Aya Fujiwara and David R. Marples (eds.)

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Nuclear Issues in Global Contexts

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The papers herein were presented originally at a conference held at the University of Alberta in 2015. The authors comprise both senior and new scholars who work in disparate disciplines in universities in North America and Japan.

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For our daughters, Akiko and Kaella

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INTRODUCTION

Aya Fujiwara and David R. Marples

An international conference took place at the University of Alberta in 2015 to commemorate the 70th anniversary of the dropping of the atomic bombs in Japan. Since then, selected contributors to the conference revised their essays for publication, reflecting our discussion. The anniversary was a very significant turning point that reminded the world of the catastrophe caused by the harmful use of the atom as a weapon. At the same time, this conference was held during the period in which the Japanese government, led by Prime Minister Sinzo Abe and his Liberal were working to pass the bill to recognize collective defence as a constitutional right. Such a move was controversial as Japan's Peace Clause 9 denounced Japan's involvement in any military action. Japan saw national protests rising in many parts of Japan in the spring and summer of 2015, mainly initiated by young people. These public demonstrations also embraced anti-nuclear movements that opposed the reoperation of Sendai nuclear plant following its closure after the Fukushima nuclear accident in 2011. This leftist-oriented movement was strongly supported by the opposition to Prime Minister Abe, and developed into an anti-Abe phenomenon. In Canada, Douglas Roche, O.C., a former Senator, MP, Canadian Ambassador for Disarmament, and honorary citizen of Hiroshima, who spoke at the conference, and said, "Japan is wasting a great opportunity to become a global leader in creating peace and stopping nuclear proliferation in this world."

In other parts of the world, nuclear proliferation is one of the most preeminent problems, as a nuclear weapon is often used as a tool of diplomacy and military threat. In March 2014, Russian president Vladimir Putin declared that he was prepared to use nuclear weapons had it been necessary during the annexation of Crimea from Ukraine. Similarly, North Korea under leader Kim Jong-un, has conducted many nuclear missile tests and its sixth such test in September 2017 demonstrated that nation's capacity to fight against other powers, including the United States.

The atom is also posing many concerns in the era of terrorism and extremism. In reality, nuclear plants, modified, could often contribute to the accumulation of plutonium, increasing a nation's capacity to produce nuclear weapons. Nuclear accidents and nuclear weapons, thus, are not separate issues in that both involve imagination and tactics in the use of the atom. Furthermore, nuclear plants could

be targets of terrorist activities. In 2015, the US and five European nations concluded the Joint Comprehensive Plan of Action that ended Iran's longstanding attempt to put into operation a nuclear power station (Bushehr) based on Russian technology in return for the removal of economic sanctions that the US and EU imposed on this country. Such efforts well reflect concerns about the politically unstable situations in the Middle East, particularly due to the rise of extremist Muslim organizations.

But can we completely remove the atom from the world? Or even from continents? In 1985, Mikhail Gorbachev took over the leadership of the Soviet Union. Among his key stated policies was "removing nuclear weapons from the face of the Earth in the year 2000." In his quest to achieve this goal he spoke of "our common European home." A year later, after the accident at the Chernobyl nuclear power station in Ukraine, Gorbachev declared (3 May 1986) that the disaster illustrated the wisdom of such a policy. Subsequently, anti-nuclear movements developed around the world, including in the Soviet Union. By the 21st century, however, with the Soviet Union dissolved, Russia once again placed faith in the atom, as did Ukraine, while Belarus, one of the countries most affected by radiation fallout, embarked on the construction of a Russian-made nuclear power plant on its border with Lithuania. Memories are short, and ultimately economic needs often take precedence over moral stances and long-term safety interests.

Historically, human beings have lived with the atom since its discovery, incorporating, rejecting, and accepting it, and often changing course midstream. Despite its devastating nature or perhaps because of it, this source of energy has not disappeared and will not disappear from the world. As Joy Parr has shown in her study of "Canadian nuclear work culture" workers at the nuclear plants were often trained to "embody the insensible."[1] This argument could be applied to Japan specifically and to the rest of the world, whose history concerned the embodiment of the atom.

The first use of atomic bombs by US planes on the cities of Hiroshima and Nagasaki opened the nuclear era. During the Cold War (1946–89), the threat of the nuclear war was at its height, peaking with the Cuban Missile Crisis in 1962, shaping the international politics around the atom. North Americans were forced to prepare for the worst and embrace the atom in their everyday lives. Cold War psychology is evident in phrases such as "Mutually Assured Destruction" (MAD),

1 Joy Parr, *Technologies, the Environments, and the Everyday, 1953–2003* ((Vancouver: UBC Press, 2010), 54.

which came to prominence after the Soviet Union detonated its first atomic bomb in August 1949, and initiated what became a frantic arms race. MAD was based on the premise that the two Super Powers had accumulated enough weaponry to destroy both the attacker and defender; thus, it embraced a form of deterrence based on nuclear strength. In the late 1950s when ballistic missiles were carried by submarines, the concept of MAD no longer applied, but throughout the Cold War, the concept of a "first strike" held sway in some military circles, i.e. the notion that the enemy could be destroyed before he had an opportunity to retaliate.

By the mid-1980s, the US' Strategic Defense Initiative (Star Wars) took the confrontation to potential new levels with the theoretical application of research on an anti-nuclear weapon shield that could protect US territory from a nuclear attack by the Soviet Union. While it was never put into practice, it sparked a dramatic transformation in international relations. Under the new Soviet leader Gorbachev (1985–91), the USSR initially tried to match Star Wars research, but ultimately chose a path of accommodation with the United States and dismantling medium range nuclear weapons. This process accompanied the opening of Soviet society and the eventual collapse of the Communist regimes of Europe (1989) and of the Soviet Union itself (1991). In turn, however, the Star Wars concept undermined the security of Western Europe, hitherto under the American protective umbrella. Though there were many factors behind the collapse of the Soviet Union,[2] the nuclear arms race was a key one. The end of the Cold War, however, paradoxically destabilized the international system and made it more unpredictable. It left nuclear stockpiles in four newly independent states (Russia, Ukraine, Belarus, and Kazakhstan), and placed the burden of initiating the decommissioning of nuclear weapons predominantly on the United States.

Atomic weapons have had an impact on international societies far beyond the well-researched Cold War confrontations. They have been incorporated into popular culture as the way to cope with the fear of global destruction and to motivate people's creativity. Anti-nuclear feelings were featured in numerous films and TV programs, some of which—like *The Day After* (1983), which was aired on the ABC Television network and watched by over 100 million viewers—tried to imagine life after a nuclear conflict. Other films ridiculed nuclear attack safety measures, with perhaps the most famous example being the 1964 movie directed by Stanley Kubrick, *Dr. Strangelove: How I Learned to Stop Worrying and Love the Bomb*

2 David R. Marples, *The Collapse of the Soviet Union, 1985–1991* (London: Longman, 2000); Serhii Plokhy, *The Last Empire: The Final Days of the Soviet Union* (New York: Basic Books, 2014).

(1964), portraying a deranged US air force general (played by Peter Sellers) who decides to order a first-strike nuclear attack on the Soviet Union.

Alongside nuclear weapons is the parallel development of the civilian nuclear power program, which began in the 1950s and has continued to the present. Nuclear energy is perhaps the most divisive issue in the debate on energy alternatives, whether on the Prairies of Alberta or the heartlands of Europe. Major accidents in nuclear plants have been relatively rare, but when they occur they inevitably make world headlines. This source of energy has been utilized in a number of ways since its initiation, particularly in the medical field. Medical imaging based on nuclear medicine applies miniscule quantities of radioactive material for both diagnosis and treatment of a wide variety of common diseases, including those that cause the most mortalities in the world today: heart disease, different types of cancers, etc. To the destructive force of the atom therefore can be added its benefits in curing or moderating diseases and prolonging the human lifespan.

With these broad and disparate applications of nuclear technology in mind, this volume brings together international scholars whose topics deal with a wide range of issues. It is divided into five thematic parts. The first section starts with the period just after the dropping of the atomic bombs on Japanese cities, adding new analyses of American views to the historiography. Two scholars, Atsuko Shigesawa and Yuko Shibata, revisit challenging questions as to how the United States dealt with the aftermath of the two atomic bombs. They both reveal that American attitudes towards the new discovery were complex, facing contradictory impulses to justify the use of the nuclear weapons and to discount their effects because of the possible nuclear wars in the future. Shigesawa examines the political circumstances in which seven survey groups, including the largest, the United States Strategic Bombing Survey (USSBS), produced their reports. She points to their deliberate effort to discount the impact caused by the atomic bombs in bringing about Japan's defeat. Shibata's article, which analyzes mainly American President Harry Truman's statement, also points out its ambivalent nature. It tends to conceal the real environmental and health consequences of the bombs. But undoubtedly, it expressed joy over the fact that the United States had gained the status of a military superpower as a result of the invention.

The second part examines the issue of atomic control during the early stages of the Cold War. Three articles by James Keeley, Frederick Mills, and Miyako Shimamoto analyze the different international approaches that Britain, the USSR, Egypt, and Japan applied to the newly invented power. Nuclear energy undoubt-

edly changed the power balance in international politics, consolidating the American lead though only for a short period. Keeley's analysis of British thinking shows how Britain approached the atom initially, leaning towards international atomic control. As one of the most significant American allies in the West, British thinking had obvious limitations—the war reduced Britain to a secondary power. Obviously, the USSR, which led the other ideological part of the world, concentrated its manpower and resources in nuclear research.

Mills' chapter, which examines the USSR's expansion of nuclear programs with specific focus on its relationship with Egypt, adds new perspectives to the Cold War stories that examine the ideological race between Communist nations and the West. Japan, as the only country in the world to have witnessed the horror of atomic bombs, regarded the military use of the atom as evil conduct. The atom itself, however, appeared a very attractive source of energy to fill the lack of natural resources. Shimamoto explains why the government of Japan, even after the Bikini Incident of 1954 in which Japanese fishermen were exposed to radiation due to an American nuclear test, moved to the use of nuclear energy. She reveals that there were vigorous American campaigns for the "peaceful" use of the atom and the construction of nuclear reactors in Japan.

The scars of Hiroshima and Nagasaki continued to dominate the world, but to a different extent and in diverse ways. Three authors—Tomoko Masumoto, Bill Beard, and Chris Reyns-Chikuma—investigate how the atom was represented in films and comics in Japan, the United States, and France respectively. It became an integral part of Japan's post-World War II collective memories. Masumoto's chapter analyzes the impact of a *hibakusha* manga, *Barefoot Gen*, and argues that manga indeed became one of the most effective expressions of the horror and catastrophe that the atomic bombs had caused. The military use of the atom and the possible nuclear war continued to define the Cold War. As people needed to find ways to deal with fear, and anxiety, their expressions were well integrated into Cold War popular culture.

Beard's article adds a new perspective to the studies of Hollywood films, arguing that "nuclear neurosis" was reflected in how they were created. Focusing on film noir, it argues that this genre presents the complex and metaphoric anxiety, applying gender analysis into atomic discourse. In France, however, such expressions were not apparent. Reyns-Chikuma questions why "Hiroshima," in general, was absent from French cultural industry. He argues that French official policies for the promotion of nuclear industry as well as the presence of the other human tragedy, "Auschwitz," have caused this silence.

We wanted to provide examples of memories and changing perceptions of the impact of the atom, both in 1945 and subsequently. Concerning Japan, which remains the only country to suffer the unique experience of an attack by atomic bombs, a medical doctor, Ritsuko Komaki, provides a poignant example of how she lived with the atom for more than seventy years. Her family home was in Hiroshima when the first atomic bomb was dropped on that city in 1945. Although she was in Osaka at that time, she moved back to Hiroshima two years later, and lived through the reconstruction era in this city. Her life thus was shaped by the notion of the atom, prompting her to pursue a career as a radiation oncologist. Thus, for us, she was the living embodiment of the negative and positive effects of the atom. Interestingly, she keeps a neutral stance on the nuclear discussion.

In the Cold War era, people in both communist and western spheres ascertained that nuclear threats would come from their respective enemies. Ironically, however, much real danger was caused in their backyard of their own states thanks to policies initiated in Washington, DC and Moscow. Two historians—Susan L. Smith and David R. Marples—assess the long-term health damage that was caused as a result of exposure to high levels of radiation. Smith sheds light on domestic victims in the United States, whose fates were less publicized, focusing on the nuclear tests at the Nevada Test Site from 1951 and 1963. Overshadowed by the state's propaganda, she suggests, local residents did not receive enough information about possible adverse health effects from the project. Marples' chapter, which looks back at his association with Chernobyl, also reveals the consequences of domestic failure to control the atom. Further, it argues that consequences of the accident, however devastating at the time, have now slipped from collective memory in the face of the collapse of the Soviet Union and the successor states' economic and technological projects that derive from earlier Soviet plans.

Should the use of the atomic energy be controlled internationally? Nuclear weapon states (NWS), in general, regard military and civilian uses of the atom as separate issues as long as their states are concerned. In global politics, however, such a dichotomy does not seem to exist. Jin Hamamura and Jordan Vincent question how the non-proliferation movement operates in the world. Hamamura analyzes the inequality of international politics and the ironic nature of non-proliferation, pointing out NWS's interference in domestic nuclear energy programs. Such an inherent contradiction was imbued in the current non-proliferation regime, and he nuances that universal abolition of nuclear weapons is the most effective method to resolve this dilemma. Vincent offers an illuminating example of how a state chose to sign the Treaty of Non-Proliferation of Nuclear Weapons, focusing

on Ukraine. The path that Ukraine took to abandon its inherited nuclear arsenal from the Soviet Union in return for compensation and promised protection, he implies, could offer some lessons to other countries. He puts this conclusion in perspective following the Russian annexation of Crimea and events in Ukraine's eastern Donbas region, particularly in 2014–17. These actions indicate that political events can quickly undermine international guarantees and conceivably prompt states to keep their nuclear weapons if the partners in question demonstrate duplicity.

The world marked the 75th anniversary since the dropping of the atomic bombs in 2020, reminding us once again of the legacy of this energy source. This human invention has changed and shaped international politics, human imagination, and domestic politics. The authors of this volume aim to reopen the discussion by promoting awareness of the atom's direct and indirect power. During the early preparation of this volume, rhetoric about a possible nuclear war reverberated from Washington, DC to the capital of North Korea, Pyongyang, with Japan caught in the crossfire. In late November 2017, a missile fired by North Korea in a nuclear test landed in Japanese ocean territory, 1000 kilometres away. In response to the ensuing war of words between President Donald J. Trump and Kim Jong-Un, as well as North Korea's frequent weapons tests, *The Bulletin of the Atomic Scientists* in Chicago set its Doomsday clock to two minutes to midnight; the closest it had been to the fatal hour since 1953, when the Soviet Union detonated its hydrogen bomb for the first time (its original setting was seven minutes to midnight).

We believe that this volume is an important addition to the field of nuclear humanities. Like the earlier volume of Taylor and Jacobs,[3] it delves deeply into the impact of the atom beyond the former Cold War rhetoric that focused solely on how to prevent a global thermonuclear war and how humanity has learned to live with the atom in a variety of ways. One of our goals has been to highlight these different dimensions and different international perspectives from both Japan and the West. The study of atomic theory, as far as we know, originated with the Ancient Greek philosopher Democritus (c460–c370 BC) while the use of radiation in medicine dates from the late 19th century. The history of the atom does not begin in August 1945, but that date, justifiably, continues to demonstrate the horror it can inflict. Thus, we begin there while keeping in mind the other aspects of the

3 N.A.J. Taylor and Robert Jacobs, eds., *Reimagining Hiroshima and Nagasaki: Nuclear Humanities and in the Post-Cold War* (New York: Routledge, 2017).

atom that have helped frame modern society, its culture, medicine, and production of energy.

The reality is that the 75th anniversary is no time for complacency. The message of Douglas Roche, who offered a keynote speech at our conference, is as pertinent today as it was when he wrote his book *Bread not Bombs* in 1999.[4] Our book is not a political or anti-nuclear tract. Rather, it is intended as a reflection of the complex relationship between humankind and the atom. We would be well advised also to remember the comment of J. Robert Oppenheimer, one of the creators of the first such weapon that "The atomic bomb made the prospect of future war unendurable. It has led us up those last few steps to the mountain pass; and beyond there is a different country."

4 Douglas Roche, *Bread Not Bombs: A Political Agenda for Social Justice* (Edmonton, AB: University of Alberta Press), 1999.