#### I affirm

#### I start with my framework

#### I value justice.

#### The standard is minimizing structural violence because, ethical theories that create moral rules without having referents in the current social context fail to analyze asymmetries in discrimination. Charles Mills explains using the example of racism:

**Mills**, C. W. (20**09**), Rawls on Race/Race in Rawls. The Southern Journal of Philosophy

Now how can this ideal ideal—a society not merely without a past history of racism but without [and] races themselves—serve to adjudicate the merits of competing policies aimed at correcting [discrimination?] for a long history of white supremacy manifest in Native American expropriation, African slavery, residential and educational segregation, large differentials in income and huge differentials in wealth, nonwhite underrepresentation in high-prestige occupations and overrepresentation in the prison system, contested national narratives and cultural representations, widespread white evasion and bad faith on issues of their racial privilege, and a corresponding hostile white backlash against (what remains of) those mild corrective measures already implemented? Obviously, it cannot. As Thomas Nagel concedes: “**Ideal theory enables you to say when a society is unjust**, because it falls short of the ideal. But it does not tell you what to do if, as is almost always the case, you find yourself in an unjust society, and want to correct that injustice” (2003a, 82). Ideal theory represents an unattainable target that would require us to roll back the clock and start over. So in a sense **it is an ideal with little or no practical worth. What is required is the nonidea**l (rectificatory) ideal **that starts from** the **reality** of these injustices and then seeks some fair means of correcting for them, recognizing that in most cases the original prediscrimination situation (even if it can be intelligibly characterized and stipulated) cannot be restored. Trying to rectify systemic black disadvantage through affirmative action is not the equivalent of not discriminating against blacks, especially when there are no blacks to be discriminated against. Far from being indispensable to the elaboration of non- ideal theory, ideal theory would have been revealed to be largely useless for it. But the situation is worse than that. As the example just given illustrates, it is not merely a matter of an ideal with problems of operationalization and relevance, but of an ideal likely to lend itself more readily to retrograde political agendas. If the ideal ideal rather than the rectificatory ideal is to guide us, then a world without races and any kind of distinction- drawing by race may seem to be an attractive[.] goal. One takes the ideal to be colorblind nondiscrimination, as appropriate for a society beginning from the state of nature, and then—completely ignor[es]ing the nonideal history that has given whites a systemic illicit advantage [and so] over people of color—conflates together as “discrimination” all attempts to draw racial distinctions for public policy goals, no matter what their motivation, on the grounds that this perpetuates race and invidious differential treatment by race. In the magisterial judgment of Chief Justice John Roberts in the June 2007 Supreme Court decision on the Seattle and Louisville cases where schools were using race as a factor to maintain diversity, “The way to stop discrimination on the basis of race is to stop discriminating on the basis of race,”6 a statement achieving the remarkable feat of depicting not merely as true, but as tautologically true, the equating of Jim Crow segregation and the attempt to remedy Jim Crow segregation! [So] [w]hat is ideally called for under ideal circumstances is not, or at least is not necessarily, what is ideally called for under nonideal circumstances. Claiming that all we need to do is to cease (what is here characterized as) **discrimination ignores the differential advantages and privileges that have accumulated** in the white population **because of the past** history of discrimination.

#### Prefer consequentalism –

#### A] Binding ethics Outweigh – it doesn’t matter if they point out a bunch of “what-ifs” and “holes” in my framework – ethics that can’t bind us to action serve only to delay ethical action and trap solutions in an ivory tower philosophy

#### B] No act omission distinction – If an actor has the ability to change a future outcome then the actor is given a choice making the end state the will of the actor

#### [optional] Probability matters most – focusing on improbable impacts prevents any action from being taken since there could always be worse impacts of taking the action, which is irresolvable – makes it impossible to solve or prevent anything

#### [optional]

#### Next is my Offense

#### Plan - The member nations of the World Trade Organization will reduce intellectual property protections on medicines to the point that discoverable biological elements are not patentable outside of their country of origin as described by

Martin Khor October 2000 Why Life Forms Should Not Be Patented Third World Network Features, https://www.twn.my/title/2103.htm

The patenting of living things or life forms, some of which have been made mandatory by the World Trade Organisation, is unethical and also against the economic and social interests of developing countries. Thus, the WTO’s Agreement on trade-related intellectual property rights (TRIPs) should be revised and the patenting of life should instead be prohibited. This was one of the points put forward by speakers and some participants at a panel discussion on the review of the TRIPs Agreement during a seminar on Current Developments in the WTO organised in Geneva by the Third World Network on 14-15 September. The patenting of life forms has become the subject of a growing worldwide campaign by citizen groups, environmentalists, scientists, farmers’ organisations and also religious leaders. They believe that animals, plants, humans, micro-organisms and their parts such as genes and cells, should not be patentable as these life forms are creations of God and Nature. They also argue that life forms, even if they are genetically modified, are not inventions and thus do not meet the criteria of patentability. A debate has also been raging in the WTO, which is reviewing Article 27.3(b) of the TRIPs treaty, which deals with patenting of life forms. It allows countries not to patent plants and animals but makes the patenting of micro-organisms and microbiological processes compulsory, thus opening the road to the patenting of life. Opening the discussion at the TWN seminar, the chairperson, Mr Chakravarthi Raghavan, said that a basic rethinking is now going on in the public arena on the nature of intellectual property rights and TRIPs, on the need to balance the rights of IPR holders and that of users and consumers. Raghavan said policy-makers and negotiators from the South should examine what had been promised in TRIPs on technology transfer and other positive aspects and compare these with the actual results. They should also focus on the aspects of TRIPs that had generated negative effects and that thus need to be reversed. Mr Nelson Ndirangu, a senior Kenyan diplomat based in Geneva, said developing countries had general concerns that TRIPs requires strong regimes to protect intellectual property. The advantage would go to those holding patents. Although the developed countries had said that strong IPR rules would cause technology transfer to take place, five years later this has not happened, and thus the claims of benefit were similar to fraud. In relation to patenting of life forms, Kenya and the Africa Group believes that this is unethical and should not be allowed. This patenting also has serious implications for food security. African countries are not satisfied with Article 27.3(b) of TRIPs. The requirement for protecting micro-organisms, non-biological and microbiological processes and plant varieties is unethical in allowing patents over life forms, unfair in terms of biopiracy, and harms food security for local communities as well as biodiversity. Ndirangu added that when a product is patented, it disallows or discourages research. Big companies that patent would benefit and produce what the market wants. ‘Those of us living on subsistence cannot afford patented products from the North. Also, in relation to products containing genetically modified organisms, we are not sure if they are safe for health or the environment.’ Ms Cecilia Oh, legal adviser to the Third World Network, said that the TRIPs Agreement has contributed to the prevention of access to technology for developing countries. In the case of patents on biological materials, there is a case of ‘double irony’ in that patents are being granted over biological materials and the traditional knowledge of the use of such materials. This prevents access by developing countries to such biological resources and knowledge, which originated largely from the developing countries. In this context, the TRIPs Agreement has facilitated the flow of resources and technology from the South to the North. As the United Nations Conference on Trade and Development (UNCTAD)’s Trade and Development Report 1999 pointed out, IPR protection has generated the outward flow of profits from developing to developed countries, in terms of payments for technology and licensing fees and royalties. Oh said the patent system was not an appropriate reward system for knowledge relating to biological materials. ‘The patent system was designed to protect mechanical inventions, and makes the distinction between mere discoveries and inventions. It is clear that biological materials are naturally occurring and can only be discoveries, and not inventions. ‘Patents confer monopolies over patented subject matter. In the cases of seeds and plant varieties, patents on such biological materials will have serious implications for agriculture and food security in the developing countries. The monopoly over biological resources and knowledge essential for agriculture, medicinal and other uses may be misappropriated and vest in individuals and corporations.’ Oh added that from a scientific perspective, the distinctions made in Article 27.3(b) (for example, between plants and animals, on the one hand, and micro-organisms, on the other) are artificial and were drafted with the aim of allowing and requiring micro-organisms and microbiological processes to be patentable. Quoting from reports made by scientists, Oh said: ‘Scientifically, no such distinctions can be drawn, and therefore, all living organisms and living processes cannot be patentable.’ She said that there are four categories of patents on life forms and processes, which should be prohibited or banned. These are: · Patents based on bio-resources and knowledge of their use pirated from countries and indigenous communities, which do not satisfy the novelty or invention criteria; · Patents on discoveries, for example, micro-organisms, cell lines, genomes, genes (including human cell lines and human genomes and sequences), which are all naturally occurring; · Patents on transgenic techniques and constructs, and transgenic plants, animals and micro-organisms (better known as genetically modified organisms); and · Patents on nuclear transplant cloning (for example, the techniques that produced Dolly the sheep). Oh said: ‘A system for rewards should be developed, but distorting the patent system only serves to attract controversy and rejection of the whole system.’ She added that at the WTO, the African Group of countries has already submitted a comprehensive proposal with the main point ‘that the review process should clarify that plants and animals as well as micro-organisms and all other living organisms and their parts cannot be patented, and that natural processes that produce plants, animals and other living organisms should also not be patentable’. The Africa Group had also proposed that the protection of plant varieties should allow for protection of the innovations of indigenous and local farming communities in developing countries. At discussion time, Mr Leo Palma of the Philippines Mission in Geneva said he subscribed to the view that there should be no patents on life forms. He asked how this principle should be brought forward. A delegate from Trinidad and Tobago said it was important to work out the elements of an appropriate system of protection for plant varieties. A delegate from the India Mission said it was useful to examine the patent application forms and procedures in developed countries, such as the United States. He proposed that in patent application forms a column be added to include the source of origin of biological materials. Before patents are granted, the source of origin as well as evidence whether the knowledge has already been in use should be looked at. This would help prevent patents being granted for products or knowledge that have already been in use in other parts of the world. -

#### Medicine patents are used to pirate indigenous knowledge breading massive inequality in the global south waivers are essential

Ashleigh **Breske** Global Politics and Societies, Hollins University, 28 Aug **2018** Biocolonialism: Examining Biopiracy, Inequality, and Power <https://spectrajournal.org/articles/abstract/10.21061/spectra.v6i2.a.6/> -

**The global demand for medicinal drugs has led to an increase in biopiracy in the Global South. Once companies find something they believe will be profitable, they want to patent it straightaway** so that no one else can capitalize off it. **Patents are an easily accessible source of income for those able to apply for them. In fact, patents act as an exclusive control on a product, and, when corporations hold patents on biodiversity, they are creating a monopoly on** food and **health**. xxviii In some ways **it is impossible for** those in **developing countries to compete with MNCs due to how patents and intellectual property rights are sustained**. Since patents are held nationally instead of internationally, most patent holders tend to be from more developed countries. Because of this divide, **it** is possible t**o inflate the price of patented medicines so that corporations can make an even greater profit, which leads to more global inequalities.**

Rich states can also pay for access to technology for research and resources to control epidemics and infectious diseases more readily than poorer areas of the world. **With the establishment of the W**orld **T**rade **O**rganization in 1994, international trade negotiations opened, and western notions of **intellectual property rights took a firm hold in pharmaceutical research and development, increasing the strength of MNCs**. This was classified under TRIPS, the Agreement on Trade Related Intellectual Property Rights.xxix TRIPS was negotiated at the Uruguay Round of the General Agreement on Tariffs and Trade (GATT) and set the standard for member states to recognize the same intellectual property rights. This then meant that industries could bypass local patent law by registering their patents in the most favorable jurisdiction.”xxx **Before TRIPS, which set consistent requirements, intellectual property was considered a domestic issue with protections set on the national level. However, with TRIPS, transnational corporations are now much more successful at acquiring patents**. xxxi For example, looking at the number of patents held at the end of the twentieth century, most were filed by the United States (41.8%) and Europe (41.95%).xxxii **The TRIPS agreements and domestic patent laws**, specifically US law, **shapes** international IPRs and show that **the legal system** is **excluding indigenous or marginalized communities.**xxxiii There has been a push for **TRIPS**, predominantly **by the pharmaceutical industry**, to **restrict profit potential by indigenous communities**. Corporations make minor genetic or chemical formula changes for their intellectual property claims and patents and can then claim their product is no longer directly linked to the initial source. Debra Harry has claimed that the main problem with biocolonialism is the “manipulation and ownership of life itself, and the ancient knowledge systems held by Indigenous peoples.”xxxiv **The problem stems from the belief that indigenous peoples are merely the holders, not owners, of communal knowledge. What are not considered are their territorial rights to the resources on their lands**.xxx

#### Multiple Scenarios

#### FIRST IS ENVIRONMENTAL DESTRUCTION

#### First, Biopiracy causes environmental disaster destroy the actual lands of the indigenous people that the MNCs stole their knowledge and resources

James Ming **Chen**, Justin Smith Morrill Chair in Law, Michigan State University; Of Counsel, Technology Law Group of Washington, D.C. 5-15-**2013**. “BIOPROSPECT THEORY,”<https://www.uakron.edu/dotAsset/989023a4-c9c1-49a6-854d-26ea7eb01cca.pdf>

Conventional wisdom treats biodiversity and biotechnology as rivalrous values. The global south is home to most of earth’s vanishing species, while the global north holds the capital and technology needed to develop this natural wealth. The south argues that intellectual **property laws enable pharmaceutical companies and seed breeders in the industrialized north to commit biopiracy**.1 By contrast, the United States has characterized calls for profit-sharing as a threat to the global life sciences industry.2 Both sides magnify the dispute, on the apparent consensus that commercial exploitation of genetic resources holds the key to biodiversity conservation. Both sides of this debate misunderstand the relationship between biodiversity and biotechnology.3 Both sides have overstated the significance of bioprospecting. It is misleading to frame the issue as whether intellectual property in the abstract can coexist with the international legal framework for preserving biodiversity. As a matter of legal gymnastics, any lawyer can reconfigure intellectual property to embrace all of the intangible assets at stake, including raw genetic resources, advanced agricultural and pharmaceutical research, and ethnobiological knowledge. The real challenge lies in directing the law of biodiversity conservation and the law of intellectual property toward appropriate preservation and exploitation of the global biospheric commons.5 Commercial development aids biodiversity primarily by overcoming perverse economic incentives to consume scarce natural resources that may turn out to have greater global, long-term value. We contest these issues not because we are rational, but precisely because we are not. Indeed, legal approaches to biodiversity and biotechnology are so twisted that they represent an extreme application of prospect theory. Nearly half a century before Daniel Kahneman and Amos Tversky published Prospect Theory: An Analysis of Decision Under Risk, 6 the 1979 article that became the foundational work of behavioral economics and the principal basis for Kahneman’s 2002 Nobel Prize in Economics,7 the Supreme Court of the United States succinctly summarized a core tenet of prospect theory: “Threat of loss, not hope of gain, is the essence of economic coercion.”8 In plainer terms, “losing hurts worse than winning feels good.”9 Stated in formal terms, prospect theory posits that most individuals, as an expression of innate risk aversion, fear potential losses far more than they covet potential gains.10 The law of biodiversity and biotechnology appears to reverse this presumption. Although humans innately fear losses more than they value gains, **worldwide policy appears to assign relatively little value to biodiversity as an invaluable, incommensurate, and indefinitely important component of global ecological health.11 Biodiversity loss is staggering and undeniable**.12 Humans are responsible for the sixth great extinction spasm of the Phanerozoic Eon, a unit of geologic time spanning half a billion years.13 Cataclysmic loss of biological diversity is merely one of several ecological threats looming over Holocene humanity.14 In assembling this brief analysis, I hasten to add this observation: so far I have assigned no weight to global climate change, a threat that has raised the probability of human extinction to a non-negligible value. Risks as grandiose as these, sufficient in their magnitude to portend the end of civilization, possibly even the survival of humans as a species, support the most dismal of theorems in the dismal science of economics: “the catastrophe-insurance aspect of such a fat-tailed unlimited-exposure situation, which can never be fully learned away, can dominate the social-discounting aspect, the pure-risk aspect, and the consumptionsmoothing aspect.”15 In plainer language, the dismal theorem posits that “under limited conditions concerning the structure of uncertainty and societal preferences, the expected loss from certain risks such as climate change is infinite and that standard economic analysis cannot be applied.”16 By contrast, **the global north and the global south alike have reached an apparent consensus that the primary object of the international debate over “biopiracy” is the appropriate profit-sharing** protocol (including the possibility of no redistributive mechanism whatsoever) for gains from bioprospecting.17 **Such gains, at best, are highly speculative. Even if profits from bioprospecting are ever realized, they will be extremely concentrated**. No champion of redistributive justice on a global scale could defend a system of transferring northern wealth that would favor Brazil, Costa Rica, and Madagascar while neglecting Bolivia, Mali, and Afghanistan. **There simply is no defensible basis for treating ethnobiological knowledge as the foundation of a globally coherent approach to economic development**. Yet the global community continues to spend its extremely small and fragile storehouse of political capital on this contentious corner of international environmental law.19 Global economic diplomacy should be made of saner stuff. The fact that it is not invites us to treat the entire charade as a distinct branch of behavioral law and economics: bioprospect theory. Upon closer examination, prospect theory and related branches of behavioral economics do supply a powerful explanation for international economic law’s systematic failure to reach the optimal solutions for biodiversity conservation. Prospect theory arises from three basic features of human beings’ core cognitive system:20 1. All decisionmaking takes place relative to a neutral reference point, or “adaptation level.” Outcomes exceeding this reference point are gains. Outcomes below the reference point are losses. 2. Loss aversion means that losses, when directly weighted or compared against gains, loom larger. 3. Diminishing sensitivity applies to upward and downward perceptions and to evaluation of changes of wealth. In concert, these three principles — neutral reference point, loss aversion, diminishing sensitivity — can be illustrated through a graph showing an asymmetrical sigmoid curve whose inflection point occurs at the neutral adaptation level, whose steeper slope below the adaptation level demonstrates loss aversion, and whose declining rate of change in both directions reflects diminishing sensitivity to gains and losses:21 19. See Chen, supra note 5, at 506. 20. See KAHNEMAN, supra note 10, at 282. 21. Id. at 282-83. One readily implemented way of parametrically modeling prospect theory with closed-form expressions and elementary functions is the cumulative distribution function of the log-logistic 2014] BIOPROSPECT THEORY 23 “If prospect theory had a flag, this image would be drawn on it.”22 The asymmetrical utility curve that emerges from prospect theory’s reevaluation of conventional accounts of expected economic utility leads to some apparent contradictions.23 In mixed gambles, for instance, where a decisionmaker may realize either a gain or a loss, loss aversion leads to extreme, even costly risk aversion. This is the primary conclusion of prospect theory, the one most readily summarized by the slogan, “losing hurts worse than winning feels good.”24 But prospect theory predicts affirmatively risk-seeking behavior in other circumstances. When a decisionmaker is confronted with nothing but “bad choices” — specifically, those “where a sure loss is compared to a larger loss that is merely probable” — diminishing sensitivity to losses will generate a greater willingness to absorb risk.25 Prospect theory therefore rests on two principal insights. First, humans “attach values to gains and losses rather than to wealth.”26 Second, humans making decisions assign “weights . . . to outcomes [that] are different from 22. KAHNEMAN, supra note 10, at 282. Graph reproduced from Basic Concepts: Prospect Theory, THE DICKINSON COLLEGE WIKI, http://wiki.dickinson.edu/index.php/Basic\_Concepts#Prospect\_Theory (last modified May 3, 2007). 23. See KAHNEMAN, supra note 10, at 285. 24. GRIZZARD, supra note 9; accord GARAGIOLA, supra note 9. 25. KAHNEMAN, supra note 10, at 285. 26. Id. at 316-17. 24 AKRON INTELLECTUAL PROPERTY JOURNAL [7:19 probabilities.”27 The combination of these two heuristics generates “a distinctive pattern of preferences” that Kahneman and Tversky have called the “fourfold pattern”:28 The four-fold pattern Gains Losses High probability (certainty effect) E.g., a 95% chance to win $10,000 leads to . . . Risk aversion (annuities and sinecures) E.g., a 95% chance to lose $10,000 leads to . . . Risk seeking (rogue trading and other reckless gambles) Low probability (possibility effect) E.g., a 5% chance to win $10,000 leads to . . . Risk seeking (lotteries) E.g., a 5% chance to lose $10,000 leads to . . . Risk aversion (insurance) Let us examine more closely each of the four vanes in prospect theory’s pinwheel of fortune. Three of these four behavioral possibilities have long been understood; prospect theory merely provided the means by which to describe them formally.29 The cell at top left describes how risk aversion leads people to lock in a sure gain below the expected value of a gamble. Annuities work on this principle, as do employment guarantees in unionized trades or on tenure-protected university faculties. The cell at lower right describes insurance: individuals will pay much more than the expected value of a loss to insure themselves against the disturbing prospect of a catastrophic loss.30 On the flip side of that transaction, insurance companies can pool risks assigned to them by risk-averse policyholders and profit from the spread between expected losses and premium payments. These risk-averse decisions reflect the core instinct of prospect theory. But there is also a risk-seeking side to this account of human behavior. Lotteries routinely exploit the possibility effect. When the potential payout is enormous, ticket buyers become indifferent to their miniscule chances of winning. This is the behavioral pattern reflected by the lower left cell. It is 27. Id. at 317. 28. Id. 29. See id. at 317-18. 30. See, e.g., Jim Chen, Modern Disaster Theory: Evaluating Disaster Law as a Portfolio of Legal Rules, 25 EMORY INT’L L. REV. 1121 (2011); Jim Chen, Postmodern Disaster Theory (Mich. State Univ. Coll. of Law Legal Studies Research Paper Series, Paper No. 11-17, 2012), available at http://papers.ssrn.com/sol3/papers.cfm?abstract\_id=2141591. 2014] BIOPROSPECT THEORY 25 sufficiently powerful that banks and credit unions have resorted to depositor lotteries to induce lower- to middle-income customers to open and fund savings accounts.31 What Kahneman and Tversky found most surprising was the fourth possibility, the one described in the risk-seeking cell at upper right. When humans face the high probability of severe losses, they engage in affirmatively riskier behavior. Prospect theory identifies two reasons for this sudden shift in strategy.32 First, diminishing sensitivity means that humans react very adversely to a sure loss: “the reaction to a loss of $900 is more than 90% as intense as the reaction to a loss of $1,000.”33 Second and perhaps even more significant, humans assign a much lower decision weight to an extreme loss than its rationally expected value as calculated by the laws of probability. The certainty effect, coupled with diminishing sensitivity, enhances the aversiveness of a sure loss and reduces the aversiveness of the gamble. This is the ugly corner of human decisionmaking where otherwise responsible parties find themselves tempted to take risks that can “turn[] manageable failures into disasters.”34 “Rogue traders” who have amassed appalling losses let it all ride on a single act of reckless arbitrage. That gamble may destroy a systemically important financial institution.35 “Because defeat is so difficult to accept,” chief executive officers and field marshals suffer from a comparable inability to cut their losses and salvage what is left of their companies and armies.36 Bioprospect theory helps explain why international economic and environmental law reaches such perverse outcomes in its approach to biodiversity conservation and **bioprospecting**. Biodiversity policy is perverse because it disobeys the standard risk-averse pattern of human conduct and follows instead the contrary axis of risk-seeking behavior. The fate of the biosphere **presents either (1) a low probability of immense gain** (through bioprospecting) **or (2) a high probability of immense loss** (through global climate change). The lottery effect readily explains the overvaluing of commercial bioprospecting. **Pharmaceutical companies and protesters accusing them of biopiracy have this much in common: both sides are bedazzled — irrationally — by the possibility that some lucrative cure for cancer may lurk in a Brazilian rain forest.37 The looming loss of global biological diversity, on a geologically significant scale, poses an even more disturbing prospect**. The magnitude of ecological losses is increasing at an alarming rate, even more so once we move past the relatively narrow frame of biodiversity and contemplate the possibility of complete disruption of global climatic systems. **As the costs and the likely futility of mitigating action increase,38 humans find their own heuristics shoving their collective decisionmaking processes further onto the frontier of desperation** where risk-averse acts such as insurance lose their appeal and yield ground to active risk-seeking. System 1 — **the rapid, automatic decisionmaking system that has propelled humanity from Pleistocene competitiveness to Holocene dominance39 — may be pushing Homo sapiens sapiens to the edge of extinction by its own talented hand. The global collapse of biodiversity is the ultimate ecosystem service provided by indicator species**: “never send to know for whom the bell tolls; it tolls for thee.”40 Bioprospect theory provides the blueprint by which **humanity might eschew the remote prospect of wealth, if only momentarily, and focus on how it might better manage anthropogenic ecological disasters** before they become full-blown, irreversible cataclysms of global proportions.

**Biodiversity loss leads to run away extinction cascades that have a litany of impacts—domino effect, food supply, etc.**

**Geib 18.** Claudia Geib, Associate Editor at Futurism. February 20th 2018, "Losing biodiversity could lead to "extinction cascades"," Futurism, https://futurism.com/losing-biodiversity-extinction-cascades

Human expansion, [destruction of natural habitats](https://futurism.com/companies-bring-end-deforestation/), pollution, and climate change have all led to biodiversity levels that are considered [below the “safe” threshold](https://futurism.com/research-shows-that-worlds-biodiversity-is-below-safe-levels/) for global ecosystems. And the **consequences of biodiversity loss aren’t just about the extinction of certain charismatic species.** [**A new study published in the journal Proceedings of the National Academy of Sciences**](http://www.exeter.ac.uk/news/featurednews/title_640529_en.html)**shows** **that less biodiversity in an area increases the risk of a domino effect** **of extinctions, where one species’ disappearance can cause other species to follow** **suit.** The research, conducted by ecologists at the University of Exeter, shows that **losing a species** in an area is dangerous in that it **makes** the surrounding ecological **community simpler, and therefore less robust to change.** It makes sense: **the fewer species that exist in an area, the fewer that are available to “fill the gap” left by other** **extinctions.** Other species in the ecosystem will have fewer alternatives to turn to. For example, if there [are fewer insects](https://futurism.com/scientists-say-ecological-armageddon-is-imminent-due-to-massive-insect-deaths/) left overall across a region, the bats and amphibians that eat them will feel the loss of just one species much more severely. **“Interactions between species are important for ecosystem stability**,” said Dirk Sanders, lead author and professor in Exeter’s Center for Ecology and Conservation, in [a news release](http://www.exeter.ac.uk/news/featurednews/title_640529_en.html). “And because species are interconnected through multiple interactions, an **impact on one species can affect others as well**.”The Exeter team investigated this idea by removing a species of wasp from test ecosystems. In many of these systems, the wasp’s disappearance caused indirect extinctions of other species at the same level of the food web. In simple communities, the effect was even stronger. Sanders emphasized the **biodiversity loss could cause “run-away extinction cascades.”** This research sounds yet another dire warning bell at a time of biodiversity crisis. Even if you don’t care for poster-child species like polar bears, the **crisis could also have ramifications for species that everyone cares about, like the crops that are** **the foundation of**[our **global food supply**](https://futurism.com/world-food-supplies-threatened-by-sixth-mass-extinction/)**. Studies that show how broadly single extinctions reverberate across ecosystems might buoy further efforts to protect global biodiversity.**

#### Second, TRIPS protection for MNCs allows them to pirate the resources of the Global South in the name of medicine – this commodified the people’s knowledge, resources and kill sustainable existence and produces ecocide

Ashleigh **Breske** Global Politics and Societies, Hollins University, 28 Aug **2018** Biocolonialism: Examining Biopiracy, Inequality, and Power https://spectrajournal.org/articles/abstract/10.21061/spectra.v6i2.a.6/

**One might wonder how corporations are able to appropriate traditional knowledge and natural resources without the active participation of the developing countries’ governments. It again comes down to financial resources and political sway of corporations**.lxxvi **Bioprospecting “commercially valuable genetic and biochemical resources and subsequently patenting them, depend on the knowledge of rural and indigenous communities that have established an intimate relationship with nature since precapitalist times**.”lxxvii **Biopiracy becomes a political concept because it is “a mechanism for capitalist enrichment, ecocide, and the antithesis of sustainability**… capitalist society depends on economic changes in markets (i.e. the profit rate).”lxxviii Corporate power over knowledge is assured because it can exercise hegemony through western legal frameworks and negotiations with developing governments that need to maintain good relationships with corporations. Bearing in mind the increased call for indigenous rights, some corporations are seeking new ways of capitalizing without endangering their relationships with developing nations’ governments. One such example of this benefit sharing agreement was the relationship between Merck Inc., a pharmaceutical company, and INBio, an NGO working in Costa Rica. Beginning in 1991, Merck Inc. paid an upfront fee and promised a royalty percentage for any product developments that may occur thanks to any collection of material in Costa Rica. This meant that Merck acquired exclusive rights to Costa Rica’s biodiversity for development.lxxix This agreement, however, ended in 2015 with INBio’s failure to fulfill its promises. INBio was required to return the biodiversity collection to the state. The specimens were passed to the National Natural History Museum.lxxx **TRIPS and patents, as Western controls over knowledge, are dangerous components of neoliberalism. For the richer developed countries, biocolonialism allows them to maintain control over these developing regions**. Multinational corporations get caught up in competition for patents and profits to drive the economy. They are constantly seeking new forms of revenue generation, including an interest of some transnational corporations in germplasm collections. These collections are storehouses of genetic material for seeds and represent an expansive variation of biodiversity. Since the governments that have historically maintained them, specifically in the former Soviet Union and other areas hit hard by economic recessions, are no longer able to afford them, prosperous corporations are able to purchase them: “**The pharmaceutical industry has benefited from this situation**, especially US multinational corporations which are investing in the conservation of such collections on condition that they will be given access to them.”lxxxi T**his access allows them to manipulate the genetic material and then patent it as being different from the initial source material leading to the greater likelihood of competition with other wealthy transnational corporations.** There is a “classical conception and principle that competition, and only competition, can ensure economic rationality… [there is a] formation of prices which, precisely to the extent that there is a full and complete competition, can measure economic magnitudes and thus regulate choices. World biodiversity is currently controlled in two ways: in-situ (Protected Areas and as-yet unprotected regions of great biodiversity) and ex-situ (Botanical Gardens and Germ Plasm Banks).”lxxxii Since national interests do not strictly regulate ex-situ sources, it is easier to use patents and the free market to obtain them. **The power still rests with transnational corporations who view indigeneity as a license to treat societies as commodities.**

#### NEXT IS INDIGENEITY

#### First, Biopiracy is a form of piracy that steals from indigenous communities, robs them of medicine, and destroys their livelihoods Pedersen 12

Stephanie **Pedersen**, 23 August **2012**, Biopirates Are Harming Indigenous Livelihoods, <http://www.theinternational.org/articles/233-biopirates-are-harming-indigenous-livelih>

In the late 1990’s a Swiss national went to the Simanjiro region of Tanzania to study the properties of the Oloisuki tree. He sent several samples back to Switzerland where it has since been processed and turned into syrup that is used as an additive in fruit juices, teas and toiletries. By doing this he violated Access and Benefit Sharing laws and Tanzanian customary laws, which in an interview with LIRDO (a local NGO), he later denied having any knowledge of. Access and Benefit Sharing laws regulate access to genetic materials and traditional knowledge and also ensure appropriate fair and equitable sharing that may arise from their utilization. The Maasai people in Tanzania and Kenya have been using the bark of the Oloisuki tree for years to treat malaria, stomach aches and to heal livestock. Recently, both the Muhimbili Univserity of Health and Applied Sciences and Makerere University Medical School confirmed the effectiveness of Oloisuki for treating malaria and measles. The Maasai people have seen very little compensation for the use of the Oloisuki tree. It is a plant that has great historical and cultural value. Their traditional knowledge regarding the properties of the tree was utilized for the production of Oloisuki products in Switzerland. There are international laws such as the Convention on Biological Diversity, which state that traditional knowledge may only be used by corporations if indigenous populations have given their informed consent. The Maasai did not give their informed consent for the harvesting and use of the Oloisuki tree and are demanding a patent that will provide appropriate economic compensation. Initially, the poorest women of the Maasai tribes were assigned the task of harvesting the Oloisuki tree as part of a project that was supposedly aimed at improving gender equality. These women were minimally compensated for their work. The Maasai people are semi-nomadic and rely upon subsistence farming and pastoralism for their livelihood. They live in regions of Tanzania and Kenya where access to clean water is frequently limited due to droughts and their current healthcare systems are largely inadequate. They rely heavily on the Oloisuki tree for its healing properties. With the threat of global warming, increased modernization and the loss of their traditional lands to national parks and conservation, the Maasai way of life as farmers and pastoralists is continually threatened. The Maasai as a people are increasingly impoverished and are in desperate need of new economic opportunities. Appropriate economic compensation for the use of the Oloisuki tree would allow for the expansion of health services, provide clean drinking water for both themselves and their livestock and would improve the socioeconomic welfare of the Maasai overall. What is biopiracy? The issue of bioprospecting, or biopiracy as many NGOs and developing nations call it, is one that is growing in scale as large multi-national corporations and pharmaceutical companies continue to search for new ways to make profit via the appropriation of biological materials. Bioprospecting is the process of appropriation and commercialization of natural products ranging from plants and animals to genes, many of which are found in the biologically diverse developing world. Often, bioprospecting includes the use of traditional knowledge derived from indigenous peoples who have used plants as a part of their culture for the purposes of healing, and becomes biopiracy when due credit is not given. Essentially, biopiracy accounts as a form of plagiarism or theft. There are several international laws in place to regulate bioprospecting and ensure that indigenous populations are rightly compensated for their contributions toward revenue generation, such as the Convention on Biological Diversity and the Nagoya Protocol. In an interview with Flurina Doppler, a member of a Swiss-based NGO called Berne Declaration that monitors patent applications by Swiss corporations, Doppler identified one of the major shortcomings of these types of international conventions, namely that while they are legally binding, they lack the effective means for implementation and/or enforcement. Ms. Doppler also claims that while these international laws are in place to enforce access and benefit sharing laws (ABS), one of the main problems in stopping biopiracy is that many countries do not have ABS legislation as part of their national laws. Thus, while there is legislation in place to protect indigenous populations against biopiracy, these laws are easily and frequently circumvented. A negative impact **Many patents either deny economic compensation to indigenous groups entirely or they prevent indigenous groups from using specific plant materials altogether.** A report by Greenpeace about patents and bioprospectng explains that, “**Patents take plant genetic resources out of the public domain and define them as private property.” The restricted use of these plants may prevent access to traditional healing methods and this threatens indigenous health systems. Many of these groups**, including the Maasai, the Aboriginal peoples of Australia and the tribespeople of Orissa, India **lack access to modern medicine and thus greatly rely on the traditional local healing methods**. Patents award the sole use and sale of a product to the patent holder. In some cases, the patents also result in inflated prices and indigenous groups may be unable to afford them. The problem that patents pose to these fragile healthcare systems is one that is largely unaddressed by patent holders. Some of the more infamous examples of the harm caused by patenting to indigenous populations include restrictions on the use of the neem tree that the indigenous populations of India and Nepal are facing due to the patents of W R Grace and Co, and the use of the Duboisia plant by Aboriginal groups in Australia for its uses as a sedative and in motion sickness medication.

#### Next, Biopiracy allows rich countries to strip developing nations and indigenous people of resources, widening the 1st/3rd world divide and causing unjustifiable structural violence

Johanna Marie **Staral** **and** Jean Ann **Sekerak**, **2012**, FIGHTING BIOPIRACY AT THE SOURCE: SENSITIZING INDIGENOUS COMMUNITIES TO WESTERNIZED INTELLECTUAL PROPERTY RIGHTS AND THE THREAT OF BIOPIRACY, <https://www.academia.edu/1115515/FIGHTING_BIOPIRACY_AT_THE_SOURCE_SENSITIZING_INDIGENOUS_COMMUNITIES_TO_WESTERNIZED_INTELLECTUAL_PROPERTY_RIGHTS_AND_THE_THREAT_OF_BIOPIRACY> [Case Western Reserve University School of Law (USA) International Partners in Mission (USA)]   
**The effects of biopiracy are far-reaching and injurious to global development. Biopiracy increases distrust in the research community, reduces the economic and political power of developing nations, and violates basic human rights**. When biopiracy occurs because there is a lack of properly obtained permission given by the indigenous community, it is very likely that this will be viewed as extremely offensive. This cultural affront erodes the already delicate trust that indigenous peoples have for the North¶s research community, making it difficult to forge ethical relationships for biological research, injuring the drug discovery potential of the medical industry. The effects on economic development in the South are much more severe. Through the use of I PRs and the TR I Ps mandate, patent holders and corporations leave developing countries and indigenous peoples out of the development of products based on their traditional knowledge and biological resources. 1 Projects utilizing TK and local resources, projects like Mujer y Comunidad, are in danger . Even more damaging are plant patents that can keep provider countries from selling and exporting their resources. **The inability of these countries to access the economic potential held by their resources further exacerbates the inequality of the global market**. The worst effects of biopiracy are born by the people living in these struggling nations. **Biopiracy can price essential medical therapies far outside the reach of these communities and deplete the resources used for food and shelter by indigenous peoples.** Developed nations that are complicit in acts of biopiracy are **violating the basic human rights** that they helped to enshrine in the Universal Declaration of Human Rights. 11 Biopiracy goes further and erodes the identity and psyche of the cultures it effects, ignoring the human rights principles espoused in the Covenant on Social, Economic and Cultural Rights. 12 **The appropriation of biological resources tied to traditional knowledge returns relatively nascent nations to their oppressive colonial past through the exploitation and degradation of a peoples¶ culture**. Dr. I kechi Mgbeoji, states, ³ I n cases where traditional use of plants pertains to the culture of a people, it seems beyond doubt that biopiracy constitutes both an individual and collective violation of an internationally recognized and protected right to culture. Even though economic, social and cultural rights have traditionally been marginalized in the human rights discourse and praxis, there is no doubt among scholars that they are human rights in the full sense of the term, with all the legal obligations attendant thereto.´ 13 When viewed from this perspective, **it is imperative that biopiracy be addressed by the international community and that individual states fulfill their obligation to protect human rights within their territories and globally.** 1.4 The Need for Protection The preservation of biological diversity is important for the entire human population, as evidenced by the emergence of international treaties like the Kyoto Protocol and the Convention of Biological Diversity. 14,15 However, recent technological advances have put added strain on environments where biological materials are sourced. As outspoken anti-biopiracy author, Vandana Shiva, has observed, **"[t]he emergence of new biotechnologies has changed the meaning and the value of biodiversity. I t has been converted form a life-support base for poor communities to the raw material base for powerful corporations.´**