

The growing military involvement in UK universities – and the alternatives

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Scientists
for Global
Responsibility

<http://www.sgr.org.uk/>

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UK military: key info

- One of the world's most heavily armed nations
 - e.g. nuclear weapons, warships, combat aircraft
- One of the world's largest arms exporters
 - Including to govts violating human rights
- Govt announced huge funding rise in late 2020
 - Largest increase in military budget for 70y
 - New 'Defence Equipment Plan': £197bn over 10y
 - New 'Defence Review' emphasises 'emerging' tech



- Analysis provided in: Parkinson (2021)
- Defence Review part of 'Integrated Review' which promotes the post-Brexit concept of 'Global Britain'

Other key sources: IISS (2020); MOD (2021a); MOD (2021b)

[image: Queen Elizabeth aircraft carrier; credit: MOD]

UK military equipment: main programmes

- Submarines & nuclear weapons
 - 44% increase in warhead numbers
 - 1/4 of equipment budget
- Combat aircraft etc
 - Incl. planes, drones & helicopters
- Warships
- Armoured vehicles etc
- Weapons (conventional)
- 'Defence Digital'



- Budget includes manufacture of new equipment and maintenance of existing equipment (roughly 50/50 split)
 - Submarines & nuclear weapons - incl. Trident renewal (4 x nuclear-armed 'Dreadnought' subs + warheads etc); completion of 7 x Astute Class conventionally-armed subs
 - UK nuclear warhead stockpile will increase from 180 to 260
 - Combat planes etc - incl. F-35 Lightning II strike planes; more armed drones; helicopters; air support (e.g. heavy lift planes and maritime patrol planes)
 - Warships – incl. 2 x Queen Elizabeth Class aircraft carriers; Type-26 global combat ships; Type-31 frigates
 - Weapons - incl. guided missiles, torpedoes and bombs
 - 'Defence Digital' – incl. increasing role for cyber warfare
 - Sources: MOD (2021a); MOD (2021b); Parkinson (2021)
- [image: Trident nuclear missile; credit: MOD]*

UK arms exports

- Huge sales to human rights violators
 - Largest recipient: Saudi Arabia
 - Also: Oman, Turkey, UAE, Qatar, Israel, Brazil
- Since start of war in Yemen in 2015
 - Sales to Saudi-led coalition:
 - Official figures: £5.4bn; Estimated total: £16bn
 - UK-made equipment used includes:
 - Strike planes; bombs; missiles
 - Key suppliers
 - BAE Systems; MBDA; Raytheon



CAAT (2020)

[image: Typhoon strike plane; credit: MOD]

New military tech programmes

- Defence Centre on Artificial Intelligence
- Space Command
- National Cyber Force
- Develop new strike aircraft using AI/drone tech
 - Including 'drone swarms' – autonomous weapons?
- Develop next generation of warships
 - Armed with 'directed energy weapons'
- Aim: *“master the new technologies of warfare”*

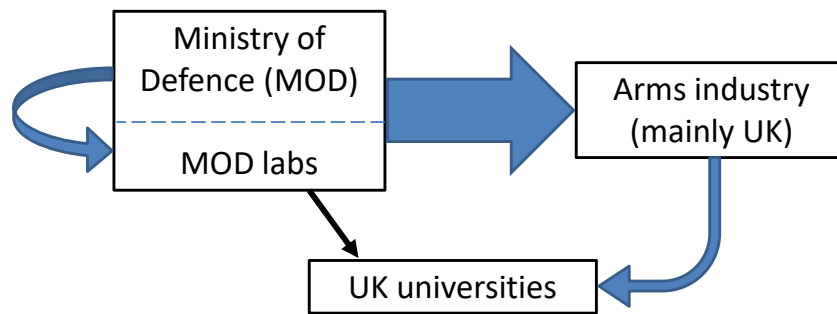


- UK officially opposes lethal autonomous weapons – but also opposes an international ban
- Quote is from Boris Johnson

Sources: MOD (2021b); Parkinson (2021)

[image: BAE Mantis 'demonstrator' drone; credit: Robert Frola]

UK military Research & Development funding relationships



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- For more discussion, see: Parkinson (2016)

Military & UK universities

- Numerous paths for military funding in universities
 - Hundreds of millions of £s a year, but figures very uncertain
 - Major funding increase is underway

Type of funding scheme	Main funders
Government/ public funded	UK military labs, e.g. DSTL, AWE MOD's Defence and Security Accelerator US Pentagon European Defence Fund (EU)
Corporate	UK corporations, e.g. BAE Systems, Rolls-Royce, QinetiQ Overseas corporations, e.g. Boeing
Joint govt/ corporate	Combination of above, including UK Research Councils (civilian)

- Government schemes run in conjunction with: Defence Science and Technology Labs (DSTL); Atomic Weapons Establishment (AWE); Engineering and Physical Sciences Research Council (EPSRC)
- Defence and Security Accelerator began in 2016, replacing the Centre for Defence Enterprise – numerous different areas, although none specifically on weapons development
- Sources: SGR (2008); Parkinson (2015) and references therein; MoD (2021b)

Which universities?

- Main NGO studies on military funding:

Year published	Number of universities	Coverage	Lead research organisation
2005	29	4 MOD/ industry programmes	SGR
2007	26	Mainly elite 'Russell Group'	CAAT & FOR
2008	16	Random sample	SGR
2014	53	Funding from Atomic Weapons Establishment	Nuclear Information Service
2018	12	Researching autonomous systems	Drone Wars UK

- Universities receiving most military funding
 - Cambridge, Cranfield, Imperial College London, Oxford, Sheffield
- Are there any without military funding?

- A few other smaller studies have been carried out as well.
- A list of pre-2015 studies, with references, is provided in: Parkinson (2015); also Drone Wars UK (2018)

Some recent examples

- Military funded projects focused on science and engineering depts

1. Atomic Weapons Establishment

- William Penney Fellowships
- Institute of Shock Physics, Imperial College

2. Autonomous systems research

- 8 key universities, incl. Imperial College London, Liverpool, Cambridge, Oxford
- Key funders: BAE Systems, DSTL

- Research often not 'security classified'



- AWE William Penney Fellowships, named after leader of team that designed Britain's first atomic bomb, are "professorships and funding awarded by AWE to leading academics at UK universities who specialise in academic disciplines of interest to AWE."
- Institute of Shock Physics - £10m research centre investigating "the fundamental science behind shock waves, high velocity collisions, heat and pressure extremes."

Sources: Nuclear Information Service (2014); Drone Wars UK (2018)

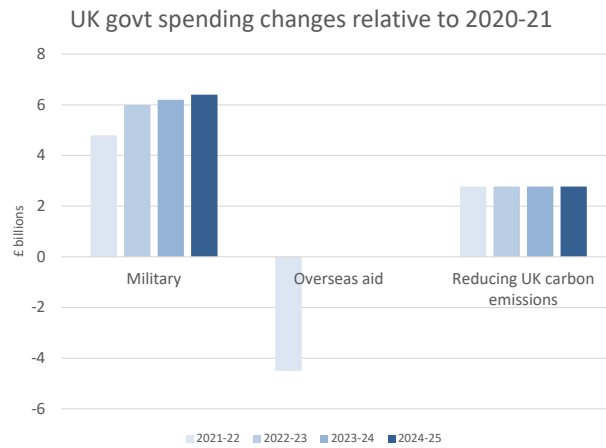
Embedding militarism in universities

- Military/ arms industry funding is small percentage of universities' total income but:
 - Targeted on key disciplines
 - engineering, computing, physics
 - Provides reliable supply of qualified scientists and engineers
 - Creates sympathetic professional relationships
 - Ethical questions not encouraged

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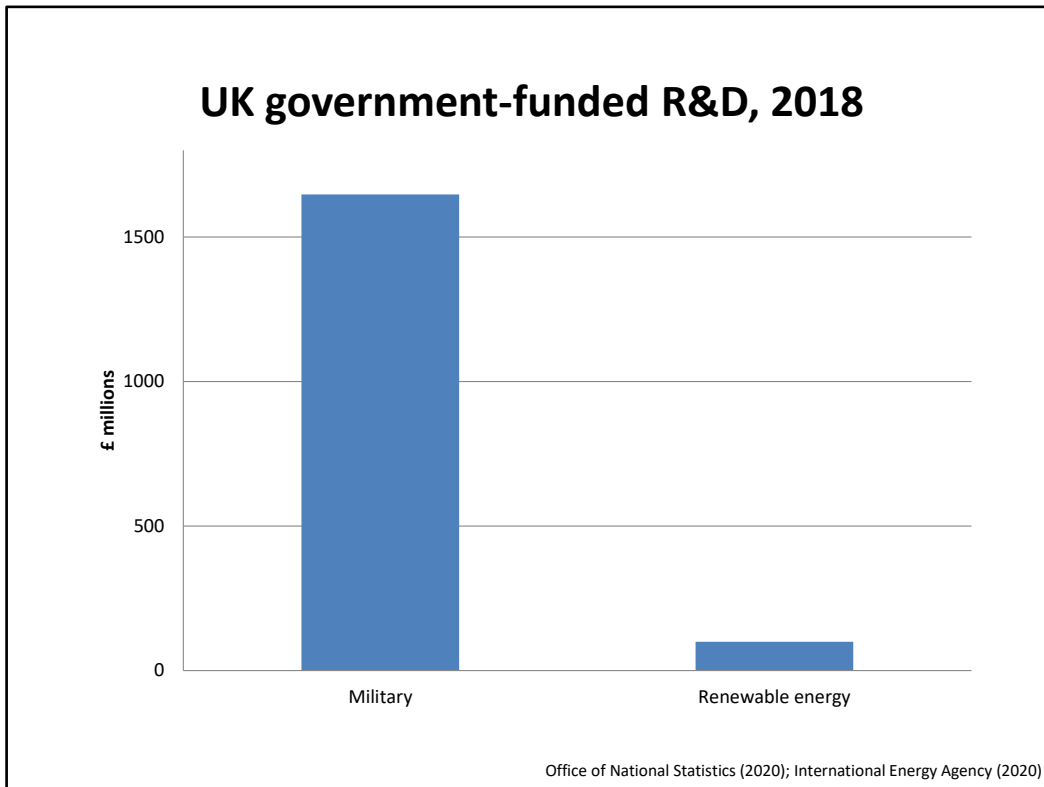
Parkinson (2015) and references therein

Alternatives to military spending



- Global inequality, poverty & climate change are ‘threat multipliers’
- Let’s tackle the roots of conflict and insecurity!

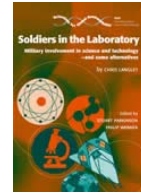
- Analysis of govt figures from: Parkinson (2021)
- Cuts to overseas aid budget included related research programmes such as the Global Challenges Research Fund, including work on infectious diseases such as coronaviruses



- Sources: Military spending: Office of National Statistics (2020); Renewable energy spending: International Energy Agency (2020)

Campaigning/ Education

- SGR programmes
 - Military influence on sci/tech – research/ campaigning for alternatives
 - Ethical careers in sci/tech – with university students
 - Science4Society Week/ One Planet, One Life – with schools
- Other related UK peace work
 - Demilitarise Education
 - Stop Killer Robots UK
 - Campaign Against Arms Trade, Campaign for Nuclear Disarmament, Drones Wars UK, ForcesWatch, ICAN UK etc
- **Join us!**



- SGR promotes a shift away from militarised approaches towards tackling root causes of conflict
- SGR activities include: presentations to academics, peace campaigners, and students; articles in specialist media etc; campaign/ advocacy work with SGR members and other groups on issues related to military influence in R&D/ arms conversion/ nuclear weapons etc; careers info for university students; resources for sci/ tech teachers; tours of eco-projects
- For more details, see:

<http://www.sgr.org.uk/projects/military-influence-project-main-outputs>

<http://www.sgr.org.uk/projects/arms-conversion-main-outputs>

<http://www.sgr.org.uk/projects/nuclear-weapons-threat-main-outputs>

<http://www.sgr.org.uk/projects/ethical-careers>

<http://www.sgr.org.uk/projects/science4society-week>

<https://www.sgr.org.uk/projects/one-planet-one-life-about>

[images: SGR]

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