

TUNE IN TO THE  
SOUND OF DEMOCRACY

## Justice Talking Radio Transcript

**Nuclear Disarmament: An Impossible Dream?—Air Date: 10/9/06**

*With North Korea allegedly testing nuclear weapons and Iran continuing to build its nuclear program, many fear that nuclear technology in new hands will change the balance of power around the world. What are U.S. strategies to reduce the threat of nuclear proliferation and are they working? On this edition of Justice Talking we take a look at the effect of nuclear weapons on international law and peace.*

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MARGOT ADLER: From NPR, this is Justice Talking. The Cold War has been over for almost 20 years, but if you think back you'll remember a time when the fear of nuclear war was pervasive. You might even remember the old duck-and-cover instructional films where kids were told to duck under their desk and cover their heads with their arms:

UNIDENTIFIED MALE [film clip]: We all know the atomic bomb is very dangerous. Since it may be used against us, we must get ready for it just as we are ready for many other dangers that are around us all the time.

MARGOT ADLER: We aren't going to argue the merits of hiding under your desk during a nuclear attack, but we are going to look at the past, present and future of nuclear weapons, including the status of the Nuclear Non-Proliferation Treaty. Does our security depend on keeping nuclear weapons or getting rid of them altogether? This and more, after the news.

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MARGOT ADLER: This is Justice Talking. I'm Margot Adler.

If you've ever seen Stanley Kubrick's movie "Dr. Strangelove," you may remember the scene where the president of the United States has to call the Russian president to tell him some bad news:

UNIDENTIFIED MALE [film clip]: Now then Demetri, you know how we've always talked about the possibility of something going wrong with the bomb. The bomb Demetri, the hydrogen bomb. Well now, what happened is, uh, one of our base commanders, he had a sort of, well, he went a little funny the head. He went and did a silly thing. Well, I'll tell you what he did, he ordered his planes to attack your country.

MARGOT ADLER: Now of course this is just a movie, but in 1964 "Dr. Strangelove" captured our fears of nuclear holocaust. A little later on in the show we'll hear more about movies that portrayed nuclear war. "Dr. Strangelove" was a Cold War movie, and the Cold War has been over for nearly two decades. But how much has the nuclear arms landscape changed since then? The United States and Russia have reduced their nuclear arsenals, but still have nuclear weapons armed and ready, pointed at each other. North Korea and Iran have been in the news because of concerns over their nuclear capabilities and aspirations, and there is a new fear: What if terrorists get their hands on nuclear technology? We'll look at the main mechanism for controlling nuclear weapons, the Nuclear Non-proliferation Treaty, and we'll ask if it's been successful.

But first, most people have an opinion about nuclear weapons but few of us have ever had to make decisions on whether or not to use them. But Robert S. McNamara is one of those few people. He was secretary of defense during the Kennedy and Johnson administrations and he joins me now. I asked him about the Cuban missile crisis and how close we got to nuclear war.

ROBERT MCNAMARA: Very, very close indeed. During the crisis Soviet submarines were trailing U.S. vessels. We knew that. But we didn't know then, and we didn't know until a meeting within the past couple of years, I guess, that those Soviet submarines carried torpedoes, one of which on each sub carried a nuclear weapon.

MARGOT ADLER: Wow.

ROBERT MCNAMARA: Unbelievable. And the Soviet submarines were out of touch with their command centers, as is often the case with submarines. And they therefore had the authority when they thought, in the interest of the Soviet Union, to launch a nuclear weapon against the U.S.

MARGOT ADLER: What lessons did you take from that experience?

ROBERT MCNAMARA: Get rid of nuclear weapons. That is the absolute lesson of the Cuban missile crisis.

MARGOT ADLER: So, it's been 20 years since the Cold War ended. Why has nothing changed?

ROBERT MCNAMARA: Because the public doesn't understand it. People say: "McNamara's just totally wrong. You can't get rid of nuclear weapons. We need them. They're necessary for the defense of the U.S." They're not necessary for the defense of the U.S. In all of my years in working with nuclear weapons, a discussion of them, which go back over 50 years, I've never had a piece of paper presented to me, and I don't believe any exists in the world, that shows how we could ever initiate the use of nuclear weapons to our advantage. Against a nuclear state it would be suicidal. Against a non-nuclear state it's totally unjustified, the use of a nuclear weapon.

MARGOT ADLER: Now when I was growing up we thought about nuclear war all the time. It was the stuff of our nightmares. It determined many of our views about the future. You tell us things haven't changed, but I don't think people even think about the nuclear threat anymore.

ROBERT MCNAMARA: Oh that's true, but they don't know that as we're talking here today, we have I think it's over 2,000 nuclear weapons on hair-trigger alert to be launched on 15-minute warning by the decision of one man, the president. And in that 15-minute period, he wouldn't have time to talk to hardly anybody, perhaps to the secretary of the defense and the chairman of the Joint Chiefs, but that's about all. That is a terrible risk, not just to the U.S., but to the world.

MARGOT ADLER: I want to bring up another issue. The Nuclear Non-proliferation Treaty started with certain assumptions that small countries would give up their right to create nuclear weapons, and in exchange the five countries that had such weapons at the time would slowly divest themselves of their nuclear arsenal.

ROBERT MCNAMARA: Article VI of the nuclear weapons treaty that you just referred to requires that the nuclear powers join together to lay out a plan to eliminate nuclear weapons. We didn't have any intention of doing it, and we're not moving in that direction. Nor are the other nuclear powers.

MARGOT ADLER: So it's sort of, I mean given that, it's sort of, I guess it sort of makes sense that some of the smaller countries are saying well, you know, if they're not divesting of nuclear weapons, then why shouldn't we create them?

ROBERT MCNAMARA: The answer is because if you create them, you're very likely to lay down the basis for a nuclear war in the future that will destroy you. For God's sake don't yield to that temptation to spit in our eye because we have failed to fulfill our legal obligations under the treaty.

MARGOT ADLER: Thank you so much for talking with me.

ROBERT MCNAMARA: I'm delighted to do so.

MARGOT ADLER: Robert McNamara was secretary of defense during the Kennedy and Johnson administrations. You can hear more of my conversation with Robert McNamara at [justicetalking.org](http://justicetalking.org). He tells us in no uncertain terms what he thinks our nuclear weapons policy

should be and why our current policy doesn't make us safer. Later in the show, a defense journalist tells us what's new in the development of nuclear weapons.

But before we talk about what the future may hold, we should talk about how we got where we are now. Richard Rhodes is the Pulitzer Prize-winning author of "The Making of the Atomic Bomb." His third volume on nuclear history about the end of the Cold War and the superpower nuclear arms race will be published next year. The United States began working to develop the bomb in 1941 and in 1945 dropped two atomic bombs on Japan. I asked Richard if the United States created the atomic bomb with the intention of actually using it.

RICHARD RHODES: You know, when it was still in the hands of the scientists early in the program, I think their primary concern--many of them were Jews who had just escaped Nazi Germany themselves--their primary concern was that Nazi Germany might well be working on such a weapon and their thought was what a horror it would be if the Third Reich got its 1,000 years because it had nuclear weapons and no one else did. So from their point of view, in a sense, they were working on a deterrent from the very beginning, but it was a deterrent against a possibility that Nazi Germany was working on the bomb as well and might be a full year ahead. Later on, when the U.S. Army Corps of Engineers took over the program, as it expanded and expanded into a major industrial empire all across the country, clearly they didn't expect to spend \$2 billion in 1945 dollars for something that would never be used.

MARGOT ADLER: Did the Nazis actually end up having the bomb? Was that a realistic sense, that they were about to develop it?

RICHARD RHODES: You know, they had the capability on the scientific side. I think that's why our scientists were so worried. They probably didn't really have the industrial capacity in the midst of a full-scale war, but Hitler wasn't very interested in this idea. He didn't really understand it. He laughed at it basically. He was much more interested in building rockets, even though rockets aren't of much use without nuclear warheads. So the program very early on was turned aside into a project to build a nuclear reactor. And by the end of the war the German scientists had built a half-scale reactor.

MARGOT ADLER: What was the worldwide response to our dropping the bomb on Hiroshima and Nagasaki in 1945? Was it horror? Was it that the experience convinced other nations that they too needed nuclear weapons? Was it both?

RICHARD RHODES: You know, people today probably would assume that there was great outcry, but I looked everywhere for any outcry whatsoever other than a very deep sense of relief that this terrible, endless war was finally over because people thought of these weapons. On the other hand, Joe Stalin, who had been skeptical of the information his spies had delivered to him, the actual plans for one of our atomic bombs, when Hiroshima was blown up and he saw the first film footage, he called in the man who was running his project, Lavrenty Beria, the head of the KGB, and said "Comrade, use all the resources of the state; we must have this and we must have it soon."

MARGOT ADLER: After World War II ended, the world radically changed with the beginning of the Cold War. Would the Cold War have ever happened if there were no nuclear weapons?

RICHARD RHODES: That's a very interesting question. I have a feeling it would have taken a very different and far less maligned form than it took. We were very comfortable in the United States in 19...say, 47, two years after the end of the Second World War, with about 30 or 40 disassembled bombs that would be very difficult to assemble because the crews that knew how to do that had already gone home. We were comfortable with that because we had a monopoly on the atomic bomb, and therefore we could, as we did during the Berlin airlift, sort of threaten by simply moving some B-29s to England, threaten the Soviet Union in that simple, straightforward way. But when the Soviet Union got the bomb in 1949, there was really a kind of panic in Washington.

MARGOT ADLER: Richard, when I was growing up in the 1950s and '60s, we were terrified by the threat of nuclear attack. When I look around, I don't see the same fear among my 15-year-old son's friends or in my son. Why aren't people as scared today as we were then?

RICHARD RHODES: Well we heard a lot about it then. We were really propagandized to believe we had an implacable and threatening enemy on the other side of the ocean from us, and that they were determined to destroy us one day. They heard the same thing on their side, of course. But the fact is the conflict has quieted down greatly. I don't think we consider Russia an active threat--the fact that it has weapons at all makes it something of a threat. And I think our leadership has other priorities at this point. But as long as there are nuclear weapons in the world, the risk is there of accidents or of some malign intent.

MARGOT ADLER: Richard Rhodes is the Pulitzer Prize-winning author of "The Making of the Atomic Bomb." His third volume of nuclear history about the end of the Cold War and the superpower nuclear arms race will be published next year. Thank you so much for talking with me today.

RICHARD RHODES: Thank you, Margot.

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MARGOT ADLER: Most of us think the closest we've ever gotten to nuclear war was during the Cuban missile crisis, but Richard tells us about a near miss in 1983. You can hear that story and more of my conversation with Richard Rhodes on our web site, [justicetalking.org](http://justicetalking.org). Coming up, the successes and failures of the Nuclear Non-proliferation Treaty and should the goal be total disarmament?

UNIDENTIFIED MALE: Nuclear weapons should be thought of in the same way as the plague as a weapon. The weapon itself is what is reprehensible.

MARGOT ADLER: Don't go away.

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MARGOT ADLER: This is Justice Talking. I'm Margot Adler. On today's show we're talking about nuclear weapons. With the onset of the Cold War, the safety of the world depended on the containment of nuclear arms. The United States and the Soviet Union faced off in a nuclear showdown, and the spread of weapons to other countries threatened to upset this fragile balance. More weapons also meant an increase chance of accidents and the risk of unauthorized use. In 1968 the United States, the Soviet Union and the United Kingdom were joined by 59 non-nuclear countries in signing the Non-proliferation Treaty or the NPT. Under the treaty, non-nuclear countries agreed not to develop nuclear weapons. Countries with nuclear weapons promised to eventually disarm. For more than 35 years the NPT has been a cornerstone of international law. But during this time India and Pakistan have become nuclear powers and Israel is widely assumed to have a significant nuclear arsenal, even though they have never acknowledged it. All three have never signed the treaty. In 2003 North Korea withdrew from the treaty and Iran, while a signatory, may be on the path to its own nuclear weapons program. All of this has led critics to question whether the Non-proliferation Treaty has withstood the test of time.

Joining me to discuss the future and effectiveness of the NPT are Jonathan Granoff and Nick Gvosdev. Jonathan Granoff is president of the Global Security Institute, a nonprofit organization dedicated to nuclear arms control, non-proliferation and disarmament. Nick Gvosdev is editor of *The National Interest* magazine and a senior fellow in strategic studies at the Nixon Center, a public policy institute that looks at issues of American security and prosperity. I began by asking Nick if he thinks the Non-proliferation Treaty has been a failure because there are more nuclear states today than there were at the time of the treaty signing.

NIKOLAS GVOSDEV: Given that India, Pakistan and Israel were never originally signatories to the treaty, and interestingly enough, China and France didn't formally ratify and join the treaty until 1992, it's not that the treaty failed so much as it was unable to completely prevent proliferation from developing. Linked to that, though, is something else. The treaty was written in the 1960s, at a time when nuclear technology was seen as much more difficult to assemble, that it was the preserve really of only a few governments. If you read the treaty it's very clear that it only envisions governments as having the ability to transfer weapons and technology. The private sector can play a role in nuclear proliferation these days, something that the treaty did not envision. And of course the treaty was also written against the backdrop of the Cold War, the idea of two very large superpowers more or less regulating the international environment. That of course has come to an end. You now have a situation where there's a certain degree of global insecurity which is leading some countries to reassess their own security needs and then that helps to erode the foundations of the treaty.

MARGOT ADLER: Jonathan, your view about the Non-Proliferation Treaty, whether it's a failure.

JONATHAN GRANOFF: Well the treaty's been extraordinarily successful. The KGB and the CIA both speculated that absent a treaty there would be literally dozens of nuclear weapons states. But as Nick just properly pointed out, we don't have dozens of nuclear weapons states. And the three states--Israel, India and Pakistan--stayed out of the treaty from the beginning.

And India, it's clear, has said from the outside that they would join the treaty if the nuclear weapons states would fulfill their part of the bargain of seriously negotiating the ultimate elimination of nuclear weapons.

MARGOT ADLER: In 2005 the representatives of the signatory countries met at the U.N. to review the progress on disarmament stipulated in the NPT, and they couldn't even agree on an agenda. Jonathan, you called it a failure of will. Who bears the responsibility?

JONATHAN GRANOFF: The treaty entered into force in 1970 and Richard Nixon is to be commended on insuring that that took place. But the non-nuclear weapons states were concerned that the nuclear weapons states would not honor their part of the bargain of moving toward a nuclear weapons-free world. And thus the treaty contained within it a provision that after 25 years it would be reviewed and there would be a decision as to whether it would be indefinitely extended or not. And then in 2005 there was a failure at the review conference, largely occasioned by our country's unwillingness to have its own conduct reviewed, as well as Iran's baiting us about our failure to make progress on disarmament, and Egypt's demands to move forward on a nuclear weapons-free zone in the Middle East and involve Israel in the process. So in the year 2005, I would say it was largely the failure of the United States to lead in non-proliferation and disarmament that caused the treaty to not succeed in that review conference. But the treaty is still good international law.

MARGOT ADLER: Nick, do you think that the United States bears a lot of the responsibility for this failure in 2005?

NIKOLAS GVOSDEV: It certainly bears a significant portion of it. None of the five states have really committed to the idea of actually giving up their nuclear weapons. You have statements from the leadership of all five of those states, all claiming the need to continue to hold on to some size of a nuclear force to deal with contingencies or response to an unconventional attack. So it's clear that we could bring down the number of nuclear weapons say from 10 or 20,000 to a much smaller level, that was doable. It's getting states to agree to take 1,000 nuclear weapons and go to zero. And I think that that is where Iran and other countries in the non-aligned movement in 2005, mostly against the United States, but also it could be leveled against the other four, that they're not going to seriously consider completely eliminating their nuclear forces. And because of that and because of the perception coming out of the United States, to some extent also coming out of Russia and China to an extent as well, that each country is prepared to bend the rules for countries that it likes with regard to proliferation, with regard to access to nuclear technology.

MARGOT ADLER: So that's why we have the United States and India for example?

JONATHAN GRANOFF: That is one example. The Russians have been citing that as a case of well, if the United States can have a special deal with India, perhaps we could have a special deal with other countries, and why should we be criticized for nuclear assistance to Iran and so on. So the perception of the treaty is law that establishes one-size-fits-all for all countries, is now coming up against a perception that countries are happy to cite the NPT as a success, particularly in areas where there really isn't the sense that countries will want to develop nuclear weapons.

MARGOT ADLER: Jonathan, what would you say about India? You know, here's a country that is a nuclear power, that has not signed the treaty. President Bush is clearly trying to help them with their civilian nuclear program. It seems like a contradiction. What do you think?

JONATHAN GRANOFF: The India deal makes sense if it's coupled with promises that we've made to the world under the Nuclear Non-proliferation Treaty and we rope India into those same promises. For example, in order to gain the indefinite extension of the treaty in 1995, we promised to make sure that no more countries could test nuclear weapons and miniaturize and put them on intercontinental ballistic missiles or proliferate. That's embodied in the Comprehensive Test Ban Treaty. So the deal with India makes sense if we forever prohibit India from further testing their nuclear arsenal, miniaturizing and putting them on intercontinental ballistic missiles. Similarly, we've promised the world in '95 and 2000 a fissile material cutoff treaty, stopping the production of any more weapons grade, highly-enriched uranium or plutonium. And if India is part of a fissile material cutoff treaty that would be universal, then India would not be able to use their facilities to produce more weapons grade material.

MARGOT ADLER: North Korea used to be a signatory to the treaty; they withdrew in 2003, which is permissible, according to the guidelines of the treaty, as I understand it. So, Jonathan, does the treaty have any teeth if a country can just pull out?

JONATHAN GRANOFF: Well at the review conference in 2005, some of our friends were putting proposals on the table that would say that if a country pulls out of the treaty, the privileges that they've exercised to develop nuclear technology would therefore be revoked and they would they would have to forfeit them, thus allowing a standard that would say that you couldn't do that. That definitely is one of the shortfalls of the treaty that I believe needs to be strengthened. Another way of strengthening it is to look at the strength of the inspection regime. You know, the International Atomic Energy Agency's entire inspection budget for any given year has never exceeded \$120 million. You know that's about what it costs to pay for a football team or it's a little bit more than we spend everyday on our nuclear arsenal.

MARGOT ADLER: The Non-proliferation Treaty doesn't call for disarmament of nuclear states, but Article VI calls for a follow-up treaty to disarm completely. Given the post-9/11 world, is it even realistic to think that the United States will ever want to completely disarm? Nick.

NIKOLAS GVOSDEV: We ran a very interesting essay by Barry Blechman last year in the summer 2005 issue of *The National Interest*, where he laid out a very compelling case from strategic considerations, you know, no wide-eyed idealism about a post-nuclear world, but you know, very much looking at the security environment and concluded that the United States really doesn't need nuclear weapons. It was an essay that circulated, a lot of people who read it said he makes great arguments, but there seems to be an almost emotional attachment still to the idea that a nuclear weapon represents a higher level of power, a higher level of security, and thus an unwillingness to completely get rid of them.

MARGOT ADLER: Jonathan, I'd love you to weight in here. I'm wondering, given that the Cold War is over, why we still have weapons on hair-trigger status, pointed at Russia?

After all, I mean, they're not our enemy anymore.

JONATHAN GRANOFF: Absolutely. I don't think most people realize what we're talking about with today's nuclear weapons. The bomb that went off in Hiroshima was approximately 12,000 to 15,000 tons of TNT equivalent. The bombs we have the arsenal now have that size as the trigger to explode the nuclear device. And they're in the megaton or million ton range. We're talking about a device which would give off heat three times that of the face of the sun, you know, 10 miles out, winds at six, seven hundred miles an hour. In fact, what's interesting, this is what President Bush said as a candidate, and I agree with him: "The United States should remove as many weapons as possible from high alert, hair-trigger status, another unnecessary vestige of the Cold War confrontation. Preparation for quick launch within minutes after warning of an attack was the rule during the era of superpower rivalry. But today, for two nations at peace to keep so many weapons on high alert may create unacceptable risks of accidental or unauthorized launch." It's absolutely scandalous that we still live everyday with this sword over our head, where if there's a computer error or a hack into a computer, that we only have a very small window, maybe 15 minutes for decisionmakers to decide whether to launch these arsenals or not.

MARGOT ADLER: Why haven't we ratified the Comprehensive Test Ban Treaty, Nick?

NIKOLAS GVOSDEV: Just as in 2002, with a very few exceptions, most political leaders in Washington did not want to take the risk that Saddam Hussein had in fact been disarmed of his capabilities. It was always being said that as much evidence that shows that he does not have weapons, we can never be sure and therefore we have to go ahead with the invasion. It's the same logic that applies to the Test Ban Treaty. What happens if we need it? We'll sign the treaty, we'll ratify it, and then there will be that one-in-a-million situation where we realize what we actually need to test something and our hands will be tied.

MARGOT ADLER: And Jonathan, you're not as pessimistic about the chances for this?

JONATHAN GRANOFF: I don't think the luxury of pessimism or optimism is in our hands. There is both a moral necessity to stop the risk that every American lives under everyday, that there are several thousand nuclear weapons pointing at America from Russia, on launch, on warning. And this sword over our heads, the fact that we are in denial about it, the fact that people don't want to deal with it, doesn't make it go away.

MARGOT ADLER: More than 50 years ago President Eisenhower came up with the idea of an international nuclear fuel bank which would provide reactor fuel to countries that agree not to develop nuclear weapons. Recently billionaire investor Warren Buffet offered to give \$50 million to set up such a bank as long as governments match it with, as I understand it, \$100 million in the next two years. The U.S. has publicly said it's a good idea, but hasn't offered to match the money. What do you think of this idea? Let's start with you, Jonathan.

JONATHAN GRANOFF: Well I think that it's a laudable gesture. I think, however, that there are countries that will want to have their own fuel capacity and not trust an international system. Iran could be in that kind of situation. They don't have a history in which they could rely on

Russia on the United States to be their friends forever. Thus I come back to the need to have an international inspection regime to prevent any countries from cheating and developing weapons-grade materials that they might use to develop weapons. I think that it's possible that there could be some kind of system that had the best of both, but nuclear weapons should be thought of in the same way as the plague as a weapon. The weapon itself is what is reprehensible and we understand that the plague as a weapon is reprehensible in anybody's hands. Nuclear weapons themselves are more of a problem than any problem they seek to solve. And they are morally reprehensible and should be thought of in the same way as the plague.

MARGOT ADLER: Nick, first of all, Warren Buffet.

NIKOLAS GVOSDEV: It's interesting because it parallels a proposal that former National Security Advisor Brent Scowcroft came up with, the idea that you should have centers for fuel enrichment located throughout the world and firm guarantees that every country that needs enriched fuel for its nuclear program has access to it. On the question of the morality of weapons, it's very interesting because there's a now a strain of thought here in Washington, in certain segments, that says that in fact the character of the weapons is less important than the character of the governments. And I think that is one of the things that is beginning to open up as a divide, between those who say that the weapons themselves are immoral and should be removed, versus those who are now arguing, perhaps the weapons are immoral, but if they're in moral hands, there isn't a problem.

MARGOT ADLER: Nick Gvosdev and Jonathan Granoff, thank you both for talking with me today. Nick Gvosdev is editor of The National Interest magazine and a senior fellow in strategic studies at the Nixon Center, a public policy institute that looks at issues of American security and prosperity. Jonathan Granoff is president of the Global Security Institute, a nonprofit organization dedicated to nuclear arms control, non-proliferation and disarmament.

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MARGOT ADLER: Coming up on Justice Talking, we go to Los Alamos, New Mexico to hear how activists are responding to proposals to develop a new generation of nuclear weapons, and a conversation about how movies have dramatized our fears of nuclear war. Here's a clip from "War Games," a 1983 movie where a computer takes over our weapons system and puts us on the brink of nuclear war:

UNIDENTIFIED MALE [film clip]: General, do you really believe that the enemy would attack without provocation, using so many missiles, bombers and subs, so that we would have no choice but to totally annihilate them?

UNIDENTIFIED FEMALE: One minute and 30 seconds to impact.

UNIDENTIFIED MALE: General, you are listening to a machine. Do the world a favor and don't act like one.

MARGOT ADLER: Don't go away.

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MARGOT ADLER: This is Justice Talking. I'm Margot Adler. We're looking at nuclear weapons on today's show. We've talked about the Cold War and the buildup of nuclear arms, and we've talked about the efforts to stop more countries from developing nuclear capabilities. But what might be on the horizon in nuclear weaponry for the United States? To help us understand the current status of our nuclear arsenal and what is being developed, Sharon Weinberger, editor-in-chief of Defense Technology International, joins me. Sharon is also working on a book with her husband and fellow defense journalist, Nathan Hodge, called "A Nuclear Family Vacation." It's a primer on the world of atomic weaponry. To begin, can you paint us a picture of what our nuclear arsenal looks like now? What does the U.S. have?

SHARON WEINBERGER: Well there are two issues. There's what our nuclear arsenal looks like and what our nuclear complex looks like. We currently have--and the numbers themselves are now classified somewhere in the range of 10,000 nuclear warheads--and we're on our way to going down to about 1,700 to 2,200 as part of the Moscow Treaty negotiated between the United States and Russia in 2002. The nuclear forces themselves are, you know, part of triad that we have: submarine launch ballistic missiles, we have intercontinental ballistic missiles that are in silos in the United States, and then we also have nuclear weapons that can be dropped from our nuclear bombers like the B-2 and B-52.

MARGOT ADLER: The United States has invested heavily in the development of nuclear weapons in the past. It was the first country to figure out how to make them and the only country to use them. But our country hasn't really been in the business of making new nukes for awhile, am I correct?

SHARON WEINBERGER: That's very correct, yes. And we also haven't been in the business of testing them for well over a decade now. So what's going on right now is that there are ongoing debates over how sure we are about the reliability of nuclear weapons. Our computer modeling has gotten phenomenally better. We have very good scientists at the nuclear weapons lab looking at this issue. And then a larger part of that debate, and one that I think will become critical over the next five to ten years, is that the number of scientists of weapons designers at our laboratories, you know, as Litton Brooks, the head of the National Nuclear Security Administration once put it to us in an interview, you know, the number of people could fit on a school bus and they're rapidly retiring. So what do you do when that knowledge base disappears? How do you maintain it at some level?

MARGOT ADLER: So the question is does it matter if we get to the point where there will be very few scientists who've actually made these weapons?

SHARON WEINBERGER: Or zero. I mean, that's sort of the more important question for the U.S. and for the weapons laboratories: What do you do when that number is zero? And therein initiates the heart of some of the current debates that have emerged over the past four to five years, which is should we perhaps be designing new nuclear weapons? Should we be having weapons scientists work on theoretical new weapons in order to maintain that knowledge base?

Back at the beginning of the first Bush administration, there were funding requests that were put in for two things. One was something called "advanced concepts," and this was a small amount of money, you know, in the five to 10 million dollar range, I believe, that the administration said was not necessarily to build new nuclear weapons, but to allow those older weapons scientists to work on new ideas with the younger scientists. It was sort of like a knowledge training, the way they presented it.

MARGOT ADLER: Sort of an apprenticeship.

SHARON WEINBERGER: Exactly, exactly. Critics immediately said well wait a minute, that sounds like a sort of a convenient excuse to be designing new nuclear weapons. I mean, you will be doing design work. I think there was truth on both sides of the argument, but the concomitant part of that was that then a request was put in for a much, much more controversial proposal for what is commonly called the "nuclear bunker buster." The official name is the Robust Nuclear Earth Penetrator.

MARGOT ADLER: And what is a bunker buster?

SHARON WEINBERGER: It's basically a nuclear weapon which is specifically designed to hit hardened and underground targets.

MARGOT ADLER: I've also heard the term "reliable replacement warheads" and I understand that our current stockpile of those is very old. Are they unreliable? What's the current status?

SHARON WEINBERGER: Now there are different stories about RRW, the Reliable Replacement Warhead, where it came out of. But what it was was an argument for developing new nuclear warhead to mitigate risk in our stockpile. Whatever the case, the Reliable Replacement Warhead is turning into a competition between the design labs, meaning Los Alamos and Livermore, to develop a new warhead. The concern, however, is how reliable is a warhead going to be a new one that you'll have never done a full nuclear test on? How certain can we be that it works? And so does the Reliable Replacement Warhead eventually lead to a situation where we'll have to do a full nuclear test and that's sort of really the concern of the opponents of this.

MARGOT ADLER: Sharon, thanks for talking with me today. Sharon Weinberger is a defense journalist who's working on a book about nuclear weapons called "A Nuclear Family Vacation." It's a primer on the world of atomic weaponry. Her most recent book is "Imaginary Weapons."

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MARGOT ADLER: For more than 60 years the words "Los Alamos" have been synonymous with the production of nuclear weapons. And today, as Sharon mentioned, scientists at the Los Alamos National Lab are hard at work on the next generation of nuclear warheads. It's a plan that has energized all stripes of activists who oppose nuclear weapons. But scientists at the lab insist it's a step in the right direction. Eric Mack reports.

ERIC MACK: 41-year-old Joe Marts grew up in Los Alamos and he's made it his mission to work towards the elimination of nuclear weapons.

JOE MARTS: I want to live in a world without nuclear weapons. The idea that we have to threaten each other to maintain the peace seems to me to be one of the fundamental ironies of our modern age.

ERIC MACK: It might also seem ironic that Marts works as a lead weapons designer at Los Alamos Labs. But he says reducing America's nuclear stockpile is what inspires his work.

JOE MARTS: The question becomes, like the old Chinese proverb, you know, the best cure for a bad idea is a better one. I see RRW and some of the work in the nuclear weapons complex, as the nucleus of an idea that can allow us to move away from the need to have large numbers of weapons in stockpile to maintain security.

ERIC MACK: The acronym he mentioned, RRW, stands for Reliable Replacement Warhead. RRWs are the next generation of nuclear warheads designed to be safer, more secure and cheaper to build than the Cold War legacy warheads. Marts believes that a smaller number of RRWs could be just as effective a deterrent as the stockpile left over from the Cold War. He sees the new warheads as the first step towards eventually getting rid of all nuclear weapons. But not everyone in Los Alamos is convinced that the path to disarmament is paved by new warheads.

GREG MELLOW: It's a nice idea, but it's slightly naïve, and there are simpler, better, surer and safer paths to the instate that Joe looks forward to.

ERIC MACK: That's Greg Mellow. He's an engineer who heads the Los Alamos Study Group, a nonprofit disarmament organization. He says the RRW and other nuclear weapons are no longer necessary.

GREG MELLOW: Nuclear weapons are basically illegal. We need to be on a path to get rid of them. They're quite obsolete as instruments of national security and they stand in the way of taking the steps we need to solve the problems of the 21st century.

ERIC MACK: The renewed attention towards nuclear weapons over the past five years has reenergized the grassroots movement pushing for disarmament. Father John Dear is a Catholic priest who began demonstrating against nuclear weapons during the Cold War.

JOHN DEAR: I specifically came to New Mexico after 20 years in the peace movement, 75 arrests around the country, plowshares actions, spending time in prison for hammering on a nuclear weapon. I came here because of Los Alamos, which is the birthplace of the bomb, to put a new spotlight on Los Alamos and to say that the time has come to stop developing and maintaining and improving these weapons of mass destruction.

ERIC MACK: Father John Dear and other activists around the state began organizing protests in Los Alamos each August around the anniversaries of the first atomic bombs dropped on Hiroshima and Nagasaki. Though relatively small, the annual protests have grown exponentially

over the last four years. Dear likens the growing movement to the abolitionist cause of the 1800s.

JOHN DEAR: And I particularly like the abolitionists who came along and announced this ludicrous idea that the end of slavery had come and that we're creating a world of equality. And I say we're new abolitionists announcing the abolition of war and nuclear weapons. And this is going to happen someday because it has to or we will destroy ourselves.

ERIC MACK: But Joe Marts from Los Alamos says that like it or not nuclear weapons have played a key role in preventing humans from destroying each other over the past 60 years.

JOE MARTS: Deterrence at its core is something I'm uncomfortable with, the need to threaten. Others would point out that up until 1945 we killed between one and two percent of the population every century in warfare. From 1945 to today, that number has fallen to .1 percent. And what has changed in that timeframe is the advent of nuclear weapons that made the concept of all out conflict so terrible that at least the rational nations were able to avoid it. But it came at great cost, undoubtedly.

ERIC MACK: That's an argument that Father John Dear isn't buying.

JOHN DEAR: Well that's the great lie about this whole nuclear weapons industry, that it makes us secure, that it promotes peace. But you know, I was in New York City on September 11th and everyone in New York City, I submit, that day and for a week afterwards, knew that there were no weapons of mass destruction that could protect us.

ERIC MACK: Father John Dear, Greg Mellow and a number of other disarmament activists all say they believe the billions of dollars that pour into Los Alamos and other nuclear facilities each year could be put towards promoting international security through positive means, like fighting global poverty or developing renewable energies. Again, Greg Mellow.

GREG MELLOW: I'd like to see us decrease the funding for nuclear weapons and force the laboratories to abandon unnecessary projects--the RRW is one of them--and put the laboratories on a glide path toward nuclear disarmament as required by treaty and as required by common sense and as required by a huge majority of the U.S. public.

ERIC MACK: The Nuclear Weapons Council will be briefed on the competing Reliable Replacement Warhead designs from Los Alamos and California's Lawrence Livermore Lab in November. If the program moves forward, funding for the development of the new warheads could be included in the 2009 federal budget. For Justice Talking, I'm Eric Mack.

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MARGOT ADLER: Nuclear war has been depicted in works of art since radiation was discovered in 1895. To talk with us more specifically about books and film is Paul Briens, a professor of English at Washington State University. He's the author of "Nuclear Holocaust: Atomic War in Fiction, 1895 to 1984." Paul, welcome to Justice Talking. Growing up in the

1950s, I was inundated with images of nuclear war. I remember particularly the movie "On the Beach" and the last scene of survivors waiting for their deaths on a beach in Australia. This is the film that had the most effect on me, but if you were going to talk about two or three of the most important films that captured our fear of nuclear war during the Cold War, what would they be and why?

PAUL BRIANS: Well "On the Beach" of course is the one that people remember, although the novel had even almost as great a reach as the movie.

MARGOT ADLER: And why do you think that had such resonance?

PAUL BRIANS: Well for one thing it has a very personal kind of feeling because it has to do with each person facing death, and that digs into very human, very obvious concerns that we all have about how we will die. And it really removed the nuclear war to the periphery. There is a cloud of incoming radiation, but you don't see the destruction, you see an abandoned city at one point.

MARGOT ADLER: Give me a couple of other films that you think really had great resonance.

PAUL BRIANS: Well another one that of course had a huge impact, which I think was a better movie, is "Dr. Strangelove." It had a wonderful analysis of the insanity of the "mutually assured destruction syndrome," which is often paraphrased by people saying deterrence is like two men standing in a basement filled with gasoline each threatening to light a match. And the craziness of it was really extremely well conveyed. The downside for me of that film is precisely that craziness in that it's so crazy that even though it's very clever at satire, it makes the audience feel like there's nothing that can be done.

MARGOT ADLER: Has nuclear war been treated very differently by Japanese authors and filmmakers compared to the way it's been treated in the United States and Europe?

PAUL BRIANS: During the period of the American occupation and for a long time afterward, it was sort of taboo to talk about the nuclear weapon and nuclear experience. And people wanted to put that whole era behind them. But by far the best piece of fiction to come out was Masuji Ibuse's "Black Rain," which is based on actual experiences of people who experienced the fallout.

MARGOT ADLER: So as you look over all the books and films that you've, you know, looked over for your research, what's the one that's your absolute favorite right now?

PAUL BRIANS: Let's put it this way, I just finished talking to my class about "The Terminator" films, but the more thoughtful films that I think are really worth revisiting are "A Testament," which was broadcast on PBS originally in 1983, based on a story by Carol Amen, directed by Lynne Littman, and it is very much a woman's take on nuclear war, in which a woman is at home when the war breaks out. And the cloud of radioactive dust comes to the small suburb where she's living with her little boy and girl. The other is a film that was almost not seen at all in the United States, Konstantin Lopuchansky's "Letters From a Dead Man," 1986.

This was produced in Russia and became a huge bestseller there and it is the only film I know of from the period that takes seriously the idea of nuclear winter. Most Americans of this period were convinced the Russians were not allowed to discuss this kind of thing, but I was in Russia in the period right at the next year after this film was shown, and they were showing "The Day After" on television, and their immediate reactions to "The Day After" was to say well that's a pretty feeble movie compared to "Letters From a Dead Man."

MARGOT ADLER: Even if "The Day After" was comparatively weak compared to the movie that you just mentioned, what do you think the impact of that film was here in the States?

PAUL BRIANS: What fascinated me about the reaction to "The Day After" was the way that the public debate about it became almost entirely focused on its effect on children. It's almost as if we didn't want to face the fact that this film might have some relevance for ourselves.

MARGOT ADLER: Paul Brians is a professor of English at Washington State University. He's the author of "Nuclear Holocaust: Atomic War in Fiction, 1895 to 1984." Paul, thanks for talking with me.

Tell us your favorite movie or book on nuclear war and do you remember those civil defense films for children from the 1950s, "Duck and Cover"? Share your stories at [justicetalking.org](http://justicetalking.org). By the way, if you missed last week's show on nuclear power, you can listen to it on our website. Thanks for joining me. I hope you'll tune in next week. I'm Margot Adler.

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