

NEW TECHNOLOGIES AND THE LAW IN WAR AND PEACE

Policymakers, legislators, scientists, thinkers, military strategists, academics and all those interested in understanding the future want to know how twenty-first-century scientific advances should be regulated in war and peace. This book tries to provide some of the answers. Part I summarises some important elements of the relevant law. In Part II, individual chapters are devoted to cyber capabilities, highly automated and autonomous systems, human enhancement technologies, human degradation techniques, the regulation of nanomaterials, novel naval technologies, outer space, synthetic brain technologies beyond artificial intelligence and biometrics. Part III notes important synergies that emerge between the different technologies and legal provisions (existing and proposed), assesses notions of convergence and of composition in international law and provides some concluding remarks. The new technologies, their uses and their regulation in war and peace are presented to the reader, who is invited to draw conclusions.

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New Technologies and the Law in War and Peace

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Contributors

It will be appreciated that this is a book that tackles a wide range of complex technologies, each of which is the subject of diverse international law and/or policy initiatives, domestic legislation, human rights implications and expert writings. I am therefore privileged and grateful that the contributing authors, all experts in their various fields, have been prepared to contribute chapters on particular technologies. Without their valuable contributions the preparation of the present volume would have simply been impossible. I therefore offer them my heartfelt thanks for all their hard work in preparing the chapters and for all their help in taking the project forward. With their contributions, I am able to offer the reader a comprehensive and in-depth treatment of this most challenging subject.

In the rest of this section, therefore, brief biographical notes will be offered in relation to myself and each of the contributing authors.

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Preface

This book tackles the challenging topic of advances in technology by examining how the law seeks to cope with novel developments. If the practical issues raised by scientific and technological progress in numerous fields of research are complex, and that is undoubtedly the case, matters become even more difficult when the intricacies of different elements of international law are thrown into the mix. By seeking to consider how the various legal principles and rules address the applications, or potential applications, of new and emerging technologies in both the military and civil contexts and by asking whether either can learn from the other, this book adds numerous additional levels of complexity and challenge to an already tricky topic. And yet, that was the challenge that the editor set himself, and the following pages are the result.

The intent in preparing this volume has been to lay before the reader an explanation of the kinds of legal challenge that new and emerging technologies present, and to show how, in differing contexts, legal rules and initiatives for the generation of new law, guidance, codes of practice, etc., strive to address the challenges that have been identified. What emerges is not a blueprint that is capable of general application in all contexts. Rather, the discussion shows that it is the challenges posed by a particular technology or capability when applied in specific circumstances that will have to be the focus of appropriate provision.

However, it is not for the editor nor for the contributors to tell the reader which lessons can be learned, which approaches or solutions are to be preferred and which should be avoided. The role of the editor and of the contributors is to lay the relevant facts, rules and information before the reader while it is for the readers to draw their own conclusions. In that spirit, the editor very much hopes that readers will find worthwhile insights in this book, insights that will be of use to policymakers, lawyers, technologists, scientists,

academics and indeed to all with an interest in where scientific endeavour is taking us, what the consequences seem likely to be and how the law might profitably address such changes.

It would have been folly in the extreme to seek to meet the challenges associated with preparing a book of this nature alone. Indeed, some will consider that addressing such a topic at all is something of a tall order. Be that as it may, the editor has carefully selected a group of distinguished contributors, each of them authoritative in a variety of fields and is indebted to each and every one of them for all their hard work in putting together and refining the chapters of this book.

Grateful thanks are also offered to Simon Phippard for his helpful advice in relation to Chapter 6, to Jay Jenkins for helping with the reviewing of Chapter 10, to Kobi Leins for her helpful and insightful suggestions throughout the project and to Melissa de Zwart for taking on the Outer Space chapter with less than an ideal period of notice. Thanks also go to Cambridge University Press for agreeing to publish the book, and to copy-editor Sean Connolly and all in the production team for turning our humble writings into the impressive volume you have before you.

Abbreviations

AMW Manual	<i>Manual on International Law Applicable to Air and Missile Warfare, Program on Humanitarian Policy and Conflict Research, Harvard University, March 2010</i>
API	Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts, Geneva, 8 June 1977, 1125 UNTS 3
CCW	Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May be Deemed to be Excessively Injurious or to Have Indiscriminate Effects, Geneva, 10 April 1981, 1342 UNTS 137
DoD Law of War Manual	Department of Defense Law of War Manual, Office of General Counsel, US Department of Defense, June 2015
ECHR	European Convention for the Protection of Human Rights and Fundamental Freedoms, 4 November 1950, 213 UNTS 222

ECtHR	European Court of Human Rights
ENMOD	Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques, 10 December 1976, 1108 UNTS 151
GCI	Convention (I) for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field, Geneva, 12 August 1949, 75 UNTS 31
GDPR	European Union, General Data Protection Regulation, Regulation 2016/679, adopted on 27 April 2016, became effective on 25 May 2018
ICRC	International Committee of the Red Cross
ICRC Customary Law Study, or CIHL	J.-M. Henckaerts and L. Doswald-Beck, <i>Customary International Humanitarian Law</i> , ICRC, 2005 – Volume 1: Rules
ICRC Commentary	Y. Sandoz, C. Swinarski and B. Zimmermann, eds., <i>Commentary on the Additional Protocols of 8 June 1977 to the Geneva Conventions of 12 August 1949</i> , ICRC, 1987
ICT	information and communication technologies
Nuclear Weapons Case	International Court of Justice, <i>Legality of the Threat or Use of Nuclear Weapons</i> (Advisory Opinion) [1996] ICJ Rep 226
Oslo Manual	<i>Oslo Manual on Select Problems of the Law of Armed Conflict: Rules and Commentaries</i> (to be published)
Rome Statute	Statute of the International Criminal Court, Rome, 17 July 1998, 2187 UNTS 90

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Tallinn Manual	M. N. Schmitt, ed., <i>Tallinn Manual on the International Law Applicable to Cyber Warfare</i> , Cambridge University Press, 2013
Tallinn Manual 2.0	M. N. Schmitt and L. Vihul, eds., <i>Tallinn Manual 2.0 on the International Law Applicable to Cyber Operations</i> , Cambridge University Press, 2017
UK Manual	<i>The Manual of the Law of Armed Conflict</i> , UK Ministry of Defence, Oxford University Press, 2004