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

Course teacher: Graham Spinardi

Tuesday, 2.10 - 4 pm.
Weekly, except week 6
Seminar Room 5, Crystal Macmillan Building
The course in brief

The main focus of the course is sociological and political 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. Undergraduate and visiting-student assessment is via a 1,500 word mid-term essay (25% of the overall mark) and a 4,000 word final essay (75% of mark).

Don't be alarmed by the size of this reading list! 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 those doing essays 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.
Objectives

The learning outcomes being sought are that at the end of the course you will be familiar with and able to discuss:

1. the key role that technology plays in many current security issues, including terrorism, proliferation of weapons of mass destruction, intervention and peace-keeping, and regional conflict;
2. how the effects of military technology can be difficult to evaluate, and the important role played by testing;
3. the nature of the weapons procurement process and how this relates to economic impacts and pressure to sell weapons to other nations;
4. the role of science and technology in the Cold War;
5. how the nuclear arms race developed, and Britain’s part in it.

Student presentations

Although it is not assessed and does not form part of your mark, an essential element of the learning experience in the course is presentations to the class. Home undergraduates and visiting students make a 15-20-minute group presentation on a topic of their choice.

Remember to follow the rules of good presentation: have a clear structure; try to speak from notes rather than read a text; look at your audience; vary pace and intonation; have a clear aim and structure to your presentation; if presenting to a large group like the full class, use the data projector or other visual aids; don’t simply summarize the reading but try to say something interesting using it; don’t be afraid to be controversial. In most full-class sessions, more than one student will be presenting, and it is important that you prepare your presentations as a group so that they link together well and that you keep to time.

Contacting me

Please tell me 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 with me.

Please email me if at g.spinardi@ed.ac.uk you want to make an appointment to see me.
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 an honours-level course such as this, you can 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 me 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).

Week 1: Introduction to the Course. Air Power and Intervention: The Examples of Iraq, Afghanistan and Libya

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


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

Further reading

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).
Paul Bracken, The Command and Control of Nuclear Forces (Yale University Press, 1983).
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

See also the essays in Colin Creighton and Martin Shaw, The Sociology of War and Peace (Macmillan, 1987).


Week 4: 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


Weeks 5: 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 6: no class
Week 7: The 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**


**Further reading**


Weeks 8: 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 9: 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).
Dominick Jenkins, The Final Frontier: Science, America and Terror (Verso, 2002).
Rebecca S. Lowen, Creating the Cold War University: The Transformation of Stanford (University of California, 1997).
Margaret Pugh O’Mara, Cities of Knowledge: Cold War Science and the Search for the Next Silicon Valley (Princeton University, 2004).
Zuoyue Wang, In Sputnik’s Shadow: The President’s Science Advisory Committee and Cold War America (Rutgers University Press, 2008).

Week 10: 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., 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


Gavin 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.


Further reading


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 11: Emerging 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)


* 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.
Essays

SUBMITTING WORK ELECTRONICALLY

From 2012-13 Sociology is trialing a new way to handle essay submission, marking and return. Junior and Senior Honours students will submit an electronic copy of their essay, in normal word processing format, through Pebble Pad. You will find Pebble Pad on your MyEd screen.

You will not be required to submit paper copies of your essay, and feedback will be provided direct to you through the Pebble Pad system.

We hope that this will make things easier for students, administrative staff and teaching staff, reduce printing costs, and help the University to be more environmentally responsible.

Full information on how to submit your Sociology essays can be found here:

https://www.wiki.ed.ac.uk/display/SPSITWiki/Submitting+Work+Using+PebblePad

Home undergraduates and visiting students are assessed via:

(1)  A mid-term essay of between 1400 and 1600 words (excluding bibliography), which makes up 25% of your marks for the course. **To be submitted electronically by Monday, February 25, no later than 12.00 noon.**

(2)  A long essay (term paper) of between 3,900 and 4,100 words (excluding bibliography), which makes up 75% of your marks for the course. **To be submitted electronically by Monday, April 29, no later than 12.00 noon.** See the end of this Handbook for how to submit electronically.

Do not include your name anywhere on the essay but include your **exam number at the top right hand corner** on the first page of your essays. On the first page of both essays, give an exact word count for the essay, which your word processing software can provide (don’t include the bibliography in the count, since it does not form part of the word limit).

Pitfalls to avoid: Plagiarism

Plagiarism is a serious offense attracting severe penalties: see the Sociology Honours Handbook or other student handbook relevant to you for what it is and how to avoid it. **The School of Social and Political Studies uses the ‘Turnitin’ system to check that essays do not contain plagiarised material.** Turnitin compares every assignment against a constantly-updated database, which highlights all plagiarised work.
**Pitfalls to avoid: Lateness**

Please note that both paper and electronic copies must be submitted before the deadline. We will take the later of the submissions as the definitive ‘hand in’ date and time. Should this be after the deadline (noon on the relevant day) then Lateness Penalties will apply. See the Sociology Honours Handbook or other student handbook relevant to you for the lateness penalties, and on what to do should you have a good reason to miss the deadline. **The penalty for excessive word length in coursework is one mark deducted for each additional 20 words over the limit. If the limit is 1500 words then anything between 1501 and 1520 words will lose one point, and so on.**

**How the mid-term and final essay differ**

The mid-term and final essays must be on different topics. I haven’t set separate questions or reading lists for them, but the obvious difference is that, because the mid-term essay is shorter and you have less time to work on it, it is less ambitious. In both essays, you’ll obviously want to read all the key readings, but for the mid-term you can draw on the further reading in a more limited way.

You are perfectly at liberty to give your class presentation on the topic of your mid-term or final essay.

**Essay topics**

You are not restricted to the list below, in which I suggest possible topics for each week. You can base your essay on one question or several so long as the essay remains coherent. Although you should consult me if you intend to do so, you may construct your own essay title within any of the areas covered by the course. For readings, see the appropriate sections of the reading list. Bear in mind that it might be better to do essays after you have heard the relevant lecture.

1. What are 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) What are 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 regard 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?