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ELECTROMAGNETIC CONFLICT: THE IMPLICATIONS OF NEW METHODS OF WARFARE AND THE NEED FOR INTERNATIONAL ACTION

INTRODUCTION

On September 29, 2017, the United States (US) State Department issued a travel warning urging Americans not to travel to Cuba.¹ The State Department cited fears concerning the risk of Americans “becoming victims of mysterious attacks such as those suffered by at least 24 diplomats and their relatives stationed in Havana.”² During that same time period, US diplomats in Guangzhou, China were also evacuated when they became ill after hearing odd sounds for a number of months similar to what diplomats in Cuba were experiencing.³ While the source of the attacks have remained unidentified, the injuries suffered have not.⁴

The victims have experienced symptoms, now referred to as “Havana Syndrome,”⁵ consisting of hearing loss, cognitive issues, dizziness, visual problems, and other forms of auditory and sensory phenomena.⁶ These symptoms have been found to be consistent with cases of traumatic brain injuries and concussions.⁷ The travel advisory for Cuba remains in effect as of

1. Dennis Schaal, *All-Encompassing Cuba Travel Warning Issued by Trump Administration*, SKIFT (Sep. 29, 2017, 1:21 PM), <https://skift.com/2017/09/29/all-encompassing-cuba-travel-warning-issued-by-trump-administration/>.

2. Nora Gámez Torres, *State Department softens travel warning to Cuba, recommends ‘reconsidering’ trip*, MIAMI HERALD (Jan. 10, 2018, 1:50 PM), <https://www.miamiherald.com/news/nation-world/world/americas/cuba/article193963314.html>.

3. Steven Musil, *US diplomats evacuated from China amid ‘sonic attack’ concerns*, CNET (June 6, 2018, 7:10 PM), <https://www.cnet.com/news/us-diplomats-evacuated-from-china-amid-sonic-attack-concerns/>.

4. U.S. DEPT OF STATE – BUREAU OF CONSULAR AFFAIRS, *Cuba Travel Advisory*, <https://travel.state.gov/content/travel/en/traveladvisories/traveladvisories/cuba-travel-advisory.html> (last visited April 13, 2020).

5. Adam Entous & Jon Anderson, *The Mystery of the Havana Syndrome*, NEW YORKER (Nov. 9, 2018), <https://www.newyorker.com/magazine/2018/11/19/the-mystery-of-the-havana-syndrome>.

6. *Cuba Travel Advisory*, *supra* note 4.

7. Kevin Loria, *More US diplomats have fallen ill in China with brain injuries like those linked to mysterious ‘sonic attacks’ in Cuba*, BUS. INSIDER

February 19, 2020, with the State Department having last updated the notice on August 23, 2018 to urge Americans to exercise increased caution due to the unidentified but credible threats present in the Havana area.⁸

After launching an investigation into the mysterious attacks, US officials determined that an advanced device operating beyond the scope of audible sound was responsible for the diplomats' injuries.⁹ It was further determined that such devices must have been deployed within range of the victims' residences.¹⁰ While studies into the matter initially led investigators to believe that the injuries were the result of a "sonic attack," the FBI determined sound waves alone could not have been the cause of such extensive brain injuries.¹¹ While some different theories have circulated as to the cause of "Havana Syndrome," the investigation concluded that some type of electromagnetic radiation, such as microwaves,¹² had likely been weaponized in carrying out the attacks.¹³

Electromagnetic attacks utilizing microwaves have been of international concern since the start of the 1950s.¹⁴ Throughout the Cold War, US officials grew increasingly concerned that Russia was attempting to develop microwave radiation in a way that could be used to intentionally alter the state of the

(June 6, 2018, 6:24 PM), <https://www.businessinsider.com/us-diplomats-in-china-brain-injuries-sonic-attack-2018-6>.

8. *Cuba Travel Advisory*, *supra* note 4.

9. Matthew Lee & Michael Weissenstein, *Hearing loss of US diplomats in Cuba blamed on covert device*, ASSOCIATED PRESS (Aug. 9, 2017), <https://www.apnews.com/51828908c6c84d78a29e833d0aae10aa>.

10. *Id.*

11. Josh Lederman, et al., *U.S. officials suspect Russia in mystery 'attacks' on diplomats in Cuba, China*, NBC NEWS (Sep. 11, 2018, 4:42 AM), <https://www.nbcnews.com/news/latin-america/u-s-officials-suspect-russia-mystery-attacks-diplomats-cuba-china-n908141>.

12. "The heating effect of microwaves destroys living tissue when the temperature of the tissue exceeds 43° C (109° F). Accordingly, exposure to intense microwaves in excess of 20 milliwatts of power per square centimetre of body surface is harmful." *Microwaves*, ENCYCLOPEDIA BRITANNICA.COM, <https://www.britannica.com/science/electromagnetic-radiation/Microwaves> (last visited May 15, 2020).

13. *Id.*; see also Entous & Anderson, *supra* note 5.

14. William J. Broad, *Microwave Weapons Are Prime Suspect in Ills of U.S. Embassy Workers*, N.Y. TIMES (Sept. 1, 2018), <https://www.nytimes.com/2018/09/01/science/sonic-attack-cuba-microwave.html>.

human mind as a means of combat.¹⁵ This concern continued to grow after the US embassy in Moscow was believed to have been the target of low-level microwave radiation bombardment starting in 1959, though it was not until two decades later that the US State Department began investigating the effects of long-term exposure to such radiation.¹⁶ The actions taken by the US show the very real and dangerous threat that such types of covert warfare pose to citizens, not only because of the detrimental effects such radiation could have on the human body,¹⁷ but also the clandestine way the attacks are carried out against their intended targets.¹⁸

Various international treaties have been developed throughout history in response to the development and use of specific methods of warfare; however, two prominent treaties specifically limit the ways states can wage war.¹⁹ The Hague Conventions are a series of international covenants adopting a formal code for the laws of war, including, inter alia, a prohibition on the use of projectiles from balloons, an outline of the rights and obligations of neutral parties in times of war, and a proscription against the use of asphyxiating chemicals.²⁰

Over a half century later, the 1977 Additional Protocols to the Geneva Convention were adopted in the face of technological advances in weaponry and the developing nature of how countries wage war in order to further regulate the use of chemical and biological weapons.²¹ Throughout history, international agreements have continuously been adopted for the purpose of regulating the use of certain types of weapons in an

15. *Id.*

16. Larry B. Guthrie, *Legal Implications of the Soviet Microwave Bombardment of the U.S. Embassy*, 1 B.C. INT'L & COMP. L. J. 91, 92 (1977).

17. *Id.*

18. Lee & Weissenstein, *supra* note 9.

19. *Methods and means of warfare*, INT'L COMMITTEE OF THE RED CROSS (Oct. 29, 2010), <https://www.icrc.org/eng/war-and-law/conduct-hostilities/methods-means-warfare/overview-methods-and-means-of-warfare.htm>.

20. Hague Convention (II) with Respect to the Laws and Customs of War on Land and its Annex: Regulations Concerning the Laws and Customs of War on Land, July 29, 1899, 32 Stat. 1803, 187 Consol. T.S. No. 429.

21. Protocol Additional to the Geneva Conventions of 12 Aug. 1949, and Relating to the protection of Victims of International Armed Conflicts (Protocol I), June 8, 1977, 1125 U.N.T.S. 3; Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of Non-International Armed Conflicts (Protocol II), June 9, 1977 1125 U.N.T.S. 609

attempt to keep war as civilized and humane as possible and preserve human lives, as it is often civilians who suffer most during conflicts.²²

In order to understand the fears underlying the development of electromagnetic warfare, one must first understand what it is. Electromagnetic warfare entails the use of a type of directed-energy weapon that uses high frequency wavelengths to emit microwaves or other forms of sonic wavelengths at a particular target.²³ Historically, directed-energy weapons have been used as a means of incapacitating enemy equipment and providing target guidance.²⁴ Directed-energy weapons are unique in that they travel at the speed of light, have the ability to pass through walls, and are capable of producing a multitude of cognitive effects when targeted against humans.²⁵ Some of these effects include dizziness, convulsions, seizures, and temporary paralysis.²⁶

Such weapons have been modestly developed by states to be less lethal for use against humans in crowd-control type situations,²⁷ a goal that can be achieved by scaling back the frequencies of the electromagnetic wave being emitted.²⁸ When such electromagnetic energy is emitted against targets at non-controlled levels, however, these waves can cause immeasurable damage to the brain and body.²⁹ As stated by Dr. Elizabeth Plourde of EMF Freedom, “[w]e can liken this assault to being machine gunned. All of our cells are getting holes and leaking,

22. The Geneva Conventions included protections for wounded soldiers, innocent civilians located in war-torn regions, and prisoners of war. *The Geneva Conventions of 1949 and their Additional Protocols*, INT'L COMMITTEE OF THE RED CROSS, (Oct. 29, 2010), <https://www.icrc.org/eng/war-and-law/treaties-customary-law/geneva-conventions/overview-geneva-conventions.htm>.

23. Mark Rich, *Introduction to Directed-Energy Weapons*, NEW WORLD WAR, <http://www.newworldwar.org/dewintro.htm> (last visited April 13, 2020).

24. Alan Backstrom & Ian Henderson, *New Capabilities in Warfare: An Overview of Contemporary Technological Developments and the Associated Legal and Engineering Issues in Article 36 Weapons Reviews*, 94 INT'L REV. RED CROSS 483, 499 (2012).

25. Rich, *supra* note 23.

26. *Id.*

27. Backstrom & Henderson, *supra* note 24, at 500.

28. Rich, *supra* note 23.

29. Suzanne Maher, *The Human Target – Directed Energy Weapons and Electronic Warfare*, BYE BYE BLUE SKY (Oct. 25, 2017), <https://byebyebluesky.com/the-human-target-directed-energy-weapons-and-electronic-warfare/>.

our blood brain barrier is getting holes and leaking, and our gut is leaking.”³⁰

While the obvious concerns stemming from these unidentified threats are the health and safety of diplomats, foreign nationals, and civilians everywhere, there exists a more far-reaching concern that, if not dealt with swiftly, these weapons could be the catalyst for another Cold War. Utilizing electromagnetic frequencies as a method and means of warfare is an inhumane practice and, as such, is a violation of the international standards of just warfare.³¹ The United Nations must uphold international standards of warfare by regulating the use and development of directed-energy weapons utilizing electromagnetic waves to protect innocent civilians and foreign nationals alike who remain at risk of being targets of this new and inhumane form of warfare.

This Note will explore the background of what electromagnetic energy is, how it is used through a directed-energy weapon, and the recent developments and usage of such devices as a means of warfare. This Note will also analyze the history of treaties and conventions regulating the use of other weapons, the necessities of those regulations, and the issues that accompany the development of new forms of warfare. Part I of this Note will describe what a directed-energy weapon is and how one functions. Part II will explore the history of international law as it relates to the development of new methods and modes of warfare. Part III will then discuss the ramifications of the development of new and unregulated weapons and outline the policy concerns necessitating robust regulation. Part IV will expand on the issues accompanying covert warfare. Part V of this Note will analyze the current use and advancement of electronic warfare over the backdrop of the history of international scrutiny. Finally, Part VI will set forth a potential solution to this problem by proposing two alternative treaties designed to either prohibit the use of, or heavily regulate the continued development of, electromagnetic weapons.

30. *Id.*

31. See *How does IHL regulate the means and methods of warfare?*, ICRCBLOG (Aug. 13, 2017), <http://blogs.icrc.org/ilot/2017/08/13/ihl-regulate-means-methods-warfare/>.

I. WHAT IS ELECTRONIC WARFARE AS UTILIZED IN THE FORM OF A DIRECTED-ENERGY WEAPON?

Electronic warfare has been defined as the use of weapons that utilize either directed energy or electromagnetic waves as the primary mechanism of destruction.³² Such weapons can consist of lasers, radio frequency weapons, and particle beams.³³ These types of weapons work by directing large amounts of electromagnetic energy at the human body, thereby decimating cells and organs within the target.³⁴ Put more crassly but seemingly simpler, electronic warfare is “[a] neural rape or assault on people’s bodies and brains developed from classified military technology.”³⁵ Electronic warfare consists of the focused use of electromagnetic waves to carry out an attack on an enemy by manipulating the electromagnetic spectrum.³⁶

The use of electronic warfare is divided into three subsets.³⁷ First, electronic attacks seek to proactively destroy or deceive enemy equipment or personnel.³⁸ Second, electronic protection is used to insulate personnel and equipment from enemy use of electronic warfare.³⁹ Third, electronic warfare support is utilized to intercept and identify sources of electromagnetic energy being used to threaten operations.⁴⁰

The development of electronic warfare is by no means unique to the US.⁴¹ In 2018, Russia sought to reinforce their electronic warfare systems in Syria after one of their military aircrafts was shot down by Syrian forces.⁴² These systems will be used to enhance radar systems able to combat precision weapons and

32. CHAIRMAN OF THE JOINT CHIEFS OF STAFF, JOINT PUBLICATION 3-13.1, ELECTRONIC WARFARE, at I-3 (2012), <https://fas.org/irp/doddir/dod/jp3-13-1.pdf>.

33. *Id.*

34. Rich, *supra* note 23.

35. Maher, *supra* note 29.

36. Rich, *supra* note 23.

37. Lockheed Martin, *Electronic Warfare*, <https://www.lockheedmartin.com/en-us/capabilities/electronic-warfare.html> (last visited Mar. 2, 2020).

38. CHAIRMAN OF THE JOINT CHIEFS OF STAFF, *supra* note 32.

39. *Id.*

40. *Id.*

41. Tom O'Connor, *Russia's Electronic Warfare System in Syria Will Be Able To Track Planes in Europe and Israel*, NEWSWEEK (Sept. 28, 2018, 3:28 PM), <https://www.newsweek.com/russia-electronic-warfare-system-syria-will-track-planes-europe-israel-1144693>.

42. *Id.*

track airspace activity in the region.⁴³ Japan is currently acquiring four new electronic data acquisition aircrafts, equipped with advanced electronic warfare systems to be used for intelligence and training.⁴⁴ Seemingly weak on the electronic warfare playing field, Japan is working to modify their air fleet to jam radars and defend against electronic warfare attacks.⁴⁵ China has been testing new electronic warfare assets in the South China Sea, using its technology to scramble and subsequently disable enemy communications systems.⁴⁶

What is seemingly missing from these discussions about the advancement of states' electronic warfare capabilities is the use of these weapons against individuals. The reason states are silent on these developments is because the use of directed-energy weapons against individuals is prohibited by international law.⁴⁷

II. RELEVANT TREATIES, CONVENTIONS, AND CUSTOMARY INTERNATIONAL LAW REGULATING AND PROHIBITING THE USE OF CERTAIN WEAPONS

Since 1868, the international community has recognized that certain forms of warfare are so reckless, indiscriminate, and damaging that they must be either regulated or outlawed altogether.⁴⁸ The Saint Petersburg Declaration of 1868 was adopted after the Russian Army had developed a projectile designed to explode on contact with soft surfaces, decimating any individual who came into contact with the device.⁴⁹ Such a weapon was considered, even by its Russian developers, to be such an

43. *Id.*

44. Aki Nakai, *Japan Gears up for Electronic Warfare*, DIPLOMAT (Sept. 5, 2018), <https://thediplomat.com/2018/09/japan-gears-up-for-electronic-warfare/>.

45. *Id.*

46. Paolo Romero, *China testing electronic warfare*, PHILIPPINE STAR (July 7, 2018, 12:00 AM), <https://www.philstar.com/headlines/2018/07/07/1831302/china-testing-electronic-warfare>.

47. Robert Hunter Ward, *The Dawn of Anti-Personnel Directed-Energy Weapons*, REAL CLEAR DEFENSE (July 24, 2018), https://www.realcleardefense.com/articles/2018/07/24/the_dawn_of_anti-personnel_directed-energy_weapons_113641.html.

48. Declaration Renouncing the Use, in Time of War, of Certain Explosive Projectiles, Nov. 29/Dec. 11, 1868, 18 Martens Nouveau Recueil (ser. 1) 474, 138 Consol. T.S. 297 [hereinafter St. Petersburg Declaration].

49. *Id.*

“inhuman instrument of war” that the Russian Government was unwilling to utilize or allow other countries to utilize the weapon; instead, Russia recommended a prohibition on the device through an international agreement.⁵⁰

While the Saint Petersburg Declaration of 1868 might seem like an insignificant and obsolete agreement, it marked the first major agreement on the rules governing warfare. As stated by Harold Harris in his article titled *Modern Weapons and the Law of Land Warfare*:

The Saint Petersburg Declaration in 1868 was the first international codification of the principle that the only legitimate objective of war was the weakening of the military forces of a state, and that the employment of arms which would uselessly aggravate the suffering of disabled men, or render death inevitable would be contrary to the law of humanity.⁵¹

This treaty highlighted the idea that causing the suffering of enemy combatants to an extent further than that necessary to remove them from battle is inhumane and unlawful.⁵² States have recognized the fact that in war, suffering and death are necessary.⁵³ However, states have also accepted that only such suffering that is justified by military necessity will be permitted.⁵⁴

The first major successful adoption of regulations regarding warfare on an international scale occurred at the Hague Conventions of 1899 and 1907.⁵⁵ The first conference was attended by twenty-six states and sought to adopt covenants defining the permissible scope regarding acts of aggression and methods of warfare.⁵⁶ The treaties explain that their goal is to revise the customs of war, to define them more clearly, and to outline lim-

50. *Id.*

51. Harold E. Harris, *Modern Weapons and the Law of Land Warfare*, 12 MIL. L. & L. WAR REV. 7, 18 (1973) (footnote omitted).

52. *Id.* at 17.

53. *Id.* at 18.

54. *Id.*

55. See Hague Convention (II) with Respect to the Laws and Customs of War on Land and its Annex: Regulations Concerning the Laws and Customs of War on Land, July 29, 1899, 32 Stat. 1803, 187 Consol. T.S. 429 [hereinafter Hague Convention (II)].

56. The Editors of Encyclopaedia Britannica, *Hague Convention*, ENCYCLOPEDIA BRITANNICA, <https://www.britannica.com/event/Hague-Conventions> (last updated May 20, 2020).

itations on warfare in order to lessen the severity of conflict.⁵⁷ The convention resulted in the successful adoption of three treaties that prohibited the use of asphyxiating gases, expanding bullets, and the discharge of aerial explosives.⁵⁸

The second Hague Convention, which took place in 1907, was attended by even more states, and resulted in the successful adoption of additional treaties regulating issues of war.⁵⁹ With the goal of further defining with greater precision the rules governing international warfare, the second Hague Convention was attended by forty-four states and ended with the adoption of several new covenants,⁶⁰ including the methods governing debt recovery, the duties and rights of neutral parties during wartime, regulations concerning naval forces in wartime, and the creation of an international prize court to settle disputes regarding the legality of wartime gains.⁶¹

The Geneva Conventions of 1949 and their Additional Protocols created what are regarded as the most important rules governing the level of civility required in times of war.⁶² The Geneva Conventions are commonly understood to have formed the basis for the standards that outline international humanitarian law,⁶³ which is a body of international law “aimed at limiting violence since limiting violence is the very essence of civilization.”⁶⁴ Civilizations have for centuries promulgated rules reflecting the importance of international humanitarian law based on the practice and consent of states.⁶⁵ As such, by the time the Geneva Conventions came to be drafted, most states

57. Hague Convention (II), *supra* note 55.

58. *Id.*

59. *Id.*

60. Hague Convention (IV) with Respect to the Laws and Customs of War on Land and its Annex: Regulations concerning the Laws and Customs of War on Land, Oct. 18, 1907, 36 Stat. 2277, 205 Consol. T.S. 277.

61. Hague Convention (II), *supra* note 55.

62. *The Geneva Conventions of 1949 and their Additional Protocols*, INT'L COMMITTEE OF THE RED CROSS (Oct. 29, 2010), <https://www.icrc.org/eng/war-and-law/treaties-customary-law/geneva-conventions/overview-geneva-conventions.htm>.

63. Lori Hosni, Note, *The ABCs of the Geneva Conventions and their Applicability to Modern Warfare*, 14 NEW ENG. J. INT'L & COMP. L. 135 (2007).

64. Francois Bugnion, *Customary International Humanitarian Law*, 7 ISIL Y.B. INT'L HUMAN. & REFUGEE L. 1, 1 (2007).

65. *Id.* at 2–4

were already in agreement as to the applicability of the standards that have formed current international law.⁶⁶

The first Geneva Convention provides for the protection of the wounded and the sick, with the purpose of ensuring members of the International Committee of the Red Cross could effectively carry out their duties in caring for the wounded.⁶⁷ Seeing how greatly warfare had evolved at the close of World War II and the extent to which wounded soldiers were injured, the international community sought to take into account the means by which those sick and wounded must be respected and protected, which is a fundamental pillar of international humanitarian law.⁶⁸ Such importance derives from the idea that military medical personnel must be able to effectively care for those who have already been taken out of battle,⁶⁹ as the decommissioning of enemy combatants from the battlefield has been established as the only recognizable purpose of warfare.⁷⁰

The second Geneva Convention applies the recognized rules of conflict to war at sea.⁷¹ By the time of the adoption of this particular convention, naval battles had been fought for thousands of years, yet the rules governing warfare still seemingly applied only to land battles.⁷² Realizing the possible detriment of not ensuring protection and respect for those wounded, sick, and shipwrecked at sea, the second Geneva Convention addressed the issue of protecting boats that collect those shipwrecked and wounded at sea during times of war.⁷³

66. Hosni, *supra* note 63, at 135.

67. Convention for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field, Aug. 12, 1949, 6 U.S.T. 3114, 75 U.N.T.S. 31; *see also* *The Geneva Conventions of 1949 and their Additional Protocols*, *supra* note 62.

68. Lindsey Cameron et al., *The Updated Commentary on the First Geneva Convention – A New Tool for Generating Respect for International Humanitarian Law*, 45 GA. J. INT'L & COMP. L. 549, 562 (2017).

69. *Id.* at 552.

70. Harris, *supra* note 51, at 17.

71. Convention for the Amelioration of the Condition of Wounded, Sick and Shipwrecked Members of Armed Forces at Sea, Aug. 12, 1949, 6 U.S.T. 3217, 75 U.N.T.S. 85; *see also* *The Geneva Conventions of 1949 and their Additional Protocols*, *supra* note 62.

72. Bruno Demeyere et al., *The updated ICRC Commentary on the Second Geneva Convention: Demystifying the Law of Armed Conflict at Sea*, 98 INT'L REV. RED CROSS 401, 404 (2016).

73. *Id.* at 405.

The third Geneva Convention codifies the protection and rights of prisoners during wartime, as well as their entitlement to release and repatriation after the cessation of hostile activities.⁷⁴ By the drafting of the third Geneva Convention, prisoners of war were regarded as “merely unfortunate human beings who were being held in custody solely to prevent them from once again engaging in the hostilities.”⁷⁵ While the second Hague Convention did in fact address the treatment of prisoners of war, by the close of World War I, those provisions were found to be inadequate.⁷⁶ Seeing the need for more protections for prisoners, the International Committee of the Red Cross sponsored regulations more clearly defining the requisite treatment to be afforded to prisoners of war.⁷⁷ Such safeguards were found to be necessary because states engaged in war are responsible for ensuring both the respect of their own people, as well as their adversaries.⁷⁸ This is in accordance with the ultimate goal of warfare—to secure the ends of the particular conflict engaged in.⁷⁹

The fourth Geneva Convention affords protection to non-combatant civilians located both within and outside the regions of an occupied territory.⁸⁰ One of the most fundamental ideas behind international humanitarian law is that civilians are not to become the target of military attacks.⁸¹ This basic principle stems from the idea that opposing civilian populations can be governed without their complete destruction through military attacks.⁸² The necessity of these protections for civilians was highlighted after the catastrophic outcome of World War II,

74. Geneva Convention Relative to the Treatment of Prisoners of War, Aug. 12, 1949, 6 U.S.T. 3316, 75 U.N.T.S. 135; *see also The Geneva Conventions of 1949 and their Additional Protocols*, *supra* note 62.

75. Howard S. Levie, *Enforcing the Third Geneva Convention on the Humanitarian Treatment of Prisoners of War*, 7 U.S. A.F. ACAD. J. LEGAL STUD. 37, 37 (1996–1997).

76. *Id.*

77. *Id.* at 38.

78. *See id.*

79. Harris, *supra* note 51, at 22.

80. Geneva Convention Relative to the Protection of Civilian Person in Time of War, Aug. 12, 1949, 6 U.S.T. 3516, 75 U.N.T.S. 135; *see also The Geneva Conventions of 1949 and their Additional Protocols*, *supra* note 62.

81. Robert W. Gehring, *Loss of Civilian Protections under the Fourth Geneva Convention and Protocol I*, 19 MIL. L. & L. WAR REV. 9, 15 (1980).

82. *Id.*

during which no protections were afforded to civilians.⁸³ World War II marked the beginning of the recognition of atrocious war crimes carried out against civilian populations, including murder, slave labor, and overall ill-treatment of civilians.⁸⁴ Military necessity can, in no way, be justified as targeting civilians against the backdrop of the requirements of international humanitarian law. As stated by Robert W. Gehring in his article, *Loss of Civilian Protections under the Fourth Geneva Convention and Protocol I*:

During combat the imperative of overcoming the adversary's armed forces, while not permitting direct attack upon civilians, does permit incidental damage to civilians in the vicinity of military objectives. Away from the scene of battle, however, the imperative demands of combat are replaced by more prosaic concern such as efficient administration of occupied territory and security of one's armed forces. Before executing punitive measures, there is time for due process and consideration of individual culpability. There is no compelling requirement for the destruction of life and property, at least without granting minimal legal procedural rights.⁸⁵

This rule rests on the balancing of collective humanity with military necessity and provides that a civilian who presents no threat to adverse combatants maintains their legal rights and protections and must be afforded freedom.⁸⁶ The fourth Geneva Convention addresses the treatment of these protected civilian persons and distinguishes them from parties to a conflict in order to advance the overall purpose of the continued existence of civilized society.⁸⁷

Arguably the most important aspects of the Geneva Convention, and certainly the most relevant to this Note, are the additional protocols prohibiting the use of chemical and biological

83. *The Geneva Conventions of 1949 and their Additional Protocols*, *supra* note 62.

84. Gehring, *supra* note 81.

85. *Id.* (footnote omitted).

86. *See id.* at 16.

87. *The Geneva Conventions of 1949 and their Additional Protocols*, *supra* note 62.

weapons.⁸⁸ At the close of World War I, the Allies sought to prohibit the use of poisonous and noxious gases as a method of warfare.⁸⁹ The prohibition has continually been reaffirmed by the United Nations General Assembly, as the importance of such a prohibition has been deemed fundamental to methods of just and humane warfare.⁹⁰

The necessity of these protocols is rooted in the idea that biological and chemical weapons are considered weapons of mass destruction that can indiscriminately harm civilian populations and bring about inhumane suffering.⁹¹ Weapons of mass destruction require such explicit prohibitions through international agreements because of the humanitarian goal of mitigating human suffering and balancing the needs of military intervention with civility.⁹² The International Committee of the Red Cross has emphasized the dangers of chemical and biological weapons because of their harmful effects and ability to “spread to an unforeseen degree or escape, either in space or time, from the control of those who employ them, thus endangering the civilian population.”⁹³ Again, and as is continually stressed in every international agreement concerning warfare, the purpose of these protocols is to protect civilization from the atrocities of war.⁹⁴

Underscoring all these international agreements, and mentioned briefly throughout them, is the concept of international humanitarian law. International humanitarian law is designed to limit the effects of armed conflicts on persons who are not

88. *How does IHL regulate the means and methods of warfare?*, ICRCBLOG (Aug. 13, 2017), <http://blogs.icrc.org/ilot/2017/08/13/ihl-regulate-means-methods-warfare/>.

89. Protocol for the Prohibition of the Use of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare, June 17, 1925, 26 U.S.T. 571, 94 L.N.T.S. 65.

90. G.A. Res. 67/35 ¶ 2 (Jan. 4, 2013).

91. P.J. Cameron, *The Limitations on Methods and Means of Warfare*, 9 AUST. YBIL 247, 258 (1980).

92. William V. O'Brien, *Biological/Chemical Warfare and the International Law of War*, 51 GEO. L. J. 1, 7 (1962).

93. *Draft Rules for the Limitation of the Dangers incurred by the Civilian Population in Time of War. ICRC, 1956*, INT'L COMMITTEE OF THE RED CROSS, <https://ihl-databases.icrc.org/applic/ihl/ihl.nsf/Article.xsp?action=openDocument&documentId=FB7F61FB70DC18AAC12563CD0051D178> (last visited April 14, 2020).

94. *Id.*

participants of hostile activities; that is, civilians.⁹⁵ In order to be effective, the law is designed to govern relations between states through treaties and custom, with the goal of limiting the use of force against those not engaged in hostilities.⁹⁶ Codification of this international law began in the nineteenth century with states agreeing to a practical set of rules in order to balance military requirements against humanitarian concerns.⁹⁷

The International Committee of the Red Cross (ICRC) created a database to enumerate 161 recognized rules of customary international humanitarian law.⁹⁸ Rule 4, as listed by the ICRC, governs weapons used in times of war.⁹⁹ Rule 70 states that methods of warfare that have the ability to cause superfluous or unnecessary suffering are prohibited, as this concept is rooted in a number of treaties prohibiting weapons for exactly that reason.¹⁰⁰ This highlights not only the importance of prohibiting such weapons, but serves as a basis for the implementation of customary international law because of the agreement of states to prohibit their use.¹⁰¹ Rule 71 further illustrates this concept, prohibiting the use of weapons that are, by nature, indiscriminate.¹⁰²

The prohibition of such indiscriminate weapons is accepted as customary international law because of their inability to be targeted directly at military objectives and the potentially devastating effects this can have on civilian populations.¹⁰³ The purpose of these rules is to require enemy combatants to dis-

95. *What is International Humanitarian Law?*, INT'L COMMITTEE OF THE RED CROSS (July 2004), https://www.icrc.org/eng/assets/files/other/what_is_ihl.pdf.

96. *Id.*

97. *Id.*

98. Int'l Committee of the Red Cross, *Customary IHL*, IHL DATABASE https://ihl-databases.icrc.org/customary-ihl/eng/docs/v1_rul (last visited Apr. 23, 2020).

99. *Id.*

100. Int'l Committee of the Red Cross, *Rule 70. Weapons of a Nature to Cause Superfluous Injury or Unnecessary Suffering*, IHL DATABASE, https://ihl-databases.icrc.org/customary-ihl/eng/docs/v1_rul_rule70 (last visited Apr. 23, 2020) [hereinafter Rule 70].

101. *Id.*

102. Int'l Committee of the Red Cross, *Rule 71. Weapons That Are by Nature Indiscriminate*, IHL DATABASE, https://ihl-databases.icrc.org/customary-ihl/eng/docs/v1_rul_rule71 (last visited Apr. 23, 2020) [hereinafter Rule 71].

103. *Id.*

tinguish between civilians and combatants in order to limit violence and suffering and curb the spread of terror among civilian populations living in hostile territories.¹⁰⁴

III. THE NECESSITY OF REGULATIONS GOVERNING THE USE AND DEVELOPMENT OF METHODS OF WARFARE BY STATES

The purpose of having rules governing the methods and modes of warfare is to ensure the continued success of humanity by reducing human suffering and limiting the scope of wartime destruction.¹⁰⁵ As stated above, this is evidenced in almost every international treaty that speaks to the issue of wartime behavior and the rules of combat.¹⁰⁶ Stated so eloquently in one of the earliest declarations renouncing the use of indiscriminate and excessively harmful means of warfare, the Declaration of St. Petersburg reads:

That the progress of civilization should have the effect of alleviating as much as possible the calamities of war; That the only legitimate object which states should endeavor to accomplish during war is to weaken the military forces of the enemy; That for this purpose it is sufficient to disable the greatest possible number of men; That this object would be exceeded by the employment of arms which uselessly aggravate the sufferings of disabled men, or render their death inevitable; That the employment of such arms would, therefore, be contrary to the laws of humanity.¹⁰⁷

Such a declaration reinforces the idea that there should be no unnecessary cruelty, and states should mitigate any interruption of peace to civilized society during times of war because such atrocities would go against the basic concept of humanity.¹⁰⁸ The rules of warfare are considered to be universal, with the Geneva Conventions ratified by every single state in the world.¹⁰⁹ The importance of such rules are therefore not only

104. Francois Bugnion, *Customary International Humanitarian Law*, 7 ISIL Y.B. INT'L HUMAN. & REFUGEE L. 1, 22 (2007).

105. *What are the rules of war and why do they matter?*, INT'L COMMITTEE OF THE RED CROSS (Oct. 19, 2016), <https://www.icrc.org/en/document/what-are-rules-of-war-Geneva-Conventions>.

106. *Id.*

107. St. Petersburg Declaration, *supra* note 48.

108. James L. Tryon, *The Regulation of War*, 20 YALE L. J. 535, 536 (1911).

109. *What are the rules of war and why do they matter?*, *supra* note 105.

evidenced by the important subject matter they cover—that being the preservation of human life—but also the universal support these rules receive through state ratification.¹¹⁰

One of the most fundamental objectives of international law has historically been to ensure the humane treatment of all members of society.¹¹¹ The need to preserve human life during periods of armed conflict became a topic of particular interest for the international community towards the end of the nineteenth century when elements of international humanitarian law were first codified.¹¹²

With the ratification of the Hague and Geneva Conventions, a line in the sand was drawn regarding what states could and could not do in furtherance of their military objectives.¹¹³ To enforce these new norms, the creation of the concept of war crimes arose.¹¹⁴ War crimes have thus been enumerated in almost every relevant international treaty, and as such have come to be considered a part of customary law that is binding on all states.¹¹⁵

The prosecution of war crimes has become the most crucial enforcement mechanism for international humanitarian law and the law of wars.¹¹⁶ The prosecution of war crimes falls within the jurisdiction of the International Criminal Court, a permanent institution established by the United Nations General Assembly with the intended purpose to exercise power over persons for crimes against humanity and of international concern.¹¹⁷ Crimes within the International Criminal Court's jurisdiction are limited to "the most serious crimes of concern to the international community as a whole," outlined as genocide, crimes against humanity, war crimes, and aggression.¹¹⁸ Most relevant to this Note are crimes against humanity and war crimes, which encompass acts contrary to international

110. *Id.*

111. G.A. Res. 39/46, at 5 (Dec. 10, 1984).

112. United Nations Office on Genocide Prevention and the Responsibility to Protect, *War Crimes*, UNITED NATIONS, <https://www.un.org/en/genocide-prevention/war-crimes.shtml>.

113. *Id.*

114. *Id.*

115. *Id.*

116. *Id.*

117. Rome Statute of the International Criminal Court, art. 1, July 17, 1998, 2187 U.N.T.S. 90.

118. *Id.* art. 5.

humanitarian law and in violation of the Geneva Conventions.¹¹⁹

The establishment of the International Criminal Court further solidified the importance of holding violators of international humanitarian law accountable. Recognizing the necessity of a mechanism to ensure the enforcement of all international treaties and agreements related to warfare, the United Nations General Assembly encouraged all states to ratify the Rome Statute, which established the International Criminal Court, without delay.¹²⁰

After its establishment, the International Criminal Court was recognized by the General Assembly as a crucial organ within international law tasked with adjudicating issues of global concern while promoting and encouraging respect of human rights in accordance with international humanitarian law.¹²¹ As such, enforcement of the laws of war and accountability for those who violate them have been found to be a crucial element of the maintenance of civilized society and necessary for the furtherance of humanity.¹²²

IV. THE DANGERS ASSOCIATED WITH COVERT METHODS AND MEANS OF WARFARE THAT CAN LEAD TO THE CONCEALMENT OF THE STATE SPONSOR

The Hague Convention of 1907, entitled the Convention relative to the Opening of Hostilities, codifies the requirement of a formal declaration of war prior to the commencement of hostilities.¹²³ The implementation of this convention came after the outbreak of the Russo-Japanese War, which began in 1904 without a formal declaration of war.¹²⁴ States subsequently recognized the necessity of an explicit warning or declaration prior to the initiation of hostilities in order to provide a reason-

119. *Id.* arts. 7–8.

120. G.A. Res. 58/79, ¶ 1 (Dec. 11, 2003).

121. G.A. Res. 61/15, at 2 (Jan. 23, 2007).

122. G.A. Res. 61/15, at 2 (Jan. 23, 2007).

123. Hague Convention (III) relative to the Opening of Hostilities, art. 1, Oct. 18, 1907, 36 Stat. 2259, 205 Consol. T.S. 263 [hereinafter Hague Convention III].

124. Int'l Committee of the Red Cross, *Convention (III) relative to the Opening of Hostilities*, IHL DATABASE <https://ihl-databases.icrc.org/ihl/INTRO/190?OpenDocument> (last visited May 27, 2020).

ing or motive for the relevant dispute.¹²⁵ Not only are states required to warn their opponent by formally declaring war, but neutral states not a party to the hostility are also entitled to notification.¹²⁶ Such notification is required because once war commences, the rules governing international humanitarian law must be followed by the involved states.¹²⁷

International humanitarian law applies once war has been declared.¹²⁸ However, its application is only relevant between the “High Contracting Parties” that have commenced an international armed conflict.¹²⁹ As such, knowing a state’s target of armed violence, as well as the perpetrating state, is important in order to ensure all relevant parties are abiding by international humanitarian law.¹³⁰ The central concern stemming from the absence of a formal declaration of war is the possibility of a covert action being undertaken where the perpetrating state of an armed conflict goes unidentified and unchecked by international humanitarian law.¹³¹

Covert actions are defined as measures secretly exercised by one state against another in order to influence the affairs of that state.¹³² Given the desire within international law to resist the commencement of warfare and the ease with which an initiation of armed conflict can subsequently lead to political isolation within the international community, states have become less likely to declare war outright and more likely to use covert activity to achieve their goals.¹³³ The most notable feature of covert actions, and arguably the most troublesome for purposes of international humanitarian law, is the secrecy of operations.¹³⁴ As stated in a Comment within the Berkley La Raza Law Journal:

125. Hague Convention III, *supra* note 123.

126. *Id.*

127. Julia Grignon, *The beginning of application of international humanitarian law: A discussion of a few challenges*, 96 INT'L REV. RED CROSS 139, 143 (2014).

128. *Id.*

129. *See id.* at 141; *see also The Geneva Conventions of 1949 and their Additional Protocols*, *supra* note 62.

130. Grignon, *supra* note 127.

131. Comment, *Legality of Covert Action Under Contemporary International Law*, 1 LA RAZA L.J. 139, 142–43 (1984).

132. *Id.*

133. *Id.* at 140.

134. *Id.* at 142.

The goal of concealment is not to hide the activity from the target state. That country well knows when it is under attack. Nor is it to hide the identity of the nation directing the covert activity. This knowledge can complement the ends of covert action. The purpose of secrecy is to prevent responsibility or blame from being placed at its real source.¹³⁵

The purpose behind carrying out covert actions are rightfully alarming, as the perpetrating state is attempting to shirk responsibility and willfully violate international law through the possible commission of war crimes while avoiding detection and punishment.¹³⁶

V. THE DEVELOPMENT OF ELECTRONIC WARFARE AND ITS ABILITY TO BE UTILIZED COVERTLY, WITHOUT BEING REGULATED, AND IN VIOLATION OF INTERNATIONAL HUMANITARIAN LAW

The problems associated with the attacks against US diplomats in both Cuba and China using some form of electronic warfare are numerous. First, the unsettling issue arises that somewhere in the world, an unknown state or entity has successfully developed a device utilizing electromagnetic warfare that it has covertly utilized and that has proven to be both functional and harmful.¹³⁷ Second, no international organization has been made privy to the development of this sort of weapon, leaving its possible effects and capabilities unknown.¹³⁸ Because this weapon is not being regulated, it is unknown whether its functionality violates international humanitarian law with its specific capabilities, and the country covertly operating this weapon could be doing so in direct violation of the treaties and customs that comprise international humanitarian law.¹³⁹

135. *Id.*

136. *Id.* at 143.

137. *See* Schaal, *supra* note 1.

138. *See id.*

139. *Id.*

A. *The Anonymity Problem*

An unknown state or rogue entity has successfully carried out an attack on US diplomats and cannot be identified.¹⁴⁰ That statement alone is cause for concern in light of the severe and traumatic injuries sustained by by the diplomats and the lack of known provocation.¹⁴¹ If the perpetrator of these attacks were known, the United Nations and its members would likely have already assessed the issue, placed blame on the state carrying out the action, and taken subsequent measures to address the novel use of force and determine appropriate sanctions to be imposed upon the perpetrator.¹⁴² Instead, the US is faced with a situation where its own diplomats are under attack on foreign soil with no one to blame, an issue that could permit a state to carry out illegal and heinous acts with impunity.¹⁴³

The inability to assign blame when an international attack occurs is particularly concerning in that the state attacked has no means of redress because it cannot identify its enemies.¹⁴⁴ Somewhere, some state has decided there exists a dispute so severe it now requires the commencement of an armed conflict initiated by an attack against US diplomats. However, who this perpetrator is, what the aggravating circumstances are, and how the issue can be resolved are all unknown. Without any explicit warning or declaration made against the US prefacing these attacks, international law has been violated.¹⁴⁵ The "High Contracting Parties" are unknown, in violation of the Geneva Conventions, and a warning or rationale for the attacks has not been provided to the attacked state, in violation of the Hague Conventions.¹⁴⁶

B. *The Regulatory Problem*

Not only did the commencement of these hostilities violate international law, but the actual method of force being utilized,

140. *Id.*

141. *Id.*

142. U.N. Charter, art. 41.

143. *Legality of Covert Action under Contemporary International Law*, *supra* note 131, at 143.

144. *Id.*

145. Hague Convention III, *supra* note 123, art. 2.

146. *Id.*; *see also The Geneva Conventions of 1949 and their Additional Protocols*, *supra* note 62.

electronic warfare, is unregulated.¹⁴⁷ Without knowledge of how these attacks are being perpetrated and with what sort of weapon, the international community cannot even begin to assess whether or not the relevant weapons violate explicit international humanitarian law. As explained, the specific weapon being utilized in these attacks clearly has effects that violate international humanitarian law by causing unnecessary and superfluous suffering¹⁴⁸ or by being indiscriminate in nature.¹⁴⁹

The obvious issue here is the lack of answers as to whether this weapon is permissible under international humanitarian law as it currently stands. The international community has never shied away from prohibiting the use of unconscionable and inhumane methods of warfare.¹⁵⁰ One of the earliest weapon prohibitions, as explained earlier, was against lightweight exploding projectiles.¹⁵¹ The St. Petersburg Declaration codified the custom that weapons that go further than disabling an enemy combatant from the battlefield are prohibited and not to be used as a method of warfare.¹⁵² The question therefore arises as to whether this electromagnetic weapon is capable of decimating an individual,¹⁵³ or whether it can cause unnecessary suffering that is indiscriminate by nature.¹⁵⁴

While virtually nothing is known about the weapon at issue, it is clear from its effects that its use likely violates international humanitarian law. Without even having a comprehensive understanding of how the specific weapon operates, it flows logically that it must be indiscriminate and has already been proven to cause unnecessary suffering without providing requisite notice of impending hostilities.¹⁵⁵ The injuries sustained by the victims of these attacks are consistent with that of traumatic brain injuries.¹⁵⁶ Such mental and bodily harm is an extreme form of suffering that can have lifelong damaging

147. *See generally* Hague Convention III, *supra* note 123.

148. Rule 70, *supra* note 100.

149. Rule 71, *supra* note 102.

150. *See* St. Petersburg Declaration, *supra* note 48.

151. *See id.*

152. *See id.*

153. *See id.*

154. Rule 70, *supra* note 100; *see also* Rule 71, *supra* note 102.

155. Loria, *supra* note 7.

156. *Id.*

effects on the human body.¹⁵⁷ The effects of this weapon are therefore clearly in violation of international humanitarian law.

The mode in which the weapon is utilized also unequivocally violates international humanitarian law.¹⁵⁸ Electromagnetic weapons operate by directing mass amounts of energy towards a human target from a distance.¹⁵⁹ This arguably constitutes an indiscriminate weapon as it travels great lengths to cause its harm.¹⁶⁰ While it can be aimed at a particular target, the length of travel necessary to operate such a weapon in a covert fashion infers that it could harm innocent civilians during its travel to the intended target.¹⁶¹ The possibility of a weapon having the capability to impact a non-intended target is one of the fundamental prohibitions within the Geneva Conventions.¹⁶²

The issue with the events that took place in Cuba and China are simple: an unregulated weapon has been used covertly by a state or rogue entity in violation of international law. The problems stemming from these events are numerous, and they call for the international community to take action and combat the atrocities taking place against foreign diplomats without warning. The solution to these problems can be achieved much in the same way issues with the methods and means of warfare have been solved historically, through law and order.

VI. SOLUTIONS TO THE PROBLEM: HOW TO ENFORCE INTERNATIONAL HUMANITARIAN LAW AGAINST SECRET VIOLATORS

There are myriad unknowns with the issue of covert electronic warfare. The state sponsoring these attacks has managed to avoid detection. The full capabilities of the weapon being used

157. "Along with changes in emotional stability, personality, and independence for activities of daily living, cognitive impairment frequently results from traumatic brain injury (TBI)." David J. Schretlen & Anne M. Shapiro, *A Quantitative Review of the Effects of Traumatic Brain Injury on Cognitive Functioning*, 15 INT'L REV. PSYCHIATRY 341 (2003).

158. Rich, *supra* note 23.

159. *Id.*

160. *Id.*

161. *Id.*

162. *The Geneva Conventions of 1949 and their Additional Protocols*, *supra* note 62.

are unknown.¹⁶³ The motive behind the attacks against US diplomats remains a mystery as there has been no declaration of war accompanied by a rationale for the action. However, the little information we do have about the problem is enough to propose solutions and possibly deter future attacks.

A. An International Treaty Condemning the Further Development of Electromagnetic Weapons

To stop the development of electromagnetic weapons and force violating states into compliance with international humanitarian law, the international community should initiate the treaty making process to codify a proscription against the development of electromagnetic weapons. Such a treaty would be appropriate because, as discussed above, these weapons and the way they are utilized contravene international humanitarian law.¹⁶⁴ Such a treaty would merely operate as a further extension of what methods of warfare are permissible and address technological advances more expressly. States would likely agree that it is important for there to be an explicit bar on any weapon imaginable that could violate international law.

An international treaty banning electromagnetic weapons could mark the beginning of a zero-tolerance policy against any state seeking to use or develop electromagnetic weapons. The treaty would serve to delineate yet another weapon that violates international humanitarian law but has not been explicitly enumerated in current treaties.

It is critical for states to specify certain methods of warfare that are illegal because as time progresses, so do states' technological capabilities. With these advancements come the development of new and dangerous weapons that were not necessarily foreseen by the international community the last time regulations on the methods of warfare were adopted or amended. The world and the technology within it are everchanging, and the international community needs to react to these changes so as to ensure states are not operating within a "gray

163. Josh Lederman, et al., *U.S. officials suspect Russia in mystery 'attacks' on diplomats in Cuba, China*, NBC NEWS (Sep. 11, 2018, 4:42 AM), <https://www.nbcnews.com/news/latin-america/u-s-officials-suspect-russia-mystery-attacks-diplomats-cuba-china-n908141>.

164. See Rule 70, *supra* note 100; see also Rule 71, *supra* 102.

area" of the law and developing weapons that might otherwise be illegal.

To ensuring states adhere to the treaty, it could be reinforced by outlining specific and significant economic sanctions on states found to be in violation. Any evidence presented to the international community evidencing a breach of the treaty would need to be acted upon swiftly to ensure a state's development of electromagnetic weapons does not go too far. The sanctions would need to be substantial because the potential harm to civilians, as shown in the events that took place in Cuba,¹⁶⁵ is so severe. The treaty would essentially underscore the long-held purpose of international humanitarian law,¹⁶⁶ which is the continued existence of civilized society.¹⁶⁷

The international community has not shied away from explicitly prohibiting certain weapons found to be a threat to civilized society.¹⁶⁸ The rationale for every international weapons ban has almost always been the same: to reduce suffering and limit the scope of wartime destruction.¹⁶⁹ Given that all treaties in the past have been supported by this proposition, the US would have the most success in advancing yet another weapons ban using that exact same rationale.

Here, the issue surrounding electromagnetic weapons arises from the same concerns addressed in the past. Electromagnetic weapons can cause unnecessary suffering,¹⁷⁰ be used without requisite notice, and they are by nature indiscriminate. As such, their use thus violates international law.¹⁷¹

B. An International Treaty Regulating the Permissible Development of Electromagnetic Weapons

Alternatively, the US could propose a treaty that seeks to regulate and monitor the development of electromagnetic weapons closely. Electromagnetic weapons can serve a multitude of purposes other than attacking human targets.¹⁷² As ref-

165. Loria, *supra* note 7.

166. Rule 70, *supra* note 100.

167. *The Geneva Conventions of 1949 and their Additional Protocols*, *supra* note 62.

168. See St. Petersburg Declaration, *supra* note 48.

169. *What are the rules of war and why do they matter?*, *supra* note 105.

170. Rule 70, *supra* note 100.

171. Rule 71, *supra* note 102.

172. CHAIRMAN OF THE JOINT CHIEFS OF STAFF, *supra* note 32.

erenced above, electromagnetic technology is one of the key tools in various defense mechanisms, such as radars and other personnel equipment.¹⁷³ States might therefore fear that an outright ban on these weapons would implicate and weaken their defense systems and leave them more vulnerable to enemy attacks. Instead, states may be more inclined to sign on to a treaty regulating rather than banning these devices.

A treaty enacted with the purpose of regulating electromagnetic weapons would likely receive support, as even those states who rely on these devices for defense tactics would arguably not want to see them used for destruction. A treaty of this nature could similarly be reinforced by outlining sanctions that would be imposed against countries found to be using these electromagnetic weapons outside of their approved scope, which would only be for defense mechanisms.

The problem with regulation as opposed to an outright ban is the resources required to monitor the development of these weapons. The international community would have to expend an abundance of resources to closely monitor every state on a global scale to ensure compliance. Independent auditors sponsored by the United Nations or some other international body would need to be selected, trained, and put in the field to monitor the actions of every state that possesses the capability of developing such weapons. This could prove to be taxing, costly, time consuming, and potentially ineffective if countries choose to develop these weapons in secret and shield their advancements from the international community.

CONCLUSION

The use and continued development of electromagnetic weapons poses a grave threat to civilized society. The novel nature of these weapons makes their legality under existing international law somewhat ambiguous, thus necessitating a new treaty either prohibiting their development and use or strictly regulating their manufacture.

Inaction has proven to be detrimental to all members of civilized society, with the events in Cuba and China illustrating just how dangerous these weapons truly are.¹⁷⁴ To force society to live in a state of fear about potential attacks against inno-

173. *Id.*

174. Loria, *supra* note 7.

cent civilians by unknown perpetrators at unforeseen times goes against every principle of international humanitarian law. The international community must act now, before it is too late.

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