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Nuclear Weapons in the 21th Century

- A Legal Examination of the Possession of Unmodern Nuclear Weapons
and International Law

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Summary

In its Advisory Opinion: *Legality of the Threat or Use of Nuclear Weapons*, the ICJ affirmed that the principles and rules of IHL and international environmental law are applicable to the question of nuclear weapons.

Further, the effects of a nuclear weapon explosion are undoubtedly disastrous, it is however not the effects of a detonation that separates unmodern nuclear weapons from modern nuclear weapons, it is their respective level of security. Modern nuclear weapons are equipped with Permissive Action Links and tamper resistance, which makes them practically impossible to detonate, even under the most optimum circumstances, without an authorizing code.

Unmodern nuclear weapons do not have these modern security features which makes an unauthorized detonation practically possible.

In the fields of IHL and international environmental law there are two rules that have direct legal consequences for the possession of unmodern nuclear weapons: Article 58, paragraph B of Additional Protocol I and Draft Articles on the Prevention of Transboundary Harm from Hazardous Activities, Article 3.

Article 58, paragraph B of Additional Protocol I, limits the possibilities of placements for nuclear weapons (both modern and unmodern). States are not allowed to place nuclear weapons in, or in the near proximity of, densely populated areas. The restriction in question derives from the threat that nuclear weapons pose to the public by their destructive capabilities.

In the field of international environmental law, Draft Articles on the Prevention of Transboundary Harm from Hazardous Activities, Article 3, prescribes that all States shall take all appropriate measures to prevent significant transboundary harm or at any event to minimize the risk thereof. The obligation to act preventive is limited to hazardous activities a category which nuclear activities is a part of. Draft Article 3 could be interpreted as prohibiting the existence of unmodern nuclear weapons, or at least prescribing States to keep them in safe locations. Nevertheless, does Draft Article 3 constitute the most influential part of international law regarding the legal relationship between the possession of unmodern nuclear weapons and international law.

Sammanfattning

I sitt rådgivande yttrande: *Legality of the Threat or Use of Nuclear Weapons*, bekräftade den Internationella domstolen att reglerna och principerna inom den internationella humanitära rätten och den internationella miljöretten är tillämpliga gällande kärnvapen.

Vidare, skulle effekterna av en kärnvapenexplosion otvivelaktigt vara förödande, det är dock inte effekterna av en detonation som särskiljer omoderna kärnvapen från moderna kärnvapen, det är deras respektive säkerhetsnivå. Moderna kärnvapen är utrustade med Permissive Action Links och tamper resistance, vilket gör dem, även vid de mest optimala förutsättningarna, praktiskt omöjliga att detonera utan en auktoriserande kod. Omoderna kärnvapen är inte utrustade med sådana moderna säkerhetsfunktioner vilket gör dem praktiskt möjliga att detonera utan de auktoriserande koderna.

Det finns två regler inom den internationella humanitära rätten och den internationella miljöretten som har direkta rättsliga konsekvenser för innehavet av omoderna kärnvapen: Artikel 58, paragraf B i Additional Protocol I och Draft Articles on the Prevention of Transboundary Harm from Hazardous Activities, Artikel 3.

Artikel 58, paragraf B i Additional Protocol I, begränsar placeringmöjligheterna för kärnvapen (både moderna och omoderna). Stater är inte tillåtna att placera kärnvapen i, eller i närheten av tätbefolkade områden. Denna restriktion har sin grund i det hot som kärnvapnens destruktiva kapacitet utgör för allmänheten.

Inom den internationella miljöretten föreskriver, Draft Articles on the Prevention of Transboundary Harm from Hazardous Activities, Artikel 3, att alla stater ska vidta alla lämpliga åtgärder för att förhindra betydande gränsöverskridande skada eller åtminstone minimera sådan risk. Skyldigheten att agera preventivt är dock begränsat till verksamhet av särskilt farligt slag en kategori som kärnvapen ingår i. Artikel 3 i Draft Articles kan tolkas innebära ett förbud av omoderna kärnvapen, eller i vart fall ett föreläggande om en statsskyldighet att förvara dessa vapen under säkra förhållanden. Oavsett, utgör Artikel 3 i Draft Articles den mest betydande delen av internationell rätt rörande det rättsliga förhållandet mellan innehavet av omoderna kärnvapen och internationell rätt.

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Abbreviations

CAT	Category
CCPR	Covenant on Civil and Political Rights
CCW	Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons
ICCPR	International Covenant on Civil and Political Rights
ICJ	International Court of Justice
ICRC	International Committee of the Red Cross
IHL	International humanitarian law
NPT	Treaty on the Non-Proliferation of Nuclear Weapons
P.	Page
PAL	Permissive Action Link
PALs	Permissive Action Links
Para.	Paragraph
TNT	2,4,6-Trinitrotoluence
UN	United Nations
U.S.	United States
USA	United States of America

1. Introduction

1.1. Background

Through history, mankind and its technological inventions has always been linked to one another. By inventing and refining new forms of products and creations humanity has become able to organize into the modern societies that we know today. Former deadly diseases are now treatable thanks to medical progress, the internet grants almost unlimited access to the complete known information of the world and we have even been able to put a man on the moon.

However, linked to every advantage that these new inventions grant us lies the inherent creation of a new problem. One of the most apparent of these situations is the one concerning the nuclear bomb. The technic behind this invention has enabled the enhanced production of energy through nuclear power plants. On the other hand, with the creation of the nuclear bomb humanity stepped into a drastically new phase of its history, the first phase when humanity have had the capacity to annihilate its own existence through the means of war.¹

How has the world community legally dealt with the massive innate risk that nuclear weapons pose to the survival of humanity? This essay originated from a will to understand the mechanisms behind the legislation concerning nuclear weapons under international law.

1.2. Purpose

This essay's purpose can be divided into two legal examinations, where the first examination is meant to form a basis for the second examination. The objective for the first examination is the Advisory Opinion of the International Court of Justice (ICJ) in: *Legality of the Threat or Use of Nuclear Weapons*, from 1996². The purpose of this first investigation is to uncover and explain all the relevant sources of international law that deals with nuclear weapons in general through a legal doctrinal method. When this general investigation has been concluded, the essay will turn its focus towards a more specific question that sets its focus on the possession of unmodern³ nuclear weapons and how this possession shall be treated under international

¹ Compare, Ishay, 2008, p. 228 and ICRC [<https://www.icrc.org/en/document/nuclear-weapons>] 2019-02-27.

² International Court of Justice [<https://www.icj-cij.org/en/case/95>] 2019-02-28.

³ See, Sections 1.7. and 3.4.1.

law? The overarching focus will therefore be set on one specific question: How shall the possession of nuclear weapons that lacks modern security features be treated under international law? To fulfil the essay's purpose the question below has been constructed and is meant to be answered through the course of the essay.

1.3. Question

How shall the possession of nuclear weapons that lacks modern security features be treated under international law?

1.4. Disposition and Delimitations

Following the introduction contained in section 1, the main text of this essay is divided into four sections: sections 2-5. In section 2, the Advisory Opinion of the ICJ in: *Legality of the Threat or Use of Nuclear Weapons*, is examined and analysed. Section 3 contains an examination of the effects of nuclear weapons and the difference in security levels regarding modern contra unmodern nuclear weapons. Thereafter, the legal relationship between the possession of unmodern nuclear weapons and international law is analysed in section 4. Lastly, the results of this essay's investigation are analysed in section 5.

In this essay, the examination of the ICJ's Advisory Opinion is limited to those parts of the Opinion that have been considered to be required to understand by which legal sources international law regulates nuclear weapons. However, given that the main part of the Opinion has been considered to be of importance quite few limitations have been made. Further, it should be highlighted that the purpose of this essay has not been to criticize the Advisory Opinion. When critical views of the Opinion have been raised the intention has been to illustrate that some parts of international law's relation to nuclear weapons are more controversial than others.

The investigation of nuclear weapons in section 3 is limited to the effects of nuclear weapons and the difference between modern and unmodern nuclear weapons, these are the two elements required to answer the question of this essay. Thus, aspects such as the testing and estimated stockpiles of nuclear weapons have been left out. This is also the case for the practicalities of nuclear weapons use therefore, the issue of the delivery of nuclear weapons

through vehicles such as bombers or missile systems such as ballistic missiles or cruise missiles have been left out. It should also be noted that the description of security features, such as permissive actions links, are very complex issues. The description in this essay is concerned with the basic aspects of these features, because it is the understanding of these basics that is required to understand the practical difference in security levels between modern and unmodern nuclear weapons.

In section 4, the focus is set solely on the legal relationship between the possession of unmodern nuclear weapons and international law. Thus, all parts of international law that does not have legal implications for the possession of unmodern nuclear weapons are left out.

1.5. Method and Material

The method used in this essay is a legal doctrinal method, which has been used to identify the existing sources of international law on the area of nuclear weapons. What a legal doctrinal method exactly is, is a controversial matter. In this essay the method is understood as a legal examination that uses the official sources of law (in this case international law) to determine the applicable law. Thereby, the legal sources⁴ of international law: international conventions, international custom, general principles of law, judicial decisions and doctrine, have been used to determine questions that are connected to *de lege lata*.

This method has been applied due to the nature of this essay's question which has the purpose to discover what sources of international law that are relevant for the possession of unmodern nuclear weapons and what legal consequences these sources amounts to. Thus, the purpose of the essay can be considered to be the determination of *lex lata*, the most adequate method for this objective has been deemed to be the legal doctrinal method.

However, this method's advantage is inherently connected to its obvious shortcoming, its strict focus on legal sources. A shortcoming that could become apparent when the method is applied to the question of the legality or illegality of nuclear weapons, a question that is closely linked to politics.⁵ This shortcoming becomes less apparent concerning this essay's specific question though, given that the question of possession of unmodern nuclear weapons is less politically controversial than the question of the recourse to nuclear weapons. Thus, the

⁴ See, ICJ-Statute, Art. 38.

⁵ See for instance, Section 4.1.

potential negative effects of the legal doctrinal method are reduced through the essay's question.

It could further be argued that a critical perspective has been used to some extent, especially in section 2, given that this essay presents some of the critique that the Advisory Opinion has received. However, the inclusion of the critique has not been done with the intention of questioning the conclusions of the ICJ, the intention has been to illustrate that the interpretation of some parts of international law are more controversial than others.

The material used for this essay's examination is mainly constituted of literature, official documents and judgements that relates to the subject at hand. In section 2 and 4, the material is mainly used to discover the relevant sources of international law and interpret how these sources shall be applied to the essay's question. In section 3, the effects of nuclear weapons and the difference between modern and unmodern nuclear weapons is analysed. Therefore, the material being used differs from the material in section 2 and 4, given that many sources in section 3 are not part of the field of law rather the field of science. Further, all sources (except: *Folkrätten i ett nötskal*) are written in English.

It should here be noted that use of legal terms differs between the English and Swedish language. However, *Folkrätten i ett nötskal* is a book that deals with issues of international law which results in that the most relevant legal terms are often referred to in their English form, when this is not the case, the English form of the legal terms can be accessed in the documents or judgements that the text refers to. Thus, the translation of this specific source has not been problematic.

Besides the material mentioned above internet sources have been used to some extent. These sources have mainly been used concerning information of a more general nature such as basic historical information about the Cold War. An exception to this is found in section 3: <https://www.cs.columbia.edu/~smb/nsam-160/pal.html>, this source has been used to describe the difference between modern and unmodern nuclear weapons. The reason for this is primarily that I have found the source to be reliable but also the lack of material (for instance literature) that deals with the question of modern security features concerning nuclear weapons.

1.6. Current Research

Regarding the legal relationship between nuclear weapons and international law there is plenty of material to be found. After the Advisory Opinion of the ICJ the focus has primarily been set upon the application of IHL and international environmental law. However, much of the research is (perhaps for obvious reasons) focused on the recourse to nuclear weapons. Thus, the question of possession is not explored in the same detail as the question of threat or use.⁶ Concerning the question of unmodern nuclear weapon's legal relationship to international law there is little material to be found and I consider this to be a field that requires more research.

Further, the effects of nuclear weapons are well-documented and there is a great deal of material to be found. The difference between modern and unmodern nuclear weapons is not as well documented, this could be explained by that much information about the security features of nuclear weapons is classified.⁷

1.7. Theory and Terminology

In the essay the terms unmodern nuclear weapons or nuclear weapons that lacks modern security features are often being used. These terms refer to nuclear weapons that are not equipped with Permissive Actions Links and tamper resistance, which is described in section 3.4.1. The term modern nuclear weapons refer to nuclear weapons that are equipped with the mentioned modern security features. Permissive Action Links are electronic locks which makes it difficult to detonate the weapon without first inserting an authorized code. The function of tamper resistance mechanisms is to deny a thief the possibility to obtain a nuclear yield from a stolen weapon. These tamper resistance mechanisms differ from one weapon type to another, but can for instance include such elements as, gas bottles to deform the pit and hydride the plutonium in it. Most nuclear weapons have some sort of tamper resistance that will make the weapon permanently inoperable if unauthorized activities are performed to tamper with or bypass the lock.⁸

⁶ See for instance, Section 4.2.

⁷ See, Section 3.4.1.

⁸ See, Section 3.4.1.

The Advisory Opinion of the ICJ in: *Legality of the Threat or Use of Nuclear Weapons*, is often referred to as the Advisory Opinion or the Opinion of the ICJ. When other Advisory Opinions of the ICJ are mentioned the names of these Advisory Opinions are written out, for instance, the Western Sahara Advisory Opinion of the ICJ.

Sometimes the ICJ is referred to as the Court, this is done to vary the language of the text. For similar reasons the UN Charter is sometimes referred to as, the Charter.

Further, this essay is written for readers that have completed their bachelor's degree or higher education in the field of law. Thus, certain basic legal terms (such as: *lex lata* and *lex specialis*) are not explained.

2. Advisory Opinion of the ICJ in *Legality of the Threat or Use of Nuclear Weapons*

2.1. Historical Context

A decision to make a request for an Advisory Opinion from the ICJ, regarding the legality of the threat or use of nuclear weapons, was taken by the General Assembly of the United Nations (UN) by resolution 49/75 K, adopted on 15 December 1994. It was thereafter filed in the Registry of the ICJ on 6 January 1995 after a letter from the Secretary-General of the UN (Boutros Boutros-Ghali). The question asked to the Court was: “Is the threat or use of nuclear weapons in any circumstance permitted under international law?”⁹ In its resolution the General Assembly asked the Court to render its opinion “urgently”.¹⁰ The legal basis for this request was article 96, paragraph 1 of the Charter of the United Nations which grants the General Assembly the right to request an Advisory Opinion from the ICJ in any legal matter.¹¹

Further, the resolution was adopted based upon different concerns held by the General Assembly as regards to nuclear weapons. Three examples are:

- 1: The continuing existence and development of nuclear weapons and the serious risks these weapons pose to humanity.
- 2: The conviction that the complete elimination of nuclear weapons is the only guarantee against the threat of nuclear war.
- 3: The concerns expressed in the Fourth review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) that insufficient progress had been made towards the complete elimination of nuclear weapons at the earliest possible time.¹²

⁹ International Court of Justice [<https://www.icj-cij.org/en/case/95>] 2019-02-28 & Resolution 49/75 K, 1995, *Request for Advisory Opinion (including the dossier of documents transmitted to the Court pursuant to article 65, paragraph 2 of the Statute)*.

¹⁰ International Court of Justice [<https://www.icj-cij.org/en/case/95>] 2019-02-28 & Resolution 49/75 K, 1995, *Request for Advisory Opinion (including the dossier of documents transmitted to the Court pursuant to article 65, paragraph 2 of the Statute)*, p. 2.

¹¹ Resolution 49/75 K, 1995, *Request for Advisory Opinion (including the dossier of documents transmitted to the Court pursuant to article 65, paragraph 2 of the Statute)*, p. 2 & 4 and Charter of the United Nations, art. 96, paragraph 1.

¹² Resolution 49/75 K, 1995, *Request for Advisory Opinion (including the dossier of documents transmitted to the Court pursuant to article 65, paragraph 2 of the Statute)*, p. 4.

This question raised by the General Assembly was of a noticeably different nature than the ICJ had previously been asked to consider. Never had the ICJ been asked to address a legal question that had been so central and controversial for international relations for over 50 years. A statement to this are the words of the then current Vice-President of the ICJ, Stephen M. Schwebel, in his dissenting opinion: “More than any case in the history of the Court, this proceeding presents a titanic tension between State practice and legal principle.”¹³ It should however be noted that Vice-President Schwebel went on with emphasizing the importance of not confusing the international law that we have, with the international law that we need. Even though Vice-President Schwebel disagreed with some of the ICJ:s principal and ultimate holdings Schwebel still held that the ICJ, in the main, met this test.¹⁴

Given that the question asked mandated that the ICJ had to pronounce on the validity of conduct which formed the cornerstone of the defence policy of the world’s major powers, the question can be described as thankless.¹⁵ Even if this was a rare opportunity for the Court to consider the principles of international humanitarian law it was not only the sensitive nature of the question that made the Court’s job problematic.¹⁶

The question itself can be described as poorly framed and the reasons for asking it unsatisfactory, in particular the abstract nature of the question put the Court in an extremely difficult position.¹⁷ This was also highlighted by the States that wanted the use of nuclear weapons to be considered legal for instance, the United States of America (USA), the United Kingdom and France. During the oral and written phases of the proceedings these states disputed the Court’s competence to respond to the request for an Opinion. Two of the arguments were: the vague and abstract nature of the request by the General Assembly and its potentially adverse effect on disarmament negotiations.¹⁸

Further, it could not be expected that the Court should have been able to consider all the combinations of circumstances in which nuclear weapons could be used or used to threat, this is however what the questions indirectly implied. There are only three positions that the Court could take that does not make the Opinion dependent upon a careful examination of the

¹³ David, 1997, para. 1 and ICJ, *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion of 8 July 1996, p. 89 (hereafter, Nuclear Weapons Advisory Opinion).

¹⁴ Nuclear Weapons Advisory Opinion, p. 89.

¹⁵ David, 1997, para. 1.

¹⁶ Greenwood, 1997, p. 65.

¹⁷ Greenwood, 1997, p. 65.

¹⁸ David, 1997, para. 3.

previous stated combinations of circumstances, these three positions are: the use of nuclear weapons is always lawful; the use of nuclear weapons falls wholly outside of the law or the use of nuclear weapons is always unlawful. Of these positions the first is obviously not in line with international law and the second was not even suggested by any State. Option number three had some supporters but was ultimately rejected by a majority of the Court.¹⁹ This suggestion of the Court's limited possibilities is however, in this authors opinion, rather drastic. Therefore, the scope of the Court's possibilities will be developed upon further in section 2.10.1. of the essay.

Despite the sensitive nature of the question, as well as the pleas for incompetence and inadmissibility lodged by several nuclear powers, the ICJ agreed to accept the question from the General Assembly.²⁰

2.2. Jurisdiction of the ICJ

When the Court deals with Advisory Opinions it draws its competence from Article 65, paragraph 1 of the Statute of the International Court of Justice (ICJ-Statute). A regulation which grants the ICJ the competence to give an Advisory Opinion on any legal question at the request of a body that is authorized by or in accordance with the Charter of the UN to make such a request.²¹ The ICJ found this to be the case in this matter, given that Article 96, paragraph 1 of the UN-Charter enables the General Assembly to request an Advisory Opinion from the ICJ in any legal question.²²

Further, the ICJ found that the question raised was indeed a legal question within the meaning of the ICJ-Statute and the UN-Charter. This conclusion was reached based upon a previous statement by the Court in the Western Sahara case where the Court stated that questions: "framed in terms of law and rais[ing] problems of international law . . . are by their very nature susceptible of a reply based on law...[and] appear...to be questions of a legal character".²³ Given that the Court was asked a question about nuclear weapons combability with international law the Court's answer would also be based on law thus, meeting the

¹⁹ Greenwood, 1997, p. 65.

²⁰ David, 1997, para. 1-4 and Nuclear Weapons Advisory Opinion, para. 10-19.

²¹ Nuclear Weapons Advisory Opinion, para. 10 and ICJ-Statute, art. 65 para. 1.

²² Nuclear Weapons Advisory Opinion, para. 11-12 and Charter of the UN, art. 96, paragraph 1.

²³ Nuclear Weapons Advisory Opinion, para. 13 and Western Sahara, Advisory Opinion, ICJ Reports 1975, p. 18, para. 15.

requirements set in the Western Sahara case. The circumstance that the addressed question also held political aspects was neither uncommon for questions raised in international life nor did it suffice to deprive the question from its legal character. That the motives behind the question could be said to be of a political nature and that the Opinion of the Court could have had political implications were also not seen as relevant objections to the jurisdiction of the Court.²⁴

2.3. The Formulation of the Question

The question put forward to the Court was: “Is the threat or use of nuclear weapons in any circumstance permitted under international law?”. This was criticized by a few States due to the implications of the word “permitted” a phrasing that according to these States implied that the threat or use of nuclear weapons could only be permissible if authorization could be found in a treaty or in customary international law. The opposing States meant that such a starting point would be incompatible with the very basis of international law: sovereignty and consent.²⁵

As a response the ICJ stated that States are free to threaten or use nuclear weapons unless it can be found that they are restricted to do so by reference to a prohibition in either treaty law or customary international law. This conclusion was supported by the “Lotus” case, as well as the Nicaragua case: “in international law there are no rules, other than such rules as may be accepted by the State concerned, by treaty or otherwise, whereby the level of armaments of a sovereign State can be limited”^{26, 27} The statement referred to in the Nicaragua case was however criticized by some States that meant that this statement was directed towards the possession of armaments and therefore irrelevant for the threat or use of them.²⁸

The Court did however note that the nuclear-weapon States, as well as the other States appearing before it, did either accept or did not dispute that their level of independence was indeed restricted by the rules of international law particularly humanitarian law. Thus, the ICJ

²⁴ Nuclear Weapons Advisory Opinion, para. 13.

²⁵ Nuclear Weapons Advisory Opinion, para. 20-21.

²⁶ Military and Paramilitary Activities in and against Nicaragua (Nicaragua v. United States of America), ICJ Reports 1986, p. 135, para. 269.

²⁷ Nuclear Weapons Advisory Opinion, para. 21.

²⁸ Nuclear Weapons Advisory Opinion, para. 21.

found that the legal conclusions which could be drawn from the word “permitted” were without significant importance for the disposition of the issues before the Court.²⁹

It should however be noted that this question of principle, whether the Court should be looking for a permissive rule or a prohibition, was discussed at length in several of the Separate and Dissenting Opinions.³⁰

2.4. The Applicable Law I

2.4.1. ICCPR Art. 6 and the Prohibition against Genocide

In its investigation of what was to be deemed as the relevant applicable law to answer the question at hand, the Court started by examining the right to life as guaranteed in Article 6, paragraph 1 of the of the United Nations International Covenant on Civil and Political Rights (ICCPR), a right that guarantees every humans inherent right to life and not to be arbitrarily deprived of that life which shall be protected by law.³¹

The ICJ found that this protection, contrary to the contention of some States, was applicable in both times of peace and times of war. In times of war however, the test of what is an arbitrarily deprivation of life was to be determined by the applicable *lex specialis* which in this case was *jus in bello*³². Therefore, the question if the loss of life due to the use of certain weapons in warfare should be considered an arbitrary deprivation of life or not, could only be decided by reference to the rules governing *jus in bello* more specifically international humanitarian law (IHL)³³ it could not be deduced from the terms of the Covenant itself.³⁴

²⁹ Nuclear Weapons Advisory Opinion, para. 22.

³⁰ Greenwood, 1997, p. 67 and the Declarations of President Bedjaoui and Judge Ferrari Bravo and the Separate Opinions of Judges Ranjeva and Guillaume.

³¹ Nuclear Weapons Advisory Opinion, para. 23-25; Mohr, 1997, note 7 and International Covenant on Civil and Political Rights, Art. 6, para. 1.

³² *Jus in bello* are parts of international law that seeks to govern the conduct of hostilities. See, Shaw, 2017, p. 891.

³³ *IHL* is a collection of rules, applicable during armed conflicts, with the joint purpose to humanize armed conflicts. Further, *IHL* is one set of rules that forms a specific part in the general collection of rules for armed conflicts called *jus in bello*. See, Engdahl (in Linderfalk), 2012, p. 215.

³⁴ Nuclear Weapons Advisory Opinion, para. 24-25 and Mohr, 1997, note 7.

This conclusion by the Court has been criticized for its lack of further discussion, for instance, that there is no mentioning of the Human Rights Committee's³⁵ well-known commentary regarding nuclear weapons and the right to life in ICCPR.³⁶ In said commentary, the Human Rights Committee expresses its concern for the development and proliferation of weapons of mass destruction. The Committee stated that the designing, testing, production, possession and deployment of nuclear weapons were among the greatest threats to the right to life which mankind faced a threat that was not limited to the use of these weapons in times of war, but also the danger of human or mechanical errors or failures. It was further suggested that the very existence of nuclear weapons generated a climate of suspicion and fear which risked jeopardizing the respect for fundamental human rights in accordance with the Charter of the UN. Therefore, the Committee called for that the production, testing, possession, deployment and use of nuclear weapons should be prohibited and recognized as crimes against humanity.³⁷

This link between the nuclear weapons issue and the right to life could be perceived not merely as a relation based on parallel effects but also one of mutual reinforcement this because, if we accept the conclusion reached by the Human Rights Committee then nuclear weapons violate both the right to life and IHL. That would suggest that here, as in many other contexts, there is an obvious overlap between IHL and human rights law.³⁸

Then again, the conclusion reached by the Court also has many supporters who agrees with this interpretation of international law.³⁹ One example is Professor Christopher Greenwood⁴⁰ who points out that the general language of Article 6 in the ICCPR cannot have been intended, and have not been treated in practice, to override the detailed provisions of the law of armed conflicts. However, the ICJ's acceptance of the Covenants continuing application in time of war may be of considerable importance in other cases, this could be of specific significance in the context of belligerent occupation.⁴¹

³⁵ *The Human Rights Committee is the body of independent experts that monitors implementation of the ICCPR by its State Parties.* See, United Nations Human Rights [https://www.ohchr.org/EN/HRBodies/CCPR/Pages/CCPRIndex.aspx] 2019-03-13.

³⁶ See Mohr, 1997, note 8.

³⁷ Human Rights Committee, General Comment No. 14, 1984.

³⁸ See, Mohr, 1997, note 8–9.

³⁹ See for example Greenwood, 1997, p. 68-69 and McNeill, 1997, note 16-17.

⁴⁰ *Sir Christopher Greenwood is Professor of International Law at the London School of Economics.* See, Arbitrators [https://arbitratorsinternational.com/arbitrator/sir-christopher-greenwood/] 2019-03-14.

⁴¹ Greenwood, 1997, p. 68–69.

After this, the Court went on with examining the relevance of the prohibition against genocide, contained in the Convention of 9 December 1948 on the Prevention and Punishment of the Crime of Genocide.⁴² Article II of the Convention forbids acts committed with the intent to destroy, in whole or in part, a national, ethnical, racial or religious group, for instance: killing members of the group.⁴³

Certain States made the case that the deaths occasioned by a nuclear weapon could include persons from these particular groups. It was argued that the intention of destroying such groups could be inferred from the fact that the user of the nuclear weapon would have omitted to take account of this plausible outcome.⁴⁴

The Court however highlighted that this objection would only be relevant if the usage of the nuclear weapon was entailed with the element of intent towards a group as such, required by the Convention in question. A conclusion that this would be the case could, according to the ICJ, only be possible to reach on a case-to-case basis.⁴⁵

2.4.2. The Safeguarding and Protection of the Environment

Some States argued that any use of nuclear weapons would be unlawful due to existing norms relating to the safeguarding and protection of the environment. Specific references were made to various existing international treaties and instruments for instance: Additional Protocol 1 of 1977 to the Geneva Conventions of 1949 (henceforth, Additional Protocol I), Article 35, paragraph 3 and Principle 21 of the Stockholm Declaration.⁴⁶ The first mentioned instrument prohibits such methods or means of warfare which are intended, or may be expected, to cause widespread, long-term and severe damage to the natural environment.⁴⁷ Principle 21 of the Stockholm Declaration prescribes that States have the responsibility to ensure that activities within their own jurisdiction or control do not cause environmental damage to other States or of areas beyond the limits of the State's jurisdiction.⁴⁸

⁴² Nuclear Weapons Advisory Opinion, para. 26.

⁴³ Convention on the Prevention and Punishment of the Crime of Genocide, Art. II.

⁴⁴ Nuclear Weapons Advisory Opinion, para. 26.

⁴⁵ Nuclear Weapons Advisory Opinion, para. 26.

⁴⁶ Nuclear Weapons Advisory Opinion, para. 27.

⁴⁷ Additional Protocol 1 of 1977 to the Geneva Conventions of 1949, Article 35, paragraph 3.

⁴⁸ Declaration of the United Nations Conference on the Human Environment, held at Stockholm, on 5-16 June 1972, Principle 21.

Other States objected to these arguments by questioning the referenced instruments binding legal qualities. Additional Protocol I was opposed based on the argument that the States did not agree to that they would be generally bound by its terms (and in some cases certain States recalled that they had reserved their position in respect of Article 35, paragraph 3). It was further argued that the primary purpose of environmental instruments was the protection of the environment in time of peace and that the treaties did not specifically mention nuclear weapons.⁴⁹

In response to this debate, the ICJ interpreted the key-question as: not whether the treaties in question were applicable during armed conflict or not, but rather whether the obligations in these treaties were intended to be obligations of total restraint during military conflict?⁵⁰

The Court's conclusion to this was that the intention of these environmental treaties could not be to deprive the States of their right to self-defence however, lawful self-defence must always be taken in conformity with the principles of necessity and proportionality⁵¹, respect for the environment is one of the aspects that must be considered in such an assessment.⁵²

Further, the Court noted that the mentioned environmental treaties and principles embodied a general obligation to protect the natural environment against widespread, long-term and severe environmental damage, means and methods of war could be expected to cause such damage. This gives, that all States that had subscribed to these provisions had agreed to powerful constraints with respect for the environment. Thus, the ICJ concluded that existing international law, regarding the protection of the environment, did not specifically prohibit nuclear weapons. Nevertheless, it indicated important environmental factors that were properly to be considered in the context of the implementation of the principles and rules of the law applicable in armed conflict.⁵³

This conclusion seems to be quite uncontroversial.⁵⁴ It would indeed have been controversial if the Court had found that nuclear-weapon States had relinquished any possibility of their use

⁴⁹ Nuclear Weapons Advisory Opinion, para. 28.

⁵⁰ Nuclear Weapons Advisory Opinion, para. 30.

⁵¹ *The principals of **necessity** and **proportionality** are limits on all self-defence, individual and collective, this is affirmed by the ICJ several times for instance in the Nicaragua case. These requirements are not expressed in the UN Charter, but are part of customary international law. The ICJ typically applies these two requirements separately. **Necessity** is usually interpreted as the requirement that no alternative response to an armed attack. **Proportionality** relates to the size, duration and target of the response. It is however not clear how far the two concepts can operate separately. See, Gray, 2018, p. 158-159.*

⁵² Nuclear Weapons Advisory Opinion, para. 30.

⁵³ Nuclear Weapons Advisory Opinion, para. 31 & 33.

⁵⁴ Compare, Greenwood, 1997, p. 69; McNeill, 1997, note 18-19 and Mohr, 1997, note 10.

of nuclear weapons by becoming Parties to more general environmental agreements.⁵⁵ Even so, the danger of widespread and long-lasting damage to the environment due to nuclear weapons is still a key argument in favour of outlawing nuclear weapons.⁵⁶

2.5. The Applicable Law II – Keys of Interpretation

2.5.1. The Principal Question

At this point of the Advisory Opinion the Court made an important conclusion. The ICJ concluded that the most relevant parts of international law for the question asked were: the Charter of the UN, the law applicable in armed conflicts together with any specific treaties on nuclear weapons that the Court may find to be relevant.⁵⁷ This can be regarded as the Court's final step in its analysis of possible relevant sources of international law.⁵⁸

The Court's conclusion is further important on several other levels. Firstly, this reaffirmed that the use of nuclear weapons is subject to international humanitarian law. Secondly, the Court's investigation of the impact of the UN Charter clarifies that modern *jus ad bellum*⁵⁹ is not purely concerned with whether the initial resort to force is lawful, it can also have legal consequences for the subsequent conduct of hostilities. Lastly, this confirms that the Court held that the detailed *lex specialis*, which has been developed over the years to govern the conduct of hostilities, could be circumvented by addressing general provisions of environmental or human rights law. However, these more general provisions can still have a bearing on the detailed provisions governing armed conflicts specifically.⁶⁰ This last conclusion can for instance be understood by analysing para. 34 together with para. 27-33 of the Advisory Opinion, here the ICJ clearly states that the question regarding the lawfulness of nuclear weapons shall be determined by the treaties and provisions that are *lex specialis*, for instance the relevant Articles of the UN Charter. Nevertheless, the general provisions of international environmental law can have an impact on these specific rules (see for example section 2.4.2. regarding environmental treaties influence on lawful self-defence).

⁵⁵ Greenwood, 1997, p. 69.

⁵⁶ Mohr, 1997, note 10.

⁵⁷ Compare, Nuclear Weapons Advisory Opinion, para. 34.

⁵⁸ McNeill, 1997, note 19.

⁵⁹ *Jus ad bellum* are parts of international law that governs the resort to force. See, Shaw, 2017, p. 891.

⁶⁰ Greenwood, 1997, p. 69–70.

2.5.2. The Unique Characteristics of Nuclear Weapons

Before entering into the examination of *jus ad bellum*, *jus in bello* and IHL, the Court highlighted the unique characteristics of nuclear weapons, it noted that a nuclear blast causes immense quantities of heat and energy which are more powerful than that of any other weapon. Further, with nuclear weapons comes the capacity to release powerful and prolonged radiation an aspect that specifically separates nuclear weapons from other kinds of weaponry. These weapons destructive powers can therefore not be contained in space or time and holds the potential of destroying all civilization and the entire ecosystem of the planet! Consequently, the Court found that it had to bear these unique characteristics in mind in order to correctly apply the relevant applicable law in particular when examining IHL.⁶¹

What is highly significant about this conclusion is that the Court seems to extend these unique characteristics to all types of nuclear weapons and use thereof, by doing so, the Court distances itself from academical theories regarding certain types of use of nuclear weapons such as tactical nuclear weapons detonated in remote areas.⁶² That sort of reasoning is however developed by Vice-President Schwebel in his Dissenting Opinion which will be further developed upon later in the essay (see, section 2.10.1.).⁶³

2.6. The UN Charter

In the Court's examination of what it before had deemed to be the most relevant parts of international law for answering the question at hand the Court started with examining the UN Charter. The ICJ noted that the Charter's most central Articles in this case were, Articles: 2(4), 42 and 51.⁶⁴

Article 2(4) prescribes that all members shall refrain from the threat or use of force against the territorial integrity or political independence of any State, or in any other manner inconsistent with the purposes of the UN.⁶⁵ This Article is widely recognized as the prohibition on unlawful aggression, States and commentators generally agree that this prohibition is not only

⁶¹ See, Nuclear Weapons Advisory Opinion, para. 35.

⁶² Mohr, 1997, note 11–12.

⁶³ Nuclear Weapons Advisory Opinion, p. 98–100.

⁶⁴ Nuclear Weapons Advisory Opinion, para. 37–38.

⁶⁵ Charter of the United Nations, Art. 2(4).

a treaty obligation but also customary law as well as *jus cogens*^{66, 67}. This Article should further be read in the light of the other relevant provisions of the Charter namely: Articles 42 and 51.⁶⁸ These two Articles can be seen as the two exceptions to the main rule that is Article 2(4).⁶⁹ Article 42 prescribes that the Security Council may take military enforcement measures in conformity with Chapter VII of the Charter. Art. 51 recognizes the inherent right of individual or collective self-defence if an armed attack occurs.⁷⁰ It can be up for debate if these Articles can be viewed as a comprehensive code or not given the lack of any express correlation between the terms used in for instance Article 2(4) (“use of force”) and Article 51 (“armed attack”).⁷¹ However, such a discussion would be superfluous for this essay.

The Court concluded that these provisions did not refer to specific weapons and did thereby neither permit nor prohibit the use of any specific weapon including nuclear weapons. However, a weapon that is already unlawful per se, for instance due to a treaty, does not become lawful merely for the fact that it is being used for a legitimate purpose under the Charter.⁷²

The ICJ further reaffirmed that all lawful exercise of the right to self-defence are bound by the principles of proportionality and necessity⁷³ which derives from customary law. This gives that the Court could not exclude the possibility that nuclear weapons could be used in a lawful manner in accordance with these principles. However, the Court noted that lawful self-defence must also meet the requirements of the law applicable in armed conflicts which comprise in particular the principles and rules of humanitarian law.⁷⁴

This is noteworthy, because this was the first time the key principle that IHL must be equally respected by all Parties to a conflict was confirmed by the Court. Whether the conflict was based on legitimate reasons or not does not matter, IHL must still be respected by all Parties

⁶⁶ A *jus cogens* rule is normally defined by referring to the Convention on the Law of Treaties, adopted at Vienna 1969. Article 53 of the Convention prescribes the following: “a peremptory norm of general international law is a norm accepted and recognized by the international community of States as a whole as a norm from which no derogation is permitted and which can be modified only by a subsequent norm of general international law having the same character.”. The term “peremptory norm” shall be understood as *jus cogens*. See, Convention on the Law of Treaties, Art. 53 and compare Linderfalk, 2012, p. 35.

⁶⁷ McNeill, 1997, note 20 and Gray, 2018, p. 32.

⁶⁸ Nuclear Weapons Advisory Opinion, para. 38.

⁶⁹ Linderfalk, 2012, p. 202–203.

⁷⁰ Nuclear Weapons Advisory Opinion, para. 38 and Charter of the United Nations, Art. 42 & 51.

⁷¹ Gray, 2018, p. 9.

⁷² Nuclear Weapons Advisory Opinion, para. 39.

⁷³ See, section 2.4.2. The Safeguarding and Protection of the Environment.

⁷⁴ Nuclear Weapons Advisory Opinion, para. 40–42 and compare The Advisory Opinion of the ICJ in, Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory, para. 154–158.

to the conflict. It can however be argued that this conclusion is somewhat contradicted by the Court's concluding remarks in the Advisory Opinion.⁷⁵ The alleged contradiction in question will be further developed later in the essay (see, section 2.10.1.).

Certain States suggested that the possession of nuclear weapons in itself would amount to an unlawful threat of use of force. The Court replied by stating that a State's possession of nuclear weapons could indeed justify the conclusion that the State is prepared to use them, this lies in the very nature of an effective deterrence policy, if the State does not make it credible that it may use its nuclear weapons the intended discouragement of possible military aggression towards the State in question would be futile. However, if this would constitute a threat contrary to Article 2(4) of the Charter would depend upon whether the particular use of force envisaged would be contrary to the prohibitions prescribed in the Article, for instance directed towards the political independence of a State. If the threat stemming from the possession was intended as a means of defence, it would be unlawful if it necessarily violated the principles of necessity and proportionality.⁷⁶

The ICJ's conclusion here is interesting because it couples the threat of force with its use and points out that whenever the use of force is prohibited a threat to use the same force is also prohibited. Thus, if nuclear deterrence amounts to a threat to use force, nuclear deterrence could only be legal if the use of nuclear weapons as a means of self-defence was not prohibited.⁷⁷

This conclusion reached by the Court reaffirms its emphasis on the rules laid out in Article 2(4) and the principles of necessity and proportionality, these are the provisions that shall be used to examine whether the threat or use of force in any given situation shall be seen as lawful or not. Therefore, the conclusion can be reached that, when applying *jus ad bellum* to the threat or use of force, this shall be done on a case-to-case basis where the different circumstances of the situation must be interpreted in the light of the relevant provisions. Thus, questions of a more general form (like the one asked to the Court in the present case) is not likely to be answered with a simple yes or no answer given the several different circumstances such a question raise.

⁷⁵ Compare, Condorelli, 1997, p. 16.

⁷⁶ Nuclear Weapons Advisory Opinion, para. 48.

⁷⁷ Compare, Condorelli, 1997, p. 15–16.

2.7. International Humanitarian Law

2.7.1. Introduction

The Court's examination of the question in the light of *jus in bello* can be divided into three steps. Firstly, an investigation concerning any possible specific rules of international law that prohibits or justifies the recourse to nuclear weapons per se. Secondly, how the question shall be regarded in the light of the principles and rules of international law. Finally, how the question shall be regarded in the light of neutrality law^{78, 79}

In para. 52 of the Advisory Opinion it is briefly stated that neither international customary law or treaty law contained any specific provisions that authorized the threat or use of nuclear weapons. However, the basis for legality in international law is not dependent upon specific authorization, State practice shows that the illegality of the use of certain weapons per se is the result of formulated terms of prohibition not the absence of authorization.⁸⁰

2.7.2. Specific Prohibitions of Nuclear Weapons in IHL

In its examination, the ICJ started with an examination of any possible existing conventional prohibitions regarding the recourse to nuclear weapons. The first argument to be analysed was whether nuclear should be treated in the same way as poisonous weapons? This would make nuclear weapons illegal for instance due to Article 23 of the Regulations respecting the laws and customs of war on land annexed to the Hague Convention IV of 1907, which explicitly forbids the deployment of poison or poisonous weapons.⁸¹ The precise meaning of poisonous weapons is not defined in the Hague Convention IV. Nevertheless, State practice has treated it as weapons whose prime or exclusive effect is to poison or asphyxiate, the practice is clear, and the Parties have not interpreted the instruments in question as referring to nuclear weapons.⁸²

⁷⁸ **Neutrality law** is one specific part of *jus in bello*, that is separated from the gathering of rules called IHL. Both IHL and **neutrality law** are subdivisions to *jus in bello*. See, Engdahl (in Linderfalk), 2012, p. 215.

⁷⁹ Nuclear Weapons Advisory Opinion, para. 51.

⁸⁰ See, Nuclear Weapons Advisory Opinion, para. 52.

⁸¹ Nuclear Weapons Advisory Opinion, para. 53–54 and Convention (IV) respecting the Laws and Customs of War on Land and its annex: Regulations concerning the Laws and Customs of War on Land. The Hague, 18 October 1907, Art. 23.

⁸² Nuclear Weapons Advisory Opinion, para. 55.

The Court therefore found that nuclear weapons are not prohibited based upon these instruments. Further, the ICJ noted that the current pattern has been for weapons of mass destruction to be labelled illegal by specific instruments, for instance, the Convention of 10 April 1972 on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction. In its investigation, the Court had not found any specific prohibition of recourse to nuclear weapons in treaties that expressly prohibits the use of certain weapons of mass destruction.⁸³

Even if there were no existing treaty that prohibited the use of nuclear weapons there were several treaties that had been concluded to limit such things as the possession, deployment and testing of nuclear weapons. The recourse to nuclear weapons was further addressed directly in three treaties, for instance the Treaty on the Non-Proliferation of Nuclear Weapons of 1968 (the NPT).⁸⁴

In 1996 (and still today) the NPT had five of the nuclear weapons States as Parties to the treaty (the United States, Russia, the United Kingdom, France and China). However, today there are four more countries that are known, or in one case universally believed (Israel), to have possession of nuclear weapons: India, Pakistan, North Korea and Israel.⁸⁵ Further, North Korea is the only State to have withdrawn from the NPT (January 2003).⁸⁶

Except from the treaty itself two central assurances were given by the five nuclear weapons States in 1995 by means of separate unilateral statements, firstly: all the five nuclear weapons States undertook not to use nuclear weapons against a non-nuclear State that is Party to the treaty. However, all the five States (except China), made reservations, for instance in case of an invasion or any other attack towards them, their armed forces or allies. Secondly, each nuclear weapons State undertook, as permanent members of the Security Council, in the event of a nuclear weapons attack or threat of such attack, against a non-nuclear weapon State to refer the matter to the Security Council.⁸⁷

In its concluding remarks on the question concerning specific prohibitions of nuclear weapons in IHL the Court pointed out that the treaties that exclusively deals with for instance,

⁸³ Nuclear Weapons Advisory Opinion, para. 56–57.

⁸⁴ Nuclear Weapons Advisory Opinion, para. 58–59 & Treaty on the Non-Proliferation of Nuclear Weapons, 1968.

⁸⁵ Arms Control Association [<https://www.armscontrol.org/factsheets/Nuclearweaponswhohaswhat>] 2019-03-28.

⁸⁶ Shaw, 2017, p. 910 & Gray, 2018, p. 258.

⁸⁷ Nuclear Weapons Advisory Opinion, para. 59 (c)

possession, deployment and testing of nuclear weapons, certainly points to an increasing concern in the international community regarding nuclear weapons. The Court reflected that these treaties could be seen as foreshadowing a possible future prohibition of nuclear weapons, but they did not constitute such a prohibition by themselves.⁸⁸

It is important to highlight the Court's conclusion that there was a trend in international law that could be seen as a foreshadowing of a possible future ban of nuclear weapons, a trend that was marked by a series of intermediate steps, for instance the NPT. The objective for this trend was entailed by Art. VI of the NPT, which calls for complete nuclear disarmament⁸⁹. This objective the ICJ reaffirmed in its concluding remarks of the Advisory Opinion as not a mere obligation of conduct, but an obligation to achieve a precise result.⁹⁰

2.7.3. Customary International Law

The substance of customary international law steams primarily from the actual practice and *opinio juris*⁹¹ of States.⁹²

In this examination, the Court did not pronounce on the practice known as: the policy of deterrence. Even if this policy was adhered by several States during the greater part of the Cold war and still in 1996 continue to adhere to it, the members of the international community were profoundly divided on the matter of whether this practice constituted the expression of an *opinio juris*. Therefore, the ICJ did not consider itself able to detect that an *opinio juris* existed in the matter.⁹³

After this statement, the Court went on with examining an argument put forward by certain States, these States claimed that a series of General Assembly resolutions (for instance: Resolution 1653 (XVI) of 24 November 1961) affirmed the illegality of nuclear weapons and thus signifying a customary international rule which prohibited the recourse to nuclear weapons. The ICJ noted that even if resolutions from the General Assembly are not binding,

⁸⁸ Nuclear Weapons Advisory Opinion, para. 62.

⁸⁹ Treaty on the Non-Proliferation of Nuclear Weapons, Art. VI.

⁹⁰ Compare, Mohr, 1997, note 16–17 & Nuclear Weapons Advisory Opinion, para. 96–100.

⁹¹ According to the Statute of the ICJ, *opinio juris* is when a general practice is accepted as law. This separates customary law from mere custom. A custom is something that States can feel obliged to do, due to for instance political or practical reasons. Customary law is something that States believe they are obliged to do, due to international law. See, Statute of the ICJ, Art. 38, para. 1b & Linderfalk, 2012, p. 29.

⁹² Nuclear Weapons Advisory Opinion, para. 64.

⁹³ Nuclear Weapons Advisory Opinion, para. 67.

they can have normative value in certain circumstances and therefore may provide evidence for establishing the emergence of an *opinio juris*. When assessing if this is the case with a given resolution it is necessary to examine its content and the conditions of its adaptation. It is further important to establish whether an *opinio juris* exists as to its normative character. Also, a series of resolutions may show the gradual evolution of an *opinio juris*.⁹⁴

In Resolution 1653 (XVI) of 24 November 1961, it is for instance stated that: “*The use of nuclear and thermo-nuclear weapons is contrary to the spirit, letter and aims of the United Nations and, as such, a direct violation of the Charter of the United Nations*”.⁹⁵ A similar language was being used in the other General Assembly resolutions put before the Court.⁹⁶ However, the Court noted that several of these resolutions had been adopted with substantial numbers of negative votes and abstentions, thus, they failed to establish the existence of an *opinio juris* on the illegality of the recourse to nuclear weapons even if they proved a deep concern in the international community regarding these weapons.⁹⁷

The Court further noted that the continuing adaption of resolutions such as Resolution 1653 (XVI), which are adapted by a large majority of the General Assembly, revealed the desire of a very large section of the international community to make a specific prohibition of the use of nuclear weapons. The reason that this desire did not amount to *lex lata*, is due to the continuing tensions between the nascent *opinio juris* and the still stronger adherence to the practice of deterrence.⁹⁸

Noteworthy in this context is the Declaration of Judge Shi who reserved himself from this last conclusion by the ICJ. Judge Shi stated that the policy of deterrence is one of international politics not of law, the policy therefore has no bearing on the point of the formation of a customary international rule. To grant this policy such a position would not only confuse policy with law, it would also mean that the ICJ took a legal position on the policy of nuclear deterrence thus involving the Court in international politics which would hardly be compatible with the Court’s judicial functions.⁹⁹

Judge Shi also noted that the policy of deterrence was followed by certain nuclear-weapons States and those States who accepted the protection of the so-called nuclear umbrella. Despite

⁹⁴ Nuclear Weapons Advisory Opinion, para. 68–70.

⁹⁵ General Assembly Resolution 1653 (XVI) of 24 November 1961.

⁹⁶ Compare, Nuclear Weapons Advisory Opinion, para. 71.

⁹⁷ Nuclear Weapons Advisory Opinion, para. 71.

⁹⁸ Nuclear Weapons Advisory Opinion, para. 72.

⁹⁹ See, Nuclear Weapons Advisory Opinion, p. 277.

these States power and influence the ICJ, according to Judge Shi, could not regard them as an appreciable section of the international community only by reference to their material power. Judge Shi argued that the international community of States (in 1996) had a membership of over 185 States and was based upon the principle of sovereign equality. To put so much emphasis on the States that followed the policy of deterrence, which did not represent a large section of the total number of States, would be both contrary to the principle of sovereign equality and make it more difficult to give an accurate view of the existence of a customary rule on the matter.¹⁰⁰

2.7.4. The Principles and Rules of IHL

In this segment of its Advisory Opinion, the ICJ examined whether the recourse to nuclear weapons must be considered illegal in the light of the principles and rules of IHL applicable in armed conflicts.¹⁰¹

This part of IHL contains several customary rules which have been developed by the practice of States, the two most central branches of law in this aspect are the so-called, Geneva Law¹⁰² and Hague Law¹⁰³. These two branches have gradually become so intertwined that they are considered to form one single complex system known today as IHL, this is also expressed by the provisions prescribed in the Additional Protocols of 1977.¹⁰⁴ Beyond these parts of IHL some specific prohibitions of certain types of weapons have been issued, these prohibitions include for instance, the use of dum-dum bullets, asphyxiating gases and explosive projectiles under 400 grammes. When analysed together this demonstrates that the conduct of military operations is governed by a body of legal prescriptions. Therefore, the belligerents right to

¹⁰⁰ Nuclear Weapons Advisory Opinion, p. 277–278.

¹⁰¹ Nuclear Weapons Advisory Opinion, para. 74.

¹⁰² **The Geneva Law** is based upon the Geneva Conventions of 1864, 1906, 1929 and 1949. These conventions seek to protect the victims of war and aims to provide safeguards for disabled armed forces, personnel and persons which do not take part in the armed conflicts. See, Nuclear Weapons Advisory Opinion, para. 75 and Crawford & Pert, 2015, p. 13–15.

¹⁰³ **The Hague Law** includes the Conventions of 1899 and 1907 and were partly based upon the St. Petersburg Declaration of 1868, as well as the results of the Brussels Conference of 1874. These instruments fixed the rights and duties of belligerents, addressing their ways of conduct and limited their choice of methods and means of injuring the enemy. See, Nuclear Weapons Advisory Opinion, para. 75; Crawford & Pert, 2015, p. 10–13 and Convention (IV) respecting the Laws and Customs of War on Land, The Hague, 1907.

¹⁰⁴ Nuclear Weapons Advisory Opinion, para. 75 & Protocol I-II Additional to the Geneva Conventions of 12 August 1949.

adopt means of injuring the enemy is not unlimited, as prescribed in Article 22 of the 1907 Hague Regulations relating to the laws and customs of war on land.¹⁰⁵

In IHL there are two cardinal principles and one central clause that covers situations for which there are no explicit regulations in treaties or other international agreements.¹⁰⁶ The first cardinal principle protects civilians and civilian objects, it prescribes that belligerents must never make civilians the object of attack and must thus never use weapons that are incapable of distinguishing between civilian and military targets. The second cardinal principle proscribes the causing of unnecessary suffering to combatants and likewise it proscribes the use of arms that causes such harm or uselessly aggravates the combatants suffering.¹⁰⁷ The Court noted further, that if an envisaged use of weapons which do not meet these requirements set up by IHL a threat to use such weapons would equally be contrary to IHL.¹⁰⁸

The Clause is called the Martens clause and is found in its modern version in Article 1, paragraph 2 of Additional Protocol I. This clause prescribes that: in situations where no explicit rule is to be found in international agreements, civilians and combatants remain under the protection of the principles of international law and IHL.¹⁰⁹

These fundamental principles shall be obeyed by all States, regardless if they have ratified the conventions that withhold them or not; these rules are intransgressible principles of international customary law. This is for instance affirmed by the Nuremberg International Military Tribunal in 1945.¹¹⁰ The ICJ did however not see the need to investigate whether these principles should be treated as *jus cogens* this because the question addressed to the Court did not raise any questions of the character of IHL, which would apply to the use of nuclear weapons. For similar reasons, the Court did not enter into a more elaborate discussion concerning Additional Protocol I and its applicability for the use of nuclear weapons.¹¹¹

In its conclusion on this question, the Court stated that IHL was applicable to the threat or use of nuclear weapons for instance due to the Martens clause. Before the Courts conclusion's

¹⁰⁵ Nuclear Weapons Advisory Opinion, para. 75–77 and Convention (IV) respecting the Laws and Customs of War on Land, The Hague, 1907, Art. 22.

¹⁰⁶ Nuclear Weapons Advisory Opinion, para. 78.

¹⁰⁷ Nuclear Weapons Advisory Opinion, para. 78 and Protocol I Additional to the Geneva Convention of 12 August 1949, Art. 35 & 48.

¹⁰⁸ Nuclear Weapons Advisory Opinion, para. 78.

¹⁰⁹ Nuclear Weapons Advisory Opinion, para. 78 and Protocol I Additional to the Geneva Convention of 12 August 1949, Art. 1, para. 2.

¹¹⁰ Nuclear Weapons Advisory Opinion, para. 79–80 and Trial of the Major War Criminals, 14 November 1945-1 October 1946, Nuremberg, 1947, Vol. 1, p. 254

¹¹¹ Nuclear Weapons Advisory Opinion, para. 83–84.

concerning IHL's legal consequences on the question of recourse to nuclear weapons (which would become the final conclusions of the Advisory Opinion as a whole), it dealt with the possible applicability of neutrality law.¹¹²

2.7.5. Neutrality Law

The principle of neutrality was raised by several States. However, the Court did not describe this principal exhaustively.¹¹³ In short, the principle of neutrality prescribes certain fundamental rights to States that chooses not to become a Party to a conflict, this includes for instance that: neutral States may not be attacked and that their territory is inviolable.¹¹⁴

Nevertheless, the ICJ confirmed that, similarly to the question of the principles of IHL, the principal of neutrality (whatever its content) was applicable to all international armed conflicts and the weapons being used in such conflicts.¹¹⁵

2.8. IHL – Conclusions

The ICJ had at this point of the Advisory Opinion concluded that the principles and rules of IHL, as well as the principles of neutrality, were indeed applicable in armed conflicts. Yet, the Court highlighted that the conclusions to be drawn from this reaffirmed applicability were controversial. Even though the principles of IHL were applicable to the recourse to nuclear weapons, that did not inevitably mean that these weapons were prohibited.¹¹⁶

The Court further noted that this question made different States reach different conclusions. Some States argued that the recourse to nuclear weapons would always be unlawful due to IHL and others argued that nuclear weapons could be considered legal if they were being used in a certain way, for instance the use of a low yield nuclear weapon against warships on the High Seas.¹¹⁷

¹¹² See, Nuclear Weapons Advisory Opinion, para. 85–88 & 90.

¹¹³ Compare, Nuclear Weapons Advisory Opinion, para. 88–89

¹¹⁴ Crawford & Pert, 2015, p. 46.

¹¹⁵ Nuclear Weapons Advisory Opinion, para. 89.

¹¹⁶ Nuclear Weapons Advisory Opinion, para. 90–91.

¹¹⁷ Nuclear Weapons Advisory Opinion, para. 91–92.

As for the argument that the use of nuclear weapons could be legal in certain circumstances, the Court stated that it did not have a sufficient basis for a determination on the validity of such a view. The Court however noted that the States advocating this alleged legality did not pinpoint the exact circumstances justifying such a use, nor did they consider the possibility that the use of low yield nuclear weapons on tactical positions could escalate into an all-out use of high yield nuclear weapons.¹¹⁸

Likewise, the Court could not conclude that all recourse to nuclear weapons would constitute a breach of IHL in every given scenario, even though the unique characteristics of nuclear weapons (as already discussed, see section 2.5.2.) made the use of them seem scarcely reconcilable with the cardinal principles of IHL. The ICJ stated that it did not find that it had sufficient elements to conclude with certainty that the recourse to nuclear weapons would necessarily breach the rules of law applicable in armed conflicts in any given circumstance.¹¹⁹

The ICJ emphasised further, the fundamental right of every State to survival and thereby its right to self-defence, in accordance with Article 51 of the UN Charter, when its survival is at stake.¹²⁰ The Court also highlighted the policy of deterrence, a policy which was followed for many years by several members of the international community. Another aspect that was addressed by the Court were the declarations made by certain nuclear-weapon States in connection with the extension of the NPT.¹²¹

For the reasons stated above, the ICJ did not find that it could reach a definitive conclusion as to the legality or illegality of the recourse to nuclear weapons if the given situation would be an extreme circumstance of self-defence in which a State's very survival would be at stake.¹²²

2.8.1. Nuclear Disarmament

Before the ultimate voting decisions of the Court one additional question was addressed, the question of nuclear disarmament. The ICJ noted that the question put before it gave rise to eminently difficult issues. Different State's conflicting views on these issues of international

¹¹⁸ See, Nuclear Weapons Advisory Opinion, para. 94.

¹¹⁹ Nuclear Weapons Advisory Opinion, para. 95.

¹²⁰ Nuclear Weapons Advisory Opinion, para. 96 and Charter of the United Nations, Art. 51.

¹²¹ Nuclear Weapons Advisory Opinion, para. 96.

¹²² Nuclear Weapons Advisory Opinion, para. 97.

law was by the Court seen as an element of risk towards the stability of international order which international law is meant to govern. Thus, these differences must be put to an end, the best method to reach this aim seemed for the Court to be the long-promised complete nuclear disarmament.¹²³

The Court put special emphasis on Article VI of the NPT, which obliged the Parties to the treaty (in 1996 there were 182 Parties to the NPT) to negotiate in good faith a nuclear disarmament. In the Court's view, this objective was of vital importance for the whole of the international community.¹²⁴

2.9. The Legal Grounds and Voting Decisions

In the last paragraph before the voting decisions the Court emphasized that its answer to the question put before it by the General Assembly rested upon the totality of the legal grounds put forward by the Court in paragraphs 20–103 of the Advisory Opinion. These legal grounds should be read in the light of the others. Further, even if some of the legal grounds did not play a part in the formation of the final conclusions of the Advisory Opinion, they remain their importance in the Court's view.¹²⁵

The voting decisions by the ICJ were as follows:

A: *Unanimously*, there is no specific authorization of the threat or use of nuclear weapons, neither in customary nor conventional international law.

B: *By eleven votes to three*, there is no comprehensive and universal prohibition of the threat or use of nuclear weapons as such, neither in customary nor conventional international law.

C: *Unanimously*, a threat or use of force by means of nuclear weapons that is contrary to Article 2, paragraph 4, of the UN Charter and that fails to meet all the requirements of Article 51, is unlawful.

D: *Unanimously*, a threat or use of nuclear weapons must also be compatible with the requirements of the international law applicable in armed conflicts, particularly those of the

¹²³ Nuclear Weapons Advisory Opinion, para. 98.

¹²⁴ See, Nuclear Weapons Advisory Opinion, para. 99–100 & 103 and Treaty on the Non-Proliferation of Nuclear Weapons, Art. VI.

¹²⁵ Nuclear Weapons Advisory Opinion, para. 104.

rules and principles of IHL, as well as the specific obligations under treaties and other undertakings which expressly deals with nuclear weapons.

E: *By seven votes to seven (by the President's casting vote)*, from the above-mentioned requirements follows that the threat or use of nuclear weapons would generally be contrary to the international law applicable in armed conflicts and in particular IHL.¹²⁶

“However, in view of the current state of international law, and of the elements of fact at its disposal, the Court cannot conclude definitively whether the threat or use of nuclear weapons would be lawful or unlawful in an extreme circumstance of self-defence, in which the very survival of a State would be at stake”.¹²⁷

F: *Unanimously*, an obligation exists to pursue in good faith negotiations leading to nuclear disarmament, under strict and effective international control.¹²⁸

2.10. Advisory Opinion – Conclusions

2.10.1. Advisory Opinion – Conclusions – Decisions A-D and F

The ICJ's six voting decisions, and thus the Court's final conclusions on the matter hand, contained four unanimous decisions which can all be regarded as uncontroversial and clear conclusions. Voting decisions, A and F were both connected to treaties and international instruments. That there existed no specific authorisation for the recourse to nuclear weapons in neither customary nor conventional international law was concluded by examining these sources of international law without finding such an authorization. This was the conclusion reached and affirmed by decision A. Voting decision F, was based upon a direct reference to Article VI in the NPT which explicitly prescribed the obligation to pursue negotiations in good faith leading to nuclear disarmament.

Voting decisions, C and D were both based on interpretations of international law. The conclusion in decision C was drawn from the rules concerning *jus ad bellum* in the UN Charter, here the Court affirmed that the main rule of the prohibition of the use of force, contained in Article 2, paragraph 4 of the UN Charter (and its exceptions, for instance Article 51 of the UN Charter) also applied to the recourse to nuclear weapons. Further, decision D

¹²⁶ Nuclear Weapons Advisory Opinion, para. 105 (2A–E).

¹²⁷ Nuclear Weapons Advisory Opinion, para. 105 (2E).

¹²⁸ Nuclear Weapons Advisory Opinion, para. 105 (2F).

was based upon the rules of *jus in bello* particularly the ones contained in IHL, the ICJ here reaffirmed that the rules of *jus in bello* must be applied to all types of weaponry including nuclear weapons.

Of the six voting decisions, two were not made by a unanimous vote: decisions B and E. Decision B was made by eleven votes to three and concluded that there was no comprehensive prohibition against the recourse to nuclear weapons in international law.

One of the Judges that opposed this conclusion was Judge Shahabuddeen.¹²⁹ In his dissenting opinion, Judge Shahabuddeen remarked that the wording of there being no comprehensive and universal prohibition against the recourse to nuclear weapons “as such” in decision B, did not exclude the possibility that there still existed some sort of prohibition. Thus, it did not answer the question whether the recourse to nuclear weapons was legal or not, to answer this question more general principles must be consulted. Judge Shahabuddeen stated further, that the test of prohibition did not suffice to determine whether there existed a right to do an act with the magnitude of global implications, which the recourse to nuclear weapons would involve.¹³⁰

2.10.2. Advisory Opinion - Conclusions – Decision E

However, the most central and controversial of the six decisions was decision E, which was made by seven votes to seven, by the President’s casting vote.¹³¹ By this decision the ICJ concluded that the legality of the recourse to nuclear weapons could not be definitely out ruled if the situation concerned an extreme circumstance of self-defence where the very survival of a State would be at risk.¹³² In other words, the Court could not reach a definite conclusion regarding the recourse to nuclear weapons in extremis.

By this decision the ICJ affirmed the applicability of the principles of IHL. The Court did however feel unable to determine whether the principles of IHL and the principles of neutrality law prohibited the recourse to nuclear weapons. This rather weak conclusion can yet be seen in the light of the then continuing efforts to ban all nuclear weapons testing. Add

¹²⁹ Nuclear Weapons Advisory Opinion, para. 105 (2B).

¹³⁰ See, Nuclear Weapons Advisory Opinion, p. 377.

¹³¹ See, Mohr, 1997, note 24; Greenwood, 1997, p. 72–74; Condorelli, 1997, p. 9–10 and Nuclear Weapons Advisory Opinion, para. 105 (2E).

¹³² Nuclear Weapons Advisory Opinion, para. 105 (2E).

to this the commitment given in 1995 by the five declared nuclear weapons States not to use nuclear weapons against non-nuclear weapons States that were Parties to the NPT.¹³³ Today, this context of basis for the ICJ's conclusion can be criticized given that it does no longer exist in the same sense as it did in 1996. As described in section 2.7.2. of this essay, North Korea has developed nuclear weapons and withdrawn from the NPT.

If we accept that decision E of the Advisory Opinion was partly based upon a reality where the international trend suggested a future where the efforts to ban nuclear weapons would continue and grow stronger, it can be concluded that this evolution has stagnated. Therefore, the premises that existed in 1996 do not exist today. How (or if) this would affect a hypothetical Advisory Opinion from the ICJ on the same question as in 1996 today, can be discussed but would ultimately be a hypothetical discussion that goes beyond the purpose of this essay.

Nonetheless, it does seem quite clear that the possession of nuclear weapons and their use in extremis, under strict accordance with the criteria governing the right to self-defence, are not prohibited under international law.¹³⁴ However, even this conclusion regarding decision E requires a more thorough analysis.

The ICJ stated that the recourse to nuclear weapons was scarcely reconcilable with the principles of IHL and neutrality law. Further, the Court concluded that the recourse to such weapons would generally be contrary to these rules. Given the small amount of discussion concerning how this conclusion was reached based upon the relevant principles it is not clear how the Court arrived at this conclusion.¹³⁵

However, when the Advisory Opinion is read as a whole the only conclusion basis which can be reconciled with the Court's earlier reasoning is that it had found that the recourse to nuclear weapons would not necessarily be contrary to international law in all cases. To reach a more definitive conclusion, for instance that the recourse to nuclear weapons would always be contrary to international law, would have required an investigation of all circumstances of the recourse to nuclear weapons and its consequences, thereby asserting that there existed no circumstance in which nuclear weapons could be used without breaching the principles of

¹³³ Shaw, 2017, p. 910.

¹³⁴ Shaw, 2017, p. 910.

¹³⁵ Greenwood, 1997, p. 72–73.

IHL or neutrality law, for instance the causing of unnecessary suffering or disproportionate damage to neutral States.¹³⁶

It can be discussed to what extent such an analysis was being employed (or if it was employed at all). Professor Greenwood, for instance, suggests that no such analysis was made by the ICJ given that the reasoning gives no such hint.¹³⁷ However, Professor Greenwood himself notes that it is clear, based upon the voting and the separate and dissenting opinions of the Court, that there were considerable divergence concerning decision E within the Court.¹³⁸ If we look at the dissenting opinion of Vice-President Schwebel for instance, there is a discussion where the scope of different sorts of use of nuclear weapons are being analysed. The two extremes in this analysis are large-scale exchanges of nuclear weapons at one end, and the use of tactical low-yield nuclear weapons (used for instance under water or in deserts) on the other end. Vice-President Schwebel quickly concludes that the former situation cannot ever be reconciled with the principles of IHL. As for the scenario of the use of tactical nuclear weapons in certain situations it is however more difficult to reach a definitive answer.¹³⁹ This discussion suggests that such an analysis that Professor Greenwood called for was at least partly being employed by the ICJ. To analyse every possible situation with every possible fact that could play a part in the hypothetical scenarios is of course impossible. However, in this authors view, the conclusion that the ICJ reached with decision E seems to be based upon a general analysis of the different possible scenarios and consequences that different types of nuclear weapons could cause.

For the reasons stated above, I therefore agree with the conclusion regarding decision E proclaimed by Emily Crawford and Alison Pert, that despite the potential that nuclear weapons hold to violate the principles of IHL there still exists a possibility that certain tactical nuclear weapons may be used in a manner that does not violate these principles, thus, their use would not violate IHL.¹⁴⁰

A further basis for this conclusion can be found in paragraph 94 of the Advisory Opinion, here the Court noted that the advocates for the opinion that a limited recourse to nuclear weapons could be legal in certain circumstances did not pinpoint which exact circumstance that could justify such a use. Nor did the States advocating this view make any indications

¹³⁶ Greenwood, 1997, p. 73.

¹³⁷ Compare, Greenwood, 1997, p. 73–74.

¹³⁸ Compare, Greenwood, 1997, p. 73.

¹³⁹ Compare, Nuclear Weapons Advisory Opinion, p. 98–100.

¹⁴⁰ Compare, Crawford & Pert, 2015, p. 226.

whether the limited use of nuclear weapons risked to escalate into an all-out use of high yield nuclear weapons.¹⁴¹ As for the possible circumstance that could justify such use, the Court itself answered that question with decision E: an extreme circumstance of self-defence in which the very survival of a State would be at stake.¹⁴²

Thereby, the Court answered the question of when the use of nuclear weapons could be compatible with the legal right to self-defence. Legal self-defence, as stated earlier in the essay, is always bound by the principles of proportionality and necessity. My conclusion of this is that the ICJ has concluded that the use of nuclear weapons can only be compatible with the principles of proportionality and necessity if the very survival of the defending State is at risk.

Further, I draw the conclusion that decision E should not be interpreted as the ICJ granting States a *carte blanche* in extreme situations of self-defence. In my view the Court stated that it could not be out ruled that the use of tactical nuclear weapons in extreme circumstances of self-defence would not necessarily breach the principles of international law. If this conclusion is correct, decision E would be in line with the Court's earlier reasoning. The principles of IHL and neutrality law must still not be breached, but under extreme circumstances it can be possible to use tactical nuclear weapons in such a manner that the use does not violate these principles, for instance the causing of unnecessary suffering.

Thus, an evaluation of the possible legal use of nuclear weapons can be divided into two steps. Firstly, there must be a legal reason to use such weapons, and thereby make the recourse reconcilable with the rules of *jus ad bellum*. Secondly, the recourse must be compatible with the principles of *jus in bello*. If this would be the case, the ICJ suggested that the recourse to nuclear weapons could possibly be in line with international law and thereby be legal.

2.11. Advisory Opinion – Concluding Remarks

The Advisory Opinion of the ICJ in: *Legality of the threat or use of nuclear weapons*, has indeed been criticised for its ambiguity and by some even for its alleged flaws and

¹⁴¹ See, Nuclear Weapons Advisory Opinion, para. 94.

¹⁴² Compare, Nuclear Weapons Advisory Opinion, para. 105 (2E).

contradictions.¹⁴³ Nevertheless, the ICJ by this Advisory Opinion took a stand on one of the most vital legal and political questions of our time. Even though Advisory Opinions of the ICJ are not legally binding as such they still carry very high authority.¹⁴⁴

With the analysis of the ICJ's Advisory Opinion in mind some aspects of international law have stood out as more central than others to answer the question of this essay: *How shall the possession of nuclear weapons that lacks modern security features be treated under international law?* These aspects have to do with either international environmental law, *jus ad bellum* or *jus in bello*.

Firstly, international environmental law (for instance principle 21 of the Stockholm Declaration) affects the principles of proportionality and necessity, which must be complied with for a self-defence to be legal. Therefore, environmental factors play an important part in the assessment of whether a recourse to nuclear weapons as a means of self-defence shall be regarded as legal or not. Further, it seems that some principles stemming from the international environmental treaties by themselves and without any connection to the means of self-defence could have a legal impact on the question of the legality of nuclear weapons.

Secondly, the ICJ concluded that the possession of nuclear weapons could indeed be regarded as a representation that the State in question was prepared to use these weapons, this was a part of the very nature of the policy of deterrence. If this possession should be regarded as a threat contrary to Article 2 paragraph 4 of the UN Charter, however, depended upon whether the particular use of force envisaged would be contrary to the prohibitions prescribed in the Article, for instance directed towards the political independence of a State. Further, if this threat was intended as a means of self-defence it would be illegal if it necessarily breached the principles of necessity and proportionality.

The final relevant part of international law, concerning this essay's question, seems to be the rules and principles of IHL. These rules and principles have been reaffirmed by the ICJ as applicable and must be followed for the recourse to nuclear weapons to be legal. Thus, State's possibility to choose weaponry is limited by these principles. Given that there is no specific treaty that makes the possession of nuclear weapons that lacks modern security features illegal it is the principles and rules of this body of law that must be analysed in order to answer the question of these weapon's legality or illegality under international law.

¹⁴³ Compare, Greenwood, 1997, p. 73–75 and Mohr, 1997, note 27.

¹⁴⁴ Mohr, 1997, note 27.

However, before such an analysis can be made two things must be clarified. Firstly, the effects and functions of nuclear weapons must be described. Secondly, what precisely is meant by modern security features, as regards for nuclear weapons, must be clarified.

3. Nuclear Weapons and Modern Security Features

3.1. Nuclear Weapons – Introduction

During the Cold War¹⁴⁵ the spectre of nuclear war and the devastation caused by nuclear warfare was a shared experience by the public.¹⁴⁶ During this era the world's superpowers (the United States and the Soviet Union) turned towards reshaping their state machinery for the conduct of a new global power struggle, this resulted in a state-search for security with huge nuclear arsenals as a direct consequence. Thus, the national-security policies of these two States had by the 1960s put at risk the lives of the entire human species.¹⁴⁷

Representations of this risk for an impending nuclear holocaust are to be found in the popular culture of the time.¹⁴⁸ Add to this, that the images of the devastation caused by the only wartime use of nuclear weapons in Japan in 1945 were well-known.¹⁴⁹

Today, this threat of the use of nuclear weapons remains a potent concern with currently nine States which possess nuclear capabilities.¹⁵⁰

With this in mind and in order to understand the legal situation regarding nuclear weapons (both those with and without modern security features) it is helpful to know some basic information concerning the destructive effects of these weapons.¹⁵¹

3.2. Nuclear Weapons – Functions, Effects and Types

A nuclear weapon is an explosive device whose destructive force derives from either nuclear fission chain reactions or combined nuclear fission and fusion reactions. Those nuclear weapons whose explosive force derives exclusively from fission reactions are commonly

¹⁴⁵ *The Cold War* was the open yet restricted rivalry between the United States and the Soviet Union and their respective allies, that developed after World War II. This situation endured until the collapse of the Soviet Union in 1991. See, Encyclopedia Britannica [<https://academic-eb-com.ludwig.lub.lu.se/levels/collegiate/article/Cold-War/24721>] 2019-05-02.

¹⁴⁶ Crawford & Pert, 2015, p. 223.

¹⁴⁷ Ishay, 2008, p. 228.

¹⁴⁸ Crawford & Pert, 2015, p. 223 and Ishay, 2008, p. 228.

¹⁴⁹ Crawford & Pert, 2015, p. 223.

¹⁵⁰ Crawford & Pert, 2015, p. 223.

¹⁵¹ Compare, Crawford & Pert, 2015, p. 224.

referred to as atomic bombs. The ones whose energy is much or mostly a result of nuclear fusion reactions are called thermonuclear weapons or hydrogen bombs.¹⁵²

In fission weapons (atomic bombs) a mass of fissile material (enriched uranium or plutonium) is tuned into a supercritical mass, which is the amount of material needed for starting a nuclear chain reaction. This is done either by shooting one piece of subcritical material into another, or by using chemical explosives to compress a subcritical sphere of material into many times its original density. A fission weapon can produce explosive yields ranging from around one ton of TNT¹⁵³ to 500 000 tons (500 kilotons) of TNT.¹⁵⁴

The process that is used for thermonuclear weapons is heat generated by a fission bomb which compresses and ignites a nuclear fusion stage. Thermonuclear weapons typically have a much higher explosive yield than atomic bombs have in the range of megatons rather than kilotons.¹⁵⁵

The process used to create energy in nuclear weapons (the time period from the first neutron until the end of the chain reaction) does not take longer than a microsecond (a millionth of a second) and creates a very large and extremely rapid energy release. The events following this are mainly the consequences of the interaction of the moving energy of the fission fragments and the thermal radiation with the surrounding medium of the explosion, these effects can be referred to as direct effects.¹⁵⁶ Further, the direct effects can be divided into four categories: blast/shock, electromagnetic pulse, thermal radiation and nuclear radiation.¹⁵⁷ Of these, the blast, the heat and the electromagnetic pulse may be considered as prompt effects. Nuclear radiation, however, is more generic by nature and manifests itself both promptly and in the long-term.¹⁵⁸

The blast or shock caused by a nuclear explosion is felt as a high-pressure wave that moves out at supersonic speed from the epicentre of the explosion (known as Ground Zero). These blast waves cause significant injuries and damage resulting from a combination of the high

¹⁵² Nystuen & Casey-Maslen (in Nystuen, Casey-Maslen and Bersagel), 2014, p. 2.

¹⁵³ **TNT** (2,4,6-trinitrotoluene) has an explosive yield which is the standard measure of strength of bombs and explosive devices. As an example, the bomb used over Nagasaki (Fat Man) had a yield range of 20 000 tons of **TNT**. This bomb killed about 74 000 people. See, Nystuen & Casey-Maslen (in Nystuen, Casey-Maslen and Bersagel), 2014, p. 3 & 6.

¹⁵⁴ Nystuen & Casey-Maslen (in Nystuen, Casey-Maslen and Bersagel), 2014, p. 3.

¹⁵⁵ Nystuen & Casey-Maslen (in Nystuen, Casey-Maslen and Bersagel), 2014, p. 3.

¹⁵⁶ See, Koppe, 2008, p. 61 & 68.

¹⁵⁷ Crawford & Pert, 2015, p. 224.

¹⁵⁸ Koppe, 2008, p. 68.

pressure and long duration of the blast, consequently, most structures in proximity to the blast will be demolished or heavily damaged. The number of casualties will be high due to injuries caused by the impact of penetrating and/or non-penetrating missiles on the body or as a result of displacement of the body as a whole.¹⁵⁹

The consequence of the electromagnetic pulse is disruption to electronic devices, this is a result of the ionisation of the atmosphere that can occur when a nuclear explosion at high altitude causes electrons to be ejected from atoms in the air.¹⁶⁰

The nuclear radiation takes the form of neutrons and gamma rays, which can damage or destroy brain and muscle cells, bone marrow as well as the lining of the intestines. The precise level of damage which will be inflicted on the victims depends upon the level of exposure. High-level exposure (radiation emitted within one minute of a nuclear blast) results in death while low-level exposure may result in short-term nausea and vomiting. Residual exposure (all exposure after the first minute) can lead to birth defects, general life-shortening and cancer.¹⁶¹

As for the thermal effects of a nuclear weapon this includes the flash and the heat pulse. The flash is a result of the heat energy and visible light that travels from the centre of the explosion, if a person is looking in the direction of the explosion when it occurs this flash can cause permanent blindness. The heat pulse includes both the heat felt in the initial fireball of the explosion and the radiating heat that go with the shock front as it radiates outwards from Ground Zero.¹⁶² The actual damage that the heat pulse will inflict depends upon the circumstances of the situation for instance the distance between the victims and the explosion and the weather conditions (fog, for example, can largely reduce the intensity of the heat pulse).¹⁶³

3.3. The Use of Nuclear Weapons – Hiroshima and Nagasaki

Since the bombings of the two Japanese cities Hiroshima and Nagasaki during the Second World War States have refrained from nuclear weapon attacks. However, the risk was

¹⁵⁹ Crawford & Pert, 2015, p. 224.

¹⁶⁰ Crawford & Pert, 2015, p. 224.

¹⁶¹ Crawford & Pert, 2015, p. 224–225.

¹⁶² Crawford & Pert, 2015, p. 224.

¹⁶³ See, Koppe, 2008, p. 75.

imminent at least once during the Cold War when the strategic forces of the USA and the Soviet Union were put on maximum alert during the Cuban missile crisis.¹⁶⁴

The first nuclear weapon attack was carried out in 1945 against the city of Hiroshima. A bomb named “Little Boy”, with an explosive yield of 16 000 tons of TNT was dropped over the city and exploded at 580 meters above the ground. It is difficult to estimate the exact number of casualties given the chaotic conditions.¹⁶⁵ Some reports have indicated that between 60 000 to 80 000 people were killed instantly, and the final death toll to between 135 000 to 140 000 people.¹⁶⁶

The other nuclear weapon attack was directed towards the city of Nagasaki using a plutonium bomb named “Fat Man” with an explosive yield range of 20 000 tons of TNT. This bomb killed in total about 74 000 people and destroyed a third of the city. The reason that this bomb, even though it was more powerful, did not result in as high death tolls as the smaller bomb dropped over Hiroshima is that its destructive power was limited by the surrounding hills and mountains.¹⁶⁷

As stated before, these are the only two nuclear weapon attacks that have ever been performed. This can be explained by the policy of deterrence and the so-called balance of terror that existed from the end of the Second World War until the end of the Cold War. All States knew that a nuclear attack towards a State possessing nuclear weapons (or against its allies) would consequently be followed by a reprisal of which there would no means of defence, a prospect called mutual annihilation. Add to this, that the apocalyptic consequences of the bombings of Hiroshima and Nagasaki forced States to reflect on the consequences of a nuclear war.¹⁶⁸

¹⁶⁴ Bugnion, 2005, p. 511 & 523.

¹⁶⁵ Nystuen & Casey-Maslen (in Nystuen, Casey-Maslen and Bersagel), 2014, p. 5.

¹⁶⁶ Compare, Nystuen & Casey-Maslen (in Nystuen, Casey-Maslen and Bersagel), 2014, p. 5 and Encyclopedia Britannica [<https://academic-eb-com.ludwig.lub.lu.se/levels/collegiate/article/nuclear-weapon/110178>] 2019-05-03.

¹⁶⁷ Nystuen & Casey-Maslen (in Nystuen, Casey-Maslen and Bersagel), 2014, p. 6.

¹⁶⁸ See, Bugnion, 2005, p. 523–524.

3.4. Modern Nuclear Weapons versus Unmodern Nuclear Weapons

3.4.1. Modern Security Features – Permissive Action Links and Tamper Resistance

The difficulty to set off a nuclear weapon depends greatly on the specific weapon design of the weapon in question. Many of the U.S. nuclear weapons are for instance equipped with Permissive Action Links (PALs) and so-called “limited try features”.¹⁶⁹

In modern weapons older safe locks have been superseded by PALs, which are used to protect most U.S. nuclear devices.¹⁷⁰ Simplistically explained, PALs are electronic locks which makes it difficult to detonate the weapon without first inserting an authorized code.¹⁷¹ Thus, PALs purpose is to prevent unauthorized use of nuclear weapons. Unauthorized use covers a wide range of areas, from terrorists who have stolen a bomb, to single military officers with access to nuclear weapons.¹⁷² PAL development started in about 1961¹⁷³ with the object to exert greater negative control over nuclear weapons a need that primarily steamed from a pressing concern in the U.S. regarding foreign access to nuclear weapons.¹⁷⁴

Through history a few different types of PALs have been used. The earliest models consisted of a three-digit combination lock; a later version had a four-digit lock designed to accommodate split knowledge thus two different individuals could each have half the key. How exactly these electronic locks secure the nuclear bomb in question can differ from different designs, some block electrical circuits, some block the volume into which firing components must be inserted and others prevent access to the arming and fuzing mechanisms.¹⁷⁵

When the arming options became more and more complex as did the PAL-systems. The codes increased in length from 4 to 6 and finally today's 12 digits. Also, devices started to have multiple codes with different enable and authorize commands as well as the ability to change codes in the field.¹⁷⁶ By time, the different PAL-types got named. One example is CAT C, a PAL that accepts six-digit keys and have a limited-try feature that disables the bomb if too many incorrect keys are inserted. The most modern version that is publicly known is the CAT

¹⁶⁹ Bunn & Wier, 2005, p. 156–157.

¹⁷⁰ Anderson, 2008, p. 424.

¹⁷¹ Bunn & Wier, 2005, p. 157.

¹⁷² Columbia University [https://www.cs.columbia.edu/~smb/nsam-160/pal.html] 2019-05-03.

¹⁷³ Anderson, 2008, p. 424.

¹⁷⁴ Columbia University [https://www.cs.columbia.edu/~smb/nsam-160/pal.html] 2019-05-03.

¹⁷⁵ Columbia University [https://www.cs.columbia.edu/~smb/nsam-160/pal.html] 2019-05-04.

¹⁷⁶ Anderson, 2008, p. 424.

F version that for instance accepts a 12-digit key. It should however be noted that it is not publicly known how exactly PALs work in detail, given that a lot of the information regarding the subject is classified.¹⁷⁷

Whatever exact PAL-system that is being used there also exists tamper resistance mechanisms in order to deny a thief the possibility to obtain a nuclear yield from a stolen weapon. These tamper resistance mechanisms differ from one weapon type to another, but can for instance include such elements as gas bottles to deform the pit and hydride the plutonium in it.¹⁷⁸ Most nuclear weapons have some sort of tamper resistance that will make the weapon permanently inoperable if unauthorized activities are performed to tamper with or bypass the lock.¹⁷⁹ Therefore, to perform authorized maintenance of a nuclear weapon, the tamper protection must be disabled, which requires a separate unlock code from the one that is used in the PAL-system.¹⁸⁰

The combination of PALs and the tamper resistance makes the nuclear weapons that have these features extremely difficult to use without an authorized code.¹⁸¹ It is currently believed that even if someone gained possession of such a nuclear weapon, had the accurate drawings of the weapon and enjoyed the technical capability of one of the U.S. national laboratories, the person/persons would still be unable to cause a detonation without knowing the correct code.¹⁸² Thus, even if for instance a terrorist group managed to retrieve a nuclear weapon with modern security features, and had an insider to assist them in trying to detonate it they would still not be able to do so without the actual codes.¹⁸³

3.4.2. Nuclear Weapons that lacks Modern Security Features

Older versions of nuclear weapons do not have all these security features. Consequently, such a bomb would be much easier to detonate without the authorized code if, for instance, a terrorist group had managed to steal such a nuclear weapon with the intent to detonate it.¹⁸⁴

¹⁷⁷ Columbia University [<https://www.cs.columbia.edu/~smb/nsam-160/pal.html>] 2019-05-04.

¹⁷⁸ Anderson, 2008, p. 424–425.

¹⁷⁹ Compare, Anderson, 2008, p. 425 and Bunn & Wier, 2005, p. 157.

¹⁸⁰ Compare, Anderson, 2008, p. 424–425.

¹⁸¹ See, Bunn & Wier, 2005, p. 156–157 and Anderson, 2008, p. 424–425.

¹⁸² Compare, Anderson, 2008, p. 425.

¹⁸³ See, Bunn & Wier, 2005, p. 157.

¹⁸⁴ See, Bunn & Wier, 2005, p. 157.

There is little known about exactly how many nuclear weapons that lacks these modern security features that exists today. However, the available information suggests that earlier Soviet-designed nuclear weapons (especially tactical ones) did not have modern safeguards such as PALs. Though, given that thousands of nuclear weapons, particularly older versions, have been dismantled by both the U.S. and Russia during the recent years it is likely that most of the nuclear weapons that lacks modern security features have been destroyed. Nevertheless, neither the U.S. nor Russia have made any official commitment to destroy all these weapons. Further, nuclear States such as India, Pakistan and China are not believed to use modern equivalents of PALs in their nuclear weapons. However, many of these weapons are probably kept in partly disassembled form.¹⁸⁵

3.5. Nuclear Weapons – Conclusions

Firstly, the well-known fact that nuclear weapons possess massive destructive powers (see for instance, section 2.5.2.), can be reaffirmed. This was indeed one of the factual conditions that the ICJ reflected upon concerning the question of nuclear weapons in its Advisory Opinion of 1996. However, the analysis of different types of nuclear weapons in the Advisory Opinion consisted only of reflections concerning the difference in explosive powers (high-yield contra low-yield nuclear weapons), an analysis regarding nuclear weapons with and without modern security features was not carried out.

It should here be noted that the lack or inclusion of modern security features does not have anything to do with the weapon's explosive powers. PALs and tamper resistance can be attached to a high-yield nuclear weapon as well as to a low-yield nuclear weapon. The difference is instead to be found in the security of the weapon. As demonstrated in section 3.4.1., a nuclear weapon with modern security features would be more or less impossible to either take apart and thereby gain access to an operative nuclear yield or cause to explode without an authorizing code. To be able to do accomplish one of these two things with a nuclear weapon that lacks both PALs and tamper resistance, would be much easier and certainly not an impossibility.

It can thereby be concluded that it is the security-level of the weapon that separates nuclear weapons with modern security features from those who lack these features. When examining

¹⁸⁵ Bunn & Wier, 2005, p. 157.

how the possession of nuclear weapons that lacks modern security features shall be treated under international law this security aspect will be central. It has already been established in section 2.11. that the two most central parts of international law, regarding the question of this essay are, international environmental law and IHL. Thus, the next step in this essay will be to investigate these parts of international law in connection with the security aspect of nuclear weapons that lacks modern security features. Consequently, this analysis will focus on the potential parts of these fields of international law that concerns the State's obligations of security.

4. The Possession of Nuclear Weapons that lacks Modern Security Features and International Law

4.1. Introduction

One vital aspect that separates nuclear weapons from the other weapons of mass destruction (chemical and biological weapons) is that nuclear weapons are not subject to a specific prohibition under international law.¹⁸⁶ However, the NPT bans the production and possession of nuclear weapons by all non-nuclear States that are Party to the treaty. Given the assumed larger destructive capabilities that the use of nuclear weapons might cause compared to for instance biological weapons this legal situation can be difficult to comprehend. One explanation for the somewhat contradictory legal situation at hand is the significant link between nuclear weapons and the five permanent members of the Security Council. This link has made it difficult to discuss nuclear weapons as weapons rather than as a principally political and security issue.¹⁸⁷

Nevertheless, some States have formally renounced the possession of nuclear weapons either in regional accords or in peace agreements. Further, the five permanent members of the Security Council have guaranteed that they will not resort to nuclear weapons against non-nuclear States that are Party to the NPT, except if an aggression is committed by such a State with the support of a nuclear weapons State.¹⁸⁸

Moreover, the possible disastrous effects of nuclear weapons raise important questions about the weapon's compatibility with IHL, questions that arise due to the severe immediate as well as long-term effects nuclear weapons can cause for combatants, civilians, civilian areas, and the environment.¹⁸⁹ It has also been affirmed by the ICJ in its Nuclear Weapons Advisory Opinion of 1996, that the principles and rules of IHL applies to nuclear weapons.¹⁹⁰ It should therefore be noted that a number of customary and conventional international legal rules have an influence on or apply generally on the possession, testing, transferring, production or use

¹⁸⁶ Nystuen & Casey-Maslen (in Nystuen, Casey-Maslen and Bersagel), 2014, p. 1 and for instance, Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, 1972.

¹⁸⁷ Compare, Nystuen & Casey-Maslen (in Nystuen, Casey-Maslen and Bersagel), 2014, p. 1–2.

¹⁸⁸ Bugnion, 2005, p. 523.

¹⁸⁹ Maresca (in Borrie & Caughley), 2013, p. 137.

¹⁹⁰ Maresca (in Borrie & Caughley), 2013, p. 136–137 and Bugnion, 2005, p. 523.

of nuclear weapons.¹⁹¹ Thus, even though IHL does not contain any rule that specifically and comprehensively prohibits nuclear weapons their use in armed conflicts is still regulated by IHL, some of the most relevant of these rules are:

- The rule prohibiting indiscriminate attacks;¹⁹²
- The rule of proportionality in attack;¹⁹³
- The rule on the protection of the natural environment;¹⁹⁴
- The obligation to take feasible precautions in attack;¹⁹⁵
- The rule prohibiting the use of weapons of a nature to cause superfluous injury or unnecessary suffering;¹⁹⁶ and
- The rule prohibiting attacks directed at civilians or civilian objects^{197, 198}

In the context of this essay's question (how the possession of nuclear weapons that lacks modern security features shall be treated under international law) all the principles listed above will not be relevant for the question. This, given that for instance the rule of proportionality in attack addresses the use of (in this case) nuclear weapons, and not the possession of such weapons. Therefore, this principle and others that could be relevant for the use but not the possession of nuclear weapons will not be developed upon further in this essay.

However, there is one other part of international law except the previous stated international environmental law (see, section 2.11.) that could be relevant to consider. The precautionary principle prescribed in Additional Protocol I, Articles 57–58. These two Articles and their respective impact on the question of the essay will be developed upon latter in section 4 of the essay.

¹⁹¹ Compare, Nystuen & Casey-Maslen (in Nystuen, Casey-Maslen and Bersagel), 2014, p. 2.

¹⁹² Additional Protocol 1 of 1977 to the Geneva Conventions of 1949, Article 51 (4).

¹⁹³ Additional Protocol 1 of 1977 to the Geneva Conventions of 1949, Article 51 (5)

¹⁹⁴ Additional Protocol 1 of 1977 to the Geneva Conventions of 1949, Article 35 (3). *Note, however, that this rule has not become part of international customary law, regarding nuclear weapons due to that several States have consistently objected to its application to nuclear weapons.* See, Maresca (in Borrie & Caughley), 2013, p. 137 and section 2.4.2 of this essay.

¹⁹⁵ Additional Protocol 1 of 1977 to the Geneva Conventions of 1949, Article 57.

¹⁹⁶ Additional Protocol 1 of 1977 to the Geneva Conventions of 1949, Article 35 (2).

¹⁹⁷ Additional Protocol 1 of 1977 to the Geneva Conventions of 1949, Articles 51 (2) and 51 (1).

¹⁹⁸ Maresca (in Borrie & Caughley), 2013, p. 137–138.

4.2. International Environmental Law - A Perspective beyond Use and IHL

Since the ICJ's Nuclear Weapons Advisory Opinion of 1996, the environmental perspective on nuclear weapons have been addressed mainly from two angles. The most common of these angles being an interpretation through the perspective of IHL. This IHL-perspective have focused on Article 35, paragraph 3 and Article 55 of Additional Protocol I, and customary international law. The other angle focuses on whether international environmental law remains applicable during armed conflicts or not, a line of inquiry that is mainly implemented through a linguistic examination of certain multilateral environmental agreements.¹⁹⁹

It should here be noted that the question of whether international environmental is still applicable during armed conflicts (and could thus be applied alongside the principles of IHL) is a rather controversial matter. This conflict of norms between international environmental law and IHL is based upon the question of *lex specialis*. It has been argued that IHL rules apply at the exclusion of other norms because they are specifically designed for the context of armed conflicts. Another interpretation is that any other applicable norms would have to be interpreted in the light of IHL as the relevant *lex specialis*. The ICJ explicitly took the latter stance in its Nuclear Weapons Advisory Opinion concerning the relationship between IHL and international human rights law. However, in the DRC v. Uganda case the Court abandoned any mention of *lex specialis* and applied treaties of the two branches in parallel. It remains to be seen if the Court will follow the same course in respect of the relationship between IHL and international environmental law, but chances are that it will, because international environmental law is as much *lex specialis* for the prevention and reparation of damage to the environment as IHL is specialised for situations of armed conflicts.²⁰⁰

However, these perspectives do not provide a complete comprehensive picture of the legal relationship between nuclear weapons and international environmental law. Both perspectives have a focus on the resort to nuclear weapons but a resort to nuclear weapons presupposes such elements as: production, possession and testing. To be able to detect potential breaches of international environmental law that do not involve the actual use of nuclear weapons these aspects must also be considered.²⁰¹

¹⁹⁹ Kunz & Viñuales (in Nystuen, Casey-Maslen and Bersagel), 2014, p. 269.

²⁰⁰ See, Kunz & Viñuales (in Nystuen, Casey-Maslen and Bersagel), 2014, p. 279–280.

²⁰¹ Kunz & Viñuales (in Nystuen, Casey-Maslen and Bersagel), 2014, p. 269–270.

One aspect to be considered is that nuclear weapons-related activities are explicitly restricted in common areas by multilateral treaties²⁰². The legal situation for areas under national jurisdiction though, is not as uniform. However, only nine States possess nuclear weapons, on the other hand, these States represent 47 % of the world's population and 28 % of the earth's land area. Even though these States are not bound by multilateral treaties that explicitly prohibits nuclear weapons this does not amount to that international environmental law does not apply to these State's activities regarding nuclear weapons.²⁰³

All phases of a nuclear weapon's lifecycle can cause pollution of the environment. The State from whose territory the pollution originates from may thus be found in breach of a treaty (or corresponding norms of customary international law) that protects the affected sphere, such a sphere could for instance be the atmosphere or the biosphere.²⁰⁴

Therefore, a first question that needs to be answered is if any damage must be caused at all? Can there be liability for risk of damage? It appears that international law does not recognize such a liability, at least not outside the category of ultra-hazardous activities. Another part of international environmental law that should be noted here is Article 1, paragraph 4²⁰⁵ of the Convention of the Law of the Sea, 1982. By the phrasing: "which results in or is likely to result in", it is implied that actual damage is not necessary in this context. It is further possible that customary international law may develop in this direction, however, at this point it is too early to conclude that this has already occurred.²⁰⁶

As to the issue of ultra-hazardous activities it has been argued that such activities form a distinct category in the field of international environmental law, a category in which the principle of strict/absolute liability operates.²⁰⁷ It should however be mentioned that strict liability is a principle prescribed by international agreements whether it exists in international customary law is a controversial question.²⁰⁸ The definition of an ultra-hazardous activity is somewhat uncertain, however as a rule, nuclear activities fall within this category. Thus, strict liability applies to State's nuclear activities. In a pollution situation caused by nuclear

²⁰² See for instance, The Antarctic Treaty of 1959.

²⁰³ Kunz & Viñuales (in Nystuen, Casey-Maslen and Bersagel), 2014, p. 283.

²⁰⁴ Kunz & Viñuales (in Nystuen, Casey-Maslen and Bersagel), 2014, p. 284.

²⁰⁵ "pollution of the marine environment means the introduction by man, directly or indirectly, of substances or energy into the marine environment, including estuaries, which results or is likely to result in such deleterious effects as harm to living resources and marine life, hazards to human health". See, Article 1, paragraph 4 of the Convention of the Law of the Sea, 1982.

²⁰⁶ Compare, Shaw, 2017, p. 648.

²⁰⁷ Shaw, 2017, p. 673.

²⁰⁸ Linderfalk, 2013, p. 140.

weapons the State under whose territory or jurisdiction the nuclear activity took place would be liable irrespective of fault. This legal situation works as a further inducement for States to act in areas of extreme potential harm.²⁰⁹

Further, it can be argued that customary international law contains an obligation for States to act preventive to environmental damages. This can be supported by the UN document: Draft Articles on the Prevention of Transboundary Harm from Hazardous Activities, adopted in 2001 (henceforth, Draft Articles). The document is not boundary it can however be understood as international customary law, at least in its most central parts. In the document, the obligation to act preventive is limited to hazardous activities. Article 3 of the Draft Articles prescribes the following: *“The State of origin shall take all appropriate measures to prevent significant transboundary harm or at any event to minimize the risk thereof.”*²¹⁰

Transboundary harm means harm caused to persons, property or the environment, in the territory of or in other places under the jurisdiction of a State other than the State of origin.²¹¹ A State’s obligation to prevent transboundary harm is depending upon a risk assessment, the principles for such an assessment are prescribed in Article 2, paragraph A of the Draft Articles: *““Risk of causing significant transboundary harm” includes risks taking the form of a high probability of causing significant transboundary harm and a low probability of causing disastrous transboundary harm”*.²¹² Thus, there are two criteria that shall be considered in the risk assessment: the probability of transboundary harm and the extent of the transboundary harm. This means that even if the probability of an activity causing transboundary is low a State could be obliged to act preventive if the consequences of the transboundary harm can be estimated as devastating. Further, a risk assessment is naturally also based upon the knowledge and experience the States have concerning the activity in question. In international law the relevant aspect here is not what a State actually knows but what the State should have known.²¹³

Given what is stated above, it could be argued that unmodern nuclear weapons pose such a risk of significant transboundary harm that they are prohibited according to Draft Article 3.

²⁰⁹ Compare, Shaw, 2017, p. 673.

²¹⁰ See, Linderfalk, 2013, p. 142–143 and Draft Articles on the Prevention of Transboundary Harm from Hazardous Activities, 2001, Article 3.

²¹¹ Draft Articles on the Prevention of Transboundary Harm from Hazardous Activities, 2001, Article 2, paragraphs b & c.

²¹² Linderfalk, 2013, p. 143 and Draft Articles on the Prevention of Transboundary Harm from Hazardous Activities, 2001, Article 2, paragraph A.

²¹³ Linderfalk, 2013, p. 143–144.

Firstly, the consequences of a nuclear weapon detonation would undoubtedly cause devastating transboundary harm. Secondly, even though the probability of this occurring without the intent of the State is presumably quite low it remains a practical possibility. Imagine, for instance, a hypothetical scenario where a terrorist group gets hold of an unmodern nuclear weapon and causes it to detonate. The risk of this hypothetical scenario occurring is possible when it comes to unmodern nuclear weapons, but supposedly practically impossible when it comes to modern nuclear weapons. Thus, it cannot be out ruled that an appropriate measure, in accordance with Draft Article 3, would be to destroy or at least upgrade nuclear weapons that lacks modern security features, thereby in practice prohibiting them.

The key-question here is how the obligation of all appropriate measures (or at least the minimization of risk) shall be applied to the situation of unmodern nuclear weapons. It could of course be argued that locating and safe storing these weapons would suffice as an appropriate measure. Then again, given the devastating consequences a nuclear detonation would cause and the drastic difference between the security levels of unmodern contra modern nuclear weapons the abolition of all unmodern nuclear weapons does not strike this author as a disproportionate measure. In my opinion, Draft Article 3 forms a strong argument that unmodern nuclear weapons could be illegal according to international customary law.

4.3. IHL – A Perspective beyond Use

4.3.1. Threats and Possession under IHL

Concerning the legal relationship between the possession of unmodern nuclear weapons and IHL there are two main questions that still requires answers. Firstly, can the possession of nuclear weapons (modern or unmodern) be regarded as a threat under IHL? Secondly, does IHL contain any rules or principals that would have a legal impact on the possession of unmodern nuclear weapons even if they do not have a legal impact on modern nuclear weapons?

These two questions remain due to the scope of reasoning in the ICJ's Advisory Opinion. In the Opinion the aspects of international law that could influence the use of nuclear weapons were analysed and affirmed. Further, it was affirmed in section 3 of the essay that the difference between unmodern and modern nuclear weapons lies within their respective levels of security and not their destructive powers. Thus, the Advisory Opinion's legal effect on the

use of nuclear weapons is the same for both unmodern and modern nuclear weapons and therefore requires no further examination.

However, as highlighted in section 2.11. of the essay, it could be argued that the Court's reasoning in paragraph 48 of the Advisory Opinion could open for the possibility that the possession of nuclear weapons could constitute a threat given the logic behind the policy of deterrence. Thus, the question of the legal relationship between nuclear weapons possession and threats under IHL needs to be developed upon.

In this investigation, two different types of threats must be separated from each other. Firstly, the argument that possession of nuclear weapons equals a threat of use that violates IHL. Secondly, the argument that possession of nuclear weapons, during an armed conflict, equals a threat of use that violates IHL.²¹⁴

The first alternative can be ruled out quite summarily, this, due to that *jus in bello*, as a rule, only applies within the context of an armed conflict. Consequently, the policy of nuclear deterrence in times of peace remains outside the scope of IHL.²¹⁵

Regarding the second alternative, during an armed conflict, the legality of possessing nuclear weapons is assessed according to the same rules and principals as any other type of weapon. In such an assessment there is no general legal basis for prohibiting the possession of weapons whose use would violate IHL. An example of this is the legal relationship between biological weapons and IHL. Even though these weapons are evidently indiscriminate by nature their possession would not violate IHL. However, their possession is still illegal according to international law given the 1972 Biological Weapons Convention. Thus, it is not by IHL that the possession of biological weapons is illegal it is a result of a treaty regulating the specific weapon-type. This legal situation is also the case for chemical-weapons, cluster munitions and landmines, thus, the same argument would apply to nuclear weapons given that there does not exist a treaty that specifically prohibits the possession of nuclear weapons there is no basis under IHL for prohibiting the possession of nuclear weapons.²¹⁶

Thus, it can be concluded that the possession of nuclear weapons (unmodern and modern) do not breach IHL given that there does not exist a specific treaty that prohibits the possession of these weapons. This examination does also seem to answer the second remaining question, if

²¹⁴ Compare, Nystuen (in Nystuen, Casey-Maslen and Bersagel), 2014, p. 168.

²¹⁵ Nystuen (in Nystuen, Casey-Maslen and Bersagel), 2014, p. 168.

²¹⁶ See, Nystuen (in Nystuen, Casey-Maslen and Bersagel), 2014, p. 168.

IHL contain any rules that would have a legal impact on unmodern nuclear weapons, but not on modern nuclear weapons.

However, even if it has been affirmed that the legality concerning possession of weaponry is regulated through specific treaties, and not by IHL rules per se, the possibility remains that certain IHL rules could have some legal consequences for the possession of unmodern nuclear weapons. Cause, even though the possibility that the possession of unmodern nuclear weapons would be prohibited according to IHL can be excluded there could be other legal consequences. The possibility remains, that Articles 57 and 58 in the Additional Protocol I, could contain principles that could have a legal effect on the possession of unmodern nuclear weapons based on due diligence, thus, resulting in a different, yet similar legal effect on the possession of unmodern nuclear weapons which Draft Article 3 creates. Therefore, this possibility must be examined further.

4.3.2. The Precautionary Principle

The precautionary principle is prescribed in Articles 57 and 58 of Additional Protocol I, Article 57 prescribes precaution in attacks and Article 58 prescribes precaution against the effects of attacks. These Articles does not apply to military targets and combatants. However, during military operations all precautionary measures that are practically possible shall be undertaken to protect the civilian population and civilian objects.²¹⁷

There are two paragraphs in these Articles that could have an impact on the possession of unmodern nuclear weapons: Article 57, paragraph 2A (ii) and Article 58, paragraph B.

Article 57, paragraph 2A (ii), prescribes that a State that plan or decide upon an attack shall take all feasible precautions in the choice of means and methods to avoid, or at least to minimize, the incidental loss of civilian life, injury to civilians and damage to civilian objects.²¹⁸

This rules legal effects on the choice of weaponry deals with the weapon's range and precision for instance, if a well-placed 500 kg projectile is enough to destroy a military target the attacking State should not use a 10-ton bomb. Further, this rule does not imply any prohibition of specific weapons. However, during the preparatory works of the Protocol it was

²¹⁷ Additional Protocol I, Articles 57 & 58 and Engdahl (in Linderfalk), 2012, p. 221–222.

²¹⁸ Additional Protocol I, Articles 57, paragraph 2A (ii).

proposed that Parties to the conflict should equip weapons which are particularly dangerous to the public with safety devices to make them harmless if they fell out of the control of the user. This later resulted in Protocol II, annexed to the Convention of 10 October 1980 on Prohibitions or Restrictions on the Use of Certain Conventional Weapons.²¹⁹ This treaty does however apply to certain sorts of conventional weapons such as mines and booby-traps not nuclear weapons.²²⁰

Given what is stated above, Article 57, paragraph 2A (ii) does not seem to have a legal effect on unmodern nuclear weapons. The rule's application is primarily concerned with the range and precision of the weaponry used not their security levels. Given that there is no difference between the range or precision between an unmodern and a modern nuclear weapon the legal situation consequently is the same.

Further, the proposition raised during the preparatory works, regarding the security level of certain especially dangerous weapons, could have an impact on unmodern nuclear weapons. However, this discussion seems to have resulted in the Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons. This suggests that the objective for this proposition was conventional weapons such as mines and booby-traps not nuclear weapons that are not conventional weapons. Therefore, I consider Article 57, paragraph 2 (ii) to be a potential argument for further debate with the possibility for a treaty that specifically deals with unmodern nuclear weapons and the feasible precautions necessary to secure their level of security in accordance with international law, this could even become one of the intermediate steps towards achieving complete nuclear disarmament, an international trend pointed out by the ICJ in its Advisory Opinion (see, section 2.7.2.). However, until such a hypothetical scenario occurs, I do not consider Article 57, paragraph 2 (ii) to have any legal effects on the possession of unmodern nuclear weapons.

Article 58, paragraph B prescribes that the Parties to the conflict shall, to the maximum extent feasible, avoid locating military objectives within or near densely populated areas.²²¹ This rule applies to both permanent and mobile objectives. The Concerns prescribed should be undertaken during peacetime but in particular during armed conflicts. Regarding mobile objectives (for instance equipment), care shall be taken to avoid placing these in densely

²¹⁹ See, Additional Protocol I, ICRC Commentary of 1987, p. 682–683.

²²⁰ Protocol on Prohibitions or Restrictions on the Use of Mines, Booby-Traps and Other Devices as amended on 3 May 1996 (Protocol II to the 1980 CCW Convention as amended on 3 May 1996), Article 1.

²²¹ Additional Protocol I, Articles 58, paragraph B.

populated areas. Further, this rule applies to both occupying and defending States. How far reaching this precautionary rule goes, however, is a controversial matter. Several States have for instance commented that this provision is hard to follow for States that are densely populated.²²²

This rule does have an influence on both unmodern and modern nuclear weapons given that placing nuclear weapons in, or in the near proximity, of populated areas, should be avoided in accordance with the Article in question. Thus, nuclear weapons States do not have an unlimited freedom of choice as to the placement of nuclear weapons especially during an armed conflict. Still, it should be highlighted that this limitation, even if it applies to unmodern nuclear weapons, has nothing to do with these weapon's unique characteristics vis-a-vis modern nuclear weapons. It is the weapons destructive capabilities, and thus their subsequent inherent danger to the public that is the reason for their limited scope of placement not their lack of security.

²²² See, Additional Protocol I, ICRC Commentary of 1987, p. 694.

5. Concluding Remarks

The question of nuclear weapons, whether it concerns their use, possession, deployment, etc., is a controversial matter that divides the international community. Given these weapons unrivalled destructive capacity to any other sort of weapon it can be perceived as paradoxical that, contrary to for instance chemical weapons, the legal restraints on nuclear are few and that their possession and use are not forbidden under international law. However, it appears that it is precisely this unmatched destructive capacity that is the source of the lack of legal prohibition. The vital importance that nuclear weapons meant for the nuclear weapons States security policy during the Cold War, and still does today, connects the question of nuclear weapons to politics rather than law. Given the immense influence that the nuclear weapons States hold, for instance by five of them being the permanent members of the Security Council, it is difficult to achieve boundary legal restraints on nuclear through either customary international law or through UN-conventions without the compliance of these States.

Nevertheless, by the NPT, the possession of nuclear weapons is prohibited for all non-nuclear weapons States that are Parties to the treaty. However, the international trend towards a future prohibition of nuclear weapons that the ICJ saw implications of in its Nuclear Weapons Advisory Opinion seems to have stagnated with the withdraw from North Korea in 2003.

The Advisory Opinion of the ICJ on the question of nuclear weapons, even though it has incurred critique, is still the most central part of international law as to the regulation of nuclear weapons. The Opinion did chart the most relevant parts of international law that is applicable for the threat and use of nuclear weapons. This essay's purpose, however, has been to examine how the possession of unmodern nuclear weapons shall be treated according to international law. A question that was not covered by the Nuclear Weapons Advisory Opinion.

Regarding the essay's question, two central conclusions have been reached. Firstly, that the difference between unmodern and modern nuclear weapons lies within their respective level of security not in their respective destructive capacity. This difference is of a drastic nature; to detonate or successfully dismantle a modern nuclear weapon, even under the most optimum circumstances, is practically impossible with the authorizing code. To successfully accomplish one of these two objectives with an unmodern nuclear weapon is however a

practical possibility. Secondly, two parts of international law that are relevant for the possession of unmodern nuclear weapons have been found: international environmental law and the precautionary principle in Articles 57 and 58 of Additional Protocol I.

As to the precautionary principle, the two Articles that this principle stems from effects the possession of unmodern nuclear weapons in different ways. Article 57, paragraph 2 (ii) does in my opinion not have a legal effect on the possession in question. The Article deals primarily with the range and precision of weapons and does not imply any prohibition of specific weapons. There was a discussion during the preparatory works regarding the security levels of certain weapons that was labelled as especially dangerous to the public, it was proposed that these weapons should be equipped with safety devices. The objective for this proposition seems however to have been conventional weapons such as mines and booby-traps not nuclear weapons. Given that the intentions of the Parties do not seem to cover the question of nuclear weapons I do not consider this Article to have any legal effects on the possession of unmodern nuclear weapons. However, the Article could form a legal basis for a further discussion concerning the legal requirements for the security levels of nuclear weapons, which would be especially significant for unmodern nuclear weapons.

Article 58, paragraph B of Additional Protocol I, does however have a legal effect on the possession of both unmodern and modern nuclear weapons. This Article limits the possibilities of placements for nuclear weapons, States are not allowed to place nuclear weapons in, or in the near proximity of, densely populated areas. The restriction in question derives, however, from the threat that nuclear weapons pose to the public by their destructive capabilities not their level of security. This is the reason that this Article effects both unmodern and modern nuclear weapons in the same way.

The most important part of international law regarding this essay's question is however international environmental law, more specifically Draft Article 3. This Article is both part of customary international law, and is thereby boundary for all States, and impose States with strict liability. Further, the risk assessment that is used in the Convention where the probability of transboundary harm and the extent of the transboundary harm shall be considered sets the difference between unmodern and modern nuclear weapons in focus. The risk of an unwanted explosion of a modern nuclear weapon is more or less non-existing. As to the risk of this occurring with an unmodern nuclear weapon however, is, even though small, an existing risk. Given for instance the continuing activities of international terrorism and the non-existing agreements to destroy unmodern nuclear weapons this is a risk-scenario that

cannot be ruled out. Add to this the insecurity regarding the current amount of unmodern nuclear weapons that still exists not least in Russia.

It can thus be concluded that Draft Article 3 has legal effects on the possession of unmodern nuclear weapons it is however a matter for debate as to how far the effects goes. The key-question is what precisely is meant by the obligation to take all appropriate measures, or at least to minimize the risk, in this case. Given the drastic difference in security levels and the devastating consequences one single nuclear weapon explosion would amount to it is in my opinion not impossible that an appropriate measure, in accordance with the Article, would be to destroy or upgrade all unmodern nuclear weapons. A less drastic interpretation of the Article could of course be that it would suffice with for instance locating and safe storing all unmodern nuclear weapons. Even though this question of interpretation can be discussed, Draft Article 3, in my opinion, constitutes the most influential part of international law regarding the legal relationship between the possession of unmodern nuclear weapons and international law. It is further my belief that this legal situation does require further scientific studies in the field of law.

Another aspect of international law that did show not to have any legal effects on the possession of unmodern nuclear but is however important to highlight is the relationship between possession and threats in IHL. It can be concluded that the rules and principles of IHL does not prohibit any specific types of weaponry per se, such prohibitions are agreed upon through treaties. Thus, even if the use of a certain weapon would breach the norms of IHL the possession of such a weapon would not be prohibited by IHL. Consequently, the possession of unmodern nuclear weapons is not prohibited and does not amount to a threat contrary to the rules of IHL.

On a last note, I would like to suggest that further research could be made regarding the connection between the dangers of international terrorism and the existence of unmodern nuclear weapons. If unmodern nuclear weapons continue to exist, the risk also exists that an international terrorist organization could successfully get access to and detonate a nuclear weapon. This essay has established this risk by illustrating the difference between the security levels of unmodern and modern nuclear weapons, thus concluding that these unmodern weapons are a necessity for this risk-scenario to be plausible. However, to be able to accomplish a comprehensive risk assessment of the situation an examination of the dangers of international terrorism (in connection to unmodern nuclear weapons) must also be undertaken.

If such a study will be initiated hopefully this essay could be of some assistance in the continuing research.

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