Research Paper

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Nuclear Disarmament and the Protection of Cultural Heritage

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Summary

- Renewed risk assessments for nuclear weapons and policies are taking place around the world in light of nuclear modernization and the changing geostrategic environment that is making the use of nuclear weapons more likely. As such the humanitarian impacts of nuclear weapons and tests have received increased attention. However, the effect on cultural heritage has so far been neglected.

- The potential for armed conflict to destroy cultural heritage has been recognized in international law since 1954. There is significant evidence on the impact of nuclear weapons on cultural heritage including the consequences of their use in Hiroshima and Nagasaki and the effect of nuclear-testing programmes in places of cultural significance since 1945. States that possess nuclear weapons have increased liabilities and responsibilities to protect cultural heritage and cultural rights.[1] The need to protect cultural heritage should strengthen the case for reducing and eliminating nuclear weapons.

- Failure to take into account the protection of heritage in the development of nuclear weapons policies – including disarmament, non-proliferation and arms-control negotiations – significantly undermines states' existing commitments to protecting heritage threatened by conflict.

- Risk assessments[2] of the impact of nuclear weapons on cultural heritage and important cultural artefacts – and methods of preventing such catastrophic damage – should be part of protecting cultural heritage in every country and the subject of informed public debate. A new body of knowledge on the full range of nuclear weapons impacts would introduce a fresh perspective to inform decision-makers, international organizations and the public in thinking about nuclear weapons policies and practices.

- Risk and resilience frameworks, which provide sets of solutions for risk assessments, would allow assessments of nuclear weapons threats to heritage and highlight vulnerabilities that need to be addressed. Such frameworks would provide a basis for policymakers to identify the world's cultural heritage most at risk and help develop mitigation strategies to ensure that it is protected. In particular, states possessing nuclear weapons should be called upon to consider and publish the risks posed to cultural heritage, and their mitigation strategies, in their nuclear weapons doctrines and policies, as a contribution to transparency and confidence-building, and as a responsibility to the world's shared heritage. International organizations, such as the UN Educational, Scientific, and Cultural Organization (UNESCO), have a role to play in bridging security perspectives with protecting cultural heritage.

[1] International human rights law includes a right to take part in cultural life, which by necessity includes the ability to access and enjoy cultural heritage. For instance, Article 27 of the Universal Declaration of Human Rights (Right to Participate in Cultural Rights) states that 'everyone has the right freely to participate in the cultural life of the community, to enjoy the arts and to share the scientific advancement and its benefits.'

[2] Contemporary risk assessment methods consider risk as the product of probability and consequences. Alternatively risks can be evaluated through a focus on threats, vulnerabilities and consequences.

1. Introduction

When the Buddhas of Bamiyan Valley in Afghanistan, carved in the sixth and seventh centuries and a UNESCO World Heritage site, were deliberately destroyed by the Taliban in 2001, there was an international outcry. In a statement, Irina Bokova, the director-general of UNESCO, noted that the destruction aimed 'to undermine the power of culture as a cohesive force for the Afghan people.'[3] More recently, Islamic State of Iraq and Syria's (ISIS) devastation to the ancient Syrian city of Palmyra has shocked the world,[4] including the Lion of Al-lāt statue, the first-century Temple of Baalshamin, the Temple of Bel and the complete destruction of the Tetrapylon. The UN Security Council issued a statement, condemning 'the targeted destruction of religious sites and objects'.[5] Governments lauded the brave attempts of Khaled al-Asaad and his family in evacuating as many of the ancient artefacts as they could in 2015 – a cause for which he gave his life.[6] In a show of how seriously such crimes are taken, Ahmad al-Faqi al-Mahdi was found guilty of committing war crimes in the International Criminal Court in 2016, and sentenced to nine years in prison, for attacks on religious and historical buildings in Timbuktu, Mali, including the destruction of nine mausoleums and a mosque.[7]

UN member states, and a recent UN Human Rights Council, have condemned such wanton destruction of cultural heritage.[8] Nonetheless, many UN member states have not made the link between this destruction and the irreversible cultural heritage loss that would result from the use of nuclear weapons. In addition to the overwhelming numbers of human casualties, the detonation of a single nuclear weapon has the potential to devastate a society and erase shared memories, cultural heritage and history.

Most governments strongly support the protection of the world's cultural heritage and the work of UNESCO. All countries and communities have cultural heritage that is vital to their sense of community, history and well-being. In addition, tourism to heritage sites is a mainstay of the economy of many countries.

Many of the ongoing conflicts are in regions with significant ancient cultural heritage such as the Middle East, South Asia and East Asia. For example, the Kashmir region, which is contended by

[3] UN News Centre, UN marks 10th anniversary of destruction of Buddha statues in Afghanistan, http://www.un.org/apps/news/story.asp?NewsID=37645#.WbaGosYkrcs (accessed 25 Sep. 2017).
[4] Curry, A. (2015), 'Here Are the Ancient Sites ISIS Has Damaged and Destroyed', 1 September 2015, http://news.nationalgeographic.com/2015/09/150901-isis-destruction-looting-ancient-sites-iraq-syria-archaeology/ (accessed 25 Sep. 2017); BBC News (2017), 'Russian drone footage shows IS damage to Palmyra', 13 February 2017, http://www.bbc.com/news/world-middle-east-38954078 (accessed 25 Sep. 2017).
[5] United Nations (2017), Security Council Press Statement on Destruction of Cultural Heritage, Executions in Palmyra, 20 January 2017, SC/12690, https://www.un.org/press/en/2017/sc12690.doc.htm (accessed 25 Sep. 2017).
[6] Shaheen, K., and Black, I. (2015), 'Beheaded Syrian scholar refused to lead Isis to hidden Palmyra antiquities', Guardian, 19 August 2015, https://www.theguardian.com/world/2015/aug/18/isis-beheads-archaeologist-syria (accessed 25 Sep. 2017).
[7] The International Criminal Court (2016), The Prosecutor versus Ahmad Al Faqi Al Mahdi, 27 September 2016, https://www.icc-cpi.int/mali/al-mahdi (accessed 25 Sep. 2017).
[8] UN Security Council Press Statement on Destruction of Cultural Heritage, Executions in Palmyra, https://www.un.org/press/en/2017/sc12690.doc.htm (accessed 25 Sep. 2017); United Nations General Assembly (2016), Resolution adopted by the Human Rights Council on 30 September 2016, Cultural Rights and Protection of Cultural Heritage, HRC/RES/33/20, http://undocs.org/A/HRC/RES/33/20 (accessed 25 Sep. 2017).

India and Pakistan, hosts heritage sites, including the Baghsar Fort from the Mughal era. The detonation of a nuclear weapon in these regions could erase centuries or even millennia of heritage.

Standard-setting instruments of UNESCO divide cultural heritage into two categories:

- *Tangible cultural heritage*, encompassing movable and immovable areas, including underwater ruins and cities, monuments, archaeological sites, paintings, and manuscripts.
- *Intangible cultural heritage*, encompassing 'oral traditions, performing arts, rituals' as well as customs and practices.[9]

This paper explores the impact that nuclear weapons detonations and tests have already had on cultural heritage, both tangible and, to a lesser extent, intangible. It then explores contemporary risks to cultural heritage due to the continued threat of nuclear weapons, amid a precarious international nuclear regime and increasing geopolitical instability. It concludes by reviewing mechanisms to mitigate these risks and explores policy recommendations.

[9] UNESCO, 'Illicit Trafficking of Cultural Property: What is meant by "cultural heritage"?', http://www.unesco.org/new/en/culture/themes/illicit-trafficking-of-cultural-property/unesco-database-of-national-cultural-heritage-laws/frequently-asked-questions/definition-of-the-cultural-heritage/ (accessed 25 Sep. 2017).

2. Heritage and Nuclear-Weapons Detonations

Hiroshima, Nagasaki and Kyoto

> When I walked out onto the bridge and looked over toward Hiroshima Castle, toppled to earth and absolutely flattened, a great wave of emotion swept over me. Grief and the ability to think, reviving periodically, made my heart ache... Hiroshima, too, had its history, and it saddened me to march forward over the corpse of its past.[10]

The human cost of the Second World War was enormous. As a direct result of conflict and its consequences intangible heritage in terms of human capital, knowledge and experience were wiped out. Many ways of life were either completely lost or severely damaged.

The Japanese cities of Hiroshima and Nagasaki were destroyed in 1945 by the only two nuclear explosions detonated in conflict. Hiroshima was a castle town founded in the late 16th century on the delta of the river Ōta and, over the next 300 years, it became the largest city in the Chûgoku region. Due to its harbour, Hiroshima became an important industrial port city with sea, rail and road connections. By the 1940s it was the home of Mazda and Mitsubishi Heavy Industries, working in car manufacturing and shipbuilding, respectively. The city was also an important military hub and played a significant role in the Sino–Japanese wars of the 19th and 20th centuries. Similarly, Nagasaki is one of Japan's oldest port cities, remaining continuously open to foreign trade even through the country's restrictive periods. From the mid-16th century, much of its culture and architecture was influenced by Europe and Roman Catholicism as a result of interaction with traders from Portugal. Situated on the Urakami River, Nagasaki became a major shipbuilding centre in the early 1900s. Major cultural heritage sites in Nagasaki included a 17th-century Chinese temple and the 1914 Roman Catholic cathedral of Urakami, which was destroyed by the nuclear bomb in 1945.

The city of Kyoto was also on the original list of nuclear bomb targets drawn up by the US military in 1945 but was spared, partly on account of its unique cultural heritage with its thousands of Buddhist temples and Shinto shrines. Secretary of War Henry Stimson, who had visited Kyoto, argued, along with the archaeologist and art historian Langdon Warner, that the city should not be targeted as it was of great cultural value. Stimson also argued that the bombing of a city of such cultural importance could tip the Japanese population overwhelmingly against the US, making it far harder to create a favourable post-war peace settlement.[11]

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[10] Ota, Y. (1990), 'City of Corpses', in Minear, R. A. (ed. and trans.) (1990) Hiroshima: Three Witnesses, Princeton University Press. Yoko also says: 'the fact that the castle had been demolished so utterly told me something. Even supposing a new city were to be built on this land, there would be no rebuilding the castle'. A replica of Hiroshima Castle was built in 1958 and signifies the resilience of the spirit of the city.
[11] Wellerstein, A. (2014), 'The Kyoto Misconception', Restricted Data: The Nuclear Secrecy Blog, 8 August 2014, http://blog.nuclearsecrecy.com/2014/08/08/kyoto-misconception/ (accessed 25 Sep. 2017). It would also seem from this research that President Harry Truman at the time did not fully understand the impact of the nuclear bomb, believing that Hiroshima was a military target rather than a city full of civilians.

The destruction of cultural heritage by nuclear weapons is not limited to Hiroshima and Nagasaki, the testing of such devices has also had a considerable impact on people and cultural heritage around the world.

Nuclear testing

Nuclear weapons have not been used in conflict since the atomic bombings of Hiroshima and Nagasaki in 1945. However, there have been 2,050 nuclear explosions recorded, between 1945 and 1996, as part of extensive weapons testing programmes.[12]

Evidence has emerged over the years of the long-term health impacts on people in the Asia-Pacific region, North America, Central Asia and North Africa.[13] Tests at Bikini Atoll in the Marshall Islands affected the geology and environment so deeply that it is now considered a UNESCO World Heritage Site in itself, '[bearing] witness to the consequences of the nuclear tests on the civil populations of Bikini and the Marshall Islands, in terms of population displacement and public-health issues.'[14] In the Marshall Islands, people relocated from their homes and communities during the tests at Bikini Atoll have been unable to return due to 'near-irreversible environmental contamination' and thus the destruction of the Marshall Islands' cultural heritage.[15] Their tangible cultural heritage has been lost for generations along with the natural environment. It took 50 years for the marine life and the reef to recover from the testing in Bikini Atoll.[16] What is less commonly understood is the long-term impact that these tests have on the heritage of people who lived at and around test sites. Nuclear testing in Maralinga, in southern Australia, led to the destruction of a people's cultural heritage and their forced displacement, erasing shared memories and cultural connections that indigenous communities once held with the land.[17] In Maralinga, the heat of nuclear tests conducted between 1956 and 1963 reached temperatures that turned the soil into silicon.[18] In an area of 2 km^2, over 350,000 cubic metres of earth were contaminated with plutonium, which was belatedly removed by the Australian authorities between 1996 and 2000. In the decades prior to this clean-up, the Aboriginal people living in Maralinga were forced to relocate.[19] Access is currently restricted to 120 km^2 of the 3,200 km^2 used during the tests.[20]

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[12] CTBTO Preparatory Commission, 'World Overview', https://www.ctbto.org/nuclear-testing/history-of-nuclear-testing/world-overview/ (accessed 25 Sep. 2017).
[13] Simon, S., Bouville, A. and Land, C. (2006), 'Fallout from Nuclear Weapons Tests and Cancer Risks', American Scientist, 94: 1, p. 48, https://www.cancer.gov/about-cancer/causes-prevention/risk/radiation/Fallout-PDF (accessed 25 Sep. 2017); Simon, S. and Bouville, A. (2015), 'Health effects of nuclear weapons testing', Lancet, 386: 9992, pp. 407–09, http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(15)61037-6/fulltext?rss%3Dyes; Grosche, B., Zhunussova, T., Apsalikov, K. and Kesminiene, A. (2015), 'Studies of Health Effects from Nuclear Testing near the Semipalatinsk Nuclear Teast Site, Kazakhstan', Central Asian Journal of Global Health, 4(1), http://cajgh.pitt.edu/ojs/index.php/cajgh/article/view/127.
[14] UNESCO, 'Bikini Atoll Nuclear Test Site', http://whc.unesco.org/en/list/1339 (accessed 25 Sep. 2017).
[15] Guardian (2014), 'Bikini Atoll nuclear test: 60 years later and islands still unliveable', 2 March 2017, https://www.theguardian.com/world/2014/mar/02/bikini-atoll-nuclear-test-60-years (accessed 25 Sep. 2017).
[16] Smithsonian National Museum of Natural History, 'Nuclear Bombs on the Coral Reef', Ocean Portal, http://ocean.si.edu/ocean-photos/nuclear-bombs-coral-reef (accessed 25 Sep. 2017).
[17] Cultural identity in many Aboriginal communities hinges on a deep spiritual, cultural and physical bond between people and land. This identity is visible in Aboriginal culture, customs, and portrayed in Aboriginal art. According to various Aboriginal traditions, people have a responsibility to protect the land; and it is not the people that own the land, but rather the land that owns the people.
[18] Donnison, J. (2014), 'Lingering Impact of British Nuclear Tests in the Australian Outback', BBC News, 31 December 2014, http://www.bbc.co.uk/news/world-australia-30640338 (accessed 25 Sep. 2017); Australian Government Department of Education, Science and Training, 'Maralinga Rehabilitation Project', http://web.archive.org/web/20080719004540/http://www.radioactivewaste.gov.au/Rehabilitation_former_test_sites.htm.
19 Mazel, O. (2006), 'Returning Parna Wiru: Restitution of the Maralinga Lands to Traditional Owners in South Australia', in Langton, M. et al. (eds), Settling with Indigenous People: Modern Treaty and Agreement-making, New South Wales: Federation Press, p. 160.

Although nuclear weapons tests have tended to be carried out far from populated areas, these regions often housed ancient artefacts. Semey (formerly Semipalatinsk) in Kazakhstan, for example, was built on the ancient settlement of Dorzhinkit, home to a seven-hall Buddhist temple that was destroyed in the late 17th century. The modern-day city was founded in the early 18th century as a Russian fort and was where Fyodor Dostoevsky was housed during his period of exile. From 1949 to 1989 the Soviet Union detonated approximately 460 nuclear bombs in the Semipalatinsk Polygon, west of the city, leaving a legacy of destruction and contamination.[21] The whole region is rich in cultural heritage as it lies across one of the major Eurasian trade routes that flourished for centuries. Lop Nur, the military nuclear testing site in China, for instance, is on the northern route of the Silk Road, which has a symbolic economic role in connecting China with Asia.

Heritage and nuclear-targeting policies

Along with areas containing critical-infrastructure industries, heavily populated cities are likely targets for strategic nuclear weapons. As far back as 1956, over a thousand cities, towns and bases across Europe and Asia were considered targets in case of a nuclear conflict.[22] In 1961, the Berlin contingency planning report estimated that in an all-out nuclear attack 54 per cent of the population of the Soviet Union would have been killed.[23] In the event of a nuclear exchange between one or more states possessing nuclear weapons, considerable cultural heritage – highly concentrated at the heart of urban centres – would be put at risk.

Cities targeted as part of nuclear-war strategies contain cultural monuments, architecture, museums, galleries, libraries, archives and other sites that would be lost in a nuclear exchange. Similarly, military bases outside urban centres that are used for command-and-control structures and early warning would also be targeted, resulting in varying degrees of damage to cultural heritage and antiquities. The impact of this destruction for the society attacked and future generations would be immeasurable, particularly given that much cultural heritage in storage has yet to be catalogued.

States possessing nuclear weapons are not the only countries whose heritage is at risk of destruction. Countries hosting nuclear weapons would also be at risk.[24] Other states, including NATO members, continue to rely on nuclear alliances for their protection and could therefore also be targeted with nuclear weapons in a conflict. Furthermore, the transportation of nuclear weapons at sea also endangers the heritage of countries whose waters are transited.

[20] Leschine, T. (2014), 'Risks and Vulnerability at Contaminated Sites in the Pacific and Australian Proving Grounds from a "Long-Term Stewardship" Perspective: What Have We Learned?', in Caron, D. and Scheiber, H. (eds) (2014), The Oceans in the Nuclear Age: Legacies and Risks, Leiden: Brill, p. 43.
[21] CTBTO Preparatory Commission, 'The Soviet Union's Nuclear Testing Programme', https://www.ctbto.org/nuclear-testing/the-effects-of-nuclear-testing/the-soviet-unionsnuclear-testing-programme/ (accessed 25 Sep. 2017).
[22] Burr, W. (ed.) (2015), 'U.S. Cold War Nuclear Target Lists Declassified for First Time', National Security Archive, 22 December 2015, https://nsarchive.gwu.edu/nukevault/ebb538-Cold-War-Nuclear-Target-List-Declassified-First-Ever/ (accessed 25 Sep. 2017).
[23] Burr, W. (2011), 'U.S. War Plans Would Kill an Estimated 108 Million Soviets, 104 Million Chinese, and 2.6 Million Poles: More Evidence on SIOP-62 and the Origins of Overkill', Unredacted: The National Security Archive Blog, 8 November 2011, https://nsarchive.wordpress.com/2011/11/08/u-s-war-plans-would-kill-an-estimated-108-million-soviets-104-million-chinese-and-2-3-million-poles-more-evidence-on-siop-62-and-the-origins-of-overkill/ (accessed 25 Sep. 2017).
[24] Norris, R. and Kristensen, H. (2011), 'US tactical nuclear weapons in Europe, 2011', Bulletin of the Atomic Scientists, 67(1), p. 66.

3. Areas at Risk

Given the difficulties associated with restoring or recovering heritage damaged by conventional weapons, there are many more considerations to take into account when restoring heritage caught in a nuclear blast. To begin with, it would be difficult to quantify exactly what has been lost. Inadequate, incomplete or inconsistent record-keeping, for instance, is a problem shared by heritage institutions, libraries and museums across the world, and particularly those in lower-income countries.[25] Even where records are good, archives could be lost in the event of a nuclear-weapon explosion. Similarly, archaeological sites (above ground and underwater), or sites such as caves and the seabed, could be lost before scientists have fully documented and studied them. The mass migration of people in the aftermath of a nuclear attack would also contribute to the decline of cultural knowledge, artefacts, traditions, languages and religions.

A great deal of heritage is situated in regions widely considered at high risk of a nuclear conflict: East Asia, South Asia, and between Russia and the US. A comprehensive risk analysis in these regions could assess the range of potential consequences, the threats, vulnerabilities, incentives and disincentives of nuclear weapons use during conflict, including conflict with non-state armed groups. Risk assessments would include nuclear weapons command and communication sites, nuclear testing areas, and cities in warfare targeting plans.

Risks associated with the use of nuclear weapons in the Middle East, which contains some of the most significant religious heritage related to the world's three largest monotheistic faiths, highlight some specific dangers in this region. Al-Qaeda and ISIS, for instance, frequently attacked Shia shrines in Iraq and Syria.[26] Moreover, ISIS destroyed a 4th century memorial from the Assyrian era in northern Iraq in 2015, Jerusalem is of enormous historical significance to Jews, Christians and Muslims, while Saudi Arabia contains the two holiest sites for Muslims. In the region, numerous shrines central to the religious practice of Muslims and Christians have been targeted with conventional weapons in recent conflicts. Studies of spikes in sectarian violence in Iraq indicate that attacking any of these holy sites would likely lead to further loss of human life and to the targeting of other heritage in revenge attacks. [27]

The cultural heritage that would be destroyed in a nuclear conflict in Asia could dwarf in quantity and significance the damage done to human heritage elsewhere. Temples, shrines, mosques, cathedrals, forts, castles and palaces are widely distributed across Asian countries, a testament to the thousands of years of humanity's rich history in the region. At least 86 World Heritage Sites across China, India and Pakistan, and 31 more in South Korea and Japan, would be put at risk.

[25] See Yates, D. (2015), 'Reality and Practicality: Challenges to Effective Cultural Property Policy on the Ground in Latin America', International Journal of Cultural Property, 22(2–3), https://www.cambridge.org/core/journals/international-journal-of-cultural-property/article/reality-and-practicality-challenges-to-effective-cultural-property-policy-on-the-ground-in-latin-america/9AE1F3F6F577FBA82FD520192325AAD1 (accessed 25 Sep. 2017).
[26] Cockburn P. (2014), 'Iraq crisis: As Shia shrines are targeted and Tigrit is strangled, the fiercest of wars lies ahead', Independent, 5 July 2014, http://www.independent.co.uk/voices/comment/iraq-crisis-as-shia-shrines-are-targeted-and-tikrit-is-strangled-the-fiercest-of-wars-lies-ahead-9587043.html (accessed 25 Sep. 2017).
[27] Isakhan, B. (2012), 'Heritage destruction and violence in Iraq: bombing mosques and ethno-sectarian violence, 2006-7', Seminar Series of the Cambridge Heritage Research Group, http://dro.deakin.edu.au/view/DU:30050876 (accessed 25 Sep. 2017).

The risks that armed conflicts pose for heritage destruction and to cultural rights is again in the international spotlight, not least due to the intentional destruction of heritage in conflicts in the Middle East and North Africa (e.g. in Syria, Mali and Iraq) by states and non-state actors, which has been characterized as part of a strategy of 'cultural cleansing'.[28] Cultural heritage is a legacy for the whole of humanity, one that is shared as it is a fundamental aspect of understanding the global history and development of the human race.

[28] UN News Centre (2015), 'UNESCO deplores "cultural cleansing" of Iraq as armed extremists ransack Mosul libraries', 3 February 2015, http://www.un.org/apps/news/story.asp?NewsID=49982#.V30etNIrLct (Accessed 25 Sep. 2017).

4. International Responses

The risks of armed conflict to cultural heritage have already been recognized in international law. The 1954 Hague Convention for the Protection of Cultural Property in the Event of Armed Conflict was adopted in response to the massive destruction and theft of cultural heritage during the Second World War.[29] The convention[30] and its protocols, along with the 1972 Convention Concerning the Protection of the World Cultural and Natural Heritage (in addition to the Geneva Convention), are the primary legal instruments aimed at protecting heritage in conflict. Furthermore, the Rome Statute of the International Criminal Court states clearly that any 'intentional attack directed against buildings dedicated to religion, education, art, science or charitable purposes, historic monuments […] provided they are not military objectives' is a war crime.[31]

The Hague Convention protects immovable and movable cultural heritage, including architectural monuments, archaeological sites, works of art, manuscripts, books and other objects of artistic, historical or archaeological interest, as well as scientific collections of all kinds regardless of their origin or ownership. The convention incorporates 'peacetime safeguarding measures such as the preparation of inventories, the planning of emergency measures for protection… and the designation of competent authorities responsible for the safeguarding of cultural property.' It further requires states parties to refrain from any act of hostility directed against cultural heritage property; to consider marking important buildings and monuments with a distinctive emblem; and to establish special units within military forces to be responsible for the protection of cultural property.[32]

In March, the UN Security Council adopted Resolution 2347 on the 'Maintenance of international peace and security: destruction and trafficking of cultural heritage by terrorist groups and in situations of armed conflict'.[33] This calls upon member states to consider adopting measures that include: local and national inventory lists; regulations on export and import, including certifications of provenance; supporting contributing to the World Customs Organization's Harmonized System Nomenclature and Classification of Goods; national legislation and procedures, specialized units in central and local administrations, and customs and law enforcement dedicated personnel; procedures and databases on criminal activities related to cultural property and on illicitly excavated, exported, imported or traded, stolen, trafficked or missing cultural property; using and contributing to international databases and platforms;[34]

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[29] UNESCO, Convention for the Protection of Cultural Property in the Event of Armed Conflict with Regulations for the Execution of the Convention 1954, http://portal.unesco.org/en/ev.php-URL_ID=13637&URL_DO=DO_TOPIC&URL_SECTION=201.html (accessed 25 Sep. 2017).

[30] For Hague Convention States Parties, see https://ihl-databases.icrc.org/applic/ihl/ihl.nsf/States.xsp?xp_viewStates=XPages_NORMStatesParties&xp_treatySelected=400; and for Hague Convention signatories, see https://ihl-databases.icrc.org/applic/ihl/ihl.nsf/States.xsp?xp_viewStates=XPages_NORMStatesSign&xp_treatySelected=400.

[31] Rome Statute of the International Criminal Court, Article 7, War Crimes, p. 5, https://www.icc-cpi.int/nr/rdonlyres/ea9aeff7-5752-4f84-be94-0a655eb30e16/0/rome_statute_english.pdf (accessed 25 Sep. 2017).

[32] The Convention for the Protection of Cultural Property in the Event of Armed Conflict, http://portal.unesco.org/en/ev.php-URL_ID=13637&URL_DO=DO_TOPIC&URL_SECTION=201.html.

[33] Resolution 2347 on the 'Maintenance of international peace and security: destruction and trafficking of cultural heritage by terrorist groups and in situations of armed conflict', adopted by the Security Council at its 7907th meeting, 24 March 2017, http://undocs.org/S/RES/2347(2017) (accessed 25 Sep. 2017).

[34] Specifically, the INTERPOL Database of Stolen Works of Art, UNESCO Database of National Cultural Heritage Laws, and WCO ARCHEO Platform, and relevant current national databases, as well as providing relevant data and information, as appropriate, on investigations and

engaging museums, relevant business associations and antiquities-market participants; providing information to relevant industry stakeholders and associations; creating educational programmes; establishing inventories of artefacts that have been illegally removed from armed conflict areas; and coordinating with international actors in order to ensure the safe return of all listed items.

The detonation of a nuclear weapon, whether deliberate or not, presents risks for heritage on an unprecedented scale. However, as part of the declarations and reservations[35] attached to the Hague Convention at the time of its adoption, the US declared that:

> [I]t is the understanding of the United States of America that the rules established by the Convention apply only to conventional weapons, and are without prejudice to the rules of international law governing other types of weapons, including nuclear weapons.[36]

The nine states possessing nuclear weapons[37] are home to 215 UNESCO World Heritage Sites. Non-nuclear-weapon countries that host nuclear weapons contain 127 World Heritage Sites within their territory, and dozens more are found in states that are members of nuclear alliances that would also be put at risk in a nuclear exchange.

Beyond the potential destruction of heritage caused by a conflict involving nuclear weapons, decades of nuclear testing conducted over- and under-ground has already caused tangible and intangible damage.

prosecutions of relevant crimes and related outcome to UNODC portal SHERLOC and on seizures of cultural property to the Analytical Support and Sanctions Monitoring Team.

[35] Certain member states of the UN Security Council lodged reservations with regard to the 1977 Additional Protocol I to the four 1949 Geneva Conventions.

[36] Ibid.

[37] US, Russia, United Kingdom, France, China, Israel, India, Pakistan and North Korea.

5. Conclusions and Recommendations

Conventional conflicts have had both immediate and delayed impacts in the form of damage to tangible cultural heritage, loss of intangible heritage through displacement and contamination, and the degradation of natural heritage sites. A nuclear conflict between two or more states would cause unprecedented destruction to cultural and natural heritage in the short and long terms, potentially including countries hosting nuclear weapons and others caught up in the fighting.

The potential for armed conflict to destroy cultural heritage and the need to restrain its effects has been recognized in international law since 1954. The declaration by the US that the use of nuclear weapons would, in its view, be exempt from the constraints imposed by the Hague Convention is a demonstration of how long this issue has been contested within international debates.[38]

It is worth noting the conclusion of the International Court of Justice (ICJ) in its Advisory Opinion on the Legality of the Threat or Use of Nuclear Weapons (8 July 1996), which remains pertinent in international debates on the legality of nuclear weapons generally.[39] While the court unanimously decided that there is no specific authorization for the threat or use of nuclear weapons in conventional or customary international law, it also held (by 11 votes to three) that there is no comprehensive or universal prohibition on such threat or use. Furthermore, while the court concluded that the threat or use of nuclear weapons would generally be contrary to the rules of international humanitarian law, the court could not conclusively state whether the threat or use of nuclear weapons would be lawful or unlawful in certain circumstances, for example in an act of self-defence. Thus, the legality of nuclear weapons usage itself remains contested, which is important to remember when considering the threat these weapons pose to cultural heritage.

Over recent years, renewed risk assessments for nuclear weapons, policies and doctrines have been conducted.[40] They have addressed the risks of inadvertent use, accidents, use by non-state actors, cyber threats and insider threats. The humanitarian impacts of nuclear weapons and related testing have received increased attention as nuclear modernization and weapons programmes as well as the threats of nuclear use are on the rise. However, insufficient attention has been paid to the risks to cultural heritage. Important considerations for policymakers and international organizations include:

- Under the Hague Convention and the International Covenant on Economic, Social and Cultural Rights, it is incumbent on States Parties to take steps to conserve culture.[41] Risk assessments for cultural heritage in armed conflict are considered good practice in states with significant cultural heritage. Risk assessments examining the effect of nuclear weapons detonations on cultural heritage sites would form a new body of knowledge and introduce a useful mechanism for

[38] UNESCO, Convention for the Protection of Cultural Property in the Event of Armed Conflict, http://portal.unesco.org/en/ev.php-URL_ID=13637&URL_DO=DO_TOPIC&URL_SECTION=201.html (accessed 25 Sep. 2017).
[39] International Court of Justice (1996), Legality of the Threat or Use of Nuclear Weapons, Advisory Opinion, I.C.J Reports 1996, p. 226, http://www.icj-cij.org/files/case-related/95/095-19960708-ADV-01-00-EN.pdf (accessed 25 Sep. 2017).
[40] UNIDIR (2017), 'Understanding Nuclear Weapons Risks', http://www.unidir.org/programmes/weapons-of-mass-destruction/understanding-nuclear-weapon-risks (accessed 25 Sep. 2017).
[41] United Nations Human Rights, Office of the Commissioner, International Covenant on Economic, Social and Cultural Rights, entry into force 3 January 1976, in accordance with article 27. http://www.ohchr.org/Documents/ProfessionalInterest/cescr.pdf (accessed 25 Sep. 2017).

thinking about nuclear weapon policies and practices. Future studies in this area would benefit from risk analysis of potential nuclear use scenarios.

- Ongoing international efforts aimed at minimizing risks posed by the use and possession of nuclear weapons illuminate the connection between nuclear weapons and other areas, such as cultural heritage.[42] In this regard, nuclear non-proliferation and disarmament, including the Comprehensive Nuclear-Test-Ban Treaty (CTBT), helps to protect cultural heritage. The need to protect cultural heritage – along with the clear human cost – should be considered an integral part of the case to prohibit and eliminate nuclear weapons.

- The impact of nuclear weapons on important cultural artefacts, and preventing catastrophic damage to them, should be a requirement for cultural heritage protection in every country and the subject of informed public debate. States that possess nuclear weapons have special liabilities and responsibilities in terms of risk assessments for their human impact, including for the protection of cultural heritage.

- On a practical level, states could support the development of tailored risk and resilience frameworks. These would allow an assessment of nuclear weapons threats to heritage and highlight vulnerabilities. Such frameworks would provide a basis for policymakers to identify the cultural heritage most at risk and help develop mitigation strategies to ensure that it is protected. As heritage is valued and shared universally, these frameworks should be made public in order to facilitate transparency as well as to inform the decisions and work of defence planners, civil society and heritage sectors. They would also inform discussions currently underway as part of the debates on the humanitarian impacts and risk assessments of nuclear weapons, contributing to the new evidence-based agenda for reinforcing the future of nuclear disarmament.

As the stakes of a nuclear conflict, accidental detonations of nuclear weapons, and nuclear testing are so high, failure to consider the fate of heritage in the development of nuclear weapons policies – and in the course of disarmament, non-proliferation and arms-control negotiations – significantly undermines states' professed commitments to protecting heritage threatened by conflict. In particular, states possessing nuclear weapons should be called upon to consider and publish the risks posed to cultural heritage, and their mitigation strategies, in their nuclear-weapons doctrines and policies.

[42] Lewis, P., Unal, B. and Aghlani, S. (2016), Nuclear Disarmament: The Missing Link in Multilateralism, Research Paper, London: Royal Institute of International Affairs, https://www.chathamhouse.org/publication/nuclear-disarmament-missing-link-multilateralism (accessed 25 Sep. 2017).

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