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Emerging Technologies and LOAC Signaling

History teaches us that emerging technologies will inevitably be weaponized if the potential exists.¹ Much like the axiom “No good deed goes unpunished”, it is safe to say that “no militarily useful technology goes undeveloped.” A critical aspect of governing emerging technologies is to consider their potential for weaponization and how effective the existing legal paradigm is to regulate their development and employment.

Some argue that the current law of armed conflict, or LOAC, including the basic principles of necessity, humanity, distinction, and proportionality, is sufficiently developed to provide effective restraints on the weaponization of emerging technologies. For example, the LOAC requires nations to apply a legal review of developing weapons at the “study, development, acquisition or adoption”² stage. This LOAC requirement would mean that as each new technology was in the study, development, acquisition or adoption stage, a legal advisor would look at its intended use and ensure that it complies with the current legal obligations. Any eventual issues that were not captured at the development stages would be dealt with as they arise through usage.

However, an alternate view argues that some of the emerging technologies are “game changers”³ and require at least an evolved application of these general principles, and in some cases a specific paradigm shift. For example, the legal definition of an “attack” during armed conflict has been called into question by LOAC experts with respect to cyber operations.⁴ Similar concerns apply to other emerging technologies.⁵

In order for the law to effectively signal to nations which applications of emerging technologies are appropriate, the LOAC needs to play a more proactive, rather than simply reactive, role. In the face of game-changing technological advances, relying on centuries old general principles of law will be insufficient to adequately regulate weapons development. While a complete overhaul of the LOAC is unnecessary, a thoughtful evolution of general principles and their specific application to emerging technologies is required.

¹ John D. Banusiewicz, *Lynn Outlines New Cybersecurity Effort*, U.S. Dep’t of St. (June 16, 2011), <http://www.defense.gov/utility/printitem.aspx?print=http://www.defense.gov/news/newsarticle.aspx?id=64349>.

² Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts (Protocol I) art. 36, June 8, 1977, 1125 U.N.T.S. 3; cf. Duncan Blake & Joseph S. Imburgia, *"Bloodless Weapons"? The Need to Conduct Legal Reviews of Certain Capabilities and the Implications of Defining Them as "Weapons"*, 66 A.F. L. REV. 157, 159, 161 (2010) (discussing the application of legal reviews to certain future and developing weapons).

³ Interview with Peter W. Singer, Senior Fellow, the Brookings Institute, *available at* <http://www.abc.net.au/lateline/content/2012/s3442876.htm>

⁴ The Tallinn Manual on the International Law Applicable to Cyber Warfare 106-110 (Michael N. Schmitt ed., 2013)

⁵ Eric Talbot Jensen, *The Future of the Law of Armed Conflict: Ostriches, Butterflies, and Nanobots*, 35 Michigan Journal of International Law 253, 311-12 (2014).