⁰ See Note 7.

³¹ See Joseph Henry Vogel (ed) *El cartel de la biodiversidad / The Biodiversity Cartel*, Quito Ecuador, CARE, Quito, Ecuador, 2000. The same arguments are condensed and complemented in the 2007 IUCN Research Paper, see Note 1.

³² Economists will recognize this as the Samuelson condition for optimal provision of public goods. See Paul A. Samuelson, "The Theory of Public Expenditure", *Review of Economics and Statistics* 36, 1954, pp. 386–389

³³ NIMTO is the lesser known cousin to NIMBY (Not In My Backyard). Legacy is a weak incentive for government leadership in NIMTO project proposals, as the populace commits the *post hoc* fallacy and will misattribute causality for benefits lagged in time.

The proposed mega-project for Article 8(j) & ABS is non-fungible, which is an obscure term even among economists.³⁴ A fungible economic activity is one that would have happened anyway. In an ideal world of resource allocation, the State provides public goods whose value sum to the cost of provision.³⁵ Non-fungible public goods are those activities where the State perceives sufficient non-rivalrous value of the activity but is politically hamstrung. A mega-project to transform traditional knowledge into trade secrets is quintessentially non-fungible in this the Fourth Industrial Revolution.

The upside to non-fungibility is appropriateness for philanthropy. The über wealthy should never be financing any public good that the government would have financed anyway. Nor should the billionaires be funding medium-scale non-fungible public goods, as the costs to evaluate something of \$2.5 million may be almost the same as something two orders of magnitude greater, i.e. \$250 million.³⁶

How would rents on traditional knowledge promote living within limits?

The world views of communities emerged in an environment that has been increasingly threatened by Western encroachment and wholesale assault.³⁷ Rents for traditional knowledge will fortify cultural identity and political cohesion. Proud communities can pressure the State to live within the limits that define universal human rights. Enforcement would reverberate positively for the conservation of biodiversity.³⁸

Why is fungibility an overarching concern for the earmarking of benefits from ABS but not one for those of Article 8(j)?

The issue of fungibility does not go away once a mega-project is up and running. The issue resurfaces as traditional-knowledge-cum-trade-secrets generate royalty income for the communi-

³⁴ Economists prefer to say "adverse selection", which risks equivocation to an audience peopled by biologists. The synonymous term in finance is "fungibility".

³⁵ See Note 32.

³⁶ These numbers are not pulled out of the air. The Meridian Institute circulates but does not publish a 15-page document titled "The Implications of Digital Sequence Information on the Governance of Plant and Genetic Resources, Bellagio Italy May 2-6, 2022". The salient recommendation is to "[m]obilize support for 'seed funding' [\$250 million] to allay concerns of those stakeholders wary of foregoing bilateral efforts to control the access to and use of digital sequence information" (p. 4). The dollar sum in brackets in the previous sentence, viz., \$250 million, appears elsewhere in the Report. The identity of the participants at the Alpine get-together remains confidential by The Chatham House Rule. Judging from the lack of economic rigor in the Report, one surmises that no economist was present.

³⁷ See, Sanya Mansoor, "Why Lula Accused Bolsonaro of 'Genocide' Against Brazil's Yanomami People", *TIME*, 23 January 2023, <https://time.com/6249369/lula-accuses-bolsonaro-genocide-yanomami/>

³⁸ Darrell A. Posey and Graham Dutfield, *Beyond Intellectual Property: Toward Traditional Resource Rights for Indigenous Peoples and Local Communities*, International Development Research Centre, Ottawa, Canada, 1996.

ties. By the non-fungibility criterion, the income should be spent on public goods within the communities that would not have been financed otherwise.³⁹

A non-fungible public good of immense value can be inferred from the General Principles of Decision 15/10: indigenous language preservation and intergenerational instruction.⁴⁰ Thousands of languages are threatened with extinction.⁴¹ Earmarking royalties from trade secrets for language preservation and instruction is non-fungible, as evidenced by the hundreds of languages lost in the twentieth and twenty-first centuries. But is language preservation and intergenerational instruction the public good with the highest social return? The answer is affirmative due to discounting of future benefits or more precisely, the absence thereof. N.B. The benefits of language preservation and intergenerational instruction continue into perpetuity.⁴²

One of the benefits of such preservation and instruction is counterintuitive: living languages will help preserve traditional knowledge withheld from entry into the databases. Injustices remembered will often result in non-cooperation by the most knowledgeable member of the community. The learning of indigenous languages by the next generation will help keep the knowledge secret until trust is earned in some future generation, that may wish to transform traditional knowledge into trade secrets. Without language preservation and intergenerational instruction, it is doubtful that there will be any future trade secrets to be negotiated.

Who deserves the benefits for the discovery of lost traditional knowledge?

Over the past thirty years, neither my co-authors nor I have grappled with this question for one simple reason: we had not yet discovered it.⁴³ My tentative answer here constitutes a new dimension to bounded openness over natural and artificial information. The answer has come through

³⁹ This issue of fungibility is somehow always missed by Parties and stakeholders. See, for example, the absence of fungibility in the extensive response of the CGIAR Submission of view on Decision 15/09, "(e) Disbursement of monetary benefits, including information on geographical origin as one of the criteria". Notification 2023-003, Submission of Views for further consideration for digital sequence information on genetic resources, <https://www.cbd.int/notifications/2023-003>

⁴⁰ See Item 7 and footnote 9 of II General Principles, Decision 15/10, p. 4, <https://www.cbd.int/doc/decisions/cop-15/cop-15-dec-10-en.pdf>

⁴¹ UNESCO Atlas of the World's Languages in Danger, <https://unesdoc.unesco.org/ark:/48223/pf0000187026>

⁴² Article 2 of the CBD does not define "conservation". Discounting benefits implies an expiry date for the present value of distinct investment proposals. Far-in-the-future benefits of a proposal for conservation are rendered valueless in a *de facto* choice to be or not to be. The method of discounting cannot be reasonably interpreted as applicable to the undefined first objective of conservation in the CBD. For the classic article in economics about discounting and extinction, see Colin Clark, "The Economics of Overexploitation", *SCIENCE*, vol 181, issue 4100, 17 August 1973.

⁴³ "The answer pre-exists", Jonas Salk, Interview: Dr. Jonas Salk on asking the right question, <https://www.youtube.com/watch?v=eMFqqgsODRg>

reflection over the mounting evidence in paleoecology⁴⁴ as well as from disparate conversations in time and place. I am blessed to have known brilliant stakeholders and also to have remembered many of their remarks made *en passant*.

The first inkling of an answer to the question "Who deserves..." occurred on 14 October 1993. I gave a presentation at the University of Tennessee on my first book, then in press.⁴⁵ Professor Sally Horn organized the visit. When I arrived at her office, Sally was preparing a proposal for field work in Venezuela. She related how she would find layers of charcoal in rainforest subsoils. Her concern was that local peoples might misinterpret the excavations as something other than scientific. What did I think?

I sensed that that hole in the jungle floor had deep implications for bioprospecting. Nevertheless, I had no idea what those implications might be. The question gnawed. Perhaps for that reason I remember the conversation with Sally thirty years hence.

Two and three years later, in Jakarta at COP2 and Buenos Aires at COP3, I discussed traditional knowledge over meals and drinks with Darrell Posey, an American anthropologist who worked with the Kayapó of the Xingu River Basin in Brazil. His remarks were not made *en passant*. Darrell emphasized that the flora along jungle paths was selected. Random bioprospecting was anything but.

The observation makes me think à la *Guns, Germs and Steel* of Jared Diamond. The Clovis people migrated through a land bridge across the Bering Strait some 13,000 years ago; 8,000 years ago their descendants arrived in Tierra de Fuego at the tip of South America.⁴⁶ Five thousand years is nothing to traverse the formidable natural barriers along those 48,000 km.⁴⁷

Back-of-the-envelope calculations get a bum rap. Please bear with me. Simple division yields a migration southward of 9.6 km per year. But the descendants would also have radiated out, which means squaring the radius (9.6 km/2) and then multiplying the square by pi (3.14). Obviously, the 72 square km of land in the circle, did not fill up every year for 5000 years. The

⁴⁴ For a popular account, see "Amazonian dark earth made intentionally by indigenous peoples - research", *The Jerusalem Post*, 11 January 2023, <https://www.jpost.com/science/article-728150>. Variance in soil samples will distinguish paleoethno-bioprospecting from random bioprospecting. Regarding the variance, see Mark B Bush, et al, "Holocene fire and occupation in Amazonia: records from two lake districts", *Philosophical Transactions of the Royal Society B*, 9 January 2007 <https://doi.org/10.1098/rstb.2006.1980>

⁴⁵ Joseph Henry Vogel, *Genes for Sale*, Oxford University Press, New York, 1994.

⁴⁶ The dates are plus or minus a few thousand years, depending on the source. See F. Morello et al., "Hunter-gatherers, biogeographic barriers and the development of human settlement in Tierra del Fuego", *Antiquity* Vol. 86, 2012, pp 71-87, <https://api.semanticscholar.org/CorpusID:161882222>

See also "Why did the Clovis People Mysteriously Vanish? Scientists have discovered new evidence of the ancient culture in South America." HISTORY 9 November 2018, <https://www.history.com/news/clovis-migration-discovery>

⁴⁷ Brilliant Maps, <https://brilliantmaps.com/pan-american-highway/>

movement of humanity across the landscape must not be due to push---niches filling up----but to pull, places on the horizon beckoning discovery. Only recently did I realize that indigenous groups must have also crisscrossed the Amazon basin many times over the several millennia of settlement. My mind returns to the charcoal at the bottom of the hole in the jungle floor. Indigenous peoples must have managed the landscape by fire *where they could*.

I place the clause in italics of the preceding sentence having spent a week at the Tiputini Biological Station in the Yasuní Biosphere Reserve in 2008.⁴⁸ At the Station, torrential showers occur every afternoon like clockwork. A truly dry season never occurs in the Ecuadorian Amazon. Perhaps Yasuní was a biodiversity "hot spot" because wetness prevented land domestication through fire.⁴⁹

What does any of this have to do with Article 8(j) & ABS?

For the Amazon and other biodiverse-rich ecosystems inhabited for several millennia, biopiracy may not be the issue for Article 8(j) & ABS; piracy is. What I had long thought of as natural information may have been artificial information selected through land management by fire. Deductions follow.

Land-management-by fire means that the resulting flora and fauna were intentionally selected as an ensemble. Flora and fauna artificially selected usually requires human support, to which I can attest as a pet-owner and weekend gardener. However, some flora and fauna may continue their evolution without human support. Feral cats and weedy ornamentals are a commonplace. Where does this take us for Article 8(j) & ABS?

Should genes and their metabolites arise that are not present in collateral hot (and wet) spots, then the information of those characteristics is most likely artificial. Presumed biopiracy may actually be intellectual piracy whenever samples are drawn from areas where the subsoils reveal a layer of charcoal. No wonder Darrell obsessed with how the flora along those indigenous paths differed from that several meters beyond. The deductions continue.

Many traditional uses must have been lost to the surviving communities over the 500+ years of genocide, epidemics and colonization. Who should now receive the benefits of what can accurately be called paleoethno-bioprospecting?

⁴⁸ The UNDP commissioned me to work out the economics for the climate change proposal that President Rafael Correa announced during the 2007 General Assembly of the United Nations. Before accepting the commission, I insisted that to write about Yasuní, I must go to Yasuní. Joseph Henry Vogel, *The Economics of the Yasuní Initiative: Climate Change as if Thermodynamics Mattered*, Anthem Press, 2009. For the open access translation in Spanish, <http://www.rebelion.org/docs/141747.pdf>

⁴⁹ "Weather and Temperature at the Yasuní National Park" in the Ecuadorian Amazon, <https://www.napowildlifecenter.com/weather-and-temperature-at-yasuni-national-park/>. In contrast, Rondônia in Brazilian Amazon has one quarter of the rainfall in its dry season: <https://www.climatestotravel.com/climate/brazil/rio-branco>

On 7 November 2011, at a trendy restaurant in the South Yarra neighborhood of Melbourne, Australia, I had lunch with Barbara Hocking,⁵⁰ and her daughters, Barbara Anne, a legal scholar and Jennifer Jane, a historian. The elder Barbara, then an octogenarian, was the intellectual architect in the 1992 Mabo Decision of the Australian High Court, which established native title. Mrs. Hocking recalled the Australia of her youth with a sense of collective shame. Burned in my memory is one remark, said in a soft and plaintive voice "they had *nothing*". Aboriginal claims in the Mabo Decision turn on continuous association with the land. This criterion could be robust for Article 8(j) & ABS.

Consider "random bioprospecting" for which traditional knowledge does not guide the collection of samples. Should the same natural information not be found in the most proximate hot (and wet) spot, then the random bioprospecting may be paleoethno-bioprospecting. In other words, the information assumed to be natural should instead be assumed as artificial. Synthesis of lost traditional knowledge with the Mabo Decision, implies that the descendants of the region, who have a continuous association with the land, should receive 100% of whatever is the ABS payment for utilization of the genetic resource.

Should the information also be found in the hot (and wet) spots, ambiguity exists as to whether it is natural or artificial. Perhaps the hot (and wet) spot experienced genetic introgression from the fire-managed lands. Or contrariwise, perhaps the traditional knowledge was simply associated with naturally occurring genetic resources throughout the ecosystem, as I originally assumed in the 2007 IUCN paper.⁵¹ The fourth quadrant in Table 1 recognizes this ambiguity and splits the benefits between the State and the Network, 50-50. Similarly, Table 2 recognizes that claw-back is detrimental to community welfare and that the CBD establishes national sovereignty over genetic resources, thus 0-100 distribution. Table 3 is the most promising scenario for traditional communities inasmuch as most genetic resources are collected randomly without the benefit of traditional knowledge. The presence of charcoal in the subsoils would constitute a boom for traditional communities with a 100-0 distribution.

⁵⁰ Hocking, Barbara (1928-2013), The Australian Women's Registry, <https://www.womenaustralia.info/biogs/AWE5422b.htm>

⁵¹ See Note 1.

TABLE 1: Network of Community Databases transforms a specific case of traditional knowledge (TK) into a trade secret, which is negotiated. The genetic resource is collected in a region with charcoal in subsoils.

ABS payment: Who Gets What?	Genetic resource not present in nearest hot (and wet) spot	Genetic resource present in nearest hot (and wet) spot
Percentage shares Network --- State	100% - 0% (purely artificial information)	75% - 25% (ambiguity whether natural or artificial information)

TABLE 2: Network of Community Databases identifies traditional knowledge (TK) as public domain. The genetic resource is collected in a region with charcoal in subsoils.

ABS payment: Who Gets What?	Genetic resource not present in nearest hot (and wet) spot	Genetic resource present in nearest hot (and wet) spot
Percentage shares Network ---- State	0% - 100% (TK is public domain)	0% - 100% (TK is public domain)

TABLE 3: Network of Community Databases generates no hits of traditional knowledge (TK) associated with the genetic resource that was "randomly bioprospected". The genetic resource is collected in a region with charcoal in subsoils.

ABS payment: Who Gets What?	Genetic resource not present in nearest hot (and wet) spot	Genetic resource present in nearest hot (and wet) spot
Percentage shares Network ---- State	100% - 0% (purely artificial information)	50% - 50%

How does the ABS for artificial information that does not require human support integrate with the ABS for artificial information that does require human support?

Crops are the result of artificial selection; valuable traits are artificial information. Unlike the genetic resources so far discussed, crops usually require human support. Seed exchange and re-exchange have prevented the loss of the stock of artificial information in crops over centuries and millennia. The stock increased as humans selected traits and traded crop seeds among settlements that expanded across the landscape. As traditional communities continue to transition to modern farming, seed exchange and re-exchange will decline thereby decreasing the stock of artificial information in crops, or in plainer English, causing crop genetic erosion. Viewed reductively, the CGIAR Genebanks are a twentieth-century back-up.

The mindset of traditional communities concerning accessions for the CGIAR Genebanks changed profoundly due to the 1992 CBD. My co-authors and I explore the relevance of that shift in a 2022 Opinion for *Plants People Planet*. The passage below is highly relevant for possible institutional arrangements and their modus operandi for the implementation of Article 8(j) & ABS:

The anthropologist Stephen Brush notes that distribution of samples from the CGIAR Genebanks for the period of 1973–2004 “peaks just as the UNEP discussions get going in Nairobi to draft the CBD in 1988. By 2004, we are at the same level where we were in 1973. The breakdown of plant collecting and germplasm exchange is a veritable ‘tragedy of the anti-commons’ for crop germplasm” (2011).

Brush's observation can be updated. Michael Halewood et al. (2020) graph the period 2005–2019 in “Germplasm Acquisition and Distribution by CGIAR Genebanks”, which shows a steep rise from an initial 1000 in 2004 to 14,000 in 2011, thanks largely to national agricultural research system centers (NARs). The ascent coincides with “Securing the Biological Basis of Agriculture,” a project funded by the Bill and Melinda Gates Foundation. With the sunset of “Securing the Biological Basis,” accessions dove to 2000 in 2014. From 2015 to 2019, the graph looks like a roller-coaster of dampened elevations, between 2000 and 4000 acquisitions.

Conflation of use value with exchange value is again explanatory; providers outside the system may have expected more than exchange value. The MLS [Multilateral System] lacks effective oligopoly power to capture rents which would incentivize accessions. The 2019 proposal of the Subscription System for the enhanced MLS, is a royalty rate of 0.015% (ITPGRFA, 2019, p. 2). The unwelcome question persists—ABS, why bother?

A hopeful answer derives from the strong response to the modest incentives from the aforementioned project. Empowerment of the MLS to negotiate significant royalties could increase accessions and also stem on-farm genetic erosion. For the CBD and NP, similar hope lies in the proposed GMBSM...

TK non-coincident with the public domain would qualify for trade-secret protection and negotiation with Users. The economist would note that the demand for non-food and non-agricultural uses will be significantly more inelastic than those for food and agriculture (e.g., pharmaceutical). By the Ramsey Rule of Public Finance, goods with inelastic demand should command a royalty substantially higher than that observed for goods with elastic demand (Rosen, 1992). Because the infrastructure for a MLS or GMBSM for TK is a significant expenditure, the cost of implementation for all interested communities will likely exceed the funds available from public or philanthropic sources. A criterion for selecting candidate communities could be the ongoing deposit of crop samples into the CGIAR Genebanks and continued participation in seed exchange.⁵²

Where do we place Article 8(j) & ABS in the history of North-South conflicts?

Division of labor was the first chapter of Adam Smith's *The Wealth of Nations* (1776). My research trajectory since 1990 has concentrated on genetic resources that are not plants for food and agriculture, of which I wrongly assumed that traditional knowledge was only associated with naturally occurring genetic resources. I did not realize that valuable characteristics from humanly unsupported species could also be artificial information. What Darrell said to me Jarkarta and repeated in Buenos Aires took decades to sink in.

My re-thinking of the percentages in Tables 1, 2 and 3 shows how reductionism can align ABS with TRIPS. The alignment must first overcome a deep resentment over how TRIPS came to be.⁵³ At COP9 in Bonn, Germany, a delegate from the non-Party relayed to me a terse exchange he had just had with a delegate from a Party: "The North shoved TRIPs down our throats and we will shove the CBD down yours". Reductionist thinking may disarm: transforming unpublished traditional knowledge into trade secrets will benefit both Providers and Users, North and South. History should also be re-visited as falsehoods underpin much of the resentment over intellectual property piracy and biopiracy.⁵⁴

⁵² See Note 7.

⁵³ See Peter Drahos, "Intellectual Property Engineering: The Role of the Chemical, Pharmaceutical and Biotechnology Industries" in Burton Ong (ed), *Intellectual Property and Biological Resources*, London, Marshall Cavendish, Singapore, 2004, pp. 258-283.

⁵⁴ "Meanwhile businesses based upon copying and 'counterfeiting' intellectual property are thriving in some countries, notably India, Brazil, Argentina, Egypt and Turkey. Their influence has sometimes made it difficult for those countries to reform their laws. In the publishing, fashion, film-making and music sectors, this has led to substantial lost revenue. In the pharmaceutical industry, this sometimes leads to human, as well as economic costs" Edmund Pratt, Jr. former CEO of Pfizer, Inc. paid announcement in *The Economist*, 27 May 1995, p. 24. Note well how Pratt's closing sentence does not follow from the sentences which precede it. Before TRIPS in 1995, manufacturers in India, Brazil, Argentina, and so on, could legally produce pharmaceuticals, which were under patent only in the countries of the WTO. Not only were India, etc under no legal obligation, they were also under no moral obligation. In economics, The Law of Demand means less quantity demanded with an increase in price. This translates into lives lost from patients priced out of life-saving pharmaceuticals.

The legal scholar Charles R (Chuck) McManis writes that the corporate campaign for TRIPS in the 1980s led to accusations of biopiracy in the 1990s.⁵⁵ Chuck points out, however, that before TRIPS or the CBD took effect, claims of intellectual property piracy over medicines or biopiracy were not grounded in any legal obligation.⁵⁶ I extend his reasoning here.

The conflict over Article 8(j) & ABS is reducible to rents, which is still taboo⁵⁷ in the COP discussions yet institutionalized *de facto* in TRIPS. Unenlightened users of any information, be the information artificial or natural, do not like paying rents, period.⁵⁸ Inasmuch as the term "natural information" is associated with rents in the ABS literature, DSI emerged as a work-around to please user Parties. However, this placeholder term presumes a willingness for doublethink. If DSI are not dematerialized genetic resources and dematerialized genetic resources are not within the scope of the CBD, then why should Users pay anything at all? Wherefore DSI? Are we to believe that the Multilateral Mechanism for DSI arises from the benevolence of Users? That is not very Adam Smith.⁵⁹

The uncharitable explanation is Smithian self-interest through bait-and-switch. The bait is DSI whereby Users lead Providers to believe that they are getting something for nothing, i.e. a trifling benefit for the nothing they supposedly deserve. Once Providers accept the trifling by acquiescing to a Multilateral Mechanism for DSI, the switch will be the "opt-in" for genetic resources.

In this scheme, one sees why I insist that Article 8(j) cannot be separated from ABS. A large percentage share of an infinitesimal benefit for a genetic resource "opted-in" is an even more infinitesimal benefit.⁶⁰ The scheme thankfully contains a fatal flaw.

Unlike bilateral contracts where the royalty percentage is strictly confidential, the Multilateral Mechanism for DSI will have to disclose the percentages. For Brazil, the most mega-diverse

⁵⁵ Charles R. McManis "Fitting Traditional Knowledge Protection and Biopiracy Claims into the Existing Intellectual Property and Unfair Competition Framework", in Burton Ong (ed), *Intellectual Property and Biological Resources*, Marshall Cavendish, London, 2004, pp. 425-510.

⁵⁶ Ibid, pp. 447-450.

⁵⁷ Joseph Henry Vogel, "Re-boot: the crash of DSI-the-neologism and where to go on ABS", Response to request for "Submission of views and new information on policy approaches, options or modalities for digital sequence information on genetic resources", SCBD/NPU/TS/CGA/AC/89861, 28 September 2021, p. 10, <https://www.cbd.int/api/v2013/documents/1064A1BB-40EE-9AAD-9D61-7BAC37F6596F/attachments/213834/Prof.%20Vogel%2028%20September.pdf>

⁵⁸ "Who likes paying rents?" has the same answer as "Who likes paying taxes?": thoughtful and enlightened users of public goods.

⁵⁹ "It is not from the benevolence of the butcher, the brewer, or the baker that we expect our dinner, but from their regard to their own self-interest." Adam Smith, *An Inquiry into the Nature & Causes of the Wealth of Nations*, Vol 1, W. Strahan and T. Cadell, London, 1776.

⁶⁰ "A key purpose of 15/9 is to support benefit sharing to IPLC." Aotea Indigenous Rights Trust (Air Trust), Submission of View on Decision 15/9, 28 March 2023, <https://www.cbd.int/notifications/2023-003> Alas, benefits will be insignificant without rents and thus the desired "support", frustrated.

country in the world, disclosure is written into law. Will the percentage royalty be as low as the 0.1% stipulated in the 2015 Brazilian Law on ABS,⁶¹ or something even lower, such as the 0.01% contemplated in the WiLDSI Project, "Finding Compromise"?⁶²

Even a 1% royalty would be a tough sell. Perhaps for that reason, advocacy for the Multilateral Mechanism for DSI is coupled with advocacy for "expectations management".⁶³ The second prong to this two-prong User-strategy assumes a willingness of traditional communities to psychologically subordinate themselves. Everyone would be well advised to dust off the works of Frantz Fanon.⁶⁴

The COP has created a trap of its own devising. Industrial users will continue to jurisdiction shop in the non-Party as they routinely do and have threatened to do from the get-go.⁶⁵ Providers will rage against "digital biopiracy" and the financial resources never mobilized, as they did in the run-up to COP15.⁶⁶ Pressure will mount to withdraw from the treaties.

When compared to one, two or three more decades of ABS stalemate, withdrawal will not be all that bad for the Parties. See my Submission of View on Decision 15/9.⁶⁷ However, withdrawal will be utterly disastrous for traditional communities who rightfully hope to gain something from the Fourth Industrial Revolution now underway.

⁶¹ Brazil: Law No. 13.123 of May 20, 2015, Article 20. Available at <http://www.wipo.int/edocs/lexdocs/laws/pt/br/br161pt.pdf>

⁶² See Note 28.

⁶³ See "Section 3.1 Expectations Management" in F. Michiels et al., "Facing the Harsh Reality of Access and Benefit Sharing (ABS) Legislation: An Industry Perspective", *Sustainability* 14(1), 2022, p. 277, <https://doi.org/10.3390/su14010277><https://doi.org/10.3390/su14010277>

Jack R. Kloppenburg discerned the irony of the expectations-management strategy some 35 years ago, "Curiously, this argument relies implicitly on a [Marxian] labor theory of value. It is asserted that only the application of scientists' labor adds value to the natural gift of germplasm". *First the Seed: The Political Economy of Plant Biotechnology*, 2nd ed., University of Wisconsin Press, Madison, Wisconsin, 2004 [1988], p. 185.

⁶⁴ Frantz Fanon, *Peau noire, masques blancs*, Éditions du Seuil, France 1952.

⁶⁵ Jurisdiction shopping refers not just to access to the natural information but also to site location and investment of industrial infrastructure as well as human capital flight. ABS is ironically a boon and a boom for the non-Party in this the Fourth Industrial Revolution. See D. Cressey, "Biopiracy Ban Stirs Red-Tape Fears", *Nature* vol. 514, 2014, pp. 14-15.

⁶⁶ Patrick Greenfield, "Biopiracy row at UN talks in Geneva threatens global deal to save nature" *The Guardian*, 30 March 2022, <https://www.theguardian.com/environment/2022/mar/30/cop15-faces-copenhagen-moment-genetic-data-dispute-aoe>

⁶⁷ See Note 5.

How do we persuade delegates for whom logic and evidence are not sufficiently persuasive to change course?

Logic and evidence alone will never be sufficient. Each COP has cost taxpayers many tens of millions of dollars. By the fallacy of sunk costs,⁶⁸ incentives remain strong to stand by decisions made, even when they are demonstrably wrong. The horse is out of the barn. The die is cast. That ship has sailed. These are the homilies heard at the COPs until failure can no longer be tolerated. While *stare decisis* has loosened its grip on Parties for the bilateral approach, *stare decisis* is now taking hold on DSI. This misnamed placeholder has been reified in several decisions since COP13 and five, novella-length, commissioned studies.

E.O. Wilson cites Chinese traditional knowledge that the first step to wisdom is calling things by their right names.⁶⁹ DSI is the wrong name, scandalously so. With its departure will go the Multilateral Mechanism for DSI.

Who can speak truth to power and hope to change the system?

Academics can not. This is witnessed in prize-winning books and award-winning films. That academics are "preaching to the choir" is a well deserved cliché. E.O. Wilson devoted the latter half of his career to biodiversity and complained, in *The Future of Life* (2002), of being "battle-fatigued".⁷⁰ Wilson's *Half Earth* (2016) would be his last book-length attempt to speak truth to power. It also did not work.⁷¹ If the most prominent naturalist of our time cannot change the system,⁷² what hope exists for the teeming masses of lesser academics?⁷³

⁶⁸ The fallacy of sunk costs refers to the behavior of spending good money after bad. See the closing remarks to Joseph Henry Vogel, "Re-boot: the crash of DSI-the-neologism and where to go on ABS ", Note 57.

⁶⁹ E.O. Wilson, *Consilience*, Alfred A. Knopf, Inc., New York, 1998, p. 4

⁷⁰ E.O. Wilson. *The Future of Life*. Vintage Books, Random House, New York, 2002, p. 152

⁷¹ "I think it has been under-discussed because the central idea seems so extreme." Kim Stanley Robinson, "Empty half the Earth of its humans. It's the only way to save the planet", *The Guardian*, 20 March 2018, <https://www.theguardian.com/cities/2018/mar/20/save-the-planet-half-earth-kim-stanley-robinson>

⁷² Erik Olsen, James Gorman and Robin Stein, 27 December 2021, Video Interview, "The Last Word: E.O. Wilson", *The New York Times*, <https://www.nytimes.com/video/obituaries/1194834030869/last-word-e-o-wilson-obituary.html?searchResultPosition=2>

⁷³ An earlier draft of this Submission read "teaming masses" rather than "teeming masses". The typo also works. Co-authors on policy publications on ABS, even short comments/opinions, have numbered as high as 41 (forty-one, not a typo). See Scholz, A.H., et al. "Multilateral benefit-sharing from digital sequence information will support both science and biodiversity conservation", *Nature Communications* 13, 1086, 2022, <https://doi.org/10.1038/s41467-022-28594-0>

Only power can speak truth to power and hope to change the system.⁷⁴ Ralph Nader, the superstar of political activism, titled his 2009 fictional book, *Only the Super-Rich can Save us*. Nader was not being facetious.

To overcome the system failure of ABS in the COP requires a mega-project. For the project to be successful, it must span diverse communities, jurisdictions and decades, all the while cohering with TRIPS, the CBD and the NP. Academics can only flesh out a *Bauplan* with "cool heads but warm hearts".⁷⁵ Philanthropists should engage disinterested experts to do due diligence on competing proposals and decide whether or not to invest in any one. *Successful implementation of Article 8(j) & ABS will be a quintessentially non-fungible public good of mind-boggling value.*

Death is still ineluctable. Some billionaires will define their legacy through the disposal of their wealth. Leaving it all to their offspring is unwise. Thomas Mann's *Buddenbrooks* remains a cautionary tale for twenty-first century parents, grandparents and great-grandparents.⁷⁶ *Forbes* reports that there are now 2,640 billionaires roaming Planet Earth, with some 1,516 being multi-billionaires.⁷⁷ And it may take just one or two. The horse. The water. The drink.

⁷⁴ The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel was established in 1969 to enhance the persuasive power of economics in public discourse. Robert Mundell, the 1999 prize winner, remarks "The fact is that it helps sell ideas and keep people interested." Truth in advertising does not sell. Hence, ideas from the winner of the misnamed Nobel Prize in Economics are a lot easier to sell than those from the winner of The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel. Association with the Nobel name confers some power. See Sylvia Nasar, "The Sometimes Dismal Nobel Prize", *The New York Times*, 13 October 2001.

⁷⁵ J. M. Keynes, "Alfred Marshall, 1842-1924", *The Economic Journal*, Vol. 34, No. 135, September, 1924, p. 367

⁷⁶ The theme of family decline is universal. Rather than reading Mann in translation from the German, Francophones may prefer Zola, Spanish speakers, García Márquez and Anglophones, Hardy or Faulkner.

⁷⁷ Editors Rob LaFranco and Chase Peterson-Withorn, "Forbes World Billionaire List: The Richest in 2023", *Forbes*, <https://www.forbes.com/billionaires/>