## Conceded Extinction first

## Innovation DA

#### Business is booming

Dr. Andrew A. Parsons 17, initially trained as a Pharmacologist and Neuroscientist, Director of Reciprocal Minds Limited & Chairman of Pharmasum Therapeutics AS, an early stage Biotech company, 10/3/17, "From mega-merger to big bang?", Elsevier, Pharma R&D Today, <https://pharma.elsevier.com/pharma-rd/mega-merger-big-bang/>

It was not so long ago that there was a perception that the biopharma industry was consolidating and becoming leaner and more focused in its operations, moving to a regional hotspot model from having central areas of excellence based internally (1). The mega-mergers of the past led to the loss of some famous company names (e.g. Pharmacia, Wyeth, etc.) and a concentration of revenues within the largest of the remaining companies. The nature of the business since 2005 has changed. The market share of the top 10 companies has decreased over time and global revenues are projected to be close to $1 trillion by 2020, with over 60% being held by companies out of the top 10 (1). Meanwhile the nature of innovation is changing as well, with recent history showing increased patent approvals from biotech companies and approvals sourced from Asia (2). Against this backdrop, it is perhaps not so surprising to see that the business model is adapting, too. The source of know-how and drug development skills has evolved, and there has been an explosion of contract research and other organizations over this period. Organizations are managing their infrastructure to reduce costs and increase profits. A consequence of this approach is that organizations are outsourcing many activities that traditionally would have been conducted inside, and their experiences range from being highly successful to those where it did not work so well. In 2012, AstraZeneca entered a long-term strategic relationship with an external provider to deliver a range of preclinical activities, and the relationship has clearly been successful and has developed over the years to provide an integrated process between pharma and contract organizations. The focus on how to operationalize the strategic relationship led to significant process innovations to allow efficient and effective workflows (3). A review of the academic literature identifies five key areas of interest for business collaborations. These include (4): External orientation – openness to share and develop ideas from outside the organization Learning capabilities – to recognize and absorb new opportunities Cluster participation – creating a “footprint” in a technically relevant biocluster where high-quality science attracts an infrastructure for commercial success Qualified business management – access to tacit knowledge of the overall drug discovery and commercialization process Organizational controls – risk management of technical and financial considerations to maximize success This whole biopharma sector appears to be in a “big bang” moment. With increasing numbers of organizations generating revenue from products, the need for technical and risk-management expertise and a geographic shift away from traditional centers of expertise, the total market (including IP generators, commercial specialists and service-based companies) appears to be set for significant and rapid growth. One thing to focus on during this time is how to ensure quality and governance of the system. We can take some learning from the “big bang” identified in the financial markets in 1986, as there are some patterns of boom and bust that we may want to pay attention to. It seems the world might be coming out of a global recession driven by de-regulation of the financial industry and the selling of debt. Perhaps this experience may relate to the biopharma industry? The importance of appropriate regulation and the inclusion of checks and balances into the system might be a good place to start. It is interesting to note that regulators are well aware of the challenges in the system (5). There is a need to adapt to the new types of medicines and business models that are emerging across the industry, and there is a priority for stakeholders to engage in this process sooner than later. One thing we all need to avoid is a rapid implosion of the currently rapidly expanding biopharma universe.

#### TRIPS IP rights are key for innovation

James Bacchus 20, adjunct scholar at CATO, “An Unnecessary Proposal: A WTO Waiver of Intellectual Property Rights for COVID-19 Vaccines,” December 16th, 2020, <https://www.cato.org/free-trade-bulletin/unnecessary-proposal-wto-waiver-intellectual-property-rights-covid-19-vaccines#does-novel-virus-present-novel-issues>

Technically, IP rights are exceptions to free trade. A long‐​standing general discussion in the WTO has been about when these exceptions to free trade should be allowed and how far they should be extended. The continuing debate over IP rights in medicines is only the most emotional part of this overall conversation. Because developed countries have, historically, been the principal sources of IP rights, this lengthy WTO dispute has largely been between developed countries trying to uphold IP rights and developing countries trying to limit them. The debate over the discovery and the distribution of vaccines for COVID-19 is but the latest global occasion for this ongoing discussion. The primary justification for granting and protecting IP rights is that they are incentives for innovation, which is the main source for long‐​term economic growth and enhancements in the quality of human life. IP rights spark innovation by “enabling innovators to capture enough of the benefits of their own innovative activity to justify taking considerable risks.”18 The knowledge from innovations inspired by IP rights spills over to inspire other innovations. The protection of IP rights promotes the diffusion, domestically and internationally, of innovative technologies and new know‐​how. Historically, the principal factors of production have been land, labor, and capital. In the new pandemic world, perhaps an even more vital factor is the creation of knowledge, which adds enormously to “the wealth of nations.” Digital and other economic growth in the 21st century is increasingly ideas‐​based and knowledge intensive. Without IP rights as incentives, there would be less new knowledge and thus less innovation. In the short term, undermining private IP rights may accelerate distribution of goods and services—where the novel knowledge that went into making them already exists. But in the long term, undermining private IP rights would eliminate the incentives that inspire innovation, thus preventing the discovery and development of knowledge for new goods and services that the world needs. This widespread dismissal of the link between private IP rights and innovation is perhaps best reflected in the fact that although the United Nations Sustainable Development Goals for 2030 aspire to “foster innovation,” they make no mention of IP rights.19

#### 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 biotechnology, 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.

#### Future pandemics are going to cause extinction – gut micro bacteria will mutate into deadly diseases which would threaten humanity.

**Diamandis 21** [Diamandis, E. The Mother of All Battles: Viruses vs. Humans. Can Humans Avoid Extinction in 50-100 Years?. Preprints 2021, 2021040397] //DD PT

The recent SARS-CoV-2 pandemic, which is causing COVID 19 disease, has taught us unexpected lessons about the dangers of human extinction through highly contagious and lethal diseases. As the COVID 19 pandemic is now being controlled by various isolation measures, therapeutics and vaccines, it became clear that our current lifestyle and societal functions may not be sustainable in the long term. We now have to start thinking and planning on how to face the next dangerous pandemic, not just overcoming the one that is upon us now. Is there any evidence that even worse pandemics could strike us in the near future and threaten the existence of the human race? The answer is unequivocally yes. It is not necessary to get infected by viruses of bats, pangolins and other exotic animals that live in remote forests in order to be in danger. Creditable scientific evidence indicates that the human gut microbiota harbor billions of viruses which are capable of affecting the function of vital human organs such as the immune system, lung, brain, liver, kidney, heart etc. It is possible that the development of pathogenic variants in the gut can lead to contagious viruses which can cause pandemics, leading to destruction of vital organs, causing death or various debilitating diseases such as blindness, respiratory, liver, heart and kidney failures. These diseases could result in the complete shutdown of our civilization and probably the extinction of human race. In this essay, I will first provide a few independent pieces of scientific facts and then combine this information to come up with some (but certainly not all) hypothetical scenarios that could cause human race misery, even extinction. I hope that these scary scenarios will trigger preventative measures that could reverse or delay the projected adverse outcomes.

## WTO Legit

#### **TURN- WTO legitimacy enables multiple existential crises –rising debt, and economic crises**

Hilary 15 [John Hilary is the Executive Director of War on Want, an organization that works in the UK and with partners around the world to fight poverty and defend human rights, as part of the movement for global justice.] “Want to know how to really tackle climate change? Pull the plug on the World Trade Organisation” <http://www.independent.co.uk/voices/want-to-know-how-to-really-tackle-climate-change-pull-the-plug-on-the-world-trade-organisation-a6774391.html> VM

Yet this grandiose plan soon fell victim to its own ambition. The WTO’s first summit after the launch of the Doha Round collapsed in acrimonious failure. The next was marked by pitched battles in the streets of Hong Kong as riot police fought Asian farmers desperately trying to save their livelihoods from the WTO’s free trade agenda. The WTO slipped into a coma. Government ministers must decide this week whether to turn off its life support. The answer is surely yes. It was the WTO’s poisonous cocktail of trade expansion and market deregulation that led to the economic crisis of 2008. Years of export-led growth resulted in a crisis of overproduction that could only be sustained with mountains of debt. The parallel deregulation of financial services meant that this debt soon turned out to be toxic, and the world’s banking system went into freefall. Nor is the WTO fit for purpose on ecological grounds. If last week’s climate talks in Paris taught us anything, it is that we must rethink the model of ever-expanding production and consumption in order to avoid planetary meltdown. Global capitalism may need limitless expansion in order to survive, but the planet is already at the very limits of what it can take. The choice is ours. Worst of all, it is the WTO’s ideology of unrestricted trade and corporate domination that lies behind all the bilateral trade deals that are proliferating at the moment, including the infamous Transatlantic Trade and Investment Partnership (TTIP). We need a radically different model of regulated trade and controlled investment if we are to have any chance of breaking the cycle of economic and ecological crisis. For the planet to survive, the WTO must die.

### Short---Co2 Ag

#### Climate change is key to food security, solve water scarcity, economic growth, and increased trade

Lamar Smith 17, B.A. in American Studies from Yale University, J.D. from Southern Methodist University, a business and financial writer for the CSM, “Don’t Believe the Hysteria Over Carbon Dioxide”, https://www.dailysignal.com/2017/07/24/dont-believe-hysteria-carbon-dioxide/

The benefits of a changing climate are often ignored and under-researched. Our climate is too complex and the consequences of misguided policies too harsh to discount the positive effects of carbon enrichment. A higher concentration of carbon dioxide in our atmosphere would aid photosynthesis, which in turn contributes to increased plant growth. This correlates to a greater volume of food production and better quality food. Studies indicate that crops would utilize water more efficiently, requiring less water. And colder areas along the farm belt will experience longer growing seasons. While crops typically suffer from high heat and lack of rainfall, carbon enrichment helps produce more resilient food crops, such as maize, soybeans, wheat, and rice. In fact, atmospheric carbon dioxide is so important for plant health that greenhouses often use a carbon dioxide generator to increase production. Besides food production, another benefit of increased carbon dioxide in the atmosphere is the lush vegetation that results. The world’s vegetated areas are becoming 25-50 percent greener, according to satellite images. Seventy percent of this greening is due to a rise in atmospheric carbon dioxide. Greater vegetation assists in controlling water runoff, provides more habitats for many animal species, and even aids in climate stabilization, as more vegetation absorbs more carbon dioxide. When plant diversity increases, these vegetated areas can better eliminate carbon from the atmosphere. Also, as the Earth warms, we are seeing beneficial changes to the earth’s geography. For instance, Arctic sea ice is decreasing. This development will create new commercial shipping lanes that provide faster, more convenient, and less costly routes between ports in Asia, Europe, and eastern North America. This will increase international trade and strengthen the world economy. Fossil fuels have helped raise the standard of living for billions of people. Furthermore, research has shown that regions that have enjoyed a major reduction in poverty achieved these gains by expanding the use of fossil fuels for energy sources. For nations to progress, they need access to affordable energy. Fossil fuels provide the energy necessary to develop affordable food, safe drinking water, and reliable housing for those who have never had it before. Studies indicate that in the U.S. alone, the natural gas industry is responsible for millions of jobs and has increased the wealth of Americans by an average of $1,337. Economic growth as well as greater food production and increased vegetation are just some of the benefits that can result from our changing climate.

#### TURN: Food shortages cause war and go nuclear.

FDI 12 Future Directions International, a Research institute providing strategic analysis of Australia’s global interests; citing Lindsay Falvery, PhD in Agricultural Science and former Professor at the University of Melbourne’s Institute of Land and Environment, “Food and Water Insecurity: International Conflict Triggers & Potential Conflict Points,” http://www.futuredirections.org.au/workshop-papers/537-international-conflict-triggers-and-potential-conflict-points-resulting-from-food-and-water-insecurity.html

There is a growing appreciation thatthe conflicts in the next century willmost likelybe fought over a lack of resources. Yet, in a sense, this is not new. Researchers point to the French and Russian revolutions as conflicts induced by a lack of food**.** More recently, Germany’s World War Two efforts are said to have been inspired, at least in part, by its perceived need to gain access to more **food.** Yet the general sense among those that attended FDI’s recent workshops, was that **the scale of the problem in the future could be** significantly greateras a result of population pressures, changing weather, urbanisation, migration, loss of arable land and other farm inputs, and increased affluence in the developing world. In his book, Small Farmers Secure Food, Lindsay Falvey, a participant in FDI’s March 2012 workshop on the issue of food and conflict, clearly expresses the problem and why countries across the globe are starting to take note. .He writes (p.36), “…if people are hungry, especially in cities, the state is not stable – riots, violence, breakdown of law and order and migration result.”¶ “Hunger feeds anarchy.”¶ This view is also shared by Julian Cribb, who in his book, The Coming Famine, writes that if “large regions of the world run short of food, land or water in the decades that lie ahead, then wholesale, bloody wars are liable to follow.” He continues: “An increasingly credible scenario for World War 3 is not so much a confrontation of super powers and their allies, as afestering**,** self-perpetuatingchainof resource conflicts.” He also says: “The wars of the 21st Century are less likely to be global conflicts with sharply defined sides and huge armies, than a scrappy mass of failed states, rebellions, civil strife, insurgencies, terrorism and genocides, sparked by bloody competition over dwindling resources.”¶ As another workshop participant put it, people do not go to war to kill; they go to war over resources, either to protect or to gain the resources for themselves.¶ Another observed that hunger results in passivity not conflict. Conflict is over resources, not because people are going hungry.¶ A study by the International Peace Research Institute indicates that where food security is an issue, it is more likely to result in some form of conflict.Darfur, Rwanda, Eritrea and the Balkansexperienced such wars. Governments, especially in developed countries, are increasingly aware of this phenomenon.¶ The UK Ministry of Defence, the CIA, theUS Center for Strategic and International Studies and the Oslo Peace Research Institute, all identify famine as a potential trigger for conflicts and possibly even nuclear war

#### No extinction from warming

Seidov 14—Researcher at NOAA and PhD in Geophysics, Fluid Dynamics, and Thermodynamics [Dan, “Are you aware of any peer-reviewed paper that explicitly classifies current global climate change as an existential risk (risk of human extinction)?” Research Gate, 4 Nov 2014, http://tinyurl.com/jrnfafu, accessed 6 Sep 2016]

The current global climate change does not have a potential to cause human extinction. Past severe climate changes were critical for many ancient civilizations, yet our existence proofs that they were not potent enough to cause entire termination of the humankind. The projected changes, even in the worst case scenarios, can cause many dramatic local changes. For example, change in rainfall patterns in agricultural countries may lead to possible famine and other dramatic events. However, any imaginable climate changes based on modern climate science cannot generate existential risks for the entire human civilization. In my view, a paper predicting such a catastrophe in any foreseeable future, at least on the time scale of human civilization, that is, thousands of years, has no chance of being published in any serious research journal.

## Access

### 1NC – Pharma Companies

#### Big pharma companies are now turning to developing countries to distribute drugs for cheap – solvency in squo

**McNeil Jr. 19**[science and health reporter specializing in plagues and pestilences. He covers diseases of the world’s poor and wider epidemics, The New York Times, “Drug Companies Are Focusing on the Poor After Decades of Ignoring Them”, June 24, 2019, <https://www.nytimes.com/2019/06/24/health/drugs-poor-countries-africa.html>] DD MN

Nearly **20 million Africans are now on H.I.V. treatment — for less than $100 a year. Top-quality drugs for malaria, tuberculosis,**[**hepatitis C**](https://www.nytimes.com/2015/12/16/health/hepatitis-c-treatment-egypt.html)[**and some cancers**](https://www.nytimes.com/2017/10/07/health/africa-cancer-drugs.html)**are now sold at rock-bottom prices in poor countries.**

Once demonized as immoral profiteers, many of **the world’s biggest 20 pharmaceutical companies now** boast about how they **help poor countries and fight neglected diseases**. They [compete](https://www.globenewswire.com/news-release/2018/11/20/1654460/0/en/Novartis-rises-to-second-place-in-2018-Access-to-Medicine-Index.html) on the Access to Medicine Index,[which scores their charitable efforts](https://accesstomedicinefoundation.org/access-to-medicine-index/2018-ranking).

**Several** of them even **cooperate with the Indian generics companies** they once dismissed as “pirates” **by sub-licensing patents so the generics makers can produce cheap drugs for Africa, Asia and Latin America.**

But there is still opportunity for growth. Most of the industry’s remarkable progress [is limited to a few companies, and their efforts are too reliant on donor dollars](https://accesstomedicinefoundation.org/news/new-study-from-the-foundation-analyses-10-years-of-data-on-pharma-companies-and-access-to-medicine), according to a report issued last month by the Access to Medicine Foundation, which publishes the index, and interviews with experts.

## Biopiracy

#### No environment impact – tipping points are wrong and we don’t need biodiversity to survive

Barry Brook 15, PhD in Population Viability Analysis and Conservation Biology @ Macquarie University, Australian Laureate Professor and Chair of Environmental Sustainability at the University of Tasmania, former Director of Climate Science at the Environment Institute, “The Limits of Planetary Boundaries 2.0,” 16 January 2015, https://bravenewclimate.com/2015/01/16/the-limits-of-planetary-boundaries-2-0/

Steffen et al (2015) revise the “planetary boundaries framework” initially proposed in 2009 as the “safe limits” for human alteration of Earth processes(Rockstrom et al 2009). Limiting human harm to environments is a major challenge and we applaud all efforts to increase the public utility of global-change science. Yet the planetary boundaries (PB) framework – in its original form and as revised by Steffen et al – obscures rather than clarifies the environmental and sustainability challenges faced by humanity this century. Steffen et al concede that “not all Earth system processes included in the PB have singular thresholds at the global/continental/ocean basin level.” Such processes include biosphere integrity (see Brook et al 2013), biogeochemical flows, freshwater use, and land-system change. “Nevertheless,” they continue, “it is important that boundaries be established for these processes.” Why? Where a global threshold is unknown or lacking, there is no scientifically robust way of specifying such a boundary – determining a limit along a continuum of environmental change becomes a matter of guesswork or speculation (see e.g. Bass 2009;Nordhaus et al 2012). For instance, the land-system boundary for temperate forest is set at 50% of forest cover remaining. There is no robust justification for why this boundary should not be 40%, or 70%, or some other level. While the stated objective of the PB framework is to “guide human societies” away from a state of the Earth system that is “less hospitable to the development of human societies”, it offers little scientific evidence to support the connection between the global state of specific Earth system processes and human well-being. Instead, the Holocene environment (the most recent 10,000 years) is assumed to be ideal. Yet most species evolved before the Holocene and the contemporary ecosystems that sustain humanity are agroecosystems, urban ecosystems and other human-altered ecosystems that in themselves represent some of the most important global and local environmental changes that characterize the Anthropocene. Contrary to the authors’ claim that the Holocene is the “only state of the planet that we know for certain can support contemporary human societies,” the human-altered ecosystems of the Anthropocene represent the only state of the planet that we know for certain can support contemporary civilization. Human alteration of environments produces multiple effects, some advantageous to societies, such as enhanced food production, and some detrimental, like environmental pollution with toxic chemicals, excess nutrients and carbon emissions from fossil fuels, and the loss of wildlife and their habitats. The key to better environmental outcomes is not in ending human alteration of environments but in anticipating and mitigating their negative consequences. These decisions and trade-offs should be guided by robust evidence, with global-change science investigating the connections and tradeoffs between the state of the environment and human well-being in the context of the local setting, rather than by framing and reframing environmental challenges in terms of untestable assumptions about the virtues of past environments. Even without specifying exact global boundaries, global metrics can be highly misleading for policy. For example, with nitrogen, where the majority of human emissions come from synthetic fertilizers, the real-world challenge is to apply just the right amount of nitrogen to optimize crop yields while minimizing nitrogen losses that harm aquatic ecosystems. Reducing fertilizer application in Africa might seem beneficial globally, yet the result in this region would be even poorer crop yields without any notable reduction in nitrogen pollution; Africa’s fertilizer use is already suboptimal for crop yields. What can look like a good or a bad thing globally can prove exactly the opposite when viewed regionally and locally. What use is a global indicator for a local issue? As in real estate, location is everything.