

# **Yearbook of International Humanitarian Law**

Volume 21

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Editors

# Yearbook of International Humanitarian Law 2018



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Cover picture: An MQ-1 Predator unmanned aerial vehicle and F-16 Fighting Falcon return from an Operation Iraqi Freedom combat mission. Both aircraft provide intelligence, search and reconnaissance gathering features, as well as munitions capability to support ground troops and base defense.  
Photo: U.S. Air Force photo/1st Lt. Shannon Collins.

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# Editorial

International Humanitarian Law (IHL), law of weaponry and the international arms control architecture as a whole are confronted with a formidable array of challenges. New military technologies are set to revolutionize military affairs and challenge traditional arms control paradigms. At the same time, resurgent big power rivalries and shifting geopolitical power dynamics in the twenty-first century are putting increasing pressure on existing arms control structures many of which are imbued with twentieth century rationales.

Nowhere is this more visible than with regard to nuclear weapons where traditional arms control regimes are currently eroding at an alarming pace. With the demise of the Intermediate-Range Nuclear Forces Treaty's (INF) Treaty and the US's withdrawal from the Joint Comprehensive Plan of Action, better known as the Iran Nuclear Deal, now even the future of the Non-Proliferation and New Start treaties, both of which are due to be reviewed in 2020 and 2021 respectively, is uncertain.

But also beyond the realm of nuclear disarmament there are challenges abound. Prohibited chemical weapons have repeatedly been used in Syria and the possibility of newly emerging generations of biological weapons, based on developments in genetics and genomics, are increasingly a cause of concern. What is more, since Russia's suspension of the Treaty on Conventional Armed Forces in Europe it is clear that the erosion of arms control is not confined to weapons of mass destruction but similarly affects the broad field of conventional weapons control. In addition, the use of explosive weapons in densely populated areas in warzones such as Syria and Yemen as well as the important issue of arms transfers and their restrictions have increasingly come into focus.

Simultaneously, the militarization of artificial intelligence (AI), outer space and cyber space combined with rapid developments in robotics, nano-technology and the field of hypersonic missiles are raising new humanitarian concerns and regulative challenges many of which remain incompletely understood and are in need of further and deeper discussion.

It is against this backdrop, that Volume 21 (2018) of the Yearbook of International Humanitarian Law is devoted to the humanitarian and legal challenges surrounding weapons and new military technologies. The volume starts with a contribution from Mirko Sossai who explores “The Demands of Future Operations and the Promise of Non- or Less-Lethal Weapons” and traces recent developments in this area while considering the specific demands of peace-keeping and law enforcement scenarios and generally military operations aiming to protect the civilian population.

Stuart Casey-Maslen then turns to “The Status of Nuclear Deterrence Under International Law in Light of the Treaty on the Prohibition of Nuclear Weapons” and the delegitimizing impact this treaty has on nuclear deterrence at a time where new technological capabilities such as offensive cyber operations are rendering nuclear deterrents increasingly ineffective. Matthias Brenneke in his contribution on “Lethal Autonomous Weapon Systems and Their Compatibility with International Humanitarian Law: A Primer on the Debate” argues that—at least for the time-being—lethal autonomous weapons systems are incompatible with IHL and that therefore humans must stay in or on the loop to retain meaningful human control. Finally, Joshua Hughes looks into another important dimension of the weaponization of AI and explores “The Law of Armed Conflict Issues Created by Programming Automatic Target Recognition Systems Using Deep Learning Methods” cautioning that this programming method contains inherent limitations such as the inability for the resultant algorithms to comprehend context and the near impossibility to retrace the decision-making process of these algorithms.

In the second part of the Yearbook Beatrice Heuser adopts a historic perspective and looks into “Ordinances and Articles of War before the Lieber Code, 866–1863: The Long Pre-History of International Humanitarian Law” emphasizing, contrary to the common mainstream narrative of IHL textbooks and reference works which tend to depict the American Lieber Code as the starting point of codified IHL, that the Lieber Code was only one in a series of such ordinances that can be traced back in Europe to the ninth century.

As is customary, the Yearbook concludes with a “Year in Review”, this year co-authored by Kilian Roithmaier, Monika Tobjasz and Pauline Bove.

Finally, the members of the Editorial Board would like to extend their warm and sincere thanks to Tim McCormack. Timothy McCormack was General Editor of the Yearbook from Volume 6 (2003) up to and including Volume 11 (2008) and has been Editor of the Correspondents’ Reports from Volume 11 (2008) up to and including Volume 20 (2017). His contribution to the Yearbook in both capacities has been very substantial and valuable in a number of ways. Tim is one of the world’s leading authorities on the law of armed conflict and his scholarship, insight and experience have enriched the Yearbook over all the years of his association with it. Moreover, as anyone who has worked with him can testify, he is a warm and generous person who is a pleasure to know and work with and these qualities

were clearly evident during his long association with the Yearbook. Due to his appointment as Dean of the Law School at his *alma mater*, the University of Tasmania, he has decided to discontinue his activities on the Editorial Board. Tim, many thanks for all your many years with the Yearbook and all the best!

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Berlin, Germany  
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