



Unmanned Aerial Vehicles as an Instrument of War



A Forces Transformation and Resources Seminar
Marshall Hall Room 155, Fort Lesley J. McNair, Washington, DC 20319
December 14 - 15, 2009

Monday, December 14 – Current UAV Systems and Functions

- 0900-0915** **Welcome and Introductory Remarks**
Dr. James M. Keagle, Director, Transforming National Security Seminar Series, Center for Technology and National Security Policy, NDU
- 0915-1015** **Keynote Presentation – Wired for War: The Robotics Revolution and Conflict in the 21st Century**
Dr. Peter Warren Singer, Director, 21st Century Defense Initiative, The Brookings Institution
- 1015-1030** **Break**
- 1030-1130** **Keynote Presentation – The Future of the USAF in an Unmanned Era**
Lieutenant General David A. Deptula, USAF, Deputy Chief of Staff for Intelligence, Surveillance, and Reconnaissance
- 1130-1230** **UAV Roles and Missions**
Theme: With over 5,000 different types of unmanned aerial vehicles operating over the skies of Afghanistan, Iraq, and Pakistan, south Asian airspace is becoming increasingly crowded. Not only are the numbers of drones rapidly increasing but the kinds of operators are expanding as well with drones flown and operated by every branch of the armed forces and the Central Intelligence Agency. With departments like U.S. Customs and Border Protection and the U.S. National Park Service operating drones along the borders, some scholars have wondered how soon it will be until unmanned aerial vehicles are flying over domestic airspace. Others argue that these aircraft systems should only be used militarily. As the technology improves, where should the line be drawn? Is it necessary to have so many different systems and ultimately, who should operate them?
Moderator: Mr. Larry Chalmer, Director, NATO Education Center, NDU
Mr. Michael D. Crisp, Deputy Director, Operational Test and Evaluation Directorate, Air Warfare, Office of the Secretary of Defense
Mr. Michael Isherwood, Senior Analyst, Northrup Grumman Analysis Center
Major General Michael C. Kostelnik, USAF (ret.), Assistant Commissioner, U.S. Customs and Border Protection, Office of Air and Marine

Mr. Kirk McConnell, Professional Staff Member, Senates Armed Services Committee, U.S. Senate

1230-1330 Lunch

1330-1445 Modern UAVs: Designs, Payloads, and Capabilities

Theme: Initially used for anti-aircraft target practicing in the early 20th century, UAVs gained international notoriety once they were transformed to the “hunter-killer” platform we see today. While drone platforms are being created to carry bigger ordnance, there are other designs for unmanned fighter planes, robotic flying ICUs, and bio-inspired nano-autonomous systems. As people become more used to the idea of unmanned vehicles, how far will this technology go? Will platforms become more autonomous or are there certain capabilities that need to maintain a human face?

Moderator: Dr. William Berry, Distinguished Research Fellow, Center for Technology and National Security Policy, NDU

Dr. Joseph N. Mait, Senior Technical Researcher for Electromagnetics, U.S. Army Research Laboratory

Colonel Eric Mathewson, United States Air Force, Director, Unmanned Aircraft Systems Task Force

Mr. Daniel Newman, Program Manager, Tactical Technologies Office, Defense Advanced Research Projects Agency

1445-1500 Break

1500-1615 The Warfighter’s View from the Ground

Theme: With IEDs being the weapon of choice for insurgents on the ground in Afghanistan and Iraq, the demand for UAVs has increased exponentially over the last few years. While the policy of “more” is not really a strategy, one cannot deny the importance of unmanned reconnaissance to the troops on the ground. UAVs provide a real-time assessment of what lies on the road ahead for U.S. personnel in theater but they also provide a level of comfort for these troops as well. As “guardian angels,” these systems give soldiers a sense of security that no matter what, there is always someone watching over them. What are the soldiers’ views from Las Vegas, Afghanistan, and Iraq?

Colonel Pete “Gunz” Gersten, USAF, Commander, 432nd Air and Air Expeditionary Wing, Creech AFB, Nevada

Mr. Noah Shachtman, Contributing Writer, *Wired* magazine; Editor, *Danger Room* national security blog

Colonel Trey Turner III, USAF, Headquarters U.S. Air Force, Chief of Operational Training, MQ-1/MQ-9 Employment Subject Matter Expert

1615-1630 Closing Remarks

Dr. James M. Keagle, Director, Transforming National Security Seminar Series Center for Technology and National Security Policy, NDU

Tuesday, December 15 – The of Future of Unmanned Aerial Systems

0900-0915 Welcome and Introductory Remarks

Dr. James M. Keagle, Director, Transforming National Security Seminar Series, Center for Technology and National Security Policy, NDU

0915-1000 Keynote Speaker – Waging War Without Warriors?: The Changing Nature of Military Conflict, Military Culture, and the Future of War
Professor Christopher Coker, Department of International Relations, The London School of Economics and Political Science

1000-1015 Break

1015-1145 Rise of the Machines: The Autonomous Line in the Sand

Theme: While the idea of terminators walking the Earth or robots that go bad seem like Hollywood creations, the reality is that special effects artists have been closer to the mark than most people realize. With some scientists talking about the possibility of creating super soldiers (“Iron Men”) and others developing adaptive artificial intelligences, the melding of men and machines seems almost inevitable. But should it be? Do we really want soldiers who juice up on electricity before charging into battle? Should the fact that the humans who develop these systems make mistakes give us pause? If we create computer systems that have greater computing power than the human brain, is it possible that we could be replaced? Where is the autonomous line in the sand that we shouldn’t cross?

Dr. Peter Asaro, Professor, Department of Media Studies and Film, The New School University

Dr. Benjamin Goertzel, CEO, Novamente LLC; Fellow, Institute for Ethics and Emerging Technologies; Board Member, Humanity+

Dr. Poornima Madhavan (Virtual Presentation), Assistant Professor and Director of the Applied Decision-Making Laboratory, Department of Psychology, Old Dominion University

Dr. Jerrold Post, Professor of Psychiatry, Political Psychology, and International Affairs and Director, Political Psychology Program, The George Washington University

1145-1245 Lunch

1245-1400 The HALO Effect: Is War Becoming A Game?

Theme: With only 1% of the American population serving in the armed forces and a general aversion to casualties, the U.S. military has increasingly turned to technology to both recruit and supplement its all-volunteer force. The popularity of first-person shooter games like HALO and Call of Duty has some sociologists wondering if today’s youngsters are being inoculated against the horrors of war. Couple this with the fact that many UAV controllers are modeled off game consoles like the PlayStation 3 and flying a UAV does seem like using an old version of Atari. Many of these games are played during a soldier’s downtime, blurring the line between reality and

fantasy even more. Is the prevalence of these games disconnecting the realities and simulations of war for soldiers? With fewer and fewer politicians that have experienced combat, is technology making it easier to use the military option first instead of last?

Colonel William Andrews, USAF, Air Force Chair, Industrial College of the Armed Forces, National Defense University

Dr. Peter Huessy, Senior Defense Consultant, National Defense University

1400-1415 Break

1415-1530 International Law and the Legal Implications of Using UAVs

Theme: Since the bloodshed of the Civil War, but especially after World War I, there has been a uniquely American pursuit of some technological Holy Grail – an innovation that will end wars quicker and save more lives. Despite this obsession with technology, there also seems to be a distinctly American failing for understanding the larger implications of these systems. While UAVs are not necessarily in the same league as nuclear weapons, political, military, and national security analysts need to start considering the larger ethical and legal issues behind these machines. For example, where do these unmanned planes fit in the overall American arsenal? Do we have a strategy for integrating these drones into existing protocols in the United States and abroad? Can we really expect robots to tell the difference between combatants and non-combatants when our own soldiers have difficulty doing so? Do these platforms conflict with the Geneva Conventions and the regulations for weapons of war? What about the laws of humanity?

Ms. Jane Mayer, Staff Writer, *The New Yorker*

Ms. Hina Shamsi, Senior Advisor to the Project on Extrajudicial Executions, School of Law, New York University

Professor Gary Solis, Professor of Law, U.S. Military Academy (retired); Adjunct Professor of Law, Georgetown University Law Center

1530-1545 Closing Remarks

Dr. James M. Keagle, Director, Transforming National Security Seminar Series Center for Technology and National Security Policy, NDU