

# The Partial Nuclear Test Ban Treaty: A neglected milestone of Environmental Politics

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## Abstract

The Partial Nuclear Test Ban Treaty is considered an early example of bilateral cooperation between the two superpowers in the realm of arms control. Surprisingly, it is rarely mentioned as the key treaty that solved the global environmental crisis of nuclear pollution. This article revisits this issue through the lens of Constructive Environmental Politics, and explores why it is omitted from the list of the most important international environmental regulations.

**Keywords:** nuclear proliferation, nuclear pollution, Partial Nuclear Test Ban Treaty, Environmental Politics, interdisciplinary environmentalism, global environmental protection regulation

## Introduction

The Cold War is often seen solely through the lens of the bipolar conflict of interests that engulfed the globe for decades, with the political power struggle (in its narrowest sense) considered to be above all else. Issues of morality, development and environment are often sidelined in narratives. In fact, the era defined not just international politics, but also culture, science and more. It would be wrong however, to claim that there were no other interests that countries and citizens expressed. Related events and patterns are often missed and ignored, or sometimes they fall into the abyss between disciplinary boundaries, with neither of the disciplines concerned focusing on the issue as its own. Such is the case of nuclear testing, which posed an extremely serious threat to the (human)

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environment relatively early in the Cold War, but thanks to the cooperation of the two superpowers, an effective and lasting solution was found, making this event one of the greatest diplomatic successes of the era, and history in general. Thus, the 1963 Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water was a landmark in many fields of politics. First and foremost, it is analyzed and viewed in the International Relations, International Law and Cold War History contexts.

The agreement was of extreme importance from an Environmental Politics perspective as well. Yet, there is little recognition of this in the field. My research shows how due to knowledge gaps, and the lack of multidisciplinary, the environmental benefits of the treaty are often overlooked. This is a problem, because analyzing this event in an Environmental Politics context we can gain valuable insights to understand how nation states may be motivated to tackle global environmental issues that are interconnected with other fields.

First, let us look at what the consequences of nuclear testing were that required an urgent solution. Surface nuclear weapons testing released a large number of radioactive isotopes into the atmosphere, which have severe health effects, as they are especially carcinogenic. There is a strong correlation with increase in thyroidal cancer and the number of radioactive particles in the air. Furthermore, it is estimated that until the year 2000, as many as 430,000 fatalities occurred which can be linked to atmospheric radioactive contamination (Institute for Energy and Environmental Research and International Physicians for the Prevention of Nuclear War, 1991). Besides the uniform contamination of the Earth's atmosphere, there are key sites around the world which have suffered devastating concentrations of radiation due to extensive testing. Such was the fate of the Nevada Test Site, Semipalatinsk, atolls Bikini, Enewetak, Moruroa, Fangataufa, and the Novaya Zemlya marine area (Salvador, 1999). These areas will remain virtually uninhabitable forever, due to "near-irreversible environmental contamination" (Georgescu and United Nations Human Rights Council, 2012: 6). Finally, the human consumption of radioactive seafood is also a potential danger in certain areas, as many particles were absorbed by the oceans, and then entered the food chain through the processes of bioaccumulation and biomagnification.

The aforementioned environmental effects were increasing exponentially as the proliferation of nuclear weapons took place, resulting in the increase of the environmental burden in multiple ways: there was an increase in the number of tests, the yield of the weapons involved and the number of different types that were deployed. There was a very

real danger that through the development of conventional or so-called tactical nuclear weapons nuclear warfare would become normalized worldwide, leading to devastating consequences. Testing included nuclear land and sea mines, artillery shells and anti-armor missiles. Therefore, the exponential rise of isotopes could have risen unchecked to extreme levels that would have endangered millions more. Even with the PTBT in force, more than 2000 tests have been conducted worldwide, blanketing the planet with radiation.

### **Concerns about radiation**

Early on, concerns were raised about the potential effects of nuclear testing. The number of unknown variables that were involved had caused immediate and disastrous consequences during testing, such as the botched test of Castle Bravo at Bikini Atoll (Sumner, 2016). Furthermore, potential health risks were voiced by many, even as the effects of radiation were not yet completely understood at the time, establishing the “proto-precautionary principle,” given that *potentially harmful but unknown* effects were cited as a reason to stop an action. It was not long before members of the public and professionals rallied against unchecked nuclear testing; in 1958 the Baby Tooth Survey was launched, which measured strontium-90, a radioactive byproduct of nuclear explosions by measuring concentrations in babies’ fallen teeth, which were submitted for examination by members of the public. The study found that strontium-90 levels in the teeth of children born from 1945 to 1965 had risen 100-fold. With over 320 000 samples submitted, the results were conclusive beyond doubt (St. Louis Citizens’ Committee for Nuclear Information, 1961).

All this galvanized support for the anti-nuclear testing movement. Perhaps one of the most notable instances of opposition came when an international anti-test petition was launched in 1957 which was signed by over 9000 scientists across 43 countries, including in the Soviet Union and other communist states, with Albert Einstein, 36 Nobel laureates overall, and 216 members of the Soviet Academy of Sciences in total among the signatories (Hamilton, 2018); the petition was initiated by Nobel laureate Linus Pauling, who, with his wife Ava Helen Pauling, spearheaded the anti-testing campaign (Pauling was later awarded the Noble Peace Prize for his work). Another notable example of public outrage related to nuclear testing was the 1961 Women’s Strike for Peace movement and its series of protest. In over 60 cities more than 50,000 women marched to halt nuclear

testing, in the largest women's peace protest of the 20<sup>th</sup> century (The Los Angeles times, 2011).

As the harmful effects of high-level radiation was well known by both superpowers from early on, they searched for a compromise regarding the issue. Negotiations of a nuclear test ban have already begun in 1955 (two years after the death of Stalin), when Nikita Khrushchev proposed talks on a test-ban treaty (Rhodes, 2008). Interestingly, there seemed to be a divide between political and scientific incentives for a ban; politicians saw such a treaty as a way to limit nuclear proliferation and thus stabilize relations between the two superpowers. Scientists and citizens on the other hand were highly concerned about deadly radiation that affected millions of people, and already in the 1940s had raised objections to testing, as mentioned. They were concerned with the human environment predominantly. Therefore, the means were similar, but the goals and the approaches taken were somewhat different.

Although negotiations began in the mid-1950s, it was not until 1963 that an agreement was reached. The eight years were spent with various political debates, against the backdrop of momentous events of Cold War era world politics. Multiple stakeholders wanted a comprehensive test ban instead of a partial one, and some even demanded complete nuclear disarmament. Although the public was opposing nuclear weapons and testing, France and the United Kingdom were keen on developing their own (thermo)nuclear weapons, both as protection from Soviet aggression and as a status symbol of international relations. In the Soviet Union, the continuous rise of strontium-90 levels, the Kyshtym disaster of 1957 and the subsequent evacuation of more than 10,000 people raised further concerns among the scientific community and policymakers as well (Cellania, 2015). In the USA, public support for a test ban was relatively high: 64% in 1957 and 61% in 1963 (Nuclear Files, 1999). This, combined with the shock of the 1957 Soviet Sputnik launch, propelled Eisenhower to consider a ban.

The technical execution of the ban was debated between the parties. Compliance with the treaty was paramount in the context of the escalating arms race, and the monitoring of testing was to be a critical question. The predominant issue was the monitoring of underground tests, which were significantly harder to detect than surface or underwater explosions; this was seen as an issue by both superpowers. Negotiations were often stalled as both parties saw the other's initiatives aimed at reducing their ability to oversee compliance by the other. The Cuban missile crisis in 1962 brought the two superpowers' positions closer to each other. By this time, Khrushchev was willing to

accept a partial test ban treaty as well as a compromise (Strode, 1990). The proposed on-site bilateral inspections were scrapped, but the monitoring stations would ensure compliance with a partial ban. On August 5, 1963, the Treaty was signed.

With the Treaty in force, and state practice abiding by it, the PTBT regime was widely successful as an element of *détente* – and also as an element of customary International Law, for the nuclear non-proliferation movement, but most importantly, it was successful in dramatically reducing levels of global radioactive pollution. The United Nations Scientific Committee on the Effects of Atomic Radiation however, concludes that the most significant cause of exposure of the world population to man-made environmental sources of radiation is still nuclear testing (United Nations Scientific Committee on the Effects of Atomic Radiation, 2000); countries such as China, France, India and Pakistan have not signed the treaty, but the two superpowers did halt open testing, with the aforementioned positive results.

Placing this event in the context of second-generation modern environmentalism (Carter, 2007), we can see how this was a very unique and early example of international cooperation. Toshihiro Higuchi outlines in his dissertation how the international process evolved through the years, however, he is one of only a few scholars to address the topic from an environmental perspective (Higuchi, 2011). Along with the historical approach of looking at the evolution of the international legal framework, comparing the PTBT to other key pieces of environmental legislation, such as the UNFCCC or the Vienna Convention for the Protection of the Ozone Layer, we can arrive at the conclusion that PTBT was very important from the perspective of the protection of the environment.

The two superpowers had realized how nuclear weapons testing was extremely dangerous before substantial effects were experienced by their populations, invoking the precautionary principle. The heightened public and scientific awareness of the dangers of nuclear weapons worked as an important catalyst for the creation of the Treaty. Although the negotiation process was predominantly focused on classic Cold War International Relations themes, the incentive to engage with the topic was undeniably partly environmental, and due to domestic pressures – even in the Soviet Union. In fact, Khrushchev's regime was more open to the ban than Eisenhower's administration, even though the latter was a democratically elected leadership, and thus, by default, it should have been comparatively more responsive to the pressures of scientific and public concerns.

With the success of the PTBT, one would assume that it is held in high regard among the most important environmental regulations of all time. This assumption, however, is false. Tying in with the Constructivist School of International Relations, we know that history's perception is often altered by social constructs.<sup>2</sup> In the case of Environmental Politics, it seems that environmentalism is predominantly centered around climate change, and other significant issue areas, except some issues of biodiversity (CITES), are simply ignored. Several examples can be pointed out to support this argument. Major sources of legal information, such as the Georgetown Law Library do not list the Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space, and Under Water; according to Georgetown, it is not among the most cited environmental treaties (Casey, 2018). The Electronic Information System on International Law does not list it, either. Although the problem the treaty solved has been eliminated, the achievement is important to acknowledge nonetheless. To illustrate the problem further, *Global Environmental Politics* and *Environmental Politics*, as leading journals in the field, have almost no articles on nuclear testing. On JSTOR we can find 95 matching pieces of literature, with only 6 articles matching the topic indirectly in addition to these. The most interest towards the issue of nuclear testing is from International Relations, International Law, Indigenous Human Rights, but not from Environmental Politics.

The question arises: If this treaty was so important, why is there so little international recognition of it? The answer is complex. However, we can identify key elements that can provide further research with valuable clues. First of all, despite oft-heard claims to the contrary, the study of International Relations still often lacks multidisciplinary. Environmental Politics on the other hand is very focused on climate change and contemporary issues in general, but not so much on the historical record, e.g., of the Cold War. Furthermore, there is a lack of scholars who are equally interested in Environmental Politics and International Relations to combine these approaches. Moreover, although radiation from testing has long-term and global effects, increases in related bad health outcomes may be sporadic, with difficult-to-isolate causal factors due to the high number of variables in the plausible cases observed. All of the above make this a cold topic to discuss, especially when it is presumed solved. Another reason for the lacking interest in the subject is the historical evolution of Environmental Politics as a

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<sup>2</sup> The hypothesis for this research occurred to me after spending five years in BA and MA programs at four different universities – none of them ever mentioned the PTBT in an environmental context, and in some programs it was not mentioned at all.

discipline: it was established at a time when the professional and scientific interest was focused on climate change, and thus it had little capacity to engage with other issues, especially as climate change seems to be the most urgent challenge. Finally, PTBT may also be less recognized for its achievements given that it was not concluded directly within a United Nations framework.

The theme of nuclear testing should belong on the agenda of Environmental Politics, whose analytical toolkit should be applied to understand its implications better, with an overall stronger focus on the environmental and health impacts rather than on the power relations and the politics of the Cold War, thus reinterpreting existing data. In addition, there is a positive example of the application of the precautionary principle in the way stakeholders reacted to potential unforeseeable adverse effects of testing. Also, understanding the political process in connection with a focus on the environment, and not on the bipolar world order per se, may offer novel insights into the related historical processes. Finally, a rewriting of an entire chapter in the history of environmentalism may well be required, with PTBT taking its rightful place among the most important international agreements of all time.

### **Conclusion**

In this article, I have presented how nuclear weapons were proliferating in multiple dimensions, and how the fallout from related testing was exponentially rising, potentially harming millions of lives. The risks associated with testing constituted a direct cause of the PTBT. The negotiation and the signing of the treaty was driven by valid public and scientific opposition, but still conducted in the atmosphere and spirit of an arms control agreement matching the Cold War era agenda. In the end, the treaty saw strong enforcement and thus a rapid reduction of radioactive particles in the atmosphere, a clear environmental benefit. Therefore, I call upon the scientific community to explore and revisit related environmental issues of the past, to exploit the synergy of existing Cold War knowledge and modern environmentalist approaches. This might bring us closer to a solution to today's problems as well, which may be desperately needed.

### **References**

Carter, N. (2007) *The Politics of the Environment: Ideas, Activism, Policy*. Cambridge University Press.

- Casey, H. (2018) *Guides: International Environmental Law Research Guide: Treaties* [online]. Available from: [//guides.ll.georgetown.edu/c.php?g=273374&p=1824812](http://guides.ll.georgetown.edu/c.php?g=273374&p=1824812) (Accessed 29 September 2018).
- Cellania, M. (2015) *The Kyshtym Disaster: The Largest Nuclear Disaster You've Never Heard Of* [online]. Available from: <http://mentalfloss.com/article/71026/kyshtym-disaster-largest-nuclear-disaster-youve-never-heard> (Accessed 29 September 2018).
- Georgescu, C. & United Nations Human Rights Council, (2012) *Report of the Special Rapporteur on the Implications for Human Rights of the Environmentally Sound Management and Disposal of Hazardous Substances and Wastes*.
- Higuchi, T. (2011) *RADIOACTIVE FALLOUT, THE POLITICS OF RISK, AND THE MAKING OF A GLOBAL ENVIRONMENTAL CRISIS, 1954-1963*. thesis thesis. Georgetown University. [online]. Available from: <https://repository.library.georgetown.edu/handle/10822/558065> (Accessed 2 May 2018).
- International Cancer Institute (1997) *Estimating Thyroid Doses of I-131 Received by Americans From Nevada Atmospheric Nuclear Bomb Test*.
- Institute for Energy and Environmental Research & International Physicians for the Prevention of Nuclear War (1991) *Radioactive Heaven and Earth*. The Apex Press. [online]. Available from: <https://ieer.org/resource/books/radioactive-heaven-and-earth/> (Accessed 4 June 2018).
- Nuclear Files (1999) *Opinion Polls: Test Ban: Nuclear Test Ban Treaty Support Remains High* [online]. Available from: <http://nuclearfiles.org/menu/library/opinion-polls/test-ban/test-ban-treaty-support-remains-high.htm> (Accessed 29 September 2018).
- Rhodes, R. (2008) *Arsenals of Folly: The Making of the Nuclear Arms Race*. Knopf Doubleday Publishing Group.
- Salvador, R. (1999) *The Nuclear History of Micronesia and the Pacific*. Nuclear Age Peace Foundation [online]. Available from: <https://www.wagingpeace.org/the-nuclear-history-of-micronesia-and-the-pacific/> (Accessed 28 September 2018).
- [online].
- St. Louis Citizens' Committee for Nuclear Information (1961) *Baby Tooth Survey — First Results*. *Nuclear Information*. [Online] 4 (1), 1–6.



- Strode, R. (1990) 'Soviet Policy Toward a Nuclear Test Ban: 1958-1963', in *The Other Side of the Table: The Soviet Approach to Arms Control*. London: Council on Foreign Relations Press. p.
- Sumner, T. (2016) *Bikini Atoll radiation levels remain alarmingly high* [online]. Available from: <https://www.sciencenews.org/article/bikini-atoll-radiation-levels-remain-alarmingly-high?mode=magazine&context=189055> (Accessed 4 June 2018).
- The Los Angeles times (2011) Dagmar Wilson dies at 94; organizer of women's disarmament protesters. *The Los Angeles times*.
- Thomas J. Hamilton (2018) January 13, 1958: 9,000 Scientists Urge End to Nuclear Bomb Tests. *The Raucous Rooster* [online]. Available from: <http://theraucousrooster.com/2018/01/13/january-13-1958-9000-scientists-urge-end-nuclear-bomb-tests/> (Accessed 28 September 2018).
- United Nations Scientific Committee on the Effects of Atomic Radiation (2000) Google-Books-ID: 57YmhD4ZBpQC. *Sources and Effects of Ionizing Radiation: Sources*. United Nations Publications.