Cyber Wars A 21st Century Disease Bringing A New Bdo

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Dr. Berg P. Hyacinthe (PhD, Florida State University; LLD Candidate, Assas School of Law, CERSA-CNRS, La Sorbonne) is internationally recognized as an eminent and multidisciplinary scientific investigator. A U.S. patent holder featured in Harvard's Smithsonian/NASA Astrophysics Data System, Dr. Hyacinthe recently served as Assistant Professor and Scientific Advisor to Taibah University's Strategic Science & Advanced Technology Unit. Dr. Hyacinthe held several positions at County and State levels of the U.S Government in the Information Technology arena. He has been featured in conferences held at the U.S. Naval Postgraduate School, Monterey (author); Defence Academy of the United Kingdom, Shrivenham (invited session Chair); and National Defence College, Helsinki (session Chair). In CYBER WARRIORS AT WAR, he draws on the triangular relationship between technology, law, and Information Age warfare to propose solutions against potential charges of having committed Information Operations (IO) war crimes and/or IO crimes against humanity. According to Dr. Hyacinthe, the success of pre-emptive strikes and decisive military operations depends profoundly upon both reliable human intelligence and the versatile skills of 21st century "cyber warriors" whose IO activities are conducted through modern warfare's pentagonal synchrony – land, sea, air, cyberspace, and outer space. Unfortunately, these operations are

commonly effectuated under a legal reasoning that is ambiguous in important ways: a threat to the national security of the United States of America and to the entire international community. Hence, as this Essay argues, the evolution of modern computer systems as weapons of war compels wary jurists to turn to the laws that should govern development and use of lethal information technologies. Further, this Essay examines how certain military operations within Information Warfare (IW) require new legal framework, and recounts specific events involving various types of IW conduct and cyber attack: an interesting exposé to jurists, military personnel, policymakers, and the growing and diverse body of information professionals around the world.

The Perfect Weapon IT Governance Ltd

Hackers reported as working on behalf of the Russian Government have attacked a wide variety of American citizens and institutions. They include political organizations of both parties, the Republican National Committee and the Democratic National Committee, as well as prominent Democrat and Republican leaders, as well as civil society groups like various American universities and academic research programs. These attacks started years back, but it continued after the 2016 election. They have been reported as hitting government sites, like the Pentagon's email system, as well as private networks, like U.S. banks. They have also been reported as targeting a wide variety of American allies ranging from government, military, and civilian targets, and states that range from Norway to the United Kingdom, as well as now trying to influence upcoming elections in Germany, France, and the Netherlands. In cyberspace, the malevolent actors presently engaged in attacks on U.S. persons and institutions range from criminals who are stealing personal information or holding ransom valuable corporate data to governments, like China, which have been accused of large-scale intellectual property theft, as well as breaking into government databases like the OPM [Office of Personnel Management] in the cyber version of traditional espionage. What can be done to defend America in this challenging realm? As long as we use the internet, adversaries like Putin's Russia and many others will seek to exploit this technology and our dependence on it in realms that range from politics to business to warfare itself. In response, the United States can build a new set of approaches to deliver true cybersecurity, aiming to better protect ourselves while reshaping adversary attitudes and options, or we can continue to be a victim.

The Handbook of Cyber Wargames Dorrance Publishing

This book creates a framework for understanding and using cyberpower in support of national security. Cyberspace and cyberpower are now critical elements of international security. United States needs a national policy which employs cyberpower to support its national security interests.

Cyberpower and National Security eBookIt.com

Cyberterrorism involves a premeditated act; its goal is to intentionally take actions - or threaten to use actions - against computers, networks, and other critical infrastructures to inflict damage in order to further ideological, political, or other types of objectives, or to intimidate any person in furtherance of such objectives. Technological developments have seen the virtual domain evolve dramatically, and the 21st century marked

acceleration in both- the online world and the threats that arise from it. The recent years have experiences not only an enhanced access to the internet worldwide, greater capabilities of programs and a wider range of services. Computers have also brought technical, political, social and economic problems, with malware being born at a higher frequency than the cures for it. Controls over targets and over attackers have become exceedingly difficult to achieve; and in the latter- practically impossible. This book is analyzes cyberterrorism from various perspectives. By and large, cyberterrorism refers to the use of the Internet or information technologies (i.e., computers), from both internal and external networks, to launch electronic attacks.

Conflict in the 21st Century Harper Collins

“A must-read...It reveals important truths.” —Vint Cerf, Internet pioneer “One of the finest books on information security published so far in this century—easily accessible, tightly argued, superbly well-sourced, intimidatingly perceptive.” —Thomas Rid, author of Active Measures Cyber attacks are less destructive than we thought they would be—but they are more pervasive, and much harder to prevent. With little fanfare and only occasional scrutiny, they target our banks, our tech and health systems, our democracy, and impact every aspect of our lives. Packed with insider information based on interviews with key players in defense and cyber security, declassified files, and forensic analysis of company reports, The Hacker and the State explores the real geopolitical competition of the digital age and reveals little-known details of how China, Russia, North Korea, Britain, and the United States hack one another in a relentless struggle for dominance. It moves deftly from underseas cable taps to underground nuclear sabotage, from blackouts and data breaches to election interference and billion-dollar heists. Ben Buchanan brings to life this continuous cycle of espionage and deception, attack and counterattack, destabilization and retaliation. Quietly, insidiously, cyber attacks have reshaped our national-security priorities and transformed spycraft and statecraft. The United States and its allies can no longer dominate the way they once did. From now on, the nation that hacks best will triumph. “A helpful reminder...of the sheer diligence and seriousness of purpose exhibited by the Russians in their mission.” —Jonathan Freedland, New York Review of Books “The best examination I have read of how increasingly dramatic developments in cyberspace are defining the ‘new normal’ of geopolitics in the digital age.” —General David Petraeus, former Director of the CIA “Fundamentally changes the way we think about cyber operations from ‘war’ to something of significant import that is not war—what Buchanan refers to as ‘real geopolitical competition.’” —Richard Harknett, former Scholar-in-Residence at United States Cyber Command

Cyber Warfare in the 21st Century: Threats, Challenges, and Opportunities Simon and Schuster

This illuminating book examines and refines the commonplace "wisdom" about cyber conflict-its effects, character, and implications for national and individual security in the 21st century. "Cyber warfare" evokes different images to different people. This book deals with the technological aspects denoted by "cyber" and also with the information operations connected to social media's role in digital struggle. The author discusses numerous mythologies about cyber warfare, including its

presumptively instantaneous speed, that it makes distance and location irrelevant, and that victims of cyber attacks deserve blame for not defending adequately against attacks. The author outlines why several widespread beliefs about cyber weapons need modification and suggests more nuanced and contextualized conclusions about how cyber domain hostility impacts conflict in the modern world. After distinguishing between the nature of warfare and the character of wars, chapters will probe the widespread assumptions about cyber weapons themselves. The second half of the book explores the role of social media and the consequences of the digital realm being a battlespace in 21st-century conflicts. The book also considers how trends in computing and cyber conflict impact security affairs as well as the practicality of people's relationships with institutions and trends, ranging from democracy to the Internet of Things.

Cyberspace in Peace and War, Second Edition Oxford University Press

This paper will try to answer this question, posed by the title. But, we want to start with the idea that cyber-warfare may be construed to be more than it is. The psychological effects of cyber-warfare may be greater than the real issue, particularly as its interpreted by the media. Another question that comes up is how do we begin to examine a question of law, where little information exists? Now that we're in the 21st century, it's long overdue to fully examine this issue. Although, more than a decade has passed since discussion of this issue began, there are still many questions. What if this thought, this idea, is being "psychologically built" into the minds of people; manipulation? What happens when it becomes a self-fulfilling prophecy? I think it's important to begin any discussion of this type with a "what do you mean by attitude". In other words, for us to provide a positive communication environment it's important that we begin by defining certain terms. Let's begin with cyberspace. What is cyberspace? What is, in fact, the meaning of this space? And if cyberspace can really be understood as space, what its resultant role of architecture in this still largely unknown realm? Is all reality then necessarily becoming virtual reality? Who are the architects of cyberspace, and which designing principles should they follow? And if there are really architects involved, why are the contemporary examples of virtual reality environments nowadays then still characterized as banal? Moreover, what does it actually mean to design cyberspace? Which urban metaphors are implemented in the virtual realm, so that in some way familiar notions become apparent in this abstract and technological world? Is cyberspace a novel departure or an extension – perhaps the final extension – of the trajectory of abstraction and dematerialization that has characterized so much modern art, architecture and human experience?

The Hacker and the State Bloomsbury Publishing USA

"This book reviews problems, issues, and presentations of the newest research in the field of cyberwarfare and cyberterrorism. While enormous efficiencies have been gained as a result of computers and telecommunications technologies, use of these systems and networks translates into a major concentration of information resources, createing a vulnerability to a host of attacks and exploitations"--Provided by publisher.

Inside Cyber Warfare Xlibris Corporation

21st Century Chinese Cyberwarfare draws from a combination of business, cultural, historical and linguistic sources, as well as the author's personal experience, to attempt to explain China to the uninitiated. The objective of the book is to present the salient information regarding the use of cyber warfare doctrine by the People's Republic of China to promote its own interests and enforce its political, military and economic will on other nation states. The threat of Chinese Cyberwarfare can no longer be ignored. It is a clear and present danger to the experienced and innocent alike and will be economically, societally and culturally changing and damaging for the nations that are targeted.

Virtual Terror Paul Sisler

An exhaustive and comprehensive probing into the vast universe of cyber terrorism and the havoc it can wreak. With many pages of references and data, these insights into the reach of cyberspace from the private sector to world governments will open your eyes to the evolving landscape of internet security.

Should There Be Rules Regarding the Rise of Cyber-Warfare Techniques by Rival Nations Bloomsbury Publishing USA

This book consists of the testimony before the House Armed Services Committee on March 1, 2017 and provides insight into the extent of the cyber threat facing our nation. The witnesses discuss the policies that got us to where we are today and possible changes that could bolster our defenses against cyber-attacks. The book includes the full written statements submitted as well as the responses to questions submitted by House Committee members post-hearing.

21st Century Chinese Cyberwarfare Oxford University Press, USA

This definitive reference resource on cyber warfare covers all aspects of this headline topic, providing historical context of cyber warfare and an examination its rapid development into a potent technological weapon of the 21st century. Today, cyber warfare affects everyone—from governments that need to protect sensitive political and military information, to businesses small and large that stand to collectively lose trillions of dollars each year to cyber crime, to individuals whose privacy, assets, and identities are subject to intrusion and theft. The problem is monumental and growing exponentially. Encyclopedia of Cyber Warfare provides a complete overview of cyber warfare, which has been used with increasing frequency in recent years by such countries as China, Iran, Israel, North Korea, Russia, and the United States. Readers will gain an understanding of the origins and development of cyber warfare and of how it has become a major strategic element in warfare for countries throughout the world. The encyclopedia's entries cover all of the most significant cyber attacks to date, including the Stuxnet worm that successfully disabled centrifuges in Iran's Natanz uranium enrichment facility; the attack on Israel's internet infrastructure during its January 2009 military offensive in the Gaza Strip; the worldwide "Red October" cyber attack that stole information from embassies, research firms, military installations, and nuclear and other energy infrastructures; and cyber attacks on private corporations like Sony.

Cyber War U of Nebraska Press

NOW AN HBO® DOCUMENTARY FROM AWARD-WINNING DIRECTOR JOHN MAGGIO • “An important—and deeply sobering—new book about cyberwarfare” (Nicholas Kristof, New York Times), now updated with a new chapter. The Perfect

Weapon is the startling inside story of how the rise of cyberweapons transformed geopolitics like nothing since the invention of the atomic bomb. Cheap to acquire, easy to deny, and usable for a variety of malicious purposes, cyber is now the weapon of choice for democracies, dictators, and terrorists. Two presidents—Bush and Obama—drew first blood with Operation Olympic Games, which used malicious code to blow up Iran’s nuclear centrifuges, and yet America proved remarkably unprepared when its own weapons were stolen from its arsenal and, during President Trump’s first year, turned back on the United States and its allies. And if Obama would begin his presidency by helping to launch the new era of cyberwar, he would end it struggling unsuccessfully to defend the 2016 U.S. election from interference by Russia, with Vladimir Putin drawing on the same playbook he used to destabilize Ukraine. Moving from the White House Situation Room to the dens of Chinese government hackers to the boardrooms of Silicon Valley, New York Times national security correspondent David Sanger reveals a world coming face-to-face with the perils of technological revolution, where everyone is a target. “Timely and bracing . . . With the deep knowledge and bright clarity that have long characterized his work, Sanger recounts the cunning and dangerous development of cyberspace into the global battlefield of the twenty-first century.”—Washington Post

Cyber War Versus Cyber Realities Harvard University Press

What people are saying about Inside Cyber Warfare "The necessary handbook for the 21st century."--Lewis Shepherd, Chief Tech Officer and Senior Fellow, Microsoft Institute for Advanced Technology in Governments "A must-read for policy makers and leaders who need to understand the big-picture landscape of cyber war." --Jim Stogdill, CTO, Mission Services Accenture You may have heard about "cyber warfare" in the news, but do you really know what it is? This book provides fascinating and disturbing details on how nations, groups, and individuals throughout the world are using the Internet as an attack platform to gain military, political, and economic advantages over their adversaries. You'll learn how sophisticated hackers working on behalf of states or organized crime patiently play a high-stakes game that could target anyone, regardless of affiliation or nationality. Inside Cyber Warfare goes beyond the headlines of attention-grabbing DDoS attacks and takes a deep look inside multiple cyber-conflicts that occurred from 2002 through summer 2009. Learn how cyber attacks are waged in open conflicts, including recent hostilities between Russia and Georgia, and Israel and Palestine Discover why Twitter, Facebook, LiveJournal, Vkontakte, and other sites on the social web are mined by the intelligence services of many nations Read about China's commitment to penetrate the networks of its technologically superior adversaries as a matter of national survival Find out why many attacks originate from servers in the United States, and who's responsible Learn how hackers are "weaponizing" malware to attack vulnerabilities at the application level.

Operational Lessons of the Wars of 21st Century Potomac Books, Inc.

Part I: Foundational Questions of Cyberwar 1: Larry May: The Nature of War and the Idea of "Cyberwar" 2: James L. Cook: Is There Anything Morally Special about Cyberwar? 3: Jens David

Ohlin Part II: Conceptualizing Cyber Attacks: The Civil-Military Divide: Cyber Causation 4: Stuart Macdonald: Cyberterrorism and Enemy Criminal Law 5: Laurie R. Blank: Cyberwar versus Cyber Attack: The Role of Rhetoric in the Application of Law to Activities in Cyberspace 6: Nicolò Bussolati: The Rise of Non-State Actors in Cyberwarfare Part III: Cybersecurity and International Humanitarian Law: The Ethics of Hacking and Spying 7: Duncan B. Hollis: Re-Thinking the Boundaries of Law in Cyberspace: A Duty to Hack? 8: Christopher S. Yoo: Cyber Espionage or Cyberwar?: International Law, Domestic Law, and Self-Protective Measures 9: William H. Boothby: Deception in the Modern, Cyber Battlespace Part IV: Responsibility and Attribution in Cyber Attacks 10: Marco Roscini: Evidentiary Issues in International Disputes Related to State Responsibility for Cyber Operations 11: Sean Watts: Low-Intensity Cyber Operations and the Principle of Non-Intervention.

The Doctor's In: Treating America's Greatest Cyber Security Threat Crown

This reference work examines how sophisticated cyber-attacks and innovative use of social media have changed conflict in the digital realm, while new military technologies such as drones and robotic weaponry continue to have an impact on modern warfare. Cyber warfare, social media, and the latest military weapons are transforming the character of modern conflicts. This book explains how, through overview essays written by an award-winning author of military history and technology topics; in addition to more than 200 entries dealing with specific examples of digital and physical technologies, categorized by their relationship to cyber warfare, social media, and physical technology areas. Individually, these technologies are having a profound impact on modern conflicts; cumulatively, they are dynamically transforming the character of conflicts in the modern world. The book begins with a comprehensive overview essay on cyber warfare and a large section of A–Z reference entries related to this topic. The same detailed coverage is given to both social media and technology as they relate to conflict in the 21st century. Each of the three sections also includes an expansive bibliography that serves as a gateway for further research on these topics. The book ends with a detailed chronology that helps readers place all the key events in these areas.

Cyber War: the Next Threat to National Security and What to Do about It Fortis Novum Mundum

Wars often start well before main forces engage. In the 19th and early 20th centuries, combat often began when light cavalry units crossed the border. For most of the 20th century, the "first battle" typically involved dawn surprise attacks, usually delivered by air forces. While a few of these attacks were so shattering that they essentially decided the outcome of the struggle or at least dramatically shaped its course -- the Israeli air force's attack at the opening of the June 1967 Six-Day War comes to mind -- in most cases the defender had sufficient strategic space -- geographic and/or temporal -- to recover and eventually redress the strategic balance to emerge victorious. The opening moments of World War II for Russia and the United States provide two examples. The first battle in the 21st century, however, may well be in cyberspace. Coordinated cyber attacks designed to shape the larger battlespace and influence a wide range of forces and levers of power may become the key feature of the next war.

Early forms of this may have already been seen in Estonia and Georgia. Control of cyberspace may thus be as decisive in the network-dependent early 21st century as control of the air was for most of the 20th century. In the future, cyber attacks may be combined with other means to inflict paralyzing damage to a nation's critical infrastructure as well as psychological operations designed to create fear, uncertainty, and doubt, a concept we refer to as "infrastructure and information operations." The cyber sphere itself is, of course, a critical warfighting domain that hosts countless information infrastructures, but the rise of network-based control systems in areas as diverse as the power grid and logistics has widened the threat posed by network attacks on opposing infrastructures. Given the increasing dependence of the U.S. military and society on critical infrastructures, this cyber-based first battle is one that we cannot afford to lose. And yet we might.

Cyber Strategy IGI Global

This book provides an up-to-date, accessible guide to the growing threats in cyberspace that affects everyone from private individuals to businesses to national governments. Cyber Warfare: How Conflicts In Cyberspace Are Challenging America and Changing The World is a comprehensive and highly topical one-stop source for cyber conflict issues that provides scholarly treatment of the subject in a readable format. The book provides a level-headed, concrete analytical foundation for thinking about cybersecurity law and policy questions, covering the entire range of cyber issues in the 21st century, including topics such as malicious software, encryption, hardware intrusions, privacy and civil liberties concerns, and other interesting aspects of the problem. In Part I, the author describes the nature of cyber threats, including the threat of cyber warfare. Part II describes the policies and practices currently in place, while Part III proposes optimal responses to the challenges we face. The work should be considered essential reading for national and homeland security professionals as well as students and lay readers wanting to understand of the scope of our shared cybersecurity problem.

The 20th Century Cyber War Zone Operations Documentary Part Two Naval Institute Press

From the former news policy lead at Google, an “informative and often harrowing wake-up call” (Publishers Weekly) that explains the high-stakes global cyberwar brewing between Western democracies and the authoritarian regimes of China and Russia that could potentially crush democracy. From 2016 to 2020, Jacob Helberg led Google’s global internal product policy efforts to combat disinformation and foreign interference. During this time, he found himself in the midst of what can only be described as a quickly escalating two-front technology cold war between democracy and autocracy. On the front-end, we’re fighting to control the software—applications, news information, social media platforms, and more—of what we see on the screens of our computers, tablets, and phones, a clash which started out primarily with Russia but now increasingly includes China and Iran. Even more ominously, we’re also engaged in a hidden back-end battle—largely with China—to control the internet’s hardware, which includes devices like cellular phones, satellites, fiber-optic cables, and 5G networks. This tech-fueled war will shape the world’s balance of power for the coming century as

autocracies exploit 21st-century methods to redivide the world into 20th-century-style spheres of influence. Without a firm partnership with the government, Silicon Valley is unable to protect democracy from the autocrats looking to sabotage it from Beijing to Moscow and Tehran. Helberg offers “unnervingly convincing evidence that time is running out in the ‘gray war’ with the enemies of freedom” (Kirkus Reviews) which could affect every meaningful aspect of our lives, including our economy, our infrastructure, our national security, and ultimately, our national sovereignty.

Cyber Warriors at War Bloomsbury Publishing USA

Conflict in the last century was defined by the horrific potential of physical and especially nuclear war. Now we are in a new technological era--a world of more subtle, yet no less grave, threats, an environment in which various actors can deeply penetrate vital infrastructures and instigate diplomatic and military crises. Today, computer code is the weapon of choice. Can anything be done beyond shoring up our defenses in a state of permanent insecurity? Lucas Kello delves into recent history to reveal the failures of the present policy in preventing and punishing cyberattacks and other forms of technological aggression. Drawing upon case studies and interviews, Kello develops a bold new solution--a coordinated retaliation strategy that justly and effectively responds to attacks and deters further antagonism. This book provides an approachable yet nuanced exploration of national security and survival in the twenty-first century.