Armed Force and Society:  
Social and Political Perspectives on Technology and National Security - PGSP11245

Course Organiser: Richard Brodie

Contact Details:

Please tell the Course Organiser as soon as possible if you are having any problems with the course, if you would find it helpful to have an individual chat about your presentation or essay topics, or if there are any other aspects of the course you would like to discuss.

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 Room 2.12b  
 Chrystal MacMillan Building  
 0131 650 4278

Guidance and Feedback:

Please email if you want to make an appointment to see the Course Organiser.

Time and Location:

11.10-13.00  
Seminar Room 1, Chrystal Macmillan Building
The course in brief

The main focus of the course is the sociological, political and policy perspectives on the relationship between human societies and military technologies, which we explore via:

- discussion of a wide range of historical case studies and contemporary security issues
- discussion and analyses of the distinctive nature of military technologies and the way they are shaped by social and political factors
- analyses of the role played by military technology in shaping the nature and outcome of conflicts, as well as the nature of peacetime society
- investigation of the ways that knowledge about military technology is derived, and of the effects that high levels of military R&D have had on economic activity, and scientific agendas

The course involves a significant ‘research component’, so is assessed entirely by essays: there is no examination. Postgraduate assessment is via a 4,000-word final essay.

The essential readings for each week are modest in number and length (and are available through the University Library’s Electronic Journals page, directly from indicated web addresses, or electronically via LEARN). The readings indicated for these discussion sessions form the core of the course and reading beyond the essential readings is recommended, but the essential reading must be read prior to the classes. The lengthier lists of further readings are for research on the topic, and their length arises because I wanted to provide an introduction to the literature on each topic, leaving you free to choose what to focus on, rather than giving you prescriptive essays lists. Most of the journal articles indicated for further reading are available via the University Library’s electronic journals page.

The disciplines of Politics, Sociology and Social Policy addresses a number of topics that some might find sensitive or, in some cases, distressing. You should read this handbook carefully and if there are any topics that you may feel distressed by you should seek advice from the Course Organiser and/or your Personal Tutor.

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<td>Lectures</td>
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Learning Outcomes

On successful completion of the course, students will have demonstrated through written work, oral presentations and other contributions in class, that they:

• have a substantive knowledge and understanding of a selection of important policy and social issues with regard to the development and use of military technologies, and of the contending viewpoints and claims on these issues;

• can identify and characterise key approaches from social science disciplines and from interdisciplinary fields like science and technology studies to understanding and evaluating issues concerning military technology, and identify advantages, problems and implications of these approaches;

• can critically evaluate contributions to the academic, political and public debates on national security issues, and decisions on them;

• can identify, deploy and evaluate a selection of techniques and procedures used in defence policy analysis, decision-making and assessment;

• have developed their skills
  - in finding and using arguments and information;
  - in critically evaluating such material; and
  - in research, essay writing and seminar presentation.

Organisation of the Course

The Course is organised around a series of lectures, discussions, tutorials and debates. Each week there will be a lecture in the first hour followed by a discussion or seminar on an important question raised by that week’s topic. The questions are included in this handbook. It is essential that you are prepared for that discussion by doing the background reading. You may be asked to do a presentation as a group or debate a topic from a particular viewpoint. Tasks will be allocated on a week to week basis and all students will be required to contribute. There will be compulsory one hour sessions within the term where your final research topic will be discussed by the whole class. You should be prepared for each of these sessions with an agreed plan of action. Each week will be an in-depth discussion of the issues raised in that week’s class. Readings will be set for each class from the list of required readings from the lecture.

Reading List

‘Key’ readings are designed to tie in closely with lectures, so please read some of them before each session of the class. The essential readings are marked (*) and must be read before the class as they will form the starting point for the post-lecture discussion. All essential readings will be available either as journal articles via the University Library’s Electronic journals page or via LEARN.
‘Further’ readings are for those doing an essay on a particular topic. Don’t feel you need to read all of these for your essay, but equally don’t restrict yourselves to them: for a Masters-level course such as this, you need to do your own literature searches. The further readings below are intended to start you in this process by acting as a guide to the kind of literature available: they are not a definitive essay reading list.

Recent journal articles will normally be available electronically via the electronic journal holdings of Edinburgh University Library (http://www.lib.ed.ac.uk/): you’ll need to be logged in via EASE to get access to them. Unfortunately, some older volumes of journals are often not available electronically.

Please tell the Course Organiser if you are experiencing problems getting hold of any of the readings.

Useful overall readings

There is no course textbook; indeed there does not seem to be any single book that provides these kinds of sociological and political perspectives on military technology. The following are all useful in different ways.

Barry Buzan and Eric Herring, The Arms Dynamic in World Politics (Lynne Rienner Publishers, 1998) provides the best coverage of the theoretical issues dealt with in the course.

A good readable history, that we will draw on particularly in weeks 1 and 2, is Max Boot, War Made New: Technology, Warfare, and the Course of History: 1500 to Today (Gotham, 2006). Other useful historical surveys are William McNeill, The Pursuit of Power (Blackwell, 1983) and Martin van Creveld, Technology and War: From 2000 BC to the Present (The Free Press, 1989).

Essays

SUBMITTING WORK ELECTRONICALLY

Course work will be submitted online using our submission system – ELMA. You will not be required to submit a paper copy.

For Assessment requirements you should consult the Taught MSc Student Handbook 2018-19. This is available on Learn.

Requirements included are:

- Coursework submissions
- Extension request
- Penalties
- Plagiarism

Students are assessed via:

A long essay of between 3900 and 4100 words (excluding bibliography), which makes up 100% of your marks for the course. You will not be penalised for submitting work below the word limit. However, you should note that shorter essays are unlikely to achieve the required depth and that this will be reflected in your mark

To be submitted electronically by Thursday 6th December at 12 noon.

Feedback for coursework will be returned online via ELMA by Tuesday 8th January 2019.

The External Examiner is TBC

Essay topics

You should choose your own essay topic, examples of which are in the Appendix at the back of this handbook. You should NOT use those questions but rather use them to help you formulate your own question. You should consult the Course Organiser and agree a topic before you start to research. You should have chosen a topic by 30th October 2018.

For readings, see the appropriate sections of the reading list.
Week 1: Introduction to the Course. Air Power and Intervention: The Examples of Iraq, Afghanistan, Libya and Syria

After the lecture, you should be able to answer the following questions:

1. Why do we need to consider more than just machines to understand the role of technology in warfare?
2. In what ways can technology be seen as having social and political aspects?
3. What can be achieved by airpower (distinguishing between ‘winning the war’ and ‘winning the peace’)?
4. What are the main critiques of the ‘revolution in military affairs’ concept?

Discussion questions: has new technology made ‘intervention’ easier? and, in your view, should we (the UK, EU, NATO, ‘the West’) intervene in other countries to:

(a) restore, create democracy;
(b) stop genocide;
(c) prevent the acquisition of weapons of mass destruction
(d) gain access to natural resources?

Key readings

PLEASE READ THOSE MARKED * BEFORE LECTURE

H. R. McMaster, ‘Learning from Contemporary Conflicts to Prepare for Future War,’ Oris, Vol. 52, Issue 4 (Fall 2008), 564-584.
Noah Shachtman, ‘How Technology Almost Lost the War: In Iraq, the Critical Networks Are Social — Not Electronic’, Wired, 15, 12 (27 November 2007). Available at:
http://www.wired.com/politics/security/magazine/15-12/ff_futurewar

Many articles relating to the ‘revolution in military affairs’ can be found at: http://www.comw.org/rma/

**Further reading**

Donald C. F. Daniel, Peter Dombrowski, and Rodger A. Payne, ‘The Bush Doctrine is Dead; Long Live the Bush Doctrine?’ *Orbis* (Spring 2005), 199-212.
Andrew P. N. Erdmann, ‘The US Presumption of Quick, Costless Wars,’ *Orbis* (Summer 1999), 363-381.


Week 2: Nuclear Weapons and the Cold War: Deterrence and the Arms Race

After the lecture, you should be able to answer the following questions:

(1) What drove the nuclear arms race, and why did the USA and USSR build thousands of nuclear weapons?
(2) Does deterrence depend on rational state behaviour?
(3) Are nuclear weapons usable?
(4) What factors contribute to the risk of nuclear war?
(5) What unintended consequences can result from arms control agreements?

Debate question: Should the UK disarm unilaterally?

Debate readings


Lecture readings

Michael Krepon, ‘Moving Away from MAD,’ *Survival*, Vol. 43, No. 2 (Summer 2001), 81-95.
Kenneth N. Waltz, ‘Nuclear Myths and Political Realities,’ *American Political Science Review*, Vol. 84, No. 3 (September 1990), 731-745.

Further reading


Desmond Ball and Jeffrey Richelson (eds.), *Strategic Nuclear Targeting* (Cornell University Press, 1986).


Peter Hennessy, Cabinets and the Bomb (Oxford University Press, 2007).


Stephen Twigge and Len Scott, Planning Armageddon: Britain, the United States, and the Command and Control of Western Nuclear Forces 1945-1964 (Harwood, 2000).


Week 3: Armed Force, War, and Societies

After the lectures, you should be able to answer the following questions:

1. What does the idea of a ‘decisive weapon’ entail?
2. How do technology and doctrine interact?
3. To what extent has military technology changed the nature, not just of warfare, but also of the organisation of society?
4. Is conflict an essential part of state development?

Discussion questions: What are the lessons of 1914 and World War I? Was technology decisive? Does history shape the present or vice versa?

Key readings


Further reading


Matthew Allen, ‘The Deployment of Untried Technology: British Naval Tactics in the Ironclad Era,’ 
War in History, Vol. 15, No. 3 (2008), 269-293.
Stephen Badsey, ‘The Boer War (1899-1902) and British Cavalry Doctrine: A Re-Evaluation,’ The 
David J. Childs, A Peripheral Weapon? The Production and Employment of British Tanks in the First 
World War ( Greenwood Publishing Group, 1999).
139.
Jeffrey Herbst, ‘Responding to State Failure in Africa,’ International Security, Vol. 21, No 3 (Winter 
1996/97), 120-144.
I. B. Holley, Technology and Military Doctrine: Essays on a Challenging Relationship (Air University 
Press, August 2004).  Available at: http://www.dtic.mil/cgi-
bin/GetTRDoc?AD=ADA427735&Location=U2&doc=GetTRDoc.pdf
19, No. 4 (Spring 1995), 65-93.
Carnes Lord, ‘The Role of the United States in Small Wars,’ Annals of the American Academy of 
Political and Social Sciences, Vol. 541 (September 1995), 89-100.
T.H.E. Travers, ‘Technology, Tactics, and Morale: Jean de Bloch, the Boer War, and British Military 
21, No. 4 (2007), 427-444.
Rachel N. Weber, ‘Manufacturing Gender in Commercial and Military Cockpit Design,’ Science, 
**Week 4: Technology and Warfare: Cyber War and the Robot Revolution**

After the lecture, you should be able to answer the following questions:

1. What impact might cyber war technology have on the nature of conflict?
2. Does it matter that robots are changing not just how war is waged, but also by whom?
3. What might be the consequences of a robot arms race? Who would be empowered most?
4. Will reduced risk of human death make war/intervention seem less costly, and therefore more likely?

**Debate question:** Should robots and drones be used wherever possible instead of humans in warfare?

**Key readings** (do some googling for up-to-date news coverage and check websites of some of these authors to see if they have new publications)


Kristin Sandvik, and Maria Gabrielsen Jumbert, eds. The good drone. Taylor & Francis, 2016


Paul F. M. Zahl, Daniel M. Bell and Brian Stiltner, ‘Drones: Is it Wrong to Kill by Remote Control?’, Christianity Today (October 28, 2011). You can get this by googling.
Week 5: Terrorism and Technology

After the lectures, you should be able to answer the following questions:

(1) How does the changing nature of science and technology affect terrorism?
(2) Is terrorism now different than in previous times (e.g., the IRA, Baader-Meinhof gang, Red Brigade)?
(3) Does access to weapons of mass destruction pose a real terrorist threat?
(4) What role can technology play in preventing terrorism?

Discussion questions: To what extent is terrorism about technology or about people, and should the response to it be seen as a ‘war’? Consider your conclusions in relation to the threat of WMD terrorism.

Key readings

Philip H. Gordon, ‘Can the War on Terror Be Won’ How to Fight the Right War,’ Foreign Affairs, Vol. 86, No. 6 (2007), 53-66.
http://polisci.osu.edu/faculty/jmueller/STEWJTS.PDF


**Further reading**


Robert W. Poole, Jr., ‘Improving Airport Passenger Screening,’ (Reason Public Policy Institute, September 2002). Available at: http://72.10.40.168/ps298.pdf
Peter J. Roman, ‘The Dark Winter of Biological Terrorism,’ Orbis, Vol. 46, No. 3 (Summer 2002), 469-482.
Paul Seidenstat and Francis X. Plane, Protecting Airline Passengers in the Age of Terrorism (Greenwood Publishing Group, 2009).
Week 6: Defence Industry and Arms Trade

After the lectures, you should be able to answer the following questions:

(1) What is distinctive about the development of military technology?
(2) Why are weapons so expensive?
(3) Is quality always more important than quantity?
(4) Is the ‘military-industrial complex’ a useful concept?
(5) To what extent can high defence research and development provide useful civil ‘spin-off’?

Debate questions: Should we build weapons and sell them? If so, who to? If not, why not? Or should we buy them from someone else?

Discussion reading

Donald MacKenzie, ‘Science and Technology Studies and the Question of the Military,’ Social Studies of Science, Vol. 16, No. 2 (May 1986), 361-371 provides a neat summary of some of the key characteristics of defence technology.

Further reading


Week 7: Weapons Development: The Technical Imperative, Rational Actor, and Bureaucratic Politics

After the lectures, you should be able to answer the following questions:

(1) Why can weapons developments not be seen simply as the rational responses of states to external threats?
(2) Does technology drive the arms race?
(3) What is the role of inter-service rivalry?
(4) How can nuclear weapons decisions be conceptualised?

Discussion question: What best explains ‘arms dynamics’?

Key readings


Further reading


Week 8: Cold War Society – Science, Technology and Academia

After the lecture, you should be able to answer the following questions:

(1) Why did basic science become seen as important to military strength in the Cold War?
(2) What role have scientists had in fuelling/controlling the arms race? Does their expertise give them special status or responsibility?
(3) What is the role of expert (scientific) advice in defence policy-making?
(4) How did Cold War funding for academia affect the practice and the content of science?

Discussion questions: What, in your view, is the proper relationship between the state and its military and political objectives, and academia? Do scientists have a privileged position to either promote or oppose the development or use of weapons?

Key readings


Further reading

Paul Forman and Jose Manuel Sanchez Ron (eds), *National Military Establishments and the Advancement of Science and Technology* (Springer, 1996).
Rebecca S. Lowen, *Creating the Cold War University: The Transformation of Stanford* (University of California, 1997).
Zuoyue Wang, *In Sputnik’s Shadow: The President’s Science Advisory Committee and Cold War America* (Rutgers University Press, 2008).

Week 9: Knowing the Properties of Weapons through Testing and Use: the Case of Ballistic Missile Defence

After the lectures, you should be able to answer the following questions:

1. Why is testing so fundamental to the development of many weapons technologies?
2. Why are the results of tests always open to contestation?
3. What is the ‘fog of war’ and how does it affect claims of efficacy based on use?
4. Why is the question ‘will missile defence work?’ difficult to answer?

Discussion question: What were the missile defence ‘lessons’ of the 1991 Gulf War, and what does the Patriot experience tell us about the roles of testing and use in the development of weapons technology?

Key readings

* H. M. Collins and Trevor Pinch, Chapter 1 ‘A Clean Kill?: The Role of Patriot in the Gulf War’ (pp. 7-29) of The Golem at Large: What You Should Know About Technology (Cambridge University Press, 2002).

Further reading

* Dennis M. Gormley, ‘Missile Contagion,’ *Survival*, Vol. 50, No. 4 (Aug-Sept 2008), 137-154. Argues that cruise missile proliferation is a bigger problem than that of ballistic missiles, overlooked in the enthusiasm for BMD.
Richard L. Russell, ‘Swords and Shields: Ballistic Missiles and Defenses in the Middle East and South Asia,’ Orbis, Vol. 46, No. 3 (Summer 2002), 483-498.

Week 10: Proliferation of Weapons of Mass Destruction

After the lectures, you should be able to answer the following questions:

1. Would the spread of nuclear weapons to more nations be dangerous, or would it just mean more deterrence?
2. Why was there an inherent contradiction in the ‘atoms for peace’ policy?
3. Can nuclear weapons be uninvented, and if so, how, and to what extent?
4. What can be done about nuclear proliferation?
5. Why do some states choose to stay (or in the case of South Africa, go) non-nuclear?

Debate questions: Is the spread of nuclear weapons necessarily a bad thing?

Key readings

Tanya Ogilvie-White, "Is there a Theory of Nuclear Proliferation? An Analysis of the Contemporary Debate," The Nonproliferation Review (Fall 1996), 43-60. This is good review of theoretical positions.
Further reading

Week 11: Reading and Writing Week
APPENDIX

Essay Question Examples

(1) Critically assess the technological underpinnings of the Revolution in Military Affairs, and what are the limitations of this approach?

(2) What are the implications of the increasing use of robotic technologies in warfare?

(3) Describe how US and UK bombing evolved in WWII - especially the arguments for and against ‘strategic bombing’ and ‘precision bombing’ - and to what extent changing technology has made such a distinction moot.

(4) To what extent is technology decisive in determining the outcome of conflicts? What does such a question imply about how we define technology? Discuss some examples (eg machine gun, tank, atom bomb, radar).

(5) Was there any logic to the nuclear arms race? How can the acquisition by the USA of thousands of nuclear warheads be explained in terms of ‘deterrence’?

(6) How useful has arms control been in controlling arms races?

(7) To what extent can Britain’s nuclear weapon capability be seen as independent?

(8) What are the policy options that could be used to prevent the proliferation of nuclear weapons?

(9) Would the world be safer if more nations had nuclear weapons?

(10) Why is it difficult to know if missile defence technology will work? To what extent are questions of technical feasibility linked to questions of whether missile defence is judged to be necessary?

(11) Why are weapons so expensive? What are the barriers to ‘dual-use’ technology?

(12) What can/should be done about the arms trade?

(13) Critically assess the arguments for and against the UK continuing to be a major arms exporter?

(14) Can military technologies be seen simply as the result of rational decisions made by states in response to external threats?

(15) Is there a ‘technical imperative’ driving the arms race?

(16) What is the relationship between the military and science? Did the Cold War change the nature of science?

(17) Can technology play a significant role in combating terrorism? (It might be sensible to focus on a few particular examples: eg biometric identification, airport screening)

(18) What factors might shape terrorists’ choices as regards the use of weapons of mass destruction or other forms of attack? Do scientific advances mean that bioterrorism is more likely?

(19) Are robot technologies (eg ‘drones’) a desirable advance in military technology?