## 1

#### Interpretation: affirmative debaters must delineate their enforcement mechanism by which they reduce in the 1AC.

#### There is no normal means since terms are negotiated contextually among member states.

WTO "Whose WTO is it anyway?" <https://www.wto.org/english/thewto_e/whatis_e/tif_e/org1_e.htm> //Elmer

**When WTO rules impose disciplines** on countries’ policies, that is the outcome of negotiations among WTO members. The rules are **enforced** **by** the **members themselves** under agreed procedures that they negotiated, including the possibility of trade sanctions. But those sanctions are imposed by member countries, and authorized by the membership as a whole. This is quite different from other agencies whose bureaucracies can, for example, influence a country’s policy by threatening to withhold credit.

#### Negate:

#### 1] Shiftiness- they can redefine what measure of reduction the 1ac defends in the 1ar which decks strategy and allows them to wriggle out of negative positions which strips the neg of specific politics DAs, process CPs, innovation DAs and case answers. They will always win on specificity weighing.

#### CX can’t resolve this and is bad because A] Not flowed B] Skews 6 min of prep C] They can lie and no way to check D] Debaters can be shady.

#### 2] Real World- policy makers will always specify what the object of change is. That outweighs since debate has no value without portable application. It also means zero solvency since the WTO, absent spec, can circumvent aff’s policy since they can say they didn’t know how to enforce it.

#### This spec shell isn’t regressive- it literally determines how the affirmative implements and who it affects

#### Fairness is an impact –

#### 1] probability – your ballot can’t solve their impacts but it can solve mine – debate can’t alter subjectivity, but can rectify skews in this round

#### 2] internal link turns every impact – a limited topic promotes in-depth research and engagement which is necessary to access all of their education

#### 3] comes before substance – deciding any other argument in this debate cannot be disentangled from our inability to prepare for it – any argument you think they’re winning is a link, not a reason to vote for them, since it’s just as likely that they’re winning it because we weren’t able to effectively prepare to defeat it. This means they don’t get to weigh the aff and proves you should be epistemically suspect of their truth claims.

#### No impact turns or RVIs

#### [1] Perfcon – if T’s bad and you vote for them on that arg, you’re voting on T.

#### [2] Substance – if T’s bad then we should try debating on substance – impact turns force me to go for T since I need to defend my position.

#### Theory is competing interps – a) reasonability is arbitrary and so is any brightline they set, b) norming – competing interps causes a race to the top where we find the best possible norm for debate instead of setting a brightline and testing how abusive we can be without violating.

#### Drop the debater on T – a) indicts the aff advocacy so drop the argument would be dropping the aff anyways, b) deter future abuse and set good norms.

## 2

#### The standard is minimizing death:

#### 1] Death is bad and outweighs – a] agents can’t act if they fear for their bodily security which constrains every ethical theory, b] it destroys the subject itself – kills any ability to achieve value in ethics since life is a prerequisite which means it’s a side constraint since we can’t reach the end goal of ethics without life

#### 2] Extinction outweighs

MacAskill 14 [William, Oxford Philosopher and youngest tenured philosopher in the world, Normative Uncertainty, 2014]

The human race might go extinct from a number of causes: asteroids, supervolcanoes, runaway climate change, pandemics, nuclear war, and the development and use of dangerous new technologies such as synthetic biology, all pose risks (even if very small) to the continued survival of the human race.184 And different moral views give opposing answers to question of whether this would be a good or a bad thing. It might seem obvious that human extinction would be a very bad thing, both because of the loss of potential future lives, and because of the loss of the scientific and artistic progress that we would make in the future. But the issue is at least unclear. The continuation of the human race would be a mixed bag: inevitably, it would involve both upsides and downsides. And if one regards it as much more important to avoid bad things happening than to promote good things happening then one could plausibly regard human extinction as a good thing.For example, one might regard the prevention of bads as being in general more important that the promotion of goods, as defended historically by G. E. Moore,185 and more recently by Thomas Hurka.186 One could weight the prevention of suffering as being much more important that the promotion of happiness. Or one could weight the prevention of objective bads, such as war and genocide, as being much more important than the promotion of objective goods, such as scientific and artistic progress. If the human race continues its future will inevitably involve suffering as well as happiness, and objective bads as well as objective goods. So, if one weights the bads sufficiently heavily against the goods, or if one is sufficiently pessimistic about humanity’s ability to achieve good outcomes, then one will regard human extinction as a good thing.187 However, even if we believe in a moral view according to which human extinction would be a good thing, we still have strong reason to prevent near-term human extinction. To see this, we must note three points. First, we should note that the extinction of the human race is an extremely high stakes moral issue. Humanity could be around for a very long time: if humans survive as long as the median mammal species, we will last another two million years. On this estimate, the number of humans in existence in the The future, given that we don’t go extinct any time soon, would be 2×10^14. So if it is good to bring new people into existence, then it’s very good to prevent human extinction. Second, human extinction is by its nature an irreversible scenario. If we continue to exist, then we always have the option of letting ourselves go extinct in the future (or, perhaps more realistically, of considerably reducing population size). But if we go extinct, then we can’t magically bring ourselves back into existence at a later date. Third, we should expect ourselves to progress, morally, over the next few centuries, as we have progressed in the past. So we should expect that in a few centuries’ time we will have better evidence about how to evaluate human extinction than we currently have. Given these three factors, it would be better to prevent the near-term extinction of the human race, even if we thought that the extinction of the human race would actually be a very good thing. To make this concrete, I’ll give the following simple but illustrative model. Suppose that we have 0.8 credence that it is a bad thing to produce new people, and 0.2 certain that it’s a good thing to produce new people; and the degree to which it is good to produce new people, if it is good, is the same as the degree to which it is bad to produce new people, if it is bad. That is, I’m supposing, for simplicity, that we know that one new life has one unit of value; we just don’t know whether that unit is positive or negative. And let’s use our estimate of 2×10^14 people who would exist in the future, if we avoid near-term human extinction. Given our stipulated credences, the expected benefit of letting the human race go extinct now would be (.8-.2)×(2×10^14) = 1.2×(10^14). Suppose that, if we let the human race continue and did research for 300 years, we would know for certain whether or not additional people are of positive or negative value. If so, then with the credences above we should think it 80% likely that we will find out that it is a bad thing to produce new people, and 20% likely that we will find out that it’s a good thing to produce new people. So there’s an 80% chance of a loss of 3×(10^10) (because of the delay of letting the human race go extinct), the expected value of which is 2.4×(10^10). But there’s also a 20% chance of a gain of 2×(10^14), the expected value of which is 4×(10^13). That is, in expected value terms, the cost of waiting for a few hundred years is vanishingly small compared with the benefit of keeping one’s options open while one gains new information.

#### 3] Evolutionary analysis proves offensive realism.

Johnson and Thayer 16 – Dominic D. P. Johnson, D.Phil., Ph.D.\* and Bradley A. Thayer, Ph.D., “The evolution of offensive realism Survival under anarchy from the Pleistocene to the present,” https://www.cambridge.org/core/services/aop-cambridge-core/content/view/56B778004187F70B8E59609BE7FEE7A4/S073093841600006Xa.pdf/div-class-title-the-evolution-of-offensive-realism-div.pdf

Few principles unite the discipline of international relations, but one exception is anarchy—the absence of government in international politics. Anarchy is, ironically, the ‘‘ordering’’ principle of the global state system and the starting point for most major theories of international politics, such as neoliberalism and neorealism.42,43,44,45 Other theoretical approaches, such as constructivism, also acknowledge the impact of anarchy, even if only to consider why anarchy occurs and how it can be circumvented.46,47 Indeed, the anarchy concept is so profound that it defines and divides the discipline of political science into international politics (politics under conditions of anarchy) and domestic politics (politics under conditions of hierarchy, or government). Given the prominence of the concept in present-day international relations theory, it is striking that anarchy only took hold as a central feature of scholarship in recent decades, since the publication of Kenneth Waltz’s Theory of International Politics in 1979. In fact, however, **anarchy has been a constant feature of the entire multimillion year history of the human lineage (and indeed the 3.5 billion–year history of the evolution of all life on Earth before that). It is not just that we lack a global Leviathan today; humans never had such a luxury. The fact that human evolution occurred under conditions of anarchy, that we evolved as hunter-gatherers in an ecological setting of predation, resource competition, and intergroup conflict, and that humans have been subject to natural selection** for millions of years **has profound consequences for understanding human behavior**, not least how humans perceive and act toward others. Scholars often argue over whether historically humans experienced a Hobbesian ‘‘state of nature,’’ but—whatever the outcome of that debate—it is certainly a much closer approximation to the prehistoric environment in which human brains and behavior evolved. **This legacy heavily influences our decision-making and behavior today, even—perhaps especially—in the anarchy of international politics**. We argue that **evolution under conditions of anarchy has predisposed human nature toward the behaviors predicted by offensive realism: Humans**, particularly men, **are strongly self-interested, often fear other groups, and seek more resources, more power, and more influence** (as we explain in full later). **These strategies** are not unique to humans and, in fact, **characterize a much broader trend in behavior among mammals as a whole—especially primates**—as well as many other major vertebrate groups, including birds, fish, and reptiles. **This recurrence of behavioral patterns** across different taxonomic groups **suggests that the behaviors characterized by offensive realism have broad and deep evolutionary roots**. This perspective does not deny the importance of institutions, norms, and governance in international politics. On the contrary, it provides or adds to the reasons why we demand and need them, and indeed why they are so hard to establish and maintain. Until recently, **international relations theorists rarely used insights from the life sciences to inform their understanding of human behavior**. However, **rapid advances in the life sciences offer increasing theoretical and empirical challenges to scholars in** the social sciences in general and **international relations** in particular, who are therefore under increasing pressure to address and integrate this knowledge rather than to suppress or ignore it. Whatever one’s personal views on evolution, **the time has come to explore the implications of evolutionary theory for mainstream theories of international relations**. **The most obvious challenge that evolutionary theory presents to international relations concerns our understanding of human nature**. Theories purporting to explain human behavior make explicit or implicit assumptions about preferences and motivations, and mainstream theories in international politics are no exception. Many **criticisms of international relations theories focus on these unsubstantiated or contested assumptions about underlying human nature. The parsimony of general theories depends on how well they explain phenomena across space and time**; in other words, the more closely they coincide with empirical observations across cultures and throughout history. The most enduring theories of international relations, therefore, will be ones that are able to incorporate (or at least do not run against the grain of) evolutionary theory. Although Thomas Hobbes claimed to have deduced Leviathan scientifically from ‘‘motion’’ and the physical senses, he was writing two hundred years before Darwin and so had no understanding of evolution. International relations scholars have tended to claim to deduce their own theories from Hobbes, or subsequent philosophers who followed him, and we suggest it is time to revisit the idea of foundational scientific principles. **Starting with biology, or with human evolutionary history, has never been typical in international relations scholarship**, but this approach is now less exotic than it once seemed as innovators in a range of social sciences, including economics, psychology, sociology, and political science, pursue this line of inquiry. **International relations stands to gain from** similar **interdisciplinary insights**. At the dawn of the 21st century, an era that will be dominated by science at least as much as philosophy, **we have the opportunity to move away from untested assumptions about human nature. Instead, we can make more concrete predictions about how humans tend to think and act in different conditions, based on new scientific knowledge about human cognition** and behavior, **and in particular a greater understanding of the social and ecological context in which human brains and behaviors evolved**. But what was that context?

#### 4]Youth participatory action research enables *transformative resistance* and is crucial to make activism work

Cammarota and Fine 08

(Julio, Education@Arizona, Michelle, UrbanEducation@TheGraduateCenterNYU, *Youth Participatory Action Research*

In the Matrix, Morpheus, played by Laurence Fishburne, places Keanu Reeves’ character Neo in a chair to tell him face to face about the real truth of his experience. Morpheus shows Neo a red pill in one hand and a blue one in the other, describing that the red pill will lead him “down the rabbit hole” to the truth while the blue pill will make him forget about their conversation and return everything back to “normal.” Neo looks confused and worried, hesitates for a moment, and then reaches to grab and then swallow the red pill. " e “blue and red pill” scene in ! e Matrix serves as an excellent metaphor for the relationships some educators/activists have with their students, and the kinds of choices we ask them to make. The critical educational experience offered might lead the student “down the rabbit hole” past the layers of lies to the truths of systematic exploitation and oppression as well as possibilities for resistance. A$ er he ingests the red pill, Neo ends up in the place of truth, awakening to the reality that his entire world is a lie constructed to make him believe that he lives a “normal” life, when in reality he is fully exploited day in and day out. What is “normal” is really a mirage, and what is true is the complete structural domination of people, all people. " is book, Revolutionizing Education, literally connects to the metaphorical play on chimera and veracity forwarded by the narrative in ! e Matrix. Examples are presented throughout in which young people resist the 1 normalization of systematic oppression by undertaking their own engaged praxis—critical and collective inquiry, re% ection and action focused on “reading” and speaking back to the reality of the world, their world (Freire, 1993). The praxis highlighted in the book—youth participatory action research (YPAR)—provides young people with opportunities to study social problems affecting their lives and then determine actions to rectify these problems. YPAR, and thus Revolutionizing Education, may extend the kinds of questions posed by critical youth studies (Bourgois, 1995; Fine and Weis, 1998; Giroux, 1983; Kelley, 1994; Macleod, 1987; McRobbie, 1991; Oakes et al., 2006; Rasmussen et al., 2004; Sullivan, 1989; Willis, 1977). How do youth learn the skills of critical inquiry and resistances within formal youth development, research collectives, and/or educational settings? How is it possible for their critical inquiries to evolve into formalized challenges to the “normal” practices of systematic oppression? Under what conditions can critical research be a tool of youth development and social justice work? The Matrix infers revolution by showing how Neo learns to see the reality of his experiences while understanding his capabilities for resistance. " e YPAR cases presented in this book also follow a similar pattern: young people learn through research about complex power relations,histories of struggle, and the consequences of oppression. They begin to re- vision and denaturalize the realities of their social worlds and then undertake forms of collective challenge based on the knowledge garnered through their critical inquiries. As you will read in this volume, the youth, with adult allies, have written policy briefs, engaged sticker campaigns, performed critical productions, coordinated public testimonials—all dedicated to speaking back and challenging conditions of injustice. What perhaps distinguishes young people engaged in YPAR from the standard representations in critical youth studies is that their research is designed to contest and transform systems and institutions to produce greater justice—distributive justice, procedural justice, and what Iris Marion Young calls a justice of recognition, or respect. In short, YPAR is a formal resistance that leads to transformation—systematic and institutional change to promote social justice. YPAR teaches young people that conditions of injustice are produced, not natural; are designed to privilege and oppress; but are ultimately challengeable and thus changeable. In each of these projects, young people and adult allies experience the vitality of a multi- generational collective analysis of power; we learn that sites of critical inquiry and resistance can be fortifying and nourishing to the soul, and at the same time that these projects provoke ripples of social change. YPAR shows young people how they are consistently subject to the impositions and manipulations of domi-nant exigencies. These controlling interests may take on the form of white supremacy, capitalism, sexism, homophobia, or xenophobia—all of which is meant to provide certain people with power at the expense of subordinating others, many others. Within this matrix or grid of power, the possibilities of true liberation for young people become limited. Similar to the film the Matrix, the individual, like Neo, may be unaware of the infections of power fostering oppression. The dawning of awareness emerges from a critical study of social institutions and processes in influencing one’s life course, and his/her capacity to see differently, to act anew, to provoke change. Critical youth studies demonstrate that the revolutionary lesson is not always apprehended in schools; sometimes, young people gain critical awareness through their own endogenous cultural practices. Such is the case of Willis’ (1977) Lads in Learning to Labor. Working- class youth attain insights about the reproductive function of schools through their own street cultural sensibilities. However, they use these insights to resist education en masse by forgoing school for jobs in factories. Scholars (Fine, 1991; Solórzano and Delgado- Bernal, 2001) identify this form of resistance as “self- defeating,” because the students’ choice to forgo school for manual labor contributes to reproducing them as working class. Although the Lads resist the school’s purpose of engendering uneven class relations, their resistance contributes to this engendering process by undermining any chance they had for social mobility. Young people also engage in forms of resistance that avoid self- defeating outcomes while striving for social advancement. Scholars (Fordham, 1996) identify this next level of resistance as “conformist”—in the sense that young people embrace the education system with the intention of seeking personal gains, although not necessarily agreeing with all the ideological ! ligree espoused by educational institutions. " ey use schooling for their own purposes: educational achievements that garner individual gains with social implications beyond the classroom, such as economic mobility, gender equality, and racial parity. Solórzano and Delgado- Bernal (2001: 319–20) contend that students may attain another, yet more conscious form of resistance, which they call “transformational resistance.” A transformational approach to resistance moves the student to a “deeper level of understanding and a social justice orientation.” Those engaged in transformational resistance address problems of systematic injustice and seek actions that foster “the greatest possibility for social change” (ibid.). Although Solórzano and Delgado- Bernal (2001) provide a useful typology (self- defeating, conformist, and transformational) that acknowledges the complexities of resistance, the education and development processes leading to resistances are somewhat under- discussed. Apparently, the production of cultural subjectivities (Bourgois, 1995; Levinson et al., 1996; Willis, 1977) is related to resisting ideological oppressions. However, these cultural productions tend to occur in more informal settings (non- institutional, non- organizational) such as peer groups, families, and street corners. The work presented in this volume agitates toward another framework— where youth are engaged in multi- generational collectives for critical inquiry and action, and these collectives are housed in youth development settings, schools, and/or research sites. With this series of cases, we challenge scholars, educators, and activists to consider how to create such settings in which research for resistance can be mobilized toward justice. A key question is whether resistance can develop within formal proces ses (pedagogical structures or youth development practices). If this question is left $ unattended, we risk perceiving youth resistances as “orientations” as opposed to processes. In other words, the kinds of resistances, whether self- defeating, conformist, or transformational, will be identified as emerging from some inherent fixxed, cultural sensibility. This perspective of young people sustains the ridged essentialization trap that has plagued studies of youth for years (Anderson, 1990; Newman, 1999; Ogbu, 1978). The traditional essentialized view maintains that any problem (poverty, educational failure, drug and alcohol abuse, etc.) faced by youth results of their own volition, thereby blaming the victim for the victim’s problems. Critical youth studies goes beyond the traditional pathological or patronizing view by asserting that young people have the capacity and agency to analyze their social context, to engage critical research collectively, and to challenge and resist the forces impeding their possibilities for liberation. However, another step is needed to further distance critical youth studies from essentialized perspectives by acknowledging that resistances can be attained through formal processes in “real” settings, through multi- generational collectives, and sometimes among youth alone. YPAR represents not only a formal pedagogy of resistance but also the means by which young people engage transformational resistance. (1-4)

## 3

#### Pharma innovation high now – monetary incentive is the biggest factor.

**Swagel 21** Phillip L. Swagel, Director of the Congressional budget office 4-xx-2021, "Research and Development in the Pharmaceutical Industry," Congressional Budget Office, <https://www.cbo.goc/publication/57126#_idTextAnchor020> SJ//DA

**Every year, the U.S. pharmaceutical industry develops a variety of new drugs that provide valuable medical benefits. Many of those drugs are expensive and contribute to rising health care costs for the private sector and the federal government. Policymakers have considered policies that would lower drug prices and reduce federal drug expenditures. Such policies would probably reduce the industry’s incentive to develop new drugs.** In this report, the Congressional Budget Office assesses trends in spending for drug research and development (R&D) and the introduction of new drugs. CBO also examines factors that determine how much drug companies spend on R&D: expected global revenues from a new drug; cost to develop a new drug; and federal policies that affect the demand for drug therapies, the supply of new drugs, or both. What Are Recent Trends in Pharmaceutical R&D and New Drug Approvals? T**he pharmaceutical industry devoted $83 billion to R&D expenditures in 2019. Those expenditures covered a variety of activities, including discovering and testing new drugs, developing incremental innovations such as product extensions, and clinical testing for safety-monitoring or marketing purposes. That amount is about 10 times what the industry spent per year in the 1980s, after adjusting for the effects of inflation.** The share of revenues that drug companies devote to R&D has also grown: **On average, pharmaceutical companies spent about one-quarter of their revenues (net of expenses and buyer rebates) on R&D expenses** in 2019, which is **almost twice as large a share of revenues as they spent in 2000.** That revenue share is larger than that for other knowledge-based industries, such as semiconductors, technology hardware, and software. The number of new drugs approved each year has also grown over the past decade. On averace, the Food and Drug Administration (FDA) approved 38 new drugs per year from 2010 through 2019 (with a peak of 59 in 2018), which is 60 percent more than the yearly average over the previous decade. **Many of the drugs that have been approved in recent years are “specialty drugs.” Specialty drugs generally treat chronic, complex, or rare conditions, and they may also require special handling or monitoring of patients**. Many specialty drugs are biologics (large-molecule drugs based on living cell lines), **which are costly to develop, hard to imitate, and frequently have high prices.** Previously, most drugs were small-molecule drugs based on chemical compounds. Even while they were under patent, those drugs had lower prices than recent specialty drugs have. Information about the kinds of drugs in current clinical trials indicates that much of the industry’s innovative activity is focused on specialty drugs that would provide new cancer therapies and treatments for nervous-system disorders, such as Alzheimer’s disease and Parkinson’s disease. **What Factors Influence Spending for R&D?** Drug companies’ R&D spending decisions depend on three main factors: Anticipated lifetime global revenues from a new drug, **Expected costs to develop a new drug**, and Policies and programs that influence the supply of and demand for prescription drugs. Various considerations inform companies’ expectations about a drug’s revenue stream, including the anticipated prices it could command in different markets around the world and the expected global sales volume at those prices (given the number of people who might use the drug). The prices and sales volumes of existing drugs provide information about consumers’ and insurance plans’ willingness to pay for drug treatments. Importantly, when drug companies set the prices of a new drug, they do so to maximize future revenues net of manufacturing and distribution costs. A drug’s sunk R&D costs—that is, the costs already incurred in developing that drug—do not influence its price. **Developing new drugs is a costly and uncertain process, and many potential drugs never make it to market. Only about 12 percent of drugs entering clinical trials are ultimately approved for introduction by the FDA. In recent studies, estimates of the average R&D cost per new drug range from less than $1 billion to more than $2 billion per drug**. Those estimates include the costs of both laboratory research and clinical trials of successful new drugs as well as expenditures on drugs that do not make it past the laboratory-development stage, that enter clinical trials but fail in those trials or are withdrawn by the drugmaker for business reasons, or that are not approved by the FDA. Those estimates also include the company’s capital costs—the value of other forgone investments—incurred during the R&D process. Such costs can make up a substantial share of the average total cost of developing a new drug. The development process often takes a decade or more, and during that time the company does not receive a financial return on its investment in developing that drug. The federal government affects R&D decisions in three ways. First, it increases demand for prescription drugs, which encourages new drug development, by fully or partially subsidizing the purchase of prescription drugs through a variety of federal programs (including Medicare and Medicaid) and by providing tax preferences for employment-based health insurance. Second, the federal government increases the supply of new drugs. It funds basic biomedical research that provides a scientific foundation for the development of new drugs by private industry. Additionally, tax credits—both those available to all types of companies and those available to drug companies for developing treatmentscof uncommon diseases—provide incentives to invest in R&D. Similarly, deductions for R&D investment can be used to reduce tax liabilities immediately rather than over the life of that investment. Finally, the patent system and certain statutory provisions that delay FDA approval of generic drugs provide pharmaceutical companies with a period of market exclusivity, when competition is legally restricted. During that time, they can maintain higher prices on a patented product than they otherwise could, which makes new drugs more profitable and thereby increases drug companies’ incentives to invest in R&D. Third, some federal policies affect the number of new drugs by influencing both demand and supply. For example, federal recommendations for specific vaccines increase the demand for those vaccines and provide an incentive for drug companies to develop new ones. Additionally, federal regulatory policies that influence returns on drug R&D can bring about increases or decreases in both the supply of and demand for new drugs. Trends in R&D Spending and New Drug Development Private spending on pharmaceutical R&D and the approval of new drugs have both increased markedly in recent years, resuming a decades-long trend that was interrupted in 2008 as generic versions of some top-selling drugs became available and as the 2007–2009 recession occurred. **In particular, spending on drug R&D increased by nearly 50 percent between 2015 and 2019.** Many of the drugs approved in recent years are high-priced specialty drugs for relatively small numbers of potential patients. By contrast, the top-selling drugs of the 1990s were lower-cost drugs with large patient populations. R&D Spending R&D spending in the pharmaceutical industry covers a variety of activities, including the following: Invention, or research and discovery of new drugs; Development, or clinical testing, preparation and submission of applications for FDA approval, and design of production processes for new drugs; Incremental innovation, including the development of new dosages and delivery mechanisms for existing drugs and the testing of those drugs for additional indications; Product differentiation, or the clinical testing of a new drug against an existing rival drug to show that the new drug is superior; and Safety monitoring, or clinical trials (conducted after a drug has reached the market) that the FDA may require to detect side effects that may not have been observed in shorter trials when the drug was in development. In real terms**, private investment in drug R&D among member firms of the Pharmaceutical Research and Manufacturers of America (PhRMA), an industry trade association, was about $83 billion in 2019, up from about $5 billion in 1980 and $38 billion in 2000**.1 Although those spending totals do not include spending by many smaller drug companies that do not belong to PhRMA, the trend is broadly representative of R&D spending by the industry as a whole.2 A survey of all U.S. pharmaceutical R&D spending (including that of smaller firms) by the National Science Foundation (NSF) reveals similar trends.3 Although total R&D spending by all drug companies has trended upward, small and large firms generally focus on different R&D activities. **Small companies not in PhRMA devote a greater share of their research to developing and testing new drugs,** many of which are ultimately sold to larger firms (see Box 1). By contrast, a greater portion of the R&D spending of larger drug companies (including those in PhRMA) is devoted to conducting clinical trials, developing incremental “line extension” improvements (such as new dosages or delivery systems, or new combinations of two or more existing drugs), and conducting postapproval testing for safety-monitoring or marketing purposes.

#### The aff crushes innovation in the pharma sector---incentivizes them to focus on non-important issues.

Glassman 21 [Amanda; 5/6/21; Executive vice president and a senior fellow at the Center for Global Development, a nonpartisan, nonprofit think tank in Washington and London; “*Big Pharma Is Not the Tobacco Industry*,” Barron, <https://www.barrons.com/articles/big-pharma-is-not-the-tobacco-industry-51620315693>] Justin

But here is the crux of the problem: The pharmaceutical industry is not the tobacco industry. They are not merchants of death. The companies are amoral and exist to make money, but their business is not fundamentally immoral. Big Pharma (mostly) develops and sells products that people need to survive and thrive. Their products improve health and welfare. Fights over access to medicines are possible because medicines exist in the first place—medicines that were usually developed by Big Pharma. And yes, the pharmaceutical industry benefits from public subsidy and publicly financed foundational research. But the companies also put their own capital at risk to develop new products, some of which offer enormous public benefits. In fact, several of them did just that in the pandemic: invested their own money to develop patented manufacturing technologies in record time. Those technologies are literally saving the world right now. Public funding supported research and development, but companies also brought their own proprietary ingenuity and private investments to bear toward solving the world’s singular, collective challenge. Their reward should be astronomical given the insane scale of the health and economic benefits these highly efficacious vaccines produce every day. Market incentives sent a clear signal that further needed innovation—greater efficacy, single doses, more-rapid manufacturing, updated formulations, fast boosters, and others—would be richly rewarded. Market incentives could also have been used to lubricate supply lines and buy vaccines on behalf of the entire world; with enough money, incredible things can happen. But activist lobbying to waive patents—a move the Biden administration endorsed yesterday—sends exactly the opposite signal. It says that the most important, valuable innovations will be penalized, not rewarded. It tells innovators, don’t bother attacking the most important global problems; instead, throw your investment dollars at the next treatment for erectile disfunction, which will surely earn you a steady return with far less agita. It is worth going back to first principles. What problem are we trying to solve? We have highly efficacious vaccines that we would like to get out to the entire world as quickly as possible to minimize, preventable disease and deaths address atrocious inequities, and enable the reopening of society, trade, and commerce. Hundreds of millions of people have been plunged into poverty over the past year; in the developing world, the pandemic is just getting started. What is the quickest way to get this done? Vaccine manufacturing is not just a recipe; if you attack and undermine the companies that have the know-how, do you really expect they’ll be eager to help you set up manufacturing elsewhere? Is the plan to march into Pfizer and force its staff to redeploy to Costa Rica to build a new factory? Do the U.S. administration or activists care that this decision could take years to negotiate at the World Trade Organization, and will likely be litigated for years thereafter? Does it make sense to eliminate the incentive for private companies to invest in vaccine R&D or in the response to the next health emergency? And if the patent waiver is only temporary and building a factory takes months or years, will anyone bother to do so, even if they could? No, none of it makes sense. Worse still, we could solve the policy problem more easily by harnessing market incentives for the global good by ponying up cash to vaccinate the entire world. No confiscation necessary.

#### Pharma Innovation prevents Extinction – checks new diseases.

Engelhardt 8, H. Tristram. Innovation and the pharmaceutical industry: critical reflections on the virtues of profit. M & M Scrivener Press, 2008 (doctorate in philosophy (University of Texas at Austin), M.D. (Tulane University), professor of philosophy (Rice University), and professor emeritus at Baylor College of Medicine)

Many are suspicious of, or indeed jealous of, the good fortune of others. Even when profit is gained in the market without fraud and with the consent of all buying and selling goods and services, there is a sense on the part of some that something is wrong if considerable profit is secured. There is even a sense that good fortune in the market, especially if it is very good fortune, is unfair. One might think of such rhetorically disparaging terms as "wind-fall profits". There is also a suspicion of the pursuit of profit because it is often embraced not just because of the material benefits it sought, but because of the hierarchical satisfaction of being more affluent than others. The pursuit of profit in the pharmaceutical and medical-device industries is tor many in particular morally dubious because it is acquired from those who have the bad fortune to be diseased or disabled. Although the suspicion of profit is not well-founded, this suspicion is a major moral and public-policy challenge. Profit in the market for the pharmaceutical and medical-device industries is to be celebrated. This is the case, in that if one is of the view (1) that the presence of additional resources for research and development spurs innovation in the development of pharmaceuticals and med-ical devices (i.e., if one is of the view that the allure of **profit is one of the most effective ways not only to acquire resources but productively to direct human energies** in their use), (2) that given the limits of altruism and of the willingness of persons to be taxed, the possibility of profits is necessary to secure such resources, (3) that the allure of profits also tends to enhance the creative use of available resources in the pursuit of phar-maceutical and medical-device innovation, and (4) if one judges it to be the case that such innovation is both necessary to maintain the human species in an ever-changing and always dangerous environment in which new microbial and other threats may at any time emerge to threaten human well-being, if not survival (i.e., that such innovation is necessary to prevent increases in morbidity and mortality risks), as well as (5) in order generally to decrease morbidity and mortality risks in the future, it then follows (6) that one should be concerned regarding any policies that decrease the amount of resources and energies available to encourage such innovation. One should indeed be of the view that the possibilities for profit, all things being equal, should be highest in the pharmaceutical and medical-device industries. Yet, there is a suspicion regarding the pursuit of profit in medicine and especially in the pharmaceutical and medical-device industries.

#### Pharma spills-over – has cascading global impacts that are necessary for human survival.

NAS 8 National Academy of Sciences 12-3-2008 “The Role of the Life Sciences in Transforming America's Future Summary of a Workshop” //Re-cut by Elmer

Fostering Industries to Counter Global Problems The life sciences have applications in areas that range far beyond human health. Life-science based approaches could **contribute to advances in** many industries, from energy production and pollution remediation, to clean manufacturing and the production of new biologically inspired materials. In fact, biological systems could provide the basis for new products, services and industries that we cannot yet imagine. Microbes are already producing biofuels and could, through further research, provide a major component of future energy supplies. Marine and terrestrial organisms extract carbon dioxide from the atmosphere, which suggests that biological systems could be used to help manage climate change. Study of the complex systems encountered in biology is decade, it is really just the beginning.” Advances in the underlying science of plant and animal breeding have been just as dramatic as the advances in genetic can put down a band of fertilizer, come back six months later, and plant seeds exactly on that row, reducing the need for fertilizer, pesticides, and other agricultural inputs. Fraley said that the global agricultural system needs to adopt the goal of doubling the current yield of **crops while reducing key inputs like pesticides, fertilizers, and water** by one third. “It is more important than putting a man on the moon,” he said. Doubling agricultural yields would “change the world.” Another billion people will join the middle class over the next decade just in India and China as economies continue to grow. And all people need and deserve secure access to food supplies. Continued progress will require both basic and applied research, The evolution of life “put earth under new management,” Collins said. Understanding the future state of the planet will require understanding the biological systems that have shaped the planet. Many of these biological systems are found in the oceans, which cover 70 percent of the earth’s surface and have a crucial impact on weather, climate, and the composition of the atmosphere. In the past decade, new tools have become available to explore the microbial processes that drive the **chemistry of the oceans**, observed David Kingsbury, Chief Program Officer for Science at the Gordon and Betty Moore Foundation. These technologies have revealed that a large proportion of the planet’s genetic diversity resides in the oceans. In addition, many organisms in the oceans readily exchange genes, creating evolutionary forces that can have global effects. The oceans are currently under great stress, Kingsbury pointed out. Nutrient runoff from agriculture is helping to create huge and expanding “dead zones” where oxygen levels are too low to sustain life. Toxic algal blooms are occurring with higher frequency in areas where they have not been seen in the past. Exploitation of ocean resources is disrupting ecological balances that have formed over many millions of years. Human-induced changes in the chemistry of the atmosphere are changing the chemistry of the oceans, with potentially catastrophic consequences. “If we are not careful, we are not going to have a sustainable planet to live on,” said Kingsbury. Only by understanding the basic biological processes at work in the oceans can humans live sustainably on earth.

## Case

### 1NC- TL

The ROTB & J is to determine whether the post-fiat impacts of the Aff policy are good – otherwise it moots 7 mins of NC offense killing fairness – which o/w – determines engagement for real world solutions and comparing their theory of power to the real world is the only way to pedagogically measure if it is a good idea since our reps are tied to our consequences.

#### \*\*Tech thought is inevitable – at worst neg on presumption

Kateb, professor of politics – Princeton, ’97 (George, <http://findarticles.com/p/articles/mi_m2267/is_/ai_19952031>)

But the question arises as to where a genuine principle of limitation on technological endeavor would come from. It is scarcely conceivable that Western humanity--and by now most of humanity, because of their pleasures and interests and their own passions and desires and motives--would halt the technological project. Even if, by some change of heart, Western humanity could adopt an altered relation to reality and human beings, how could it be enforced and allowed to yield its effects? The technological project can be stopped only by some global catastrophe that it had helped to cause or was powerless to avoid. Heidegger's teasing invocation of the idea that a saving remedy grows with the worst danger is useless. In any case, no one would want the technological project halted, if the only way was a global catastrophe. Perhaps even the survivors would not want to block its reemergence. As for our generation and the indefinite future, many of us are prepared to say that there are many things we wish that modern science did not know or is likely to find out and many things we wish that modern technology did not know how to do. When referring in 1955 to the new sciences of life, Heidegger says We do not stop to consider that an attack with technological means is being prepared upon the life and nature of man compared with which the explosion of the hydrogen bomb means little. For precisely if the hydrogen bombs do not explode and human life on earth is preserved, an uncanny change in the world moves upon us (1966, p. 52). The implication is that it is less bad for the human status or stature and for the human relation to reality that there be nuclear destruction than that (what we today call) genetic engineering should go from success to success. To such lengths can a mind push itself when it marvels first at the passions, drives, and motives that are implicated in modern technology, and then marvels at the feats of technological prowess. The sense of wonder is entangled with a feeling of horror. We are past even the sublime, as conceptualized under the influence of Milton's imagination of Satan and Hell. It is plain that so much of the spirit of the West is invested in modern technology. We have referred to anger, alienation, resentment. But that cannot be the whole story. Other considerations we can mention include the following: a taste for virtuosity, skill for its own sake, an enlarged fascination with technique in itself, and, along with these, an aesthetic craving to make matter or nature beautiful or more beautiful; and then, too, sheer exhilaration, a questing, adventurous spirit that is reckless, heedless of danger, finding in obstacles opportunities for self-overcoming, for daring, for the very sort of daring that Heidegger praises so eloquently when in 1935 he discusses the Greek world in An Introduction to Metaphysics (1961, esp. pp. 123-39). All these considerations move away from anger, anxiety, resentment, and so on. The truth of the matter, I think, is that the project of modern technology, just like that of modern science, must attract a turbulence of response. The very passions and drives and motives that look almost villainous or hypermasculine simultaneously look like marks of the highest human aspiration, or, at the least, are not to be cut loose from the highest human aspiration.

#### \*\*Tech is good and inevitable – you’re biased toward pessimism which disproves their thesis. Rejecting engagement makes it worse

Reinhart 18 [Will Rinehart is Director of Technology and Innovation Policy at the American Action Forum, where he specializes in telecommunication, Internet, and data policy, with a focus on emerging technologies and innovation. Rinehart previously worked at TechFreedom, where he was a Research Fellow. He was also previously the Director of Operations at the International Center for Law & Economics. In Defense of Techno-optimism. <https://techliberation.com/2018/10/10/in-defense-of-techno-optimism/>]

Many are understandably pessimistic about platforms and technology. This year has been a tough one, from Cambridge Analytica and Russian trolls to the implementation of GDPR and data breaches galore.

Those who think about the world, about the problems that we see every day, and about their own place in it, will quickly realize the immense frailty of humankind. Fear and worry makes sense. We are flawed, each one of us. And technology only seems to exacerbate those problems.

But life is getting better. Poverty continues nose-diving; adult literacy is at an all-time high; people around the world are living longer, living in democracies, and are better educated than at any other time in history. Meanwhile, the digital revolution has resulted in a glut of informational abundance, helping to correct the informational asymmetries that have long plagued humankind. The problem we now face is not how to address informational constraints, but how to provide the means for people to sort through and make sense of this abundant trove of data. These macro trends don’t make headlines. Psychologists know that people love to read negative articles. Our brains are wired for pessimism.

In the shadow of a year of bad news, it helpful to remember that Facebook and Google and Reddit and Twitter also support humane conversations. Most people aren’t going online to talk about politics and if you are, then you are rare. These sites are places where families and friends can connect. They offer a space of solace – like when chronic pain sufferers find others on Facebook, or when widows vent, rage, laugh and cry without judgement through the Hot Young Widows Club. Let’s also not forget that Reddit, while sometimes a place of rage and spite, is also where a weight lifter with cerebral palsy can become a hero and where those with addiction can find healing. And in the hardest to reach places in Canada, in Iqaluit, people say that “Amazon Prime has done more toward elevating the standard of living of my family than any territorial or federal program. Full stop. Period” Three-fourths of Americans say major technology companies’ products and services have been more good than bad for them personally. But when it comes to the whole of society, they are more skeptical about technology bringing benefits. Here is how I read that disparity: Most of us think that we have benefited from technology, but we worry about where it is taking the human collective. That is an understandable worry, but one that shouldn’t hobble us to inaction. Nor is technology making us stupid. Indeed, quite the opposite is happening. Technology use in those aged 50 and above seems to have caused them to be cognitively younger than their parents to the tune of 4 to 8 years. While the use of Google does seem to reduce our ability to recall information, studies find that it has boosted other kinds of memory, like retrieving information. Why remember a fact when you can remember where it is located? Concerned how audiobooks might be affecting people, Beth Rogowsky, an associate professor of education, compared them to physical reading and was surprised to find “no significant differences in comprehension between reading, listening, or reading and listening simultaneously.” Cyberbullying and excessive use might make parents worry, but NIH supported work found that “Heavy use of the Internet and video gaming may be more a symptom of mental health problems than a cause. Moderate use of the Internet, especially for acquiring information, is most supportive of healthy development.” Don’t worry. The kids are going to be alright.

And yes, there is a lot we still need to fix. There is cruelty, racism, sexism, and poverty of all kinds embedded in our technological systems. But the best way to handle these issues is through the application of human ingenuity. Human ingenuity begets technology in all of its varieties.

When Scott Alexander over at Star Slate Codex recently looked at 52 startups being groomed by startup incubator Y Combinator, he rightly pointed out that many of them were working for the betterment of all:

Thirteen of them had an altruistic or international development focus, including Neema, an app to help poor people without access to banks gain financial services; Kangpe, online health services for people in Africa without access to doctors; Credy, a peer-to-peer lending service in India; Clear Genetics, an automated genetic counseling tool for at-risk parents; and Dost Education, helping to teach literacy skills in India via a $1/month course.

Twelve of them seemed like really exciting cutting-edge technology, including CBAS, which describes itself as “human bionics plug-and-play”; Solugen, which has a way to manufacture hydrogen peroxide from plant sugars; AON3D, which makes 3D printers for industrial uses; Indee, a new genetic engineering system; Alem Health, applying AI to radiology, and of course the obligatory drone delivery startup. Eighteen of them seemed like boring meat-and-potatoes companies aimed at businesses that need enterprise data solution software application package analytics targeting management something something something “the cloud”. As for the other companies, they were the kind of niche products that Silicon Valley has come to be criticized for supporting. Perhaps the Valley deserves some criticism, but perhaps it deserves more credit than it’s been receiving as-of-late.

Contemporary tech criticism displays a kind of anti-nostalgia. Instead of being reverent for the past, anxiety for the future abounds. In these visions, the future is imagined as a strange, foreign land, beset with problems. And yet, to quote that old adage, tomorrow is the visitor that is always coming but never arrives. The future never arrives because we are assembling it today. We need to work diligently together to piece together a better world. But if we constantly live in fear of what comes next, that future won’t be built. Optimism needn’t be pollyannaish. It only needs to be hopeful of a better world.

#### \*\*Technoliberalism’s assertion of the rights-bearing progressive human vs the non-human subject results in colonial civilizing missions of humanitarianism that destroys value to life and always seeks to extend liberal futurity and incorporate otherness

Atanasoski and Vora 19, Neda, and Kalindi Vora. "Surrogate humanity: Posthuman networks and the (racialized) obsolescence of labor." Catalyst: Feminism, Theory, Technoscience 1.1 (2019). Race, Robots, and the Politics of Techological Futures (Neda Atanasoski is Professor of Feminist Studies and Critical Race and Ethnic Studies at the University of California, Santa Cruz. Kalindi Vora is Associate Professor of Gender, Sexuality and Women's Studies at UC Davis, and Director of the Feminist Research Institute)//Elmer

**The Campaign to Stop Killer Robots Debates about killer robots conceptualize an ethics and a politics of life and death in the face of technological challenges to the bounds of the human**. Yet, **as we argue here, the presumption of an impossible morality for the killer robot in human rights discourses follows from the internationally sanctioned distinction between humane and inhumane, as well as human and inhuman, forms of violence undergirding the temporality of the surrogate effect as the racial grammar of the global human rights regime and its technoliberal updates**.26 **Killer robots bring into crisis how violence constitutes the human against the nonhuman, subsuming the racialized and gendered epistemologies of prior affirmations of authorized violence. Legitimated violence has ranged in its end goals from colonial “civilizing” or “humanizing” occupation to humanitarian intervention.27 International law permits certain forms of imperial and state violence unleashed upon populations whose full humanity has always been suspect. The idea that killer robots represent a radical break in how violence is defined \\**

#### \*\*No tech accidents, no algorithmic arms race.

Michael Shermer 17. Publisher of Skeptic magazine, a monthly columnist for Scientific American, and a Presidential Fellow at Chapman University. 04/2017. “Why Artificial Intelligence Is Not an Existential Threat.” Skeptic, vol. 22, no. 2, pp. 29–35.

Why AI is not an Existential Threat First, most AI doomsday prophecies are grounded in the false analogy between human nature and computer nature, or natural intelligence and artificial intelligence. We are thinking machines, but natural selection also designed into us emotions to shortcut the thinking process because natural intelligences are limited in speed and capacity by the number of neurons that can be crammed into a skull that has to pass through a pelvic opening at birth, whereas artificial intelligence need not be so restricted. We don't need to compute the caloric value of foods, for example, we just feel hungry. We don't need to calculate the waist-to-hip ratio of women or the shoulder-to-waist ratio of men in our quest for genetically healthy potential mates; we just feel attracted to someone and mate with them. We don't need to work out the genetic cost of raising someone else's offspring if our mate is unfaithful; we just feel jealous. We don't need to figure the damage of an unfair or non-reciprocal exchange with someone else; we just feel injustice and desire revenge. Emotions are proxies for getting us to act in ways that lead to an increase in reproductive success, particularly in response to threats faced by our Paleolithic ancestors. Anger leads us to strike out, fight back, and defend ourselves against danger. Fear causes us to pull back, retreat, and escape from risks. Disgust directs us to push out, eject, and expel that which is bad for us. Computing the odds of danger in any given situation takes too long. We need to react instantly. Emotions shortcut the information processing power needed by brains that would otherwise become bogged down with all the computations necessary for survival. Their purpose, in an ultimate causal sense, is to drive behaviors toward goals selected by evolution to enhance survival and reproduction. AIs -- even AGIs and ASIs -- will have no need of such emotions and so there would be no reason to program them in unless, say, terrorists chose to do so for their own evil purposes. But that's a human nature problem, not a computer nature issue. To believe that an ASI would be "evil" in any emotional sense is to assume a computer cognition that includes such psychological traits as acquisitiveness, competitiveness, vengeance, and bellicosity, which seem to be projections coming from the mostly male writers who concoct such dystopias, not features any programmer would bother including, assuming that it could even be done. What would it mean to program an emotion into a computer? When IBM's Deep Blue defeated chess master Garry Kasparov in 1997, did it feel triumphant, vengeful, or bellicose? Of course not. It wasn't even "aware" -- in the human sense of self-conscious knowledge -- that it was playing chess, much less feeling nervous about possibly losing to the reigning world champion (which it did in the first tournament played in 1996). In fact, toward the end of the first game of the second tournament, on the 44th move, Deep Blue made a legal but incomprehensible move of pushing its rook all the way to the last row of the opposition side. It accomplished nothing offensively or defensively, leading Kasparov to puzzle over it out of concern that he was missing something in the computer's strategy. It turned out to be an error in Deep Blue's programming that led to this fail-safe default move. It was a bug that Kasparov mistook as a feature, and as a result some chess experts contend it led him to be less confident in his strategizing and to second-guess his responses in the subsequent games. It even led him to suspect foul play and human intervention behind Deep Blue, and this paranoia ultimately cost him the tournamentt.[ 13] Computers don't get paranoid, the HAL 9000 computer in 2001 notwithstanding. Or consider Watson, the IBM computer built by David Ferrucci and his team of IBM research scientists tasked with designing an AI that could rival human champions at the game of Jeopardy! This was a far more formidable challenge than Deep Blue faced because of the prerequisite to understand language and the often multiple meanings of words, not to mention needing an encyclopedic knowledge of trivia (Watson had access to Wikipedia for this). After beating the all-time greatest Jeopardy! champions Ken Jennings and Brad Rutter in 2011, did Watson feel flushed with pride after its victory? Did Watson even know that it won Jeopardy!? I put the question to none other than Ferrucci himself at a dinner party in New York in conjunction with the 2011 Singularity Summit. His answer surprised me: "Yes, Watson knows it won Jeopardy!" I was skeptical. How could that be, since such self-awareness is not yet possible in computers? "Because I told it that it won," he replied with a wry smile. Sure, and you could even program Watson or Deep Blue to vocalize a Howard Dean-like victory scream when it wins, but that is still a far cry from a computer feeling triumphant. This brings to mind the "hard problem" of consciousness -- if we don't understand how this happens in humans, how could we program it into computers? As Steven Pinker elucidated in his answer to the 2015 Edge Question on what to think about machines that think, "AI dystopias project a parochial alpha-male psychology onto the concept of intelligence. They assume that superhumanly intelligent robots would develop goals like deposing their masters or taking over the world." It is equally possible, Pinker suggests, that "artificial intelligence will naturally develop along female lines: fully capable of solving problems, but with no desire to annihilate innocents or dominate the civilization."[ 14] So the fear that computers will become emotionally evil are unfounded, because without the suite of these evolved emotions it will never occur to AIs to take such actions against us. What about an ASI inadvertently causing our extinction by turning us into paperclips, or tiling the entire Earth's surface with solar panels? Such scenarios imply yet another emotion -- the feeling of valuing or wanting something. As the science writer Michael Chorost adroitly notes, when humans resist an AI from undertaking any form of global tiling, it "will have to be able to imagine counteractions and want to carry them out." Yet, "until an AI has feelings, it's going to be unable to want to do anything at all, let alone act counter to humanity's interests and fight off human resistance." Further, Chorost notes, "the minute an A.I. wants anything, it will live in a universe with rewards and punishments -- including punishments from us for behaving badly. In order to survive in a world dominated by humans, a nascent A.I. will have to develop a humanlike moral sense that certain things are right and others are wrong. By the time it's in a position to imagine tiling the Earth with solar panels, it'll know that it would be morally wrong to do so."[ 15] From here Chorost builds on an argument made by Peter Singer in The Expanding Circle (and Steven Pinker in The Better Angels of Our Nature[ 16] that I also developed in The Moral Arc[ 17] and Robert Wright explored in Nonzero[ 18]), and that is the propensity for natural intelligence to evolve moral emotions that include reciprocity, cooperativeness, and even altruism. Natural intelligences such as ours also includes the capacity to reason, and once you are on Singer's metaphor of the "escalator of reason" it can carry you upward to genuine morality and concerns about harming others. "Reasoning is inherently expansionist. It seeks universal application," Singer notes.[ 19] Chorost draws the implication: "AIs will have to step on the escalator of reason just like humans have, because they will need to bargain for goods in a human-dominated economy and they will face human resistance to bad behavior."[ 20] Finally, for an AI to get around this problem it would need to evolve emotions on its own, but the only way for this to happen in a world dominated by the natural intelligence called humans would be for us to allow it to happen, which we wouldn't because there's time enough to see it coming. Bostrom's "treacherous turn" will come with road signs ahead warning us that there's a sharp bend in the highway with enough time for us to grab the wheel. Incremental progress is what we see in most technologies, including and especially AI, which will continue to serve us in the manner we desire and need. Instead of Great Leap Forward or Giant Fall Backward, think Small Steps Upward. As I proposed in The Moral Arc, instead of Utopia or dystopia, think protopia, a term coined by the futurist Kevin Kelly, who described it in an Edge conversation this way: "I call myself a protopian, not a Utopian. I believe in progress in an incremental way where every year it's better than the year before but not by very much -- just a micro amount."[ 21] Almost all progress in science and technology, including computers and AI, is of a protopian nature. Rarely, if ever, do technologies lead to either Utopian or dystopian societies. Pinker agrees that there is plenty of time to plan for all conceivable contingencies and build safeguards into our AI systems. "They would not need any ponderous 'rules of robotics' or some newfangled moral philosophy to do this, just the same common sense that went into the design of food processors, table saws, space heaters, and automobiles." Sure, an ASI would be many orders of magnitude smarter than these machines, but Pinker reminds us of the AI hyperbole we've been fed for decades: "The worry that an AI system would be so clever at attaining one of the goals programmed into it (like commandeering energy) that it would run roughshod over the others (like human safety) assumes that AI will descend upon us faster than we can design fail-safe precautions. The reality is that progress in AI is hype-defyingly slow, and there will be plenty of time for feedback from incremental implementations, with humans wielding the screwdriver at every stage."[ 22] Former Google CEO Eric Schmidt agrees, responding to the fears expressed by Hawking and Musk this way: "Don't you think the humans would notice this, and start turning off the computers?" He also noted the irony in the fact that Musk has invested $1 billion into a company called OpenAI that is "promoting precisely AI of the kind we are describing."[ 23] Google's own DeepMind has developed the concept of an AI off-switch, playfully described as a "big red button" to be pushed in the event of an attempted AI takeover. "We have proposed a framework to allow a human operator to repeatedly safely interrupt a reinforcement learning agent while making sure the agent will not learn to prevent or induce these interruptions," write the authors Laurent Orseau from DeepMind and Stuart Armstrong from the Future of Humanity Institute, in a paper titled "Safely Interruptible Agents." They even suggest a precautionary scheduled shutdown every night at 2 AM for an hour so that both humans and AI are accustomed to the idea. "Safe interruptibility can be useful to take control of a robot that is misbehaving and may lead to irreversible consequences, or to take it out of a delicate situation, or even to temporarily use it to achieve a task it did not learn to perform or would not normally receive rewards for this."[ 24] As well, it is good to keep in mind that artificial intelligence is not the same as artificial consciousness. Thinking machines may not be sentient machines. Finally, Andrew Ng of Baidu responded to Elon Musk's ASI concerns by noting (in a jab at the entrepreneur's ambitions for colonizing the red planet) it would be "like worrying about overpopulation on Mars when we have not even set foot on the planet yet."[ 25] Both Utopian and dystopian visions of AI are based on a projection of the future quite unlike anything history has given us. Yet, even Ray Kurzweil's "law of accelerating returns," as remarkable as it has been has nevertheless advanced at a pace that has allowed for considerable ethical deliberation with appropriate checks and balances applied to various technologies along the way. With time, even if an unforeseen motive somehow began to emerge in an AI we would have the time to reprogram it before it got out of control. That is also the judgment of Alan Winfield, an engineering professor and co-author of the Principles of Robotics, a list of rules for regulating robots in the real world that goes far beyond Isaac Asimov's famous three laws of robotics (which were, in any case, designed to fail as plot devices for science fictional narratives).26 Winfield points out that all of these doomsday scenarios depend on a long sequence of big ifs to unroll sequentially: "If we succeed in building human equivalent AI and if that AI acquires a full understanding of how it works, and if it then succeeds in improving itself to produce super-intelligent AI, and if that super-AI, accidentally or maliciously, starts to consume resources, and if we fail to pull the plug, then, yes, we may well have a problem. The risk, while not impossible, is improbable."[ 27]

#### \*\*Impact to Cybernetics is hype and links to their K of insecurity driven politics - no motive, probability, enemy, or real capability

Adams 18 – Ph.D. in Computer Engineering from Virginia Polytechnic Institute and State University, Retired US Army Colonel, Associate Professor responsible for USMA’s cyber defense [Joe, Chief Information Officer of the National Defense University where he built an Information Assurance program that was recognized in 2010 by the Commanding General of the Defense Information Systems Agency and he introduced cloud services into NDU and led coordination with other DoD academic institutions as they moved to the cloud., Feb 7, THE MYTH OF A CYBER PEARL HARBOR, <https://cyberbydesign.net/2018/02/07/lorem-ipsum-is-simply-dummy-text-of-the-printing-and-typesetting-2/>, accessed 5/17/18]

The specter of a “Cyber Pearl Harbor” is kicked around the media frequently, usually riding the tides of Federal budget debates. This month, I’ll throw my ideas about the prospect of a catastrophic cyber attack into the mix. Many alarmists have talked about a massive cyber attack crippling the nation. Scenarios range from hackers shutting down the power grid in the depths of winter to attackers crippling strategic port facilities. Former Secretary of Defense Panetta swung for the fences when he described how a cyber-capable enemy could lay waste to the country. His speech was intended to bring attention to the issue and, presumably, aid the Defense Department’s efforts to gain Congress’ backing for the increase in cyber security funding. Although many of these Doomsday scenarios are technically feasible, the probability of them occurring is less likely than advertised

### 1NC- Turns

#### Disasters Turn - Algorithmic data is key to natural disaster response - the alternative is global atrocities

John Karlsrud 14, Senior Research Fellow and Manager of the Training for Peace programme at NUPI, Peacekeeping 4.0: Harnessing the Potential of Big Data, Social Media, and Cyber Technologies, in “Cyberspace and International Relations: Theory, Prospects and Challenges,” https://www.researchgate.net/profile/Hakan\_Mehmetcik/publication/285282612\_A\_New\_Way\_of\_Conducting\_War\_Cyberwar\_Is\_That\_Real/links/5c63f67d45851582c3e47db7/A-New-Way-of-Conducting-War-Cyberwar-Is-That-Real.pdf

Brought together, the data can enable international organizations to follow and possibly prevent evolving situations and crises. This potential has been recognized; and, following the financial crisis, the UN Secretary-General created UN Global Pulse to explore opportunities for using real-time data to gain a more accurate understanding of population wellbeing, especially related to the impacts of global crises. The availability of real-time data holds great promise for helping us detect the early signs of stress on vulnerable populations. It represents an unprecedented opportunity to track the human impacts of crises as they unfold, and to get real-time feedback on how well policy responses are working (UN Global Pulse 2012b). As such, research undertaken by UN Global Pulse, notably though its networks of country-level “Pulse Labs,” may give the UN a better ability to follow, respond to and mitigate the impact of natural disasters and complex crises. However, more than 90 % of the information will be unstructured, potentially rich in useful information. Turning structured and unstructured information into actionable data requires efficient ways of structuring and analyzing the information in real time in a data ecosystem (WEF 2010, p. 4). This process is often called “reality mining” (UN Global Pulse 2012a, p. 18; Eagle and Pentland 2006) or “data mining”—discovering patterns in large data sets (Cheshire 2011; Helbing and Balietti 2012). So, how can the UN and other multilateral actors make use of this data? Cooperation has been initiated with Google and other large corporations that are at the forefront in harvesting actionable data from the “data deluge” (The Economist 2010b). Concurrently with this development, the digital divide is closing at an increasing speed. According to the World Bank, 44.9 out of every 100 people in subSaharan Africa had a mobile subscription in 2010 (World Bank 2012a), and by 2016 this figure will reach 91.3 (Portio Research 2012), although the high number may mask persons have more than one subscription. The percentage of population with access to internet is also increasing (World Bank 2012b). This means that the amount of both structured and unstructured data that can be analyzed and can inform multilateral efforts for conflict prevention and international security is increasing rapidly and can give a more even and realistic picture of the situation in question. However, there is a need to be realistic. There is great variance in the access to data between countries such as Syria and the Democratic Republic of Congo, and many have more than one mobile subscription to strengthen their resilience against patchy networks. Other co-influencing factors are the rapid spread of 3G networks in developing countries and affordable smart phones at prices down to $50 or less (Jidenma 2011). There is also a current global mega-trend of access to the internet through mobile devices: “in a world where there are 6.3 bn mobile users and 2.3 bn internet users, the default access mode to broadband services is mobile” (Ulf Ewaldsson, Ericsson, quoted in ITU 2012a). According to the International Telecommunication Union, “the ubiquitous mobile phone provides an important foundation for the uptake of mobilebased Internet [in the developing world]. With the majority of countries worldwide having launched 3G mobile-broadband services, the prospects are promising” (ITU 2012b, p. 39, Evans 2012). In the areas of conflict prevention, humanitarian action, and development, the UN has made some initial steps. But what then is the situation in the areas of peacekeeping and peacebuilding? Unfortunately, little progress has been made so far. Notwithstanding the inclusion of surveillance drones in one peacekeeping mission, the development of Joint Mission Analysis Cells and Joint Operations Centres (which I will return to in the next section), the use of mobile phones in community alert networks in eastern Congo, and the heightened focus on the strategic planning and coordination capacity of peacekeeping and peacebuilding operations, much work remains before peacekeeping operations can be said to be tapping the potential of big data, social media, and cyber-technology effectively, entering the age of “Peacekeeping 4.0.” The good part of this story is that much work already has been undertaken in the similar and parallel fields of conflict prevention, humanitarian action and development. Many lessons from these fields could easily be imported, while other innovative approaches can be accessed through increased cooperation and coordination. Accomplishing this will require overcoming various bureaucratic hurdles and turfism, driven by support from engaged member states and the Secretary-General. Finally, the uptake of digital information in the planning of UN peace operations may also have implications for how the interaction between the UN, member states and civil society is theorized. IR theorists have increasingly underscored the importance of civil society actors as potential norm entrepreneurs (Keck and Sikkink 1998), and more recent research looking at the relationship between media and international organizations emphasize the potential role civil society and new technology can play in democratizing the access to information, but also the potential for groups spreading disinformation and incite hatred. This chapter will seek to explore what chances the availability of Big Data and new technologies offer for peacekeeping and as well as inherent challenges. The chapter proceeds as follows: First, I narrow in on some key initiatives in the areas of conflict prevention, humanitarian action, and development that can be relevant to peacekeeping. The following section provides a short background on peacekeeping and its evolution from the end of the Cold War until present, noting some of the steps taken to date. Thirdly, I discuss some of the challenges and opportunities facing policymakers, and relate these to the area of peacekeeping in particular. Finally, the chapter sums up and offers some recommendations for policymakers among member states, in the UN, and among civil society, as well as pointing out areas in need of further research, to enable the UN to enter the era of fourth generation peacekeeping—“Peacekeeping 4.0.” 2 Cyberization of Conflict Prevention, Humanitarian Action, and Development The age of Big Data and social media has dawned on the fields of humanitarian activity, social activism, and development. Here the application of big data and social media has advanced a great deal further than in the areas of peacekeeping and peacebuilding, particularly among civil society organizations (CSOs) and other independent actors. One of these initiatives is Ushahidi. Ushahidi is a “web based reporting system that utilizes crowdsourced data to formulate visual map information of a crisis on a real-time basis” (Ushahidi 2012a). Ushahidi, which means “testimony” in Swahili, was originally a website established after the election violence in Kenya in 2008 to map incidents of violence (Ushahidi 2012b). Using crowdsourcing as a method means that everyone with access to common digital communication channels can contribute data.1 The data can be provided via text messages, email, twitter and web-forms. One recent example is Syria Tracker—a website set up to monitor violent incidents involving civilians in Syria: “Syria Tracker is a crowdsourced effort developed by individuals concerned about the harm inflicted upon civilians in Syria” (Syria Tracker 2012). Ushahidi and Syria Tracker are part of a tendency of “how non-state actors are increasingly collaborating online to tackle issues traditionally managed by governments” (Leson 2012). Also in the area of monitoring and evaluation, internet platforms are being established to ease the sharing and coordination of information. One example is the ActivityInfo website established by UNICEF, OCHA, and bedatadriven; it “that helps humanitarian organizations to collect, manage, map and analyze indicators…and allow for real time monitoring of the humanitarian situation in the eastern part of the Democratic Republic of Congo” (ActivityInfo 2012). Analyzing the use of Google searches or Twitter messages can give strong indications of evolving situations, or whether an epidemic is spreading. Paul and Dredze (2011) found a very strong correlation coefficient (0.958) between tweets and official flu statistics, where the tweets were in real time and the statistics available only afterwards. Analyzing trending topics in Google searches or Facebook and blog posts can also yield significant data (Ginsberg et al. 2009). Google Dengue Trends uses aggregated Google search data to estimate dengue activity (Google 2012a); there is a similar service for influenza (Google 2012b). Following the earthquake in Port-au-Prince, Haiti, researchers from Sweden’s Karolinska Institutet and Columbia University in New York used mobile phone data, tracking 1.9 million SIM cards (Bengtsson et al. 2011, p. 2). They were able to follow the population flows and destinations of 648,717 people who had been displaced (ibid.:3). Later that year, the same team followed population movement after a cholera outbreak (Bengtsson et al. 2010, p. 2). Multilateral actors have started to catch on. The UN Secretary-General has created UN Global Pulse; the World Bank has begun discussing how big data can be used for development (World Bank 2012c), and has established “Mapping for Results” to visualize and track its programs and projects on the ground (World Bank 2012d). However, much remains to be done. In 2009, the UN Global Pulse Initiative launched the Rapid Impact and Vulnerability Analysis Fund (RIVAF). However, a recent report published by the initiative reveals a focus on the use of traditional indicators, and a lack of focus on conflict and post-conflict countries, even though many of the UN agencies, funds, and programs involved in the RIVAF initiative operate in precisely such locations (UN Global Pulse 2011). Further work is necessary in this area, also to focus the energies of developmentoriented organizations to conflict and post-conflict countries and utilize the potential offered by big data, social media, and cyber-technology. The UN has engaged with the Crisis Mappers community since 2010 (UN 2012a, p. 4, Crisis Mappers 2012); among other things, the Standby Task Force has supported OCHA crowdsourcing data for South Sudan, collecting “a total of 1,767 unique rows of data and 15,271 unique pieces of information records” in a mere 3 days (Standby Task Force 2012). At a recent meeting in New York to discuss the status of implementation of the UN’s Crisis Information Strategy, it was agreed that there is a need for Crisis Information Managers, and that the efforts towards convergence in crisis information management could support the “endeavours of ‘One UN’ and better coordination within the UN and the international community in general” (Swiss Mission to the United Nations 2012). A Crisis Management Training Course has since been established, with the first course being given in February 2013 at the International Peace Support Training Centre (IPSTC) in Nairobi, Kenya. The course will train civilians, military and police “working in multidimensional peace and humanitarian operations … to integrate new information technology into an information management system [and] demonstrate the opportunities and challenges of new ICTs [Information and Communication Technology] and social media tools…” (ICT4Peace 2012a). The challenge now will be to get the UN onboard and send staff to these courses, providing the organization with staff trained personnel that can enable it to make use of Big Data, ICTs and social media in its operations. The UN in Sudan has taken one step in this direction. With support of the United Kingdom, UNDP has run a Crisis Recovery and Mapping Analysis project since 2007 (UNDP 2012a), aimed at supporting both the UN country team (UNCT) and national authorities in making their activities more evidence-based and conflict-responsive (see also Bott and Young 2012).2 In Georgia, the Caucasus Research Resource Centers and Saferworld have joined forces with developers to produce Elva, combining “the data-rich mapping of Ushahidi with the meticulous requirements of human-rights researchers” (Sifry 2012). The platform is used to create a community safety network where a community representative, using SMS, can report violent or security incidents on a weekly basis. A similar initiative was developed by Columbia University in connection with the Voix des Kivus program in the Democratic Republic of Congo (DRC) to “overcome the problems associated with the collection of conflict data” (van der Wind and Humphreys 2012). It involved distributing prepaid cellphones, solar chargers, and code sheets to community representatives in 18 villages in Eastern Congo (ibid.). For both projects, protecting the identity of those reporting against possible reprisals became an important concern (ibid., p. 24; see also Puig 2012). Together with the crisis mapping community, OCHA is experimenting with developing twitter dashboards for humanitarian crises. These use “Machine Learning (ML) techniques and social computing methods… to extract relevant information from twitter and aggregate this information according to Cluster for analytical purposes” (Meier 2012). A similar dashboard for peacekeeping operations “that looks across social media content and perhaps uses corporate data” could be envisaged (Interview with Meier 2012).

#### [Hegemony Turn - The globe is transitioning toward an American-led noosphere now – the aff’s technodiversity creates cultural fragmentation

David Ronfeldt & John Arquilla 18. Independent Analyst, retired analyst for the RAND Corporation. PhD in political science from Stanford University, Faculty at US Naval Postgraduate School, coined the concept of “netwar.” “The Continuing Promise of the Noösphere and Noöpolitik — Twenty Years After.” May 2018. p 20. Available at SSRN: https://ssrn.com/abstract=3259425 or <http://dx.doi.org/10.2139/ssrn.3259425>

What would a full-fledged noosphere encompass? What ideas, values, and norms — what principles, practices, and rules — should it embody? We presume these would include much that America stands for: openness, freedom, democracy, the rule of law, humane behavior, respect for human rights, a preference for peaceful conflict resolution, etc. — all that the noosphere’s original proponents said should and would be embedded. In addition, a fullfledged noosphere would require an interactive organizational and technological foundation to uphold its ideational essences. However, the world is not yet in the age of the noosphere, but rather in an era of transition that is far from smooth or peaceful. When we first started writing about the noosphere and noopolitik, we figured we were witnessing halting steps forward. Yet it’s the steps backwards that are most evident today, especially in the behavior of some of the world’s most powerful states, as discussed above. No methodology exists for assessing the status of the noosphere from strategic standpoints; nobody has yet seen to that potentially valuable task. But what we can observe is that the noosphere is in terribly fragmented disarray in the very country, the United States, that should be taking the most initiative to uphold and foster it. Much of America’s evolving noosphere has become highly compartmented — broken up into what are called information silos, filter bubbles, and echo chambers, tantamount to volatile micro-climates. Many of these “compartments” and “cultural units” (Teilhard’s terms) are engaged in “ruthless struggle” (Vernadsky’s words), far from being ready for the “fusion” that Teilhard forecast, or to “open up and finally link up their spouts, spreading a layer that covers the Earth” as Le Roy depicted. Indeed, America’s noosphere is presently so fragmented, and many of its “units” are so polarized and tribalized, that it could be said that a war — a culture war — is underway for control of the noosphere. And it reflects the essence of noopolitk, for it is a war that will be decided by whose story wins.

#### [Fragmenting the noosphere cedes noopolitik to Russia

David Ronfeldt & John Arquilla 18. Independent Analyst, retired analyst for the RAND Corporation. PhD in political science from Stanford University, Faculty at US Naval Postgraduate School, coined the concept of “netwar.” “The Continuing Promise of the Noösphere and Noöpolitik — Twenty Years After.” May 2018. p 20. Available at SSRN: https://ssrn.com/abstract=3259425 or <http://dx.doi.org/10.2139/ssrn.3259425>

Our earlier work warned that, while some state and non-state actors might find noöpolitik attractive, they might care less about the emergence and construction of the noosphere. In the hands of a democratic leader, noöpolitik might then amount to little more than airy, idealistic rhetoric with little or no structural basis; whereas in the hands of a dictator or demagogue, noopolitik could be reduced to manipulative propaganda and perception-management. Narrower versions of noöpolitik might be also attempted for private gain — in the commercial worlds of advertising and public relations, this already occurs when companies field media blitzes and plant testimonials to “spin” public opinion. These were among the risks that may have to be faced, we warned long ago.

Unfortunately, that warning has been borne out, for noopolitik has been largely co-opted by dark actors. Today, despite its promise, noopolitik is not alive and well in the environment in which it should be most thriving: the United States, where now even “soft power” is ailing as a strategic concept. Instead, America’s state and non-state adversaries — notably Russia, and until lately, al Qaeda and ISIS — have developed their own versions of noopolitik, albeit by other names, and they’ve applied it effectively against the United States and its allies and friends. As noted earlier, these new circumstances mean we are now living not only in the worst of times for noopolitik, but also in the most pertinent — and urgent — of times for revisiting the promise of the noosphere and the prospects for noospolitik.

#### [Ensures Russian hybrid war

David Ronfeldt & John Arquilla 18. Independent Analyst, retired analyst for the RAND Corporation. PhD in political science from Stanford University, Faculty at US Naval Postgraduate School, coined the concept of “netwar.” “The Continuing Promise of the Noösphere and Noöpolitik — Twenty Years After.” May 2018. p 20. Available at SSRN: https://ssrn.com/abstract=3259425 or <http://dx.doi.org/10.2139/ssrn.3259425>

What are these darker forms? They go by many names: cognitive warfare, information warfare, information operations, political warfare, memetic warfare, epistemic warfare, neocortical warfare, perception management, strategic deception, along with such older terms as the war of ideas and the battle for hearts and minds, and newer expressions about weaponized social networks and weaponized narratives. What these terms have in common is that they all represent ways to work on the mind — sometimes for good, other times for ill. By way of contrast, we view noopolitik as a way to work with the mind.

For a while, our non-state adversaries — notably Al Qaeda and ISIS — seemed to have the lead in mastering the arts and techniques of cognitive warfare. But they no longer pose the threats of a few years ago. Now our state adversaries have the lead in using dark varieties of noopolitik against us.

In the case of Russia, this means influence operations that go by names like Active Measures, kompromat, dezinformatsiya, reflexive control, and hybrid warfare. These operations also involve Moscow’s deployment of strategic narratives that extol “Eurasianism” and disparage democracy. Actually, Russian use of political warfare is deeply rooted in Russian history — partly in Grigory Potemkin’s use of deception and disinformation in the late 18th C. to make people think things were better (or different) than they really were, as in the creation of “Potemkin villages”; and also in Ivan Pavlov’s work on reflexive conditioning in the late 19th C., resulting in “Pavlovian conditioning”. To say that Russian strategy has Potemkin-ed and Pavlov-ed many American minds may sound odd, but may well be accurate. (See Pomerantsev & Weiss, 2014; Walker & Ludwig, 2017)

#### [That causes Extinction

Farquhar 17, Sebastian, et al. "Existential risk: Diplomacy and governance." Global Priorities Project (2017). (PhD in Computer Science and Machine Learning at University of Oxford)//Elmer

The bombings of Hiroshima and Nagasaki demonstrated the unprecedented destructive power of nuclear weapons. However, even **in an all-out nuclear war between the United States and Russia**, despite horrific casualties, neither country’s population is likely to be completely destroyed by the direct effects of the blast, fire, and radiation.8 The aftermath could be much worse: the burning of flammable materials could send massive amounts of smoke into the atmosphere, which would absorb sunlight and cause sustained global cooling, severe ozone loss, and agricultural disruption – a nuclear winter. According to one model 9 , an all-out exchange of 4,000 weapons could lead to a drop in global temperatures of around 8°C, making it impossible to grow food for 4 to 5 years. This could leave some survivors in parts of Australia and New Zealand, but they would be in a very precarious situation and the threat of extinction from other sources would be great. An exchange on this scale **is only possible between the US and Russia** who have more than 90% of the world’s nuclear weapons, with stockpiles of around 4,500 warheads each, although many are not operationally deployed.11 Some models suggest that even a small regional nuclear war involving 100 nuclear weapons would produce a nuclear winter serious enough to put two billion people at risk of starvation,12 though this estimate might be pessimistic.13 Wars on this scale are unlikely to lead to outright human extinction, but this does suggest that conflicts which are around an order of magnitude larger may be likely to **threaten civilisation**. It should be emphasised that there is very large uncertainty about the effects of a large nuclear war on global climate. This remains an area where increased academic research work, including more detailed climate modelling and a better understanding of how survivors might be able to cope and adapt, would have high returns. It is very difficult to precisely estimate the probability of existential risk from nuclear war over the next century, and existing attempts leave very large confidence intervals. According to many experts, the most likely nuclear war at present is between India and Pakistan.14 However, given the relatively modest size of their arsenals, **the risk of human extinction is plausibly greater from a conflict between the United States and Russia.** Tensions between these countries have increased in recent years and it seems unreasonable to rule out the possibility of them rising further in the future.