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Fellows and the Master's Thesis Corner

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## Master's Thesis Corner

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*Gabriella C. Bettino*

# Treaties and Conflict: Effective Mechanisms for Compliance with Treaties Regulating Emerging Technologies

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Emerging technologies have exposed the limitations of existing laws and norms surrounding armed conflict. To understand how states modify their behavior in compliance with international law in these new contexts, we must first evaluate whether the established international legal structures can accommodate emerging military technologies. Some experts argue that the Laws of Armed Conflict (LOAC) need to be updated to include new dimensions of warfare, while others argue that they are flexible enough to encompass these emerging dynamics. In this piece, I propose that the latter view is correct; however, I argue that when new technologies emerge, new treaty regimes should be created. This will decrease the likelihood of specific uses of technologies, especially those with WMD-capabilities, that would violate established international law. Applying insights from the literature on arms control treaty compliance and verification, I argue that an effective treaty to govern emerging technologies with WMD-capabilities will include both a third-party verification body and mechanisms for these third parties to verify compliance with the treaty regime by looking at the cases of the Nuclear Non-Proliferation Treaty (NPT), the Military Technology Control Regime (MTCR), and the Biological Weapons Convention (BWC).

## Literature Review

Recent technological advancement presents such unique changes to the battlefield that it has caused experts to question the effectiveness of current international law governing battlefield behavior. The group of scholars who argue that international law cannot effectively encompass these new dimensions of warfare does so on the basis that the international community needs to act proactively to effectively regulate conflict through the LOAC.<sup>12</sup> On the other side of the debate, experts also assert that the LOAC's flexible nature allows for its continued adaptability to changing conflict environments created by emerging technologies. Actors adapt their interpretations of the text of the LOAC over time and apply these changes to new conflict environments.<sup>34</sup> History is on the side of the second group of scholars as the LOAC have not substantively changed following the emergence of new technologies or domains. What

1 Eric Talbot Jensen, "Future War, Future Law," *Minnesota Journal of International Law* 22, no.2 (Summer 2013): 282-323.

2 Bill Campbell, "The Dynamic Evolution of International Law - The Case for the More Purposeful Development of International Law," *Victoria University of Wellington Law Review* 49, no. 4 (2018): 561-572.

3 Elvira Rosert, Una Becker-Jacob, Giorgio Franceschini, and Annette Schaper. 2013. "Arms Control Norms and Technology." Chap.

4 in *Norm Dynamics in Multilateral Arms Control*, by Harald Mueller and Carmen Wunderlich, 109-139. University of Georgia Press.

4 Darren M. Stewart, "New Technology and the Law of Armed Conflict," *International Law Studies* 87 (2011): 271-299.



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has followed, however, is the creation of treaties and agreements regulating specific aspects of these emerging technologies.

Debates around the strength of enforcement have led to the well-established conclusion, through credible threat theory, that treaties containing strong enforcement mechanisms tend to have lower participation but higher levels of compliance. These strong mechanisms force states to weigh their commitments and preferences and only join intending to comply with treaty provisions.<sup>56</sup> As for self-enforcing treaties, the scholarship in this area has found that they tend to involve smaller numbers of parties, and they include third-party verification and enforcement procedures to ensure compliance.<sup>7</sup> That said, the verification and enforcement mechanisms must be well-designed to gain desired effects. For example, poor quality inspection systems produce violations of treaty provisions, as the loopholes in treaty text are more readily exploited.<sup>8</sup> Enforcement must also be designed in a manner to allow the penalty to accurately reflect the severity of the breach.<sup>9</sup> These penalties can and should range anywhere from presenting the non-compliant incident to a public forum to reporting the incident to a body such as the United Nations Security Council (UNSC) for further action.

### Theory

Based on existing research, states need not create new guidelines for activity with emerging technologies where it relates to the LOAC. With other new domains created or explored in the past, such as space, information, or even air, the established LOAC never experienced explicit changes to their text. They were, however, changed regarding the ways their text was applied, reflecting changes to the international conflict environment.

The lack of explicit language within the Laws of Armed Conflict and other agreements surrounding conflict presents both pros and cons, with the flexibility of the text without precise wording commonly found in treaties, for example, posing both opportunities for adaptability and noncompliance. I argue, however, that the pros outweigh the cons in this instance. Specific technological treaty regimes tend to be the best solutions in the present international system. By creating agreements surrounding emerging behaviors through established routes to shift the interpretation of already codified laws and regulations, potential regulators will be able to circumvent challenges and, hopefully, create meaningful change regarding proper behavior with emerging technologies in an ever-shifting international conflict space. This leads to the hypothesis that is being tested in this piece:

*H: A strong treaty regime regulating emerging military technologies will include a third-party institution and that this institution's verification capabilities will ensure compliance.*

### Research Design

In addressing the hypothesis posed above, this piece takes a “strong-medium-weak” case study approach. A “strong” case under this approach includes an international body and third-party verification mechanisms. A “medium” case includes either an international body or third-party verification mechanisms, but not both. Lastly, a “weak” case has neither of the above attributes. The goal with including the three levels of variation is to provide insights as to

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5 Yvonne M. Dutton, “Explaining State Commitment to the International Criminal Court: Strong Enforcement Mechanisms as a Credible Threat,” *Washington University Global Studies Law Review* 10, no. 3 (2011): 477-534.

6 Yvonne M. Dutton, “Commitment to International Human Rights Treaties: The Role of Enforcement Mechanisms,” *University of Pennsylvania Journal of International Law* 34, no.1 (Fall 2012): 1-66.

7 Beth Simmons, “Treaty Compliance and Violation,” *Annual Review of Political Science* 13 (15 June 2010): 273-296.

8 D.M. Kilgour, “The use of costless inspection in enforcement,” *Theor Decis* 36 (1994): 207-232.

9 Louis B. Sohn, “Adjudication and Enforcement in Arms Control,” *Daedalus* 89, no. 4 (Fall 1960): 879-891.

how variation on the independent variables, presence of an international body and third-party verification and enforcement mechanisms, affects the dependent variable, treaty/agreement compliance. This examines and tests the observable implications that these strong mechanisms induce state compliance with international agreements. Further study into the mechanisms of compliance within states is beyond the scope of this text.

The universe of cases for this study are all technological control agreements from 1675 (the Strasbourg Agreement) to 2017 (the Treaty on the Prohibition of Nuclear Weapons). After subsetting this list to include only multilateral and ratified agreements, the cases for this study were selected as follows: the strong case is the NPT, the medium case is the MTCR, and the weak case is the BWC. For the sake of brevity, the strong case will be discussed below.

### **Case Study - The Nuclear Non-Proliferation Treaty and the International Atomic Energy Agency**

The NPT, International Atomic Energy Agency (IAEA), and related Safeguards Agreements provide the “strong” case for this study. As it has both an international body, the IAEA, and third-party verification through the Staff of Inspectors, it provides a “best case” for compliance under the theory proposed by this thesis from the universe of cases.

#### **1. Verification Under the NPT and IAEA**

The Staff of Inspectors of the Agency examine all operations conducted by the Agency to ensure that the Agency itself is complying with its safeguards. They also obtain and verify the accounts from the within-state inspections, reporting any instances of non-compliance to the Director-General, and then the Board of Governors.<sup>10</sup> This triggers a chain reaction where the state who is found in non-compliance will be called upon to remedy the situation, and the Board reports the incident to the UNSC and United Nations General Assembly (UNGA).<sup>11</sup> Upon failure to remedy under the initial notice, the Board has two avenues for action: they may suspend assistance and call for the return of any materials provided by the Agency or members of the IAEA, or they may suspend the member from its privileges and rights that it receives from membership.<sup>12</sup>

#### **2. Compliance Assessment and the North-Korean Non-Compliance Case**



Graph 1.

<sup>10</sup> International Atomic Energy Agency, “The Statute of the IAEA,” International Atomic Energy Agency, <https://www.iaea.org/about/statute> (Accessed 5 May 2021).

<sup>11</sup> International Atomic Energy Agency.

<sup>12</sup> International Atomic Energy Agency.

State	Non-Compliant Period
Romania	1992 <sup>13</sup>
South Korea	2004 <sup>14</sup>
Egypt	2004-2005 <sup>15</sup>
Iraq	1991-2005 <sup>16</sup>
North Korea	1992-Present <sup>17</sup>
Libya	The 1980s-2003 <sup>18</sup>
Iran	2003-Present <sup>19</sup>
Syria	2008-Present <sup>20</sup>

Table 1.

As can be seen in the graph and table, nuclear non-compliance over time with the NPT and IAEA has been a relatively rare event, only occurring in the 1990s-early 2000s and around 20 years following the enactment of the agreements. Of the 190 states parties to the treaty, eight countries have been found in non-compliance, producing a compliance rate of 95.8%.

The North Korean non-compliance case best shows the NPT and IAEA's ability to constrain the behavior of those who are looking to develop a military nuclear program. North Korea became a party to the NPT and its Safeguards Agreement in 1985,<sup>21</sup> where it fully participated until 1992,<sup>22</sup> when it denied IAEA inspectors access to waste sites in the country. The IAEA then requested that the UNSC authorize special ad hoc inspections in the country.<sup>23</sup> In March 1993,<sup>24</sup> North Korea then requested to withdraw from the treaty but instead suspended its membership in June 1993.<sup>25</sup> While its membership was suspended, it was still a party to the treaty, and the state did not make great gains in its military nuclear program until, in 2003,<sup>26</sup> it again requested to withdraw from the NPT, effective 10 April 2003.<sup>27</sup> Once the country was no longer party to the NPT and the associated Safeguards Agreement, its military nuclear program expanded.<sup>28</sup>

The North Korean case shows the power of not only the NPT, but also its associated body, the IAEA, and its mechanisms for verification and accountability. While North Korea was found to be in non-compliance with its Safeguards Agreement and the NPT, its military nuclear program was limited in scope compared to what it has grown to. Without the mechanisms for verification through the IAEA's Staff of Inspectors, the Agency, the UNSC would not have

13 John Carlson, "Defining Noncompliance: NPT Safeguards Agreements," Arms Control Association <https://www.armscontrol.org/act/2009-05/iran-nuclear-briefs/defining-noncompliance-npt-safeguards-agreements> (Accessed 5 May 2021).

14 NTI, "South Korea," NTI (Dec. 2015) <https://www.nti.org/learn/countries/south-korea/> (Accessed 5 May 2021).

15 Carlson.

16 The White House, "Saddam Hussein's Defiance of United Nations Resolutions," The White House: George W. Bush <https://georgewbush-whitehouse.archives.gov/infocus/iraq/decade/sect2.html> (Accessed 5 May 2021).

17 NTI, "North Korea," NTI (Oct. 2018) <https://www.nti.org/learn/countries/north-korea/nuclear/> (Accessed 5 May 2021).

18 NTI, "Libya," NTI (Jan. 2015) <https://www.nti.org/learn/countries/libya/nuclear/> (Accessed 5 May 2021).

19 NTI, "Iran," NTI (Jun. 2020) <https://www.nti.org/learn/countries/iran/nuclear/> (Accessed 5 May 2021).

20 NTI, "Syria," NTI (Apr. 2018) <https://www.nti.org/learn/countries/syria/nuclear/> (Accessed 5 May 2021).

21 NTI, "North Korea."

22 NTI, "North Korea."

23 NTI, "North Korea."

24 NTI, "North Korea."

25 NTI, "North Korea."

26 NTI, "North Korea."

27 NTI, "North Korea."

28 NTI, "North Korea."

had the same information to hold North Korea accountable and in compliance, within limits. The expansion of North Korea's military nuclear program following its withdrawal further accentuates this point, as there needed to be a mechanism to hold the state back from creating the nuclear program we see today.

### **Conclusion**

In conclusion, this piece has shown that not only will a new set of treaties be necessary to create a safer conflict environment concerning the use of emerging technologies in warfare, but also that these treaties must contain and international body and third-party verification mechanisms. The LOAC, being sufficiently malleable to adapt to changing environmental circumstances, need not be rewritten. While treaties are imperfect actions in the international law sphere as compliance issues plague any regime, they are effective tools where it comes to emerging technologies. They not only create best practices for use in conflict, such as the expectation to limit targeting of non-combatants, and for those that are wholly banned, they create incentive structures against their creation and use.

For future studies, it would be prudent to examine how these treaty regimes and international law as a whole affect decision-making to more directly test the causal mechanism in this piece to ensure that it does have the constraining effect at the individual/bureaucratic level. There is some literature in this area, with international environmental law providing more concrete examples of bureaucratic adaptation to treaty law, but examining decision-makers' thought processes and actions through archival studies could provide more insight into this mechanism.

*"A new set of treaties will be necessary to create a safer conflict environment concerning the use of emerging technologies in warfare,"*