

Joseph Rotblat: From Los Alamos to Pugwash

Mel Watkins

Born Jozef Rotblat in Warsaw, Poland in 1908, he died Sir Joseph Rotblat in London, England August 31, 2005.¹ He lived long and died in his sleep. We should all be so lucky.

He got what he deserved. For his was a remarkably good and productive life. Indeed, it deserves to be thrice celebrated. First, for one of most principled acts of the twentieth century, a lonely act of great moral courage. Second, for using his skills as a nuclear physicist to help rather than hurt people. Third, for building a movement which, in its day, arguably lessened the risk of nuclear war.

His life did not start well, though he preferred not to talk about it. “The first world war turned Europe into a charnel house triggering among other things, a wave of antisemitism that swept away his family’s business and position. Rotblat grew up as an increasingly deprived, often hungry and sometimes physically abused child in the breadlines of a starving nation.” The obituary in the *Guardian* concludes: “These years forged Rotblat’s unswerving ideals of world peace and of the use of science for the benefit of man and the planet.”

In spite of the difficulties, Rotblat got his doctorate in experimental physics from the University of Warsaw and in 1937 became assistant director of its Atomic Physics Institute. When nuclear fission in uranium was discovered in 1939, he began working on it in Warsaw. By happy coincidence, for he was Jewish, he moved to Liverpool for a year to work with the physicist James Chadwick – who had discovered the neutron - two days before Hitler attacked Poland. Sadly, his wife, who was ill and was to join him, and who was also Jewish, did not survive the Nazi invasion, a fact he did not learn till 1945 though British intelligence had known since 1941. He never remarried. Pugwash was to become his family.

Rotblat, more so than most scientists at that time, had doubts about working on a weapon of mass destruction but, sharing the common fear that Hitler was building an atomic bomb, he joined the British bomb project with the code name of Tube Alloys, and then, when the Americans assumed full responsibility, the Manhattan Project in Los Alamos. Though a resident of the U.K., Rotblat was still a Polish citizen. Told that he would have to take out British citizenship in order to work on the Manhattan Project, he refused. Chadwick, now head of the British mission to Los Alamos, had to intervene directly with General Leslie Groves, the army head of the Manhattan Project, and give his word on Rotblat’s “integrity.”² There was evident a stubborn streak in Rotblat which was shortly to serve him well.

The prospect of a madman like Hitler having the bomb was surely a powerful and for most a compelling argument for the Allied effort to beat him or match him. Still, it is worth noting that some, albeit a few, physicists said No from the outside, including such distinguished names as the German Max Born who was one of the greatest physicists of the twentieth century and who also found refuge in Britain, the Austrian Lise Meitner who was co-discoverer of nuclear fission and spent the Second World War in Sweden, and the Italian Franco Rasetti who

was an intimate of Enrico Fermi who went to the U.S. to build the bomb while Rasetti chose to go far off the beaten path to Laval University to found a physics department and retool himself as a paleontologist.

With his wonderful sense of humour, but also by way of explaining what he had done, Rotblat liked to smile and say that the bomb was a deterrent before it even existed. Indeed, he would sometimes claim credit for being the first to see the bomb as a deterrent, and that therefore he thought it would never have actually to be used. “My scenario never envisaged that we should use it, not even against the Germans.”³ But he came quickly to know that he had been wrong, terribly wrong, that the bomb should never have been built in the first place. The bomb was used against Japan which had no bomb in what Rotblat saw as “a wanton and barbaric act.”⁴ For the rest of his life, as the bomb proliferated and grew quantitatively and qualitatively, he insisted that without abolition of nuclear weapons only luck could save us from their eventual catastrophic use.

As to Hitler’s bomb, it was at the beginning of the war a prospect that could hardly be ruled out. Still, the fatal flaw in this line of reasoning is that by late 1944 it was known to those on the inside, from the American intelligence unit Alsos that followed Allied forces through France into Germany, that there was no German bomb project, nothing even close to it. (They also scooped up German scientists to make sure the Soviet Union didn’t get them – evidence of an embryonic Cold War mindset so closely linked to the bomb that it’s impossible to say which is cause and which is effect.) Rotblat learned of this directly from his mentor Chadwick who, as head of the British mission to Los Alamos, was close to British intelligence, and at whose Los Alamos home Rotblat roomed.

In the thousands of pages that have been written about the bomb it’s hard to find a clear answer to the question of which scientists working on the Manhattan Project knew there was no German bomb project and when they knew it. In the rumour mill of the Manhattan Project, many of the scientists appear to have suspected what Rotblat knew. Logically, those who were building the bomb because of Hitler should have downed tools; having justified what they were doing as building a deterrent, it was now unambiguously the case that they were building a weapon of mass destruction.⁵ In fact, incredibly, only one did, and that was Rotblat. In the words of the American physicist and writer Freeman Dyson, “Only one man paused.”⁶ – and he didn’t just pause, he stopped for good. Subsequently, the Nobel Prize winning German physicist James Franck, who came to Los Alamos and in 1945 tried to persuade the American authorities not to drop the bombs on Japan, told Rotblat that he regretted not having joined him – which has the further virtue of telling us that Franck as well (and how many others?) knew that there was no German bomb project.⁷

Years later, in 1985, Rotblat asked himself why others had not quit. From his conversations with scientists he found that the most common reason given was simply scientific curiosity, the pursuit of what J. Robert Oppenheimer called “the technically sweet”, the seduction of science, the mere momentum of the profession. Others felt that American lives would be saved if the bomb hastened the end of the war with Japan, but they had no competence on this matter and the notorious judgment of history is mostly not on their side⁸; with peace they assumed the bomb could be sensibly dealt with, in retrospect a remarkably naïve notion. Some

felt that their careers would be adversely affected if they quit. The prevailing sentiment among the scientists, according to Rotblat, was to let others, the political people, decide.⁹ Nuclear physicists had the extraordinary minds that mattered most in the mid-twentieth century – those assembled in the Manhattan Project were literally a crowd of geniuses - yet there is something terribly ordinary about how those minds operated outside of their narrow field. They were without conscience or, in the language of John Ralston Saul, “unconscious.”¹⁰ Rotblat himself observed: “Our concepts of morality seem to get thrown overboard once military action starts.”¹¹

American security officials were deeply suspicious of what Rotblat was doing. They thought he was a Soviet spy and because he had a pilot’s license, they imagined he might defect to the USSR. His books and papers were seized by the F.B.I.¹² He was obliged to commit himself to secrecy at threat of imprisonment, to not even telling his colleagues at Los Alamos why he was leaving, to having no further contact with them, to not speaking with the media, and he was barred entry to the U.S. till 1951. (At one point he tried to go to America to talk with Einstein about what should be done about the escalating arms race and was denied a visa because of his leaving Los Alamos.) A weapon that was supposedly being built to defend democracy had a striking capacity to constrain individual freedom. All the while, the physicist Klaus Fuchs laboured away at Los Alamos while spying for the Soviet Union; it was one of those colossal failures of intelligence that have now become routine.

The bomb likewise did wonders for the ambitions of an ascending power. Indeed, in March 1944, Rotblat was at a private dinner in Chadwick’s house in Los Alamos where General Leslie Groves, the head of the Manhattan Project, had stated that “You realize, of course, that the main purpose of this project is to subdue the Russians.”¹³ (Some versions of this story say “Russkies”) Rotblat was shocked. He was no fan of the U.S.S.R. but he thought it no way to treat an ally that was paying heavily in blood. It re-ignited his doubts about what he was doing.¹⁴ He was right to be deeply concerned, for Groves, though lacking in subtlety, was no crazed general mouthing private fantasies. Tellingly, the purpose of the elaborate security that surrounded the Manhattan Project was to keep the Soviet Union, not Germany as one might imagine, in ignorance; that point was understood both in the White House and No. 10 Downing Street. And we have long known that from the outset, there was concern at the highest political level about postwar planning assuming the bomb had been built, and that this was code for how the Soviet Union would be dealt with.¹⁵

By others not stopping work, the bomb got built and having been built it came to be seen as sensible to use it, and thus the horrors of Hiroshima and Nagasaki. And, though Hitler is long dead, the bomb lives on with no present sign of going away; indeed, in the era of George W. Bush, it has taken on a new life that threatens to return us to the truly dangerous days of the first half of the Cold War.

Historians, if they even bother to take note of what Rotblat did¹⁶, sometimes treat it as a mere gesture, but it is not Rotblat’s fault that others lacked his integrity. It was an extraordinary act that deserves never to be forgotten and forever to be celebrated. While a good deal of the literature on the bomb is organized around the choices made at critical moments, from the original British-American decision to build the bomb to the Cuban Missile Crisis to the recent American decision to reverse arms control, the decision to continue to build the bomb after it

was clear that the Germans were not in the race is rarely included because the conventional wisdom regards it as a no-brainer. It wasn't. That this was never contemplated in Washington is consistent with the view that the prospect of the bomb was officially seen as too good to give up. Or, yet worse, that the bomb had already taken on a life of its own.¹⁷ It makes it all the more amazing that Rotblat realized that there was a decision to be made and that it was such a radical thing to do that it changed his life.

In that ancient adage, at the time Rotblat had “insight into much and power over nothing.” He was alone in his insight. He bore witness at the first opportunity. He spent his life pleading with scientists to do what they could, individually and collectively, to constrain power. He did what he could and what he should.

Rotblat returned to Britain. With Poland under Soviet occupation, he now took out British citizenship. He decided to abandon physics and study medicine but he was persuaded by medical practitioners that what he should do was apply his nuclear knowledge to medicine.¹⁸ From 1950 to his retirement in 1976 he was Chief Physicist at St. Bartholomew's Hospital Medical College of the University of London. In the 1980s he was an advisor to the World Health Organization on the effects of nuclear war on health and health services.¹⁹

Above all, he devoted himself to the cause of the abolition of nuclear weapons. Repelled by the dropping of the bombs on Hiroshima and Nagasaki, Rotblat felt he had been relieved of his obligation to be silent. He took the lead in organizing meetings of nuclear scientists at Liverpool and Oxford who had been active in Tube Alloys or the Manhattan Project and in setting up the British Association of Atomic Scientists (Basa). Basa organized an exhibition on nuclear weapons that travelled throughout Britain on its Atom Train.

Famously, in 1955 he worked with Bertrand Russell to get a number of Nobel prize-winning physicists to endorse what came to be known as the Russell-Einstein Manifesto which called on governments to abolish nuclear weapons. Of the physicists who signed, Rotblat was the only one who was not a Nobel Prize winner; Russell told him not to worry, that he would win one in due course – which he did though not in physics. Einstein died just after he signed it and when the Manifesto went public, Russell, knowing he could not answer technical questions about nuclear weapons, asked Rotblat to chair the press conference, which got widespread coverage.

In 1951, Rotblat had met with two other physicists, Leo Szilard who had Einstein's ear and Eugene Rabinovitch who was editor of the *Bulletin of the Atomic Scientists*, during a nuclear physics conference in Chicago. They thought the time had come to initiate nuclear arms control discussions directly with Soviet scientists. Their overture got no Soviet response.²⁰ With the Manifesto, the idea resurfaced of bringing together scientists from both sides of the Cold War who had the ear of their respective governments to discuss ways of moving toward abolition through arms control. Rotblat wanted scientists to recognize their moral duty, to abandon their ivory tower attitudes, to involve themselves in the politics of arms control rather than building more weapons, to get their hands dirty by doing good. It was this deeply held conviction that was at the centre of his scientific cum political life.

The first gathering, organized mainly by Rotblat, backed by the largesse of the Canadian-American industrialist Cyrus Eaton, took place in Eaton's birthplace of Pugwash, Nova Scotia in 1957. Twenty-two eminent scientists attended, seven from the U.S. and three from the Soviet Union. It was decided to create the Pugwash Conference on Science and World Affairs, a peace movement with Rotblat as its Secretary General, an office he held till 1973. He was subsequently President of British Pugwash and of International Pugwash.

Rotblat was also a founding member of the Campaign for Nuclear Disarmament (CND) in 1958; briefly on its executive committee, he dropped off to devote more time to his first love, which was Pugwash.

It is generally agreed that Pugwash, in which Rotblat was "the most important figure,"²¹ played a role, arguably a significant one, in the thawing of the Cold War. The Pugwash model, with its annual worldwide gathering, backed by its chapters in many countries, was intended to bring together influential scientists from around the world, and particularly from the U.S. and the U.S.S.R., an event that in itself demonstrated that dialogue was possible over the chasm of the Cold War. To encourage a free exchange of ideas, all meetings were private. These scholars, chosen to be Pugwash members, had access to their respective governments and would work to improve the climate for nuclear disarmament. They had the technical knowledge essential to the details of arms control agreements. After the Cuban Missile Crisis, which Rotblat called "the most terrifying moment in my life,"²² there was indeed a proliferation of arms control agreements for which Pugwash, by being in place, can properly claim some credit; as their website modestly puts it, for having "played useful background roles in helping lay the groundwork."

As governments built up their own technical expertise on arms control, Pugwash moved to broaden those it invited to be members, adding social scientists, particularly political scientists and experts in international relations, who could be helpful in talking with governments, and broaden its concerns to include biological and chemical weapons, the environmental crisis, and the growing gulf between the North and the South. While doing educational work through its publications – Rotblat himself authored, co-authored, edited, co-edited, twenty-four books, the last one in 2003²³ - Pugwash continued mostly to operate privately and to give a low priority to working through the media or collaborating with other peace groups.

The model worked and got its just reward: in 1995 Rotblat personally and the Pugwash Conference were jointly awarded the Nobel Peace Prize. In his acceptance speech Rotblat confessed that when he started as a scientist "I did not imagine that the second half of my life would be spent on efforts to avert a mortal danger to humanity created by science." Rotblat wryly added: "We have been trying for forty years to save the world, sometimes against the world's wishes." He concluded with an appeal to scientists and everyone else that echoed the plea of the Russell-Einstein Manifesto: "Above all, remember your humanity."²⁴ In an interview with the *Guardian* in 2005, he said: "When I received the Nobel peace prize, the Committee said our efforts had contributed to preventing a nuclear war." High praise indeed, but Rotblat modestly added, "Maybe to a tiny extent, we did."²⁵

In the same year, the Australian government created the Canberra Commission of eminent persons, including Rotblat, to advise on nuclear weapons policy; its report in 1996

called for the abolition of nuclear weapons. In 1992, Rotblat - jointly with the physicist Hans Bethe, an advocate of arms control whom Rotblat respected - was awarded the Einstein peace prize.

While the British government was initially suspicious of Pugwash and Rotblat, they came to value their contribution to arms control. In the aftermath of the Partial Test Ban Treaty of 1963, Rotblat was honoured with a CBE (Commander of the British Empire) in 1964.²⁶ In 1998 Rotblat was knighted, fittingly “for services to international understanding.”²⁷

Still, as early as the 1970’s, the very distinguished Swedish disarmament advocate and practitioner Alva Myrdal, while lauding Pugwash’s bringing together of scientists from the two blocs as “a very worthwhile seminal activity,” thought the model, in order to have access to power, risked a deferential attitude toward governments and that, by neglecting the media, scientists “largely lost influence they might gain in pressuring for a change in policies.”²⁸ In the late 1980s, Andrei Sakharov, having been liberated by Mikhail Gorbachev, attended his first Pugwash Conference; he thought it all talk and decided “Let Pugwash do its work. But without me!”²⁹ Gorbachev himself, however, lauded scientists, particularly Soviet and American, for being “the first” to speak out against the nuclear arms race, and told Rotblat that “the Pugwash movement had been especially important in this regard.”³⁰

By the end of his life, Rotblat himself was calling for change. At Pugwash’s annual conference in Halifax in 2003, he delivered a lucid one hour public lecture, warning on the worsening situation with respect to nuclear weapons and the urgent need for a campaign of public education and for Pugwash to reform itself. “Pugwash has often been accused – perhaps justifiably – of being an exclusive club. But even if our own mode of work has been justified in the past, I believe the time has come to open up.”³¹ Though unable to travel to Hiroshima in 2005 for the 50th anniversary meeting – the only one of Pugwash’s annual global gatherings that he ever missed - he sent a message to be read that reiterated what he had said in Halifax. “I am coming to believe that the time has come for Pugwash, while not for a moment relinquishing its scientific integrity, to lay the facts before the public. The end of the Cold War has led to public complacency, but in fact the dangers of a nuclear conflict are about as high as they have ever been. In the U.K., we have been running a campaign, in collaboration with other organizations, to make the public aware of the dangers. I hope that Pugwash Groups in other countries will follow and improve upon our example.”³²

It is evident that Sir Jo, as he was affectionately called, continued to play an active role in Pugwash until his death. Pugwash owes it to him to heed his advice. The times have indeed cast elitist models into the dustbin..

In his autobiography, Bertrand Russell wrote of Rotblat: “He can have few rivals in the courage and integrity and complete self-abnegation with which he has given up his own career (in which, however, he still remains eminent) to devote himself to combating the nuclear peril as well as other allied evils.”³³ “Rotblat stands out”, writes the historian and philosopher of science John Cornwell, “as an extraordinarily courageous and principled individual, prepared to resist the pressures of the prevailing tide of opinion.”³⁴ In 1996 he was prepared to use, and to risk, his now considerable reputation in appealing to Israel to show clemency for Mordecai Vanunu

whose crime was to tell the world what it already knew, that Israel had nuclear weapons. When the day comes that the story of the abolition of nuclear weapons is written, it could best begin with the name of Joseph Rotblat.

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- ¹ See the excellent obituary, *Guardian Weekly* (September 9-15, 2005), 27
- ² Robert S. Norris, *Racing for the Bomb: General Leslie R. Groves, the Manhattan Project's Indispensable Man* (South Royalton, Vermont: Steerforth Press, 2002), 330
- ³ Joseph Rotblat, "Leaving the Bomb Project", *Bulletin of Atomic Scientists* (August 1985), 17
- ⁴ Gerard DeGroot, *The Bomb: A History of Hell on Earth* (London: Pimlico, 2005), 109
- ⁵ DeGroot, 68
- ⁶ Freeman Dyson, *From Eros to Gaia* (New York: Pantheon, 1992), 284
- ⁷ Interview, June 2003, Halifax/Pugwash
- ⁸ See the encyclopedic account in Gar Alperovitz, *The Decision of Use the Atomic Bomb* (New York: Knopf, 2005)
- ⁹ Rotblat, "Leaving the Bomb Project," 17
- ¹⁰ John Ralston Saul, *The Unconscious Civilization* (Concord, Ontario: Anansi, 1995)
- ¹¹ Rotblat, "Leaving the Bomb Project", 19
- ¹² Fred Jerome, *The Einstein File: J. Edgar Hoover's Secret War Against the World's Most Famous Scientist* (New York: St. Martin's Press, 2002), 164
- ¹³ Cited Norris, *Racing for the Bomb*, 331
- ¹⁴ S.S. Schweber, *In the Shadow of the Bomb: Bethe, Oppenheimer, and the Moral Responsibility of the Scientist* (Princeton: Princeton University Press, 2000) fn.11, 229
- ¹⁵ Martin J. Sherwin, *A World Destroyed: The Atomic Bomb and the Grand Alliance* (New York: Random House, 1975)
- ¹⁶ Three of the most thorough and widely-praised overviews of the history of the bomb are Robert Jungk, *Brighter than a Thousand Suns: A Personal History of the Atomic Scientist* (New York: Harcourt Brace Jovanovich, 1958), Richard Rhodes, *The Making of the Atomic Bomb* (New York: Simon & Schuster, 1988) and McGeorge Bundy, *Danger and Survival: Choices About the Bomb in the First Fifty Years* (New York: Random House, 1990); none of these books make any reference to the choice that Rotblat made. The recent DeGroot, *The Bomb* does, 68-9
- ¹⁷ Edward Thompson, "Notes on Exterminism, the Last Stage of Civilization" in *New Left Review*, ed., *Exterminism and Cold War* (London: Verso, 1982), 1-33
- ¹⁸ Interview
- ¹⁹ Biography of Joseph Rotblat. Nuclearfiles.org, Nuclear Age Peace Foundation
- ²⁰ William Lanouette, *Genius in the Shadows: A Biography of Leo Szilard, The Man Behind the Bomb* (Chicago: University of Chicago Press, 1992), 367
- ²¹ Citation for Nobel Peace Prize, Pugwash web-site, www.pugwash.org
- ²² Pugwash web-site
- ²³ Robert Hinde and Joseph Rotblat, *War No More: Eliminating Conflict in the Nuclear Age* (London: Pluto Press, 2003)
- ²⁴ Pugwash web-site
- ²⁵ Pugwash web-site
- ²⁶ Lawrence S. Wittner, "The Political Rehabilitation of Joseph Rotblat", Internet: History News Network, October 1, 2005
- ²⁷ Obituary, *Guardian Weekly*
- ²⁸ Alva Myrdal, *The Game of Disarmament: How the United States and Russia Run the Arms Race* (New York: Pantheon, 1976) 320-1
- ²⁹ Cited Richard Lourie, *Sakharov: A Biography* (Hanover, New Hampshire: Brandeis University Press/University Press of New England, 2002), 373
- ³⁰ Lawrence S. Wittner, *Toward Nuclear Disarmament: A History of the World Nuclear Disarmament Movement, 1971 to the Present*, Vol. 3 of *The Struggle Against the Bomb* (Stanford: Stanford University Press, 2003), 372
- ³¹ Pugwash web-site
- ³² Pugwash web-site
- ³³ Bertrand Russell,
- ³⁴ John Cornwell, *Hitler's Scientists: Science, War, and the Devil's Pact* (New York: Viking, 2003), 432