Introduction

International Humanitarian Law and the Changing Technology of War

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‘The task of the international lawyer in the face of a new weapon or intended military activity is to establish how existing law applies and with what effect.’1

I. Questions Raised by New Technologies for War

As part of a vivid description of the efforts by United States Marines to occupy the island of Iwo Jima during the Second World War, military historian Max Hastings observes that ‘… all battles break down into a host of intensely personal contests …’2 That truism, however, appears to be changing. For example, the United States Department of Defence now treats the virtual environment of cyberspace as a new domain of warfare, subject to offensive and defensive military operations.3 Furthermore, by 2015, one-third of essential US military aircraft and ground vehicles should be unmanned.4

This book explores the legal challenges for armed forces resulting from the development and use of new military technologies for the conduct of war-

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fear. The application of International Humanitarian Law (IHL) is an attempt to achieve an equitable balance between humanitarian requirements and the necessities of war. Thus, the obligations of IHL are intended to reduce the suffering caused by war, in particular the pain inflicted on civilians and other non-combatants. The efforts of IHL to promote the ’humanization of war’ presuppose that war’s protagonists – soldiers, military officers, civilian superiors and insurgents – are human. Increasingly, however, war is and will be fought by machines – and virtual networks linking machines – which, to varying degrees, are controlled by humans. With advances in artificial intelligence, machines will be less dependent on human control and humans will become dependent on machines to ‘make decisions’ and take action for them. The automation of killing is perhaps the largest legal and moral hurdle facing unmanned combat systems.

The following contributions, each written by scholars and military officers with expertise in IHL, provide analysis and recommendations for armed forces as to how these new technologies may be used in accordance with international law. Moreover, the chapters provide suggestions for military doctrine to ensure continued compliance with IHL during this ever-more-rapid evolution of technology. Each chapter (with one exception) pertains to one of four core themes:

1. Ensuring that Autonomous Unmanned Combat Systems Comply with IHL
2. Applying Rules of IHL in an Age of Unlimited Information
3. Challenges for IHL Compliance During Cyber and Network Warfare
4. ‘Non-lethal’ Technologies and IHL


9 Chapter 1, a contribution from Dr. Robert Heinsch, examines the methodology of making customary international humanitarian law in the face of rapid technological advances.