## Framing

**The value is morality as implied by the word ought in the resolution**

**The value criterion is maximizing expected wellbeing, or utilitarianism**

**1] Util is a lexical pre-requisite to any other framework: Threats to bodily security and life preclude the ability for moral actors to effectively utilize and act upon other moral theories since they are in a constant state of crisis that inhibit the ideal moral conditions which other theories presuppose – so, util comes first.**

**2] Use epistemic modesty for evaluating the framework debate: that means compare the probability of the framework times the magnitude of the impact under a framework. This maximizes the probability of achieving net most moral value**

**3] Default to util if there’s any uncertainty**

Walter **Sinnott-Armstrong 14** [American philosopher. He specializes in ethics, epistemology, and more recently in neuroethics, the philosophy of law, and the philosophy of cognitive science], "Consequentialism", The Stanford Encyclopedia of Philosophy (Spring 2014 Edition), Edward N. Zalta (ed), BE

Even if consequentialists can accommodate or explain away common moral intuitions, that might seem only to answer objections without yet giving any positive reason to accept consequentialism. However, **most people begin with the presumption that we morally ought to make the world better when we can. The question then is only whether any moral constraints or moral options need to be added to the basic consequentialist factor in moral reasoning.** (Kagan 1989, 1998) If no objection reveals any need for anything beyond consequences, then consequences alone seem to determine what is morally right or wrong, just as consequentialists claim.

**4] Extinction comes first under any framework**

**Pummer 15** [Theron, Junior Research Fellow in Philosophy at St. Anne's College, University of Oxford. “Moral Agreement on Saving the World” Practical Ethics, University of Oxford. May 18, 2015] AT

There appears to be lot of disagreement in moral philosophy. Whether these many apparent disagreements are deep and irresolvable, I believe there is at least one thing it is reasonable to agree on right now, whatever general moral view we adopt: that it is very important to reduce the risk that all intelligent beings on this planet are eliminated by an enormous catastrophe, such as a nuclear war. How we might in fact try to reduce such existential risks is discussed elsewhere. My claim here is only that we – whether we’re consequentialists, deontologists, or virtue ethicists – should all agree that we should try to save the world. According to consequentialism, we should maximize the good, where this is taken to be the goodness, from an impartial perspective, of outcomes. Clearly one thing that makes an outcome good is that the people in it are doing well. There is little disagreement here. If the happiness or well-being of possible future people is just as important as that of people who already exist, and if they would have good lives, it is not hard to see how reducing existential risk is easily the most important thing in the whole world. This is for the familiar reason that there are so many people who could exist in the future – there are trillions upon trillions… upon trillions. There are so many possible future people that reducing existential risk is arguably the most important thing in the world, even if the well-being of these possible people were given only 0.001% as much weight as that of existing people. Even on a wholly person-affecting view – according to which there’s nothing (apart from effects on existing people) to be said in favor of creating happy people – the case for reducing existential risk is very strong. As noted in this seminal paper, this case is strengthened by the fact that there’s a good chance that many existing people will, with the aid of life-extension technology, live very long and very high quality lives. You might think what I have just argued applies to consequentialists only. There is a tendency to assume that, if an argument appeals to consequentialist considerations (the goodness of outcomes), it is irrelevant to non-consequentialists. But **that is a huge mistake.** Non-consequentialism is the view that there’s more that determines rightness than the goodness of consequences or outcomes; **it is not the view that the latter don’t matter**. Even John Rawls wrote, “All ethical doctrines worth our attention take consequences into account in judging rightness. One which did not would simply be irrational, crazy.” **Minimally plausible versions of deontology and virtue ethics must be concerned in part with promoting the good**, from an impartial point of view. They’d thus imply very strong reasons to reduce existential risk, at least when this doesn’t significantly involve doing harm to others or damaging one’s character. What’s even more surprising, perhaps, is that even if our own good (or that of those near and dear to us) has much greater weight than goodness from the impartial “point of view of the universe,” indeed even if the latter is entirely morally irrelevant, we may nonetheless have very strong reasons to reduce existential risk. Even egoism, the view that each agent should maximize her own good, might imply strong reasons to reduce existential risk. It will depend, among other things, on what one’s own good consists in. If well-being consisted in pleasure only, it is somewhat harder to argue that egoism would imply strong reasons to reduce existential risk – perhaps we could argue that one would maximize her expected hedonic well-being by funding life extension technology or by having herself cryogenically frozen at the time of her bodily death as well as giving money to reduce existential risk (so that there is a world for her to live in!). I am not sure, however, how strong the reasons to do this would be. But views which imply that, if I don’t care about other people, I have no or very little reason to help them are not even minimally plausible views (in addition to hedonistic egoism, I here have in mind views that imply that one has no reason to perform an act unless one actually desires to do that act). To be minimally plausible, egoism will need to be paired with a more sophisticated account of well-being. To see this, it is enough to consider, as Plato did, the possibility of a ring of invisibility – suppose that, while wearing it, Ayn could derive some pleasure by helping the poor, but instead could derive just a bit more by severely harming them. Hedonistic egoism would absurdly imply she should do the latter. To avoid this implication, egoists would need to build something like the meaningfulness of a life into well-being, in some robust way, where this would to a significant extent be a function of other-regarding concerns (see chapter 12 of this classic intro to ethics). But once these elements are included, we can (roughly, as above) argue that this sort of egoism will imply strong reasons to reduce existential risk. Add to all of this Samuel Scheffler’s recent intriguing arguments (quick podcast version available here) that most of what makes our lives go well would be undermined if there were no future generations of intelligent persons. On his view, my life would contain vastly less well-being if (say) a year after my death the world came to an end. So obviously if Scheffler were right I’d have very strong reason to reduce existential risk. **We should also take into account moral uncertainty.** What is it reasonable for one to do, when one is uncertain not (only) about the empirical facts, but also about the moral facts? I’ve just argued that there’s agreement among minimally plausible ethical views that we have strong reason to reduce existential risk – not only consequentialists, but also deontologists, virtue ethicists, and sophisticated egoists should agree. But even those (hedonistic egoists) who disagree should have a significant level of confidence that they are mistaken, and that one of the above views is correct. Even if they were 90% sure that their view is the correct one (and 10% sure that one of these other ones is correct), they would have pretty strong reason, from the standpoint of moral uncertainty, to reduce existential risk. Perhaps most disturbingly still, even if we are only 1% sure that the well-being of possible future people matters, it is at least arguable that, from the standpoint of moral uncertainty, reducing existential risk is the most important thing in the world. Again, this is largely for the reason that there are so many people who could exist in the future – there are trillions upon trillions… upon trillions. (For more on this and other related issues, see this excellent dissertation). Of course, it is uncertain whether these untold trillions would, in general, have good lives. It’s possible they’ll be miserable. It is enough for my claim that there is moral agreement in the relevant sense if, at least given certain empirical claims about what future lives would most likely be like, all minimally plausible moral views would converge on the conclusion that we should try to save the world. While there are some non-crazy views that place significantly greater moral weight on avoiding suffering than on promoting happiness, for reasons others have offered (and for independent reasons I won’t get into here unless requested to), they nonetheless seem to be fairly implausible views. And even if things did not go well for our ancestors, I am optimistic that they will overall go fantastically well for our descendants, if we allow them to. I suspect that most of us alive today – at least those of us not suffering from extreme illness or poverty – have lives that are well worth living, and that things will continue to improve. Derek Parfit, whose work has emphasized future generations as well as agreement in ethics, described our situation clearly and accurately: “We live during the hinge of history. Given the scientific and technological discoveries of the last two centuries, the world has never changed as fast. We shall soon have even greater powers to transform, not only our surroundings, but ourselves and our successors. If we act wisely in the next few centuries, humanity will survive its most dangerous and decisive period. Our descendants could, if necessary, go elsewhere, spreading through this galaxy…. Our descendants might, I believe, make the further future very good. But that good future may also depend in part on us. If our selfish recklessness ends human history, we would be acting very wrongly.” (From chapter 36 of On What Matters)

### Plan

#### The member nations of the World Trade Organization ought to eliminate patent protections for medicines.

## 1-Innovation

#### Innovation down now---it’ll kill the pharma industry

Standish **Fleming 18**, Managing Member at Forward Ventures and Owner, Forward Ventures, “Pharma's Innovation Crisis, Part 1: Why The Experts Can't Fix It,” September 6th, 2018,<https://www.forbes.com/sites/stanfleming/2018/09/06/why-experts-cant-fix-pharmas-innovation-crisis-part-1-and-what-to-do-about-it-part-2/?sh=40e24a0216fe>

Dr. Stott bases his assessment on a number of charts on productivity, all **pointing emphatically down and to the right**. R&D returns in drug development currently stand at 3.2% and **could reach 0** in 2020, meaning that a dollar would return a dollar—i.e. **no profit**. And there is no reason to believe the decline should stop there. The data correlates with the observation of virtually every serious researcher who has looked at the industry. The data are alarming—**an industry that destroys investor value faces a dim future**. Yet, when Dr. Stott proceeds from data to diagnosis and then to prescription, he fails to come up with a credible action plan. His study may be mathematically accurate, but his conclusions are based on faulty assumptions. As a result, they are misleading. He diagnoses the problem as a failure of technology and so looks for a science-based solution to the innovation crisis. What he finds provides no way out of the dilemma. Failing productivity seems like a strange problem in an industry that generates more cash than it can deploy, enjoys unlimited demand and wields monopolistic pricing power. But **pharma is not a “normal” business**. Each new drug, each clinical trial is an experiment. Development **is inherently unpredictabl**e, as reflected in a success rate of 2% (8% approval rate X 25% commercial success rate for small-molecule therapeutics), far worse than that offered by that notorious destroyer of value, Las Vegas. As a result, biopharma companies **cannot increase productivity** by simply making more drugs. The current **business model does not scale**. Costs rise faster than expected returns. While most drug developers readily acknowledge the problem, they ignore it in running their businesses. The results are reflected in Dr. Stott’s charts. Top management in biopharma **have difficulty with unpredictability**. As “experts” and truly some of the smartest people on the planet—molecular medicine is one of mankind’s great achievements--they instinctively believe that they can figure it out. The fact that they can’t is not a reflection on their capabilities. An unpublished study I worked on with Bernard Munos showed a mathematical basis for inherent unpredictability along the lines of that described by Nassim Taleb in his book the Black Swan. Ignoring the stochastic nature of drug development has led to costly mistakes and, ultimately, **the industry's decline**.

#### TRIPS is the key---patent systems are devastating innovation now

Bryan **Mercurio 14**, Law Professor at The Chinese University of Hong Kong, “TRIPs, Patents, and Innovation: A Necessary Reappraisal?”<https://e15initiative.org/wp-content/uploads/2015/09/E15-Innovation-Mercurio-FINAL.pdf>

Identifying the factors that stimulate innovation is difficult (Lemley 2000), and attention must be paid to the different kinds of innovation--cumulative innovation; horizontal (basic) innovation; and vertical (applied) innovation. The impact of patent protection can differ on each of these types of innovation. For instance, where cumulative innovation occurs--that is, where a single product may rely on inventions owned by a number of firms--“there is good reason to think that the patent system may discourage innovation overall rather than encouraging it” (Bessen and Maskin 2009; Chu et al. 2012). Shapiro (2001) finds that “with cumulative innovation and multiple blocking patents, stronger patent rights can **have the perverse effect of stifling**, not **encouraging innovation**.” In such a situation, multiple licences have to be purchased; uncertainty regarding the status of the technology persists; and the value of patent licensing is questioned (Heller 2008; Boldrin and Levine 2008). Lawsuits become the norm; **costs rise** as firms defend claims and play the game by defensively purchasing patents; and **innovation suffers** (Boldrin and Levine 2013; Bessen and Muerer 2008). One only needs to look at the present situation in the high-tech sector to see this cycle playing out, where as much as US$20 billion was spent in 2010-11 on patent litigation and purchases, and where a “patent tax” of up to 20 percent of R&D costs exists (Duhigg and Lohr 2012). That a limited monopoly can **stifle innovation** should not come as a surprise given that competition is generally seen as a positive force in a market economy. Competition is widely thought to provide incentives for the efficient use of resources; motivation for constant progress; and protection for consumers (Vickers 1995). To some, there is an inherent contradiction between innovation and patent protection, as the latter impedes diffusion and obviates potential gains to be made from collaboration and competition (Rothbard 1962; Mises 1966; Palmer 1989; Lemley 2000; Stiglitz 2008). Thus, while Shumpeter acknowledges that competition for innovation led to temporary monopolies and argues that these monopolies were in turn replaced when new firms further innovated (1976), Stiglitz demonstrates that the established monopolies became entrenched as costs and externalities reduced incentives for displacement (Stiglitz and Walsh 2005). In turn, insufficient diversity among patent holders (a lack of so-called “equilibrium diversity”) encourages them to focus R&D on improving existing technologies through incremental improvements, as **opposed to investing in R&D** to develop new technologies and products (Acemoglu 2011).In essence, this is what the European Commission alleged in its prosecution of Microsoft for anti-competitive behaviour. There, the Commission deemed Microsoft to be a dominant player, which used its near-monopoly power to reduce “talent and capital invested in innovation” in a manner that “limits the prospects for ... competitors to successfully market innovation and thereby discourages them from developing new products” (2004). The negative effect on innovation is **exacerbated by** a number of factors, including the growing problem of patent thickets. Owing to the“difficulty of determining the boundaries” of patent claims, there are often multiple and competing claims over one or more aspects of an invention- -situations which, Stiglitz states, “especially **impede innovation**” (2008). While patent thickets have existed for more than a hundred years (a patent thicket impeded the development and commercialization of the airplane), they have more recently become particularly widespread in the electronics industry (GAO 2013). Other factors, such as defensive patenting and the extortion-like practices of socalled patent trolls, have likewise substantially increased the risk of net welfare loss and less innovation (Bessen et al. 2011; Tucker 2011). Recent studies even find that patent pool arrangements result in reduced innovation by member-firms (Lampe and Moser 2010; Joshi and Nerkar 2011; Lampe and Moser 2012). Evidence also exists to show that stronger patent protection leads not to enhanced innovation or an improvement in overall welfare, but to firms protecting their interests by advocating even more **protection** (Landes and Posner 2003). In so doing, **firms divert resources away from R&D**, and into lobbyists and lawsuits. Boldrin and Levine (2013) refer to this as the political economy effect, where patent protection keeps increasing due to the lobbying efforts of entrenched firms, and without regard to the system as a whole. In their view, such **behavior distorts the optimum range of protection** and unbalances the entire system. In conclusion, while it is a certainty that patent protection increases patent applications and the number of patents granted, there is little to no solid evidence that it leads to increased innovation (Boldrin and Levine 2013; Scherer 2009; Lerner 2009; Gallini 2002; Jaffe 2000). Since the evidence suggests that “policy changes that strengthen patent protection … [do] not spur innovation” (Lerner 2002; UNCTAD 2011), it is unsurprising that “there is widespread unease that the costs of stronger patent protection may exceed the benefits” (Jaffe 2002). POTENTIAL RESPONSES To establish the economic significance and value of patents, it is necessary to weigh their social costs against their social benefits. Hall et al. (2012) explain, In principle a patent will function to increase fixed (and most likely sunk) costs of entry into a market where the invention protected by the patent is practiced. This will reduce entry and therefore competition. From a welfare perspective, this is the price society pays in order to encourage invention and innovation by the initial entrant. What results is a trade‐off between the interests of the incumbent holding the patent and the potential entrant excluded by it. In the case of patents, policy makers need to come to a view of how much protection to afford the patentee in order to create incentives for R&D. Given the trade-off between innovation and access, policy should be designed to reach the “optimal scope of IPRs protection”--that is, a “balance between the social benefit of innovation and the social cost of monopolistic distortion” (Nordhaus 1969). It is this balance that some believe is now lopsided. This section focuses on what can be done within the confines of the WTO to ensure that patent protection stimulates innovation and that the benefits are in balance with social costs. It goes beyond merely describing the available flexibilities offered by TRIPS to Members or analyzing the use of such tools. This work has been done (Mercurio 2013; Declaration on Patent Protection 2014), but does not go to the heart of the issue-- that of the link between IPRs and innovation. Moreover, given the definitional vagueness and uncertainty of the boundaries of patent claims and rights, countries have become risk averse and are unlikely to take action that may be viewed as inconsistent with the TRIPS Agreement. The discussion and debate must now move beyond the well-known but little used flexibilities to encompass the broader and more fundamental issue of whether IPRs--and correspondingly the TRIPS Agreement-- **actually encourage innovation**. In a sense, all the potential responses are radical in that they all require a shift from the status quo and amendment to the **TRIPS** Agreement. For this reason, none are likely to be feasible in the short, and perhaps even medium, term. This does not mean that potential responses should not be discussed. As the economic data and evidence against the current form and level of patent protection mounts, alternatives will become more realistic options. Radical proposals aimed at promoting innovation deserve to feature in the debate. The remainder of this section raises four alternatives to the status quo for discussion.

#### Pharma is key to biotech

Garth JS **Cooper 6**, independent medical scientist at the University of Auckland, “Fates Intertwined,” March 2006, <https://library.wur.nl/WebQuery/file/cogem/cogem_t4505194e_001.pdf>

**Biotechnology and pharmaceuticals are inextricably intertwined**. Although biotech companies often **rely upon** the resources of larger pharma companies, the converse is also true. Among other things, biotechs require funding, validation, and access to expertise and markets. Big pharma continues to need ideas and products, and places to outsource risk. The pharmaceutical industry faces **uncertainties driven by falling innovation** 1,2, its relevance to reducing the global burden of disease , and the equity of access to its products3. If biotechs are not embraced by pharma—they cannot be copied —then as competitors they will increasingly come to dominate the industrial nexus. The **issues of both industries need to be addressed together**. Apart, biotech and pharma will continue to struggle with the self-determining issues that they currently confront. Working together, the fabric of these industries will be transformed and the world of human therapeutics will flourish.

#### Only pharma innovation solves global pandemics that risk extinction

Jeffrey **Sachs 14**, Professor of Sustainable Development, Health Policy and Management @ Columbia University, Director of the Earth Institute @ Columbia University and Special adviser to the United Nations Secretary-General on the Millennium Development Goals) “Important lessons from Ebola outbreak,” Business World Online, August 17, 2014, http://tinyurl.com/kjgvyro

Ebola is the latest of many recent epidemics, also including AIDS, SARS, H1N1 flu, H7N9 flu, and others. AIDS is the deadliest of these killers, claiming nearly 36 million lives since 1981. Of course, even larger and more **sudden epidemics are possible**, such as the 1918 influenza during World War I, which claimed **50-100 million lives** (far more than the war itself). And, though the 2003 SARS outbreak was contained, causing fewer than 1,000 deaths, the disease was on the verge of deeply disrupting several East Asian economies including China’s. There are four crucial facts to understand about Ebola and the other epidemics. First, most emerging infectious diseases are zoonoses, meaning that they start in animal populations, sometimes with a genetic mutation that enables the jump to humans. Ebola may have been transmitted from bats; HIV/AIDS emerged from chimpanzees; SARS most likely came from civets traded in animal markets in southern China; and influenza strains such as H1N1 and H7N9 arose from genetic re-combinations of viruses among wild and farm animals. **New zoonotic diseases are inevitable** as humanity pushes into new ecosystems (such as formerly remote forest regions); the food industry creates more conditions for genetic recombination; and climate change scrambles natural habitats and species interactions. Second, once a new infectious disease appears, its spread through airlines, ships, megacities, and trade in animal products is likely to be **extremely rapid**. These epidemic diseases are new markers of globalization, revealing through their chain of death how vulnerable the world has become from the pervasive movement of people and goods. Third, the poor are the first to suffer and the worst affected. The rural poor live closest to the infected animals that first transmit the disease. They often hunt and eat bushmeat, leaving them vulnerable to infection. Poor, often illiterate, individuals are generally unaware of how infectious diseases -- especially unfamiliar diseases -- are transmitted, making them much more likely to become infected and to infect others. Moreover, given poor nutrition and lack of access to basic health services, their weakened immune systems are easily overcome by infections that better nourished and treated individuals can survive. And “de-medicalized” conditions -- with few if any professional health workers to ensure an appropriate public-health response to an epidemic (such as isolation of infected individuals, tracing of contacts, surveillance, and so forth) -- make initial outbreaks more severe. Finally, the required medical responses, including diagnostic tools and effective medications and vaccines, inevitably lag behind the emerging diseases. In any event, such tools must be **continually replenished**. This requires **cutting-edge biotech**nology, immunology, and ultimately bioengineering to create large-scale industrial responses (**such as millions of doses of vaccines or medicines** in the case of large epidemics). The AIDS crisis, for example, called forth tens of billions of dollars for research and development -- and similarly substantial commitments by the pharmaceutical industry -- to produce lifesaving antiretroviral drugs at global scale. Yet each breakthrough inevitably leads to the pathogen’s mutation, rendering previous treatments less effective. There is no ultimate victory, only a **constant arms race** between humanity and disease-causing agents.

## 2-Global Health Innovation

#### The WTO’s Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) causes massive global health inequality

K. M. **Gopakumar 15**, legal advisor and senior researcher with the Third World Network, “Twenty years of TRIPS agreement and access to medicine: a development perspective,” Indian Journal of International Law 55, 367–404 2015,<https://link.springer.com/article/10.1007%2Fs40901-016-0022-7>

The two decades of TRIPS show clearly that the compulsory product patent regime succeeded in **increasing the monopoly of pharmaceutical TNCS** in new medicine market. The product patent regime has put curbs on the availability of generic versions of new medicines. The failure of patent system resulted in the call for fresh look at the role of patent and public policy. Two economists argue that ‘‘…public policy should aim to decrease patent monopolies gradually but surely, and ultimate goal should be the abolition of patents.’’107 Another academic notes: ‘‘Even pharmaceutical and biotech companies usually do not need more than about a decade of monopoly power to encourage their very large investments in new drugs.’’108 There is an urgent need to interrogate the international IP regime in general and patent protection for pharmaceuticals in particular, **which does not reflect** the health and development needs of people, especially those living **in developing countries**. The Declaration on Patent Protection: Regulatory Sovereignty under TRIPS released in 2014, an initiative of the Max Plank Institute for Innovation and Competition on the occasion of the 20th anniversary of the TRIPS notes four major developments that require accommodating the law to changed circumstances. First, the ‘historically unprecedented numbers of patents filings and grants’ create problems such as backlogs at patent offices, patent thickets, market entry barriers and increased litigation that ultimately generate impediments to research and commercialisation. The result is rising costs of monitoring patents and legal uncertainty, limiting the economic freedom of market participants, which in turn **affects consumer welfare and distorts competition**. Thus ‘the overall **social benefits of innovation are reduced** while an imbalance emerges between those able to cope with the resulting insecurities and related costs, such as multinational enterprises with their own patent departments, and those who cannot, such as small and medium sized enterprises or individual inventors.’109 Second, the new technologies like biotechnology, business methods and computer science as well as standard setting, strategic patenting and non-practising entities all affect the functioning of the patent system as a regulatory institution. Third, the role of patents in corporate management has undergone a change from a defensive means to protect research and development outcomes to become strategic assets to influence the conditions of competition. Fourth, the industrialised countries have **tilted the balance** in the patent regime towards right holders by reducing the burden for the patent applicants such as expanded scope of patentability, lower eligibility standards and reduced fees, as well as extending the rights of patent owners such as longer term of patent, harsher sanctions, strengthened ways for private and public enforcement. Therefore, the Declaration states: ‘the patent system faces increasing friction with ancillary public policy goals, such as protecting the environment, preserving biodiversity or ensuring affordable access to medicines.’110 Against this background there is an urgent need to review the TRIPS patent regime, especially the compulsory product patent protection. The Agreement itself contains provisions to review its implementation. Article 71.1 of the TRIPS Agreement provides mandatory review of the implementation of this Agreement after the expiration of the transitional period referred to in paragraph 2 of Article 65. Hence this review was to initiate in 2010. According to Art.71.1: The Council shall, having regard to the experience gained in its implementation, review it two years after that date, and at identical intervals thereafter. The Council may also undertake reviews in the light of any relevant new developments, which might warrant modification or amendment of this Agreement. There is a fear that the review may result in an opposite result if developed countries use the opportunity of review to push for TRIPS plus amendments using the second sentence of Article 71.1. However, Para 19 of the Doha Ministerial Declaration clearly defines the mandate of the review. It states, ‘‘The Council may also undertake reviews in the light of any relevant new developments, which might warrant modification or amendment of this Agreement.’’111 However, so far no WTO Member State submitted any proposal in this regard. It is important for developing countries to propose amendment of the compulsory product patent protection in the light of experiences under 20 years of TRIPS Patent Regime. Echoing the same sentiment, the UNDP-appointed Global Commission on HIV and the Law observed the ‘TRIPS has **failed to encourage and reward** the kind of **innovation** that makes more effective pharmaceutical products available to the poor, including for neglected diseases. Countries must, therefore, develop, agree and invest in new systems that genuinely serve this purpose, prioritising the most promising approaches including a new pharmaceutical R&D treaty and the promotion of open source discovery.’112 Further, the Commission recommended that: The UN Secretary-General must convene a neutral, high-level body to review and assess proposals and recommend a new intellectual property regime for pharmaceutical products. Such a regime should be consistent with international human rights law and public health requirements, while safeguarding the justifiable rights of inventors. Such a body should include representation from the High Commissioner on Human Rights, WHO, WTO, UNDP, UNAIDS and WIPO, as well as the Special Rapporteur on the Right to Health, key technical agencies and experts, and private sector and civil society representatives, including people living with HIV. This re-evaluation, based on human rights, should take into account and build on efforts underway at WHO, such as its Global Strategy and Plan of Action on Public Health, Innovation, and Intellectual Property and the work of its Consultative Expert Working Group. Pending this review, the WTO Members **must suspend TRIPS** as it relates to essential **pharmaceutical products** for low- and middle-income countries.113 As part of the implementation of the recommendation UN SecretaryGeneral has established a 16-member High Level Panel on Access to Medicines. This Panel is to review and assess various proposals and make recommendation to ‘‘remedy the policy incoherence between international human rights law and trade rules in the context of access and health technologies.’’114 It is expected to look at a new IP regime, which can ensure both access and innovation as recommended by the Global Commission on HIV/AIDS. The incoherence between trade law and human rights law **cannot be addressed** by using flexibilities in the **TRIPS** Agreement. As long as an international obligation to provide product patent protection for pharmaceutical inventions exists, the above-mentioned incoherence is also to exist. Therefore, it is important to restructure the **TRIPS** and TRIPS plus IP regime, which not only prevent the **access to affordable medicine**, but also failed to deliver access to **R&D needs of developing countries**. There is a need to provide enough policy space for countries to design their patent laws, especially to fulfill their human right obligations on right to health and right to science. Scrapping of the compulsory product patent protection under the TRIPS Agreement is critical to serve this purpose.

#### Global health inequality drives demodernization

Katherine **Hirschfeld 19**, Associate Professor in the University of Oklahoma's Department of Anthropology, “Microbial insurgency: Theorizing global health in the Anthropocene,” October 23rd, 2019, https://journals.sagepub.com/doi/full/10.1177/2053019619882781

Macro-level problems of security and governance also **create geographic barriers** to vaccination and other public health efforts. Armed conflicts in border areas between Uganda and the Democratic Republic of the Congo, for instance, have displaced over 800,000 people and sent refugees into neighboring Rwanda and Burundi (Quinn, 2018). According to one journalist, “insurgents . . . have attacked military personnel, aid workers and civilians and have held priests and government personnel hostage” (McFarland, 2018). Efforts to control Ebola fever in this region have been limited by these logistical and security concerns, and health workers have been forced to suspend operations in some high-risk areas (Fox, 2018). The result has been a slow and steady increase in Ebola cases and deaths, despite the availability of a successful vaccine (Drake, 2019). Unfortunately, the environmental crises of the Anthropocene are likely to create more of these kinds of **turbulent apolitical spaces**: conflict zones under the control of warlords or other armed insurgents competing with one another for monopoly control of illicit extractive industries. There is **no public health** in these spaces because there is no public sector—conflict zones remain within the mapped boundaries of mapped political space, but **beyond the reach of** government **health agencies**. As a result, these regions are vulnerable to **rapid “demodernization**,” including demodernization of health and mortality patterns that may ultimately shift the world’s health patterns **back to an “age of pestilence and famine**.”

#### Demodernization spurs ethnic nationalism and cascading state failure

Yakov **Rabkin 18**, professor emeritus of history at the Université de Montréal, “Undoing Years of Progress,” in “DEMODERNIZATION A Future in the Past,” downloaded via b-ok at https://b-ok.cc/book/3706747/c28b08.

West Asia represents a convincing example of the application of the principle of selective modernization. Israel, the country most closely allied to the United States, was free to modernize its economy and develop sophisticated weapons, including nuclear arms and long-range missiles. In contrast, the most modernized secular states of Iraq and Libya were subjected to direct military operations. Syria, another pole of secularism in the region, was first subverted by means of externally fomented armed conflict and, as noted earlier, subjected to direct military intervention. All these countries suffered substantial damage to their modern infrastructure, which caused qualified professionals to emigrate. Divisions along ethnic and religious lines, **destruction of homes, collapse of social services, mass exodus of** medical **doctors** and other professionals, and **rapid increase in unemployment** reduced populations that were relatively modern, educated, and secular to a more precarious and primitive state **embodying demodernization**. Maintaining religious and **ethnic diversity is an important aspect of modernity** currently under siege. One wonders if the Ottoman order, which ensured autonomy (albeit not formal equality) to the many confessional groups under its aegis, was more modern than its successor states destabilized by Western interventions. Former Ottoman territories that would become Yugoslavia, Egypt, Tunisia, Syria, Iraq, and Libya have suffered from tribal and religious conflict, undermining the basic security of the citizens and the very survival of some of those states. Ethnic **nationalism, tribalism, religious militancy** (or militancy under the banner of religion), and various (economic, social, etc.) kinds of exclusion are **gaining legitimacy**, where once relatively stable multicultural and multiethnic societies used to exist. The effectiveness of external factors of demodernization largely depends on the history of the countries experiencing such pressure. In order to slow down Iran’s modernization, economic sanctions (limitations on importing certain products, on transferring funds, etc.) proved to be effective and forced Iran to abandon modernization of its arsenal in spite of it being encircled by dozens of U.S. military bases. However, they were less effective with respect to Russia, a veteran nuclear power. Nor were sanctions effective against North Korea, which succeeded in producing nuclear weapons and ballistic missiles in spite of severe economic difficulties. Russia and North Korea share a history of mass destruction at the hands of Western forces leading to millions of casualties. This memory may have made their respective populations more resilient and united in the face of foreign threats. Demodernization Gathers Momentum Events in the post-Soviet space constitute an accelerated variant of trends observed in other industrialized countries. The reforms in Russia, the Ukraine, and a few other post-Soviet republics in the 1990s contained many of the same elements, but, in contradistinction to Western democracies, were implemented with lightning speed. These societies experienced historically the most massive and rapid transfer of wealth from the public domain into a few private hands. They led to radical income polarization and an instant formation of a stratum of wealthy businessmen who have since come to be known as “the oligarchs.” This is why it is so instructive to understand the drastic changes that occurred in the former Soviet Union since its dismantlement at the end of 1991. Triumphant capitalism of the turn of the twentieth century appears to have eliminated other forms of social and economic organization: The citizen has been transformed into a consumer while politics has lost its role as a viable domain for individual expression. This depolitization may be more pronounced in Russia, Kazakhstan, and Belarus, but it also characterizes mature liberal democracies. The range of political alternatives is often perceived as so **narrow** as to prevent personal engagement on the part of citizens. Falling rates of election turnout support this perception. Procedurally, democracy may have triumphed in the Ukraine or Iraq, but this hardly bestowed lasting political legitimacy since winners were impotent or reluctant to arrest the demodernization affecting their countries. This partly explains why the territorial integrity of these countries remains fragile. American policies of invasive democratization have largely failed. 3 Democratization by force tends to produce demodernization rather than viable democracy. The effects of current political and economic trends have led some critics to characterize the dominant political system as “**financial totalitarianism**” (Зиновьев 2012). The same word “totalitarianism” can be found in the title of a recent book on petroleum companies (Deneault 2018). These attempts at total control have been facilitated by the culture industry, **heavily concentrated in** the hands of **giant transnational corporations** and long portrayed as exercising totalitarian domination over the masses. Political scientists have consistently shown that in the United States “economic elites and organized groups representing business interests have substantial independent impacts on U.S. government policy, while average citizens have little or no independent influence” (Gilens and Page 2014). This brings to mind Marx’s observation that governments become “the capitalists’ trade union,” their protectors and enablers. Advocates of privatization are usually financial strategists allied with oligopolies in the mining, oil, and gas sectors—those that derive benefit from the extraction of rents. They transformed the financial crisis beginning in 2008 into a public debt crisis, which permitted massive privatization of public enterprises and public services, a reduction of taxes on real estate and financial transactions, as well as deregulation of the economy in areas such as price formation, labor laws, and terms of credit. While in the former USSR, the demodernization of the early 1990s was massive and abrupt, the process has been slower in countries of Western Europe and North America. Inequality, a sure **sign of demodernization, keeps increasing**. In 2017, 82 percent of the wealth generated went to the richest 1 percent while 3.7 billion people who make the poorest part of the world population saw no increase in their income (Oxfam 2018). Economic equality is usually ensured by the availability of public services—pensions and social security, public health, and other elements of infrastructure that used to provide essential services at subsidized prices or free of charge (Oxfam 2014). When these **are undermined**, **demodernization sets in.** It was a true revolution to undo the social achievements of the postwar period. Some trace the impetus of this revolution to an informal memo written by a lawyer later appointed to the Supreme Court by Richard Nixon (The Powell Memo 1971). Whatever the origin, it was this revolution that **produced demodernization**. The extent, shape, and speed of demodernization may vary but its main features presented in this chapter remain largely the same. The chapters that follow will explore this phenomenon in a wide gamut of contexts and periods.

#### Inequality-driven nationalism exacerbates the conditions for nuclear conflict.

Frederick **Solt 11**, Associate Professor, Political Science, University of Iowa. “Diversionary Nationalism: Economic Inequality and the Formation of National Pride.” *The Journal of Politics* 73(3): 821-30. Emory Libraries.

One of the oldest theories of nationalism is that states **instill the nationalist myth** in their citizens to **divert their attention from great economic inequality** and so forestall pervasive unrest. Because the very concept of nationalism obscures the extent of inequality and is a potent tool for delegitimizing calls for redistribution, it is a perfect **diversion**, and states should be expected to engage in more nationalist mythmaking when inequality increases. The evidence presented by this study supports this theory: across the countries and over time, where economic inequality is greater, nationalist sentiments are substantially more widespread. This result adds considerably to our understanding of nationalism. To date, many scholars have focused on the international environment as the principal source of threats that prompt states to generate nationalism; the importance of the domestic threat posed by economic inequality has been largely overlooked. However, at least in recent years, domestic inequality is a **far more important stimulus for the generation of nationalist sentiments** than the international context. Given that **nuclear weapons**—either their own or their allies’—rather than the mass army now serve as the primary defense of many countries against being overrun by their enemies, perhaps this is not surprising: nationalism-inspired mass mobilization is simply no longer as necessary for protection as it once was (see Mearsheimer 1990, 21; Posen 1993, 122–24). Another important implication of the analyses presented above is that growing economic inequality may increase ethnic conflict. States may foment national pride to stem discontent with increasing inequality, but this pride can also lead to more **hostility towards immigrants and minorities**. Though pride in the nation is distinct from chauvinism and outgroup hostility, it is nevertheless closely related to these phenomena, and recent experimental research has shown that members of majority groups who express high levels of national pride can be nudged into intolerant and xenophobic responses quite easily (Li and Brewer 2004). This finding suggests that, by leading to the creation of more national pride, higher levels of inequality produce environments favorable to those who would inflame **ethnic animosities**. Another and perhaps even more worrisome implication regards the **likelihood of war**. Nationalism is frequently suggested as a **cause of war**, and more national pride has been found to result in a much greater demand for national security even at the expense of civil liberties (Davis and Silver 2004, 36–37) as well as preferences for “a more **militaristic foreign affairs posture** and a more interventionist role in world politics” (Conover and Feldman 1987, 3). To the extent that these preferences influence policymaking, the **growth in economic inequality** over the last quarter century should be expected to lead to more aggressive foreign policies and **more international conflict**. If economic inequality prompts states to generate diversionary nationalism as the results presented above suggest, then **rising inequality could make for a more dangerous world**. The results of this work also contribute to our still limited knowledge of the relationship between economic inequality and democratic politics. In particular, it helps explain the fact that, contrary to median-voter models of redistribution (e.g., Meltzer and Richard 1981), democracies with higher levels of inequality do not consistently respond with more redistribution (e.g., Bénabou 1996). Rather than allowing redistribution to be decided through the democratic process suggested by such models, this work suggests that states often respond to higher levels of inequality with more nationalism. Nationalism then works to divert attention from inequality, so many citizens neither realize the extent of inequality nor demand redistributive policies. By prompting states to promote nationalism, greater economic inequality removes the issue of redistribution from debate and therefore narrows the scope of democratic politics.

## 3-Biopiracy

#### WTO TRIPS deepens the global north-south divide and causes biopiracy

Erin Kathleen **Bender 3**, J.D., University of Tulsa College of Law, Tulsa, Oklahoma, May 2004; B.A., summa cum laude, Letters, University of Oklahoma, Norman, Oklahoma, May 2000, “North and South: The WTO, Trips, and the Scourge of Biopiracy,” 9-1-2003,<https://digitalcommons.law.utulsa.edu/cgi/viewcontent.cgi?article=1201&context=tjcil>

However, the United States and Europe have refused to entertain any suggested changes to the TRIPS Agreement. 332 The North is far too **invested in protecting corporate monopoly** interests to consider such changes at this point . 33 As noted above, drug companies largely have not followed the exceptions set forth in Article 27, paragraphs 2 and 3, which allow nations to suspend drug patents when necessary for the protection of human health and life.334 Where they have taken steps, the steps have been minimal, at best. Political pressure to follow all of the TRIPS Agreement, including those sections not as favorable to Northern corporations, would have to be applied. Otherwise, developed countries would be likely to **disregard farmers' rights** provisions, just as they have disregarded the drug patent exception. In short, if any such change is to be accomplished, it must begin with political pressure from the peoples of the U.S. and of the E.U. The people of the North must realize that change in the global system is necessary if we are to live in harmony. The North has long relied upon formal IP systems to promote technology and safeguard trade interests. 336 Patents, in particular, **have proven to be formidable weapons** in pursuing those interests. However, globalization has raised awareness of the near certainty that such systems currently serve to exploit the resources of countries in the South 7 Vandana Shiva expresses these concerns succinctly: Western IPR regimes have **emerged as major instruments of North-South inequality**. Not only do they block technology transfer but [they] also **facilitate piracy of** the **indigenous knowledge and biodiversity** of Third World countries. They could, if not revised and reviewed, make northern countries monopoly owners of knowledge including knowledge that has evolved cumulatively and collectively in indigenous cultures, selling it at high cost to already impoverished and indebted countries of the South, **pushing them further into poverty and debt**.338 As evidenced by Shiva's remarks, the critics of the effects of Northern IP systems take this threat to Southern countries quite seriously. They argue that while proponents of current trade and IP systems profess that their institutions shelter poor countries from unilateral actions by stronger nations, the systems in fact serve to stifle development in the South and ensure the **continued dominance of the North**Y. 3 9 These critics believe that imminent change must take place within the international community, or else **the "very existence of agrarian communities" will be in jeopardy**. 340 Because many Southern countries possess rich biological diversity, and because many rely heavily on agriculture as they struggle to gain a foothold in the growing global market, critics have paid special attention to patent systems and plant varieties protection as tools of Northern conquest.34 ' As the current system is so ingrained, and is so dominated by the U.S., it is largely up to the American people to call 342 for change. Abraham Lincoln, one of the greatest American Presidents, charged us "to do all which may achieve and cherish a just and lasting peace among ourselves and with all nations. In the recent past, the American people have often failed to consider the South when constructing the global scheme.344 After the events of September 11, 2001, many may be tempted to disregard the interests of the South altogether. However, Lincoln's charge holds even more meaning today.345 The United States is currently embroiled in a war with Iraq, and the unrest amongst other Middle Eastern countries is deafening. If the North is to live in peace with the South, everyone's interests must be taken into account. Just as Lincoln charged the U.S. to focus on forgiveness and to look beyond out borders after the Civil War, so must we look beyond our borders to the needs of developing countries as they struggle to find their place in this world that we have created.346

#### Biopiracy causes environmental disaster

James Ming **Chen 13**, Justin Smith Morrill Chair in Law, Michigan State University; Of Counsel, Technology Law Group of Washington, D.C. 5-15-13. “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**.18 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.

#### AND, bioprospecting causes global war over Antarctica

Doaa **Abdel-Motaal 17**, Doaa Abdel-Motaal was Deputy Chief of Staff of the World Trade Organization (WTO) in Switzerland, and advisor to the head of the organization on environmental issues and climate change. She was also Chief of Staff of the United Nations for International Fund for Agricultural Development (IFAD) in Italy. 2-21-2017, "Averting the Battle for Antarctica," Yale Journal, http://yalejournal.org/article\_post/averting-the-battle-for-antarctica/

Various forms of economic activities are gaining ground in Antarctica. Take tourism, for example, which has undergone exponential growth in recent years and is barely regulated by the Antarctic Treaty. In 2013–2014, nearly twenty-eight thousand tourists made landings on the continent, 30 percent of whom were American, 13 percent Australian, and 11 percent Chinese. This represents a doubling since 2000.[xxxii] Or take **bioprospecting** – the exploitation of Antarctica’s **living biological resources**. The discovery and commercialization of **new products** based on Antarctica’s biological riches is starting to **flourish**, similarly under limited treaty regulation.[xxxiii] Fishing activity continues to expand around the continent. In fact, the term ‘illegal, underreported, and unregulated’ fishing was first coined in the Antarctic to describe the plight of the Southern Ocean.[xxxiv] The world was quick to declare CCAMLR a success when, at the end of October 2016, after five years of negotiations, twenty-four countries and the European Union unanimously agreed to create the world’s biggest marine protected area (MPA) in Antarctica’s Ross Sea. But the famed MPA was carved around fishing interests.[xxxv] Iselin Bank, which is the Ross Sea’s main fishing ground for the lucrative Antarctic toothfish, and which is considered the most important ecological hotspot for seabirds and other wildlife, is not protected in the new reserve. Furthermore, about half of the sanctuary was already protected under other CCAMLR rules, with the MPA in that portion simply capturing the status quo. Clearly the MPA is better than nothing, but the widespread claim that it has succeeded in protecting Antarctica’s waters, is grossly exaggerated. In fact, it is not only the Southern Ocean that is suffering from poor environmental governance but Antarctica as a whole. On a continent with no indigenous habitants, where we are told there is no major commercial activity, and where mining is banned it is highly surprising that parties to the Antarctic Treaty would have only designated 1.5 percent of the continent’s ice-free territory as a protected area.[xxxvi] This statistic alone makes Antarctica the world’s least environmentally protected continent. In neighboring Australia, for example, 18 percent of the country has been declared a protected area. If the race for Antarctica continues to accelerate amid such limited governance, its fragile environment will be in serious peril. Triggers for a Bigger Battle So, will there be a bigger battle for Antarctica? The continent’s warming climate is likely to make its resources **more accessible** and its landmass potentially habitable. On March 24, 2015, a temperature of positive 17.5 degrees Celsius was recorded at Esperanza weather station on the northern tip of the Antarctic Peninsula, setting a record for the highest temperature ever recorded on the continent.[xxxvii] Antarctica’s climate experts cannot ascertain whether these changes are due to increased greenhouse gas concentrations since weather stations were only established on the continent in the 1950s. What is clear, however, is that the Antarctic Peninsula in particular is warming. As Antarctica warms and starts to become more habitable, many other parts of the globe will become increasingly uninhabitable. This could increase the **pressure** to develop and exploit the seventh continent. In addition, technological progress is steadily increasing our **ability** to **access** and inhabit Antarctica. In November 2015, the Australian Antarctic Division and Royal Australian Air Force flew a C-17A Globemaster to Antarctica.[xxxviii] The aircraft covered 3,450 kilometers in just over five hours carrying 12,340 kilograms of cargo and equipment, making it the largest aircraft to have reached the Wilkins Aerodrome on the western side of the continent. Opened in 2009, Belgium’s Princess Elizabeth Station, which represents state-of-the-art architecture in Antarctica, has successfully harnessed the power of wind and sun to achieve near-full energy autonomy.[xxxix] Similarly, some research stations in Antarctica are now growing their own food.[xl] **Clearly** the race for Antarctica is **about to intensify** and the world **must prepare itself**. It could be triggered by the rise of even bigger human settlements or the extraction of minerals before or after 2048. If such a conflict occurs, it will be one of the **most complex** and **truly international contests** for habitable space and mineral resources of **modern times.** It will be a battle in which an **entire continent will be up for grabs** and which will take place against the complex history of the ATS and the unresolved “Question of Antarctica.” Peace in Antarctica is **fragile at best**.