

NEWSLETTER

October 2016

Living in interesting times

The five years during which I have been privileged to be Chair of the British Pugwash Group have certainly been interesting times. The Pugwash movement has always been rooted in two distinct, and sometimes apparently conflicting traditions – the natural science tradition, in which the truth is pursued by open discussion, followed by resolution in the court of scientific opinion, and the social science tradition, in which public policy is debated in relation to its social and economic implications, with policy outcomes eventually being decided or endorsed through democratic elections. Pugwash has always worked at the interface of these two traditions.

British Pugwash, in particular, has always been active in this territory. In recent years it has continued its long standing engagement on issues relating to weapons of mass destruction, and has sought to ensure that Parliamentarians and the general public alike are accurately informed about the consequences of the possession, and threatened use of those weapons. The work of its WMD Awareness team has highlighted the pressing need to keep that activity alive. The recent surge in public interest in the possibility of eventual global nuclear disarmament has strengthened our belief in the need for an organisation like British Pugwash that can promote intelligent debate about this, and seek ways to overcome the barriers to disarmament.

Our attempts to establish a British International Nuclear Disarmament Institute (BRINDI) have stemmed from that perception. Sadly, we have the impression that the very word 'Disarmament' may no longer be welcome in political circles, a development that may explain some of the problems we have encountered in trying to create such an institute. Our work on the environment, and the closely related subject of energy policy, at both national and international level, has received an enormous boost in popular interest since the United Nations Climate Change Conference in December 2015 voted overwhelmingly to restrict Greenhouse Gas Emissions to keep the global temperature rise below 2°C. A lively debate has followed about the achievability of this target, in which

New Chair of the British Pugwash Group

The new Chair of the British Pugwash Group is Peter Jenkins, who will take over the post from Dr Christopher Watson later this year. Amb. Peter Jenkins was a British diplomat for 33 years and served as Ambassador in the UK Mission to the International Atomic Energy Agency from 2001 to 2006. He was also President of the 2007 IAEA Conference on Illicit Trafficking of Nuclear Materials, and participated in the UN negotiation of a Convention on Corruption. He has been a member of the British Pugwash Group Executive Committee since 2014.

British Pugwash (working with partners in continental Europe) has been trying to help participants to separate the numbers from the emotions.

At an even more fundamental level, British Pugwash has sought to inform the debate about the role of science in society, and the need for scientists to be allowed to exercise their right of 'freedom of speech', which has been eloquently defended since the 17th century by Milton, Voltaire, JS Mill and others. During a period in which attempts have been made to discredit the views of 'experts' in decision-making, it is important that scientists should re-assert this right in such debates. Christopher Watson

Trident - emerging technologies



Computer Graphic Image of a Successor class submarine © Crown Copyright 2013

This British Pugwash research project has progressed rapidly this year from the original scoping meeting at the beginning of 2016. The project's aim is to bring into the open the scientific and technological advances in

Paul Ingram addresses
September conference
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anti-submarine warfare, the future direction of travel of these technologies, and their potential impact on the undersea battle space. The project focuses particularly on the changing undersea environment for SSBNs (nuclear-powered ballistic missile submarines), for countermeasures, and the strategic challenges for the UK's 'Successor' programme to replace Trident.



We produced a collation of the current literature on this subject and, in collaboration with other organisations, media and academic institutions, helped to stimulate a public discussion on the issue. In May 2016 we held a British Pugwash workshop with US and UK scientists involved in developing undersea sensing, communications and robotics. This workshop looked at key technologies, and the future trajectory in acoustic and optical undersea sensing, magnetic anomaly detection, undersea robotic vehicles, artificial intelligence, and undersea communications.

See report at <http://tinyurl.com/jccklhm>

In September we held a conference in London on the 'Impact of Emerging Technologies on the Future of SSBNs'. It included scientific and technical presentations from leading scientists and academics, as well as more discursive sessions on future strategic warfare and specific strategic challenges for the UK.

WMDA Awareness

WMD Awareness highlights this year have included: An event in collaboration with Global Strategy Forum in March where Eric Schlosser, the author of 'Command and Control', and former Defence Secretary, Des Browne, discussed the dangers inherent in nuclear weapons possession. The event was chaired by Michael Ancram and attracted an audience of around 100.

In March and April WMD Ambassadors ran a successful film festival in several cities in the UK. The main event was a film night set in the basement of a London church. The audience was immersed in a simulated post-nuclear accident scenario, the culmination of which was the showing of 'Threads'. It was an exceptionally effective event and deeply moving for the audience. In June we held the annual Joseph Rotblat Memorial Lecture at Hay Festival, given this year by Dr William Perry, former US Defence

Secretary. As always this attracted media coverage and good audience numbers. The event was moderated by Nik Gowing, BBC correspondent, and stimulated an excellent discussion between him, Dr Perry and the audience (see Hay podcast <http://tinyurl.com/zxg5yob>).

The main focus through the summer and into spring 2017 is in supporting Smriti Keshari and Eric Schlosser to bring the production of the acclaimed film and music experience 'The Bomb' to the UK and to coordinate a series of events to maximise the impact of this. 'The Bomb' was launched in New York at the Tribeca Film Festival and received excellent reviews. The London event is part of the global tour of the production.

BRINDI

In the BPG Annual Report for 2015, we described the progress which we had made during that year towards the realisation of our vision of a British International Nuclear Disarmament Institute (BRINDI). We also set out our plans for further developments in 2016, and these have been implemented in full. In all this work we were assisted by a Working Group of experts drawn from universities, NGOs and government organisations, some of whom participated in the BRINDI launch workshop in April 2014. These helped us to identify suitable partnerships for BRINDI and to select an appropriate location for its headquarters, as well as deciding on key governance issues, and creating a list of research projects which BRINDI might undertake in the near future, which would help it to establish its credibility as a source of creative thinking on steps to overcome the barriers to eventual global nuclear disarmament.

By mid-2016, all this work had been reported in a series of documents, including a BRINDI Proposal, which sets out four main areas in which the Institute would work, and a BRINDI Prospectus, which details the practical aspects of how BRINDI would operate. However by then, the financial resources made available from the Ziman bequest had nearly been exhausted, and in spite of strenuous efforts, we have so far not managed to raise further funding to enable us to bring this work to full realisation. It appears that a combination of a difficult economic climate, and the political realities created by the UK decision to renew its Trident nuclear deterrent, have made this an unpropitious time to seek funding for a disarmament-related project. We hope in due course the political climate will become more favourable, and that what we have achieved will then provide a basis on which we can build.

SCIENCE AND ETHICS

Ethics of science

Pugwash has an ex officio seat on the UNESCO World Commission on the Ethics of Scientific Knowledge and Technology (COMEST), and John Finney participated in its 9th Extraordinary Session in Paris in September. For

the first time, COMEST met in joint sessions with the UNESCO International Bioethics Committee (IBC), which facilitated good interactions across the biological/non-biological boundary that is becoming increasingly blurred as modern technology advances. At the opening session, it was reported that COMEST's earlier recommendation that the 1974 Recommendation on the Status of Scientific Researchers be revised has been accepted by UNESCO, and an Expert Group has been formed to work on a draft new Declaration.

The meeting's main focus was to work on two draft reports: on (a) Water Ethics and (b) Robotics Ethics. The latter work, initiated following two earlier Pugwash workshops on the ethics of modern robotics in surveillance, policing and warfare, has broadened to include the ethical implications of the wider use of robotics in, for example, medical procedures, health and social care. The draft reports were also discussed in joint sessions with IBC and the Intergovernmental Bioethics Committee (IGBC), and in open sessions at which a number of Ambassadors and members of national delegations were present. It was gratifying that the feedback given on the Robotics report was very positive indeed. The working group, of which John Finney is a member, plans to meet again in Spring 2017 to work towards a final report for Autumn 2017.

ENERGY POLICY

Global Energy Planning – some new results using the DECC 'Global Calculator'

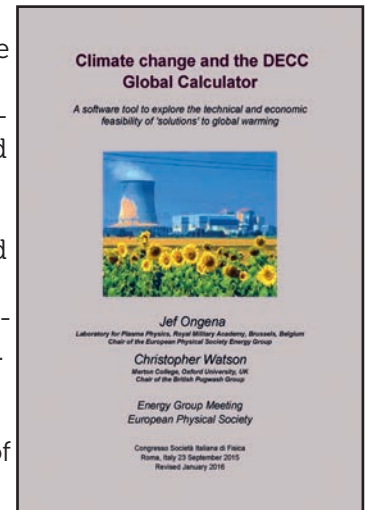
The United Nations Conference on Climate Change in Paris in December 2015 set an ambitious target for the international community to reach – to limit the global average surface temperature rise by 2100 to less than 2°C. It did not indicate how this target might be met. British Pugwash, in collaboration with members of the European Physical Society (EPS) Energy Group, has been exploring how this might be done, using the 'Global Calculator', a computer software package recently developed by an international team led by the UK Department of Energy & Climate Change (DECC).

The British Pugwash/EPS team has been reviewing this software, and in January 2016 published *Climate change and the DECC Global Calculator*, which took some initial steps to address this question. It drew on a 2013 British Pugwash report *Pathways to 2050: three possible UK energy strategies*, which used an earlier DECC calculator to design three possible 'pathways to 2050' for the UK alone, designated 'High Nuclear', 'High Renewables' and 'Intermediate'.

The Global Calculator enables the user to design a possible energy system for the whole world by specifying values for 50 parameters which define a possible 'pathway'. It then calculates total global Greenhouse Gas emissions up to 2100 for that pathway, and

estimates the global average surface temperature rise resulting from those emissions. DECC also published the parameters of 26 'example' pathways, designed by reputable NGOs and others, which users could take as starting points for their designs of new pathways. Most of these example pathways, however, fail to meet the Paris target, in some cases by a large margin.

The British Pugwash/EPS team selected three of these example pathways which represented global 'High Nuclear', 'High Renewables' and 'Intermediate' options, and gave estimated temperature rises of between 2.1 and 2.45°C, and sought to fine-tune these by altering selected parameters appropriately. In a recent presentation to the EPS Energy Group we reported finding a number of pathways with significantly lower temperature rises, including three with an estimated rise of only 1.6°C. As in the earlier report relating to the UK alone, any of these pathways has potential show-stoppers, so the team recommends governments to pursue several options in parallel until such uncertainties have been resolved.



MEETINGS

BPG discussion meetings

Climate change: can the world meet the targets agreed in Paris?

In December 2015, the nations of the world met in Paris and agreed to try to reduce greenhouse gas emissions so as to hold "the increase in average surface temperature to well below 2°C". How this was to be achieved was a question left unanswered. At a British Pugwash discussion meeting on 5 April, Dr Christopher Watson presented our findings, and reviewed the options available to Europe and the UK to achieve the desired reductions in CO₂ emissions, describing the technology options and, as important, their economic and social implications (see report at <http://tinyurl.com/jpavrbx>).

Trident submarines: will its successor be obsolete by the time it arrives?

At a British Pugwash discussion meeting on 13 June at University College London, Julian Borger, the *Guardian's* world affairs editor, spoke on advances in drone warfare and underwater surveillance which call into question the Successor's stealth. In accordance with the Strategic Defence and Security Review 2015, a debate was held in Parliament (in July) on the principle of Continuous At Sea Deterrence (CASD) and the government's plans for 'Successor', the replacement for the current platform for the UK's nuclear weapons. However recent

developments in sensing and communications technologies, advances in marine robotics vehicles and advanced computing, have serious implications for the deployment, strategy and modalities of SSBNs. Many questions need answers to enable an fully informed debate in parliament to take place (see report at <http://tinyurl.com/hlhecwa>).

STUDENT/YOUNG PUGWASH (SYP)

On 21 March 2016, British Student /Young Pugwash (SYP) held its first Annual Conference at SOAS in London. This highly successful conference aimed to provide a platform for students, young researchers, scholars and professionals to discuss matters that lie at the intersection of science and world affairs with regard to conflict, security and development studies, and to encourage students to join the British Student Young Pugwash Group. The event attracted 70 applications to participate from 11 universities across the UK. Of these applicants, 20 students were selected to present a 1000-word paper at the conference. The final papers are on the BP website: <http://britishpugwash.org/student-young-pugwash/annual-british-student-young-pugwash-conference/>

In June, a meeting organised by SYP and students from Bristol University on 'Ethics and Autonomous Weapons' attracted over 40 participants. A report can be found at: <http://britishpugwash.org/wp/wp-content/uploads/2016/07/Ethics-and-Autonomous-Weapons-Systems-2-1.pdf>

Alexandra Tsamados, our SYP Coordinator since May 2015 has now moved on, but we offer her our thanks and congratulations on her excellent work. Our new coordinator, Andrew Gibson, will support the groups already active in London, Oxford and Warwick while looking to recruit further supporters

Workshop at SYP annual conference © Ayham Al Musalhi



outside of the capital. He has also launched a blog writing competition with attractive prizes and is planning for a second annual SYP conference early in 2017.

PEACEJAM UK

PeaceJam UK is an educational programme working with Nobel Peace Laureates. In March 2016 PeaceJam UK's youth conference at the University of Winchester hosted 200 young people with Nobel Laureate Rigoberta Menchú Tum from Guatemala. Mrs Menchú was awarded the Nobel Peace Prize in 1992 for her work for the rights of native people everywhere. She was the first indigenous person ever to receive the award. At the conference she shared with us her experience of indigenous struggles and indigenous power and explored ways to overcome oppression and build communities. At our customary workshops and break-out sessions with university mentors as well as students from all over the country, we were joined this year by students from Greece and native students from America, who explained some of the prejudices and stereotyping they had to overcome.



This year PeaceJam is expanding into Europe and has held conferences in Brussels and Amsterdam as well as Greece and Monaco. PeaceJam UK members have gone over to deliver mentor training and some of our mentors have also acted as mentors at these conferences.

In the UK we have hubs of activity in Wales, York, Leeds, Coventry, Oldham, Dorset, Jersey and other towns and cities. In June we attended the Telegraph Festival of Education held at Wellington College, making a number of contacts with both primary and secondary schools. We have produced a new curriculum called "Compassion in Action" which is proving to be very popular with schools. Our students also contribute their projects to the Billion Acts of Peace Campaign, a global citizens' movement started by PeaceJam in partnership with Google, designed to tackle many of the most important problems we face.

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