

A World Free of Nuclear Weapons: Desirable? Feasible?

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Summary

I will underline the special character of nuclear weapons and will discuss the desirability and the feasibility of a nuclear-weapon-free world. Some past activities promoting nuclear disarmament and the transition to a nuclear-weapon-free world will be reviewed. I will discuss the significant developments initiated by the January 2007 Wall Street Journal op-ed coauthored by Shultz, Perry, Kissinger and Nunn, which culminated in the April 2009 Prague speech by President Obama. Finally, I will outline recent developments and future steps toward a nuclear-weapon-free world.

1. The *special* character of nuclear weaponry

Just three indications

1. The yield of nuclear (“A bombs”) and especially thermonuclear (“H bombs”) explosions is many orders of magnitudes larger than that of conventional explosions: for instance the largest thermonuclear test explosion, detonated (October 30, 1961) in the high atmosphere by the Soviet Union, released in a fraction of a second an energy well over *50 megatons*, i. e. more than the energy released by the explosion of *50 million tons=50 billion kilograms* of conventional explosive, such as TNT: more than 10 times larger than the estimated total of *all* previous explosions in war throughout history, including the two World Wars with all their carpet bombings (London, Hamburg, Dresden, Tokyo,...), Hiroshima, Nagasaki...

2. Nuclear weapons have never been used in war after their use to obliterate Hiroshima and Nagasaki (6 and 9 August, 1945): not even when nuclear-weapon countries were defeated by a non-nuclear-weapon opponent, as the USA in Vietnam and Russia in Afghanistan.

3. All countries of the world except a few (USA, United Kingdom, Russia, France, China; India, Pakistan, Israel; North Korea) have *voluntarily* renounced the acquisition of nuclear weaponry, by becoming non-nuclear-weapon parties to the Non Proliferation Treaty (NPT) and --- many of them, enough to cover more than half of the Earth, including the entire Southern Hemisphere --- of a Nuclear-Weapon-Free Zone: including many countries having the technological capability to manufacture nuclear weapons.

2. Desirability and feasibility of the transition to a nuclear-weapon-free world

The **desirability** is far from obvious. In a world of nation states in which only very few of them possess nuclear weapons, it seems clear that it is preferable for them to keep these capabilities. In a world in which some states have a “pariah” connotation (possibly for very good reasons; for instance, because of a dismal “human rights” record), their rulers might feel that the possession of a nuclear-weapon capability provides an essential insurance against external interventions. A country that faces an enemy having superior conventional forces may feel that the possession of a nuclear capability is an “equalizer”. A country encircled by several hostile neighbors that challenge its very right to exist may feel that the possession of a nuclear-weapon capability is the ultimate guarantor of survival. And some thinkers argue that the existence of nuclear weapons, by making war exceedingly destructive, provides an indispensable ingredient to avoid major wars, hence a guarantor of peace.

On the other hand it is obvious that the spread of nuclear weaponry to many countries and possibly even to subnational “terrorist” groups entails, sooner or later, their actual use, with devastating consequences for our civilization, possibly even the disappearance of *Homo sapiens*. And it is indeed well known from world-wide opinion polls --- to the extent these tests are reliable --- that a significant majority of the inhabitants of this planet favor the total elimination of nuclear weaponry; including significant majorities in most, perhaps all, the countries now possessing nuclear weapons. It is also remarkable that so many States have so far voluntarily renounced the acquisition of nuclear weapons; including quite a few States having the technical capability to do so. But this regime of “nuclear-weapon nonproliferation” cannot last indefinitely; indeed it is now in danger of crumbling.

The **feasibility** is, in my opinion, instead rather clear. Nuclear weapons have not been used in war after August 9, 1945; *there probably is no person in this room who was an adult at that time* (I was 10). The total elimination of *chemical* weaponry as a usable military instrument has now been *essentially* achieved: note that these weapons were used much more often in war than nuclear weapons, and that the verification of the universal respect of their abolition is much more cumbersome than it shall be for nuclear weapons, due to the much more extended and pervasive character of chemical, rather than nuclear, peaceful activities. Moreover all countries of the world except 8 have already *voluntarily* renounced nuclear weapons, by having become full parties to the Non Proliferation Treaty (NPT) and in addition --- many of them -- - having become full parties to Nuclear-Weapon-Free Zones (which cover a large part of our planet, including the totality of its Southern hemisphere). And these treaties have efficient verification regimes.

3. Past activities promoting nuclear disarmament and the transition to a nuclear-weapon-free world

A somewhat parochial selection

* *Verification: monitoring disarmament*, a Pugwash Monograph, edited by F. Calogero, M. Goldberger, S. P. Kapitza, Westview Press, Boulder, Co, USA, 1990 [Russian version: Mir, Moscow, 1991]. This was the first book on a strategically very sensitive topic *all* chapters of which were co-signed by authors on opposite sides of the iron curtain.

* *A Nuclear Weapon-Free World: Desirable? Feasible?*, a Pugwash Monograph, edited by J. Rotblat, J. Steinberger and B. Udgaonkar, Westview Press, Boulder, Co, USA, 1993. [My contribution: F. Calogero, "An asymptotic approach to a nuclear-weapon-free world"].

* “The Norwegian Nobel Committee has decided to award the Nobel Peace Prize for 1995, in two equal parts, to **Joseph Rotblat** and to the **Pugwash Conferences on Science and World Affairs**, for their efforts to diminish the part played by nuclear arms in international politics *and in the longer run to eliminate such arms.*” (emphasis added).





4. The transition to a nuclear-weapon-free world: from desirable utopia to political reality

Wall Street Journal (January 4, 2007), op-ed entitled *A world without nuclear weapons: the “coming out” in favor of the transition to a Nuclear-Weapon-Free World*, by a *bipartisan* quartet of *eminent* American statesmen: George Shultz, Bob Perry, Henry Kissinger, Sam Nunn.

QUOTE (final sentence):

“We endorse setting the goal of a world free of nuclear weapons and working energetically on the actions required to achieve that goal, beginning with the measures outlined above.”

*Mr. **Shultz** was **secretary of state** from 1982 to 1989 (Reagan Administration).*

*Mr. **Perry** was **secretary of defense** from 1994 to 1997 (Clinton Administration).*

*Mr. **Kissinger** was **secretary of state** from 1973 to 1977 (Nixon Administration).*

*Mr. **Nunn** is former **chairman** (for very many years) of the **U. S. Senate Armed Services Committee**.*

This bipartisan op-ed is very significant because of its authors, and even more so because of the avalanche of subsequent endorsements: for instance, in the USA, by the *majority* of the living Americans having served as Secretaries of State, Secretaries of Defense and Special Assistants for International Security to the President; and in the rest of the world by an impressive array of eminent personalities (too many to be reported).

In Italy: Corriere della Sera, 24/07/2008, p. 36 (see also p. 1).

Per un mondo senza armi nucleari

Caro Direttore, un articolo sul Wall Street Journal, intitolato «Un mondo senza armi nucleari», firmato da George Shultz e Henry Kissinger, già segretari di Stato dei presidenti repubblicani Reagan e Nixon, e da Bill Perry e Sam Nunn, il primo già ministro della Difesa con il presidente Clinton, il secondo presidente democratico della Commissione Difesa del Senato statunitense, ha aperto, nel gennaio 2007, una discussione di enorme importanza per il futuro dell' umanità.

In quell' articolo i quattro statisti americani proponevano la totale eliminazione delle armi nucleari. L' argomento, successivamente ripreso in un secondo intervento nel gennaio 2008, è che, se i Paesi che dispongono di armi nucleari - che sono ormai 8 - e soprattutto i due principali, Stati Uniti e Russia, non prendono l' iniziativa di avviare un processo tendente alla loro eliminazione, diventerà sempre più difficile impedirne l' acquisizione da parte di altri Paesi, con il rischio che prima o poi queste armi vengano usate con esiti catastrofici per il mondo.

L' importanza dell' articolo sta nel fatto che, per la prima volta, il tema della completa eliminazione delle armi nucleari veniva affrontato, negli Stati Uniti, da uomini politici che rappresentano il baricentro del pensiero politico-strategico americano e ambedue le forze politiche a sottolineare che si tratta di un obiettivo da perseguire nell' interesse nazionale e del mondo.

A quell' articolo hanno fatto seguito una serie di prese di posizione importanti. I due candidati alla presidenza degli Stati Uniti hanno sostanzialmente convenuto sull' obiettivo e così la maggioranza di coloro che nel passato hanno occupato le massime responsabilità istituzionali negli Stati Uniti in questo campo. In Russia vi è stata una reazione positiva di Gorbaciov e un atteggiamento più cauto, ma non negativo, del Governo. In Inghilterra Gordon Brown si è espresso favorevolmente; il ministro della Difesa ha proposto di ospitare esperti di Stati Uniti, Russia, Inghilterra, Francia e Cina nei laboratori nucleari inglesi, per mettere a punto le metodologie di verifica dell' eliminazione di armi nucleari; nei giorni scorsi sul Times un altro quartetto bipartisan comprendente tre ex ministri degli Esteri ed un ex segretario generale della Nato ha preso posizione a favore. In Francia il Libro bianco della Difesa indica come obiettivo da perseguire l' eliminazione delle armi nucleari. In Australia il governo ha istituito una nuova Commissione internazionale di esperti per tracciare un percorso che conduca all' eliminazione delle armi nucleari. Vi sono state infine innumerevoli prese di posizione favorevoli di gruppi non governativi. Riteniamo importante che anche dall' Italia venga un' indicazione in questo senso e che, come in altri Paesi, le nostre firme testimonino che, in ambedue i principali schieramenti politici e nella comunità scientifica, vi è piena condivisione dell' importanza di questo tema e di questo obiettivo.

Desideriamo indicare i passi principali per muovere in questa direzione. Il primo è l' entrata in vigore del Trattato che mette al bando ogni tipo di esplosioni nucleari sperimentali, comprese quelle sotterranee, sancendo la moratoria di fatto ora vigente. Il secondo è sbloccare la trattativa, nella Conferenza sul disarmo di Ginevra, sull' accordo Fmct (*Fissile material cut-off treaty*) che vieta la produzione dell' uranio

altamente arricchito e del plutonio con opportuna composizione isotopica, necessari per la produzione delle armi nucleari. Anche qui vige già una moratoria di fatto senza però un accordo formale e alcuna verifica. L' entrata in vigore di questi due trattati sarebbe assai apprezzata dai Paesi militarmente non nucleari e faciliterebbe il buon esito della Conferenza periodica prevista per il 2010 dal Trattato di non-proliferazione nucleare, rafforzando il regime mondiale di non proliferazione, compreso il monitoraggio dell' effettivo rispetto - nella lettera e nello spirito - degli impegni previsti nel trattato. Ci rendiamo ben conto che la strada che condurrà all' eliminazione delle armi nucleari è lunga. Essa richiede alcune condizioni politiche. La prima è un miglioramento effettivo dei rapporti fra le superpotenze nucleari, Stati Uniti e Russia, che detengono tuttora - nonostante le recenti riduzioni - oltre i nove decimi di tutte le armi nucleari nel mondo. Questo aiuterebbe gli altri tre Paesi nucleari riconosciuti dal Trattato di non-proliferazione - Inghilterra, Francia e Cina - a fare la loro parte. È necessario inoltre che si allentino le tensioni nelle aree del mondo nelle quali è più forte il rischio che possano essere utilizzate armi o ordigni nucleari, magari a opera di gruppi terroristici. Ci riferiamo al Sud-Est asiatico (India e Pakistan) e al problema israelo-palestinese-arabo in Medio Oriente. In ambedue questi contesti, l' indicazione di una volontà da parte delle potenze nucleari di muovere nella direzione di un mondo libero dalle armi nucleari sicuramente avrebbe una positiva influenza. L' Italia e l' Europa possono e debbono fare la loro parte per favorire il cammino verso la completa eliminazione delle armi nucleari. È chiaro che a tale esito si potrà pervenire

solo con un impegno dei principali protagonisti, in primo luogo Stati Uniti e Russia, e degli altri Paesi militarmente nucleari. **Ma la diffusione di un nuovo modo di pensare - di una nuova «saggezza condivisa» - è un passo fondamentale in questa direzione, cui anche l' Italia deve contribuire. Occorre che su questi temi, fondamentali per la stessa sopravvivenza dell' umanità, nonostante le legittime anzi necessarie contrapposizioni politiche, si riconosca un superiore, comune interesse.**

The diffusion of a new way of thinking--of a new “shared wisdom”---is a fundamental step in this direction, to which also Italy must contribute. It is necessary that on these themes, fundamental for the very survival of humankind, in spite of legitimate indeed necessary political contrapositions, a superior, common interest be recognized.

Massimo D'Alema, former Prime Minister (1998-2000) and Minister of Foreign Affairs (2006-2008) (center-left);

Gianfranco Fini, former Minister of Foreign Affairs (2004-2006) and former Chairman of Parliament (until December 2012) (center-right);

Giorgio La Malfa, former Minister of European Affairs (2005-2006) (center-right);

Arturo Parisi, former Minister of Defense (2006-2008) (center-left);

Francesco Calogero, physicist, from 1989 to 1997 Secretary General of Pugwash (1995 Nobel Peace Prize)

The Prague speech by President Obama (5 April 2009)

QUOTE

...Today, the Cold War has disappeared but thousands of those weapons have not. In a strange turn of history, the threat of global nuclear war has gone down, but the risk of a nuclear attack has gone up. More nations have acquired these weapons. Testing has continued. Black market trade in nuclear secrets and nuclear materials abound. The technology to build a bomb has spread. Terrorists are determined to buy, build or steal one. Our efforts to contain these dangers are centered on a global non-proliferation regime, but as more people and nations break the rules, we could reach the point where the center cannot hold.

Now, understand, this matters to people everywhere. One nuclear weapon exploded in one city — be it New York or Moscow, Islamabad or Mumbai, Tokyo or Tel Aviv, Paris or Prague — could kill hundreds of thousands of people. And no matter where it happens, there is no end to what the consequences might be — for our global safety, our security, our society, our economy, to our ultimate survival.

Some argue that the spread of these weapons cannot be stopped, cannot be checked — that we are destined to live in a world where more nations and more people possess the ultimate tools of destruction. Such fatalism is a deadly adversary, for if we believe that the spread of nuclear weapons is inevitable, then in some way we are admitting to ourselves that the use of nuclear weapons is inevitable.

Just as we stood for freedom in the 20th century, we must stand together for the right of people everywhere to live free from fear in the 21st century. (Applause.) And as a nuclear power — as the only nuclear power to have used a nuclear weapon — the United States has a moral responsibility to act. We cannot succeed in this endeavor alone, but we can lead it, we can start it.

So today, I state clearly and with conviction America's commitment to seek the peace and security of a world without nuclear weapons. (Applause) I'm not naive. This goal will not be reached quickly -- perhaps not in my lifetime. It will take patience and persistence. But now we, too, must ignore the voices who tell us that the world cannot change. We have to insist, "Yes, we can." (Applause)

UNQUOTE

All this advocacy is mainly based on four arguments: (i) the end of the Cold War; (ii) the intrinsic risk of the existence of nuclear weapons --- the actual use of which has been avoided so far due to responsible caution but also thanks to “good luck” (and see in this respect the very recent book by Eric Schlosser, *Command and Control*, Penguin Press, September 2013); (iii) the risk of a breakdown of the worldwide nuclear-weapon nonproliferation regime, leading to the actual use of nuclear weapons, with horrendous consequences; (iv) the need of a common approach to fight (i. e., to prevent) terrorism (including, I would like to emphasize, nuclear terrorism).

The risk of nuclear terrorism: the possibility that a sub-state group acquire the capability to engineer a nuclear explosion

- The explosion of a primitive (“Hiroshima type”) nuclear device in a major city would be a sudden catastrophe comparable, perhaps worse, than any tragic event in human history.
- There exist terroristic groups who would cause such a disaster if they could.
- A primitive nuclear explosive device could be easily manufactured clandestinely in a target city by a small terrorist commando if they could get hold of a sufficient quantity of weapon-grade Highly Enriched Uranium (HEU) (and possibly also with weapon-grade Plutonium, although this task is less easy).

- ONE HUNDRED kilograms of weapon-grade HEU would be more than enough.

- As a consequence of the enormous accumulation of weapon-grade HEU during the Cold War --- and in spite of a significant elimination of this material during the last one-two decades, by downblending it to Low Enriched Uranium (LEU) then used in nuclear reactors to produce electrical energy --- there still are more than ONE MILLION kilograms of HEU around; most of it in Russia, comparable quantities also in the USA, and smaller quantities (but still significantly larger than 100 kilograms) in other countries. This material is *not* available for sale and is *in principle* well-protected; but not necessarily all of it *in real practice* -- although the situation has improved over the last years, especially in Russia, both due to the improvement of the economic situation there, and thanks to outside collaborative interventions, mainly by the USA.

I consider still quite immanent the risk that a city be destroyed by a nuclear explosion engineered by a terroristic commando. Hence I believe that more efforts should be made to protect all the existing HEU, to terminate all its civilian employments --- by converting all research and naval reactors still employing HEU to using instead the compact LEU now available as a viable alternative--- and especially to eliminate (by downblending) ***as much HEU as possible as quickly as possible***. The most important step in this direction would have been an extension --- hopefully envisaging a fastest pace --- of the HEU deal among the USA and Russia whose implementation has just been completed after having eliminated 500 tons (HALF A MILLION kilograms) HEU over 20 years. **But this hope does not seem likely to materialize.**

Positive developments on the world-wide protection of nuclear materials are now an accepted priority of the international community: as for instance shown by the recent meetings convened at the highest level in Washington (USA) in April 2010, in Seoul (South Korea) in March 2012, in The Hague (Netherlands) in March 2014, with the next (perhaps the last) one to be held in 2016 again in Washington (March 31-April 1, 2016, at the Walter E. Washington Convention Center in Washington, D.C). The Obama Administration has taken this task much more seriously than it was previously done. **But I still believe that more could and should be done.** And let me emphasize that the complete elimination of HEU is quite compatible with a continuation of the utilization of nuclear energy.

5. Some positive (?) developments in the progress towards a nuclear-weapon-free world

* The NEW START Agreement among USA and Russia (resuming verified nuclear arms control sanctioned by Treaties, envisaging some reductions of the arsenals of the two nuclear Superpowers; signed in April 2010, entered into force in February 2011).

* April 12-13, 2010, in Washington, Nuclear Security Summit: convened by President Obama, attended by 47 States, 38 of them represented by their heads of state or heads of government. Signature of a commitment to strengthen the global nuclear security regime. Two follow-up meetings, in 2012 in Seoul (South Korea) and in 2014 in The Hague (Holland); with a next one scheduled to take place in 2016 in Washington, DC. But the goal set by President Obama (Prague speech, April 2009): securing all vulnerable nuclear materials within 4 years has not yet been fully realized.

* May 2010: significant progress in transparency (by the USA): complete disclosure of the USA nuclear arsenal, and of the new Nuclear Posture Review (restricting the circumstances of possible employment of nuclear weapons, stating that the *fundamental* role of nuclear weapons is to *deter* an attack performed *with nuclear weapons*).

* May 2010: the Quinquennial NPT Review Conference ends with a unanimous statement. The previous one --- May 2005 --- had ended in disarray, in my opinion largely because of the arrogant attitude of the Bush Administration: while the Non-Nuclear-Weapon States were severely urged not to proliferate, no progress in nuclear disarmament by the Nuclear-Weapon-States was envisaged.

But, on the contrary, the 2015 Quinquennial NPT Review Conference (May 2015) did not manage to issue an agreed final statement.

Recent hopeful developments (possibly indicating the wishful thinking of the speaker)

* Improvement of USA-Russia relations, including the prospect of *joint* development of antiballistic missile capabilities. **But these issues are quite open, and the recent crisis with Ukraina has soured US-Russia relations.**

* Postponement by the new (conservative-liberal) UK government of the decision to develop a new generation of Trident submarines (the British nuclear-weapon carriers). **But this issue is quite open.**

* Perhaps a new resolve by China---in its own interest---to push North Korea to abandon their nuclear-weapon program, leading to a nuclear-weapon-free Korean peninsula and a formal end of the Korean conflict. **But this issue is quite open.**

* **The Iranian agreement:** as an important element of the world-wide nuclear-weapons nonproliferation regime.

- * Emergence of a NATO attitude more open to collaborating with Russia, and sharing the USA tendency to restrict the role of nuclear weaponry and to pursue the goal of a Nuclear-Weapon-Free World. With some non-negative responsive signals by Russia. **But significant progress not yet achieved; and it is now jeopardized by the Ukrainian crisis.**
- * Strong commitment by several governments world-wide (including key States such as Germany and Japan), and of course of the United Nations, to progress towards a Nuclear-Weapon-Free World.
- * Creation of a ***European Leadership Network for Multilateral Nuclear Disarmament and Non-Proliferation (ELN)***, mainly composed of eminent personalities (top politicians, former highest-ranking military commanders; original convenor Lord Desmond Browne, former UK Minister of Defence), committed to work towards a Nuclear-Weapon-Free World (see: <http://www.europeanleadershipnetwork.org>).

Future steps towards a Nuclear-Weapon-Free World (NWW)

- * Further progress in the **reset** of relations among USA and Russia: from conflict to partnership (“common security”). Involvement of China.
- * Further progress in nuclear disarmament: bilateral USA-Russia (strategic nuclear weapons, tactical nuclear weapons; warheads besides delivery vehicles; space; conventional weapons); involvement of *all* nuclear weapon countries; a *universal* convention, with adequate verification (perhaps on the model of the Chemical Weapon Convention, perhaps backed by additional Nuclear-Weapon-Free Zones, for instance in the extended Middle East).
- * The notion of NWW: (i) “global zero”: no nuclear weapons exist; (ii) “*asymptotic*”: a very long delay (an “*infinite*” time) is technologically required for any reconstitution of nuclear arsenals.

Possible (unilateral/reciprocal) steps

* **Ratification** by the USA Senate of the Comprehensive Test Ban Treaty; and hopeful subsequent entry into force of this Treaty. **Unlikely with a Senate dominated by the Republican Party.**

* Nuclear posture change: the **sole** role of nuclear weapons is to deter an attack ***with nuclear weapons***. The transition to a NFWW becomes then a ***logical*** consequence.

* Nuclear strategy: *no first use* of nuclear weapons.

* **Termination** of the quick alert of nuclear-armed missiles, now envisaging their launch *within minutes*: a very dangerous posture, still adopted by USA and Russia (“I believe that we avoided nuclear catastrophe as much by good luck as by good management”; Bill Perry, USA Secretary of Defence 1994-1997; Second Annual Robert McNamara Lecture on War and Peace, at Harvard, Feb. 24, 2011).

A (semi)final personal note

It is known that public opinions worldwide favour --- by significant majorities --- the transition to a Nuclear-Weapon-Free World (NWFW). But there are some sceptics, especially among the so-called nuclear-weapon experts (especially among those with a civilian background, who make a living by pontificating on these matters). From these quarters it is often stated that “it is impossible to disinvent nuclear weapons”. But many social institutions have been “disinvented” over time: anthropophagi of enemy prisoners; slavery; in democratic countries, restrictions by social status (land property), by gender, by race, to the universal right to vote; chemical weaponry (after these weapons had been repeatedly used, during the last century; entailing verification of the world chemical industry, a more daunting task than verifying peaceful nuclear activities in a NWFW). Even war itself has now become *unthinkable* in certain contexts such as Western Europe where the two World Wars took place during the last century.

As previously emphasized, nuclear weapons have been employed in war only twice, 6 and 9 August 1945, Hiroshima and Nagasaki. They have never been used afterwards, even when States possessing enormous nuclear arsenal were defeated in war by States without nuclear weapons, for instance the USA in Vietnam and the Soviet Union in Afghanistan. This is the first time in human history that something of the kind happens. It is an indication that, in some quite significant sense, we already live in a Nuclear-Weapon-Free World: a world where nuclear weapons are --- *de facto* if not yet *de iure* --- unusable. Were it not so, how to explain the fact that --- by becoming parties to the NPT and possibly in addition to a NWFZ --- almost all world States have voluntarily given up the option to acquire a nuclear-weapons arsenal; including several States for whom acquiring such a capability would be technologically quite easy? But this consensus is now at risk, unless the nuclear-weapon countries (*in primis*, USA and Russia) make progress towards a NFWF.

This also shows that a political/strategic development considered unfeasible can indeed happen. After the Cuban Nuclear Missiles Crisis, that brought the world close to a nuclear catastrophe in autumn 1962, President Kennedy, and other world leaders, pushed strongly for the establishment of a world-wide nuclear-weapon nonproliferation regime. The Non Proliferation Treaty (NPT) entered into force in 1970. But --- as emphasized by those who opposed the NPT (also in Italy) --- its success was at that time quite doubtful. Many nuclear-weapon pundits predicted that within one-two decades 20-30 States would have acquired nuclear weapons. Indeed, in the 1960s many States had initiated programs aimed at developing nuclear weapons, and several of them were quite opposed to the NPT. And two of the 5 Nuclear-Weapon-States (as defined by the NPT) were strongly opposed to the NPT: the France of De Gaulle and the China of Mao. Yet the NPT turned out to be a great success. More than four decades later *all* countries of the world are full parties, except for only 3 or 4: India, Pakistan and Israel, who never signed it and acquired nuclear weapons, and North Korea, who became a party but then opted out. **But this large consensus is now at risk.**

The recent, significant surge of pronouncements --- by political leaders worldwide --- in favor of a transition to a NWFW brings to mind the famous dictum attributed to Victor Hugo: “nothing can stop an idea whose time has come”. This is why I am confident that such a transition is *in fieri*. Obama said in Prague that this goal, “perhaps”, will not be reached in his lifetime. I am much older than he is, yet I entertain the hope that it might, ***perhaps***, be achieved in my lifetime.

But, *perhaps*, only after some catastrophic nuclear explosion: accidental, or engineered by terrorists.

Let me end with the mention of two (minor but not negligible) positive developments, and some words about the present official position of the United States, who remain the key country regarding the eventual transition to a Nuclear-Weapon-Free World.

The establishment of a nuclear fuel bank in Kazakhstan

On August 27, 2015, the government of Kazakhstan signed an agreement with the International Atomic Energy Agency (IAEA) to establish an international low-enriched uranium fuel bank in the country. This bank, to be located at the Ulba Metallurgical Plant in the northeastern city of Ust-Kamenogorsk, will be owned and managed by the IAEA. It will give members access to enriched nuclear fuel in cases of disruption to their own supply, thus removing the need for countries to build their own enrichment facilities, which pose a proliferation risk.

The launching and progress of the Humanitarian Impact of Nuclear Weapons Initiative (HINWI)

“The use of nuclear weapons contradicts basic principles of humanitarian international law such as the principles of proportionality and the non-targeting of civilians. Nuclear weapons are inhumane and out of sync with modern societies that have outlawed all other weapons of mass destruction (chemical and biological) as well as weapon systems such as landmines and cluster munitions. For the same reasons, the proponents of the **HINWI** argue that nuclear weapons must also be **outlawed**. **113** states have already adopted the **Humanitarian Pledge**, launched by Austria after **the third HINW conference in December 2014**. The Pledge points to the legal gap outlined above and in the foreseeable future will most likely lead to multilateral negotiations for a prohibition on nuclear weapons, irrespective of the view of the Nuclear Weapons States.” (Tom Sauer, *Bulletin of Atomic Scientists*, 6 August 2015)

Another quote from **President Obama** (March 26, 2012; Hankuk University, Seoul, Republic of Korea)

“Now, American leadership has been essential to progress in a second area -- taking concrete steps towards a world without nuclear weapons. As a party to the Nuclear Nonproliferation Treaty, this is our obligation, and it’s one that I take very seriously. But I believe the United States has a unique responsibility to act -- indeed, we have a moral obligation. I say this as President of the only nation ever to use nuclear weapons. I say it as a Commander-in-Chief who knows that our nuclear codes are never far from my side. Most of all, I say it as a father, who wants my two young daughters to grow up in a world where everything they know and love can’t be instantly wiped out.”

December 17, 2014 3:12pm

Rose Gottemoeller: U.S. Commitment to Peace and Security of a World without Nuclear Weapons Is Unassailable

“There should be no doubt that the U.S. commitment to achieving the peace and security of a world without nuclear weapons is unassailable,” said **Rose Gottemoeller** today at **an event** hosted by the Arms Control and Non-Proliferation Initiative at Brookings. Gottemoeller—the U.S. under secretary of state for arms control and international security and chief negotiator of the New Strategic Arms Reduction Treaty (New START) with the Russian Federation—added that “We continue to pursue nuclear disarmament and we will keep faith with our Non-Proliferation Treaty Article 6 commitments.”

Bulletin Atomic Scientists

05/14/2015

Rose Gottemoeller

“Well, I think there's a debate going on. There's no question about it. And you said the nuclear countries have done enough; I would take exception with that. We very clearly say that 4,700-plus warheads is still too many. And the president laid out very clearly in April of 2009 that the United States will seek the peace and security of a world without nuclear weapons. And that is the guiding force of our national policy on these matters. So we haven't done enough. We still need to do more. And I want to put that out there very, very clearly. You know, the sense that somehow we're sitting back and resting on our laurels on [disarmament], it's not the case whatsoever. We recognize there's more work to be done.”