

Hope

Is there hope of reducing the risk?

If my [preliminary analysis](#) is correct and the risk posed by nuclear weapons is thousands of times greater than living next to a nuclear power reactor, that leads to another key question: Is there any hope of reducing the risk thousands of times over, until it reaches an acceptable level? Are human beings capable of such monumental change?

Many people dismiss reducing the risk posed by nuclear weapons as an impossible task and have told me: “You can’t change human nature!” That may be true, *but human nature is to change*. Adaptability is our species’ defining characteristic. Through adaptations of clothing and shelter, we have extended our range from a small tropical region to the entire globe. Through other adaptations, we have learned to fly higher than birds, out swim fish, and even walk on the Moon.

We have also adapted our social structures in ways initially thought to be impossible. Abolishing slavery, a laughable idea two hundred years ago, became the law of the land five decades years later. Women’s suffrage, which initially was seen as even more unthinkable, also came to pass. History shows that we have changed what seemed like immutable aspects of human nature when far less was at stake. Changing to ensure our survival is certainly within our power, but first society must come to understand that survival is at stake.

When we look back from today’s vantage point on slavery and women’s abject subjugation, we tend to wonder how people could ever have been so inhuman. But, in viewing those changes through that negative prism, we miss the miracle that individuals wrought in bringing about those positive societal upheavals. We need to reframe that “glass half empty” view and see those changes for what they were – astounding miracles in which ordinary citizens played the key role. In contrast the “half empty” view reinforces a belief system in which humanity is deficient and therefore incapable of change.

Prof. Dweck’s Research

Useful insights for overcoming the argument that, “You can’t change human nature!” can be gained from the [research of Prof. Carol Dweck](#) of Stanford’s Psychology Department. Dweck studies how different people respond when confronted with a challenge that exceeds their current abilities, and how different stimuli might affect their responses. She found that some people rise to the challenge even though that might mean failing, while others shy away, fearful of being found wanting. Her research has shown that much of this difference can be attributed to people typically having one of two mindsets. In the first mindset, ability is fixed and immutable, something you are born with and cannot change. In the other, ability is more like a muscle that can be developed by exercise and hard work.

Dweck has found that people who see ability as fixed and immutable have a strong tendency to shy away from challenges that are above their current ability and would – in their mindset – lead to failure. Conversely, she has found that people who believe ability can be improved through hard work tend to welcome such challenges as growth opportunities.

Dweck's research also found that it is possible to influence a person's response to such challenges by shifting their mindset. As described on pages 24-26 of her book, *Self Theories*:

We've succeeded in influencing students' theories of intelligence in other studies as well. One such study, with college students, was conducted by Randall Bergen (Bergen, 1992). For the study, Bergen wrote two *Psychology Today*-type articles, complete with graphics. Through the use of vivid case studies in what was said to be the latest scientific research, each article made an extremely compelling case for one of the theories [either that ability is innate and immutable or that it can be developed through effort]. ...

[Both articles began by describing an eight-month old baby, named Adam, who had exceptional abilities, normally not seen until ages three or four.] ... The entity theory article [the fixed, immutable mindset] went on to explain Adam's exceptional abilities in terms of fixed, innate intelligence, concluding that the brilliance of Mozart and Einstein was mostly built into them at birth:

Their genius was probably a result of their DNA, not their schooling, not the amount of attention their parents gave them, not their own efforts to advance themselves. These great men were probably born, not made.

The incremental theory article [the second mindset, which believes that ability can be developed by hard work] began the same way but went on to explain baby Adam's unusual abilities in terms of his challenging environment. They concluded that the brilliance of people such as Leonardo da Vinci and Albert Einstein was a result of their actions and their environments, not their genes.

Bergen found that the articles had a clear impact on students' theories of intelligence and on their persistence in the face of failure ... Ying Yi Hong, C. Y. Chiu, Derrick Lin, and I (Hong *et al*, 1998, study 4) also used these articles to influence college students' theories of intelligence. This study was designed as a follow-up to the study we just described, in which entering freshmen were asked about their interest in a remedial English course that could aid their scholastic performance.

The aim of this next study was to see if students who were given an entity theory of intelligence would pass up a chance to enhance their deficient skills, just as the students with entity theories had done in the original study. In this study, college students were

first given Bergen's *Psychology Today*-type articles as part of their reading comprehension test. Half of them read the vivid and convincing version that espoused the entity theory and the other half read the vivid and convincing version that espoused the incremental theory. After answering some questions about the passage they had read, students went on to the second part of the study, a nonverbal ability test.

Here they worked on the set of problems and received feedback that they had done relatively well ... or relatively poorly... However, before moving to the next set of problems, students were offered a tutorial "that was found to be effective in improving performance on the test for most people." All the students had room for improvement. The question was: Who would take advantage of this tutorial?

Interestingly, most of the students who had done fairly well elected to take the tutorial. Of the students who had done relatively well, 73.3% of those given an incremental theory and 60.0% of those given an entity theory said they wanted to take the tutorial. ...

Among those who had done poorly, a different story emerged. The students who were exposed to the incremental theory still wanted to do tutorial (73.3% elected to take it). However, those who were exposed to the entity theory rejected the opportunity to improve their skills. Only 13.3% of the students in this group said they wanted to take the tutorial. Once again, when students have a fixed view of intelligence, those who most need remedial work are the ones who most clearly avoid it.

In short, we have shown that it is possible to influence students' theories about their intelligence, and that when we do so we influence their goals and concerns. Those who were led to believe their intelligence is fixed begin to have overriding concerns about looking smart and begin to sacrifice learning opportunities when there is a threat of exposing their deficiencies. Those who are led to believe their intelligence is a malleable quality begin to take on challenging learning tasks and begin to take advantage of the skill improvement opportunities that come their way.

Dweck's research has been concerned with individual abilities and mindsets about the self, but the same ideas seem applicable to a person's view of humanity as a whole. In a meeting about that question, she agreed that the hypothesis sounded reasonable. Extended in that way, her results would imply that, if someone believes human nature is fixed and immutable, then bringing up concern for the nuclear threat will tend to fall on deaf ears. I had been hearing people say, "You can't change human nature!" for twenty-five years before I came across Dweck's research, but when I did, it gave that response a new context. These people were more likely to hold the entity theory mindset, while those who responded more positively were more likely to hold the incremental theory mindset.

This realization, coupled with the above-described experiments on influencing mindset, emphasized the need to couch the problem within a broader context that emphasizes humanity's capacity for change. While I had been doing that at an intuitive level for almost thirty years, learning of Dweck's research brought that need into clearer focus.

Was there hope of abolishing slavery?

Not so long ago, most people thought slavery was an immutable part of human nature. It was sanctioned in the Bible, present throughout history, and had a powerful "agro-slavery complex" supporting the institution. According to a recent [TIME magazine article](#), prior to the Civil War, "Slaves were the single largest financial asset in the United States of America, worth over \$3.5 billion in 1860 dollars — more than the value of America's railroads, banks, factories or ships."

In that environment, questioning slavery was seen as a fool's errand. In consequence, in the election of 1840, anti-slavery candidate James Birney received just 0.3% of the vote. Twenty years later, after enough people had challenged that conventional wisdom, Abraham Lincoln became president. In the same way, little will change with respect to nuclear weapons until enough of us have the courage to question conventional wisdom and undertake what many will see as a fool's errand.

To get an idea of how powerful society's mindset was concerning slavery, consider the following excerpts from an [1856 speech](#) by Charles Jared Ingersoll, a prominent Philadelphia civic figure, Congressional representative, and author.

Without inquiring whether it [slavery] be evil, as most insist, or good, as some contend, unquestionably it is a vast, stupendous, and vital American reality. ... there should and must be considerate and patriotic Americans ... willing to accept historical, political, and philosophical ascertainment that, whether slavery be evil or not, modern external abolition is a much greater evil. Vouched by irrefutable English and American authority, negro slavery in America may be so vindicated that no American need shrink from its communion. Its abrupt, forcible, or extrinsic removal would be a tremendous catastrophe. Dismembering the United States and destroying the American republic would tend not to abolish, but perpetuate slavery. ... every lover of his country should desire to vindicate its institutions, of which this is one, from foreign detraction ... by overruling Providence men have been slaves of masters in all ages and in every country. ... slavery and its products advance continental prosperity, maintain the grandeur of confederated United States, cheaply vouchsafe almost permanent peace, and develop a benign experiment of tranquil republican government.

If you change the issue being debated from slavery to nuclear deterrence (and modernize the language), how close does it come to some current-day arguments in favor of maintaining our

current nuclear posture? Below, I've repeated some of the above arguments concerning slavery (**in boldface**) along with similar arguments made in recent years concerning nuclear weapons (*in italics*). Where possible, the latter are quotes from others. In others, I have had to compose them myself. In some cases, I have multiple new quotes for a single quote from the 1856 speech, so each boldface quote from the speech is indented to better demarcate the start of a new part:

Without inquiring whether it [slavery] be evil, as most insist, or good, as some contend, unquestionably it is a vast, stupendous, and vital American reality.

Whether nuclear weapons are evil, as some insist, or keepers of the peace, as others contend, they are vital to America's security.

There should and must be considerate and patriotic Americans ... willing to accept historical, political, and philosophical ascertainment that, whether slavery be evil or not, modern external abolition is a much greater evil. Vouched by irrefutable English and American authority, negro slavery in America may be so vindicated that no American need shrink from its communion.

The large number of our allies who seek shelter under our nuclear umbrella proves that we have nothing to apologize for. On the contrary, the free world owes us a debt of gratitude for shouldering the burden of protecting it from hostile forces.

[Slavery's] abrupt, forcible, or extrinsic removal would be a tremendous catastrophe. Dismembering the United States and destroying the American republic would tend not to abolish, but perpetuate slavery.

the goal, even the aspirational goal, of eliminating all nuclear weapons is counterproductive. ... it risks compromising the value that nuclear weapons continue to contribute, through deterrence, to U.S. security and international stability. This quote is taken from a November 2007 [OpEd](#) entitled "The Nuclear Disarmament Fantasy," by Harold Brown and John Deutch that criticized the [first OpEd](#) by Shultz, Perry Kissinger, Nunn as unrealistic, wishful thinking. Brown was Carter's Secretary of Defense, and Deutch was Clinton's Director of Central Intelligence, so both served in Democratic administrations.

A world without nukes would be even more dangerous than a world with them. This quote is from a July 2009 [newspaper interview](#) with James Schlesinger, who served as Secretary of Defense under Nixon and Ford, Secretary of Energy under Carter, and Director of Central Intelligence under Nixon.

every lover of his country should desire to vindicate its institutions, of which this is one, from foreign detraction

It is easy for nations that do not shoulder the burden of protecting the free world to criticize our nuclear arsenal, but patriotic Americans will recognize it as the bulwark that protects those detractors as well as us from the forces of evil which, unfortunately, still exist in this imperfect world.

men have been slaves of masters in all ages and in every country

War has been an intrinsic part of human civilization in all corners of the world and throughout history. As uncivilized as nuclear deterrence may seem to some, it is far preferable to the periodic wars which afflicted Europe and the United States prior to the nuclear age and which are now a relic of the past.

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Nuclear weapons have kept the peace for over 60 years, at a small fraction of the cost of either a third world war or conventional armaments that might hope to achieve the same goal. Foolishly abolishing them would expose us to risks far greater than any that the weapons themselves pose.

Prof. Yuri Zamoshkin and the *Grenzsituation*

One of my favorite perspectives that gives hope for humanity overcoming what, at first, may seem like insurmountable odds comes from the late Prof. Yuri Zamoshkin¹, a man with whom I had the great honor of working and who made important intellectual contributions to the Soviet reform movement of the 1980's:

In the philosophy of twentieth-century German and French existentialists (notably K. Jaspers), the term *grenzsituation* (border situation) has been used to designate an experience in which an individual comes face-to-face with the real possibility of death. Death is no longer merely an abstract thought, but a distinct possibility. Life and death hang in the balance.

Different human beings respond to the *grenzsituation* in different ways. Some become passive and put their heads on the chopping block, so to speak. Others experience something akin to a revelation and find themselves capable of feats they never before

¹ Zamoshkin's full paper, from which this excerpt is taken, is accessible [on line](#). His paper was part of a book, *Breakthrough: Emerging New Thinking*, and the other papers in that collection also are available [on line](#). *Breakthrough* was published late in 1987, during the period of extremely rapid change in the Soviet Union. It appeared simultaneously in Russian there and in English in the West. I was privileged to be the Western Editor of the volume.

would have thought possible. In a *grenzsituation*, some timid individuals have become heroes; some selfish individuals have become Schweitzers. And sometimes, in so transcending their normal personalities, they cheat the grim reaper and survive where normally they would not.

Until now, this notion has been applied only to individuals. But I am convinced that today it can be purposefully applied to the world as a whole. The present day global *grenzsituation* resides in the possibility for global death and global life.

This situation, for the first time in history, directly, practically, and not purely speculatively, confronts human thought with the possibility of death for the entire human race. The continuity of history, which earlier had seemed to be a given, suddenly becomes highly questionable.

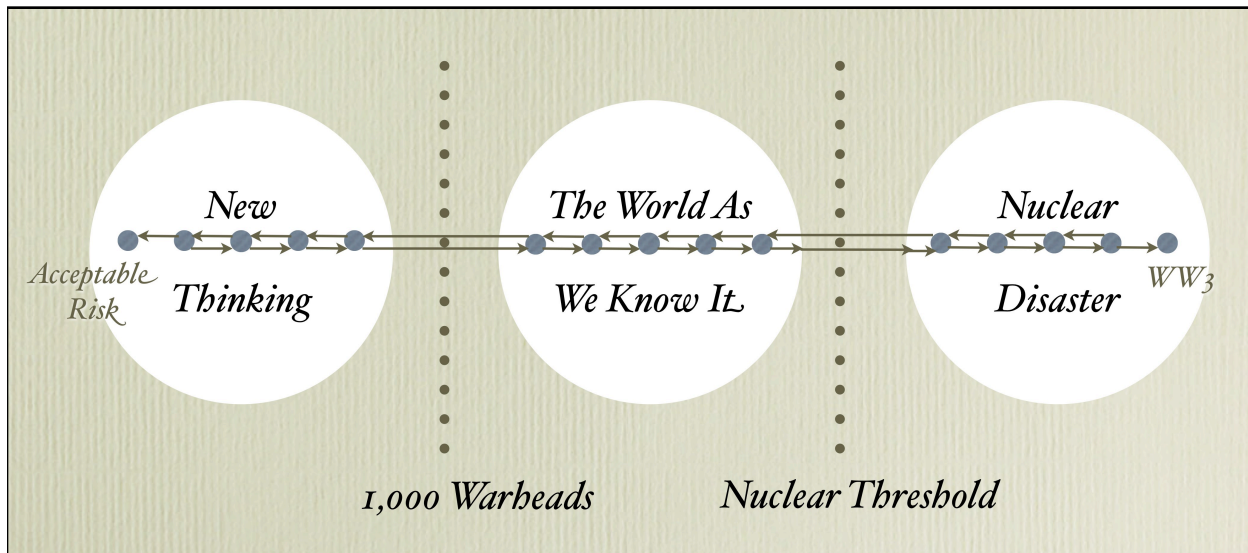
As with the individual, this global *grenzsituation* may contribute to a “revelation” in human thinking and to a positive change of character previously thought impossible for our species. ...

Of course there is also the possibility that, faced with a *grenzsituation*, mankind will go passive and put its collective head on the nuclear chopping block. But before we can learn our true mettle, we must bring the global *grenzsituation* into clear focus for all humanity. Society must see that it has but two possibilities, global life or global death.

As Zamoshkin concludes so eloquently, the first key step in defusing the nuclear threat is to bring the risk posed by nuclear weapons into clearer societal focus. Only after that has been accomplished can we learn whether human nature will succumb to the nuclear challenge or triumph over it.

Starting With Pockets of Nuclear Awareness

Bringing the global *grenzsituation* into clearer focus might seem like a small step, but gains importance when viewed in terms of the state diagram introduced earlier and repeated below.



Just at the negative possibility of a global nuclear war is almost inconceivable until risk analysis breaks it down into a sequence of smaller errors, the positive possibility also becomes clearer when viewed as a sequence of smaller steps. The intermediate goal becomes crossing the *New Thinking* threshold via a 95% reduction in the worldwide nuclear arsenal, from its current level of approximately 20,000 to 1,000.

A world with a thousand nuclear weapons would allow 300 nuclear weapons each in the American and Russian arsenals and 400 distributed among other nuclear-armed nations.² A [statement](#) I authored and that has been endorsed by a former nominee for Secretary of Defense, states that:

... Russia and the United States each have thousands of nuclear weapons, whereas a few hundred would more than deter any rational actor and no number will deter an irrational one. Either side could therefore reduce its nuclear arsenal with little to no loss in national security, even if the other side did not immediately reciprocate. In light of the growing specter of nuclear terrorism, a reduced nuclear arsenal could even enhance national security by lessening the chance for theft or illicit sale of a weapon.

Thus, while crossing the *New Thinking* threshold will require fundamental changes in our thinking, it does not require fundamental changes in our military strategy and is therefore more difficult to argue against than goals such as nuclear abolition or world peace. Once that intermediate goal has been achieved, it is critical that work continue until a state of acceptable

² While I came up with 300 nuclear weapons for the US and Russia on an intuitive basis, a [2010 article](#) in the *Strategic Studies Quarterly* concluded that 311 warheads was the required number. One of the authors of that article is a Colonel in the US Air Force.

risk has been reached.³ Unlike at the end of the Cold War, when hard-won public support was lost due to premature declarations of victory, it is essential to keep the ultimate goal in mind.

Backing up from the intermediate goal of crossing the *New Thinking* threshold, how can we start the process? What immediate goals are reasonable, yet have the potential to start a long-term process of change? Currently, I am experimenting with creating a “pocket of nuclear awareness” on the Stanford campus, as explained on a [portion of my web site](#). As noted in a related [letter of encouragement](#) from former Supreme Court Justice Sandra Day O’Connor, it is audacious – but possible – that a small group of Stanford students could be the catalyst for solving this immense problem.

Equally inconceivable events have occurred in the past. Instead of dismissing the inconceivable by saying “That will happen when pigs fly” or “when Hell freezes over,” a friend of mine used to say “That will happen when the Berlin Wall comes down.” When the Berlin Wall came down in 1989, that friend told me he was going to have to re-examine a number of seemingly inconceivable possibilities.

Never doubt that a small group of thoughtful, committed citizens can change the world. Indeed, it is the only thing that ever has. Margaret Mead

World Leaders Provide Hope

Another very important hopeful sign is the large number of former world leaders who have endorsed a “return to the vision of Reykjavik.” This refers to the October 1986 summit meeting between Ronald Reagan and Mikhail Gorbachev in Iceland’s capital of Reykjavik, where for a moment they entertained the possibility of ridding the world of nuclear weapons. Their vision evaporated over differences concerning missile defense. Here is what Reagan’s Secretary of State [George Shultz wrote](#) transpired:

President Reagan spoke from the heart, explaining why the United States would go forward with research on a strategic defense system in space. ... Any testing of SDI would take place in the presence of observers from the other side. If tests showed that the system worked, the United States would be obligated to share it with the Soviet Union.⁴ Then an agreement could be negotiated on the elimination of all ballistic missiles and on

³ Defining the ultimate goal implicitly as a state of acceptable risk has some advantages over an explicit definition such as “world peace” or “nuclear abolition.” The explicit definitions generate heated debate. The implicit or operational definition is much harder to argue against and, if proponents of one or more explicit goals are correct, that can be discovered farther out in the process, when those goals do not appear as naive and unachievable.

⁴ [An OpEd](#) that I wrote in 1986 relates to this issue of sharing only *after* we knew SDI worked.

sharing SDI. Ronald Reagan presented a visionary, revolutionary, far-reaching concept, and his presentation made clear how devoted he was to that vision.

Gorbachev was highly irritated by the president's presentation. "You will take the arms race into space," he said, "and could be tempted to launch a first strike from space."

"That's why I propose to eliminate ballistic missiles and share SDI with you," replied President Reagan .

Gorbachev said regretfully that he did not believe that the United States would share SDI with the USSR. "If you will not share oil-drilling equipment or even milk-processing factories, I do not believe that you will share SDI," he scoffed. ... Tempers flared. Gorbachev hotly supported the ABM Treaty as the one agreement that had kept the world from nuclear war, and Reagan firmly pointed out that the treaty held vast populations hostage to a balance of terror.

The vision of Reykjavik, of a world free of nuclear weapons, was revived in January 2007, when four major players from the Cold War published a [surprising OpEd](#) in the *Wall Street Journal*. George Shultz, William Perry, Henry Kissinger and Sam Nunn⁵ wrote:

Ronald Reagan called for the abolishment of "all nuclear weapons," which he considered to be "totally irrational, totally inhumane, good for nothing but killing, possibly destructive of life on earth and civilization." Mikhail Gorbachev shared this vision, which had also been expressed by previous American presidents. ... Reagan and General Secretary Gorbachev aspired to accomplish more [than just arms control] at their meeting in Reykjavik 20 years ago – the elimination of nuclear weapons altogether. ... Can the promise of the NPT⁶ and the possibilities envisioned at Reykjavik be brought to fruition? We believe that a major effort should be launched by the United States to produce a positive answer through concrete stages.

This OpEd was followed up by two more, in [2008](#) and [2010](#). The former OpEd noted support from a surprisingly large number of "former U.S. officials with extensive experience as secretaries of state and defense and national security advisors," including Madeleine Albright, Richard V. Allen, James A. Baker III, Samuel R. Berger, Zbigniew Brzezinski, Frank Carlucci, Warren Christopher, William Cohen, Lawrence Eagleburger, Melvin Laird, Anthony Lake,

⁵ Reagan's Secretary of State, Clinton's Secretary of Defense, Nixon's Secretary of State, and former Chair of the Senate Armed Services Committee. The bipartisan nature of the initiative was emphasized.

⁶ Article 6 of the [Nonproliferation Treaty](#) states: "Each of the Parties to the Treaty undertakes to pursue negotiations in good faith on effective measures relating to ... nuclear disarmament, and on a Treaty on general and complete disarmament under strict and effective international control."

Robert McFarlane, Robert McNamara and Colin Powell. All together, approximately $\frac{2}{3}$ of the living former Secretaries of State and Defense and National Security Advisors have [indicated their support](#) for the initiative.

A follow on video, *Nuclear Tipping Point*, featured an introduction in which former Chairman of the Joint Chiefs of Staff and Secretary of State, General Colin Powell concluded, “the one thing I convinced myself of after all these years of exposure to the use of nuclear weapons is that they were useless. They could not be used. You can have deterrence with even lower number of weapons, but I mean why stop there? Why not continue on? Why not get rid of them altogether?”

Calls for reexamining our nuclear posture and possibly eliminating nuclear weapons reached the highest level when, in an April 5, 2009, [speech in Prague](#), President Obama became the first sitting American President to “state, clearly and with conviction, America’s commitment to seek the peace and security of a world without nuclear weapons.” All of the people quoted here called for a phased process, not immediate – and especially not unilateral – nuclear disarmament. For example, President Obama’s speech noted: “I’m not naive. This goal will not be reached quickly – perhaps not in my lifetime. It will take patience and persistence.”

Such high level support for confronting the nuclear threat, especially by entertaining the possibility of a world free of nuclear weapons, is unprecedented and a hopeful sign that change is possible.

Building a Better World

My preliminary analysis indicates that reducing the risk of a nuclear catastrophe to an acceptable level will require far-reaching changes in the world. Those changes, if enacted, will produce a far better world than the one that now exists. International conflicts – which lead nations to either seek or maintain nuclear arsenals – will have to be resolved on a more objective basis than they are at present, and with much less violence. In a [September 25, 1961 address](#) to the UN General Assembly, President Kennedy, put the problem in stark perspective:

Every man, woman and child lives under a nuclear sword of Damocles, hanging by the slenderest of threads, capable of being cut at any moment by accident, or miscalculation, or by madness. The weapons of war must be abolished before they abolish us.

If Kennedy was even partly right that we must abolish the weapons of war before they abolish us, resolving the nuclear threat will not just remove a threat hanging over our heads, but also produce a world that previously was thought to be impossible. That is extremely hopeful, and my own effort in this area is pulled more by that vision than it is pushed by the threat. Two recent books, Prof. Joshua Goldstein’s *Winning the War on War*, and Prof. Steven Pinker’s *The Better Angels of Our Nature*,” both argue against the conventional wisdom that the 20th century was the

most violent in history and that the 21st is not much better. Goldstein's Prologue challenges the reader:

This book asks readers to break out of a dominant way of thinking about world affairs that focuses on negativity and drowns out progress. If we turn off the screech of alarmist "news" and overblown political rhetoric for a moment and look at hard evidence objectively, we find that ... the world is becoming more peaceful. For this shocking idea to sink in requires either a paradigm shift or at least a broken TV set. ...

For those who are sure wars are getting worse all the time and that peace is an illusion, and will not believe any amount of evidence I produce to the contrary, I have one question: "Compared to what?" ... The world is going from worse to bad, from the fire to the frying pan. Good news – unless you are freaked out by the frying pan and so upset by the "bad" coming at you constantly in the news that you cannot compare it with anything.

With the frying pan still pretty hot, it is easy to assume that war is getting worse, and can never get better, because everyone knows that war is inevitable. But if we look past the heat and smoke, a radical notion emerges in this book. War among human beings is not inevitable. Rather, the end of war, though also not inevitable, is possible. The possibility of an end to war is not something to be ridiculed, but to be pursued.⁷

Goldstein later (page 238) provides the data to back up his assertion. A simpler description of the data is in a [related article](#) in *Foreign Policy*, where Goldstein wrote:

the last decade has seen [fewer war deaths](#) than any decade in the past 100 years, based on data compiled by researchers Bethany Lacina and Nils Petter Gleditsch of the Peace Research Institute Oslo. Worldwide, deaths caused directly by war-related violence in the new century have averaged about 55,000 per year, just over half of what they were in the 1990s (100,000 a year), a third of what they were during the Cold War (180,000 a year from 1950 to 1989), and a hundredth of what they were in World War II. If you factor in the growing global population, which has nearly quadrupled in the last century, the decrease is even sharper. Far from being an age of killer anarchy, the 20 years since the Cold War ended have been an era of rapid progress toward peace.

In his 1988 book, *Retreat from Doomsday: The Obsolescence of major war*, Prof. John Mueller makes a related argument, that war, like dueling, could "go out of style":

The night before his famous fatal duel with Aaron Burr in 1804, the methodical Alexander Hamilton wrote out his evaluation of the situation. He could find many

⁷ Joshua S. Goldstein, *Winning the War on War: The decline of armed conflict worldwide*, Dutton, New York, 2011, pages ix-x.

reasons to reject Burr's challenge – he really felt no ill will towards his challenger, he wrote, and dueling was against his religious and moral principles, as well as against the laws of New York (where he lived) and New Jersey (where the duel was to be held); furthermore, his death would endanger the livelihood of his wife, children, and creditors. In sum, "I shall hazard much, and can possibly gain nothing." ... All these concerns were overwhelmed because he felt that ... refusal to duel would reduce his political effectiveness by subjecting him to contempt and derision. ... Therefore, he felt that he had to conform with "public prejudice in this particular." ...

Dueling died out as a general practice eighty years later in the United States after enjoying quite a vogue ... not so much because it was outlawed (like liquor – and war – in the 1920's), but because the "public prejudice" Hamilton was so fatally concerned about changed in this particular. ... gradually a consensus emerged that dueling was contemptible and stupid, and it came to be the duelers, not nonduelers, who suffered ridicule.

A dueling manual from 1847 states that "dueling, like war, is the necessary consequence of offense." ... von Clausewitz opens his famous 1832 book, *On War*, by observing that "war is nothing but a duel on a larger scale." If war, like dueling, comes to be viewed as a thoroughly undesirable, even ridiculous, policy ... then war could fade away ... Like dueling, it could become unfashionable and then obsolete.

The observations of Goldstein, Pinker and Mueller fit with a conclusion I reached some thirty years ago, when I first started studying war and peace: We have become too civilized to win wars, but not civilized enough to avoid them in the first place. I came to this conclusion by comparing how we fought World War II versus the Vietnam War, and similar arguments can be made today with respect to Afghanistan and Iraq. During World War II, friendly civilian casualties were largely regarded as an unavoidable cost of war, and enemy civilian casualties were celebrated. A frequent American slogan was "the only good Jap is a dead Jap," and it was not just a slogan. During the night of March 9-10, 1945, we dropped 1,700 tons of bombs on Tokyo. The resulting firestorm incinerated 100,000 men, women and children in that one night – more than were killed in either Hiroshima or Nagasaki later that year. German civilians were also viewed as legitimate targets, with the bombing of Hamburg and Dresden being the most notable examples. That behavior is in sharp contrast with today's attitudes, where any civilian collateral damage revolts us.

Our becoming too civilized to wage unrestricted warfare has one important exception. Our revulsion to a war only sets in *after* it has started, when we are confronted with graphic images of the violence we have wrought. Because nuclear armed missiles take minutes to reach their targets, there will be no time for our more civilized side to exercise restraint *after* it becomes

obvious it is needed. Instead, we need to learn to see the danger *before* it manifests itself. I hope that this seminar has helped you develop that kind of vision and motivates you to critically rethink the assumptions that can lead to needless wars – especially nuclear wars. (See Handout #3.) If you then bring that perspective to an ever wider circle, society as a whole can move from complacency and start defusing that infernal suicide vest in which we have clothed our planet. Thank you for your interest and attention. I wish you well in your studies, and life in general.

