

**Address to the Professors of the Russian Academy of Science  
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I thank my Russian medical and scientific colleagues for the opportunity to address this General Meeting of Professors of the Russian Academy of Sciences. I will try to give this talk in Russian. I learned the language 55 years ago during my 6 months as an exchange student in the First Moscow Medical School. In 1972 I lived with my family in Moscow near the Metro Sokol. Please excuse my mistakes.

While the sun will soon rise here in Boston, it will bring no joy as we begin another day defiled by continued massive violence in Ukraine, disruption of collaboration with our Russian medical and scientific colleagues, and the threat of a nuclear war that will destroy human civilization.

The speed with which the fate of the earth has moved from hopeful to tragic deepens our sorrow. Only one month ago -- albeit in the looming shadow of a war -- we met as US and Russian physicians to discuss plans for enhanced cooperation on heart disease, cancer and COVID-19 -- diseases which kill over 1 million Russians and over 2 million Americans per year. Our Russian medical colleagues expressed strong interest in a \$50 million and 3,800 million ruble per year Russian-US health cooperation program. I noted that the expense of the health research would be only a small fraction of the cost of a war.

Our Russian colleagues identified prominent medical leaders for each activity. On our side, Dr. Valentin Fuster, the Editor of Journal of the American College of Cardiology, rapidly identified funds for a joint Russian American study of anticoagulation of patients with COVID-19. We could see a marvelous opportunity to fulfill our medical oath to protect the health and lives of Russians, Americans and the people of the entire world.

My proposal for health cooperation was a repeat of a program I had helped create in 1972 during the first Cold War. Russian-American health cooperation during that crisis led to medical progress and helped establish habits of cooperation that contributed to the prevention of nuclear war. The friendships we formed led to the co-founding in 1980 with Drs. Lown, Chivian, Chazov, Illyin and Kuzin of International Physicians for Prevention of Nuclear War (IPPNW). Our group won the 1985 Nobel Peace Prize for raising awareness of the unacceptable medical consequences of the use of nuclear weapons. We hoped last month that Russian and American physicians could again demonstrate their shared commitment to health and life.

But on February 24<sup>th</sup>, this beautiful vision of Russian American health cooperation became another casualty of the start of massive violence in the Ukraine. The destruction leaves no possibility of even planning this medical work together until there is a ceasefire. There is no possibility of raising any money in the US for cooperation with Russian physicians until the violence has ceased.

While the death and destruction in the Ukraine is a nightmare, an even greater disaster is nearby. Nuclear weapons have been put on high alert, which threatens to expand the tragedy from the death of thousands to the deaths of hundreds of millions. While many discount the possibility that any rational person would launch nuclear weapons, the current high alert status increases the odds of a nuclear war beginning by accident, miscalculation or terrorist attack.

It is difficult to respond to the nuclear threat because the scale of the damage is beyond our imagination. But we must peer into the darkness to plan our escape. In the 1960s my colleague, the late Dr. Bernard Lown published a medical account of the results of a nuclear attack on Boston. Multiple nuclear warheads, each more powerful than the Hiroshima bomb, would strike the city. In the center near the Charles River, there would be a fireball with intense temperatures that would kill hundreds of thousands instantly. Around the center the heat and blast forces would kill and injure hundreds of thousands more. The total deaths in Boston would be 3 million. There would be fierce winds and radioactive fallout. Medical care, even pain relief would be unavailable because most hospitals, including the Brigham and Women's where I work, would be destroyed and most health professionals would be killed or injured. The image of a single small child with untreated burns is easier to imagine than the vast tragedy that would occur.

Every major city in the United States and Russia would experience similar destruction from the thousands of nuclear weapons on alert that the US and Russia currently aim at each other. The tragedy I have just described for Boston will occur for the many cities I know well and admire, all of which are most likely targeted by many nukes – Moscow, Washington DC, St. Petersburg, Baltimore, Vladimir, Indianapolis, Novosibirsk and San Francisco.

The damage would not be limited to the cities destroyed. The smoke from the fires would shadow the Earth and create a nuclear winter, affecting countries not involved in the conflict. Electricity supply, the internet and trade would be destroyed. Global famine would ensue.

The current threat of annihilation of civilization must be viewed in historical context. Within 60 years we have experienced three crises in which a nuclear war between the US and Russia could occur – the Cuban Missile Crisis in 1962, the Cold War crisis in 1980, and now the violence in the Ukraine. And in addition to US Russian confrontations, the nuclear weapons have spread to 9 nations, many of whom experience tensions in their relationships.

At the start of the nuclear age we were warned by Einstein that "The unleashed power of the atom has changed everything save our modes of thinking and we thus drift toward unparalleled catastrophe." "We shall require a substantially new manner of thinking if mankind is to survive."

At this dangerous moment, the "new manner of thinking" is coming into view.

The current international system in which differences between nations are resolved by violence will – in the nuclear age – lead to the destruction of human civilization. The danger of the "mutually assured destruction" method of managing the nuclear threat is now more clearly visible. No single person should have the power to end civilization. The vast destructive power of nuclear weapons has severed the linkage between destructive force and security.

The path to survival is clear – we must eliminate these weapons before they eliminate us. We must replace the use of force with diplomacy, the rule of law, and increased power of the United Nations. Only in that manner can we create a secure world for our children, our grandchildren and all future generations. The primary task of building such a world will fall on the strong shoulders of young people who are currently horrified by their first glimpse of the nuclear threat.

We hope the path of reason and peace can be chosen, and we can resume our collaboration with our Russian medical and scientific colleagues on the problems of disease, exploration of space and climate change – global problems which require a global response unimpeded by violence and threats of nuclear destruction. Humans can be consumed by their differences and turn to violence as we now witness --- but we can also think clearly, cooperate, negotiate and love – let us choose these features of our nature.