

## The 55th Pugwash Conference on Science and World Affairs

**60 Years After Hiroshima and Nagasaki**  
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### **Working Group 1 Report**

#### **The Legacy of the Russell-Einstein Manifesto**

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Fifty years after its creation, and in a time when global instability threatens mankind, it is fitting to revisit the Russell-Einstein Manifesto, a core reference within the Pugwash movement and arguably one of most important documents of the last century.

During the 55th Pugwash Conference on Science and World Affairs held in Hiroshima, Japan, Working Group 1 convened to explore the meaning and current importance of the Russell Einstein Manifesto. Given its connections to a variety of issues ranging from nuclear weapons and international security to the social responsibility of scientists, the discussion was divided into four main themes. We dealt with the legacy of the Russell-Einstein Manifesto, the history of the nuclear era, the state of and trends in disarmament and non proliferation, and the role and effectiveness of nuclear awareness and education.

The Russell Einstein Manifesto was the product of an overwhelming concern about the emergence of a new technology - the atomic and hydrogen bombs - which embodied the possibility to annihilate the human race. This innovation, which was not only limited to the creation of a new weapon but was in fact part of a broader reconfiguration of the nature of war, led eminent members of the scientific community to react. Their reaction was, however, not onedimensional. The manifesto they produced is a multilayered vision that transects several pressing issues, in particular, the rejection of war as an instrument for conflict resolution, the peril posed by nuclear weapons and the consequent necessity of their abolition, the need to learn to think in new ways, and the need for scientists to become involved in the construction of a better world. These four issues shape the structure of this report.

#### **The Manifesto and War: a Call for Comprehensive Conflict Resolution**

*"Here, then, is the problem which we present to you, stark and dreadful and inescapable: Shall we put an end to the human race; or shall mankind renounce war?"*

Long after the signatories of the Manifesto called for mankind to forever renounce war, we are still haunted by countless hostilities around the world - be it on a smaller scale than in the first half of the 20th century. Furthermore, the emergence of new global threats, all of which contribute to endanger civilization, compel us to reconsider the nature of the Russell Einstein Manifesto and the reading that it should have within the Pugwash Community.

In particular, participants raised the question of whether emerging problems - such as ecological collapse, the existence of "undemocratic" pockets throughout the world, and the rise of irrational national pride - parallel in one way or another the nuclear peril presented by the Manifesto. Emerging threats such as these must be interpreted as important elements in the constitution of an unsustainable environment which becomes fertile ground for the emergence of conflict. Many of the questions put forth in the past were simply forgotten; but the challenges continue to be the same; that most of the new threats are the result of old ones which were not dealt with in due time.

In this sense, the Manifesto should be interpreted as presenting a civilizational crossroad: we stand at a point in history where we have some resources that enable us to focus our efforts on preventing conflicts before they occur. This requires understanding the interconnectedness of the problems as well as the role that we as scientists and members of society play in the world. We have to think how we can work together and what we can do to cope with the current state of affairs. This is precisely the task of the Pugwash Movement.

Some participants stressed that our views of peace and history play an important role in the construction of a secure and equitable world. Peace should be interpreted in a broader sense, including items such as the elimination of conflict and the resolution of the global inequities.

In this respect, it is imperative for peace to become a key element in the foundation of future legal systems. Article 9 of the Japanese constitution - which renounces war as an instrument of policy - serves as a useful example which should be taken into consideration during the formation of a common European Constitution.

Education was identified as an important instrument for setting the foundations for peace. Keeping alive the memory of tragic events such as the bombing of Hiroshima and Nagasaki in 1945 should become a means to convey the danger of nuclear weapons and war in general. If we are not careful the memory of what happened will fade. Nevertheless, these actions should be conducted within a historically aware framework and in the context of the quest for long-lasting reconciliation. This requires understanding the dynamics of how societies cope with the past. In this area, Pugwash should support more interaction between national groups with the purpose of developing strategies for promoting reconciliation.

Nuclear awareness was recognized as an important area in which Pugwash could have significant impacts. This would require, nevertheless, adopting a broader understanding of nuclear weapons and linking the issue of disarmament with other topics - such as environmental problems and the threats of terrorism - in order to increase public support for the cause of nuclear abolition. Additionally, Pugwash could contribute in a more fundamental way by encourage research on the true consequences of war and, specifically, on the devastating aftereffects of nuclear weapons.

Overall, participants felt that the appeal of the Russell Einstein Manifesto "to remember our humanity" should be insisted upon. However, there were some interesting questionings as to the universality of the concept "humanity;" perhaps the concept needs to be reviewed in order to harmonize it with the multicultural context of the 21st century.

### **The Manifesto, Disarmament, and Non-Proliferation**

*"The general public, and even many men in position of authority, have not realized what would be involved in a war with nuclear bombs. Whatever agreements not to use H-bombs had been reached in time of peace, they would no longer be considered binding in time of war"*

Interpreting the manifesto as a reaction from a specific group within the scientific community requires framing its conception in the broader context of the bipolar world congealed after the Second World War. In this respect, some participants within the working group raised the question of whether the manifesto retained its original strength: in today's global scenario, the possibility of complete annihilation is not as manifest as it was at the height of the Cold War, nor are current juxtapositions (as those between the West and the Islamic world) comparable to the situation which prevailed fifty years ago between the United States and the USSR.

The argument was also made that the dominating approach to disarmament focuses too much on the contraposition between the United States and Russia. Even though it was acknowledged that the United States has extensive influence on the status of international nuclear diplomacy, it was also mentioned that efforts toward disarmament should not focus solely on US policies. With the reconfiguration of American nuclear strategic policies, the international community should work on parallel initiatives which do not directly involve the United States. Some agreements on disarmament and non proliferation could be negotiated regionally, on the margins of the US-Russia dialogue. Likewise, relying on the leverage of other nations (such as Japan and some select countries) could be instrumental in reactivating the global discussion on disarmament. The current interlude in the disarmament process should thus be used for generating constructive actions in countries interested in the ultimate abolition of nuclear weapons. We should not stall our efforts until there is a tragic event that shifts the minds of our leaders.

Pugwash should therefore identify the existing diplomatic niches and exploit them accordingly.

Our ultimate goal - shared with the Russell-Einstein Manifesto - is for the complete abolition of nuclear weapons. Nevertheless, such abolition must be based upon a sound political, legal, and diplomatic foundation which requires encouraging nuclear weapon states to stop nuclear sharing under any kind of arrangement, and seeking to reduce and/or secure nuclear weapons and fissile materials to prevent their use in terrorist activities. Furthermore, abolition requires concerted international actions to stop both horizontal and vertical proliferation, along with the developing and testing of new generations of nuclear weapons. Nuclear weapon states must also come to respect existing commitments pending the conclusion of multilateral legally binding assurances. Finally, the expansion of Nuclear Weapons Free Zones should be considered as an important instrument in the fight against nuclear weapons.

Participants in the group suggested that Pugwash focus on several agenda items for their discussion in coming years: for example, the quicker implementation of the Moscow Treaty, incorporating the debate on the control of non-strategic weapons in the current negotiations and in further treaties, promote de-alerting existing arsenals, preventing the development of new kinds of nuclear weapons, the negotiation of a fissile material cut-off treaty, making the adherence to the IAEA's additional protocols standard, finding ways to make the CTBT enter into force, identifying mechanisms to implement 13 steps recommended by the 2000 NPT Review Conference, and reconsidering the many dimensions of the nuclear fuel cycle aiming to develop a comprehensive control system of fissile and related materials. Also, a strong argument was made for Pugwash to establish collaborative links with other organizations, in particular, with the Middle Powers Initiative.

In sum, we ought not to waste time getting frustrated, but rather set the foundations for a nuclear weapons free world. Pugwash's expertise could be instrumental in setting up a properly organized study group that would focus on identifying the practical mechanisms for reaching this point.

### **Thinking in New Ways: Involving Scientists in the Construction of a Better World**

*"We have to learn to think in a new way"*

The point was raised that nuclear weapons cannot be seen as isolated artifacts but should be instead interpreted as elements of the fabric of the military industrial complex. Therefore, disarmament requires a deeper consideration of the technological path taken by humankind. To some extent disarmament implies altering fundamentally the prevailing paradigm which connects our notions of science, progress, technology, development, and cooperation. Without such

reconsideration, the institutional structure which supports warfare - and the nuclear establishment - will remain embedded within the fabric of society, and peace will be more difficult to achieve. It was noted, however, that it is not necessary to tackle the entire military industrial complex to achieve nuclear disarmament. The impossibility to uninvent nuclear weapons should not be a setback for their abolition.

Any efforts to change the paradigm must take into consideration other problems. For instance, while it must be aware of the connections between peaceful and military nuclear technologies, it must also consider the need to reduce global emissions and therefore the possibility of a great expansion in civil nuclear energy facilities in coming years. This crossroad requires us to think in new ways, and to implement new approaches which do not have the same asymmetric characteristics as the first generation of nuclear institutions (for instance, the Non Proliferation Treaty). For example, in order to close some technical loopholes, we should push for a global agreement on the multilateral control of the fuel cycle. Pugwash should push in this direction since it would eliminate current ambiguities in nuclear diplomacy (any facility that does not fall into a multilateral control mechanism would immediately be classified as a nuclear weapons facility.) To some extent this would be a start to a proliferation-proof technological path.

Finally, scientists and technologists hold a great responsibility to inform the general public about existing and emerging threats, for they are, in some areas, more capacitated to understand the impact of specific developments. On the basis of science, we should discuss how to realize a peaceful culture and society, and therefore give continuation to the spirit of the Russell-Einstein Manifesto. Equally, we have an obligation to seek to influence political spheres in order to secure the world for future generations. In the case of Pugwash - traditionally scientific community - this could be done in coordination with other organizations, in order to increase our political leverage.