17.462
INNOVATION IN MILITARY ORGANIZATIONS
Mondays, 3-5pm
Meeting in E51-063

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Fall 2005

Topic List

September 12  Introduction: Organization Theory
September 26  Military Innovation Theories
October 3     Strategic Airpower
October 17    Armored Warfare
October 24    Tactical Airpower
October 31    Submarine Warfare
November 7    Cruise and Ballistic Missiles
November 14   Failed Innovation: Counterinsurgency
November 21   Post-Vietnam Innovation: The “Transformation” of the U.S. Army
November 28   Transformation: The Revolution in Military Affairs and Beyond
December 5    Student Papers
December 12   Student Papers
Overview/Requirements

INNOVATION IN MILITARY ORGANIZATIONS
17.462

Professors Harvey Sapolsky and Barry Posen

Innovations have frequently determined the course of wars. This seminar has three purposes. One, it inquires into the causes of military innovation by examining a number of the most outstanding historical cases. Two, it views military innovations through the lens of organization theory to develop generalizations about the innovation process within militaries. Three, it uses the empirical study of military innovations as a way to examine the strength and credibility of hypotheses that organization theorists have generated about innovation in non-military organizations.

Both the theoretical literature on innovation and the case literature on military innovation are of an uneven quality. We have selected theoretical literature largely on the basis of its accessibility to the general reader and the clarity and explicitness of the arguments. This course is not a substitute for a survey course in organization theory although it can profitably be taken by people without such a background. We have taken a broad approach to the selection of cases. Some of the innovations we will study concern the development and adoption of particular technologies; others involve changes in doctrine, tactics, command and control, and force structure. Some of the innovations have occurred in peacetime; others have only been achieved after the outbreak of combat. Some innovations seem to conform to hypotheses in the organization theory literature; others are more mysterious. Security studies specialists will find the study of these innovations a useful way to improve their general understanding of modern warfare.

Students will be required to write one paper, and to present that paper to the seminar at the end of the semester. Depending on class size, auditors may be required to make presentations as well, though not to write papers. Students should meet with Professor Sapolsky or Professor Posen to develop suitable paper topics. Students should be encouraged by the fact that the literature on military innovation is underdeveloped. It tends to be discursive, atheoretical, and unsystematic. But, there is a wealth of case material available for exploitation in student essays and doctoral dissertations. For purposes of this seminar, single case studies or comparative case studies will likely prove the best format. We expect to see a substantial theoretical component in every paper.
Possible Paper Topics:
The seminar syllabus is a good starting point for paper topics. Students should feel free to explore any of those topics in greater depth. A sample of other possible topics is offered below, but the list is only suggestive.

- The adoption of the helicopter and the development of airmobile tactics.
- The adoption of the helicopter to naval warfare.
- The creation and use of SOSUS
- The adoption of the Machine gun in later 19th and early 20th century armies.
- A comparative study of the development of the aircraft carrier in Britain, the US, and Japan in the interwar period.
- The development of air defense suppression tactics and capabilities during and after the Vietnam War.
- The development of "precision guided" air and ground conventional munitions.
- The evolution of mine warfare at sea (19th century) and on land (the 20th century.)
- The development of US armor and anti-armor forces in the Second World War.
- The development of the National Training Center.
- The creation of light infantry divisions in U.S. Army.
- The development of the cruise missile.
- The creation of airborne forces in U.S. and other armies.
- The development of Marine Pre-positioning Ships or air refueling
- The military use of space.
- The likely role of unmanned aerial vehicles in military operations.
Reading List

Please purchase the following books:


**Week 1, September 12**  
**Introduction**

Wilson, James Q., *Bureaucracy*, chapters 1, 2, 6, 7, 9, and 12


**Week 2, September 26**  
**Military Innovation Theories**


Chapter 1: "Officership as a Profession," pp. 7-18


Chapter 4: "The Military Hierarchy," pp. 54-75


Chapter 5: "Into the Valley," pp. 55-64
Chapter 8: "The Storm of Battle," pp. 92-105


Chapter 1: "The Importance of Military Doctrine," pp. 13-33
Chapter 2: "Explaining Military Doctrine," pp. 34-80


Christensen, Clayton M., The Innovator’s Dilemma, pp. 1-96; 187-212.


**Week 3, October 3  Strategic Airpower**


Sapolsky, Harvey and Jeremy Shapiro, “Casualties, Technology and America’s Future Wars,” Parameters, (Summer, 1996)


**Week 4, October 17  Armored Warfare**

House, Captain Jonathan M., Toward Combined Arms Warfare: A Survey of 20th-Century Tactics, Doctrine, and Organization
Chapter 3: "The Interwar Period," pp. 43-78

Chapter 6: "Mechanization: the second phase, 1933-39" pp. 161-190

Chapter 5: "The Years of Experiment: 1927-34," pp. 132-170

Part II: The Battle for Ideas," pp. 113-166


Chapter 11: "Conclusion," pp. 192-200

Week 5, October 24  Tactical Airpower


U.S. Government, Commission on the Organization of the Government for the Conduct of Foreign Policy
Chapter 8: "Smart Bombs," pp. 191-198


Week 6, October 31  Submarine Warfare

Burns, Richard D., "Regulating Submarine Warfare, 1921-41: A case Study in Arms Control and Limited War," Military Affairs, April 1971, pp. 56-63

Beesly, Patrick, *Very Special Intelligence*  
Forward: pp. ix-xvii  
Chapter 2: "The First Twelve Months: A Lean Time", pp. 24-41  
Chapter 10: "Triton to the Rescue," pp. 154-171  


**Week 7, November 7  
Cruise and Ballistic Missiles**

Sapolsky, Harvey M., *The Polaris System Development: Bureaucratic and Programmatic Success in Government* (Harvard University press, 1972) Chapters 1, 2, 4 and 8


**Week 8, November 14  
Failed Innovation: Counterinsurgency**


**Week 9, November 21**  
Post-Vietnam Innovation – The “transformation” of the U.S. Army


**Week 10 November 28**  
Transformation: the RMA and Beyond


**Week 11, December 5**

Student Papers

**Week 12, December 12**

Student Papers