# Voices RR R4 Neg vs Aly

# 1AC

### 1

#### **Moral realism posits the existence of truths that hold independently of our evaluative attitudes – ought statements are an example**

Street 06 [(Sharon, Professor of Philosophy and Associate Chair of the Department of Philosophy at New York University) “A Darwinian Dilemma for Realist Theories of Value,” Springer, 2006]

The defining claim of realism about value, as I will be understanding it, is that there are at least some evaluative facts or truths that hold independently of all our evaluative attitudes.1 Evaluative facts or truths I understand as facts or truths of the form that X is a normative reason to Y, that one should or ought to X, that X is good, valuable, or worthwhile, that X is morally right or wrong, and so on.2 Evaluative attitudes I understand to include states such as desires, attitudes of approval and disapproval, unreflective evaluative tendencies such as the tendency to experience X as counting in favor of or demanding Y, and consciously or unconsciously held evaluative judgements, such as judgements about what is a reason for what, about what one should or ought to do, about what is good, valuable, or worthwhile, about what is morally right or wrong, and so on.

It is important to note that it is not enough to be a realist to claim that the truth of an evaluative judgement holds independently of one’s making that particular evaluative judgement. Antirealists can agree with that much. Consider, for example, a constructivist view according to which the truth of ‘‘X is a reason for agent A to Y’’ is a function of whether that judgement would be among A’s evaluative judgements in reflective equilibrium. This view is antirealist because it understands truths about what reasons a person has as depending on her evaluative attitudes (in particular, on what those attitudes would be in reflective equilibrium). Yet on this view, it is quite possible for someone to have a reason independently of whether she thinks she does, for whether she has a reason is not a function of whether she (presently) judges she has it, but rather a function of whether that judgement would be among her evaluative judgements in reflective equilibrium. Antirealists can therefore agree with realists that the truth of a given evaluative judgement holds independently of whether one makes that particular judgement. Where antirealists part ways with realists is in denying that there are evaluative truths which hold independently of the whole set of evaluative judgements we make or might make upon reflection, or independently of the whole set of other evaluative attitudes we hold or might hold upon reflection.

The kind of independence from our evaluative attitudes that realists endorse is what Russ Shafer-Landau has called stance-independence. 3 To illustrate: Realists of course agree that the evaluative truth that ‘‘Hitler was morally depraved’’ depends in part on Hitler’s evaluative attitudes in the sense that if Hitler had valued peace and universal human rights instead of dictatorial power and genocide, then it would have been false instead of true that he was morally depraved. But given that Hitler did value dictatorial power and genocide, value realists think that it is true, independent of all of our (and any of Hitler’s other) evaluative attitudes, that Hitler was morally depraved. According to realists, the truth that Hitler was morally depraved holds independently of any stance that we (or Hitler) might take toward that truth, whether now or upon reflection.

There are different brands of realism about value. What unites them is the view that there are evaluative facts or truths that hold independently of all our evaluative attitudes (now keeping in mind the qualification about stance-independence). What separates different kinds of realists from one another is how they construe the nature of these facts or truths. According to what I will call non-naturalist versions of value realism, evaluative facts or truths are not reducible to any kind of natural fact, and are not the kinds of things that play a role in causal explanations; instead, they are irreducibly normative facts or truths.4 This brand of realism has been gaining increasing numbers of adherents in recent years, and it lies squarely within the target of the Darwinian Dilemma.

In contrast to non-naturalist versions of value realism, the position I will call value naturalism holds that evaluative facts are identical with or constituted by (certain) natural facts, and that evaluative facts are the kinds of things that play a role in causal explanations.5 According to such views, much as water is identical with H2O, so evaluative properties are identical with certain natural properties, though we may or may not ever be able to provide a reduction telling exactly which natural properties evaluative properties are identical with (different naturalists taking different views on the possibility of such a reduction).6 Whereas non-naturalist versions of value realism lie straightforwardly within my target in this paper, it is a more complicated matter whether versions of value naturalism lie within my target. Answering this question requires making a distinction (in section 7) between versions of value naturalism which count as genuinely realist on my understanding and versions which don’t; my argument will be that the former, but not the latter, are vulnerable to the Darwinian Dilemma. Before introducing these complexities, however, it is important to get the fundamental dilemma for realism on the table.7

#### Pain’s badness is a contingent truth – if evolution favored those who pursued pain, our evaluative judgements would be different

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Suppose, however, there is remaining doubt and some are still tempted by a realist position on the badness of pain so understood. It’s at this point that the Darwinian Dilemma arises again for the realist. To see how, suppose again that pain is given some definition according to which it is not a necessary feature of pain that we unreflectively experience it as counting in favor of what would avoid, lessen, or stop it. In that case, the following becomes a legitimate scientific question: given that it is perfectly conceivable that we all could have ended up taking pain sensations to count in favor of what would cause them and intensify them rather than in favor of what would lessen them and stop them, what explains the fact that such a huge percentage of us so consistently do the latter? Here, as in earlier cases, there is a powerful evolutionary answer. I’ve left it open how the person opting for the first horn of the Pain Dilemma is defining pain (so long as that definition makes no reference to the idea that pain is a sensation that we unreflectively take to count in favor of what would stop it). But if the proposed definition is to be plausible at all, then it will pick out (predominantly, one assumes) sensations associated with the sorts of bodily conditions that we normally consider painful, such as cuts, burns, bruises, broken bones, and so on. And it is of course no mystery whatsoever, from an evolutionary point of view, why we and the other animals came to take the sensations associated with bodily conditions such as these to count in favor of what would avoid, lessen, or stop them rather than in favor of what would bring about and intensify them. One need only imagine the reproductive prospects of a creature who relished and sought after the sensations of its bones breaking and its tissues tearing; just think how many descendants such a creature would leave in comparison to those who happened to abhor and avoid such sensations.

As in earlier cases, the realist faces a problem when confronted with such an explanation. For once again we see that there is a striking coincidence between the content of the independent evaluative truth posited by the realist, on the one hand, and the content that evolutionary theory would lead us to expect, on the other. The realist tells us that it is an independent evaluative truth that pain sensations (however he or she defines them) are bad, and yet this is precisely what evolutionary theory would have predicted that we come to think. And once again the realist is unable to give any good account of this coincidence. To insist that the coincidence is mere coincidence is implausible. The realist’s alternative, here as in earlier cases, is to defend some sort of tracking account, according to which we were selected to be able to discern independent evaluative truths, among them the truth that these pain sensations (however the realist is defining them) are bad. Yet here as in earlier cases, the tracking account is scientifically unacceptable. In order to explain why we came to think that these sensations are bad, we need make no reference whatsoever to the fact that they are bad; we need only point out how it tended to promote reproductive success to take them to be bad (due to their connection with bodily conditions that tended to diminish reproductive success).

The realist, then, is forced to the other horn of the Pain Dilemma. To salvage realism about the badness of pain, he or she is forced to understand pain as a sensation such that the creature who has it unreflectively takes that sensation to count in favor of whatever would avoid, lessen, or stop it. But now notice what this means. In order to salvage his or her view of pain as bad independently of our evaluative attitudes, the realist must admit that pain’s badness depends on its being a sensation such that the creature who has it is unreflectively inclined to take it to be bad. But this, in turn, is just to admit that its badness depends in an important sense on our evaluative attitudes in particular, on our being unreflectively inclined to take it to be bad. Pain may well be bad, in other words, but if it is so, its badness hinges crucially on our unreflective evaluative attitudes toward the sensation which pain is. The realist is thus forced to recognize the role of our evaluative attitudes in determining the disvalue of pain. Though initially plausible, it is a mistake to say that pain is bad independently of our evaluative attitudes. Pain, if it is plausibly to be construed as bad independently of our other evaluative attitudes, must be understood as a sensation such that we have a certain evaluative attitude toward it and it’s that evaluative attitude which (at least in part) makes the sensation bad.

#### Selective pressures have had a relentless impact on the content of our evaluative judgements – shared values and animal tendencies prove

Street 06 [(Sharon, Professor of Philosophy and Associate Chair of the Department of Philosophy at New York University) “A Darwinian Dilemma for Realist Theories of Value,” Springer, 2006]

To begin, note the potentially phenomenal costs and benefits, as measured in the Darwinian currency of reproductive success, of accepting some evaluative judgements rather than others. It is clear, for instance, how fatal to reproductive success it would be to judge that the fact that something would endanger one’s survival is a reason to do it, or that the fact that someone is kin is a reason to harm that individual. A creature who accepted such evaluative judgements would run itself off cliffs, seek out its predators, and assail its offspring, resulting in the speedy elimination of it and its evaluative tendencies from the world.13 In contrast, it is clear how beneficial (in terms of reproductive success) it would be to judge that the fact that something would promote one’s survival is a reason in favor of it, or that the fact that something would assist one’s offspring is a reason to do it. Different evaluative tendencies, then, can have extremely different effects on a creature’s chances of survival and reproduction. In light of this, it is only reasonable to expect there to have been, over the course of our evolutionary history, relentless selective pressure on the content of our evaluative judgements, or rather (as I discuss below) ‘‘proto’’ versions thereof. In particular, we can expect there to have been overwhelming pressure in the direction of making those evaluative judgements which tended to promote reproductive success (such as the judgement that one’s life is valuable), and against making those evaluative judgements which tended to decrease reproductive success (such as the judgement that one should attack one’s offspring).

The hypothesis that this is indeed very roughly what happened is borne out by the patterns of evaluative judgement that we observe in human beings today. There is, of course, a seemingly unlimited diversity to the evaluative judgements that human beings affirm. Yet even as we note this diversity, we also see deep and striking patterns, across both time and cultures, in many of the most basic evaluative judgements that human beings tend to make. Consider, as a brief sampling, the following judgements about reasons:

(1) The fact that something would promote one’s survival is a reason in favor of it.

(2) The fact that something would promote the interests of a family member is a reason to do it.

(3) We have greater obligations to help our own children than we do to help complete strangers.

(4) The fact that someone has treated one well is a reason to treat that person well in return.

(5) The fact that someone is altruistic is a reason to admire, praise, and reward him or her.

(6) The fact that someone has done one deliberate harm is a reason to shun that person or seek his or her punishment.

What explains the widespread human acceptance of such judgements? There are so many other possible judgements about reasons we could make so why these? Why, for instance, do we view the death of our offspring as a horror, rather than as something to be sought after? Why do we think that altruism with no hope of personal reward is the highest form of virtue, rather than something to be loathed and eliminated? Evolutionary biology offers powerful answers to these questions, very roughly of the form that these sorts of judgements about reasons tended to promote survival and reproduction much more effectively than the alternative judgements. The details of how survival and reproduction were promoted will vary depending on the evaluative tendency in question. In the case of judgement (1), for instance, the rough explanation is obvious: creatures who possessed this general evaluative tendency tended to do more to promote their survival than those who, say, had a tendency to view the fact that something would promote their survival as counting against it, and so the former tended to survive and reproduce in greater numbers. The explanation of evaluative tendencies in the direction of judgements such as (2) and (3) will be somewhat more complicated, drawing on the evolutionary theory of kin selection.14 The explanation in the case of evaluative tendencies in the direction of judgements (4), (5), and (6), meanwhile, will appeal to the biological theory of reciprocal altruism.15

For the sake of contrast, consider the following possible evaluative judgements:

(1) The fact that something would promote one’s survival is a reason against it.

(2) The fact that something would promote the interests of a family member is a reason not to do it.

(3) We have greater obligations to help complete strangers than we do to help our own children.

(4) The fact that someone has treated one well is a reason to do that individual harm in return.

(5) The fact that someone is altruistic is a reason to dislike, condemn, and punish him or her.

(6) The fact that someone has done one deliberate harm is a reason to seek out that person’s company and reward him or her.

If judgements like these ones that would, other things being equal, so clearly decrease rather than increase the reproductive success of those who made them predominated among our most deeply and widely held evaluative judgements across both time and cultures, then this would constitute powerful evidence that the content of our evaluative judgements had not been greatly influenced by Darwinian selective pressures. But these are not the evaluative judgements we tend to see; instead, among our most deeply and widely held judgements, we observe many like those on the first list many with exactly the sort of content one would expect if the content of our evaluative judgements had been heavily influenced by selective pressures. In this way, the observed patterns in the actual content of human evaluative judgements provide evidence in favor of the view that natural selection has had a tremendous influence on that content.

A further piece of evidence in favor of this view is the striking continuity that we observe between many of our own widely held evaluative judgements and the more basic evaluative tendencies of other animals, especially those most closely related to us. It does not seem much of a stretch, for example, to say that chimpanzees, in some primitive, non-linguistic sort of fashion, experience certain things in the world as calling for or counting in favor of certain reactions on their part. Moreover, the content of these evaluative experiences seems to overlap significantly with the content of many of our own evaluative tendencies. Like us, individual chimpanzees seem to experience at some basic motivational level actions that would promote their survival or help their offspring as in some way ‘‘called for.’’ More strikingly, and again at some basic motivational level, chimpanzees seem to experience the fact that another chimpanzee has helped them, whether by sharing food, grooming them, or supporting their position within the group hierarchy, as ‘‘counting in favor of’’ assisting that other individual in similar ways.16 While more work is needed to make such claims precise and subject them to thorough scientific testing, they have a strong basic plausibility, such that the conspicuous continuities between the basic evaluative tendencies of our close animal relatives and our own evaluative judgements lend further support to the view that evolutionary forces have played a large role in shaping the content of our evaluative judgements. We may view many of our evaluative judgements as conscious, reflective endorsements of more basic evaluative tendencies that we share with other animals.

#### **The Darwinian Dilemma makes moral realism impossible – the realist must defend judgements being true by pure coincidence or an anti-scientific account of evolution**

Street 06 [(Sharon, Professor of Philosophy and Associate Chair of the Department of Philosophy at New York University) “A Darwinian Dilemma for Realist Theories of Value,” Springer, 2006]   
Contemporary realist theories of value claim to be compatible with natural science. In this paper, I call this claim into question by arguing that Darwinian considerations pose a dilemma for these theories. The main thrust of my argument is this. Evolutionary forces have played a tremendous role in shaping the content of human evaluative attitudes. The challenge for realist theories of value is to explain the relation between these evolutionary influences on our evaluative attitudes, on the one hand, and the independent evaluative truths that realism posits, on the other. Realism, I argue, can give no satisfactory account of this relation. On the one hand, the realist may claim that there is no relation between evolutionary influences on our evaluative attitudes and independent evaluative truths. But this claim leads to the implausible skeptical result that most of our evaluative judgements are off track due to the distorting pressure of Darwinian forces. The realist’s other option is to claim that there is a relation between evolutionary influences and independent evaluative truths, namely that natural selection favored ancestors who were able to grasp those truths. But this account, I argue, is unacceptable on scientific grounds. Either way, then, realist theories of value prove unable to accommodate the fact that Darwinian forces have deeply influenced the content of human values. After responding to three objections, the third of which leads me to argue against a realist understanding of the disvalue of pain, I conclude by sketching how antirealism is able to sidestep the dilemma I have presented. Antirealist theories of value are able to offer an alternative account of the relation between evolutionary forces and evaluative facts an account that allows us to reconcile our understanding of evaluative truth with our understanding of the many non-rational causes that have played a role in shaping our evaluative judgements.

#### That negates:

#### The aff must prove that states have a moral obligation to reduce IP for medicines.

#### Ought expresses a moral obligation

Dictionary n.d. [(Dictionary.com) “Ought”] JL

(used to express duty or moral obligation):

#### Ought statements assume moral realism

**Anscombe 58** [(G.E.M. Anscombe) Modern Moral Philosophy, The Journal of the The Royal Institute of Philosophy, 1/1958] DRD

The terms "should" or "ought" or "needs" relate to good and bad: e.g. machinery needs oil, or should or ought to be oiled, in that running without oil is bad for it, or it runs badly without oil. According to this conception, of course, "should" and "ought" are not used in a special "moral" sense when one says that a man should not bilk. (In Aristotle's sense of the term "moral" (ijfo/cds), they are being used in connection with a moral subject-matter: namely that of human passions and (non-technical) actions.) But they have now acquired a special so-called "moral" sense—i.e. a sense in which they imply some absolute verdict (like one of guilty / not guilty on a man) on what is described in the "ought" sentences used in certain types of context: not merely the contexts that Aristotle would call "moral"—passions and actions—but also some of the contexts that he would call "intellectual."

The ordinary (and quite indispensable) terms "should," "needs," "ought," "must"—acquired this special sense by being equated in the relevant contexts with "is obliged," or "is bound," or "is required to," in the sense in which one can be obliged or bound by law, or something can be required by law.

#### Even if antirealist normative frameworks can generate obligations, the aff has read a utilitarian framework that relies on categorical condemnations – winning antirealism means their framework might be true but it can’t generate obligations

### Case

### A radical mimicry of bad debate

#### The aff can’t generate obligations:

#### 1] Calculative regress – util would require we calculate how much time to spend on our calculations and so on – means we’re never ever to take productive actions.

#### 2] Util’s repugnant – it can’t ever recognize things as intrinsically bad – slavery and rape could be obligatory to prevent extinction and it can’t condemn peeping toms because its fine when the other person doesn’t find out.

#### 3] Induction fails – it relies on the prior induction that things will happen in the future the way they have in the past, which is circular.

#### 4] Infinite consequences – each action has infinite consequences which means the total util impact of any action is impossible to determine.

#### 5] Subjective – each type of good is qualitatively different, so there’s to way to quantify and compare pleasures.

#### 6] Aggregation – impersonal aggregation of pain and pleasure across individuals make no sense since 5 headaches don’t equal a migraine.

#### 7] Self-interest – you would save yourself over two others which means intuitions disprove util’s theory of net pleasure

### Real Debate

#### ME war doesn’t go nuclear absent external powers – Israel would never

* They’d have done it by now – preemptively attacked Iraq and Syria within weeks of finding single reactors
* A strike would make the bomb more likely by emboldening Iran, they’d leave the NPT, kick out IAEA watchdogs, and sanctions support collapses – funds nuke mod in Iran
* It hurts Israel by eroding regional allies and Iran gets a face lift – independently messes up US-Israel ties and erodes assurances
* Veto players – Netanyahu needs approval from the IDF and security cabinet and they all hate him

Keck 15 [Zachary Keck is the Wohlstetter Public Affairs Fellow at the Nonproliferation Policy Education Center. Before that, he was a researcher at the Belfer Center for Science and International Affairs. "5 Reasons Israel Won't Attack Iran." https://nationalinterest.org/commentary/five-reasons-israel-wont-attack-iran-9469?page=0%2C1]

Although the interim deal does further reduce Israel’s propensity to attack, the truth is that the likelihood of an Israeli strike on Iran’s nuclear facilities has always been greatly exaggerated. There are at least five reasons why Israel isn’t likely to attack Iran.

1. You Snooze, You Lose

First, if Israel was going to strike Iran’s nuclear facilities, it would have done so a long time ago. Since getting caught off-guard at the beginning of the Yom Kippur War in 1973, Israel has generally acted proactively to thwart security threats. On no issue has this been truer than with nuclear-weapon programs. For example, Israel bombed Saddam Hussein’s program when it consisted of just a single nuclear reactor. According to ABC News, Israel struck Syria’s lone nuclear reactor just months after discovering it. The IAEA had been completely in the dark about the reactor, and took years to confirm the building was in fact housing one.

Contrast this with Israel’s policy toward Iran’s nuclear program. The uranium-enrichment facility in Natanz and the heavy-water reactor at Arak first became public knowledge in 2002. For more than a decade now, Tel Aviv has watched as the program has expanded into two fully operational nuclear facilities, a budding nuclear-research reactor, and countless other well-protected and -dispersed sites. Furthermore, America’s extreme reluctance to initiate strikes on Iran was made clear to Israel at least as far back as 2008. It would be completely at odds with how Israel operates for it to standby until the last minute when faced with what it views as an existential threat.

2. Bombing Iran Makes an Iranian Bomb More Likely

Much like a U.S. strike, only with much less tactical impact, an Israeli air strike against Iran’s nuclear facilities would only increase the likelihood that Iran would build the bomb. At home, Supreme Leader Ali Khamenei could use the attack to justify rescinding his fatwa against possessing a nuclear-weapons program, while using the greater domestic support for the regime and the nuclear program to mobilize greater resources for the country’s nuclear efforts.

Israel’s attack would also give the Iranian regime a legitimate (in much of the world’s eyes) reason to withdraw from the Nuclear Non-Proliferation Treaty (NPT) and kick out international inspectors. If Tehran’s membership didn’t even prevent it from being attacked, how could it justify staying in the regime? Finally, support for international sanctions will crumble in the aftermath of an Israeli attack, giving Iran more resources with which to rebuild its nuclear facilities.

3. Helps Iran, Hurts Israel

Relatedly, an Israeli strike on Iran’s nuclear program would be a net gain for Iran and a huge loss for Tel Aviv. Iran could use the strike to regain its popularity with the Arab street and increase the pressure against Arab rulers. As noted above, it would also lead to international sanctions collapsing, and an outpouring of sympathy for Iran in many countries around the world.

Meanwhile, a strike on Iran’s nuclear facilities would leave Israel in a far worse-off position. Were Iran to respond by attacking U.S. regional assets, this could greatly hurt Israel’s ties with the United States at both the elite and mass levels. Indeed, a war-weary American public is adamantly opposed to its own leaders dragging it into another conflict in the Middle East. Americans would be even more hostile to an ally taking actions that they fully understood would put the U.S. in danger.

Furthermore, the quiet but growing cooperation Israel is enjoying with Sunni Arab nations against Iran would evaporate overnight. Even though many of the political elites in these countries would secretly support Israel’s action, their explosive domestic situations would force them to distance themselves from Tel Aviv for an extended period of time. Israel’s reputation would also take a further blow in Europe and Asia, neither of which would soon forgive Tel Aviv.

4. Israel’s Veto Players

Although Netanyahu may be ready to attack Iran’s nuclear facilities, he operates within a democracy with a strong elite structure, particularly in the field of national security. It seems unlikely that he would have enough elite support for him to seriously consider such a daring and risky operation.

For one thing, Israel has strong institutional checks on using military force. As then vice prime minister and current defense minister Moshe Yaalon explained last year: “In the State of Israel, any process of a military operation, and any military move, undergoes the approval of the security cabinet and in certain cases, the full cabinet… the decision is not made by two people, nor three, nor eight.” It’s far from clear Netanyahu, a fairly divisive figure in Israeli politics, could gain this support. In fact, Menachem Begin struggled to gain sufficient support for the 1981 attack on Iraq even though Baghdad presented a more clear and present danger to Israel than Iran does today.

What is clearer is that Netanyahu lacks the support of much of Israel’s highly respected national security establishment. Many former top intelligence and military officials have spoken out publicly against Netanyahu’s hardline Iran policy, with at least one of them questioning whether Iran is actually seeking a nuclear weapon. Another former chief of staff of the Israeli Defense Forces told The Independent that, “It is quite clear that much if not all of the IDF [Israeli Defence Forces] leadership do not support military action at this point…. In the past the advice of the head of the IDF and the head of Mossad had led to military action being stopped.”

#### Oil prices will decline – OPEC will increase production – our ev is predictive

Julia Fanzeres 9-30-21, "Biden renews OPEC outreach as oil prices climb 10% in September," 9-30-2021 https://www.worldoil.com/news/2021/9/30/biden-renews-opec-outreach-as-oil-prices-climb-10-in-september

The rising price of oil “is of concern for the U.S.,” said White House press secretary Jennifer Psaki. The U.S. has been in touch with OPEC about oil prices, she said at a press briefing. Heading into next week’s meeting between OPEC and its partners, there is increased speculation that the organization will consider raising production more than the previously announced hike of 400,000 barrels a day.

“With oil prices at multi-year highs, we think that OPEC will come under increasingly intense pressure from Washington to increase production,” RBC analyst Helima Croft said in report.

#### Middle East war is good—it raises oil prices

Lynch 18 [Michael Lynch spent nearly 30 years at MIT as a student and then researcher at the Energy Laboratory and Center for International Studies. He then spent several years at what is now IHS Global Insight and was chief energy economist. Currently, Lynch serves as the president of Strategic Energy and Economic Research, Inc., and lectures MBA students at Vienna University. He’s been president of the US Association for Energy Economics and serves on the editorial boards of three publications. Will Oil Prices Blow Up With The Middle East? April 12, 2018. https://www.forbes.com/sites/michaellynch/2018/04/12/will-the-oil-price-blow-up-with-the-middle-east/#166754c23d19]

It's said that a woman once approached 19th century German Chancellor Bismarck and asked him to explain the controversy over Schleswig-Holstein, to which Bismarck responded, “Madam, only three people have ever understood Schleswig-Holstein. One is dead, the second has gone mad, and I’m the third and I’ve quite forgot.” This summarizes how I feel about the current Middle East situation. The public rhetoric (including tweets) suggests that the U.S. and Russia are both willing to attack each other’s forces -- the U.S. is planning an attack on Syrian forces that might affect Russian personnel and Russia is apparently threatening to shoot down U.S. planes. This is obviously concerning, and while incidental Russia casualties might not lead to a direct military response, if Russia shot down a U.S. plane (as opposed to an unmanned missile), the U.S. would almost certainly respond. Given that the Russians know this, they are unlikely to take such a step. An additional factor is the possibility that Iranian forces in Syria would be hit by any U.S. attack, which might invite retaliation. Iran is unlikely to be able to attack U.S. forces in the Mediterranean directly, but forces in Iraq and Syria might be subject to ‘asymmetrical warfare,’ i.e., small-scale attacks, possibly including suicide bombers. The threat to oil markets come if Iranian actions encourage President Trump to refuse to recertify the Iranian nuclear agreement in mid-May. While many of Iran’s customers in Asia would not be concerned, there might be some drop in sales from companies fearful of U.S. legal action. Sanctions on financial transfers would also deter the more conventional customers, but the Iranians should be able to work around that after a brief pause. Could this also mean an escalation in the conflict between Iran and Saudi Arabia (or more broadly but less accurately, Shia versus Sunni regimes)? Given that the Saudis have been attacking Iranian-supported Houthis in Yemen without direct response by Iran for some time now, any Saudi actions in Syria seem unlikely to be a provocation that would worsen the situation in the Gulf. FDR’s comment that ‘we have nothing to fear but fear itself’ seems appropriate for oil traders. Bombs and missiles flying in the greater Middle East always creates a bullish impetus on prices, even if the oil fields remain distant from the actual violence. The death of Russian personnel would worsen this, as it implies a greater probability of retaliation and continuation of the conflict which, again, would push up oil prices. And naturally, should Iranian personnel be affected, there would be very rational concerns that they might respond with some sort of attack that could affect Gulf oil trade. The worst case scenarios -- ongoing U.S.-Russian combat or direct Saudi-Iranian fighting -- seem very unlikely to happen. But as long as the possibility exists, oil prices will remain elevated, with WTI perhaps hitting $70 or higher, and only coming down when it has become clear that the violence is diminishing and will not spread. Until then, expect a bumpy ride.

#### High oil prices are the cure for Asian deflation.

The Diplomat 8/3/16 (8/3, “Higher Oil Prices Could Save Asia From Deflation”, http://thediplomat.com/2016/08/higher-oil-prices-could-save-asia-from-deflation/)

For much of Asia though, the rebound in the price of oil from $27 a barrel in January to its current price of around $40 has served to reduce the threat of global deflation substantially, according to ANZ Research. In a July 29 report, the Australian bank said fundamentals would drive prices toward US$54 by year-end, helping “see the end of deflation in Asia.” “In fact, the inflation rates of most Asian economies have gone up in the past six months. Producer prices in China and wholesale prices in India have improved by more than 2.5 percentage points,” ANZ said. The change in headline inflation rates has been led by Chinese producer prices, followed by India’s wholesale prices and then Vietnam and Thailand’s consumer prices. According to ANZ, China’s producer price index could turn positive in the second half of 2016 after four years of contraction, while recent floods should see higher fruit and vegetable prices in coming months. The significance of oil for Asian prices is its large representation in production costs for many consumer items, such as clothing, food and transportation costs. According to ANZ, energy, food and clothing and apparel constitute more than half of India’s consumer price index (CPI) basket, and more than 60 percent of the CPI basket in both the Philippines and Indonesia. Although global commodity prices remain subject to the risk of a faster slowdown in Chinese investment demand, more aggressive U.S. Federal Reserve tightening and geopolitical conditions, ANZ said even a drop in the oil price to around $30 a barrel would not dent its forecasts. Higher commodity prices are also a positive for Australian inflation, which according to Nikko Asset Management (Nikko AM) has fallen in line with the end of the mining boom but now shows signs of picking up. “If the recent stabilization in commodity prices can continue, then this would suggest the low point for inflation could be closer than expected. While inflation will likely remain low for some time, this recent stabilization in commodities means that the risk of inflation falling below 1 percent [in Australia] is reduced. In our view, it is now more likely that it will rebound higher, albeit moderately, over the next six months,” Nikko AM’s Chris Rands said. Higher oil prices may hit consumers but could help efforts by the Bank of Japan (BOJ) to revive inflationary expectations in the world’s third-largest economy. In a July 30 statement, the nation’s central bank said the CPI would likely remain slightly negative or at zero for the time being, “due to the effects of the decline in energy prices,” but should accelerate toward its 2 percent target by fiscal 2017, helped by an expected upturn in crude oil prices. The BOJ disappointed investors Friday with its decision to maintain negative interest rates and bond buying at their current level, while increasing purchases of exchange-traded funds to 6 trillion yen ($59 billion) from 3.3 trillion yen previously. But while the move saw the yen strengthen and stocks weaken initially, signs are emerging of a change in inflationary expectations, at least among consumers. According to UBS economist Paul Donovan, Japanese consumers’ expectations of inflation are now around 4 percent a year – twice the official target and the highest in the developed world. “In one sense, if the 2 percent inflation target of the Bank of Japan was aimed at raising inflation expectations, the Bank of Japan has succeeded. Bank of Japan Governor [Haruhiko] Kuroda should get a banner made saying ‘mission accomplished’…[although it] is still dealing with a deflationary economy” with companies cutting prices, he told the Nikkei Asian Review. After Japan’s recent experience, the rest of Asia should not be relaxing anytime soon about having vanquished the bugbear of deflation. But with higher oil prices on the horizon, the region’s central bankers might finally be able to get back to their real jobs of helping grow their economies, and along with it the rest of the world.

#### Sustained deflation is death for the Japanese economy

Rubino 7/3/16 (7/3, John, Finance MBA from NYU and author of The Money Bubble, “Something Huge Is Coming From Japan”, http://dollarcollapse.com/japan/something-huge-coming-japan/)

Pretend, for a minute, that your country responds to the bursting of a credit bubble by borrowing unprecedented amounts of money and using it to prop up banks and construction companies. This doesn’t work, so you create record amounts of new money and push interest rates into negative territory in an attempt to devalue your currency. But this - amazingly - doesn’t work either. Your currency soars and the inflation you’d hoped to generate never materializes. Now what? Is there even anything left to try, or is it simply time to stand back and let the current system melt down? Those are the questions facing Japan, and the answers are not obvious. Here, for instance, is its inflation rate two years into the largest major-country money creation binge since Wiemar Germany: [Table Omitted] Deflation is to be expected and even desired in a well-run country where debt is minimal, money is sound and rising productivity makes things continuously cheaper. But in an over-indebted financial system, deflation is death because it magnifies the debt burden and raises the odds of an existentially threatening financial crisis. To continue to borrow money under such circumstances is to court disaster. And yet Japan is still at it: [Table Omitted] What we’re witnessing, in short, is a catastrophic loss in the currency war. Contrary to every mainstream economic theory, debt monetization and full-throttle currency creation have resulted in a rising yen and falling prices. Here’s an excerpt from a recent — and really gloomy — Financial Times analysis of Japan’s situation:

#### Goes nuclear

Elliott 02 (Larry Elliott, The Guardian, “Defenceless Japan awaits typhoon,” https://www.theguardian.com/money/2002/feb/11/business.globalrecession)

Even so, the west cannot afford to be complacent about what is happening in Japan, unless it intends to use the country as a test case to explore whether a full-scale depression is less painful now than it was 70 years ago. Action is needed, and quickly because this is an economy that could soak up some of the world's excess capacity if functioning properly. A strong Japan is not only essential for the long-term health of the global economy, it is also needed as a counter-weight to the growing power of China. A collapse in the Japanese economy , which looks ever more likely, would have profound ramifications; some experts believe it could even unleash a wave of extreme nationalism that would push the country into conflict with its bigger (and nuclear) neighbour.

#### ME war stops Saudi Arabia nuclear energy development

Green 17 [Dr Jim Green is the national nuclear campaigner with Friends of the Earth, Australia and editor of the Nuclear Monitor newsletter, published by the World Information Service on Energy. Is Saudi Arabia going nuclear? April 12, 2017. https://www.wiseinternational.org/nuclear-monitor/854/saudi-arabia-going-nuclear]

Military conflict Military conflict has been a recurring feature of Middle Eastern politics for decades and it isn't difficult to imagine military conflicts complicating and compromising nuclear power plants and associated facilities such as spent fuel stores. Since 2015, Saudi forces have intercepted missile attacks from Yemen on several occasions, including a missile attack on King Khalid International Airport in Riyadh in November 2017. "All airports, ports, border crossings and areas of any importance to Saudi Arabia and the UAE will be a direct target of our weapons, which is a legitimate right," the Houthi political office said in a statement on 7 November 2017.57 On 6 November 2017, the New York Times reported on the intercepted missile attack on the Riyadh airport: "Saudi Arabia charged Monday that a missile fired at its capital from Yemen over the weekend was an "act of war" by Iran, in the sharpest escalation in nearly three decades of mounting hostility between the two regional rivals. "We see this as an act of war," the Saudi foreign minister, Adel Jubair, said in an interview on CNN. "Iran cannot lob missiles at Saudi cities and towns and expect us not to take steps." ... The accusations raise the threat of a direct military clash between the two regional heavyweights at a time when they are already fighting proxy wars in Yemen and Syria, as well as battles for political power in Iraq and Lebanon. By the end of the day Monday, a Saudi minister was accusing Lebanon of declaring war against Saudi Arabia as well."58 Prince Turki al-Faisal said in 2016 that Saudi Arabia has "no illusions" about its limited nuclear security capabilities. "We know we have few capabilities in terms of human resources, so that's why we began a very extensive training and skills acquisition program," he said.15 A number of Middle Eastern countries (and the US) have developed their own response to the limitations of the IAEA safeguards system: bombing nuclear facilities suspected of being involved in covert weapons programs. Examples include the destruction of research reactors in Iraq by Israel and the US; Iran's attempts to strike nuclear facilities in Iraq during the 1980−88 war (and vice versa); Iraq's attempted strikes on Israel's nuclear facilities; and Israel's bombing of a suspected nuclear reactor site in Syria in 2007. Most of the above-mentioned attacks were directed at research reactors capable of producing plutonium for weapons, while Iraq attacked the partially-built Bushehr nuclear power plant in Iran in 1987. Israel has threatened to strike nuclear facilities in Iran in recent years. According to a cable released by Wikileaks, King Abdullah urged the US in 2008 to launch military strikes on Iran's nuclear program to "cut off the head of the snake".59 In time, nuclear power plants in Saudi Arabia might be the targets of military strikes, either to prevent their use in a weapons program or simply as an act of war or terrorism. Bennett Ramberg, a policy analyst in the US State Department’s Bureau of Politico-Military Affairs under President George H.W. Bush, wrote in 2014:60 "[W]arfare is rife with accidents and human error, and such an event involving a nuclear plant could cause a meltdown. A loss of off-site power, for example, could be an issue of serious concern. Although nuclear plants are copious producers of electricity, they also require electrical power from other sources to operate. Without incoming energy, cooling pumps will cease functioning and the flow of water that carries heat away from the reactor core ‒ required even when the reactor is in shutdown mode ‒ will stop. "To meet that risk, nuclear plants maintain large emergency diesel generators, which can operate for days ‒ until their fuel runs out. The reactor meltdowns at Japan’s Fukushima Daiichi power station in 2011 demonstrated what happens when primary and emergency operating power are cut. "Such vulnerabilities raise troubling questions in the event of a war. Fighting could disrupt off-site power plants or transmission lines servicing the reactor, and could also prevent diesel fuel from reaching the plant to replenish standby generators. Operators could abandon their posts should violence encroach.

#### Causes prolif – even if not, causes enrichment and reprocessing tech

Green 17 [Dr Jim Green is the national nuclear campaigner with Friends of the Earth, Australia and editor of the Nuclear Monitor newsletter, published by the World Information Service on Energy. Is Saudi Arabia going nuclear? April 12, 2017. https://www.wiseinternational.org/nuclear-monitor/854/saudi-arabia-going-nuclear]

Regardless of intent, a nuclear power program would bring Saudi Arabia far closer to a weapons capability. The reactor-grade plutonium produced in the normal course of operation of a reactor can be used in weapons, or reactors can be operated on a short irradiation cycle to produce weapon-grade plutonium. In addition, a nuclear power program would necessarily entail the development of significant nuclear science and engineering expertise which could be redeployed to a weapons program. A nuclear power program could justify the acquisition of other technologies − such as enrichment and reprocessing technology, and research reactors − which might be put to use in a weapons program. (Argentina's INVAP is building a very low power research reactor in Saudi Arabia37 and an October 2017 agreement between KACARE and Russia's Rosatom envisages construction of another research reactor in the Kingdom.6)

#### Nuclear war

Gerzhoy and Miller 16 [Gene Gerzhoy is a congressional fellow with the American Political Science Association. Nick Miller is an assistant professor of political science and international and public affairs at Brown University. Donald Trump thinks more countries should have nuclear weapons. Here’s what the research says. April 6, 2016. https://www.washingtonpost.com/news/monkey-cage/wp/2016/04/06/should-more-countries-have-nuclear-weapons-donald-trump-thinks-so/?noredirect=on&utm\_term=.1c54134ffee8]

Since the dawn of the nuclear age, the United States has pursued nonproliferation as a top policy priority. That includes sponsoring and enforcing the Nonproliferation Treaty (NPT). Research suggests the NPT has been instrumental in limiting the spread of nuclear weapons, in part by coordinating states’ beliefs about one another’s nonproliferation commitments. To develop nuclear weapons, Japan and South Korea would need to violate or withdraw from the NPT. That could prompt U.S. allies and adversaries in other regions — including Saudi Arabia, Germany and Iran — to question the treaty’s viability and consider seeking their own nuclear arsenals. Would this be so bad? After all, no two nuclear armed states have fought a major war with each other, and nuclear weapons have not been used in conflict since the United States bombed Hiroshima and Nagasaki in 1945. But the conclusion that nuclear weapons produce peace is subject to debate. It’s true that there has been no war between major powers since 1945. But that may be due to other factors. The quantitative evidence linking nuclear weapons to a reduced risk of conflict is limited at best. Further, theoretical and historical evidence suggests that nuclear accidents and miscalculations are likely. More countries with nuclear weapons would mean more opportunities for catastrophic nuclear mistakes. So what’s the takeaway? A look at history shows us that nuclear proliferation is anything but inevitable. U.S. nonproliferation efforts have been surprisingly successful, even when the United States was weaker than it is today. Without firm U.S. opposition to the spread of nuclear weapons — a policy implemented through “carrots” like alliances and “sticks” like sanctions — the world would probably have far more than nine countries with nuclear weapons. What’s more, research suggests that nuclear proliferation would reduce U.S. world influence, undermine global stability and increase the risk of nuclear war.

#### Prolif causes nuclear war and terrorism – accidents, brinksmanship, adventurism, and preemptive strikes – all of that makes Middle East war more escalatory

Kroenig 15 [Matthew, Associate Professor and International Relations Field Chair in the Department of Government and School of Foreign Service at Georgetown University, 2015. “The History of Proliferation Optimism: Does It Have a Future?” Journal of Strategic Studies, Volume 38, Issue 1-2, 2015]

The spread of nuclear weapons poses at least six severe threats to international peace and security including: nuclear war, nuclear terrorism, global and regional instability, constrained US freedom of action, weakened alliances, and further nuclear proliferation. Each of these threats has received extensive treatment elsewhere and this review is not intended to replicate or even necessarily to improve upon these previous efforts. Rather the goals of this section are more modest: to usefully bring together and recap the many reasons why we should be pessimistic about the likely consequences of nuclear proliferation. Many of these threats will be illuminated with a discussion of a case of much contemporary concern: Iran’s advanced nuclear program. Nuclear War The greatest threat posed by the spread of nuclear weapons is nuclear war. The more states in possession of nuclear weapons, the greater the probability that somewhere, someday, there will be a catastrophic nuclear war. To date, nuclear weapons have only been used in warfare once. In 1945, the United States used nuclear weapons on Hiroshima and Nagasaki, bringing World War II to a close. Many analysts point to the 65-plus-year tradition of nuclear non-use as evidence that nuclear weapons are unusable, but it would be naïve to think that nuclear weapons will never be used again simply because they have not been used for some time. After all, analysts in the 1990s argued that worldwide economic downturns like the Great Depression were a thing of the past, only to be surprised by the dot-com bubble bursting later in the decade and the Great Recession of the late 2000s.48 This author, for one, would be surprised if nuclear weapons are not used again sometime in his lifetime. Before reaching a state of MAD, new nuclear states go through a transition period in which they lack a secure-second strike capability. In this context, one or both states might believe that it has an incentive to use nuclear weapons first. For example, if Iran acquires nuclear weapons, neither Iran, nor its nuclear-armed rival, Israel, will have a secure, second-strike capability. Even though it is believed to have a large arsenal, given its small size and lack of strategic depth, Israel might not be confident that it could absorb a nuclear strike and respond with a devastating counterstrike. Similarly, Iran might eventually be able to build a large and survivable nuclear arsenal, but, when it first crosses the nuclear threshold, Tehran will have a small and vulnerable nuclear force. In these pre-MAD situations, there are at least three ways that nuclear war could occur. First, the state with the nuclear advantage might believe it has a splendid first strike capability. In a crisis, Israel might, therefore, decide to launch a preventive nuclear strike to disarm Iran’s nuclear capabilities. Indeed, this incentive might be further increased by Israel’s aggressive strategic culture that emphasizes preemptive action. Second, the state with a small and vulnerable nuclear arsenal, in this case Iran, might feel use them or lose them pressures. That is, in a crisis, Iran might decide to strike first rather than risk having its entire nuclear arsenal destroyed. Third, as Thomas Schelling has argued, nuclear war could result due to the reciprocal fear of surprise attack.49 If there are advantages to striking first, one state might start a nuclear war in the belief that war is inevitable and that it would be better to go first than to go second. Fortunately, there is no historic evidence of this dynamic occurring in a nuclear context, but it is still possible. In an Israeli–Iranian crisis, for example, Israel and Iran might both prefer to avoid a nuclear war, but decide to strike first rather than suffer a devastating first attack from an opponent. Even in a world of MAD, however, when both sides have secure, second-strike capabilities, there is still a risk of nuclear war. Rational deterrence theory assumes nuclear-armed states are governed by rational leaders who would not intentionally launch a suicidal nuclear war. This assumption appears to have applied to past and current nuclear powers, but there is no guarantee that it will continue to hold in the future. Iran’s theocratic government, despite its inflammatory rhetoric, has followed a fairly pragmatic foreign policy since 1979, but it contains leaders who hold millenarian religious worldviews and could one day ascend to power. We cannot rule out the possibility that, as nuclear weapons continue to spread, some leader somewhere will choose to launch a nuclear war, knowing full well that it could result in self-destruction. One does not need to resort to irrationality, however, to imagine nuclear war under MAD. Nuclear weapons may deter leaders from intentionally launching full-scale wars, but they do not mean the end of international politics. As was discussed above, nuclear-armed states still have conflicts of interest and leaders still seek to coerce nuclear-armed adversaries. Leaders might, therefore, choose to launch a limited nuclear war.50 This strategy might be especially attractive to states in a position of conventional inferiority that might have an incentive to escalate a crisis quickly to the nuclear level. During the Cold War, the United States planned to use nuclear weapons first to stop a Soviet invasion of Western Europe given NATO’s conventional inferiority.51 As Russia’s conventional power has deteriorated since the end of the Cold War, Moscow has come to rely more heavily on nuclear weapons in its military doctrine. Indeed, Russian strategy calls for the use of nuclear weapons early in a conflict (something that most Western strategists would consider to be escalatory) as a way to de-escalate a crisis. Similarly, Pakistan’s military plans for nuclear use in the event of an invasion from conventionally stronger India. And finally, Chinese generals openly talk about the possibility of nuclear use against a US superpower in a possible East Asia contingency. Second, as was also discussed above, leaders can make a ‘threat that leaves something to chance’.52 They can initiate a nuclear crisis. By playing these risky games of nuclear brinkmanship, states can increase the risk of nuclear war in an attempt to force a less resolved adversary to back down. Historical crises have not resulted in nuclear war, but many of them, including the 1962 Cuban Missile Crisis, have come close. And scholars have documented historical incidents when accidents nearly led to war.53 When we think about future nuclear crisis dyads, such as Iran and Israel, with fewer sources of stability than existed during the Cold War, we can see that there is a real risk that a future crisis could result in a devastating nuclear exchange. Nuclear Terrorism The spread of nuclear weapons also increases the risk of nuclear terrorism.54 While September 11th was one of the greatest tragedies in American history, it would have been much worse had Osama Bin Laden possessed nuclear weapons. Bin Laden declared it a ‘religious duty’ for Al- Qa’eda to acquire nuclear weapons and radical clerics have issued fatwas declaring it permissible to use nuclear weapons in Jihad against the West.55 Unlike states, which can be more easily deterred, there is little doubt that if terrorists acquired nuclear weapons, they would use them.56 Indeed, in recent years, many US politicians and security analysts have argued that nuclear terrorism poses the greatest threat to US national security.57 Analysts have pointed out the tremendous hurdles that terrorists would have to overcome in order to acquire nuclear weapons.58 Nevertheless, as nuclear weapons spread, the possibility that they will eventually fall into terrorist hands increases. States could intentionally transfer nuclear weapons, or the fissile material required to build them, to terrorist groups. There are good reasons why a state might be reluctant to transfer nuclear weapons to terrorists, but, as nuclear weapons spread, the probability that a leader might someday purposely arm a terrorist group increases. Some fear, for example, that Iran, with its close ties to Hamas and Hizballah, might be at a heightened risk of transferring nuclear weapons to terrorists. Moreover, even if no state would ever intentionally transfer nuclear capabilities to terrorists, a new nuclear state, with underdeveloped security procedures, might be vulnerable to theft, allowing terrorist groups or corrupt or ideologically-motivated insiders to transfer dangerous material to terrorists. There is evidence, for example, that representatives from Pakistan’s atomic energy establishment met with Al-Qa’eda members to discuss a possible nuclear deal.59 Finally, a nuclear-armed state could collapse, resulting in a breakdown of law and order and a loose nukes problem. US officials are currently very concerned about what would happen to Pakistan’s nuclear weapons if the government were to fall. As nuclear weapons spread, this problem is only further amplified. Iran is a country with a history of revolutions and a government with a tenuous hold on power. The regime change that Washington has long dreamed about in Tehran could actually become a nightmare if a nuclear-armed Iran suffered a breakdown in authority, forcing us to worry about the fate of Iran’s nuclear arsenal. Regional Instability The spread of nuclear weapons also emboldens nuclear powers, contributing to regional instability. States that lack nuclear weapons need to fear direct military attack from other states, but states with nuclear weapons can be confident that they can deter an intentional military attack, giving them an incentive to be more aggressive in the conduct of their foreign policy. In this way, nuclear weapons provide a shield under which states can feel free to engage in lower-level aggression. Indeed, international relations theories about the ‘stability-instability paradox’ maintain that stability at the nuclear level contributes to conventional instability.60 Historically, we have seen that the spread of nuclear weapons has emboldened their possessors and contributed to regional instability. Recent scholarly analyses have demonstrated that, after controlling for other relevant factors, nuclear-weapon states are more likely to engage in conflict than nonnuclear-weapon states and that this aggressiveness is more pronounced in new nuclear states that have less experience with nuclear diplomacy.61 Similarly, research on internal decision-making in Pakistan reveals that Pakistani foreign policymakers may have been emboldened by the acquisition of nuclear weapons, which encouraged them to initiate militarized disputes against India.62 Currently, Iran restrains its foreign policy because it fears major military retaliation from the United States or Israel, but with nuclear weapons it could feel free to push harder. A nuclear-armed Iran would likely step up support to terrorist and proxy groups and engage in more aggressive coercive diplomacy. With a nuclear-armed Iran increasingly throwing its weight around in the region, we could witness an even more crisis prone Middle Eas

t. And in a poly-nuclear Middle East with Israel, Iran, and, in the future, possibly other states, armed with nuclear weapons, any one of those crises could result in a catastrophic nuclear

#### The US responds to Russian attacks against them OR allies with a devastating counterforce – that crushes Russia.

Lonsdale 19 [David Lonsdale is the Director of the Centre for Security Studies at the University of Hull, UK, “The 2018 Nuclear Posture Review: A return to nuclear warfighting?,” *Comparative Strategy* 28:2, pub. online, May 17, 2019]

The important question is: what objectives would the U.S. pursue within a nuclear conflict, and how would they be achieved? It appears that the primary objectives sought would be damage limitation (an important component of warfighting) and the reestablishment of deterrence. This fits with the preliminary qualifying statement to this section of the review, in which it is stated that the U.S. would use nuclear weapons in compliance with the law of armed conflict.86 Indeed, the NPR is at pains to note that nuclear forces would only be used for defensive purposes. One assumes that this rules out counter-value targeting (deliberate attacks against enemy population centers). This leaves counterforce operations as the only option. Strikes against enemy nuclear forces and their command and control, in conjunction with active ballistic missile defenses (BMD), would help ensure damage limitation for the U.S. and its allies.87 A focus on counterforce options is reminiscent of later Cold War strategy, when the U.S. increasingly procured weapon systems with increased accuracy and penetrative capability designed for warfighting. Indeed, Lieber and Press argue that increases in accuracy and remote sensing have enhanced the potency of counterforce options, to the point that low-casualty counterforce options are possible for the first time.88 One can reasonably assume, although it is not explicitly noted in the review, that the restoration of deterrence would be achieved through a combination of intra-war deterrence by denial (as noted above in relation to counter-escalation strategies) and punishment for coercive purposes. Inclusion of the latter is premised on references to “unacceptable consequences” resulting from nuclear attack elsewhere in the NPR. 89 However, in the face of no counter-value targeting, it is reasonable to question how these costs would be inflicted. There are three possible answers, although none of them is discussed in the NPR. First, it may be that the enemy values highly their nuclear forces; so that the loss of them would inflict unacceptable costs. Alternatively, there may be an unwritten assumption that counterforce strikes would inevitably produce “bonus” counter-value damage. Much of the nuclear force infrastructure (including command and control, airbases, etc.) is within or near population centers. Thus, even a limited counterforce strike is likely to have a significant detrimental effect on counter-value targets. This assumption, however, is somewhat thrown into question by the stated desire to procure accurate limited-yield weapons and to operate within the norms of the war convention. Low-yield accurate weapons would be ideal for counterforce missions and would minimize damage to counter-value target sets. Thus, bonus damage is likely to be limited. Finally, although again not explicitly noted in the NPR, perhaps there is a return to the notion of attacking targets associated with political control. Yet again, though, concerns over collateral damage would likely restrict a campaign aimed at the means of political control. We are, thus, left with many questions concerning how the coercive effects of nuclear weapons would be administered. This is problematic, for as Thomas C. Schelling eloquently noted, “The power to hurt can be counted among the most impressive attributes of military force.” 90 It has to be concluded that the uncertainties in this area of strategy reflect either a paradox or incomplete strategic thinking in the NPR. Clarity on these matters would be welcome, especially as it would enhance deterrence credibility still further. Although countervailing is back on the agenda in the 2018 NPR, there is no mention of prevailing in a nuclear conflict. Indeed, the review quotes Defense Secretary Mattis, echoing the early thoughts of Brodie, that nuclear war can never be won, and thus must never be fought.91 This is both curious and disappointing from a warfighting perspective, and speaks to the need for the further development of strategic thinking in U.S. nuclear strategy under Trump. Damage limitation and the reestablishment of deterrence are perfectly admirable goals within the context of nuclear conflict. However, if the U.S. is to achieve its objectives in a post-deterrence environment, it must have a comprehensive theory of victory. Damage limitation and the reestablishment of deterrence are limited negative objectives. They do not provide a positive driving force for the use of nuclear weapons. To reiterate, victory refers to a policy objective that must be achieved in the face of the enemy. And, as Clausewitz reminds us, the will of the enemy must be broken by destroying his ability to resist, or putting him in such a position as his defeat is inevitable.92 If we consider the conditions under which U.S. nuclear weapons could be used, as stipulated by the 2018 NPR, then we can assume that an enemy power (likely) Russia, China, North Korea, or a state-sponsored terror group) has launched a substantial attack on either the U.S. or one of its allies. We can think in terms of a Russian assault on the Baltic States, a North Korean attack on South Korea, or perhaps a Chinese invasion of Taiwan. Alternatively, the U.S. may have been subjected to a substantial strategic attack, involving either weapons of mass destruction (including biological or chemical) or a crippling cyberattack. In any of these scenarios, more expansive objectives would be required. As Lieber and Press note, “In some cases, wars may be triggered by events that compel U.S. leaders to pursue decisive victory, conquest, and/or regime change.” 93 Thus, in order to achieve its objectives, the U.S. would variously need to: punish an aggressor to reinstate deterrence; defeat enemy forces for damage limitation or to reclaim lost territory; and, in the North Korean case, presumably overthrow a communist regime. In some of these cases, damage limitation and the reestablishment of deterrence would not be enough. Enemy forces would have to be defeated, removed, destroyed, or coerced (to withdraw from allied territory). Any operations in pursuit of these goals would need a theory of victory built on a detailed understanding of the use of nuclear weapons in the service of military objectives; i.e., nuclear warfighting. This could include defeating enemy nuclear forces for force protection of U.S. and allied conventional forces. Alternatively, U.S. nuclear forces may be required to defeat regionally superior enemy conventional forces. And yet, as previously noted, the NPR rules out a return to nuclear warfighting. This is a significant disjuncture in U.S. nuclear strategy. It is even more curious when one considers the range of modern forces the Trump administration seeks to acquire under the 2018 NPR.

#### That initial strike will completely destroy their nuclear arsenal

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The US nuclear forces modernization program has been portrayed to the public as an effort to ensure the reliability and safety of warheads in the US nuclear arsenal, rather than to enhance their military capabilities. In reality, however, that program has implemented revolutionary new technologies that will vastly increase the targeting capability of the US ballistic missile arsenal. This increase in capability is astonishing—boosting the overall killing power of existing US ballistic missile forces by a factor of roughly three—and it creates exactly what one would expect to see, if a nuclear-armed state were planning to have the capacity to fight and win a nuclear war by disarming enemies with a surprise first strike. Because of improvements in the killing power of US submarine-launched ballistic missiles, those submarines now patrol with more than three times the number of warheads needed to destroy the entire fleet of Russian land-based missiles in their silos. US submarine-based missiles can carry multiple warheads, so hundreds of others, now in storage, could be added to the submarine-based missile force, making it all the more lethal. The revolutionary increase in the lethality of submarine-borne US nuclear forces comes from a “super-fuze” device that since 2009 has been incorporated into the Navy’s W76-1/Mk4A warhead as part of a decade-long life-extension program. We estimate that all warheads deployed on US ballistic missile submarines now have this fuzing capability. Because the innovations in the super-fuze appear, to the non-technical eye, to be minor, policymakers outside of the US government (and probably inside the government as well) have completely missed its revolutionary impact on military capabilities and its important implications for global security. Before the invention of this new fuzing mechanism, even the most accurate ballistic missile warheads might not detonate close enough to targets hardened against nuclear attack to destroy them. But the new super-fuze is designed to destroy fixed targets by detonating above and around a target in a much more effective way. Warheads that would otherwise overfly a target and land too far away will now, because of the new fuzing system, detonate above the target. FIGURE 1. The deployment of the new MC4700 arming, fuzing, and firing system on the W76-1/Mk4A significantly increases the number of hard target kill-capable warheads on US ballistic missile submarines. The result of this fuzing scheme is a significant increase in the probability that a warhead will explode close enough to destroy the target even though the accuracy of the missile-warhead system has itself not improved. As a consequence, the US submarine force today is much more capable than it was previously against hardened targets such as Russian ICBM silos. A decade ago, only about 20 percent of US submarine warheads had hard-target kill capability; today they all do. (See Figure 1.) This vast increase in US nuclear targeting capability, which has largely been concealed from the general public, has serious implications for strategic stability and perceptions of US nuclear strategy and intentions. Russian planners will almost surely see the advance in fuzing capability as empowering an increasingly feasible US preemptive nuclear strike capability—a capability that would require Russia to undertake countermeasures that would further increase the already dangerously high readiness of Russian nuclear forces. Tense nuclear postures based on worst-case planning assumptions already pose the possibility of a nuclear response to false warning of attack. The new kill capability created by super-fuzing increases the tension and the risk that US or Russian nuclear forces will be used in response to early warning of an attack—even when an attack has not occurred. The increased capability of the US submarine force will likely be seen as even more threatening because Russia does not have a functioning space-based infrared early warning system but relies primarily on ground-based early warning radars to detect a US missile attack. Since these radars cannot see over the horizon, Russia has less than half as much early-warning time as the United States. (The United States has about 30 minutes, Russia 15 minutes or less.) The inability of Russia to globally monitor missile launches from space means that Russian military and political leaders would have no “situational awareness” to help them assess whether an early-warning radar indication of a surprise attack is real or the result of a technical error. The combination of this lack of Russian situational awareness, dangerously short warning times, high-readiness alert postures, and the increasing US strike capacity has created a deeply destabilizing and dangerous strategic nuclear situation. When viewed in the alarming context of deteriorating political relations between Russia and the West, and the threats and counter-threats that are now becoming the norm for both sides in this evolving standoff, it may well be that the danger of an accident leading to nuclear war is as high now as it was in periods of peak crisis during the Cold War. How the new accuracy-enhancing fuze works. The significant increase in the ability of the W76-1/Mk4A warhead to destroy hardened targets—including Russian silo-based ICBMs—derives from a simple physical fact: Explosions that occur near and above the ground over a target can be lethal to it. This above-target area is known as a “lethal volume”; the detonation of a warhead of appropriate yield in this volume will result in the destruction of the target. The recognition that the killing power of the W76 warhead could be vastly increased by equipping it with a new fuze was discussed in a 1994 alternate warhead study conducted by the Defense and Energy departments. The study calculated the number of warheads that would be needed for the W76 to attack the Russian target base, if START II were implemented. At the time, W76/Mk4 warheads had a fixed height-of-burst fuze (meaning the fuze could not adjust its detonation at an optimal location if it were falling short or long of a target). With those fixed-height fuzes, submarine-launched nuclear missiles were mainly aimed at softer targets such as military bases. But the study found that an enhanced Mk4A reentry-body with a new fuze that provided for an adjustable height-of-burst as it arrives would have significant capabilities against harder targets, compared to warheads with the earlier fuzes. The study assumed that a smaller number of Mk4 nuclear warheads with higher killing power per warhead could cover the Russian target base and be more effective than multiple attacks on targets with less destructive warheads. In other words, an enhanced fuze would allow the United States to reduce the number of warheads on its ballistic missile submarines, but increase the targeting effectiveness of the fleet. Figure 2 illustrates the kill distribution of US submarine-launched nuclear missiles equipped with the earlier, fixed height-of-burst fuzes. The dome-shaped volume outlined in gray shows the lethal volume within which a 100-kiloton nuclear explosion will generate 10,000 pounds per square inch or more of blast pressure on the ground. In other words, if a target on the ground cannot survive a blast of 10,000 pounds per square inch or more, it will be destroyed if a 100-kt nuclear weapon detonates anywhere within that dome-shaped volume. To show the physical relationship of the lethal volume for a particular ground target of interest—in this case a Russian SS-18 ICBM silo—Figure 2 was drawn to scale. Also shown to scale is the approximate spread of warhead trajectories that correspond to a missile that is accurate to 100 meters, a miss distance roughly the same as what is achieved by the Trident II sea-launched ballistic missile. Miss distances are typically characterized in terms of a quantity called the “circular error probable,” or CEP, which is defined as the radius of a circle around the aim point within which half of the warheads aimed at a target are expected to impact. In the case of a Trident II 100-kt W76-1 ballistic missile warhead, the lethal distance on the ground and the CEP are roughly equal. As a result, roughly half of the warheads equipped with the old, fixed-height fuze system could be expected to fall close enough to detonate on the ground within the lethal range. The new super-fuze for W76-1/Mk4A has a flexible height-of-burst capability that enables it to detonate at any height within the lethal volume over a target. Figure 3 shows how the new fuze vastly increases the chances that the target will be destroyed, even though the arriving warheads have essentially the same ballistic accuracy. The super-fuze is designed to measure its altitude well before it arrives near the target and while it is still outside the atmosphere. This measurement would typically be taken at an altitude of 60 to 80 kilometers, where the effects of atmospheric drag are very small. At this point, the intended trajectory is known to very high precision before the warhead begins to substantially slow from atmospheric drag. If the warhead altitude measured by the super-fuze at that time were exactly equal to the altitude expected for the intended trajectory, the warhead would be exactly on target. But if the altitude were higher than expected, the warhead could be expected to hit beyond the intended aim point. Likewise, if the altitude is lower than that expected, the warhead would likely hit short of the intended aim point. Testing has established the statistical shape and orientation of the expected spread of warhead locations as they fly towards the target. In the case of Trident II, the spread of trajectories around the intended trajectory is so small that the best way to increase the chances of detonating inside the lethal volume is to intentionally shift the aim point slightly beyond the location of the target. (Note that the intended trajectory in Figure 3 is shifted slightly down range.) By shifting the aim point down range by a distance roughly equal to a CEP, warheads that would otherwise fall short or long of the target using the conventional Mk4 fuze instead will detonate—at different heights dictated by the super fuze—within the lethal volume above a target. This shift in the down-range aim point will result in a very high percentage of warheads that overfly the target detonating in the lethal volume. The end result is that with the new Mk4A super-fuze, a substantially higher percentage of launched warheads detonate inside the lethal volume, resulting in a considerable increase in the likelihood that the target is destroyed. The ultimate effect of the super fuze’s flexible burst-height capability is a significantly increased target kill probability of the new W76-1/Mk4A warhead compared with the conventional warhead of the same type. Figure 4 shows the probability that warheads will detonate close enough to destroy the ground-target for both the conventional fuze and the super-fuze. As can be seen from figure 4, the probability of kill using a submarine-launched warhead with the new super-fuze (W76-1/Mk4A) is about 0.86. This 86 percent probability is very close to what could be achieved using three warheads with conventional fuzes to attack the same target. To put it differently: In the case of the 100-kt Trident II warhead, the super fuze triples the killing power of the nuclear force it has been applied to. Many Russian targets are not hardened to 10,000 pounds per square inch blast overpressure. Figure 5 shows the same probability of kill curves for the case of a target that is only hard to 2,000 pounds per square inch or more of blast overpressure, which is the actual case for almost all targets hardened to nuclear attack—ICBMs and supporting command posts, hardened structures at strategic airbases, submarines at pierside or in protected tunnels, hardened command posts at road mobile missile bases and elsewhere, etc. In this case, the super-fuze achieves a probability of kill of about 0.99—or very near certainty. This case also is equivalent to achieving a probability of kill associated with using three warheads with a 0.83 probability to achieve a 0.99 probability of kill. The probability of kills revealed by figures 4 and 5 have enormous security ramifications. The US military assumes that Russian SS-18 and TOPOL missile silos are hardened to withstand a pressure of 10,000 pounds per square inch or more. Since with the new super-fuze, the probability of kill against these silos is near 0.9, the entire force of 100-kt W76-1/Mk4A Trident II warheads now “qualifies” for use against the hardest of Russian silos. This, in turn, means that essentially all of the higher-yield nuclear weapons (such as the W88/Mk5) that were formerly assigned to these Russian hard targets can now be focused on other, more demanding missions, including attacks against deeply-buried underground command facilities. In effect, the significant increase in the killing power of the W76 warhead allows the United States to use its submarine-based weapons more decisively in a wider range of missions than was the case before the introduction of this fuze. The history of the US super-fuze program. The super-fuze is officially known as the arming, fuzing and firing (AF&F) system. It consists of a fuze, an arming subsystem (which includes the radar), a firing subsystem, and a thermal battery that powers the system. The AF&F is located in the tip of the cone-shaped reentry body above the nuclear explosive package itself. The AF&F developed for the new W76-1/Mk4A is known as MC4700 and forms part of the W76 life-extension program intended to extend the service life of the W76—the most numerous warhead in the US stockpile—out to the time period 2040-2050. The new super-fuze uses a technology first deployed on the high-yield W88/Mk5 Trident II warhead. The Navy’s Strategic Systems Program contracted with the Lockheed Missile and Space Corporation in the early 1980s to develop a new fuze that included “a radar-updated, path-length compensating fuze … that could adjust for trajectory errors and significantly improve the ability to destroy a target. This was an early and sophisticated use of artificial intelligence in a weapon.” It was the radar-updated, path-length compensating fuze—combined with the increased accuracy of the Trident II missile—that gave an SLBM the ability to hold a hardened target at risk. Efforts to incorporate the W88/Mk5 fuze capability into the W76/Mk4 was part of the Energy Department’s Warhead Protection Program in the mid-1990s to permit “Mk5 fuzing functionality (including radar-updated path length fuzing, and radar proximity fuzing) as an option to replacement of the much smaller Mk4 AF&F,” according to the partially declassified 1996 Stockpile Stewardship and Management Plan (emphasis added). Apart from the inherent drive to improve military capabilities whenever possible, the motivation for increasing the target kill capability of the submarine-borne W76 was that the Air Force’s hard-target killer, the MX Peacekeeper ICBM, was scheduled to be retired under the START II treaty. The Navy only had 400 W88 hard-target kill warheads, so a decision was made to add the capability to the W76. In an article in April 1997, Strategic Systems Program director Rear Adm. George P. Nanos publicly explained that “just by changing the fuze in the Mk4 reentry body, you get a significant improvement. The Mk4, with a modified fuze and Trident II accuracy, can meet the original D5 [submarine-borne missile] hard target requirement,” [Nanos stated](https://fas.org/wp-content/uploads/sites/4/W76nanos.pdf). Later that same year, the Energy Department’s Stockpile Stewardship and Management Plan formally described the objective of the fuze modernization program “to enable W76 to take advantage of [the] higher accuracy of [the] D5 missile.” By 1998, the fuze modernization effort became a formal project, with five SLBM flight tests planned for 2001-2008. Full-scale production of the super-fuze equipped W76-1/Mk4A began in September 2008, with the first warhead delivered to the Navy in February 2009. By the end of 2016, roughly 1,200 of an estimated 1,600 planned W76-1/Mk4As had been produced, of which about 506 are currently deployed on ballistic missile submarines. The implications. The newly created capability to destroy Russian silo-based nuclear forces with 100-kt W76-1/Mk4A warheads—the most numerous in the US stockpile—vastly expands the nuclear warfighting capabilities of US nuclear forces. Since only part of the W76 force would be needed to eliminate Russia’s silo-based ICBMs, the United States will be left with an enormous number of higher-yield warheads that would then be available to be reprogrammed for other missions. Approximately 890 warheads are deployed on US ballistic missile submarines (506 W76-1/Mk4A and 384 W88/Mk5). Assuming that the 506 deployed W76-1s equipped with the super-fuze were used against Russian silo-based ICBMs, essentially all 136 Russian silo-based ICBMs could be potentially eliminated by attacking each silo with two W76-1 warheads—a total of 272 warheads. This would consume only 54 percent of the deployed W76-1 warheads, leaving roughly 234 of the 500 warheads free to be targeted on yet other installations. And hundreds of additional submarine warheads are in storage for increasing the missile warhead loading if so ordered. The Trident II missiles that are deployed today carry an average of four to five W76-1 warheads each. However, each missile could carry eight such warheads if the US were to suddenly decide to carry a maximum load of W76 warheads on its deployed Trident II ballistic missiles. And the missile was tested with up to 12 warheads. Essentially all the 384 W88 “heavy” Trident II warheads, with yields of 455 kt, would also be available for use against deeply-buried targets. In addition, about 400 Minuteman III warheads, with yields of about 300 kt, could be used to target hardened Russian targets. In all, the entire Russian silo-based forces could potentially be destroyed while leaving the US with 79 percent of its ballistic missile warheads unused. Even after Russia’s silo-based missiles were attacked, the US nuclear firepower remaining would be staggering—and certainly of concern to Russia or any other country worried about a US first strike. Because of the new kill capabilities of US submarine-launched ballistic missiles (SLBMs), the United States would be able to target huge portions of its nuclear force against non-hardened targets, the destruction of which would be crucial to a “successful” first strike. One such mission would likely involve the destruction of road-mobile ICBMs that had left their garrisons to hide in Russia’s vast forests in anticipation of attack. The garrisons and their support facilities would probably be destroyed quickly, and some of the dispersed road-mobile launchers would also be quickly destroyed as they were in the process of dispersing. To destroy or expose the remaining launchers, United States planners would have the nuclear forces needed to undertake truly scorched-earth tactics: Just 125 US Minuteman III warheads could set fire to some 8,000 square miles of forest area where the road-mobile missiles are most likely to be deployed. This would be the equivalent of a circular area with a diameter of 100 miles. Such an attack would be potentially aimed at destroying all road-mobile launchers either as they disperse or after they have taken up position some short distance from roads that give them access to forested areas. Many of the nearly 300 remaining deployed W76 warheads could be used to attack all command posts associated with Russian ICBMs. A very small number of Russia’s major leadership command posts are deeply buried, to protect them from direct destruction by nuclear attack. The US military would likely reserve the highest-yield warheads for those targets. Figure 7 below shows an example of a structure that is roughly the size of the US Capitol building that is postulated to have rooms and tunnels as deep as 800 feet or more. Shelters that have rooms and tunnels at even greater depths could be sealed by using multiple nuclear warheads to crater every location where an entrance or exit might conceivably have been built.

#### Successful strike in 22 minutes forces a surrender – solves further escalation

Johnson 17 [Sarah Johnson, Writer for BillTrack50, citing Jeffrey Lewis, director of the East Asia Nonproliferation Program for the James Martin Center for Nonproliferation Studies at the Middlebury Institute of International Studies at Monterey, April 27, 2017, “U.S. Nuclear First Strike Policy; Be Afraid,” <https://www.billtrack50.com/blog/in-the-news/u-s-nuclear-first-strike-policy-be-afraid>]

For example, if Russia launched a nuclear weapon, the US has the 30 minute flight time of the intercontinental ballistic missile (ICBM) to assess their desire to “launch under attack”. The many different steps in the notification process take up about 22 of the 30 minutes; like the time it takes for the missiles to break through clouds, detection of the launch, transmitting different messages, informing the president and authenticating orders to launch. All of this effectively gives the president eight minutes to decide to whether or not to blow up the world. The second situation is a preemptive strike — a first-strike attack with nuclear weapons carried out to destroy an enemy’s capacity to respond. Preemptive strikes can be based on the assumption that the enemy is planning an imminent attack, but don’t have to be. The methodology behind a preemptive nuclear strike is to attack the enemy’s strategic nuclear weapon facilities (missile silos, submarine bases, bomber airfields), command and control sites and storage depots first. By hitting these targets first the enemy will be so wounded with so little of their resources left that they will be forced to surrender with minimal damage to the attacking party.

#### Missile defense will absorb any missiles that survive our initial strike

Lieber and Press 6 – Keir, Professor @ Georgetown, Daryl, Professor @ Dartmouth, “The End of MAD? The Nuclear Dimension of U.S. Primacy”, https://www.mitpressjournals.org/doi/pdf/10.1162/isec.2006.30.4.7

MISSILE DEFENSE. U.S. offensive nuclear capabilities will grow as the United States deploys a national missile defense (NMD) system. In 2001 the United States withdrew from the Antiballistic Missile Treaty and began to build a missile shield. The first contingent of NMD interceptors was deployed in 2004, but this step is only the starting point for a large, multilayered missile defense system. To this end, the United States has doubled investment in missile defense and accelerated research and development on a range of land-, air-, sea-, and space-based missile defense systems.52 Opponents of national missile defense raise two important critiques regarding its feasibility. First, they note that even a few hundred incoming warheads would overwhelm any plausible defense. Second, a missile defense system based on intercepting warheads outside the Earth’s atmosphere is impractical because it is extremely difficult to differentiate decoys from warheads in space.53 Although both criticisms are cogent, even a limited missile shield could be a powerful complement to the offensive capabilities of U.S. nuclear forces. Russia has approximately 3,500 strategic nuclear warheads today, but if the United States struck before Russian forces were alerted, Russia would be lucky if a half-dozen warheads survived. A functioning missile defense system could conceivably destroy six warheads. Furthermore, the problem of differentiating warheads from decoys becomes less important if only a handful of surviving enemy warheads and decoys are left to intercept. Facing a small number of incoming warheads and decoys, U.S. interceptors could simply target them all.

#### Limited nuclear war doesn’t cause extinction – BUT – solves future use – their Edwards ev assumes a much larger war – no warrant for draw in

Deudney 18 [Daniel H. Deudney, Associate Professor of Political Science at Johns Hopkins University, March 15, 2018, “The Great Debate,” The Oxford Handbook of International Security, www.oxfordhandbooks.com, doi:10.1093/oxfordhb/9780198777854.013.22]

Although nuclear war is the oldest of these technogenic threats to civilization and human survival, and although important steps to restraint, particularly at the end of the Cold War, have been achieved, the nuclear world is increasingly changing in major ways, and in almost entirely dangerous directions. The third “bombs away” phase of the great debate on the nuclear-political question is more consequentially divided than in the first two phases. Even more ominously, most of the momentum lies with the forces that are pulling states toward nuclear-use, and with the radical actors bent on inflicting catastrophic damage on the leading states in the international system, particularly the United States. In contrast, the arms control project, although intellectually vibrant, is largely in retreat on the world political stage. The arms control settlement of the Cold War is unraveling, and the world public is more divided and distracted than ever. With the recent election of President Donald Trump, the United States, which has played such a dominant role in nuclear politics since its scientists invented these fiendish engines, now has an impulsive and uninformed leader, boding ill for nuclear restraint and effective crisis management. Given current trends, it is prudent to assume that sooner or later, and probably sooner, nuclear weapons will again be the used in war. But this bad news may contain a “silver lining” of good news. Unlike a general nuclear war that might have occurred during the Cold War, such a nuclear event now would probably not mark the end of civilization (or of humanity), due to the great reductions in nuclear forces achieved at the end of the Cold War. Furthermore, politics on “the day after” could have immense potential for positive change. The survivors would not be likely to envy the dead, but would surely have a greatly renewed resolution for “never again.” Such an event, completely unpredictable in its particulars, would unambiguously put the nuclear-political question back at the top of the world political agenda. It would unmistakably remind leading states of their vulnerability It might also trigger more robust efforts to achieve the global regulation of nuclear capability. Like the bombings of Hiroshima and Nagasaki that did so much to catalyze the elevated concern for nuclear security in the early Cold War, and like the experience “at the brink” in the Cuban Missile Crisis of 1962, the now bubbling nuclear caldron holds the possibility of inaugurating a major period of institutional innovation and adjustment toward a fully “bombs away” future.

#### Otherwise, Russia will broadly scale up military AI – extinction

Rogers 17 [Mike Rogers is a former US Representative from Michigan, chairman of the House Permanent Select Committee on Intelligence, “Artificial intelligence — the arms race we may not be able to control," TheHill, September 21, 2017, <https://thehill.com/opinion/technology/351725-artificial-intelligence-is-the-new-arms-race-we-may-not-be-able-to-control>]

“Whoever becomes the leader in this sphere will become ruler of the world,” [said](https://www.theverge.com/2017/9/4/16251226/russia-ai-putin-rule-the-world) Vladimir Putin. The sphere the President of Russia is referring to is artificial intelligence (AI) and his comments should give you a moment of pause. Addressing students at the beginning of our Labor Day weekend, Putin remarked “Artificial intelligence is the future, not only for Russia, but for all humankind,” adding, “It comes with colossal opportunities, but also threats that are difficult to predict.” For once, I find myself in agreement with the President of Russia, but just this once. Artificial Intelligence offers incredible promise and peril. Nowhere is this clearer than in the realm of national security. Today un-crewed systems are a fact of modern warfare. Nearly every country is adopting systems where personnel are far removed from the conflict and wage war by remote control. AI [stands](https://www.nytimes.com/2016/10/26/us/pentagon-artificial-intelligence-terminator.html) to sever that ground connection. Imagine a fully autonomous Predator or Reaper drone. Managed by an AI system, the drone could identify targets, determine their legitimacy, and conduct a strike all without human intervention. Indeed, the Ministry of Defence of the United Kingdom issued a press [statement](https://www.theverge.com/2017/9/12/16286580/uk-government-killer-robots-drones-weapons) in September that the country “does not possess fully autonomous weapon systems and has no intention of developing them,” and that its weapons systems “will always be under control as an absolute guarantee of human oversight and authority and accountability.” Let’s think smaller. Imagine a tiny insect-sized drone loaded with explosive. Guided by a [pre-programmed AI](https://www.amazon.com/Life-3-0-Being-Artificial-Intelligence/dp/1101946598), it could hunt down a specific target — a politician, a general, or an opposition figure — determine when to strike, how to strike, and if to strike based on its own learning. Howard Hughes Medical Center [recently](https://qz.com/1000011/scientists-attached-an-electronic-backpack-to-a-genetically-modified-dragonfly-and-turned-it-into-a-drone/) attached a backpack to a genetically modified dragonfly and flew it remotely. These examples are, however, where humans are involved and largely control the left and right limits of AI. Yet, there are examples of AI purposely and independently going beyond programed parameters. Rogue algorithms led to a [flash crash](http://gizmodo.com/rogue-algorithm-blamed-for-historic-crash-of-the-britis-1787523587) of the British Pound. In 2016, in-game AIs created super AIs weapons and [hunted down](http://www.kotaku.co.uk/2016/06/03/elites-ai-created-super-weapons-and-started-hunting-players-skynet-is-here) human players, and AIs have [created](https://www.forbes.com/sites/tonybradley/2017/07/31/facebook-ai-creates-its-own-language-in-creepy-preview-of-our-potential-future/#1cf69787292c) their own languages that were indecipherable to humans. AIs proved more effective than their human counterparts in producing and catching users in spear phishing programs. Not only did the AIs create more content, they successfully [captured](https://www.blackhat.com/docs/us-16/materials/us-16-Seymour-Tully-Weaponizing-Data-Science-For-Social-Engineering-Automated-E2E-Spear-Phishing-On-Twitter.pdf) more users with their deception. While seemingly simple and low stakes in nature, extrapolate these scenarios into more significant and risky areas and the consequences become much greater. Cybersecurity is no different. Today we are focused on the hackers, trolls, and cyber criminals (officially sanctioned and otherwise) who seek to penetrate our networks, steal our intellectual property, and leave behind malicious code for activation in the event of a conflict. Replace the individual with an AI and imagine how fast hacking takes place; networks against networks, at machine speed all without a human in the loop. Sound far-fetched? It’s not. In 2016, the Defense Advanced Research Projects Agency held an AI on AI capture the flag contest called the [Cyber Grand Challenge](https://www.youtube.com/watch?v=qSgYu3w3DMM) at the DEF CON event. AI networks against AI networks. In August of this year the founders of 116 AI and robotics companies signed a letter petitioning the United Nations [to ban](https://www.theverge.com/2017/8/21/16177828/killer-robots-ban-elon-musk-un-petition) lethal autonomous systems. Signatories to this letter included Google DeepMind’s co-founder Mustafa Suleyman and Elon Musk who, in response to Putin’s quote [tweeted](https://twitter.com/elonmusk/status/904638455761612800), “Competition for AI superiority at national level most likely cause of WW3 imo (sic)”. AI is not some far off future challenge. It is a challenge today and one with which we must grapple. I am in favor of fielding any system that enhances our national security, but we must have an open and honest conversation about the implications of AI, the consequences of which we do not, and may not, fully understand. This is not a new type of bullet or missile. This is a potentially fully autonomous system that even with human oversight and guidance will make its own decisions on the battlefield and in cyberspace. How can we ensure that the system does not escape our control? How can we prevent such systems from falling into the hands of terrorists or insurgents? Who controls the source code? How and can we build in so-called impenetrable kill switches? AI and AI-like systems are slowly being introduced into our arsenal. Our adversaries, China, Russia, and others are also introducing AI systems into their arsenals as well. Implementation is happening faster than our ability to fully comprehend the consequences. Putin’s new call spells out a new arms race. Rushing to AI weapon systems without guiding principles is a dangerous. It risks an escalation that we do not fully understand and may not be able to control. The cost of limiting AI intelligence being weaponized [could vastly exceed](https://www.belfercenter.org/sites/default/files/files/publication/AI%20NatSec%20-%20final.pdf) all of our nuclear proliferation efforts to date. More troubling, the consequences of failure are equally existential.