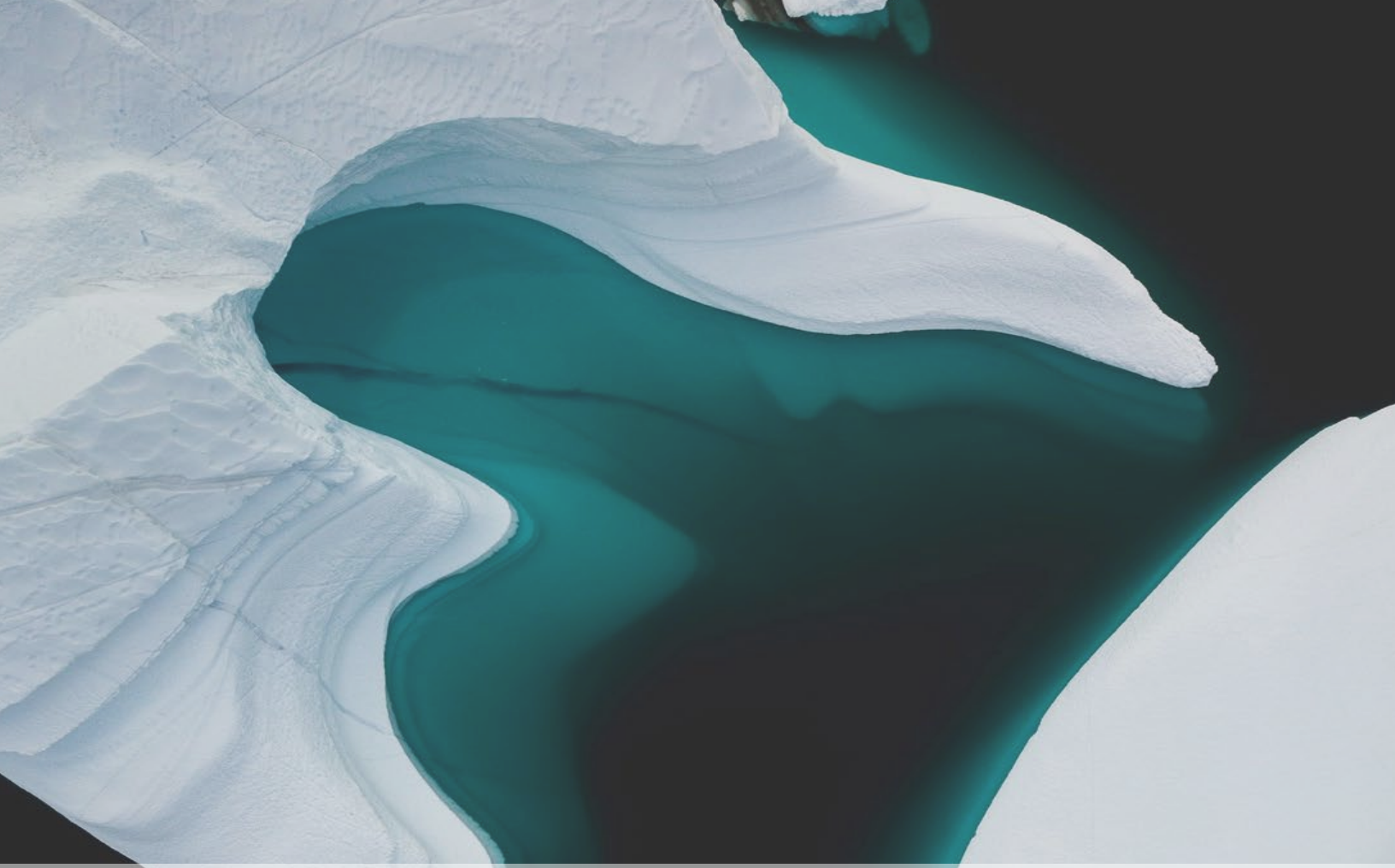

Global Uncertainties:

Collected Conversations from the Partnership for Conflict, Crime & Security Research

By Kate McNeil and Dr Tristram Riley-Smith

Partnership for Conflict, Crime & Security Research

Global Uncertainties
Security for all in a Changing World

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Editor's Note by Kate McNeil

There is a pressing and complex challenge to address threats to security which the research community has substantial capacity to address. These threats emerge from a diverse array of areas – including threats to infrastructure, organised crime, and climate change.

In 2008, Research Councils UK launched *Global Uncertainties (GU)* - a programme examining causes of insecurity and how security risks & threats can be predicted, prevented, and managed. In 2013, this initiative refined its core areas of focus and transformed into its successor project, the Partnership for Conflict, Crime and Security Research (PaCCS).

A strategic principle underpinning both versions of this scheme has been a commitment to maximising the impact of high-quality research. This has been realised by supporting interdisciplinary, problem-based research; connecting academics with the end-users of research; facilitating co-design, co-operation, co-production, and co-delivery of research; and public engagement. Over the last 14 years, more than 1,200 projects have been linked to the Global Uncertainties project and PaCCS, with the last scheduled to end in 2023.

Helping researchers share findings and tell their stories has been a key component of Global Uncertainties and PaCCS from the beginning. From delivering knowledge exchange through workshops, conferences, and student placements, to the publication of policy briefings and blogs, we have worked to promote impactful research, communicating the findings from research to a wider audience – including practitioners, policymakers, and those working in other disciplines and fields.

Since I joined the Partnership as Communications Officer in 2019, I have had the privilege of learning directly from researchers through interviews. Academics who have received Research Council support have shared stories about what inspires their work, how their research has impacted communities and influenced policymaking, and how tis has shaped their careers. The edited and condensed conversations which have emerged from these dialogues highlight the range of challenges facing policymakers seeking to develop policies in the face of uncertainty and threats to security, while also demonstrating the diverse ways in which academic insights can help us to prepare for, understand and respond to these challenges. These conversations uncover the ways in which a diverse set of disciplines and interdisciplinary work can help us to confront today's threats to security, and the importance of innovative and collaborative approaches to managing sources of global uncertainty.

It has been a privilege for me to speak to researchers whose work draws upon a such variety of disciplines, methodologies, and theoretical approaches. This has challenged my understanding and demonstrated the remarkable creativity and ingenuity of our research community as they have sought to find novel ways of providing insights into pressing problems in our social world. Notable examples of that creativity which you will find in this book include Professor Ruth Blakely's use of air traffic control data to shed light on rendition operations; Professor Niamh NicDaeid and Professor Wolfram Meier-Augenstein's use of isotope profiling to link illegal drug labs to organised crime groups; and Dr Gehan Selim's use of spatial modelling and architecture to understand the nature of public protest.

The conversations in this book have also highlighted the wide range of disciplines which have a role to play in deepening our understanding of the complex challenges to human wellbeing. Working together, these diverse approaches can increase our understanding of vulnerabilities within the interconnected, intricate systems which link our environments, infrastructure, institutions, and social world – take efforts to address disease emergence in urban settings, for instance; or to foster sustainability, or to understand the interconnectivity of organised crime networks at sea.

Conversely, the conversations within this collection have also made space for explorations of the personal, human element which is present within even the most complex of problems – as exemplified by Dr Irina Kuznetsova's work on the mental health of displaced persons, Dr Fidelma Ashe's work on queer experiences of peace and conflict in Northern Ireland, and Dr Pam Brigg's work on how older adults find cybersecurity information to protect themselves online.

Ultimately, this publication captures a cross-section of stories which illustrate the immense effort of our research community to understand aspects of both traditional and non-traditional threats to security, to identify solutions, and to translate their findings into insights which might prove valuable to those with the power to bring about change within policy settings. Across this collection, you will find that several key themes hold true: the importance of interdisciplinary collaborations and co-production with local stakeholders and impacted communities; the value of connecting with and learning from those who can offer insights into the needs of groups or institutions under study; the importance of building relationships; and the need for those influencing policy to draw upon a broad range of diverse sources of evidence in their efforts to generate impact.

The conversations within this collection have been divided into six themes: Hazards, Disasters & Risk Management; Conflict, Security & Peacemaking; Peacebuilding & Post-Conflict Reconstruction; Identity, Radicalisation & Political Violence; Criminal Networks & Transnational Organised Crime; and Cybersecurity & Emerging Technology. These do not need to be read in any specific order. Each section can be read as a standalone or can be read in conversation with one another.

I am grateful for the time, energy, and patience of all of those who took the time to answer questions, share their reflections, and speak with me over the past few years as this project has come together. While PaCCS is reaching the end of its formal work, the efforts of these researchers will continue. I encourage you to learn more about their work – past and future – and the work of others seeking to deepen our understanding of areas of global uncertainty by visiting the UKRI's Gateway to Research.

Reflections on Delivering Academic Impact
Introduction by Tristram Riley-Smith

"Nothing lasts forever. Nothing is finished. Nothing is perfect." This maxim, drawn from Japanese ascetic tradition, feels well-suited to this moment, as UKRI's Partnership for Conflict, Crime and Security Research (PaCCS) folds up its tent after fifteen years.

Nothing lasts forever. The PaCCS endeavour – starting in 2008 as the Global Uncertainties (GU) Programme – has reached the end of the road. We should celebrate the *scale* of the enterprise, the *breadth* of academic disciplines involved, and the *depth* of academic inquiry delivered.

Nothing is finished. There seems to be more to be done to deliver value from the rich and varied seams of academic research. Our Programme has learnt lessons about those many and varied obstacles that prevent impact being achieved to its fullest extent. We want to share these, and to ensure that the lessons learnt continue to resonate and be shared beyond the life of our programme.

Nothing is perfect. Security threats abound. The need continues for academic effort to examine, as described in the words of the GU mission, "causes of insecurity and how security risks & threats can be predicted, prevented and managed". *We must keep investigating the big security issues and investing strategic research effort in addressing them.*

In the following paragraphs, I reflect on each of these themes – celebrating the achievements of the last fifteen years; exploring the challenge of delivering impact; acknowledging the continuing demand to learn more, do more, deliver more when it comes to applying the outcomes from research to security threats.

Nothing Lasts Forever... But Let's Celebrate Success

Those Zen thinkers who encouraged the acceptance of imperfection and transience no doubt wanted their approach to engender a sense of serene melancholy. Yet, there is much for us to commemorate and celebrate. The Conversations in this collection illuminate the work of academic researchers who have found ways to *make a difference* in the world – to deliver impact through effective collaboration with academic and non-academic stakeholders.

Interdisciplinary research has been a hallmark of GU and PaCCS. This may go against the grain of academic convention, but its value is nicely articulated in our Collection by Chris Drakeley (Professor of Infection & Immunity at the London School of Hygiene & Tropical Medicine), as he describes efforts to counter a zoonotic form of malaria in Malaya and North Borneo:

> *"We drew upon expertise from primatology, entomology, and sociology to try to unravel how the behaviours of mosquitos, macaques, and humans were contributing to the transmission cycle. .... I am a biologist, but I have worked with primatologists, conservationists, geographers, and social scientists.*

Especially when you are trying to eradicate a disease, or study a disease that is quite rare, you need that interdisciplinarity."

This level of academic engagement builds value, in terms of human and social capital enriched through the experience of conducting research. Many of the 1,200+ researchers linked to GU and PaCCS have continued with careers in academia, turning their research into teaching innumerable undergraduates and running training courses for stakeholders outside academia. It is easy to underestimate or dismiss the power of **developmental** and **pedagogical** impact (see Table below), because so much of this is delivered inside academia itself. But these pages carry the testimony of flourishing academic achievement brought about by the GU/PaCCS investment in research – see, for instance, Nicholas Wheeler's lengthy rollcall of talent involved in researching and teaching the critical issue of trust-building in nuclear worlds.

There are, I have concluded as an Impact Champion, six different ways in which research delivers value to society (with colour-coding to reflect the extent to which a Champion can make a difference to the efforts of researchers themselves):

Developmental generating capabilities (skill, experience, knowledge)	**Pedagogical** turning research into teaching
Polemical challenging interest-groups (e.g., authorities or the public) to pay attention to findings from research	**Proactive** contributing directly to well-being of subject(s) of research through guidance and engagement
Intellectual illuminating the judgments of policymakers & practitioners with insights from research	**Instrumental** creating or improving new products, models, tools & techniques based on research

My role, as PaCCS's Champion, has principally focused on supporting **Intellectual** & **Instrumental** Impact through *encouraging partnership* between academic and non-academic teams, leading to the translation of insights into enhanced decision-making by policymakers, and science into new tools and techniques.

This collection is peppered with examples of academics making a difference here. It feels invidious to select any for special mention, but the following contributors have struck a chord with me when reviewing these Conversations: Hilary Footitt on language and war; Elke Krahmann on private contractors in warzones; Dominik Zaum on corruption in Afghanistan; Nicola Palmer on Transitional Justice Methods; Tim Edmunds, Christian Bueger and Scott Edwards on clarifying the idea of "blue crime"; Wolfram Meier-Augenstein and Niamh NicDaeid on a technique for understanding the isotopic signatures of synthetic drug recipes used by criminals; Steve Schneider on the world's first end-to-end verifiable electronic voting system; Siraj Shaikh on founding a cybersecurity company; and Adam Branch's on the development of charcoal regulations in Kenya.

It would be a mistake to assume that value only comes from collaborative partnerships between academic and stakeholder. **Polemical** impact represents an important option for any researcher wishing to make a difference in the world (often working with and through journalists and the media to get the message across). Emma Briant describes this, in her Conversation, as "*engaged research with a public interest dimension".* And Ruth Blakeley's work on the globalisation of rendition and secret detention – covered in our section on *Identity, Radicalisation and Political Violence* – represents an outstanding example, not least the partnership that she formed with *The Guardian*, but also through engagement with theatrical performance, with Tragic Carpet's production involving marionettes and immersive theatre.

The question of what is "good" for society needs to be contested and is best gauged through eliciting the participation of a wide range of stakeholders. PaCCS researchers have played their part in promoting this. This is reflected in PaCCS Policy Briefings such as *Responsible Research and Development: The Ethics of Dangerous Science*[1], *Religion and Contemporary Security Challenges*[2] and *Trust and the Prevent Duty*[3]. This point is also powerfully illustrated in this book in our conversation with Trevor Stack when he says (of his work in Mexico:

> *"The UK academic context pushes us to seek impact for our research, but in fieldwork we are often confronted by dilemmas about how to push for some positive impacts, without inadvertently creating some particularly negative ones. It is important to be aware that there are wrong kinds of impact, and to be very cognisant of trying to avoid them, particularly in difficult contexts."*

Professor Stack's work in Michoacán is a prime example of **Proactive** impact, where case studies instigated among communities badly scarred by violence have delivered benign consequences – with interventions around art and cultural activities helping societies respond and give testimony to the experience of violence. Other noteworthy examples in our collection include Ray Bull's development of guidance for police interviews of vulnerable people, and Mark Huxham's support of Kenyan communities in gaining carbon sequestration credits for conserving mangrove groves.

Of course, these various forms of impact are not mutually exclusive. Ray Bull's guidance also delivers **intellectual and instrumental impact**, shaping both policy and practice, and the practical input that Mark Huxham's models have provided to local communities has informed and influenced the development of a national mangrove ecosystem plan in Kenya.

Nothing Is Finished... So, Maintain the Momentum

These pages may be filled with examples of success in delivering impact. But we should not underestimate the range and scale of the obstacles. It often feels that the Second Law of Thermodynamics applies to research impacts, with the natural state of affairs drawn towards entropy.

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[1] https://www.paccsresearch.org.uk/policy-briefings/ethics-dangerous-science/;
[2] https://www.paccsresearch.org.uk/policy-briefings/religion-contemporary-security/
[3] https://www.paccsresearch.org.uk/policy-briefings/trust-and-the-prevent-duty/

As a Social Anthropologist, I have identified several structural and cultural challenges that get in the way of delivering impact. All too frequently, these are shaped by deeply embedded beliefs, values, narratives, and stereotypes (that are hard to shift). For instance:

- Academics can fall into the trap of believing impact has to be substantial and/or outsized, leading to the conclusion that it is unattainable. We could learn from Sir Dave Brailsford's work as Director of British Cycling: celebrate marginal gains and small incremental improvements that can be brought about through knowledge-transfer from research into policymaking and practice.
- Policymakers and practitioners can suffer from short-termism, priming themselves for disappointments. We seem to have forgotten about "cathedral thinking", where the efforts of a stonemason helping to build our great cathedrals will only achieve full fruition several generations later.
- There is a generic problem with risk aversion: this appears to affect the judgment of Departmental Ethics Committees in our Universities; the Data Controllers of organisations (in the public and private sectors) whose information is the lifeblood of high-quality research. Above all it appears to stifle opportunities to invest in and make use of those innovative solutions locked away in our research-base.
- We struggle to establish effective lines of communications between researchers and stakeholders (in Government, Industry, and the Third Sector), with two main challenges:
    - Docking: it is difficult to make connections in the first place – finding out who does what "on the other side", and how to reach them isn't easy.
    - Translation: once contact is established, to proves difficult to understand the other side: stakeholders do not share the same lexicon as academics: both sides have developed their own short-hand and sub-texts to optimise internal communications.

This list of problems should not be grounds for pessimism - knowing the nature of obstacles is the first step towards overcoming them. We have debated and proposed solutions to many of these challenges in several PaCCS Policy Briefings[4]. One of these – *Innovation Challenges in Cybersecurity* – played its part in engendering the Cyber Security Academic Start-up Accelerator Programme which has proved transformational;[5] and Tom Ilube's guest essay also provides an encouraging insight into efforts to transform research into cyber-security products. It is also worth highlighting one major success story linked to a start-up company that featured in our **Academic Marketplace**: Oxford-based Cobalt Light Systems – which uses Spatially Offset Raman Spectroscopy to detect hazardous materials, explosives, and narcotics – was acquired for £40m by Agilent in 2017.

As Impact Champion, I have paid particular attention to the **communication challenge**, because this is a critical element in any sort of collaborative endeavour. Experience shows that this is an area where a difference can be made by a go-between. Fortunately, there are growing numbers of

[4] https://www.paccsresearch.org.uk/policy-briefings/cyber-security/; https://www.paccsresearch.org.uk/policy-briefings/innovation-defence-security/ ; https://online.pubhtml5.com/cbni/nsac/
[5] CyberASAP - Innovate UK KTN (ktn-uk.org)

knowledge-brokers out there, established to make that initial connection and then support the dialogue. These include HMG's Chief Scientific Advisors; the Learned Societies (such as the Royal Society or Royal Academy of Engineering); and the Research Councils themselves.

In PaCCS's security sphere, several HMG teams exist to act as gateway or go-between: Dasa (the Defence and Security Accelerator); JSaRC (the Joint Security and Resilience Centre); and NSTIx (the National Security Technology & Innovation Exchange). There are also Research Centres aligned to Government requirements, such as CREST (the Centre for Research and Evidence on Security Threats), and ACE-CSR (the Academic Centres of Excellence in Cyber Security Research).

The existence of a joined-up communications infrastructure is, of course, useless if messages don't flow and/or if those messages are incomprehensible. Both "sides" (i.e., academic researchers and stakeholders outside academia) need to invest effort in crafting their communications. No matter how brilliant or erudite professors may be, they won't achieve traction unless stakeholders can be persuaded – in a few succinct bullet-points – that research can make a difference to their lives; equally, the most urgent of requirements won't excite the interest of researchers if it's not presented in a way that distracts the busy academic from the pressing demands of lab-bench or lecture-theatre. Those pitching a need, or a solution, should always bear in mind the "3Rs":

- **Readability**: Communicate with clarity and brevity, avoiding jargon and acronyms.
- **Relevance**: Show how insights/solutions sought/offered relate to current challenges or requirements.
- **Realism**: Be clear about what can be achieved right now, and honest about the pitfalls and risks.

Nothing Is Perfect... So, Keep Sharing the Challenges

"Everyone has a right to life, liberty, and security of person," according to the UN's *Universal Declaration of Human Rights* (1948). But the security of millions around the world is threatened – by natural hazards, conflict, and crime.

It feels that the challenges are growing (despite the global optimism espoused by Steven Pinker). For instance, opportunities for cyber-attack are increasing as billions of new devices are connected to the Internet of Things each year; and we face profound problems if the UN's International Organization for Migration is right in estimating 1.5bn environmental migrants by 2050.

In 2020, we convened a series of high-level roundtables, which brought together 36 key influencers for a discussion exploring the big security challenges which would benefit from continued attention from the research community. The summary below represents a useful snapshot of strategic security issues and areas of global uncertainty concerning stakeholders across government, industry and the third sector.

Threats and Countermeasures

Crime, Violence and Terrorism	Global Instability and Insecurity
What are the causes, context & consequences of violence & crime? How can we better understand and respond to violence in our society? Can we improve prediction; and intervene effectively in the lives of vulnerable individuals with a criminal history?	How can we anticipate and cope with instabilities, taking account of an increasingly connected but disordered world? What are the security implications for Britain's post-Brexit place in the world (including questions of National Security and Sovereign Capabilities)?
Emerging Technologies	**Digital Security in a Data-Driven World**
How do we counter the threats - and maximize the opportunities - from emerging technologies including Big Data Analytics, Biometrics, Quantum Technology and Synthetic Biology; and what are the ethical and legal challenges that they pose?	How do we protect citizens from malign/criminal cyber-attacks, given current & future vulnerabilities associated with the Internet of Things, Autonomous Technologies, and the Critical National Infrastructure? While maintaining our freedoms?

Understanding, Managing and Communicating Risk

Designing Better Risk Management (RM)	Security Threat Forecasting
How can we optimize RM in the face of multiple threats? What does risk look like in a stressed and interconnected world? Can we improve data collection and risk modelling?	How is security likely to be endangered in the future? How do we identify the full range of threats, and how can these risks be prioritised? Can we improve security forecasting?
Communicating and Experiencing Risk	**Systemic Risks, Resilience and Recovery**
How can we improve Security Literacy, ensuring everyone is better informed about risks and countermeasures (including businesses that need to deliver "Secure-By-Design")? Can we evaluate the human impact of RM practices?	How can we improve our understanding of the vulnerability of critical systems, including effects from interactions? How do vulnerabilities evolve; what protection do these systems need; and how can we use systems to improve our security?

At the other end of the spectrum, there are practitioners – working, for instance, to counter terrorism and serious organised crime, or to develop cybersecurity solutions to protect the internet of things – with highly-specific and pragmatic needs. It is clear – not only from the catalogue of stories contained in this Collection but also from the six Guest Essays written by seasoned experts from Government Service, Industry, and the Third Sector – that researchers have a contribution to make here. The good news is that the demise of PaCCS does not mean the termination of strategic support for security-related research. UKRI has identified "**Building a Secure and Resilient World**" as one of its five major strategic themes, going forward between now and 2027. There is, in other words, an opportunity for the baton to be passed on to new generations of researchers working in partnership to make the world a safer place. You can learn more about this in the closing essay written by Andrew Stafford of UKRI.

I. Hazards, Disasters & Risk Management

Foreword by Mike Granatt, CB

Mike Granatt CB spent 30 years in public service. Between 1986 and 1998, he worked as director of communication for the departments of energy and environment, the Met Police, and the Home Office. He then joined the Cabinet Office as director general of the Government Information and Communication Service and became the first head of the Civil Contingencies Secretariat.

Government is a risky business. I worked in Whitehall for most of my career, and there wasn't a day without a discussion of risks.

This is no surprise. Government must deal with all the complex risks that nobody else wants to manage. (Well, almost all. Faith groups have the franchise on certain matters.)

I spent 30 years working in Government on all sorts of issues ranging from energy to local government, from radio spectrum regulation to counter terrorism; plus, a stint at New Scotland Yard.

During the last couple of years, I also helped set up the Civil Contingencies Secretariat in the Cabinet Office. Its job is all about spotting and dealing with cross departmental risks.

So, if it's true that one learns by mistakes, I have a serious qualification in calamity. And I am constantly concerned about Government's approach to risk.

Government's risk portfolio is complex and immense. Some are legacies, some simply arise ("events, dear boy, events"), and some are poised, waiting in our future.

The legacy portfolio is vast, and risks reappear repeatedly, in different guises. Here are a few of the broad categories: falsely based assumptions, deep-rooted myths, lessons not learned, industrial legacies, historical inequalities and inequities, and ideology-flavoured history.

To the present: risks arising today have many causes - the turbulence of domestic politics, the pressures of international rivalries and ambitions, the burgeoning interdependencies of an increasingly connected world economy, and of course, new diseases.

Seen through a historical lens, none are unique. But today, they are amplified by technologies that carry truth, lies, instructions, decisions, mood, money and debt across the world ever more swiftly.

And then there is the future - some risks are all too obvious; some are unknowable; and some are unthinkable (but still possible).

Nevertheless, with its unique powers, great resources, and access to huge knowledge and experience, Government should have a unique understanding and command of risk.

But it doesn't, for at least two reasons.

First, Government is directed by people whose major experience of risks is close, personal, and immediate. Politicians survive and thrive by managing their own risks instinctively and quickly. Understandably, they give priority to familiar risks and learned solutions. Sometimes, that works. But it can stretch to a belief that their trained instincts are universally applicable. It is not easy to unlearn that belief.

(I once asked a man who managed the PR for the Archbishop of Canterbury how he managed vicars who spoke out of line. He said: "You can't argue with someone who says, *I was called to say what I did*." It's a bit similar with some political figures.)

Secondly, the successful management of risk requires continual learning and structured recording. Political life certainly involves immersive learning. But it is immersion in permanent turbulence, and instinctive continual recalibration. Dancing over lakes of thin ice is not conducive to careful recording, or recall.

I saw risks handled in slow and quick time, from very fast decisions to protect lives, to the daily, grinding review of 100-day national crises in the Cabinet Office Briefing Room (COBR).

Even so, there were common threads: burgeoning complexity, great pressure, the imperative for clear decisions and progress, the need to operate with imperfect information, and continual learning and adjustment.

It's a roller-coaster, and for me it came to a head - or at least to some clarity in my head - with two events. (I apologise to others who were there for the following simplistic descriptions.)

In 2000, there was the unfolding horror of foot and mouth disease. This monstrous malady and its drastic remedies engulfed farms, farming families and - without any forewarning - the other 80 per cent of the rural economy.

All focus initially had been on restricting the countryside and killing infected and surrounding animals. So, it took three weeks before it was made apparent that these measures were also killing inward tourism - our second biggest export at the time - threatening all the hospitality, retail and transport businesses on which the rural economy depends.

Effective, cross-departmental risk analysis and management might have prevented a lot of misery.

2001 saw the whole economy suddenly exposed to a mass of risks, when a national fuel supply crisis came out of the blue. Highly skilled and irreplaceable fuel tanker drivers protested at loss of earnings by halting deliveries to fuel stations.

Within a very few hours, pictures of queues at a few petrol stations appeared on TV news bulletins. Within a very few days, the queues were replicated all over the country. The fuel companies were all too aware of this emerging risk, but their warning to Whitehall at the early stages went unheeded. And very soon the economy, like the roads, looked close to grinding to a halt.

Plans to identify and supply priority users such as NHS staff went awry. School teachers were not priority users, so schools had to shut. Working parents had to stay at home. And hospital wards shut when medical staff with children could not get to work.

Again, pan-government risk planning and management might have prevented chaos.

The cascading phenomenon now seems all too familiar - the shock failure of an important just-in-time supply system, and a propagation of risks and crises. Not for the first or last time, we all learned that one price of economic efficiency is exceptional susceptibility to a surge in demand. (I recall 1960s TV news bulletins boggling over shop shelves emptied of sugar by rumours of shortage.)

Very importantly, a frequent risk is the collapse of public trust. What is often called “panic buying” was simply the logical reaction of millions of drivers whose vital fuel supply was suddenly untrustworthy.

Even when the tanker drivers returned to work and supplies started to flow, there was a further shock. I remember the faces in the room when the Prime Minister was told that not only would it take three weeks of “normal” buying to reset a tightly resourced system permanently balanced on a knife edge - without the pause in the surge, it would never balance.

It forced the issue of needing to trust the public. And it took a phalanx of ministers, oil company executives, and emergency service chiefs, standing together, to get the simple point across: please just buy what you need - we need everyone’s help to get back to normal.

Happily, there is a side of the public sector which does have a tradition of managing risk systematically - the operational arms. The armed, emergency, health, and similar services consistently demonstrate how immersive learning, recording, and training can work. The best of these outfits learn from the past, test and learn in the present, and look with deliberation into the future.

But the great policy departments of Government don't have that tradition, for some reasons which I’ve mentioned. But as this book and particularly this chapter shows, there is a wealth of understanding in the research world on which to draw.

This the bottom line. To understand and navigate an increasingly risky world, Government needs the science of risk and its management, as they have needed to draw on the science of diseases and their management.

Public Views of Security Threats

In December 2021, the University of Exeter's Professor Dan Stevens spoke with PaCCS to discuss and reflect on his work conducted on the 'Public Perceptions of Threat in Britain: Security in an Age of Austerity' project. This work was funded by the ESRC in 2012-2013.

Would you mind telling me a bit about your research background, and how you came to work on perceptions of threat in Britain?

I am British, but I have always been interested in American politics. I completed my bachelor's and master's degrees in American politics, and then moved to America to do my PhD. While I was in America, I began to specialize in political behaviour and political psychology. I then became interested in the psychology of public opinion, first in America, and then more broadly. A lot of my early work focused on elections, and when I came back to the UK to work at Exeter in 2007, I began working on British politics as well.

At Exeter, I began working with Dr Nick Vaughan-Williams. He was one of those colleagues I would chat with in the corridors whose interests were a long way apart from my own – he is a theory-driven critical International Relations (IR) scholar – and yet we found that there was an overlap in the sorts of questions we were both interested in, and we realised there was a possibility for us to collaborate while exploring the psychology of security threats.

What were the key aims of your project on the perception of threat in Britain?

Nick and I approached this project from very different directions. From the IR perspective, he was frustrated with the elite-driven focus on security threats and securitization. He wanted to focus on writing about the everyday and citizen involvement in identifying and mitigating security threats. To that end, his elements of the project explored what everyday security threats look like for individuals and ordinary citizens. He asked whether there is – and to what extent there might be – overlaps between the security threats perceived by ordinary citizens and those which are focused upon by governments. Meanwhile, my focus was on the psychological dimension of these questions. I felt that we did not know a lot about the threats and people's perceptions of threats such as terrorism or the climate emergency beyond certain situations where the threat becomes a 'threat of the moment.' When there is a terrorist attack, the aftermath sees a lot of survey questions about people's perceptions of the terrorist threat, for example. However, we know less about what the overall picture looks like when you step back and look at public perceptions of a whole range of threats, as the government does in its national security strategies.

We also became interested in place-based threats, and differences in perceptions between threats to the world, threats to your country, threats to your community, and threats to the individual. It was not clear from previous research whether people perceived threats differently in these ways, or whether some people would feel chronically threatened by the sheer number of threats.

How did you go about conducting this work?

The project was conducted in three stages, using a relatively novel research design. We conducted ten mini focus groups around the country; then conducted a survey with 2000 respondents; and then did another ten mini focus groups with new respondents. The second set was an opportunity to go back and explore what we had learnt from the survey results. We decided on using these mini focus groups, which had three people per group, because we were torn between long interviews with individuals and the opportunities to explore the dynamics involved in discussing threats. Focus groups offer more opportunities for people to challenge one another and interact and keeping the focus groups small gave a lot of time for interaction between people.

Can you tell me a bit about the findings which emerged from the project?

We found that some threats – such as terrorism – were not particularly salient to individuals or their communities but were instead perceived as collective threats. Meanwhile other threats – such as the economic threat posed by the financial crash – were salient both at the individual and global level. We also saw a lot of variation in threat perception, and in how perceived threats influence attitudes and preferences, such as the attributes someone looks for in a leader during periods where there are threats to the nation.

We also found that some threats – like a perceived terrorism threat from immigration – were associated with the stereotyping of minorities and were connected to a preference for more spending on defence, more aggressive policies, and stronger leaders. In contrast, other perceived effects – including the threat from the economy and the threat from climate change – had the opposite pattern of effects.

Was your goal primarily to contribute to a body of theory through exploratory research, or were there also impact-driven outcomes from the work?

Our primary goal was to conduct exploratory research, but we did write a book and a few journal articles about this project which generated interest from policymaking spaces. In the aftermath, we were contacted by the Cabinet Office and invited to talk through our results and potential applications for messaging around security. From there, we were invited to submit evidence to the UK Joint Committee on the National Security Strategy, and my coinvestigator Nick has stayed involved in generating impact there, including through collaborating with the Home Office and a group called Rethinking Security.

Was there anything that emerged from this project that particularly surprised you?

We found a much lower public awareness than expected of the way in which government perceives threats and the national security strategies that existed at the time. Roughly one in ten respondents had ever even heard of the National Security Strategy. Beyond that, we found that even among the small minority of respondents who had heard of the National Security Strategy, those who had heard of it were not reassured by it – instead, they saw more threats out there than the people who had not heard about it.

Would you have any key messages for policymakers based on this work?

There is a lot out there that has been written about the modern security apparatus, including work on seeing ordinary citizens as stakeholders in addressing security threats. And yet, when you talk to ordinary people, they generally feel pretty excluded. Very few people could think of any security strategy that they had come across, for example. Now, with the covid-19 pandemic, I think the overall lesson for me is about the importance of messaging from government. When we conducted our research back in 2012, we asked people about a health pandemic; but despite avian flu and swine flu and the messaging that existed around the possibility of pandemic threats, people just did not see it as a threat. People saw threats to health security as something that happens elsewhere – in Asia, in China – instead of seeing it as a threat which could occur on our shores. So, the messaging from government about this top-tier security threat clearly was not adequate – or at the very least was not cutting through to people who tended to see it as scaremongering.

Where has your research taken you in the decade since you finished working on this project?

One of the themes that has emerged in my work during this period has been individual-level authoritarianism – how people's attachment to groups and group conformity interacts with their perceptions of threats, and how that in turn affects political tolerance, tolerance of minorities, attitudes towards democracy, etc. With democratic backsliding occurring in so many parts of the world, those twin themes of authoritarianism and how perceptions of threats change (or fail to change) over time is very important. When perceptions of threat change, what causes contribute to that change? That is a question I do not have a definitive answer to yet.

Recently, I have also done some things on the covid-19 pandemic as well. This has included experimental work on how people perceive the threats posed by the pandemic – *is it a threat to you, or to your society?* So, we looked at food hoarding and people not being able to get toilet rolls and all that stuff. We also have been exploring the relationship between covid-19 and authoritarianism – most people see covid-19 as a threat, but it has not made those with authoritarian attitudes want government intervention in the United States, for example. Finally, I have been doing some work on covid-19 and leadership – this was such a fascinating opportunity to look at elite psychology and the responses of leaders around the globe to a single issue. So, we looked at personality traits and how they might have affected how quickly leaders responded to the pandemic, and the types of actions they adopted.

Public Views of Environmental Risks

In the autumn of 2020, PaCCS spoke with Dr Emma Soane, an Assistant Professor at LSE's Department of Management, to discuss her work on the Science Team project, a programme of work focused on public views of uncertainty. This project was funded by the EPSRC and offers insights into decision-making in the context of environmental risks.

Can you tell me a little bit about your research background, and how you ended up working on the Science Team project?

I am a chartered psychologist, with training in organizational psychology. My early career included work in the National Health Service and then work at London Business School studying risk-taking and decision-making among traders at four top tier investment banks. That was in the pre-crash days, when people were making a lot of money, and it was fascinating to get insights on of the role of emotions on trading and on decision-making in that organizational environment. The powerful influences which affect decision-making in organizations – and the consequences those decision then have – is one that really stuck with me. Later, while working at Kingston Business School, the theme of decision-making came up at an EPSRC sandpit, and from that emerged the Science Team project.

Can you tell me a bit more about your experience with the EPSRC sandpit?

The sandpit experience was one put together by the research councils to fund projects that would not ordinarily be developed. I applied to participate in a sandpit relating to decision-making, risk, and uncertainty. Then, 25 of us were selected to participate in a five-day programme of activities at a hotel in the countryside, where we were given projects to work on and were tasked with developing ideas for innovative and cross-disciplinary projects coordination with other participants from a variety of disciplinary backgrounds. There were two of us in the social sciences, and other people present came from disciplines such as engineering and mathematics. Throughout the programme, we had an event with a dancer, we heard from two architects, we had a talk from a conductor… The idea was just to spark our thinking.

We developed proposals for programmes through the week, observed by the funders throughout, so they could get a sense of who we were, and what our role in developing/delivering projects was likely to be. They gave us feedback throughout. At the end of the week, we made a pitch. I came away from the sandpit with three projects, and responsibility for co-leading a research network. That was also the beginning of the Science Team project, and I still have contacts that I work with from that project and sandpit – so really, it was an incredible experience.

What questions were you trying to answer with the Science Team project?

We were interested in societal risks facing people in the UK. For example, how do people make decisions about risks related to what they eat, or risks related to climate change? We had a broad remit to develop a multidisciplinary project and our team was diverse – with experts on zoonosis, engineering, and decision-making. We wanted to encompass everyone's strengths, so we ended up doing work on food safety and flooding. A follow-up project emerged, which looked at how people perceive the way that government funds and manages environmental risks.

How did you go about conducting this research, and what were your key findings?

With our project on food safety, we explored the ways in which people process and look for information. We were interested in how people analyse scientific information, and whether they truly process that information or rely on their own heuristics. We found that that individual differences in preferences for analytical and heuristic information processing style have a direct effect on information seeking. This influences the extent to which people seek information. Meanwhile, we found that anxiety contributed to some people choosing to delay decisions, even after they had sought out information. These findings have the potential to shift our understanding of how people make decisions, and the role of emotion in information seeking.

Meanwhile, on our branch of work which focused on what people believe about protecting their homes from flooding, we did a large-scale survey of homeowners. We found while homeowners are willing to protect their homes from flooding and, in many cases, to contribute financially to flood defences, many people felt they did not have a sense of agency in flood management. From that work, we learned how important it is to trust in information from government and scientists and ensure people really believe that their actions on flood protection can make a difference in protecting their homes. To combat this, there is a need for governments to undertake communication campaigns which nurture a shared sense of responsibility and provide information about domestic flood-protection devices.

Finally, the project exploring policymakers' decisions and environmental risk was not directly funded by the sandpit but emerged from it. We worked with Defra (the Department for Environment, Food & Rural Affairs) to explore how the public understood risk, versus their understanding of what policymakers' thought was important. We surveyed people on topics such as tuberculosis in cattle and genetically modified organisms. From that research, we found that there were individual differences in approaches to understanding beliefs about agency and risk. Moreover, while communications from policymakers have the potential to influence lay beliefs, the policy process also needs to be cognizant of public perceptions of risk. We also saw that policymakers who heed lay concerns are likely to make effective, socially acceptable policy decisions.

What have you been working on since finishing your work on the Science Team project?

I have continued to build on the collaborations that came out of the Science Team project, but our more recent work has been focused on organizations and involves new cross-disciplinary teams. For example, we are presently examining organizations as systems of risk which function in uncertain environments. Within that, I have been exploring how individuals and team members, think about how they manage risk and then how that affects organizational outcomes. This has included work on tensions in teams, differences between the risk exposure of an organization and its strategic position, why organizational risks arise, and how diverse teams manage conflict and disagreement. I am particularly interested in how organizations understand risk profiling and can develop prospective views of risk rather than waiting for disasters to happen.

Risk Guidance for Civil Servants

While based at King's College London in 2008-2009, the ESRC funded Professor Frederic Bouder's work on the Development of Guidance for Civil Servants on Risk. In the autumn of 2020, we spoke with Professor Bouder to reflect on how this work has influenced his understanding of risk management and communication.

Would you mind getting started by telling me a little bit about your research background, and how you ended up working on *The Development of Guidance for Civil Servants on Risk?*

I am a Professor of Risk Management at the University of Stavanger in Norway, but at the start of my career, I was an administrator at the OECD. That exposed me to the practical concerns facing policymakers dealing with complex situations, including pandemics. That experience developed my interest in the interface between risk communication and policy, which drove me to do a PhD at King's College London. At King's, I explored the question *what is a tolerable level of risk?* At the time, I was interested in how we handle situations such as granting market access to medicines, combatting public reluctance to get vaccines, etc. I have done several projects collaborating with governments, and the work I did on *The Development of Guidance for Civil Servants on Risk* focused on providing advice on to UK civil servants on risk communication. That project was funded by the ESRC and was conducted in partnership with GO Science and BIS - the Department for Business, Innovation and Skills (a precursor to BEIS).

What did the *Development of Guidance for Civil Servants on Risk* project entail?

At the time, BIS was concerned with having several documents and guidelines concerning risk and communication which no one seemed to be paying attention to. One of the things we quickly learned was that there is a lot of literature going around government which stems from consulting cycles. A lot of it looks great, but the quality of the content is a mixed bag. Some of these documents are not always backed by a lot of evidence. So, I conceived of this project as a way to design an instrument that would be more effective at talking to civil servants while encouraging them to take science and evidence-based approaches.

The project involved a network of scientists, including leading scholars at Carnegie Mellon University, the University of Stuttgart, and King's College London, who worked together to design what we call a Survivor's Guide. If you are a civil servant who has a crisis coming your way, this Guide is designed to help you figure out how to deal with the crisis and move things forward. Throughout the writing process, we had workshops and roundtables with civil servants to understand their needs and get their feedback. While it is hard to assess the tangible impact of the document, I have had several people from government reach out to me over the years with follow-up questions about how the document applies to specific problems they are facing, which I see as a good sign that people still find it a useful tool.

Can you tell me a bit more about some of the projects you have worked on since finishing your work on the *Development of Guidance for Civil Servants on Risk?*

After finishing my work on the civil servants' Survivor's Fuide, I was hired by the University of Maastricht, where I continued my work on risk communication in crises. This included work on

an Open Research project which did a comparative analysis of the regulation of risk in policy areas including health and safety, healthcare, crime prevention, education, and food safety.

While at the University of Maastricht, I also did a lot of work on issues of transparency in government in pharmaceuticals and health, much of which was done in collaboration with my former PhD supervisor. We felt that while people perceive a need for transparency and information disclosure in these sectors, the government's focus on disclosing a lot of information has resulted in people having access to piles of documents they can do very little with. For example, a regulatory agency might decide to release thousands of pages of technical, medical information from clinical trials. How does that empower the public to make good decisions? It is much more likely that industry competitors, and maybe some people in academia, will be interested in or able to use that data. You cannot expect ordinary people to have the time or background to parse through those pages and use them to make informed decisions. If companies or regulatory agencies produce the wrong type of information, this can lead to a contested, complicated environment in which misconceptions and fears flourish. Effective risk communication is the difference between public trust versus the public becoming worried about vaccines because of what they have seen in a publication like the *Daily Mail*.

A few years ago, I received funding for a 6-8-year project on genetic risk information from the international collaborations stream of the Swedish social sciences funding body. From my current position at the University of Stavanger, I am working with a team which is exploring what information about genetics people want, people's expectations when they do online DNA tests, and how automated algorithms used for predictive diagnosis share information with patients/clients.

I have also recently finished a project on risk education and children's understanding of risk, which was conducted based on small-scale surveys in the UK and Canada. We are hoping to publish that research soon, but right now a lot of my time is being spent on examining the communication of uncertainty in the context of covid-19.

What has your work in response to the covid-19 pandemic entailed?

We have received a two-year grant for a project funded by the Norwegian Research Foundation which is examining various aspects of covid-19 management in Norway, Sweden, Germany, Switzerland, and the UK. We are examining institutions, policies, and the behavioural aspects of how people have understood and responded to the guidance given to them. There have been both quantitative and qualitative elements of this work, and the project has been interdisciplinary and inter-sectoral. For example, we are working with an anthropologist who specializes in kinship, developing relationships with local hospitals and drug regulators, and exploring various aspects of communication and vaccination.

Are there any major challenges or themes which have reoccurred throughout your years working on risk communication?

Unfortunately, because the field of communications is often perceived as more of an art than a science, many people with experience in communications or dealing with the public do not

realize that they have more to learn about things you should or should not do when communicating risk. We need to do more to challenge assumptions in risk communication, and to understand how government works and what government's needs are. The question of how to mainstream effective risk communication in government practices continues to be a major challenge – and it is certainly one which underpins a lot of my work.

Based on your experience throughout your career thus far, what would be your key message for policymakers seeking to engage in effective risk communication?

One key message is that it is important for governments to have a broad base of diverse networks and evidence sources which they can draw upon. I think part of the problem for many governments in the current pandemic is that it is so difficult to suddenly create capacity – which is how we have ended up with governments running around like headless chickens asking '*Who could inform us? Who should we go to*?'. Countries which have Chief Scientific Advisors and National Academies of Sciences that provide regular inputs into policymaking processes have an advantage here – they have communities they can draw upon easily. As you draw upon the evidence base, governments also need to ensure they are drawing on a sufficiently large evidence base and looking at diverse forms of evidence rather than becoming sole reliant on say, mathematical modelling.

Another message is that it is very important to acknowledge public perspectives on risk and to use that as your starting point. There are a lot of expectations in government about how people are *supposed* to behave, but those expectations often are not backed by a lot of evidence. So, you need to do your homework, drawing on communications research and risk perception research, to develop an evidence-informed starting point for thinking about public perceptions and behaviour. We also know from the history of research in these fields, particularly mental models, that punitive policy approaches do not work if you want to unite people.

My final message is that sometimes, to get you message across, you need to work first on gaining trust. If trust is low, people are much less likely to follow any advice you give them. Meanwhile, in places like Scandinavia where trust in government is much higher, policymakers have easy ways of providing advice to the public, because the public will listen. If you are in a country where there are low levels of trust, policymakers will need to work through different mechanisms, such as trusted third parties, such as independent scientists. For example, David Attenborough's work on global warming is something that people can relate to, and it is probably more impactful than hearing from a government official.

Path Dependency and UK Preparedness

In February 2021, Professor John Preston of the Department of Sociology at the University of Essex wrote a guest blog post for PaCCS sharing his reflections on path dependency in the context of the covid-19 pandemic. Professor Preston is a Professor of Sociology in the Department of Sociology, University of Essex, and has published several books on disasters and preparedness, including a 2020 book on "Coronavirus, Class, and Mutual Aid in the United Kingdom". While the government's response to coronavirus and the lived experience of the covid-19 pandemic have evolved since this piece on path dependency was first published on the PaCCS website, the broader lessons raised by Professor Preston concerning how governments respond to emergencies remain salient. Consequently, this piece has been included in this collection in its original form and should be read with the understanding that it describes the UK's covid-19 response as it stood in early 2021.

In the current Coronavirus pandemic, there is an active public debate as to why the UK has adopted a different approach compared to other countries. There is criticism of Government policy on Twitter and by organisations such as IndieSAGE (an independent version of the SAGE Government advisory committee) particularly in terms of whether the UK should have pursued lockdown sooner or developed a more active form of 'test and trace.' In my most recent work with Rhiannon Firth[6] we also critique the UK approach to the pandemic in terms of its neglect of social class. However, in developing critiques and arguments against Government policy we tend to over-estimate how responsive (any) Government is to rational argument or debate on preparedness. This is because the adoption of emergency preparedness measures in a country is not just decided by current debate but through history and the way in which institutions 'interlock' to produce, or negate, certain policy outcomes.

In my ESRC project[7] the team and I took a comparative approach to looking at how five countries (UK, US, Japan, Germany, and New Zealand) arrived at the infrastructure and mass population protection policies that they have today. We tracked the post-war history of infrastructure protection through archives and policy documents in each country, conducted interviews with emergency planners and policy makers and examined case studies of infrastructure failure events.[8] Initially we expected to find that there would be similarities between pairs, or groups, of countries based on their geography, economic system, or hazard experienced. We thought that we would see policy borrowing and the globalisation of preparedness approaches. What we found was the opposite – that countries had national, divergent, systems of infrastructure and population preparedness. Preparedness policy was path dependent. Even in the face of exogenous shocks (9/11, Fukushima, Christchurch earthquake) countries would not change their policies significantly. In fact, exogenous shocks could act as a 'correction' in terms of putting countries back onto a path that they had drifted away from. After 9/11 Homeland Security could be seen as a continuation of the state led, civil society, efforts that the US had moved away from (but never completely abandoned) in the 1980s. The work of

[6] Coronavirus, Class and Mutual Aid in the United Kingdom | John Preston | Palgrave Macmillan
[7] Professor John Preston | PaCCS (paccsresearch.org.uk)
[8] Community response in disasters: an ecological learning framework (tandfonline.com)

Kathleen Thelen on how interlocking institutions bring about path dependence was particularly relevant here. Countries approach emergencies in very different ways.

Preparing for nuclear war

Going back to the UK, following WWII, preparation for disasters was largely a matter for civil defence. This was largely a military, rather than a civilian, concern and civil society efforts to ground civil defence were weak when compared with other countries (particularly the US). Protection of government became the most important criteria from the late 1960s. By the 1980s the Ministry of Defence and the Foreign Office were powerful voices against public nuclear preparedness efforts (which could be harmful to the UK's geopolitical interests in drawing public attention to the UK as a target because of the housing of US nuclear weapons). CND, other protest movements and popular culture also opposed preparedness and so the MOD and CND were effectively on the same side (in opposing preparedness) as far as the Home Office - who advocated public preparedness - was concerned. The secretive and directive nature of preparedness also lagged behind sociological and psychological theories of behaviour in a nuclear attack which meant that the government never quite got the tone right in terms of what was being produced. By the time they had revised their proposed guidance (being a slightly updated version of 'Protect and Survive') psychologists were critiquing the idea of didactic information and instructions. Hence by the end of the 1980s civil defence was back to largely being a state secret.[9]

This history helps us to explain idiosyncrasies in current UK preparedness for nuclear war. For example, the UK does not currently have a publicised alerting system for nuclear attack whereas such systems exist in most developed countries (including the US, Japan, France, and Australia). Extrapolating, this is probably an outcome of the institutional arrangements in the UK. At the macro level (missile attack) arrangements for alerting are seen as a military matter and UK popular culture remains cynical about Civil Defence type arrangements with a weak civil society not really involved in emergency preparedness. There are also probably geo-political and pragmatic concerns about what could be done in the UK which is a small island country where the alerting time from a Russian attack would be incredibly short. This makes 'policy borrowing' from other countries difficult, if not impossible.

The Coronavirus pandemic

Culturally we may think that British stoicism and a 'Keep Calm and Carry On' attitude are why we do not have measures such as emergency alerting or a culture of preparedness. But the more plausible answer is that it is our institutions. That does not make the UK worse than other countries in terms of preparedness (just different), but it might explain where we are now in fighting covid-19. In terms of the Government response to the Coronavirus pandemic the UK Government is behaving little differently to how it acted in previous crises. The management of the pandemic is centralised, drawing on a narrow panel of experts and largely accepting a normative view of the population (which is why it was slow to respond to inequalities). Information is revealed to the population at short notice in a form of 'surge

[9] The strange death of UK civil defence education in the 1980s (tandfonline.com)

pedagogy.’ There are even correspondences between the public information used in previous campaigns and the covid-19 publicity. The ‘stay at home’ advice and the iconography used are similar to previous public information campaigns such as ‘Protect and Survive’.

This path dependence does not mean that the UK Government is above criticism but there are limitations in terms of how far academics (particularly those outside of Government) can make a difference to policy or practice through presenting alternative arguments. Governments and institutions are bounded by histories that the current incumbents are often not even aware of.

Disease Emergence in Urban Environments

In January 2020, as the world was first becoming aware of the covid-19 pandemic, PaCCS spoke with Professor Eric Fèvre, Chair of Veterinary Infectious Diseases at the University of Liverpool's Institute of Infection and Global Health, about his work on urban life and disease emergence. Based in Nairobi, jointly with the International Livestock Research Institute, Professor Fèvre's MRC-funded work on the epidemiology, ecology and the socioeconomics of disease emergence in Nairobi and his efforts to measure, map, monitor and mitigate drivers of zoonotic and food-borne diseases were designated Global Uncertainties projects because of their potential to give insight into pandemics and civil emergencies related to health security.

Would you mind getting started by telling me a little bit about your work on the socioeconomics of disease emergence?

With the support of a really forward-looking stream of funding from the UK government, we established a project that was part of an ESEI grant on the environment and social ecology of infectious diseases. We already knew that urbanisation is a risk factor for the emergence of new diseases, and this project was an opportunity for us to try to scratch the surface of that. Using Nairobi as our case study, we wanted to try to understand that what mechanistic processes might underly a system which results in a pathogen emerging in an urban setting.

Were there particular aspects of urban life that your work has focused on?

We wanted to examine several aspects of a complex city in a developing country context, with a specific interest in zoonosis and human contact with animals. We did not limit our definition of 'animal' to live animals, and instead chose to include in our study how a city feeds itself and the animals that we eat. This means that the entire food system became a part of our process, and we have spent a lot of time mapping the food system and determining where there might be risk points within that system. We were interested in a variety of different animal-sourced food commodities, including milk, poultry meats, eggs, pork, ruminant meats, and camel products including meat and milk.

We also spent a lot of time looking at the structure of the city with development experts and sociologists, looking at why the city is as it is, and how it is evolving. Then, we looked at peri-domestic wildlife, including rats, bats and birds; people and their livestock; and the broader environmental envelope in which all of these things co-exist. We wanted to know how they have contact with each other, and what opportunities they have to transmit pathogens to one another.

Was your project focused on any single disease?

We chose to focus on bacterial pathogens because there are well developed tracking tools to understand the movement of this type of pathogens between hosts, but we did not focus on a single specific pathogen. Rather, we looked at populations of multi-host organisms – with bacteria being of primary interest – and designed the project to focus on human public health and disease-causing elements of pathogens.

Were there particular things you found over the course of this project that surprised you?

What surprised me was the level of interaction and cross-over between what appeared on the surface to be parallel food systems. In a developing country setting, you tend to have formal and informal food chains which are organized very differently. The end product of the formal food chain would be a retail supermarket from an international chain, while the informal food chain might end with someone selling milk on the side of the road in a plastic bag with a straw.

Throughout this study, we learned that these food systems – which seem so separate at first glance – have a much higher level of interaction and cross-over than we had expected. In fact, there are a number of times when foods move from the formal to informal system or are handled by the same intermediaries during the cross-over points from production through to consumption. So, there is a lot of potential for risky practices from one of these contexts to have impacts upon another.

We also learned that the wildlife species in urban areas are really important for ensuring the spread of strains of pathogens. Human populations that might be geographically far from each other are close from the perspective of bacterial connectivity, because species such as birds can move bacteria across cities. Those bacteria are then picked up by rodent populations who locally distribute the bacteria even further. While there are systems and structures at play, at the end of the day, everything is related, and everyone is swimming around in the same big bacterial soup.

From a public health perspective, did you learn anything over the course of this project which you believe might be useful for those in policymaking spaces?

One of our key findings was that there is an ongoing shift in the primary risk factors for infection with bacterial pathogens in young children who live in low-income slum settings. Water, sanitation, and hygiene (WASH) systems have historically been a major source of risk, but the WASH community has done a lot to ensure safe access to clean water, which means that drinking water is no longer the main thing that exposes people to risk in many of these environments. We are working towards publishing findings demonstrating that access to animals, and particularly certain types of animal-sourced food, has taken over as the big thing that causes diarrhoea and disease in children. This is a major success for WASH, but my biggest public health message is that diseases in these slum populations are now coming from a different source that we need to tackle.

Your focus on zoonoses and the spread of pathogens through the food systems is reminiscent of the processes believed to be involved in the spread of the novel coronavirus (2019-nCoV) which is currently making news, which experts suggesting it may have started in a wet market – the Huanan Seafood Market in Wuhan.

Obviously, we were working in Africa, so I cannot directly comment on the outbreak and potential future spread of a pathogen in China. However, our project was designed quite explicitly to inform exactly the processes that lead to that kind of outbreak. We have seen there are cases already popping up in the US, and the source of the outbreak appears to be contact with an animal. The way in which people who have been exposed to a pathogen have interacted with

the animals they are eating, the way they have slaughtered them, the commercial process of supplying food, the links between rural areas and high density urban consumers, and the way foods have been cooked or not cooked, is exactly what we are studying.

In our study, we chose to focus on bacterial pathogens – although my research group also does some work with coronaviruses – bacterial pathogens were a convenient type of organism for us to examine in order to inform a broader process which is now coming to light on a day-to-day basis in China. We have seen this before, with things like SARS and Ebola, but 10 or 15 years ago people would never have really thought about the food system as a significant way in which large populations expose themselves simultaneously to zoonotic disease risk. The food system is a key part of this, because, unless you are vegan, you are in contact with animals 3-4 times a day, every day. Where those animals come from is of prime importance to your risk of exposure.

When we think of the risks posed by zoonoses and these pathogens, do you think we should factor this into our understanding of human security?

From the point of view of living safely in the world… these issues are definitely part of the security agenda to ensure that populations are safe from a multitude of threats that are out there. So yes, it ought to be on a human security agenda. More importantly, these risks should be on the agenda on a more routine, day-to-day basis. We need to ensure that we are funding research which more broadly works to understand these threats, and which ensures that understanding human interactions with their environment and with animals is consistently on the agenda. This is partially a surveillance issue, but it is also about changing the boundaries of research.

The work that we are doing now also highlights the links between food security, health security, and financial security. Which kind of underlies everything for everybody all of the time.

Would you like to tell me a bit more about that work?

My team's current research continues to examine key nodes in the food system, including slaughterhouses, markets, and understanding how you mitigate risks with interventions designed to sanitize environments and ensure safer, cleaner, food.

What we have discussed in terms of food systems risks in urban environments also extends more broadly to the agricultural environment in which food is produced, and we have also been working on exploring how farming systems are changing in East African settings where populations are urbanizing and where patterns of demand for food are changing. As urban populations grow, food producers need to become more efficient and intensify operations in order to ensure food supply for those who are no longer growing food themselves. We are examining how farmers are adapting to the demand that is being created in those settings. This is lateral thinking – not just about the pathogens, but about the systems as a whole.

We have been working with anthropologists and sociologists to understand the financial processes that results in farms intensifying. We know that these financially risky decisions matter in terms of the way you farm and feed into the system. If your risks pay off and your farm intensifies, your new farming practices may put your neighbours more at risk – for example, your farm could have increased run-off as you increase the size of your herd. Alternatively, if

your investment in farming intensification fails, structural factors related to poverty in small farming systems can drive other forms of disease-related risk – particularly as poverty is a risk factor for neglected disease outcomes. So, it is important that we learn how to adapt our systems of disease surveillance as these farming practices change, so that we can understand how the risks are changing in the food systems and in farming environments.

Plasmodium knowlesi: Biomedical, environmental, and social risk factors for infection

In early 2021, the London School of Hygiene & Tropical Medicine's Professor Chris Drakeley spoke with PaCCS about the transmission of zoonotic malaria and the risk it poses to human health. Professor Drakeley has been researching malaria for over 30 years, and his work on the biomedical, environmental, and social risk factors for human infection with Plasmodium knowlesi was funded by the MCR in 2010-2011.

Can you tell me a bit about your research background, and how you ended up studying malaria in Malaysia?

I am a malariologist, and I am interested from a biological background in how malaria transmission is maintained in communities. Studies of transmission are typically very human-centric, but I am more interest in how malaria is transmitted to mosquitos, including zoonotic malaria.

Not surprisingly, many organisms have a type of malaria, including some primates. As humans are very biologically similar to primates, there is potential for movement between species. I became interested in and concerned by one of these forms of zoonotic malaria, *plasmodium knowlesi*. This form of malaria cycles through the blood much more rapidly than the forms of malaria typically found in humans. So, there is the potential for a very rapid increase in the number of parasites you have in your blood over a very short period, which could lead to hospitalization, severe disease, and in some cases, death.

The first known case of plasmodium knowlesi in humans was in an American CIA agent, who contracted it in Malaysia. Then, the CDC demonstrated that this disease could be passed between humans through mosquitoes, resulting in human-to-human transmission. Subsequently, it was discovered that the majority of all the cases of malaria in Malaysia and northern Borneo were *plasmodium knowlesi*, which was associated with severe clinical manifestations and death. This is still relatively rare, and it is important to stress that the numbers are not huge, and this is not a massive problem. However, where this form of malaria was contracted, it had a very high case fatality rate. So, our project was to understand what drives the transmission of this form of malaria. We wanted to answer some very simple questions like '*how does it work?'*

What did this research project entail?

This project was conducted over the course of five years, and we were fortunate to have quite a lot of built-in flexibility to follow the results throughout the study. Our main signal was hospital clinical cases, and once we found cases, we would try to follow those cases back to the village. In the village, we wanted to understand who was getting infected, who was not getting infected, and what the differences were between those two groups. That could tell us where individuals might be getting infected. From there, we drew upon expertise from primatology, entomology, and sociology to try to unravel how the behaviours of mosquitos, macaques, and humans were contributing to the transmission cycle. Ours was the first study of this type to be published in the Lancet.

What we found is linked to broader issues of human-driven environmental change. Simply, human-driven environmental change, particularly deforestation which reduces the territory available to macaques, is bringing macaques, mosquitos, and humans into closer and more frequent contact. We were able to demonstrate this through drone work, which was truly eye-opening, in a sense, because you could capture the widespread destruction of forest and habitat from week to week. We put tracking collars on some macaques and were able to demonstrate that when their habitats are destroyed, they move, and range quite broadly during the period following their disruption. We then did a massive survey looking at associations for exposure and found that the majority of infections in clinical cases are in adult men who go into the forests. Primates are very similar to us and host similar infectious diseases – mostly viral. Consequently, our study offers the building blocks to examine other vector-borne and zoonotic infections.

Have the findings of your research shone a light on any avenues for managing the challenges posed by *plasmodium knowlesi*?

While the Medical Research Council gave us the funds to conduct this research, they did not subsequently fund a clinical trial of optimal drugs for treating *plasmodium knowelsi*. However, we were able to attract funds from another donor to do a clinical study demonstrating that the conventional treatment for malaria works in treating this form of malaria as well. This means there can be a unified treatment, which is huge, because it can reduce clinical morbidity, and that you do not have to worry about having lateral flow tests needed to identify the type of malaria – though these lateral flow tests do still need to be improved.

With respect to forest management, we were able to provide our forest classification to the Malaysian government, so they could refine a map of where they think individuals might be at increased risk of contracting the disease. They now use that in their malaria guidelines. Often, it is difficult to prevent people from going into the forest to hunt or collect things, and beyond repellents there is not much in way of individual protection measures. What matters more is public awareness – so now, there is a series of posters which show that if you have a fever after being in the forest, you should go to a doctor to get checked because this is a malaria risk area.

We have also been approached by several other researchers interested in our samples and surveys to understand associations with other infections. So, there are infectious such as Nipah virus and filariasis which show distinct geographical patterns, and there are other zoonotic infections which show distinct patterns related to semi-domestic cats. From these understandings rise broader issues about how we deal with pandemic-potential viruses, and how we should manage bio-conservation.

What are you working on now?

I have been doing some work on covid-19 recently, but I am still working on malaria and malaria transmission. Our projects in Malaysia have finished, but we are still trying to support ongoing projects elsewhere. So, we have someone working on diagnostic tools in the Philippines (which has similar elements to Malaysia, but which has much lower rates of *plasmodium knowlesi* infections in humans, perhaps because the macaque population there is much more afraid of

people). The Philippines does have quite a lot of malaria in general, and those cases are concentrated on a few of the archipelago's islands, so we are working with indigenous communities in remote parts of the country to determine how we can protect them.

What do you want policymakers to be thinking more about?

I think policymakers need to think about interdisciplinarity in science. I am a biologist, but I have worked with primatologists, conservationists, geographers, and social scientists. Especially when you are trying to eradicate a disease, or study a disease that is quite rare, you need that interdisciplinarity. I also think it is worth mentioning the longevity of these things. We discovered all of the things we talked about today over the course of five years, but the research is still there, four years after the end of it. You invest a lot in collaborations, and you cannot be short-sighted. You need to monitor things even when they are fairly low risk at the time, longer term investments in surveillance and projects which are embedded in communities offer so much more value. I think we are learning that now with covid-19.

The Impact of Climate Change on Human Health

In April 2020, Dr K. Marie McIntyre, an Epidemiologist at the University of Liverpool's Institute of Infection and Global Health, spoke with PaCCS about her work as part of a team undertaking a risk assessment of the impact of climate change on human health and well-being. This project led by Professor Matthew Baylis received NERC funding within the Global Uncertainties remit between 2009-2012 and offers insights into the linkages between human and environmental health while shining light on the potential future risks posed by zoonotic diseases in the context of a changing climate.

Can you share with me what brought you to this research project?

Prior to this project, Professor Matthew Baylis' group had developed work to identify and characterise the climate drivers of certain diseases, with a focus on the future impact of climate change on infectious diseases of animals. This work had involved predicting what the group thought was going to happen to diseases such as bluetongue disease – which is insect-borne and affects ruminant animals such as sheep – in the future as a result of climate change. We knew that bluetongue had moved through from North Africa to the Mediterranean basin and then onwards into Northern Europe and the UK, and a climate-driven model was developed which explained, in both space and time, many aspects of the recent emergence and disease spread.

Such work is invaluable to understand more about specific disease vectors and vector-borne diseases, but it does not objectively examine the climate impacts upon disease ranges overall. This is what this project on risk assessment, which we call ENHANCE, or *ERA-NET Health and Climate in Europe*, aimed to do.

Can you tell me a little bit more about the aims of ENHANCE?

Through the project, we sought to create a large-scale horizon scanning mechanism to look at the sensitivity of ALL infectious pathogens to individual climate drivers. This is important because, when we started this work, we did not know how realistic the threat to human and animal health from climate change was. We also did not know if most diseases are likely to change with changes to climate, or whether only a few infections would become an issue; what would happen to the overall human and animal disease burden?

ENHANCE has helped us to identify emerging trends in which pathogens are most likely to be impacted by changes to the climate, which we hope will in turn help us refocus our work. I'm proud to say that our work has contributed to the dialogue surrounding diseases and climate change and was recently quoted in a very highly cited article in Nature Reviews Microbiology.

What sort of things guided your approach to putting together this horizon-scanning tool?

We wanted our approach to be objective and repeatable, so we focused on bringing evidence together. As part of this, we needed to create some research methods and resources which we continue to use in our ongoing work.

Prioritisation of infectious diseases for surveillance within the human and animal health policy and research communities is usually undertaken using qualitative or semi-quantitative framework

methods and utilising the opinions of experts such as medical and veterinary clinicians and epidemiologists – limited resources mean that only a small number of infectious diseases or the pathogens which cause them can be prioritised. To overcome this barrier, we developed a method to rank many infectious pathogens using Hirsch's H-Index, which is usually used to quantify academic productivity. Here, we used it to prioritize pathogens, so that government agencies can come in, look at priority pathogen lists, and use that as part of their process to determine which pathogens they need to think about more.

We also realised when we started this project that while we needed to understand the full range of diseases humans and domestic animals have in Europe, that information was not readily available. So, we created a database which describes pathogens and vectors for human, animal and plant hosts at different spatial and taxonomic-levels. We also produced lists of the top 100 most important human and domestic animal pathogens in Europe and collaborated with Canada's University of Prince Edward Island on a similar list for North America.

What were some of the key takeaways from this project?

Evidence from our work suggested that zoonotic pathogens (those that go from animals to humans) are much more likely to have at least one climate driver for example being sensitive to changes in air temperature or rainfall, than either human-only or animal-only pathogens, respectively. In addition, zoonotic pathogens are associated with certain transmission routes. Foodborne and waterborne pathogens are much more likely to be zoonotic than non-zoonotic, and directly (non-sexually) transmitted pathogens are much less likely to be non-zoonotic than zoonotic.

So, for example, most of the pathogens which had the greatest numbers of climate drivers were zoonotic, including:

- The helminth *Fasciola hepatica* which is of significant concern to agricultural livestock causing liver fluke, but which can also affect humans.
- The bacteria *Bacillus anthracis* which causes anthrax which is zoonotic and has also been used in germ warfare.
- *Borrelia burgdorferi* which is also zoonotic and causes another emerging disease which has been in the news – tickborne Lyme disease.

Our work showed that a really significant proportion of infectious pathogens are sensitive to climate drivers and are therefore likely to be impacted in some way by climate change. Thinking how much potential change in disease impact we will see, the best estimates we have for the impacts of diseases come from the global burden of disease study, which estimates early deaths from disease but also includes how much long-term illness and disability diseases cause.

This is important because some diseases do not kill as much as they cause people to be disabled for a long time, which has implications for healthcare; tuberculosis is a good example of this. When we looked at the disease impacts from the global burden of disease study, for the cohort of pathogens we had examined in our work, 37% of disability-adjusted life years were likely to change with changes in climate. Diarrhoeal disease is ranked the fifth highest cause of early

deaths and disability in humankind, particularly in poorer populations, and foodborne and waterborne pathogens are highly sensitive to climate change – we need to refocus our efforts.

Vector-borne diseases were also highlighted by our work, and we need to focus on these as well, though in our review they were less obvious for humans because we only examined pathogens we already had within Europe, so that that point we didn't have Chikungunya for example.

Finally, developing the work and the resources showed how bad we are at collectively bringing together and reusing research results from other projects; this is partly because of the way research funding works in the UK currently. We've future-proofed some of the resources we developed as well as we can, for example by securing short-term funding to sustain the database, but as soon as the current funding ends, we will be in the situation of needing further funding.

What do you think policymakers need to know about the things you learned during your work on ENHANCE?

We identified certain groups of infections which were not getting the attention or resources they deserved. Diarrheal and gastrointestinal diseases contribute enormously to the global burden of disease, and food-borne and waterborne pathogens were shown to be highly sensitive to climate change. We also were able to highlight cases of emerging infections such as tick-borne diseases where distributions are changing and public health officials, governments and researchers need to be aware of those shifts.

There are also security ramifications to our research. We need to think about climate change and globalisation from a health security and a food security perspective. For global uncertainties, we need to be more aware of how political and economic changes can drive climate change, and how tightly linked infectious diseases are with our environment.

Do you think the project has had any impact in policymaking spheres?

The conversations we have had about ENHANCE definitely contributed to the policy conversation. We received a lot of media attention, including about our use of big data methods, and there was a lot of interest in the Nature Reviews Microbiology article. I also took part in a debate at the Barbican on whether big data can save the world.

Encouragingly, our improved understanding of the impact of recent and future climate change on vector-borne diseases and of where we're heading next was included in the 2020 World Economic Forum Global Risks Report.

How has ENHANCE fed into the work your team has been doing since?

Since the ENHANCE project finished, we've had several grants to extend our database, and a research fellow is extending the technology using novel approaches to understand patterns of disease. We have also looked at domestication as a driver for animal diseases becoming zoonotic. Other more climate-focused work has continued to use presence data for pathogens and vectors in work predicting the impacts of climate change and in the study of pathogens such as Zika virus.

How has your work on ENHANCE influenced your trajectory in the years since?

The ENHANCE project was the beginning of a shift in focus for me. It demonstrated the importance of physical environmental impacts upon the health of humankind and animals – we need to take a One Health approach to our health, but we also need to be aware of the three pillars driving health – social and economic as well as environmental sustainability. We need to think about political change as a mechanism driving health.

We currently have researchers examining the impacts of climate change upon disease – one researcher will predict how climate variables will change and elevate health risks, whilst another identifies which climate variables and weather conditions favour aspects of the life history of pathogens and vectors. My work on ENHANCE really brought home the gap between understanding how the climate will change, how that will affect disease, and then what this translates to in a political and globalised world. What will actual impacts be within the landscape of different communities with different resources and healthcare systems? How can we consider socio-economic factors in a One Health approach? How can we engage with the groups of people involved in decision-making to improve not just our understanding but also our ability to change what is happening? These are the sorts of questions I am interested in now.

Capacity Building for Mangrove Restoration in Kenya

In May 2021, Edinburgh Napier University's Professor Mark Huxham spoke with PaCCS about his work his work on Capacity Building for Mangrove Assessment, Restoration and Valuation in East Africa". This NERC-funded project offers insights into possible future strategies for climate adaptation and mitigation, as researchers and communities collaborate to manage the risks posed by environmental destruction at a local level.

Would you mind getting started by telling me a little bit about how you came to work on the topic of mangrove conservation in Kenya?

I began working in partnership with the Kenya Marine and Fisheries Research Institute on mangrove conservation and restoration back in 2001, originally fuelled by an interest in the technical and scientific questions around the ecological restoration of degraded mangrove sites. Mangroves are a type of tropical and subtropical forest, and the challenges involved in conserving these ecosystems are significant – we have lost about 50% of global coverage of these types of forest. Sometimes, these sites can naturally recover, but they often cannot. I was interested in why natural forest recovery did not always occur, and in exploring techniques for helping forests recover. We were working at a site that had been deforested 35 years before to provide fuel for a long-gone brick business. What was left behind was a barren wasteland, with salinization problems, which required nursery species to be brought in to initiate ecological restoration. So that was the beginning of the story.

How did you end up moving the focus of your work beyond the initial set of technical questions which had brought you there?

Six or seven years into our work, I was approached by people from the local community, who were interested in ensuring that the community directly benefitted from the mangrove restoration work. Until that point, I had focused on ecological outputs, and because I knew mangroves are important for people in terms of providing them with timber, fuelwood, fisheries, and coastal protection, I had thought that any work to preserve these mangroves was by definition of benefit to the local people. However, the local people wanted a bit more than that. As a result, we began looking into the ability of mangrove forests to conserve, sequester, and store carbon. Mangroves are one of the most efficient natural carbon sinks on the planet and using the science around carbon storage we were able to initiate a project that sells mangrove carbon sequestration to the voluntary carbon market. That project – which is still ongoing – is called Mikoko Pamoja, which means "mangroves together" in Swahili.

Can you tell me a bit more about that project?

Through Mikoko Pamoja we have worked to conserve mangrove forests and to enhance and restore degraded areas. We use science to calculate the amount of carbon we are saving and securing, and then sell that on the voluntary market. The profits fund conservation efforts and community development, and we now work at two sites – our original site, and a second site on the Kenyan-Tanzanian border.

From the perspective of vulnerability and shocks, one of the reasons we are so interested in mangroves is because of their role in providing for local people and in protecting them to some extent against physical, biological, and social shocks. In the communities we work with, roughly half of the population has not completed primary education. These communities are heavily dependent on artisanal fisheries, and the health of these fisheries have a strong link to the health of mangrove ecosystems. People also rely on mangroves for protection from coastal erosion and storm surges, and we sometimes try to describe this value in economic terms when speaking with policymakers about the value these ecosystems have for local people.

Are there broader lessons we can learn from your work at these sites?

Definitely. One thing we learned from studying an El Nino event in 2015/16 was that even an event which is not as biologically severe as predicted can still have significant social effects. In that year, while there were no massive diebacks of mangroves and there was not widespread flooding in Kenya, those who were already vulnerable really suffered from this event. The wealthier individuals in communities had concrete houses in high ground and secure food supplies and were largely unaffected. However, vulnerable households – including widows and unmarried mothers – living in poverty in relatively vulnerable areas, tended to live in mud-walled houses which were badly affected by even minor flooding. These people lost their homes for six, seven months. They became vulnerable in all sorts of ways – losing their food, forced to live with neighbours temporarily, etc. Even once the flooding had cleared, the children from those households were less likely to come back to school, because the families could no longer afford the small costs involved in school attendance and now needed the children for household work. So, the lesson there is that it does not take a catastrophic event to tip thousands of people into desperate straits – all it requires is something quite small, which amplifies existing vulnerabilities. In the face of climate change, this really drives home the importance of adaptation work, and the need to enhance people's general security through institution building and addressing social inequalities. This is also linked back to the mangroves because those who are most dependent on the mangroves are exactly those who are the most vulnerable – these mangroves are a natural safety net for many in those communities, because they provide fish and materials.

Is there a scalability to the type of carbon sequestration project you have worked on at these two sites? Are these projects self-sustaining?

The first carbon sequestration project we launched, back in 2013, is now self-sustaining, generating over 2000 tons of credits a year. A charity in Scotland is involved in the governance structure for selling credits, while a community-based organization in Kenya runs the project on the ground. There is a strong demand for these types of credits, and a growing interest in this type of project. Our sister project at the second site, Vanga Blue Forest, serves 8000 people. Moreover, we are now in conversations with several other community organizations in Kenya, Tanzania, Gambia, and Indonesia who are very interested in our model. It has a lot of potential to help similar communities.

Has the success of your project shifted the thinking of local decision-makers surrounding mangrove protection?

It is important to emphasize that this is not a model which requires people from the outside to go tell people how to run their forests. Most mangrove forests around the world, including those in Kenya, are owned by the government, and local communities have tenureship of those resources and have used them for hundreds or thousands of years. So traditional communities understand the value of these resources, but there are lots of newcomers into these places who are not used to living in balance with these environments, and local communities sometimes have difficulty managing unsustainable exploitation. If people turn up from the outside and begin cutting the forest, then challenging those people is potentially dangerous for locals and requires a lot of organizational courage. There are limited government resources to enforce the laws which are meant to protect these ecosystems, so really this is a problem of enforcement. With a relatively modest amount of money, we have found we can make a real difference in the ability of local communities to organize and to employ local forest scouts who can patrol the forest to stop illegal deforestation or poaching. The carbon selling programmes work because they cover the costs, making a big difference with a small intervention.

Our project now has a high profile within Kenya, and the Kenyan government has been supportive – it has showcased our work at COP meetings, using it as an example of good practice in international climate policy discussions. That has helped us to influence national policy within Kenya – for example we were part of a conversation which contributed to the creation of a national mangrove ecosystem plan, which has massively decreased the rates of mangrove cutting nationally.

What is next for your work?

Ecosystems are co-dependent on contiguous ecosystems – in this case seagrass and coral reefs. We are now trying to incorporate seagrass conservation into mangrove conservation. Both habitats store a lot of carbon, while some fish spend different parts of their life cycle in each of these habitats. You asked me earlier about scaling up, and I think that an important item on the agenda needs to be making the move from looking at discrete ecosystems to the seascape as a whole. That increases complexity and brings in more stakeholders, but if you get it right, you can benefit local livelihoods and nature.

Seeing Conflict at the Margins in Madagascar

In March 2020, the Institute of Development Studies' Dr Amber Huff spoke with PaCCS about her work on Seeing Conflict at the Margins. This project was funded through a PaCCS Conflict Theme Large Research Grant, supported by the AHRC and ESRC. Dr Huff's work offers insights into linkages between resource conflict, human security, and equity issues in local communities in lower- and middle-income country contexts.

Can you tell me a little bit about how you got involved in this line of research?

My training is in economic and environmental anthropology, and I self-identify as a political ecologist. In 2014, I joined the Institute of Development Studies, where I now work as part of the Resource Politics and Environmental Change Research Cluster which does a lot of interdisciplinary work. When I joined IDS, I started thinking about my research in terms of conflict, but the angle my work takes is very different from a lot of the conventional research on conflict which is conducted in security studies. My work takes a very anthropological and grounded approach to looking at conflicts and then situates them in a broader political economy.

When the call came out for proposals through PaCCS' research programme, my colleague Jeremy Lind and I immediately started talking about the possibilities. We found the idea of working using social science methods alongside arts and humanities methods compelling and wanted to develop a project that was interdisciplinary and transdisciplinary. This grant was also an opportunity for me to apply my knowledge from the study of various dimensions of conservation and equity issues in development and environmental studies to conflict and security – and to see that work through a new light.

What has the Seeing Conflict project entailed?

The project is based in Kenya and Madagascar and focuses on community experiences of resource development and natural resource conflict.

Often, when we are talking about resource conflicts whether it be in mining, conservation, or some other form of resource development, they are often depicted as 'the people' vs. some other interest. What that perspective loses is the fact that when we talk about 'communities,' those communities are not homogenous. These communities are differentiated – made up of different groups of actors who have different forms of power and divergent interests. So, these conflicts are much more complicated and more deeply social than you might think.

So, we are looking at these experiences of resource conflict using participatory multimedia methods, with a focus on sites we knew were involved in contentious resource development.

What types of multimedia work has this project involved?

In Madagascar, alongside methods from the social sciences like interviewing, oral histories, focus groups and ethnographic research, we have been using participatory video and filmmaking by people who are experiencing these conflicts as a way to 'unpack' these conflicts from within. We are then using the narratives that are produced as a starting point to facilitate dialogue on multiple levels.

We have both academic publications and multimedia essays, as well as films, in our production pipeline, but we have also been working with UK-based artists right now too. In addition to our work with film and narrative storytelling, we have been working with a comic artist named Tim Zocco to help translate some of our results in ways that are more easily accessible for the general public, and maybe for policymakers, who don't have a lot of time to read through academic publications.

What is that process of working with a comic artist like? It sounds fascinating.

It has been very fun. I had never worked this way before, and it is amazing how comic books work as a form of art. You can strike a balance between the words and using the drawings to enhance narrative. And minimal words are best. You might think you need a lot of narration to explain something fully, but a good artist knows how to minimize the use of language, and to combine the images and words in a way that tells a story about the research. It has been a fascinating process, and I have been learning a lot. Beyond the process of collaborating, the project is oriented around bringing various ways of 'seeing conflict' into dialogue and working with Tim has brought an additional and novel perspective in terms of ways of seeing and communicating about the research settings and results.

You mentioned that you are hoping that this work with comics might be one way of communicating your findings to policymakers in an accessible manner. At this stage in the project, what would you want policymakers or development actors to know about your findings thus far?

There are things that policymakers in Madagascar should know, and then other things that I think would be useful to international development professionals and people involved in informing development policy. First and foremost, I think it's important for people to pay attention to what we call the 'vernacular'. We need to value not just what powerful actors and 'experts' say, but also people's own understandings of the securities and insecurities they face. To know what is required for 'development' – what we mean when we talk about improving people's well-being – we need to understand how people would define development if they were asked what it should be, instead of applying universalist assumptions about what people need or want.

I think there is a lot that could be learned there that could inform development policy and practice. Moreover, I think the methods that we are using in this project might be able to better mobilise vernacular knowledge and help us better understand development and security challenges and think about how policies in everything from development to investment can be more equitable if we just learn how to listen. We need to pay more attention and respect how other people see situations that we might see as very straightforward coming from an outsider's perspective, but which are really very complicated, but also understandable, if you know what to ask.

Have there been things you have learned or encountered over the course of this project which have surprised you?

When you are doing fieldwork in very rural places, there are always things that surprise you. There is always something to learn. I have been doing research in Madagascar since 2007, and every time I go back, I learn something new.

One thing that really has confronted me over the course of this project is the fact that in Madagascar there is a lot of prejudice against the rural population, particularly in the south of the country. That is something that developed historically, and which has survived in government institutions and social attitudes into the present day.

When you talk to people in government about rural southerners, they get described as 'backwards,' or 'resistant to progress,' or something similar. But this project has really given me the opportunity to learn more about the people in the south of Madagascar, the history of extraction there, and the history of colonisation in both the pre-colonial and post-colonial periods in this region. They have been involved in international trade routes for centuries, and forms of extraction for everything from precious metals to, in the early days of the Atomic Age, uranium. These histories, and archival research, are fascinating ways of situating contemporary dynamics around conflict and shed light on the context in which these people live their lives. A lot of this history is remembered, handed down, and discussed, and consequently, the legacy of that history interacts with contemporary challenges in a very dynamic way.

Re-envisioning Sustainability from Post-War Northern Uganda

In February 2021, Dr Adam Branch, a Reader in International Politics, and the Director of the Centre of African Studies at the University of Cambridge, spoke with PaCCS to discuss his work on Narratives of Conflict, Climate, and Development. This project received funding through the GCRF / PaCCS Interdisciplinary Innovation Awards on Conflict and International Development. The thirteen projects funded by these awards were funded by the ESRC and AHRC and were designed to support international collaboration and interdisciplinary research on the interconnections between conflict and international development while contributing to the welfare of lower- and middle-income countries.

Can you tell me a bit about how you ended up working on this topic?

This research project emerged from some of my earlier work on the politics of humanitarian intervention and human rights interventions during episodes of armed conflict and in post-conflict periods. I had done a lot of work on this set of topics in Northern Uganda, and as the war there began to fade into the background, it became clear to me that environmental issues were becoming prevalent. There were several at play, including issues around land, deforestation and forest degradation through timber extraction and charcoal extraction. In the post-war period, these environmental issues became front and centre, and the violence of environmental problems was in some ways a continuation of the violence of the war. During this period, the leading edge of international intervention in Uganda shifted from humanitarianism to post-conflict reconstruction, to climate change and climate mitigation interventions. I wanted to understand these challenges from the ground up, and in terms of the changing forms of international intervention in the region. That interest formed the basis of a broad project which looked at environmental issues and environmental violence in the region, with the goal of providing an overview of what was happening.

What did the project entail?

This project drew upon my broader experiences of fieldwork in Uganda – until travel restrictions came into place, I spent a lot of time in the region, including three months of fieldwork which was devoted specifically to this project. This project has benefitted from contributions from a team of interdisciplinary researchers, including several based in Kampala and elsewhere in East Africa. The project was also supported by a human rights organization that does research and is interested in issues of environmental justice. Throughout the project, we spent a lot of time visiting villages that were facing environmental problems – including timber extraction, charcoal extraction, conflicts with wildlife, and the expansion of commercial farms, plantations, and oil production. As we visited villages, we conducted interviews with locals. Different members of the team were interested in different methodological approaches – so a range of methods including group discussions, oral histories and life storytelling, formal interviews, and transect walks were used. What we ended up with was a significant set of interviews, focus group discussions, and transcripts.

What were some of the key themes that emerged from this research?

One thing we were able to trace was the ways that what is thought of as being environmental problems were actually political problems. Though these issues were not being framed in those terms, these were political issues and were the direct legacies of the war and to the continuation of state violence in the post-war period. The other thing that we came to realize through our research was that the most pressing problem people were facing was charcoal production and the environmental violence around deforestation and the extraction of wood for charcoal. Over time, that second development became the centrepiece of our work.

What type of impacts have resulted from these findings?

The human rights group we collaborated with throughout this project ended up building an entire environmental research and environmental rights aspect to their work, which they have been able to develop because of the research we are doing together. They have ended up setting up a whole network of human rights and environmental rights monitors and have taken on a big role in environmental work since the start of this project. We are continuing to work with this human rights organization.

We also have taken our findings on charcoal in several directions, and I have since received a series of other grants around charcoal and impact funding from my university. With several other researchers, I contributed to the work of a regional technical committee to develop charcoal regulations, with the goal of stopping destructive extractive charcoal production. We worked with community organizations, civil society organizations, policymakers and environmental activists doing advocacy and awareness raising. In December 2020, the charcoal legislation which emerged from that advocacy passed and became law. So, after two or three years of working on reframing charcoal as inherently unjust environmental violence, it has become a prominent issue that people are doing something about.

There were a long series of grants which followed from our initial grant which helped us to develop the impact of the initial project. We also, through funding from a foundation, put on two big international conferences which brought together civil society actors and government researchers, and which lead to the development of new networks and more grant proposals. We also have received funding to work on charcoal from the British Academy, and we have a network of researchers working together from fields including politics, forest ecology, bioenergy, geography, history, and gender studies.

Based on our work thus far, we ended up putting together a Global Challenges Research Fund impact case study, which is available here.

What is next for you in your research?

If it had not been for the pandemic, I would be looking for grant funding again at this point. However, because of the pandemic I am waiting to be able to continue disrupted fieldwork. In the interim, we are working on a series of articles and literature reviews around energy and climate, sustainable development, deforestation, and the politics of charcoal energy. In terms of next steps for project, we are also watching with anticipation to see what happens with the

charcoal bill that has now become law. We will keep track of whether if it is enforced, if it is counterproductive, etc. Monitoring the law will be an interesting next step, and we are also working on a series of articles which should help set the agenda and provide a basis for moving more research in the future.

Engineering for Resilience

In the summer of 2022, we spoke with the University of Birmingham's Professor Chris Rogers, a geotechnical engineer, about his work on engineering for resilience in urban environments.

How did you end up working in this area?

I came to resilience because it neatly features as one of the dimensions of sustainability. If I stripped back the activities with which we engage as a civilized community and we wish to survive, there are certain key elements that become vital – food production, safety, and shelter, an economic framework, and providing societal value. All of that happens within our natural environment and requires that we understand that we have one planet and if we cause irreparable harm, we will have nothing else to use. So, the three pillars of sustainability impinge upon everything else.

I am a civil engineer by training – I engineer for society, within the environment, while keeping a close eye on the economic cost. So, I naturally deal with all three elements of sustainability, and I have had a portfolio of grants over the years which have allowed me to think holistically about sustainability and systems interventions. As someone who is concerned with large scale infrastructure, the future that I must grapple with as I try to make my work sustainable is far longer than that of say, someone designing a mobile phone. I have a responsibility to look to the far future, because the things I build should have a long lifespan.

The things I build may last decades or hundreds of years. In sustainability terms, it all comes down to how to use resources wisely while avoiding planetary damage. Within this, resilience in engineering terms is about creating things and processes which will continue to function in the future in the face of contextual change, including but not limited to shocks. Climate change is one example of a relevant contextual change, but other relevant factors include urbanisation, technological change, demographic changes, and migration. Ultimately, I want to create things which will continue to deliver their intended outcomes far into the future even if the context changes – resilience and sustainability work together as two of the three basic criteria for design. The third, is liveability – ultimately what we create is for people and society.

What types of questions did your resilience through innovation project explore?

We wanted to explore the different dimensions and interpretations of resilience within infrastructure systems. We brought together a highly multidisciplinary group to work out what resilience meant to each of them. I have learned in previous work that different disciplines understand the idea of 'stress' very differently, and I know that resilience can likewise be understood in all sorts of different ways – so I wanted to see how some of those other disciplinary understandings might help engineering.

What did you find?

We found that if we are to cover all the dimensions of sustainability and resilience, we need to combine all the relevant disciplinary dimensions to fully understand the problems in cities and the solutions for our city infrastructure and systems. This project alerted the engineering community to different understandings of resilience, including understandings which come from

nature and the social sciences, but which are relevant to the operational and infrastructure systems which make urban spaces work.

How does preparedness for shocks and emergencies fit within this?

Resilience involves understanding a whole host of potential contextual changes – some of which are much more difficult to anticipate than others. This includes preparedness for shocks to the system – whether from war, or from natural hazards. There are radical things which can happen within the earth – volcanoes, tsunamis, and landslides for example, which we should acknowledge and prepare ourselves for where relevant. But societal preparedness is also important – which is why our work in a subsequent project explored the limits of extreme, but plausible, directions of travel for the future of our political systems and social world, to understand how those changes could influence the way our infrastructure and urban systems operate.

What does that look like in practice?

Our society exists somewhere in the middle of a wall, with that wall containing all the plausible futures for our society. The far corners of that wall are extremes – in one corner market forces dominate while social and environmental concerns are totally overlooked, while in another corner we might have a fortress world in which gated communities of 'haves 'control resources while the majority of 'have nots 'are impoverished and live outside of the protection of social systems. In another corner, you have communism, or an extremely strong central governance system. In yet another extreme, you might have a world where the protection of the planet comes before all else in our society, and where a sustainability paradigm dominates all other policies. Those are each extreme forms of societies which we might not like to live in, or which might not be comfortable, but which we recognize and are capable of envisioning. So, if we test our engineering designs under each of those extremes and they still work, then we can know that whichever way society works in the future, the infrastructure we have designed will continue to have value. If our systems break under any of these modelled extreme futures, then we can explore and better understand the vulnerabilities within these systems and adjust our system – or at the very least ensure that the designers and caretakers of that system are aware of the potential circumstances under which that design could become vulnerable. This approach can help us to futureproof our designs and make them more resilient to social change.

How do these themes resonate with your work today?

I still use those dimensions of resilience when I analyse system interventions – I still use those extremes to test things out, though more of my current work focuses on liveability. I am interested in how we could change the way we govern our cities, for example I am presently writing a paper on how Birmingham City Council has embedded the natural environment in all its decision making. We need holistic thinking embedded in the processes and the minds of the people who make decisions and shape our cities. Separately, I'm also working on a technical programme which is looking at creating swarms of miniature robots to live in our pipe system and be able to deepen our understanding of how those systems are performing, and which could enable intervention at the point of incipient failure. In this summer's drought we saw a lot of pipe network leakage because ground shrinkage can cause cracks to open, allowing pipes to leak. That is the consequences of contextual change – climate change. If we can develop the technology to

live in the pipes and survey them on a routine basis, we can change our asset management processes to avoid future failures, instead of dealing with failures as they occur through emergency repairs.

Risks to Power Systems Infrastructure

We spoke with Professor Janusz Bialek, a Professor of Power and Energy Systems at Newcastle University, about his work on power systems infrastructure, including his work on blackouts and renewable energy transitions. Professor Bialek's work on blackouts received funding from the EPSRC and fell under the global uncertainties umbrella because it was identified as having the potential to contribute to our understanding of threats to infrastructure.

How did you come to work in this research area?

I was born and educated in Poland, arriving in the UK in 1989. Since then, I have worked at Durham University, Edinburgh University, and now at Newcastle University, where I work in electrical engineering, studying power systems.

While I have an engineering background, my research is very interdisciplinary – the idea of 'power systems' encompasses the whole chain of supply starting from generations, through transmission and distribution, down to the homes and factories of individual customers. To understand those customers, you need the social sciences, which means that a lot of my work relies on collaborations with the social scientists who try to better understand what customers do, and what they want. I also work closely with mathematicians, because at the end of the day power networks are graphs, and graph theory can be used to solve a lot of the problems faced in my field.

What sort of problems are you grappling with?

The main challenge now in power systems is decarbonization – the replacement of fossil fuels by renewables can bring a lot of challenges. The obvious problem is that sometimes the wind blows, and sometimes it does not. So, making sure we have enough reserves is important. However, while the problem seems straightforward, there are several related technical challenges. Traditional fossil fuel plants are driven by synchronous generators, big machines with lots of rotating parts which provide stability within the system. There is a lot of inertia in the system, and if there is any disturbance, you can run over it using inertia, which is good for systems stability. When you replace synchronous generators and fossil fuel plants with renewable energy sources, you do not get that inertia – while wind plants are also rotating, they do not provide inertia as they are connected to the rest of the system by means of power electronics - and solar panels have no moving parts, etcetera. That creates technical challenges for how we operate power systems, and my work is exploring how we can overcome those challenges as our power grids take those next revolutionary steps towards the most profound power systems transformation since the end of the 19th century.

What about your work on blackouts?

The problem we are here to talk about today is a traditional power system problem, not related to renewables, called cascading outages. Cascading line tripping can lead to blackouts, such as the famous Northeast blackout in 2003 which saw the East Coast of the United States and parts of Canada experience a prolonged outage, with 10 million people in Ontario and 45 million people in the United States affected. There was also an outage in 2003 in Italy which saw more than 50 million people lose power and many other. And the reason for those failures is that transmissions networks are interconnected. When one transmission line is disconnected, the power is redistributed automatically and flows through other transmission lines… and if those lines were

on the border of how much they can carry because of thermal limits, they may get overloaded, which means that they could then trip too. This series of tripping, if not contained in time, is what causes widespread blackouts.

In the United Kingdom, we have never had a wide area blackout because the transmission network is well connected, however in other countries, this is a common problem – with tens of millions of people losing power, or hundreds of millions in the case of India in 2012.
About a decade ago, I worked on an ESPRC funded project which tried to find new ways of containing these blackouts. We developed this idea of creating an 'island', where to avoid the domino effect once a blackout starts to spread, we would try to contain it by creating an island which would be disconnected from the rest of the power system. This way, we might lose supply in that one island, but the rest of the system would stay healthy. There are challenges surrounding how to select those islands, and I worked with mathematicians from Southampton University who suggested that spectral clustering could allow us to identify clusters of islands within a transmission network – densely connected areas which are weakly connected to other parts, and which could be easily delinked.

We had good results from our project, and a company which is now part of GE, and the National Grid were advising us. However, no country has been willing to implement our system because system operators are afraid that the medicine may be worse than the disease. Our approach involves basically amputating part of the grid, which would be a big shock to the system from a stability point of view. Our approach was seen to be too brutal of an intervention. So, I have subsequently worked with collaborators from Caltech on how to generate the same effect of containing the system disturbance without creating islands. We have come up with a new method called tree partitioning, in which the islands are no longer separated but form clusters connected by tie-lines to form a cluster-level tree. Tree partitioning can be proved to contain cascading failures within a cluster, so that the rest of the system will stay unaffected, but the best way to implement this in practice is still an area of ongoing research.

Are there things policymakers should be thinking about to minimize the risks to infrastructure as we transition to renewables, and to minimize the risk of blackouts?

Preventing blackouts is largely a technical problem, and the best thing to do is to build new transmission lines. Practically however, that presents political problems which are difficult to resolve in this country. When there is more power needed to be transferred from Scotland to the South, there is no way people would allow new transmission lines to be built, so we end up with bootstrap subsea connection instead, which are a much more expensive way of transferring power.

Meanwhile with respect to renewable energy transitions and challenges to our grid, there are a few problems. The first is the well understood problem of 'what happens on days when there is no wind?'. The answer is simply to invest in diverse forms of renewable energy – such as nuclear power, to build connections to other countries so that power can be imported with needed or build energy storage. The second, less well understood, problem however is related to synchronous generators being replaced by renewable sources. There are new technical problems here which we will need to better understand if we are to ensure the stability of our power systems going forward. However, there are few people working on these problems at present,

and more research is needed. My colleagues and I have formed a Global Power System Transformation Consortium, which brought together leading System Operators from GB, Ireland, California, Texas, Denmark, Australia, and leading research institutes around the world, however, we all realise that we need more funding for fundamental research now, while we still have time to keep the system together. The pace of change is fantastic, especially with the increased focus on renewable energy in light of the ongoing gas shock, and technical problems specific to renewable energy powered grids are coming. So, the important policy issue is to ensure that the support is there to better understand the problem, and to fund the basic research which will help us prepare for the future. That goes beyond what the existing sources of funding have thus far been able to provide – we need a collective effort, and we need to get better at getting that message through to the non-technical folks such as politicians and civil servants. There is a difficult problem ahead, and it can be dealt with, but it requires focus and a substantial research effort now.

II. Conflict, Security & Peacemaking

Foreword by Peter Watkins, CBE

Peter Watkins has served as Former Director General for Security Policy (2014-2017) and for Strategy & International (2017-18), Ministry of Defence. In the below text, he reflects on the management of conflict and security throughout his time with the civil service.

The North Atlantic Treaty Organisation (NATO) published its *Strategic Concept* in November 2010, saying "Today, the Euro-Atlantic area is at peace…"

Within less than four years, it was not – with Russia's first invasion of Ukraine in March 2014. And, outside the Euro-Atlantic area, much of the world witnessed conflict – whether the continuing NATO-led stabilisation campaign in Afghanistan, endemic violence in parts of Africa, piracy in the Indian Ocean, and so on. Less than six months after NATO's Lisbon Summit adopted the 2010 Strategic Concept, the so-called "Arab Spring" turned into prolonged civil conflict in both Libya and Syria.

While we have not seen another global conflict on the scale of the First or Second World Wars for over three-quarters of a century, conflict has been one of the defining features of the world we live in.

I joined the UK Ministry of Defence (MOD as a civil servant in 1980 – at one of the frostier points of the Cold War, less than a year after the Soviet Union's invasion of Afghanistan and at a time of heightened tension between NATO and the Soviet Union over the deployment of new intermediate-range nuclear missiles in Europe. I left in late 2018, having spent the previous 4½ years as the Director General responsible for policy and strategy. In between, I held senior roles responsible for the acquisition of advanced equipment projects, international cooperation, counterterrorism, operational policy – and running the MOD's own corporate higher education institution, the Defence Academy.

During the long middle period of my stint in the MOD – from the fall of the Berlin Wall in November 1989 to the Russian annexation of Crimea in March 2014 – the risk of state-on-state peer-to-peer conflict between the major powers was low. But it did not disappear entirely: the brief and decisive first Gulf War to eject Iraq from Kuwait took place in early 1991.

The concept of deterrence – the contingent capability to impose costs on potential adversaries that would exceed their potential gains from attacking us – also remained relevant, both at the conventional and nuclear levels. States continued to invest in their armed forces, albeit at a significantly lower level than in the Cold War; and they introduced new capabilities that would transform the character of warfare, not least information technology and precision-guided munitions.

In parallel, there was a dramatic change in the defence eco-system: previously it was defence-sponsored science and technology that was "leading edge" and adapted for civilian applications; but now it became commercial technology that set the pace and was adapted for defence purposes.

Finally, it became increasingly clear that the security challenges that we still faced – not least international terrorism stemming from unstable and even "ungoverned" spaces – could be addressed effectively only by unprecedented close collaboration between the different departments and agencies responsible for security. Known initially as the "comprehensive" (or "whole-of-government") approach, this evolved into the Fusion Doctrine; now, the key term is "integration," as outlined in the Government's *Integrated Review* of security, defence, development, and foreign policy published in March 2021.

In short, the management of conflict and security has become increasingly complicated over this period.

Academic research can help practitioners better understand this complicated environment at a general level. Such research underpins a continuing dialogue between officials and academia on a wide range of topics – through conferences, symposia, and workshops.

Research can also deepen professional understanding of more specific security challenges. In my own case, I was particularly interested in <u>what worked</u> (and did not work) in the 2006-10 period in stabilisation, counterinsurgency, and peacekeeping operations. I looked at academic case studies covering a wide range of such operations (historically and geographically), including ones in which British forces had not been significantly involved such as the crises in Haiti. What emerged was the need to place priority on "state-building" – rather than "nation-building" – and invest time and effort into building functioning courts, police services etc. This guided my thinking in cross-departmental discussions on policy and decisions on allocating funding from the common funds set up to support the UK's stabilisation efforts in Afghanistan and elsewhere.

Another dimension highlighted and illustrated by academic research was the need to develop a greater degree of cultural empathy (among personnel engaged in stabilisation activities) with the people living in the areas concerned. A key element here, as addressed through several studies including one sponsored through PaCCS, was improving the understanding of languages. This insight supported decisions by the MOD to strengthen our processes and capabilities for training in foreign languages and building cultural awareness: for instance, in 2014 we established the Defence Centre for Languages & Culture at the Defence Academy's main campus at Shrivenham.

Academic research can challenge as well as inform. One of the risks in policy-making – even within a broad policy community – is "group think." People can form impressions – for example about the economic and social character of other countries – which are not corroborated by hard facts. The value of academic research can be illustrated negatively as well as positively – by examples of where such research was **not** accessed. A striking example of this was seen in assumptions made about the socio-economic character of Iraq prior to the intervention in 2003, specifically about the persistence of a professional middle-class in Iraq which could take over many of the functions of the Iraqi state. Academic research was available – but not accessed at the time – that showed that these assumptions were out-dated and significantly underestimated the impact of Saddam Hussein's extended persecution of this element of society. The "state-building" required in Iraq was much greater than expected or initially planned for.

Although the political appetite for overseas interventions subsequently declined – and the prospects of UK military and development resources being applied to major stabilisation campaigns now look relatively remote – the learning accumulated could become directly relevant again: in the conflict and security arena, one should always expect the unexpected.

Russia's invasion of Ukraine in February 2022 has been a stark reminder of the continuing risk from conflict to our economic and societal well-being: our security is fragile. The war in Ukraine has also underlined the complexity of modern conflict: traditional attritional warfare has taken place alongside the use of novel technologies (such as hypersonic missiles) and non-kinetic forms of conflict such as cyber-attacks, economic measures and disinformation via social media and other platforms. Meanwhile, the heat wave in July 2022 has been a stark reminder of the growing impact of climate change: this is already a driver of conflict in some regions and is likely to become more so as key resources such as water are depleted.

Reducing the risks from conflict – and enhancing social resilience and economic security – will become increasingly important. Academic research can, as in the past, build our understanding of what works and what does not.

Languages at War

In late May 2021, we sat down with the University of Reading's Professor Hilary Footitt to discuss her work on the Languages at war: policies and practices of language contacts in conflict project. This project was funded by the AHRC.

How did you come to work on the Languages at War project?

I am a linguist historian, and I am interested in the knowledge we gain from meeting people from different countries who speak different languages. Prior to my work on the *Languages at War* project, I had written a monograph called *Living with the Liberators*, which focused on the way the militaries from the United States, Britain and Canada got on, or did not get on, with the French during the liberation of Europe in 1944-45. This project on language at war followed naturally on from my work on liberation.

What was the focus of that work?

I had discovered that there was an assumption when we engage in war or conflict, that we fight wars with allies and against enemies who will obligingly speak our own language. I was interested in more deeply exploring the role of language in conflict, and collaborated with the Imperial War Museum in London, the Ministry of Defence, and a colleague at the University of Southampton to do so. We chose two very different case studies – the liberation of Europe after the Second World War by the allied forces, and the multilateral peace-making and peacekeeping forces which intervened in the conflict in Bosnia Herzegovina in 1995-2000.

We wanted to see languages as mainstream, not something that was on the side. When you look at British archives, there are very few references to interpreters and translators because historically these archives tell our national stories. The Imperial War Museum found our work interesting because we were able to look for the first time in a structured way at the stories of foreign languages that they had in their collections, and to find ways to catalogue these items so that they are more accessible in future. Working with the Imperial War Museum was incredibly instructive, and as part of our work we also conducted around 60 interviews which have now been given to the museum as part of their archive.

What are some of the things you learnt from this work?

We looked at the role that languages play in intelligence gathering, which is not something that had been previously discussed. For example, we looked at Bletchley Park. There are huge amounts written on Bletchley Park as a source of information and analysis, but nothing had been written about the vast translation exercises that went on there – translating decoded messages from German to English.

We also learned a lot about the role of languages in relationships between the military and civilians, which has become more important in national and international military doctrine. Our research demonstrated that militaries had historically operated ad hoc policies with respect to languages. For example, in Bosnia Herzegovina, there were three people in the British Army who could speak languages– not the local languages but rather related languages – similar to

those needed to communicate there. So, the British forces arriving in Bosnia had to recruit whoever they could get to translate. This tended to be young people, who were not trained as interpreters, but were, for example, high school students who were being offered a lot of money to be put in this very dangerous situation.

Can you tell me more about what you learned about the role of local interpreters in these zones?

We were very interested in the responsibilities that militaries have to these local interpreters, and of course since we have drawn down from Afghanistan the politics of protection has become even more important. We also looked at the role of languages in post-conflict areas, in peacekeeping, and in refugee protection.

One of the things that we learned from this work was that the different militaries involved in using interpreters in Afghanistan had different levels of reliance on local interpreters and have had different relationships with these interpreters in the aftermath of the conflict. For example, the UK and US were able to rely on English-speaking translators who were young, well-educated and spoke English fluently after attending universities. Meanwhile, French forces very often dealt with interpreters who spoke English, with the military and the translators both operating in a third foreign language. That difference has shaped national understandings of duty of care towards those interpreters who now face enormous threats in Afghanistan. For asylum seekers who had worked for the French military, there have been suggestions that they will not be able to integrate into French life because they do not speak the language. Here in the UK, asylum speakers with past translation experience are usually not working in jobs which use their skills, knowledge, or experiences. We should be using their knowledge to improve our understanding.

Our work on this project allowed us to feed into discussions in the Ministry of Defence (MOD) about the role languages play in its work, and the duty of care that militaries have to the locals they employ. Our work fed into the first joint doctrine note from the Ministry of Defence on linguistic support to operations. More broadly, our work helped to put the issue of languages onto the agenda at the Ministry of Defence in new ways. Previously, languages were seen as a tool of diplomacy and making peace – translation and interpreting were seen as benign. Now, there is increasing recognition that the way in which we understand conflict or war is tied together with the language used.

We also were able to develop relationships with the International Professional Interpreters Association (AIIC). The association had traditionally considered the work of civilian locals acting as translators as falling outside their domain. Our work helped contributed to a shift in thinking there. The association is now trying to professionalize and defend all interpreters and translators. Other organizations working in this space are also trying to develop universal symbols and protected status for translators operating in conflict zones, with the goal of providing them with a similar status in conflict areas to those operating under the symbols of the red cross and red crescent. In their view, and in mine, translation and interpretation is a human right, because it is about freedom of speech.

That is fascinating! Has your work led you to engage with other civil society organizations and NGOs?

As part of a follow-up project funded by the AHRC, I also have more deeply explored the role of languages in international development work. A lot of development practitioners and INGOs talk about the role of listening to beneficiaries in their work, and we were interested in how these highly international organizations listen and understand the people they work with.

We worked with organizations including Oxfam GB, Christian Aid, Tearfund, and Save the Children UK as part of that project and worked through the organizations' archives. It was fascinating to see how overtime these NGOs developed their understanding of place, foreignness, how to influence, and how to communicate. We also looked through the archives for the Office for Overseas Development, interviewed NGO workers in London, and conducted field interviews with practitioners in Malawi, Kyrgyzstan, and Peru. From this research, we produced a report called *'Respecting communities in International Development: languages and cultural understanding.'* In that report, we made several key recommendations to government about how they make calls for proposals, and how they offer translation. We also made recommendations to INGOs about how they could support local languages and better collaborate with translators and interpreters in the countries where they operate. One of our recommendations was about the role of 'development speak' in INGO operations, and whether this language was being understood in the same way by local partners, many of whom cannot afford translators. By conducting business in English, these NGOs are contributing to power asymmetries, both in their relationships with local partners and in their working relationships with non-anglophone employees, which is something that had not previously been discussed openly. We have been encouraging these discussions to take place and have been working with universities to embed the issue of languages in their teaching of development.

What has been the academic impact of your research?

This idea of the languages in conflict became interesting to several other researchers, and my co-investigator at Southampton and I became editors of a book series called *Languages at War* which has been published by Palgrave Macmillan. We have now published 18 books in that series, covering topics including the tribunal in The Hague and the role of languages in Israel and Palestine, and we have two more books upcoming on Africa and languages. The upcoming books will examine the influences of language on policies in Kenya, and how peace studies in Africa have been understood in cultural terms.

Our work helped promote the idea in academia and in the policymaking sphere that languages are a part of war and conflict, and that languages are important at all stages – including pre-deployment, intelligence gathering operations, working with civilians, peacekeeping, looking after refugees, and understanding and acting upon the duty of care we have for those we employ as translators.

What is your key message to policymakers working in this area?

I want policymakers to understand that foreignness is related to language, and most of the knowledge and understanding that comes from meeting others is dependent upon languages. Seeing the world through English is not the same as engaging with the world through another language. Those talking about ‘global Britain’ at the moment need to start with understanding the nature of encounter and knowledge transfer, and the role of languages within them.

A Critical Approach to Humanitarian Intervention

In June 2020, PaCCS sat down with Dr Karina Z Butler to discuss her work on her work on an ESRC-funded project on humanitarian theory, which resulted in the book A Critical Approach to Humanitarian Intervention. This work was completed while Dr Butler was based at the University of Warwick.

How did you end up working on critical examinations of humanitarian interventions?

This research, and the book that came out of it, was primarily based on work I had undertaken on moral arguments surrounding humanitarian principles and the responsibility to protect. Much of this was completed during my PhD, where I was supervised by Dr Paul Williams and Prof Matthew Watson and my ESRC funded postdoctoral research, supervised by Prof Stuart Croft.

What was the focus of your book, *A Critical Humanitarian Intervention Approach*?

The core argument of my book questions the moral content of the solidarist humanitarian intervention approach, associating it with an agreement to intervene militarily in an instance of humanitarian emergencies. Using Kosovo as a case study, I argue that military intervention in the crisis, cannot be considered in terms of a 'moral action' as it limits the act of 'what the International Society can do' to stop humanitarian emergencies. I suggest that the moral thing to do is to delve deeper into understanding the crisis, which in this case needed to be understood within the context of the global international economy. My aim, throughout my work, was to explore, deepen and improve our understanding of the limitations of solidarist thinking and theory.

The book itself is divided into four parts. I began by examining theories of humanitarian intervention; solidarist theory, and the role of the international community in economically re-structuring the former Yugoslavia. In the book's final section, I explored how we might apply lessons learned in the context of military and humanitarian interventions in Yugoslavia to prevent similar situations in future.

How did you go about conducting this research?

This project was theory, rather than fieldwork driven. My main method of study was document analysis, as I sought to understand and explain the economic crisis within the former Yugoslavia, and how other European countries played roles in causing those sorts of emergency in the first place. I did not buy the ethical argument that agreeing to intervene militarily in the former Yugoslavia should make it acceptable for the international society to intervene militarily in any other war-torn societies. I strongly believed then and still do that the very need for military intervention should be considered in terms of a failure of the international society not to have prevented it in a first place.

What would you want those reading your work to take away from it?

I would like them to continue with the key message of my book, which is, finding ways of preventing emergencies from developing in the first place. I believe that this can only be achieved when we consider the working of the international political economy as having

significantly contributed to what had happened in Kosovo. I think that my work demonstrates well the cost of the crisis, and how the ethical debate was presented, essentially, boiling down to a decision about whether or not to intervene. These legal debates and moral debates took on what I called a "problem solving" way of thinking, where the focus is on what can be observed rather than on 'how the observed came about.'

Prof Nicholas Wheeler has analysed what counts as a supreme humanitarian emergency, and as I note in my book, he has argued that there are no objective criteria to help us decide at what point an emergency becomes a humanitarian crisis. Instead, reading Wheeler and Bellamy would lead you to conclude that human misery (the observable reality) is the criteria for intervention, laying the groundwork for ethical debates. Here, I need to reiterate that I am not saying that we should not stop these observable crises and we should not allow genocides ever to happen, but I get irritated when scholars even consider a military intervention as demonstrative of international society's universal solidarity with the rest of the world to demonstrate that supreme humanitarian emergencies are not acceptable.

A moral argument dictated by the Kosovo case needs to be built through unravelling and picking apart strategies for preventing these situations from happening in the first place. That is where I feel the ethical arguments should be coming from. We need to understand better the role of international political economy in contributing to those crises so we can prevent them from happening in the first place.

During crises, we see what is happening, and we are understandably emotionally moved. So, we end up making the argument that it is moral to intervene, and therefore we must intervene. We problem-solve to stop that specific atrocity from continuing. However, once the international society has gone in and intervened, it goes back to their thinking preceding the crises where 'the political' and 'the economic' are considered as two separate components. That needs to change.

Do you think much has changed in this space since your book came out?

Other than the occasional conversation with someone who is interested in my work, such as researchers working at the Centre for Responsibility to Protect, I am no longer active in academia, so I have not closely followed where humanitarian theory has gone over the last decade. However, I think that the message of my book is still quite relevant. Indeed, I am reminded of it every day at work. As an ESOL (English for Speakers of Other Languages) tutor, I work with refugees who escaped from war-torn societies. Their personal stories reinforce many of the arguments I make in my book, for example, that a stable economy is fundamental to peace and security. Ten years down the line, the issues that I raised have not been addressed at all.

We still need humanitarians and those working in international relations to take on a more critical way of thinking. I think we still justify a lot of unethical actions for the sake of an economic argument, and then turn around and act as though the security agenda is separate from the economics. Ultimately, based on my findings, I think it is a miracle that we have not had a crisis similar to that that occurred in Yugoslavia in other parts of Eastern Europe.

I will say, however, that the covid-19 pandemic has given me some hope. This is the first time when politicians and prominent economic leaders seem to have registered that it will not be enough to just "fix" the pandemic, we must change the way we live. We need to think holistically and long-term in a way that is not necessarily just about prioritizing the economic side of things. We may finally just have to learn that functioning, sustainable societies in a global system cannot be driven solely by money.

Where has your career taken you since this book was published?

I took a career break to raise my family, and then, after finding that there were few opportunities for re-entry in academia for women who have taken time out to spend with their children, I began working in further education. I am now an English language teacher and teacher trainer. Discovering how easily the door to academia can completely shut when you take parental leave was incredibly disappointing. I still feel passionate about the need to improve things for women in academia and education, and I think that the international security community, and academia in general, need to do much more to make things possible for people who want to balance work with family life, and who are interested in contributing to debates and the creation of knowledge in part-time capacities or less conventional ways.

Diplomacy in translation: British foreign policy as a techno-cultural assemblage

In early 2022, PaCCS met with University College London geographer Professor Jason Dittmer to discuss his work on Diplomacy in Translation. This project was funded by the AHRC.

Can you share with me how you came to work in this area, and tell me a little bit about your research background prior to this project?

I am a political geographer by training, and for a long time I was interested in thinking about pop culture and everyday notions of geopolitics. Rather than thinking about things that happen in governments, I was interested in how we experience and talk about politics. So, for example, I had done work on how the Captain America comics narrate change in America and explore the legitimate use of force in America.

I eventually decided to try to tack back to what we might think of as the traditional areas of political geography, like diplomacy and geopolitics, however, I wanted to bring into it the insights from the everyday politics and pop culture that I had been thinking about for so long. What does it mean to be in the 'everyday' of geopolitics? So, I started working on this area through an AHRC research networking grant with a colleague of mine, Fiona McConnell. That project, called *Diplomatic Cultures*, tried to explore the cultural dimensions of diplomacy as practitioners did it. That project helped to build up my network in a new area and gave me the idea to do the AHRC Leadership Fellowship project on diplomacy in translation, which we are talking about today!

What were some of the overall aims of the Diplomacy in Translation project, and what was the thought process that shaped this project?

Often, if you are studying politics, you are studying ideologies, or something like vote counts. However, I had gotten really into assemblage theory, which emphasizes materiality and the tangible elements of politics. Assemblage tries to take the agency of materials seriously and focuses on relations between things rather than things themselves. During this project, I kept going back to the idea that diplomacy is about relations – states are assemblages composed of bodies, things and ideas which exist in relation to each other. If you imagine an assemblage of states, then you could try to think about the implications of that for politics. And so, this Fellowship and the book which emerged from it became focused on the question of what it means to imagine states in relationship to other states while being affected by them all the time.

We often think about states as making internal decisions and then going out into the world with a foreign policy, but in practice, the state is making policy that is already meshed in these relations. When people meet and come together in conversation, they are already each meshed into relationships with other people and organizations which in turn shape the type of conversations these people can have together. We also all exist in environments which shape who we are – maybe you skipped lunch by accident today and you are now in a hurry to get this interview over with so that you can go eat, for example. That would shape the way our conversation unfolds. Normally when we think about what the UK wants, or Russia wants, we

expect them to negotiate in brainy, cognitive ways. But in practice, it is always material – the negotiators are actual people in actual places and are shaped by those environments. I found that idea fascinating.

How did you go about conducting the research?

I focused on the UK and being in London made it easy for me to go out, visit archives, and explore the material contexts in which diplomacy was happening. I drew upon sources including the National Archives, the NATO archives, and the US National Security Archive. Archives also do not include the type of thing I was interested in though – when you record events, you probably are not going to talk about the design of the office that meeting happened in. So, I had to scavenge bits and pieces where I could find it.

One of my favourite pieces of the project emerged from an accidental find. I was looking for the historic records from the creation of the Foreign Office, and I could not find them. Instead, I happened upon a debate in the 1800's about moving the Foreign Office from one building to another. This parliamentary committee spent a lot of time talking about what diplomacy was like, what the future of diplomacy was going to look like, and how they could build a structure that could efficiently house diplomacy for many years to come.

I also conducted a lot of interviews with people who currently work in diplomacy, intelligence, or the military. I was trying to widen the notion of what is considered diplomacy, so, for example, my definition of diplomacy included people like permanent military attaches, and places like NATO where military officers go to serve as diplomats for their countries. I explored the web of relations wherever I could find them.

Were there any key takeaways from this project that surprised you, or that you think would be of particular interest to the policymaking or academic communities?

Practitioners are often not surprised by my findings. If you are a diplomat, you want to know the room where the meeting is going to happen, and you shape that space – seating certain people next to one another for example. There is an intimate geography – the same way as when you throw a dinner party you will seat certain people next to each other because they have something in common, a diplomat may seat someone to ensure that that person can be the centre of attention.

Academics, on the other hand, are so used to thinking in abstract terms that we tend to forget about the material contexts which are so ordinary to practitioners. I told someone from the Foreign Office that I would have loved to have spent six months volunteering, and he looked at me aghast, saying 'why would you want to do that?' For him, it is a boring office building, just like working in an office anywhere. He was trying to demonstrate how boring it was by telling me about how there are so many diplomatic cables that nobody reads them all, and that they are often badly written. The Foreign Office instituted a five-star rating system – like how you might rate a purchase on Amazon – for diplomatic cables. The ratings were thought to incentivize good writing, and to give people a reason to read them to the end. He thought this was an example of how boring their office was, but I thought that story provided fascinating insight into how

technology is shaping diplomacy – and we should be studying this more. But people are more interested in studying summits and the big drama – things like COP26 – rather than the everyday environments where so much of this stuff is happening. That is my real takeaway from this project – we need to think about diplomacy as being about more than the big red-carpet events. Diplomacy happens around us all the time.

You wrote a book based on your Fellowship work on diplomacy. Would you mind telling me a little bit about that?

The book – which is the thing that I am most proud of that I have ever done probably – is called *Diplomatic Material*. It came out in 2017, and it imagines a set of forces that act through states, rather than just states simply acting in the world. If you can imagine a crowd of people, when a stampede happens people lose their individual agency in that moment – you either run, or you get run over. It is a morbid metaphor, but it is helpful for imagining states like that – when states interact with each other, that sense of individuality can get lost. Instead, people are acting, and forces from some states can force other states to move in a direction – so then what happens to the rest of the states? So, the book explores international relations through the lens of a stampede through which forces work, rather than as a chess game. This reframing of diplomatic material allows us to explore how countries are enmeshed with each other. In the book, I play with the invasion of Iraq as one of those things where – afterward - many thought it was a terrible idea, yet many countries stampeded in there. Ultimately, the book asks – what if it's a question of action, forces, or effect, rather than thought? What if people are stuck in 'reaction' mode rather than planning policy? The key takeaway is that kind of comparison between a mob and a chess game.

How has this project influenced the work that you have done since? Have you continued to explore the same set of themes?

My current project is a follow-on from the Fellowship project, and it explores the web of relations Gibraltar has, exploring Gibraltar as a site of geopolitics and materiality. It was historically a node in the empire, and I am currently exploring how we think about today's Gibraltar. Everyone talks about the great siege of Gibraltar and the history of empire, but today Gibraltar is this incredible, small, quasi-independent place. It is still a British Overseas Territory, but they run their own affairs and are making their way in the global economy, while doing so in a tiny territory that is essentially a holdover from the colonial period. They have stone walls, cannons, and a tourism industry, which exist alongside a high-tech sector and a finance and services sector – all of which are based on the legacies of empire. So, my current work explores how Gibraltar is a place of assemblage, with connections to London, Spain, the EU, and North Africa. How is this place charting a transition from one kind of empire to the empire of capitalism? So, it is a very different project, but it plays with the same themes of assemblage, materiality, and British foreign policy.

You approach geopolitical issues from a particular disciplinary lens, but a lot of the topics you engage with are also explored in other spaces such as political studies and history departments. What is it like working at the nexus of these interdisciplinary and multidisciplinary issues?

I conceived of my work as in some ways being about taking ideas from cultural geography and bringing it in to international relations, which does not have the same reputation for being avant-garde in its formulations. For me, IR is one of the last groups to catch a wave that has gone through the other social sciences and humanities, so I thought I could translate this into a thing that they might find interesting. In my work, I tried to engage with some of the debates in IR around civilizational thinking, and arguments for why countries form blocks that seem to persist in time. I argued that it is not about everyone speaking English or whatever. Instead, it is about material connections which were built up in specific moments in history. Publishing across disciplines was more challenging – trying to publish in IR journals had mixed results, so I think there are still some real challenges to interdisciplinary work. However, that was also what was fun about it – trying to translate ideas from one place to a new audience and trying to explore how they might think about it, understand it, or at least try to make sense of it.

Reflections on Conflict and the Politics of Empathy

In the autumn of 2019, we sat down with the University of Glasgow's Dr Naomi Head to discuss her ESRC project on Conflict, Dialogue and Ethics in International Relations and the politics of empathy.

Can you tell me a bit about your research background, and the type of questions which brought you into conflict studies?

My PhD research examined questions of communicative ethics from a critical theory perspective in relation to questions of legitimacy around the use of force in international relations. My focus was the use of force by NATO in Kosovo in 1999. At the time, a common argument was that the intervention in Kosovo had been illegal, but legitimate. That legitimacy was often thought of in terms of questions of legality and morality, but it did not really include questions of communication – how those judgements were being arrived at in the first place. I was very interested in examining what a construction of legitimacy that took communication and deliberative processes seriously would look like.

My research focused on how we could construct a notion of communicative legitimacy, and how we could use that framework to analyse and think critically about decisions around the use of force in international relations. I looked for the extent of inclusivity or coercion present in negotiations, the orientation to dialogue, and the degree of reflexivity present in actors who were involved in negotiations and who were claiming that the situation met the last resort criteria found in just war theory. Challenging that question of last resort involved re-reading the history of the negotiations prior to the 1999 intervention.

The end result was a set of 'communicative imperatives' – a series of guidelines to help us understand how we can shape forms of critique around these communication processes. However, I also realized that the model of communication and the theories drawn upon by Habermas and other scholars that were important to my work did not really incorporate the role that emotions play in politics.

How did this work lead into your ESRC project on Conflict, Dialogue and Ethics in International Relations which fell under the Global Uncertainties umbrella?

The ESRC project was a postdoctoral fellowship that extended one aspect of my PhD area of research. I had started thinking about where emotions lie in our conceptions of communication. I was interested in the impact of emotions upon politics, the relationships that are key to transforming conflict, and the production of conflict in international relations.

Trust and empathy became the two emotional approaches that I was most interested in, and I focused on the relationship between discourse, dialogue, trust, and empathy.

My main case study was the Iranian nuclear negotiations, where I looked at the way that trust, empathy, and dialogue might further or become obstacles to a sustainable diplomatic solution.

What were that project's main takeaways?

If we are thinking about building trust between states, we cannot afford to ignore the role that emotions play in contributing to these processes. Our thinking about conflict transformation or the production of conflict *cannot* be separated from the role of emotions. Moreover, we need to look at the work of emotions on both a micro and macro level in IR, not just emotions as an individual concept.

Does that mean we need to think about both the mood of the person, and the mood of the country?

Yes, it could be that.

There are also questions of identity, beliefs, and historical accounts of interactions which need to be considered. For example, one of the things that shaped the Iranian nuclear negotiations is that there was a deep set of historical interactions that were characterized by both the US and Iran as full of betrayal, mistrust, and hostility. That historical context shaped the possibility of negotiations going forward from the very beginning in 2003. Failing to recognize those dynamics would impede the relationships that were being built from that point. So that is the macro level role emotions play.

At the individual level, you also need to think about the ways in which individuals are embedded in their societies, political environments, contexts, and so on.

How do you think policymakers or participants in these negotiations should apply these findings?

There are two key terms that should influence how policymakers might think about this: reflexivity and empathy. Those two things are related, because to engage empathically with other actors does not mean you have to agree with them, but it does mean you have to be willing to understand why they think and feel the way they do. Meanwhile, to be reflexive in that process is to understand how you may be involved in the beliefs, feelings, thoughts, and perceptions of the 'other;' to understand how others may see you, and how you might be responsible for certain elements of that relationship and certain dynamics within it.

This line of thinking asks policymakers that they, rather than simply adopting the line of national interest, take a more reflexive approach to the way they think about how situations of conflict are constructed in the first place. We are always – at least partially – responsible for our problems, but that is often not the way in which representatives of states think about international relations.

Have you continued to think about the politics of empathy since the end of your postdoctoral work?

Empathy has remained central to my work, and I have spent the last few years focusing on what the politics of empathy might look like. I am currently interested in what it means to think about empathy in the context of international relations, and I want to move away from the sense that empathy is always a benign or positive process. There is a common idea that more empathy is always better, and while that may be normatively true in many respects, that belief in empathy as

a tool for positive transformation is often divorced from perceptions of power in the political contexts in which it is exercised.

In this area, I previously have done work on how individuals involved in non-violent resistance understand the role of empathy in the Israel-Palestine context. There are at least two narratives around empathy which emerge from which it becomes clear how much we need to understand how politics is attached to this language of empathy. For some, empathy is a political act of resistance, while for others it is perceived as a form of political normalization because it does not result in structural or political change within the context of occupation. Empathy within conditions of political contestation and conflict may also come with costs – to job security, to relationships with friends, family, and communities, to status within a community, and to physical and psychological health.

My current Leverhulme Research Fellowship builds on these efforts to understand the meanings people attribute to empathy in politicized contexts, narrowing my focus to an examination of empathy in the context of the violence of war and occupation. The case study I am working on at the moment looks at the 'hearts and minds' campaign in the wars in Iraq and Afghanistan, and the role that empathy plays in thinking about counterinsurgency.

Weaponizing empathy, which is how it has been described in this context, goes against common understandings of empathy and so it is important to understand what empathy as a weapon of war might mean, and to interrogate the ways states may employ it.

Is there anything else about your work that you would want people outside your field to know?

The main thing I would want to say to policymakers is that the politics of empathy always requires thinking about how we got to where we are now. That is always both a historical and a political process, and there are responsibilities attached to how we got to where we are. We are always implicated in the power relations of the conflicts we are involved in, and states, their representatives, and societies, need to be willing to be much more reflexive about this process and what it might mean to both acknowledge and transform our role in the ongoing production of conflict, inequalities, and forms of oppression.

Trust Building in Nuclear Worlds

In February 2021, the University of Birmingham's Professor Nicholas J. Wheeler sat down with PaCCS to discuss his work on Trust Building in Nuclear Worlds. This work was funded by the ESRC during his time at Aberystwyth University.

Can you tell me a bit about your history of collaboration with the Global Uncertainties (GU) Programme and your research background and more broadly?

I have been awarded two major grants through the GU Programme.

The first, which goes back to 2009, was a Professorial Research Fellowship under RCUK's ideas and beliefs leadership fellowship stream of the ESRC/AHRC GU programme. From that emerged a multidisciplinary project on 'Trust Building in Nuclear Worlds' (TBNW) which I began at Aberystwyth and brought with me to the University of Birmingham in 2012 when I became the Inaugural Director of the Institute for Conflict, Cooperation, and Security (ICCS). Then, in 2014, I was awarded a grant under the ethics and rights in a security context stream, to explore nuclear ethics, global security, and reforming the global nuclear order.

The 2009 grant led to research, impact, and engagement in the area of international trust-building (e.g., Ruzicka and Wheeler 2010; Wheeler 2013, 2018) and the 2014 grant, with co-investigators Anthony Burke (UNSW) and David Norman (Portsmouth), has led to research impact and engagement in the area of nuclear weapons and responsibility (Burke 2016a, 2016b, 2017; Norman 2018).

The two grants became the foundation of the working partnership between the Institute for Conflict, Cooperation and Security (ICCS), at the University of Birmingham, and the British American Security Information Council (BASIC). This is in the form of the 'Programme on Nuclear Responsibilities' which is directed by Sebastian Brixey-Williams (co-director of BASIC) and which I am the academic lead on. This explores the potential for developing trust between nuclear and non-nuclear weapon possessors, and between nuclear armed adversaries, through a method of empathic dialogue that explores how actors understand their nuclear responsibilities and how these might be reimagined to promote new forms of security cooperation (Brixey-Williams and Wheeler 2020).

Can you tell me more about your work on trust building and nuclear responsibilities?

The key launching point for our work on trust in international relations was assembling a multidisciplinary core group of scholars, and to apply the insights and ideas from trust research in other fields to thinking about the challenge of reducing distrust and building trust between nuclear armed and arming adversaries. One of the key methodological innovations of the ESRC/AHRC TBNW project was applying a 'Critical Oral History' (COH) approach to a case where cooperation and not conflict had developed out of bilateral nuclear interactions. The COH method, pioneered notably by James Blight and Janet Lang, and by Blight and David Welch, brings former participants together with scholars who are experts in these cases and using archival materials, to see if it is possible to better understand the decisions that the former officials and policymakers made at the time. Previously, the COH method has only been applied

to conflict situations, but my project broke new ground by applying the method to the successful case of the Argentina-Brazil nuclear rapprochement.

Working with Matias Spektor, Rodrigo Mallea, and the team of researchers at the Fundação Getulio Vargas (FGV), we held in Rio the first critical oral history conference where negotiators from both sides had an opportunity to share their memories on the back of newly released secret documents and with the support of a group of academics. A major output of this work was our 2012 edited work *The Origins of Nuclear Cooperation: A Critical Oral History between Brazil and Argentina*. The COH transcript and film that accompanies it reveals how it was the empathy and trust that developed between Brazilian and Argentine decision-makers at the highest levels of diplomacy that was decisive to a cooperative outcome. Through a series of face-to-face meetings, Brazilian President José Sarney and his Argentinean counterpart, President Raúl Alfonsin, developed a trusting relationship, and it was this interpersonal trust that made possible agreement on mutual nuclear inspections.

The key finding from the Argentina-Brazil COH as to the importance of face-to-face interaction in the development interpersonal trust became the key proposition that guided my book *Trusting Enemies: Interpersonal Relationships in International Conflict* that was published by Oxford University Press in 2018. The book was the first to theorize interpersonal trust at the international level and I applied my model of interpersonal trust to three cases of nuclear enmity. I excluded the Argentina-Brazil case from the book because it is best conceived as a case of rivalry and not deep distrust, and I wanted to explore how far interpersonal trust could develop even in situations of nuclear enmity. The book draws on the following three case studies (US/Soviet Union, India/Pakistan, and US/Iran) arguing that face-to-face diplomacy at the leader-to-leader level opened up diplomatic breakthroughs in these cases.

A key precondition for interpersonal trust development in adversarial situation is the exercise of empathy, and in particular the exercise of what Ken Booth and I call 'security dilemma sensibility' (SDS), a concept we developed in our 2008 book *The Security Dilemma: Fear, Cooperation and Trust in World Politics* (Palgrave Macmillan 2008). SDS is a form of empathy that is predicated on an intuition or belief that an adversary may be acting out of fear and insecurity and not malign intent; crucially, it involves the recognition as to how one's own actions have contributed to these fears and insecurity. I argue in *Trusting Enemies* that the best modality of interaction for testing out these intuitions and conveying them to the other side is face-to-face diplomacy. If both sides can develop and experience SDS through face-to-face interaction, this opens up the possibility for trust to develop through a process of interpersonal bonding (Wheeler 2018; see also Holmes and Wheeler 2020 for a model of social bonding in interpersonal diplomatic interaction).

The importance of empathy in nuclear diplomacy also guides the BASIC-ICCS Programme on nuclear responsibilities which is funded by the UK Government's Counter-Proliferation and Arms Control Centre (CPACC) and the ESRC through the Collaborative PhD Studentship (awarded to Alice Spilman). Here, we have identified a dialogical method involving two key processes: (i) *critical introspection* which invites participants representing different states to critically reflect on their own perceptions of their nuclear responsibilities and the responsibilities

of others and (ii) *empathic dialogue* that brings participants into a facilitated process of dialogue aimed at achieving a better understanding of how each views the other's conception of their responsibilities, opening up space for the development of new shared responsibilities.

A full discussion of the approach and the method is set out in our report *Nuclear Responsibilities: A New Approach for Thinking and Talking About Nuclear Weapons.* BASIC and ICCS launched the report at a side event of the United Nations First Committee in November 2020. The report distils the findings of policy roundtables held with officials and other stakeholders in London, Tokyo, Kuala Lumpur, Geneva, the Hague, and São Paulo, states with very different approaches to the legitimacy of nuclear weapons. We then brought representatives together in London for a multistate dialogue in January 2020. The results suggested considerable potential for the Nuclear Responsibilities Approach to promote a more constructive dialogue on nuclear weapons, as well as to be adapted in the future to facilitate a wider dialogue encompassing cyber, space and other strategic domains.

The next phase of the BASIC-ICCS Programme on Nuclear Responsibilities, supported by CPACC and the ESRC, is focused on the Asia-Pacific. Given the challenges of covid-19, we are conducting a series of semi-structured interviews with key practitioners in India, Pakistan, China, Australia, and several ASEAN states aimed at preparing the ground for a series of virtual dialogues to be held later in the year. It is our intention to follow this up with face-to-face meetings as soon as circumstances permit. A key feature of the first phase of this work (2018-2020) was the participation of only one Nuclear Weapons State (the UK) and the absence of relationships of nuclear distrust between the members of the dialogue. By contrast, the second phase of the research focuses on exploring the potential of the Nuclear Responsibilities Approach and Method to reduce distrust and promote trust between three nuclear possessor states (India, Pakistan, and China) in a regional context where varying degrees of distrust characterise interstate relationships.

This research proceeds from the core premise that distrust reduction and trust-building should be conceived as distinct analytical processes. However, existing international relations scholarship on trust has not theorised these two processes as separate ones; rather, practitioners and scholars have focused almost exclusively on how to build trust between enemies, without exploring how to initiate processes of distrust reduction. A key goal of our dialogues in the Asia-Pacific is facilitating the cultivation of new empathic sensibilities on the part of practitioners towards the security concerns of others in a way that will promote new practices of mutual security and nuclear risk-reduction.

How has the field of trust research in international relations evolved during the period that you have been working on these questions?

When I began work in this area in the early 2000s, there was very little research on trust in the field of International Relations (IR) (key exceptions were works by Deborah Welch Larson, Andrew Kydd, and Emmanuel Adler and Michael Barnett), especially outside of the United States, though there was a lot of work on trust outside of IR. The same verdict would not apply now, and I think it is fair to say the TBNW project and the successor projects that have grown

out of it have made a significant contribution to filling that gap, especially in the UK context. In the last ten years, a new network of scholars has emerged working on trust and empathy who have had varying degrees of connection with the project. Examples include Laura Considine (Leeds and previously the linked PhD Studentship on the TBNW project); Naomi Head (Glasgow); Vincent Keating (Aberystwyth and now University of Southern Denmark); Dani Nedal (Pittsburgh and formerly research assistant on the TBNW project and a key researcher and organiser of the Argentina-Brazil COH); Jan Ruzicka (Aberystwyth and a former research assistant on the TBNW project); Nicola Horsburgh (King's College, London), Kate Sullivan (Oxford), Heather Williams (King's College, London), Marion Messmer (Co-Director of BASIC), and a number of PhD students who have worked with me at Birmingham (Josh Baker, Ana Alecsandru, Daniel Rio Tinto, and Chiara Cervasio), the first two funded by the ESRC.

Can you tell me more about the work of ICCS?

The fundamental rationale behind the setting up of the ICCS in 2012 was to develop a multidisciplinary approach to thinking about security problems. Under my directorship from 2012 to 2020, the Institute's work focused on how to understand the obstacles to developing new forms of cooperation and trust in the context of global interconnectedness. While humanity faces global security challenges such as nuclear annihilation, climate catastrophe, and global pandemics, the Institute has sought to be the destination of choice for students seeking knowledge and skills about the possibilities for developing trust and cooperation in twenty-first century international relations. The long-term impact of the earlier ESRC/AHRC GU investments has been the institutionalisation of the ideas in the form of the ICCS supported by further investments from the university. The ideas developed in the earlier GU project have been and are disseminated through a range of ICCS training programmes and activities. We have made practitioner engagement a key focus of our work; run an annual training programme since 2013 titled 'Trust, Diplomacy, and Conflict Transformation'; and set up the MSc degree in 'Global Cooperation and Security', and the MSc Political Psychology of International Relations – the first ever postgraduate degree globally. This is a research focus that we are continuing to develop and strengthen with Tereza Capelos as the new ICCS director and president-elect of the International Society of Political Psychology (ISPP).

You mentioned that reaching practitioners has been a big part of your work over the past decade. What are some of your key takeaways for practitioners and policymakers based on your research? What would you want them to read?

I recently co-authored a piece in *The Conversation* with Professor Mark N. K. Saunders (my colleague in the Birmingham Business School and co-convenor with me of the university's trust research group) and Dr Marcus Holmes (Associate Professor at William & Mary in the USA), on the challenges of building trust in virtual spaces. This year, the UN General Assembly met virtually for the first time. We were interested in looking at how far the opportunities for developing trust and social networks between diplomats and leaders at the UN could be replicated in and through digitally mediated interaction. The big takeaway from our research is that the signal and cue reading that is made possible by face-to-face interaction cannot be substituted for in virtual environments. However, there are good reasons to think that social

bonds and trust can form in virtual spaces, but these bonds will not be as strong as when there is body-to-body interaction (the theory is developed in Holmes and Wheeler 2021 forthcoming), and we are developing empirical research to test this claim.

The core thesis of *Trusting Enemies* - that face-to-face encounters are a critical modality of interaction in the development of trust between the leaders of two adversary states - should not be interpreted as saying that all that is needed to solve conflicts is increased face-to-face contact. Instead, it is an invitation to identify the conditions under which leaders develop social bonds and trust (Holmes and Wheeler 2020). However, it is important to recognize that trust is not always a good thing, and that the challenge - in the words of Geoffrey Hosking's (a member of the TBNW multidisciplinary core group) - is to 'trust in the trustworthy' (Hosking 2010). My research has identified face-to-face interaction as a key site for reading the trustworthiness of others, but as Hitler's deception of Chamberlain at the Munich summit in September 1938 shows, it is possible for leaders to fake trustworthy signals and lull adversaries into a false sense of security. The disastrous outcome at Munich reminds us that not all conflicts are driven by misunderstandings and misperceptions.

However, the importance of the concept of SDS, and the bridge to trusting relationships that it makes possible, is that it draws our attention to the possibility that two adversaries may be trapped in a conflict that is driven at root by decision-makers mistakenly imputing malign intent to the other. If leaders come to understands the dynamics of a conflict in this way, as Ronald Reagan and Mikhail Gorbachev were able to do as leaders of the United States and the Soviet Union in the second half of the 1980s, the challenge becomes one of each side reassuring the other as to their peaceful intent. Decision-makers and diplomats should always be open to the possibilities for reassurance, whilst recognizing that trust is not always a good thing.

The challenge in international relations, if leaders have peaceful intent, is to find ways of signalling this to adversaries who are believed to be open to reassurance, without leaving themselves exposed if the other side's decision-makers turn out to have malign intent.

Research in Afghanistan: Organisations, Innovation and Security in the 21st Century

In the summer of 2021, prior to the withdrawal of American troops from Afghanistan, we spoke with the University of Wollongong's Professor Theo Farrell about his earlier work in Afghanistan as part of 'Organisations, Innovation and Security in the Twenty-First Century', an ESRC fellowship which fell under the Global Uncertainties (GU) programme. This work was undertaken during Professor Farrell's tenure at King's College London.

Can you tell us a little bit about how you came to work in this research area?

My research on Afghanistan developed by happenchance. In 2008, I co-wrote a paper on the British campaign in Helmand in southern Afghanistan, which ended up being published in the RUSI journal. The prevailing view at the time that the British Army was doing a terrible job at counterinsurgency. This was at a point when Britain was encountering a lot of difficulty in Afghanistan, and we were arguing that while there had been a lot of initial problems, by 2008 or so there were signs of tactical success and signs that the campaign was improving. This article got some attention in government after making into the ministerial reading pack. Later, in late 2009, while attending a briefing session for a brigade about to deploy to Helmand, I met an official from the Foreign Office who had read the article, who invited me to go conduct a review of the Helmand Provincial Reconstruction Team. This, in turn, led to several other invitations related to Afghanistan.

For example, in January 2010 I was invited to be the British member of a Strategic Review Team working for the commander of international forces in Afghanistan, US General Stanley A. McChrystal. Later that year I was invited by the British Army to go back to Helmand to conduct a review of their campaign in central Helmand. Because of this, I pivoted my GU Fellowship – what started as a project to look at innovation and adaptation by different kinds of organizations turned into a Fellowship focused on the conduct of stabilisation operations by the British Army in Afghanistan.

Can you tell me a bit about the key takeaways from this work?

One of the key takeaways was the value of Fellowships which are flexible and offer the ability to pivot. When I changed the focus of my research, the GU team at Research Councils UK were still able to see the value of my research and continued to support me. That gave me the opportunity to do very impactful research supporting the Foreign Office and the Ministry of Defence. I had the opportunity to conduct classified research and strategic reviews which sought to inform improvements to operations in Afghanistan and assist with learning of lessons. Those opportunities to generate impact would not have happened if the Research Councils had been less agile and flexible in response to changes in my research plan.

How did you build on this work with subsequent projects?

I have since done some theoretical work around adaptation by the British Army. This work has contributed to the subfield of military innovation studies, because a lot of pre-existing theory examined top-down models of innovation, and my work contributed to a field of scholarship on bottom-up innovation, or adaptation. In these models, militaries adapt their tactics, structures, and technologies on the ground to enable them to win the fight.

I also wrote a book called 'Unwinnable: Britain's War in Afghanistan, 2001–2014', that was a trade press book published by The Bodley Head, and this brought my research to a much wider readership. It was a Book of the Year for *The Sunday Times* in 2017. I think this is a good example of PaCCS / GU funded research which has informed a wider public debate and brought wider attention to an issue in current affairs.

I have also done some research to try to understand the conflict from both sides. I wanted to understand the conflict from the Taliban side but, for fairly obvious reasons, I could not interview Taliban in Afghanistan. So, I partnered with Dr Antonio Giustozzi, who has published several books on the conflict from perspectives of the Taliban and Afghan security forces. Our Afghan field researchers interviewed members of the Taliban, as well as non-Taliban locals, and built a picture of the Taliban's military and political campaign in Helmand. The paper emerging from that work made it into the British Army's pre-deployment reading pack for Afghanistan.

I also became interested in understanding the Taliban's position with respect to peace talks. For this research, I partnered with Michael Semple, then a Fellow in the Kennedy School at Harvard University. Over 2012 and 2013, and again in 2016, confidential discussions were held with senior Taliban figures at locations outside of Afghanistan. We sought to understand likely Taliban positions in peace talks, and to explore other options to de-escalate the conflict. We provided confidential briefings of our findings to the US National Security Council and the UK Cabinet Office, and public versions which were published by RUSI in 2012 and 2016. It is very hard to assess how much impact we had with this work. My understanding is that it opened up space in the US and UK governments for peace talks with the Taliban, and in a modest way contributed to capacity building within the Taliban for peace-making.

During part of this period, you also sat on the PaCCS Strategic Advisory Group. Can you tell me a bit more about that?

As a member of the Strategic Advisory Group, I was particularly involved in the Conflict Theme, and chaired the Innovation Grants Panel and Interdisciplinary Grants Panel under this theme. Both grant schemes were incredibly effective. The Innovation Grants were designed to encourage risky, cutting-edge research, and the Interdisciplinary Grants scheme really pushed the envelope on cross-disciplinary collaboration in conflict research. When the Research Councils took a risk on me in my Fellowship, it created space for impact, and I am glad we created that type of opportunity for other researchers.

Insights into the Russian Invasion of Ukraine

In late March 2022, PaCCS Communications Officer Kate McNeil sat down with Professor Mary Kaldor, Professor Emeritus of Global Governance at the London School of Economics and Political Science, to discuss the ongoing war in Ukraine. Professor Kaldor is the Director of the Conflict Research Programme at LSE IDEAS. Her work addresses human security and the political economy of security. She is an expert on contemporary conflicts and is best known for her work on 'New Wars.' She has written extensively about the changing nature of warfare after the end of the Cold War. You can learn more about her work here. Professor Kaldor has previously been featured on the PaCCS website for her ESRC, DSTL and AHRC funded work on the Strategic Governance of Science and Technology Pathways to Security.

Would you mind getting started by sharing your thoughts on how we have ended up here?

The current situation in Ukraine is tragic.

How did we end up here? The problem is the nature of the Russian regime, which involves a mixture of ethnic nationalism; extreme forms of masculinity, patriarchy, misogyny, and homophobia; and crony capitalism, what my colleague Alex de Waal calls the political marketplace, where power is about money.

The fashionable market fundamentalism that came into being in the 1990s in centrally planned economies such as Russia is also a factor here. There was a recipe for transforming them into liberal capitalist societies through liberalization of trade, privatization of state enterprises, and stabilization of budgets, and it was this recipe together with dependence on rentier income from oil and gas that produced the system of crony capitalism.

What we got in Russia was criminalized kleptocracy, not liberal capitalism. During the years of the Soviet Union, the market was illegal, so people understood the legalization of the market as the legalization of stealing. If you understand Russia as a criminalized kleptocracy, then democracy in Ukraine represents an incredible threat to that. When thinking about what Russia's goals in Ukraine might be, it is possible that Russia's aim is just to reduce Ukraine to a kind of long, intractable conflict – preferring that to a Ukrainian democracy on its border which could have an influence inside Russia.

The regime has also become gradually more aggressive over the years – with interventions in Georgia, and then in Crimea and eastern Ukraine. A lot of people ask "well, isn't Russia only doing this because it fears the expansion of NATO? So, is not NATO responsible?" And that's certainly what Putin is saying. I do think there is a tragedy there – that in the 1990s after the end of the Cold War we failed to demilitarize and denuclearize the whole of Europe and to create a pan-European security system that included Russia. That was a terrible mistake, but given the nature of Putin's regime, I don't think you can blame NATO. NATO expansion is the pretext for – not the cause of – Putin's actions. Indeed now, neighbouring states like the Baltic states or Poland feel a lot safer being inside NATO.

You raised the point that the idea of democracy has played an important role in this crisis. Are there things the West should be doing right now in light of this conflict to strengthen democracies?

Absolutely – and I think it is already happening. If you remember the Belarus border crisis a few months ago, Russia's aim was not only to undermine democracy, but to undermine the EU and to sow seeds of disunity. The EU's legitimacy depends on it being seen to uphold its values, and Putin was trying to undermine that. So, when Belarus sent refugees to the EU's border and the EU turned them back, that exposed the EU's hypocrisy. It would have been so easy for the Europeans to call their bluff and accept them – it was only 150 000 refugees, which is tiny in relation to the whole of Europe.

The whole refugee crisis has been manufactured by the authoritarian right. In 2015, had we accepted all the Syrian refugees, I hardly think people would have noticed. We are doing research at the LSE on the integration of Syrians in Germany, and it has gone very well. The EU needs more people... I think the acceptance of Ukrainian refugees is dramatically turning things around – it shows that Europeans are much nicer than politicians give them credit for, and it will make it more difficult for the authoritarian right to play on refugee fears in future. After being so welcoming to these refugees, one would hope that Europeans would treat other refugees the same way – no matter where they are from. A shift in attitudes to refugees would strengthen the European Union's claim to be based on values, thus weakening the authoritarian right while strengthening democracy. This war is all about democracy versus the criminalized kleptocracy which has become part of the authoritarian right in a range of countries – including Russia, Brazil, India, the United States, and even in Britain.

We are now seeing foreign nationals begin to enter this conflict – on one side, Russia is bringing in Syrian soldiers, and on the other side, Ukraine is welcoming foreign fighters into an international legion. Is that an interesting dimension of this conflict from your perspective?

Yes, and a very alarming dimension. On the Russian side, bringing in mercenaries means bringing in armed groups who are only there for the salaries – that is likely to contribute to further disintegration in my view.

Meanwhile, with respect to Ukraine's international legion, it is worrying because NATO and the West have drawn a line about sending people. They are providing weapons, not people, because they are afraid of escalation to nuclear war. I understand why people with military experience might want to help with Ukraine's defence, but will those individual volunteers count or be perceived as Western fighters?

We are having this interview as NATO, G7 and EU leaders gather in Brussels for a series of emergency meetings about this crisis. Is there any issue which you feel should be getting more attention or that those leaders should be thinking more about?

They are talking about the right things. They are talking about providing anti-aircraft and anti-tank equipment to Ukraine. And they are talking about imposing sanctions on Russian oil and

gas exports – which is something we need to do for climate change, as well as for democracy; dependence on oil and gas revenue has produced dictatorships in Russia and the Middle East and elsewhere, it is the so-called 'resource curse'.

However, I think one area that has not been thought through enough yet is the situation inside Russia. If we think of Russia as a criminalized kleptocracy, then where are the openings for changing that system? We have seen widespread opposition in Russia – there have been demonstrations, and the Russian soldiers who have been killed will have had families left behind in Russia. The best hope for ending this war is pressure from soldiers who do not want to fight combined with domestic opposition. So, we need to think about the ways in which we can make that happen. Putin has introduced extremely repressive measures in the wake of that opposition – you can be imprisoned for 15 years for protesting in a demonstration. We need to help the Russian opposition by encouraging dialogue with and support for Russian civil society and thinking about offering asylum to Russian soldiers. I also think that a lot of towns that are twinned with Russian towns have decided to end their twinning – but I think they should be in touch with the opposition inside and could be leveraging their twinning to create more space for protesters.

What about our larger system of global governance, and Russia's place within these global systems as present? Do these institutions need to change in the face of this crisis?

Completely. We need a bigger role for the UN, and for the multilateral system. The Security Council also needs to be reformed – and has needed reform for many years. It needs to be more representative, and it needs to be more accountable to citizens. We can get around the Security Council with Uniting for Peace resolutions in the General Assembly, but even so, this is all about political will. There needs to be a much greater role for the UN, and for other international organizations including the European Union, and the Organization for Security and Cooperation in Europe (OSCE).

More broadly, what do you anticipate the implications of this conflict will be for our understanding of a new era of security politics?

Well, one question right now is 'is the war going to end?' It is quite possible that Putin will dig in, and this conflict could become more like the sort of intractable conflict we have seen in places like Syria and Libya. And one might see similar things happen in Russia as a consequence of sanctions. The sanctions are very comprehensive and widespread, so they will affect ordinary people more than the regime. One outcome could be that the regime uses the sanctions as an argument to stay in power, while people becoming poor turn to crime and violence. It is quite frightening to think that we may end up with that situation on our borders, and it is difficult to think of what could be done in that situation to strengthen the defensive mechanisms Europe would need.

Both Germany and the EU have talked about increasing defence spending and forming a defence union and I think it is important that that the conversation is not about the creation of a new European superpower. It should be focused on defensive measures, and it should emphasize human rights and crisis management, helping to address protracted conflicts in Syria and Libya,

etc. All those things are already in EU policy, but until now there has not been the political will to take serious action. I hope that this crisis becomes an opportunity to take things seriously. In the long term, what I would like to see is a return to the idea of a European security system based on the Helsinki principles. The Helsinki agreement was signed in 1975 and involved three pillars: the first is territorial status quo; the second is economic and social cooperation – and I do think there are some global challenges such as climate change and pandemics on which we will have to cooperate with Russia and China in the future; and the third is human rights. And we have not heard enough about human rights recently – we did not hear enough about it in Crimea and Georgia, and it is important that we think about all the legal aspects of this war – including the war crimes that have been committed.

What does action on that look like in practice?

We need to put human rights issues at the forefront of discourses. We need to draw attention to the human rights violations that are happening, and then to calibrate responses accordingly. The Council of Europe, which is built around the European Human Rights Convention, has suspended Russia for example, and Russia's reaction was to immediately say that they want to bring back the death penalty. So, I wonder whether suspension was the right strategy, and what the Council of Europe can do to put pressure on Russia on human rights issues.

What about the United Kingdom specifically? What should the UK be doing or thinking about right now?

The UK should be working with the EU. I think Brexit was a terrible mistake, though in some ways the EU is better off without us because it was easier to agree to a recovery plan and climate change without us. However, the UK always has made a very important contribution to Europe in security and defence policy, and I would hope that Britain is still cooperating with Europe, and with the EU specifically, possibly within the framework of NATO.

Moreover, the current refugee policy in the UK is embarrassing – the obstacles that the government is imposing for Ukrainian refugees is shameful. Britain *needs* to change and be more in line with the European Union in welcoming refugees.

Another area, which is hugely important, is that Britain is a centre for the money-laundering that keeps these crony capitalists going. We seem to finally be doing something about the assets of Russian oligarchs, which of course the Conservative Government was historically unwilling to do because they have Russian donors. I am hoping that once we start cleaning up our act on money laundering, it will also affect crony capitalists in other parts of the world. That will be important in contributing to democracies around the world. And the UK should be able to go beyond confiscating assets – which is quite difficult to do because it seems easy for these rich people to put their money in trusts or hide it. What is important is criminal investigation, and at the moment the UK doesn't have that capacity. We need to build up that criminal investigative capacity and to treat corruption and corrupt money acquisition much more seriously.

What would be your key messages to those thinking about, discussing, and responding to this crisis right now?

This war is much more like a classic ‘old’ war. It is a deep-rooted contest between two sides, and it is showing us the difficulty of using military force for what the strategist Thomas Schelling described as ‘compellance’ – making people do what you want them to do. It is very destructive and has disintegrative implications, but it is very difficult for either side to win. We should be thinking about how to prevent this war from either escalating to a nuclear level or disintegrating into the type of long, intractable conflict we have seen elsewhere. Partially, that has to do with money – armed groups make money from violence, they start looting and smuggling. So, we need to think about money and military discipline, to make sure that does not happen.

But it is also about keeping ethnicity out of this conflict. What is impressive about Ukraine at the moment is that it has a civic identity which brings together ethnic Ukrainians, ethnic Russians, Jewish people, and other ethnicities; and as everywhere, most people are mixed. But with the hatred of Russia that has been generated by the invasion, there is always a risk the conflict could become ethnicized, and that Ukrainians could start turning against Russians. Preventing that from happening is important.

Ultimately, we need to think about how to prevent this conflict from becoming an intractable conflict, a ‘forever war’, or what I would call a ‘new war’. We also need to engage with Russian civil society, to demonstrate that we are against the regime, not Russia. That means supporting efforts inside Russia or inside the military to try to restrain this war.

Internal Displacement and Mental Health in Ukraine

In the summer of 2020, PaCCS Communications Officer Kate McNeil sat down with Dr Irina Kuznetsova of the University of Birmingham to discuss her work on mental health and internally displaced persons in Ukraine in the context of conflict in Crimea. Dr Kuznetsova's work on internally displaced persons in Ukraine began with a project which was funded in part through a PaCCS grant on interdisciplinary conflict research. She was the recipient of a GCRF / PaCCS Interdisciplinary Innovation Award on Conflict and International Development funded by AHRC and the ESRC.

Kate McNeil: Thank you for taking the time to chat with me today. Would you mind getting started by telling me a little bit about your PaCCS project?

Dr Kuznetsova: With the support of the Research Councils and a PaCCS grant, my team's work has explored the social effects of population displacement for those affected by the ongoing conflict in Ukraine. With as many as 1.5 million people thought to be internally displaced as result of the conflict in Eastern Ukraine and the annexation of Crimea, Ukraine is thought to have the largest number of internally displaced persons (IDPs) in Europe. When the conflict started, I studied what happened with the over a million of refugees from Ukraine in Russia. I recently published an article which explores policies from 2014 till 2019. As most of the displaced moved to the government-controlled areas of Ukraine, I was interested in learning about the experiences and lives of those who have experienced displacement in this context.

My work with these IDPs focused on the urgent problems they face in everyday life. Through extensive fieldwork, we were able to examine challenges faced by Ukrainian IDPs ranging from jobs and property rights, to pensions, housing and healthcare. I think that knowing more about these experiences is vital because, in my mind, meaningful reconciliation and reconstruction cannot occur unless there is a clear understanding amongst local actors, including those in the policymaking community, of the problems faced by those displaced by the conflict.

What did this fieldwork entail?

I am grateful for Professor Oksana Mikheieva from the Ukrainian Catholic University, Dr Svitlana Babenko from Taras Shevchenko National University and Dr Mariia Kolokolova from V.N. Karazin Kharkiv National University because my research would not be possible without their expertise and collaboration. We interviewed displaced persons, as well as well as speaking with people from a range of organisations working in the region, from those who work or volunteer for local NGOs, to staff working with international organisations that operate in Ukraine. Throughout our fieldwork, we aimed to examine peoples' practices, and to take an intersectional approach to understanding how people experience displacement. As the study unfolded, we became particularly interested in how elderly people and people with disabilities experience displacement, so we did some work on that as well.

How did you end up doing this follow-up work which specifically zooms in on the state of mental health amongst IDPs?

As we put together our findings from the main research project, we realized that a lot of the people we interviewed had spoken about the psychological trauma they experienced after witnessing violence, including witnessing violence against loved ones, and they stress they experienced because of the displacement itself and their difficult living conditions. And, while we knew that there had been research done on mental health of IDPs in this region more broadly, there was a gap in the literature when it came to understanding cultural and social aspects of coping tactics in relation to mental health in Ukraine. It was not clear how, or whether, the mental health of IDPs in Ukraine might differ from the mental health of the general population.

We were then lucky enough to receive additional funding and institutional support from the Wellcome Trust's Institutional Strategic Support Fund to be able to conduct two surveys designed to help us fill that gap in our understanding. The surveys – one designed for IDPs, and the other for the general population – explored the levels of anxiety and depression in the population, as well as asking questions about accessible mental health support. To complement the surveys, we also conducted interviews which explored local ways of coping and mapped out what forms of mental healthcare were available and how much people were using them.

What did you learn?

We learned that there is a higher rate of depression and anxiety amongst IDPs in the population. Our key finding was that 20% of IDPs and 12% of the general population have moderately severe or severe anxiety, and that 25% of IDPs have moderately severe or severe depression, compared to 14% of the general population.

We also learned that there are significant barriers to accessing mental health services, both for IDPs and the population at large. Mental health issues are very stigmatized in Ukraine, and the Soviet-era image of those who suffer from mental illness is still part of the cultural consciousness, including the memory of Soviet-era mental institutions. So, there is no robust culture of mental health support, and there are particularly significant barriers to support for elderly IDPs.

You have released a briefing note which discussed some of your findings and recommendations for policymakers concerning mental health in Ukraine. Would you like to tell me a bit more about how policymakers can help?

We need to improve the accessibility of mental health services, especially for internally displaced persons. We also need to change the culture surrounding mental health – it should not be seen as something that is provided solely by a specific set of medical practitioners. Rather, mental health should be embedded in various facets of communities – through amenities, work, and activities. We also need to do more to encourage people to talk about mental health, and to connect mental health to the practices which people enjoy doing, from walking and gardening to going to church. Those making health policy also need to ensure that age and gender are considered in the development of specific approaches to supporting mental health, and they must

lead the way in shifting the cultural attitude surrounding mental health issues. And it is crucial to reduce stigma surrounding mental health.

From a systems perspective, more also needs to be done to regulate mental health care. There is a need to strengthen a licensing system for those practicing psychology and psychiatry, and to strengthen the links between different actors in this space – including family doctors and those working in relevant NGOs. My research group has also conducted research on family doctors' opinions about and experiences of mental health, and we know that general practitioners need more support and more information about these issues – particularly with respect to the unique challenges posed by those experiencing poor mental health who have also experienced displacement and war.

How have you been working to ensure that your findings reach those who might have the power to implement change?

Over the course of work in Ukraine, we have sought to disseminate our research findings in Ukraine and throughout the rest of Europe – including in Brussels and here in the UK. We have also spoken to members of the international community, such as UNHRC and IOM. There has been a particular focus in our approach on sparking conversation about the mental health needs of Ukrainian IDPs, and the needs of elderly people who face many barriers, including poor living conditions and difficulty receiving their pensions.

As part of communicating our findings, we have published several policy briefings, available on our project's website. This has included recommendations concerning how to best support IDPs that have been directed at actors including Ukrainian government ministries, international donors, and Ukrainian municipalities. We have also disseminated findings by hosting roundtables with groups such as international organisations and mental health experts, while ensuring that our findings are available in both Ukrainian and in English.

It is very difficult to talk about the impact of my work on a big scale, however, because what matters here isn't the work done by one single researcher or any one organisation. What will matter in the management of this crisis is how humanitarian groups, consisting of many organisations and experts working in coordination, are able to lobby for change and provide information collected by researchers to institutions.

Where will you take this project from here?

I am now leading a research project which looks at mental health in the context of other displaced populations who have experienced conflict. We are doing fieldwork in Rwanda and Nigeria, looking at the health of refugees and IDPs in developing contexts. We are already realizing that the situation there is very different than the one in Ukraine, both in terms of the availability of services, and in terms of how living conditions affect the situation.

Multilateral Military Interventions: The Use of Private Security Contractors by International Organizations

In the spring of 2022, PaCCS Communications Officer Kate McNeil sat down with Professor Elke Krahmann to discuss her work on the use of private security contractors by international organizations as part of multilateral interventions. This work was funded by the ESRC and began while Professor Krahmann was based at Brunel University. She is now based at the Christian-Albrecht University of Kiel.

Tell me how you ended up working on this project, and what the project has involved?

When I first became interested in the privatization of security, I examined the phenomenon in states – the emergent practice of countries hiring companies to provide military and security services in international interventions. There was Blackwater, for example, which generated a lot of publicity in the Iraq War. A lot has been written about this, especially in the UK and America, and I added a German case study to the mix – which was interesting because Germany created public-private joint ventures for these services. When I finished my book, *States, Citizens and the Privatisation of Security*, I began to hear about international organizations such as the United Nations using private military and security companies. There was anecdotal evidence, but no one really knew anything specific about it. We heard of American companies supplying UN peacekeeping missions with support material, for instance Pacific Architects and Engineers (PAE). A colleague from Copenhagen and I decided we needed more research on this – empirical evidence as to what was happening.

I am still finalizing the book, but essentially, what we ended up doing was case study research, examining the UN use of military and security companies in the Democratic Republic of Congo, NATO's involvement in security contracting in Afghanistan – which is the biggest case study, and an EU case study on the Central African Republic. The EU's use of contractors is not very large, so that one is a small case study. However, I still went to Brussels to conduct interviews to understand whether they are planning to expand their contracts.

What are some of the main findings which have begun to emerge from this work?

We found that the scale and type of use of private military and security companies by these three international organizations was not comparable in any way. The services they bought, how the contracts were designed, and the connections with the firms were all very different. So, it is hard to make cross-cutting generalizations about the use of private contractors by international organizations and their impact on military interventions.

I also learned that it is a lot easier to get civil servants interested in this than politicians. Politicians are not keen on discussing this issue because "mercenaries" are controversial, and they want to steer clear of that. However, officials talk to one another on a regular basis about how they can improve the collaboration with these firms and eliminate potential problems that could pop up in international missions. So, they are the group who I am most interested in reaching with the findings of my research. I have found that the UN is very aware of any

problems, and it was the first international organization to set up internal regulations on how to hire and vet these companies, and to explore what these companies should be allowed to do. Clear standards matter because these companies are not regulated internationally. There are Western companies which want to improve the regulation of the sector, but so far these regulations are self-enforced and not very reliable. The best way to control these companies is through the international organizations or states which hire them. The standards these clients set are included in the contract, and the UN's standards are very clear and binding. We have shared some our research with the UN, and they have improved their standards since. The UN was initially only concerned about regulations for armed security contractors, and we encouraged them to extend their standards to other contractors with potential impacts on missions. So, that was a big success.

The UN also does not subcontract – they go to firms directly and then determine the terms of the contract in a way which helps control who is employed, which is good. What is problematic is that they often hire locally – something we also found to be the case with other international organizations. And that is a big problem, because if you carry out a mission in a country that is at war or has a failed government, you cannot rely on the local government to control, legislate, or regulate these companies. Local companies often work in a grey area, where they are free to do what they want unless the international organization that hired them exerts pressure and sets standards. That is beginning to happen. For instance, after an incident in Congo, the UN started carrying out training for security contractors on human rights standards. This is something that other international organizations can learn from.

The NATO operation in Afghanistan was much more problematic. NATO did not, in most instances, contract directly. They hired supply firms which then hired local security contractors to protect supply convoys. Along the transport route from Kabul to Kandahar, where military supplies like water, equipment, and fuel were transported, the Taliban and local warlords often tried to attack the convoys. Because the security companies were controlled by the local warlords and clans in that region you needed to use a different security company along each stretch of road. NATO might have known what went on, but they had no interest in putting a stop to this. NATO had no control over the warlords setting up private security companies which served their personal and political interests. When NATO went into Afghanistan, there were no security companies in the country – NATO created this market. Now there were these semi-legal security entities which the Afghan government tried to control; but could not because of corruption. Sometimes the companies started fighting each other because they were linked to different factions within the government. The problems that this industry has created can be traced back to NATO's practice of subcontracting.

Finally, in the EU mission in the Central African Republic there were no security contractors, but there were military supply contractors who bought from big suppliers in the local markets. Local women were previously the backbone of the local economy – selling goods like food and water, but these women ended up side-lined through these contracting processes. Which goes to show that contracting can have implications for not just the security of the country where you intervene, but also for more day-to-day aspects of life there. It all depends on how you design your contracts.

What would be your key message for practitioners working on policymaking in this area?

For the public servants doing this work, my main message would be to contract military and security services directly, do not leave it to others. And be aware the implications of how you contract extend beyond security implications. It is not just about "mercenary" firms killing people, it is also about the changes you create in local markets which might have implications for how people survive on a daily basis. Look beyond the security and regulation issues to see the bigger picture. As part of that bigger picture, also think about how your mission is presented visually – the local population will have a different response if you are using barbed wire and high fences to protect yourself. They will think you are there to keep them out, not to help. So, the key thing here is that you need to think broadly – beyond legalistic terms, to think about the context you are in.

Can you tell me a little bit about your other ongoing work?

I am interested in how the norms around privatization have changed, as well as in broader questions surrounding norms in peace and conflict. These was this strong norm against the use of mercenaries and private security companies – and then in the 1990s, that norm suddenly disappeared. How that happened – the erosion of the idea that governments should have the monopoly on the legitimate use of violence – interests me. I am also looking at how local norms contribute to peace, and how we can promote the spread of "peace norms." If you promote norms linked to Western democracy such as electoral participation and equality, for example, you are supposed to get democratic peace. But there is hardly any research which examines whether these norms are indeed contributing to peace, or whether it is something else that makes Western democracies peaceful - like being wealthy. So, I am interested in local norms that may contribute to peace.

III. Peacebuilding & Post-Conflict Reconstruction

Foreword by Cat Zuzarte Tully, Andrew Curry & April Ward

Cat Zuzarte Tully is the founder and Managing Director of the School of International Futures (SOIF), a global non-profit collective of practitioners in strategy and policy for current and future generations. She previously served in the UK Foreign and Commonwealth Office, and in the Prime Minister's Strategy Unit under the Blair and Brown governments. Andrew Curry is a futurist with SOIF where he serves as Director of Futures. April Ward is the Intergenerational Fairness Practice Manager and Foresight Researcher for SOIF and a doctoral candidate at the University of Lincoln. In the following text, they share their insights into what foresight might teach us about the future of peacebuilding and post-conflict research.

There is a well-known thought experiment by the sociologist and peace studies pioneer Johan Galtung (2000) that goes like this: "Imagine a table. On that table is one orange. Sitting at the table are two children. What happens to the orange?"

We have tried this experiment on family and friends, finding that they normally come up with a handful of responses. One child may justify taking the orange based on status or need. Or the children divide the orange equally between them. Or they cannot agree, and the orange sits on the table. Or they ask someone else to resolve the question for them. And so on.

Galtung's list, which may still be incomplete, ran to 16 solutions. The final one is worth quoting: "Time is worth it: the kids divide the orange, save the seeds and plant them. Sometime later, that tree produces oranges, which they in turn share, eat, and re-plant and in time create a profitable orange grove business together."[10]

The long question about peace building and reconstruction, then, is how to get beyond zero-sum discussions about Galung's orange. In a world where the slow violence of climate change and inequality is going to create ever more locations for conflict, and may also re-ignite old disputes, we see several important emerging themes for future research. These are reflected in the contributions that follow in this section. They include the need to engage with power; the need to respect and amplify understandings of context, place, and history; the need to extend the conversation beyond the usual voices; the need to address deep and intergenerational trauma.

[10] Galtung, J. (2000). Conflict Transformation by Peaceful Means (the Transcend Method). Geneva:

United Nations Disaster Management Training Programme.

Some of these draw on the traditions of futures and foresight, which has historically been well-represented in peacebuilding. Galtung himself played an influential role in developing the futures field during the 1960s.

A recurring theme in these interviews is about the importance of context, place, and history. Richard Phillips talks about paying attention to specific places, while Dominik Zaum discusses the way in which political and economic structures continue from war into peace: there is never a clean slate. Time matters as well. Radhika Mohanram notes how the legacy of trauma can extend over decades; while Irina Kuznetsova described its psychological cost to individuals in the *Conflict, Security & Peacemaking* chapter.

This connects to some of the lessons we take from the idea of 'social futures', developed at Lancaster University's Institute of Social Futures. Lopez Galviz and Spiers argue that futures always have histories and geographies, and secondly that the relationship between past, present, and future is always fluid.[11] Sometimes it is necessary to remake the past to construct a different future, to go deep into the intergenerational stories that construct our sense of place and time.

One of the implications of this is about the voices who are included—and the voices who are left out. Again, this is a theme of these interviews. Nicola Palmer writes of the need to have a wider range of voices around the table. Fidelma Ashe points out that sometimes voices that have been excluded need to make themselves visible in the dialogue. For policy makers, this may require a different way of listening—with more empathy and a degree of reflexivity, as Naomi Head notes in her work in the *Conflict, Security and Peacemaking* chapter.

This is a body of practice where futures has something to offer, including through the recent important and welcome focus on Afrofuturism, Indigenous and Queer Futures that come with the invitation to imagine futures with a broader and wider lens than in the past. Part of this includes listening with reflexivity, which has been core to long-standing endeavours by Adam Kahane and Reos Partners in supporting the South African transition and the Mont Fleur scenarios to dialogues in Guatemala and Colombia, as well as many other areas of conflicts around the world. "How," he asks, "can we solve our tough problems without resorting to force?"[12]

His answer is that it is simple, but not easy. "We need to bring together the people who are co-creating the current reality to co-create new realities. We must shift from downloading and debating to reflective and generative dialogue. We must choose an open way over a closed way."

These interventions have typically been designed as generative conversations, bringing people together (often in small groups) to explore an issue through a process of divergent, emergent and

[11] Galviz Lopez, C., and Spiers, E. (2022). "Why social futures?", in Routledge Handbook of Social Futures. Abingdon: Routledge.
[12] Kahane, A. (2004). Solving Tough Problems. San Francisco: Berrett-Koehler.
United Nations Secretary General's Report on Our Common Agenda (2021)
https://www.un.org/en/un75/common-agenda

convergent reflection which works to accommodate the systemic as well as the personal perspective. One of the research challenges is to make such conversations work at scale. Another challenge is to ensure that diverse – including next generation – voices are actively included and reflected in these dialogues, not least to consider intergenerational fairness. This is particularly necessary in youthful, fragile countries. We, at the School of International Futures (SOIF), have shown that this is possible in Mozambique through our collaboration with Eduardo Mondlane University: a sustainable response to ongoing cyclones and insurgency must be connected to young citizens' vision of their futures.

A third theme in this collection is about power, and the way that it gets expressed. Mary Kaldor talks in the context of the present war in Ukraine about the way in which particular forms of authoritarianism ally with multiple types of oppression: "extreme forms of masculinity; patriarchy; misogyny; and homophobia." This is true of Putin's Russia, of course, but the same discourse is also currently seen in the American Republican Party (notably the *Make America Great Again* movement). If we want to make peace, we need to defend the values associated with human rights.

As Adam Branch observes of his work in Uganda, "environmental problems are actually political problems." What started as a human rights project also became a project about environmental rights. One of the critical questions about conflict in the world of the climate emergency and the Sixth Great Extinction is how to address conflicts around 'slow violence'. Conflict studies, like the media, can seem too interested in fast violence even though this slower structural violence—which can also be seen coming—can be more damaging.

In recent work that SOIF's Andrew Curry has done with Chatham House on the impact of the Ukraine War on global institutions, one emerging theme is that multilateral institutions need to become better at both anticipating issues that will lead to conflict and practicing methods that can help defuse them before then.

Given our work in various sectors across the security, peacebuilding, and humanitarian fields, SOIF is cautiously optimistic on this point. From the UN Secretary General's proposals in *Our Common Agenda* to Horizon 2045's mission - to imagine and ultimately achieve a world without nuclear weapons - initiatives are emerging that demonstrate the kind of innovative, systemic, participative, and long-term approaches needed to confront the challenges ahead.[13]

In the long run, however, the biggest agenda for peace building is this: how do we change the discourse around peace so that it is seen as a transformative state, and not merely an interregnum between states of conflict? This is the message of Galtung's story about the children and the oranges, and it has a distinguished history within futures practice. Elise Boulding's work is often overshadowed in the literature, partly because of politics, and partly because of gender. But the

[13] Horizon 2045 AN AUDACIOUS PROJECT TO END THE NUCLEAR WEAPONS CENTURY (2022) https://www.horizon2045.org/

question she asked repeatedly, across hundreds of visioning workshops, is as timely as it ever was: "How do we make a world without weapons?"[14]

Paradoxes and Contradictions in EU Democracy Promotion Efforts

In the autumn of 2020, we sat down with Roskilde University's Professor Michelle Pace, to discuss her work on Paradoxes and Contradictions in EU Democracy Promotion Efforts, a project funded by the ESRC and accredited as a global uncertainties project.

How did you end up working in this research area?

When I started my master's at Warwick University, I was curious about developing a more nuanced insight into the EU's policies on the Middle East and North Africa, and this interest grew over the course of my doctoral studies. It probably comes from my identity as a Maltese – always in between Europe, North Africa, and the Middle East. I was intrigued about how Europe constructed the Middle East and North Africa, and how the peoples of these regions perceived such constructions, as (I later found out) there were clear disconnected perceptions from the two sides.

When I started working as a research fellow at Birmingham University, it was a period where I worked intensely on a project that looked at border-conflict transformations, including Israel, Palestine, Greece, Turkey, and Cyprus. It is through that experience that I started reflecting on how I could gain funding for a serious research exercise that looked at the historical development of EU policies towards the Middle East, and I was given this opportunity through the ESRC. Then, I realized I needed to see both sides of the equation, and I therefore also applied for and was awarded funding from the British Academy for a parallel project. So, while my ESRC project explored the EU's construction of and democracy promotion efforts towards the Middle East, my British Academy project focused on how Islamist actors conceived of democracy in a Middle Eastern context and what they made of the EU's efforts in this policy area, including of its specific liberal form of democracy that it wants others to emulate.

Can you walk me through each of the two projects? What were your key aims, and what were some of your findings?

With the ESRC project, I started by questioning some of the core assumptions held within the EU's policy trajectory, beginning with a discursive analysis of EU documents ranging from Commission recommendations to Council conclusions to European Parliament reports. That is when I discovered that there were some embedded notions in the EU – for example the assumption in particular that the Arab world is an exceptional space where its people were not interested in liberal democracy, and that their illiberal representatives and the people of these nation states were not ripe for democracy as we know it in the EU's context. EU policymakers also had a hard time understanding how Islamist actors could form part of legitimate governance structures in a democratizing region.

[14] Boulding, E. (1988). Building a Global Civic Culture. New York: Teachers College Press.

Meanwhile, my British Academy project – which predicted the Arab uprisings – showed that if there was to be political reform in the region, it was not going to come from external actors, but rather from activists and protestors from within the region.

I was very lucky to have these projects act as a double mirror, and to be able to challenge constructions of the EU as a normative actor, which too often do not give due attention to Europe's colonial past in the Middle East and entrenched forms of authoritarianism.

What were some of your key takeaways from the projects? Was there anything that surprised you?

I think what really struck me when interviewing EU officials was that individual officials had a keen appreciation of the need for EU policy to be more nuanced and to take more of a listening mode as opposed to a prescriptive mode in its interactions with the Middle East, but that understanding becomes very diluted when it came to the level of EU official policy. Things at the European Council level often end up with the lowest common denominator despite the best intentions of well-meaning people.

Meanwhile, from my British Academy project which allowed me to conduct critical ethnographic research and specifically interviews with key Islamist actors from the main political parties in Palestine and Egypt (Hamas and the Muslim Brotherhood), I discovered that while there was a keen attempt by officials from groups such as the political wing of the Muslim Brotherhood or Hamas to make contact with EU officials, they felt they were not being listened to or heeded.

So, there was frustration on both sides, and there is a huge amount of miscommunication between Brussels and the people then empowered to govern in these two cases, and of course that was disappointing because we all know what happened. Now, in Egypt for example, authoritarianism is even more deeply entrenched than before. When I was interviewing young people in Tahrir Square in Cairo in 2011, they expressed deep frustrations with external actors' interventions in Egypt and the rest of the Middle East, with the EU posing as a 'normative' actor / a force for good in their society, which they saw as causing more harm than those actors had probably intended to. So, we need to work more at trying to develop encounters grounded in dialogue where all sides listen to each other.

Would you mind telling me a bit more about some of the impact generated by this work?

As part of this work, I was involved in an exercise on democracy promotion which emerged from International IDEA in Sweden, and I carried out an intensive report which was quite influential in the recommendations reached by the European Parliament's 22 October 2009 resolution on democracy building in the EU's external relations and the European Council's conclusions on democracy support in the EU's external relations. I was also asked by a prominent think tank in Brussels to draw conclusions from these projects in simple terms so that the general public could appreciate and understand the issues at hand.

I am also very appreciative of the opportunities I had to work with and be interviewed by journalists, who were keen to work with me on how to report on the Middle East while keeping a critical and constructive distance from what politicians say.

What would your key messages for policymaking audiences be based on this research?

I would like to see policymakers take research of this kind more seriously. Though I worked very closely with the European Parliament and worked hard to pass along messages from people in power in the Middle East to the corridors in Brussels, I often felt that sensational messages took precedence across EU member states. In the end politicians are interested in winning votes at their respective national level. They sought to send messages based on what their publics would react well to, rather than sending concrete messages grounded in facts and research which is embedded within MENA societies. We need policymakers, academics, researchers, think tankers, and civil society representatives from Europe and the Middle East to seriously engage with one another about the major concerns and challenges of our times. Polarisation and binaries do not make for conducive policy making. Dialogic encounters do.

These projects of mine started in 2007/8 so well before the Arab uprisings, and I was all along hearing in the Middle East that people were frustrated, they wanted government accountability, dignity as citizens, and civil, social, economic, and political rights. At the bottom line, they wanted human security. But the EU is often not interested in human security at that level, when it talks about security, it is thinking about the security questions related to the so-called migration crisis for instance. So, it is like these actors are talking past each other, rather than to each other. That needs to change.

Just before we finish, would you mind telling me a bit more about some of the things you have been working on since?

Following on from the research projects we have just been discussing, I came to Roskilde University in Denmark to specifically work on European-Middle Eastern relations. It was 2014 when I first came to Denmark – the year of the start of the so-called refugee crisis. Around September 2014, at Copenhagen train station, I was struck by the number of refugees arriving, and how Danes responded – bringing blankets and water, opening their homes, giving families transportation, giving children toys to comfort them. It said a lot about the historical trajectory of volunteering in Denmark. I got involved in a project funded by the Ministry of Foreign Affairs called FACE (fund for academic cooperation and exchange between Denmark and the Middle East) that focused on unaccompanied refugee children arriving in Denmark. I have also been the Danish lead partner on a Horizon 2020 project – SIRIUS – on labour market integration of migrants, refugees and asylum seekers (MRAs) in Europe.

Is there anything from your experiences that you would want other researchers, or the next generation of researchers, to be thinking about?

Working with unaccompanied refugee children and on labour market integration for MRAs has been a very satisfying experience, but also one that has been emotionally overwhelming at times. I took my ethical obligations seriously in regard to my interviewees, because too often I heard

from refugees that they were so exhausted of being treated as research subjects rather than as co-producers of knowledge.

Academia is an increasingly competitive environment, but I think it is important for researchers at all stages of their careers to remember that when we are dealing with vulnerable groups or people in precarious situations, and when we are dealing with other humans in general really, we simply cannot forget their humanity. We simply cannot “use” others as research subjects. Because yes, we need others to advance our academic career, but we also need to sustain a humane approach. Moreover, academics cannot be taken seriously unless they are immersed in the societies where they are embedded, and equally, those who are unfortunate enough to experience wars or who have had to flee from their homes because of persecution need someone like an academic researcher with strong ethical values to give them a platform from which they can tell their story.

Political Action & the Language of Imperialism

In April 2020, we sat down with Professor Richard Phillips, a Professor of Human Geography at the University of Sheffield to discuss his project on 'the language of imperialism in contemporary political action: anti-war movements' which received funding from ESRC during his time at the University of Liverpool.

You are a human geographer by training. Can you tell our readers a bit more about what type of thinking and approach human geography involves, and how that disciplinary background influences your work?

For me, being a human geographer is about thinking about places. Sometimes real places, and sometimes imagined places. That is where my interest in the imagination of empire comes from.

When I think about concrete, tangible settings, I tend to think about relational spaces, such as the sense of the relationships immigrant populations from former colonies living in Yorkshire and Glasgow have with their local communities, and with countries such as Pakistan. What is the experience of being somebody with heritage in a former colony, but who is now living in a town like Huddersfield?

I have always researched the places where I have lived or taught. When I was working at Liverpool University, I wrote a book there about the 1981 riots, which was an event that was very situated in post-colonial geography. People who had worked on ships coming from West Africa settled in Liverpool and formed the basis for the Liverpool-born black community. The riots against police racism very much originated in a group of people who were situated in a particular city in the colonial circuit, and within a community which had had particular colonial experiences with police which need to be considered as part of the background.

I think that it is important to pay attention to specific places, and some places have been paid enormous attention to –there has been a lot of work on Hackney, for instance. But there are other places, places like Huddersfield, which have been neglected. We need to remember forgotten places, and we need more work on the experiences of migration from former colonies to the smaller towns of Britain.

What are some of the key themes that have arisen in your research over the course of your career? Can you tell me a little bit more about your research background?

I've always researched and taught about post-colonialism and empire, and I've been interested in the ways in which ideas of empire have continued to be significant after the age of colonial imperialism ended, and the ways in which those ideas have shaped the ways in which people encounter each other – including the ways in which Europeans understand people who've moved from former colonies to Europe.

I did my PhD in Vancouver, where I focused on geographical imagination and empire. I was interested in the ways in which both Canada and the wider colonial world were imagined and depicted in popular culture in Britain and Europe in the 19th and 20th centuries. Within this area, I was particularly interested in the language of empire, and the ways in which Europeans went out

into the world and encountered non-European people. Out of this work came my first book, Mapping Men and Empire. That book focuses on ideas of empire and masculinity.

How did you end up working on your project on the language of imperialism in contemporary political action: anti-war movements in the UK?

During the contested invasion of Iraq, I began thinking about ideas of empire in that context. That idea mattered a lot because at the time Americans were talking about a 'new American century.' Meanwhile, critics of American foreign policy were describing American foreign policy as imperial. Of course, some people had always described the Americans as imperial, but those ideas became more mainstreamed as the Americans and their allies were invading Afghanistan and Iraq at the start of this century. I was interested in the ways in which ideas of empire mattered to activists, so I started up this project, and began to look at several different activist groups.

What did this research involve in practice?

I identified three different groups of activists, and then we had to get to know them.

One group was the Stop the War movement campaign in England. That group was led by people on the left, especially the Socialist Workers Party, but they branded themselves as Stop the War and led a coalition of other groups. We also looked at a group of Welsh and Scottish nationalist who were carrying on with their own projects, but who were also involved in the anti-war movements. And finally, we got to know some Muslim-identified activists whose work focused on activist response to those fighting the so-called 'War on Terror.'

We interviewed these activists to explore the ways in which they thought about their projects and to explore the relationships they had with each other. We wanted to explore with them the meanings of ideas of empire that were present either implicitly or explicitly in their activism, and to examine the ways in which these different groups were drawn together around this charged period of anti-war activism.

Did anything surprise you over the course of this project?

In some ways, the language of imperialism they were using seemed to the cliched language of a certain kind of student activism, which I am not sure drove anyone anymore. So, I began to have second thoughts about whether this kind of rhetoric made any difference at all. However, as I talked to and listened to people, I ended up finding that all of them made a lot of sense, and I felt that they were genuinely pursuing something for the right reasons. Many of these people you would think would have no reason to be politically hopeful, but I surprised myself by sharing their hope and their sense that they and their struggles are worthwhile.

I was also informed, I am not sure if surprised is the right word, by the relationships between the different activists, and the relationships between some people. On the whole, I felt that the movements were linked, but that individuals weren't necessarily linked. People were part of a movement, but not necessarily personally connected.

Do you think that coming out of this research project, that there were any key takeaways for people working in activist spaces?

I think that when people reach outside of their bubbles, which is what happened in the anti-war movement, albeit tentatively and temporarily, it is always worthwhile. Even though I have said already that I feel that the connections did not always cut too deep or last too long, there were some profound moments involved in connecting people which were worthwhile. Even where it does not bear political results, which arguably it didn't when we invaded Iraq with disastrous consequences, there was long-term value in bridging between different groups and forming connections.

In some of the things you have written about this project, you mention having to navigate the complicated and changing social dynamics within this activist cohort. Can you tell me a little bit more about that?

Even though the anti-war coalition looked like a big, broad coalition, it turned out to be a series of very small, and in some cases quite peripheral, groups. The British Muslim Association, for example, might have had a thousand members. Meanwhile, there more than 3 million British Muslims. So that small group presented themselves as speaking for something that was much bigger than they were. They seized a moment. And there was a desire on the left to try to work with Muslim groups. People look for leaders and for organisations because it makes people feel reassured that they have been inclusive when they have spoken to something with a name like the Muslim Association of Britain. Now, that movement has spoken to Muslims. But activists must be very cautious about the organisations they work with here, because sometimes small groups – some of whom are very political – can claim implicitly or explicitly to represent the views of whole populations.

Because of that realisation, in my own work I try to work less with organisations which claim to speak for entire groups, and I now work more with individuals and family groups.

How did this work inform or influence the work that you have done since?

It has made me think more about political rhetoric and headline language, and it has made me want to explore new and more nuanced ways of speaking and expression at a grassroots level. I still work on those same post-imperialist themes, and I've recently been doing a lot of work on empire and sexuality, but now I tend to look at how people who aren't leaders of organisations speak when given the chance to explore their own.

Exploring UK-China Cooperation in Non-Traditional Security

In the summer of 2020, PaCCS met with Dr Miwa Hirono, an Associate Professor at the College of Global Liberal Arts at Ritsumeikan University, to discuss her work on UK-China Cooperation in Non-Traditional Security. This project received funding from the ESRC during Dr Hirono's time at the University of Nottingham. Dr Hirono's work on UK-China cooperation offers insights into common interests in development and humanitarian assistance.

Would you mind getting started by telling me a bit about how you ended up researching UK-China Cooperation in Non-Traditional Security?

Since the beginning of my post-doctoral years, I have studied China's peacekeeping operations and work in humanitarian assistance. My work takes a bottom-up approach – I visit places where disasters or conflicts have taken place, and interview people on the ground about their perspectives.

China is often criticized because it takes a sovereignty-centred approach in its relationships with other countries. At the time I began working on this project ten years ago, China's focus in Africa was on business alone. They were not really engaging in political affairs and had been criticized – particularly by Western countries – for not taking local conflicts in the region seriously. However, China was also beginning to be interested in promoting its image as a good international citizen. I was living in the UK at this point, and I felt that the UK needed to better understand the Chinese political and military establishments. At this point, the UK was also beginning to enter austerity, and I also was interested in what a clever international contribution for the UK might look like in that context.

Reflecting on all of this, I decided to explore whether it would be possible to strike up a practical level of cooperation between the UK and China. To do this, we would need to focus on common problems and threats facing both the UK and China. Here, I recognized that if the two countries began talking about principles, you had hit a wall, as had happened in the past when America sold weapons to Taiwan and China subsequently severed US-China cooperation on military affairs. So, non-traditional security seemed like a better place to start the relationship. Areas such as peacekeeping operations, humanitarian assistance, and anti-piracy operations are areas of common interest which put foreign policy principles aside, so this area seemed to have potential.

How did you go about carrying out your work?

I drew on my experiences of fieldwork in Asia and Africa and used that to gain insight into what types of expertise the UK and China could offer one another that would be useful. From there, I realized I would also need to draw on practitioner expertise, so the project really focused on cooperation with practitioners and the co-production of knowledge.

What were the main things that emerged from that process of knowledge creation?

Several concrete policy recommendations emerged from my work, including ideas which emerged from a conference I hosted in cooperation with RUSI which brought together academics and policymakers from the UK and China for a series of discussions on peacekeeping, humanitarian assistance, and anti-piracy operations. The recommendations which emerged focused on the notion that we need to start to cooperate by focusing on what we can do immediately. For example, the establishment of a peacekeeping research centre at the People's Liberation Army National Defence University and participating a regular dialogue on peacekeeping and post-disaster systems. Cooperation needs to happen through institutionalized communications channels and the creation of regular platforms for discussion.

While it is hard to say how much impact my work generated, given private nature of diplomatic channels, I know that the UK embassy in Beijing was quite interested in my work. My reports were shared as part of the academic contribution to UK-China dialogue, and I was invited by the UK embassy to promote dialogue between the UK and China on peacekeeping operations. However, I think it is also worth noting that China's changed so much over the last ten years.

Can you tell me a bit more about this change?

In 2012, China wanted to learn more about participation in post-disaster assistance and humanitarian assistance, but at the time, that interest was primarily driven by the government, which wanted to understand what was happening internationally. Now, with the Belt and Road Initiative, companies and NGOs are encouraged to engage in business and investment activities abroad. So, now China's NGOs are eager to learn how they can deliver humanitarian assistance in an international context, and people like Alibaba's Jack Ma have become involved in philanthropy and humanitarian assistance.

Has your work on UK-China cooperation and non-traditional security cooperation influenced your thinking in what you have done since?

I had initially planned to continue my work on UK-China cooperation; however, I ended up having to leave the UK part way through the project because of an immigration decision made by the Home Office, which was a really sad time for me, and one that brought an end to this particular project.

However, after I left the UK, I continued my research on peacekeeping and humanitarian assistance.

The things I learned during my exploration of UK-China cooperation informed my subsequent work on China's cooperation in peacekeeping with other major countries including Japan, UK, and US. For example, I recently published a paper on how Sino-Japanese competition has influenced these countries' activities in Africa. Major powers face similar challenges in Africa, which I also wrote about for policy communities in the US. My work on UK-China cooperation also gave me a solid foundation from which to focus on the linkage between humanitarianism and the state – something I recently wrote a report about for the Overseas Development Institute in London. That report focused on understanding China's Humanitarian Assistance, in which I explored how the country's approach to humanitarianism is linked to its diplomatic interests,

international reputation, and indirect economic and commercial interests. I have also written more broadly about the impact of China's decision-making processes on international cooperation.

My work on UK-China cooperation also has stayed with me because that work made me more conscious of the linkages between my scholarly work and practical implications. It has made me more comfortable with engaging in the process of knowledge co-production with practitioners and made me more conscious of how I can support the policy process.

Partitions and Oral History

In the summer of 2021, Cardiff University Professor Radhika Mohanram sat down with PaCCS to discuss her work on the AHRC-funded project 'Partitions: What Are They Good For?'.

Tell me about your research background and how you came to work on this project?

My background is in English Literature, and I teach postcolonial studies in the School of English, Communication and Philosophy at Cardiff University. I became interested in researching the 1947 Partition of India, not only because I am from India, but because there are many families in Cardiff whose families came to Wales from India and Pakistan during or shortly after the Partition. This catastrophic event is often discussed in South Asia within the remit of politics, but I felt that insufficient scholarly importance had been given to the social and cultural impact of the Partition. This event was the largest transaction of refugees in history, 12-15 million people migrated from India to Pakistan or vice-versa based on what religion they followed. Roughly 2 million people died in the process with hundreds of thousands of women who were abducted on both sides of the border, and approximately 50,000 children who were lost or orphaned.

However, this event is not given enough importance because the moment of Partition was also the moment of independence for India and state formation for Pakistan. The social and cultural losses have always taken a back seat in discussions about this period as the focus has been on the political and economic aspects of it. Though this event occurred over 70 years ago, its catastrophic nature is kept alive in the handling of Kashmir. All Indians and Pakistanis have strong opinions about Kashmir and its memory of the Partition is kept alive through it.

What did this project entail?

I received funding from the AHRC which allowed me to set up a Partition network. We conducted three sets of symposia on different topics which brought together people from different parts of the world to discuss and exchange ideas about the study of partitions including Cyprus, Korea, Ireland, Palestine, India, Pakistan and Bangladesh, the Balkans, Germany, the Scottish independence referendum, and including the civil war in Rwanda. Our thinking was that an exchange of ideas relevant to one partition might open up new ways of thinking about others, including new methodologies, and that together we could begin to look at different Partitions in a fuller way than we had before.

What emerged from this project?

From the symposia emerged several publications, and an edited collection of essays. For me, it also developed my interests in trauma and memory and led to another project – an AHRC-funded research project called "Refugee Wales: The Aftermath of Violence" of which I am the principal investigator. This project will end in 2023.

Can you tell me more about this follow-up project?

This follow-up project has focused on collecting oral history narratives of Sri Lankan, Tamil, and Syrian refugees in South Wales. Cardiff is a City of Sanctuary. As we have collected these

stories, I was surprised by the fact that, even though the Sri Lankan refugee community has been here much longer than the Syrian refugee community, the experience of trauma for Sri Lankan Tamils has not ended and their stories are not that different from what we collected from Syrian refugees.

How have you sought to generate impact from this work?

Generating impact with Humanities projects often take longer than projects, say, in STEM (Science, Technology, Engineering and Mathematics) subjects as our impact consists of influencing people in the long-term. My interest in collecting stories began when I did the oral history project on the Partition of India between 2011-2013 which was internally funded by Cardiff University. We shared the findings from our interviews with a few schools. We had made a 20-minute video from the interviews we had collected and showed them to the school students, as well as setting up discussion groups and producing workbooks for the students to discover more about this topic. There were a lot of young South Asians in the South Wales area for whom this was of interest, and many had grandparents who had gone through this, and this was the first time they were learning about their family history and how political events in the past had helped shape everyday lives of their families.

In the current project on collecting refugee stories from Sri Lankan Tamils and Syrians, the oral history collection will be archived in Amgueddfa Cymru-National Museum of Wales, as part of their sound archive called 'the Story of Wales.' This came about because the National Museum of Wales has expanded its remit to include the stories of all of the people who live in Wales. Those stories, now that they have been collected and archived, will be preserved in perpetuity, which means these stories will not be forgotten and can not only be used for other academic study but to give these refugees a sense of their importance in Wales. These collections are also relevant to those conducting research on non-Western understandings of trauma and resilience as some of our questions deal with these aspects.

While covid-19 has made the process of oral history collection more difficult, we are now moving to the second phase of the project which consists of public engagement and dissemination to the public and academic circles. In mid-June, for example, we will be participating in an event along with Oasis Cardiff, a refugee charity and hosted by Amgueddfa Cymru—National Museum Wales. We will be collaborating with Oasis and Amgueddfa Cymru on all of our public engagement events, and we have also been sharing our findings through blog posts and briefs written with the Welsh Government in mind.

What key lesson would you want policymakers to know, based on your work?

One key lesson we have learnt from this work is the vital need to input more resources into making sure newcomers are supported in learning English and become able to communicate in it. There are not enough resources going into this area, and as a result many of them lead very isolated lives, unable to become a part of everyday life here in Wales. A little investment could really go a long way in supporting these populations, transforming their lives, and making them happy and contributing citizens of Wales.

LGBTQ Visions of Peace in a Society Emerging from Conflict

In April 2021, PaCCS Communications Officer Kate McNeil spoke with Ulster University reader Dr Fidelma Ashe, an expert in transnational justice, about her work as Principal Investigator on the AHRC-funded LGBTQ Visions of Peace in a Society Emerging from Conflict project. The outcomes of this research were featured in her 2019 book Gender, Nationalism and Conflict Transformation: New Themes and Old Problems in Northern Ireland Politics.

Tell me about the goals of your research and how this fits into your career more broadly?

I have worked on gender inclusion issues and deeply divided societies for quite some time, and I was always concerned the work was not intersectional enough. I wanted to do more work in the area of sexuality and gender identity. Gender identity equality and sexual equality were quite controversial in Northern Ireland – particularly in terms of responses from the political elite – and against that background I developed a project that aimed to include LGBTQ people in conflict transformation. I wanted to capture the visions and perspectives on peace from members of these marginalized groups, and to share them in public spaces while focusing on inclusion, facilitation, and public expression.

How did you go about conducting this research?

The research was conducted over 16 months using three interrelated methods. We convened focus groups with LGBTQ people across Northern Ireland where we discussed their experiences during the conflict and after the peace agreement. We also facilitated artistic workshops which took the material from the focus groups and tried to represent LGBTQ visions of peace through creative mediums including photography, with the resulting photographs being exhibited in public services in Northern Ireland. Finally, we sourced a director who worked with participants to develop a script around the perspectives which emerged from the focus groups and workshops, that was developed into a play that dealt with issues of harm, exclusion, and the possibilities of the future for LGBTQ people in Northern Ireland.

What impact has emerged from your work? What were some of the project's key outcomes?

The key impact was enabling LGBTQ people who had been excluded from conversations about peace and from developing expressions of peace in public spaces to do so. Another key outcome was enabling audiences to reflect on representations of those expressions and to engage in discussion about them. I am still in contact with several of the participants from the research, and we have had people from more rural areas come into Belfast to meet friends, relocate, and transition. So, some people's lives completely changed, and people had the time and space to express themselves and consider those issues through the focus groups and the creative workshops. Developing a common assessment of the peace process gave them the space to think about their own position and moving peace forward. Some of them were quite young people, and our research gave them the opportunity to learn skills, to meet each other, and to create a community.

In terms of a broader impact on society, the work provided the basis for me to work on an expert panel to advise government on an inclusion strategy, which was quite a substantial move forward in our society. I worked with three experts from the NGO sector, and we developed a strategy document that was signed off by the minister, so the research really did inform the work I did on that strategy.

The project also benefitted the NGOs we worked with, by providing data to them on visions of peace. I placed an article in Open Democracy that reframed the positioning of LGTBQ people in Northern Ireland and their advocacy groups, arguing that these identities were the most progressive forces in terms of peacebuilding – that they have moved society forward, developing a case for celebration of diversity, inclusion, and meaningful equality. They have moved into the realm of human rights in a way that separates them from peacebuilding, but they were key actors in terms of progressing a positive vision of peace that was inclusive and progressive.

What are you researching now?

The narratives have shifted in Northern Ireland – after Brexit there was a lot of debate about Irish unity, and that has increased. So, my work has moved to gender and sexual inclusion in that space, with the support of funding from the Irish Department of Foreign Affairs and the Joseph Rowntree Trust.

Corruption and Post-Conflict Peacebuilding

In February 2020, PaCCS sat down with Professor Dominik Zaum, Pro-Vice Chancellor at the University of Reading, to discuss his work on corruption and post-conflict peacebuilding. Professor Zaum's Fellowship work on Corruption and Stabilisation in Afghanistan in 2011, funded by the ESRC, began during his time at the University of Reading.

Can you tell our readers how you became interested in corruption and peacebuilding?

I started working on peace- and state-building during my doctoral work at Oxford, where I focused on the state-building policies of international transitional administrations in Bosnia, Kosovo, and Timor-Leste. I kept working in this area after completing my degree, including through a research network on corruption and peacebuilding, that I organised together with Christine Cheng, who is now at King's College London. The network culminated in a book that we co-edited, on corruption and post-conflict peacebuilding processes. That book examined everything from the subject of aid and corruption, through to anti-corruption measures in the context of post-conflict reconstruction.

My own work built on this through a project on the political economy of state-building, examining the impact of interventions on local political and economic dynamics. One of the key takeaways from that project was the continuity of political and economic structures from war into peace time, and their consolidation as a consequence of international interventions; and the extent to which there is no "golden thread" of stability and development where different economic and political objectives mutually support and build on each other. Instead, these interventions almost always involve difficult political and normative trade-offs. Corruption is a good example of this: maintaining political settlements in the aftermath of conflict in practice might require accepting levels and types of corruption that would otherwise be deemed intolerable.

What was driving this research agenda?

For me, the key drivers were two-fold. Firstly, they arose from my own experiences working in peace- and state-building missions in Bosnia and Kosovo, and my subsequent fieldwork in countries. Secondly, the importance of understanding the complex implications of corruption was a perpetual theme in discussions with both other researchers and practitioners working in conflict-affected environments. Almost any discussion of the political economy of state- and peacebuilding, or of conflict, eventually touched on corruption, and on its complex impacts on stability both in the short- and medium-term, on state legitimacy, and on economic development. It was a research agenda that was therefore driven as much by the questions and interests of academics as it was by the questions and challenges faced by practitioners in the field, and in consequence the research itself involved a constant dialogue between both sides.

How did you end up working on the ESRC Fellowship project?

One of the members of the wider research network on corruption and peacebuilding that we had organised, and whom I knew from working for the UN Mission in Kosovo in the past, was at the time a conflict advisor in the Lessons Team in the UK Stabilisation Unit (SU). We had discussed

the importance of strengthening exchange between research and practice, and when the ESRC advertised a Public Sector Placement Fellowship, we used the opportunity to submit a proposal for a project generating evidence and guidance on corruption and state-building in Afghanistan. The SU was providing support for the UK's Provincial Reconstruction Teams in Afghanistan at the time and had within it a Lessons Team that was identifying lessons and best practice to support the civilian aspects of the UK's deployments in fragile contexts. The Fellowship had to be co-funded by the SU, so the objectives of the projects had to closely align with its needs.

What did the Fellowship entail?

It was as much about knowledge exchange as it was a Research Fellowship. The focus was on a wider practice of knowledge exchange between policymakers and researchers – with learning happening in both directions. As part of the Lessons Team, the Fellowship allowed me to draw on the experiences of civilians deployed across the world – with a particular focus on the experiences of those in Afghanistan, which was a significant share of the SU's work at the time.

I also had the opportunity to participate in several small projects including synthesizing research evidence around police reform and work on UN mission transitions, as well as participating on a bigger internal follow-up project on transitions in Afghanistan, and of course the project on corruption in Afghanistan.

Because of the security situation, these projects focused on evidence synthesis rather than fieldwork. A lot of the work included interviews with UK staff coming back from Afghanistan who had been deployed through the SU.

What were some of the main outcomes of this research?

The main outcome of the Fellowship was a Stabilisation Issue Note on understanding and addressing corruption in Afghanistan, which at the time was published by the SU. I was particularly pleased that they decided to publish the paper at the time as some of its arguments (including the idea that some forms of corruption might have to be tolerated in the short- and medium-term to maintain stability and minimize violence) did not align with Government policy. Findings from my work fed into the revision of the stabilisation doctrine, and into the UK approach to stabilisation policy paper which the SU published about two years ago.

As I became a Senior Research Fellow at the UK Department for International Development (DFID) shortly after the start of my ESRC Fellowship, my work also fed into the thinking around DFID's main policy framework for building stability in fragile states.

Was there anything you learned throughout the course of your Fellowship that surprised you?

I learned a lot about how policymakers used evidence and research, what they needed for their own work from research, but also how challenging it can be to translate research into practical outcomes. I was also surprised – very positively – at how seriously many of them engaged with research, not just instrumentally but with genuine curiosity.

One key takeaway for me was that as researchers we need to be willing to ask research questions differently to answer policymakers' questions, and that we need to engage early with those who might use our research in their work to better understand what questions to ask and how for the work to be useful to them. That has very much shaped the way I have approached research since, and how I support the research of others. If we want our research to be impactful, then this is not something we can just tag on at the end of a project – it goes back to how we ask questions.

I also learned that we, as researchers, need to be very careful not to oversell our findings, or to portray a certainty about findings that is unwarranted.

What have you worked on since the end of your Fellowship?

For a few years afterwards, I continued to work as a Senior Research Fellow on Conflict and Fragility with DFID, focussing among other things on its policies to support fragile states.

There was a strong narrative at the time, influenced by Acemoglu and Robinson's book, *Why Nations Fail*, which put forward the idea that there are key building blocks which come together to create an open, stable, and prosperous society. This linked into a broader narrative, favoured at the time, which focused on "the golden thread of development." However, as I and others have argued, peace- and state-building involves difficult trade-offs not least with regard to addressing corruption. How we decide on these trade-offs is one of the issues that I think requires a lot more work in the future.

I am currently Pro-Vice Chancellor for Research, and while I am doing this as a job share – which is a fantastic opportunity – I am not always finding as much time for my own research as I would like. One project looks at whether and how UN Peace Operations treat government violence differently from rebel violence. We are using a unique dataset of responses to violence in the Congo by the UN over a twenty-year period to determine how and why the nature of responses to violence have changed. We are also just starting work on a small project for the African Development bank, exploring the importance of supporting core state functions for war to peace transitions.

Revolt in the Square: Spatial Modelling and Conflict

Dr Gehan Selim, an Associate Professor in Architecture & Urbanism at the University of Leeds, sat down with PaCCS in September 2020 to discuss Revolt in the 'Square': Spatial Modelling of Urban Stability in Modern Cities New insights and approaches for preventing conflict and violence. Dr Selim's work - with Queen's University Belfast's Professor Beverly Milton-Edwards - was funded by AHRC through the GCRF / PaCCS Interdisciplinary Innovation Awards on Conflict and International Development.

Would you mind telling me a little bit about you research interests, and how you came to work on this project on spatial modelling and conflict?

I have always been passionate about understanding the city and its dynamics and bridging between different elements: the social (people), the physical (buildings) and the urban (city). In other words, I am interested in research that makes difference. For me, interdisciplinary research is a creative way to 'experiment' new methodologies and move beyond the classical thinking and to explore new ideas outside of my comfort zone. So, there is a challenging enquiry that comes with each new project I work on – not to say that we are trying to reinvent the wheel, but to ask the proper questions about everything else contributing to achieving better outcomes. When I met with Professor Milton-Edwards, a Professor of Politics Queen's University Belfast, in 2015, we both shared common interest in each other's work which led to some successful Global Challenge Research Fund collaborations including the 'Revolt in the Square' project.

Can you tell me a little bit about that project?

We aimed to develop an innovative spatial modelling platform to visualise urban instability in Beirut's Martyrs Square. We formed a brilliant team of enthusiastic researchers ranging from different disciplines (geographers, GIS & visualisation experts) who collectively worked on co-design productions to engage young Lebanese with their cityscapes. Our first publication will be coming out in early 2021, and we have recently released a short film production about mapping unrest in Beirut's public squares.

What were your key aims and takeaways, and what can you already tell me about the project's findings?

The project has highlighted a strong link between peace and security in post-war Lebanon and in many ways, its strong relationship with the UN Sustainable Development Goal 16 (SDG16). Within this, the role of design in tackling global challenges has alerted us to the inclusion-exclusion dilemma and its consequences for discourse on security and securitizing narratives. The episodes of protest in the square are symbolic of people's hopes and aspirations for good governance and rule of law. Meanwhile, the neo-liberal order underpinned the resurrection of a confessional state which delivers decline – decline in accountability, decline in effective governance and inclusion, and a decline in efforts to tackle corruption and patronage. Lebanon, like so many of its neighbours, is not considered peaceful.

We have engaged throughout the project with many Lebanese young people, activists, architects, and artists. The mapping of space, our co-production of research design and the incorporation of

socio-spatial practices serve to remind us of both the exogenous and endogenous factors that lead to the persistent tension between citizens and state elites. The absence of peace and security in Lebanon is enacted in the Square.

We learnt that further progress is constrained by the failures of Lebanon's political elite to tackle the structural factors that are inhibiting post-war recovery in this urban setting. The *#Youstink* protests, and the response of governing authorities, highlighted the structural problems and limits of the consociational pact in terms of tackling widespread corruption in both the state and private sector as well as the exclusion phenomenon. The diverse character of the protest showed that the confessional political system is still leaving behind (or fails to include) 'others' based on gender, socio-economic status, urban precariousness, statelessness, gender, youth, sexuality, and disability.

We did not seek to include all dimensions of SDG 16 but we contend that it has allowed for a thorough and unique insight into dimensions of the promotion of peaceful and inclusive societies for sustainable development particularly as it relates to: effective, accountable and inclusive institutions at all levels; the rule of law and fair access to justice; corruption and bribery; responsive, inclusive, participatory and representative decision-making; as well as strengthening relevant national institutions, including through international co-operation, for building capacity at all levels to prevent violence and combat terrorism and crime.

Is there any key lesson you think policymakers should be taking into consideration based on this work?

Lebanon has been facing an ongoing legacy of insecurity resulting from Syrian and Israeli occupation, the civil war, the pressures of a host community to incorporate (or otherwise) historic and contemporarily unprecedented numbers of forcibly displaced populations including refugees. This raises an important paradox with respect to official development assistance, which in the Lebanese context can reflect a preoccupation with security provisioning that inverts the expectation that the citizen (rather than the failing state) is protected. Our research emphasises that this is because all too frequently the root causes of conflict in Lebanon are overlooked. It is reasonable to counter though, that in contexts such as Beirut the symptomatic approach is necessary to meet the daily crises of existence that emerge from dynamic and endemic socio-political disorder and breakdown. These civil groups who enacted forms of protest in the Square expressed real grievances that semblances of state/factional elite 'reform' do little to diminish. The message is clear: for Lebanon to thrive, to progress towards SDG 16 goals by 2030 and beyond the protest of the Square must be heard and actioned.

Has this work influenced your thinking or what you aim to research in the future?

I experience and engage with architecture as a social and cultural production that is created by people. Buildings and public spaces are a real manifestation of the inhabitants who are the real creators of the of their cities. We can only understand its symbolic dimension through the lenses of behaviours and notable achievements of the human groups.

It fascinates me ‘how’ a group of people utilise certain practices (like protesting) combined with technological knowledge (gadgets and social media outlets) to construct complex environments that reflect their emotional habits and political views. This is one reason I became interested in researching the spatial and social implications of conflict and ethnically segregated communities in Northern Ireland since 2012. This project showed me by evidence the complex and fluid processes that communities use to express themselves, ideas, and mindsets in a customised manner. And looking deeper into those practices, you can learn a lot about the values and attitudes of a group of people and understand their needs, anger, and views along with its spatial implications.

Ways of Knowing after Atrocity

In May 2021, we sat down with Dr Nicola Palmer, a Senior Lecturer in criminal law at King's College London, to discuss her work on the ESRC-funded "Ways of Knowing after Atrocity" project. This knowledge exchange project sought to examine the methods used to formulate, implement, and assess transitional justice processes.

Tell me about your research background, and how you ended up working on this project?

My work initially explored how international law has interacted with domestic and localized responses to large-scale violence, with a focus on Rwanda. I was interested in the interaction between the UN International Criminal Tribunal for Rwanda, the Rwandan national courts, and the *gacaca* (community courts).

I conducted interviews with the judges, lawyers, witnesses, and suspects who were part of these processes. From that, a book emerged, called Courts in Conflict, which argued that these different groups ascribed very different meanings to their work, illuminating divergent legal cultures that help explain the constraints on the courts' effective cooperation and evidence gathering. So, international lawyers focused on building the international legal order; the national courts focused on developing national legal capacity; and local *gacaca* proceedings were interested in specific information about who had participated in the violence and where the bodies of victims could be found. These different ways of understanding highlighted how the impact of these processes are shaped by the actors involved – and that is where the Ways of Knowing Atrocity project emerged.

How did you go about conducting this research?

The project brought lawyers, civil society actors and academics into the same space to exchange knowledge and discuss the methods they use for formulating and designing responses to large-scale violence and assessing the impact of those responses. We wanted to create a bridge towards having wider understandings of post-conflict processes, and we worked with civil society actors including swisspeace and civil society actors in Rwanda and Kosovo in order to accomplish this goal. Throughout the project, we ran an interdisciplinary seminar series between the University of Oxford and King's College London; we had an online debate which brought together academics and legal practitioners to discuss the monitoring of human rights abuses and responses to that; and we organized a series of workshops in Rwanda and Kosovo. We drew on existing expertise from diverse fields including literature, law, politics, statistics, anthropology, history, and development studies; and explored case studies from Nepal, South Africa, Vietnam, Serbia, Bosnia, and Rwanda.

What emerged from this research?

One of the real strengths of this project was the possibility to co-develop knowledge, drawing on expertise from civil society and academia and learning from a wide geographical spread of knowledge – including from those in communities affected by violence. Based on our findings, we developed a transitional justice methods manual, which seeks to make accessible the different methods that are currently being deployed to understand and respond to large scale violence.

Our work also made clear the importance of a relational approach to transitional justice and we published these findings in a Special Issue of the Canadian Journal of Law and Society. Justice processes provide a means of categorizing abuses. In doing so, they set the parameters of what type of harm warrants a response and this categorisation is informed by methods and relationships. We need to understand the impact of those relationships if we are to understand the impact of this work. One example of this is the need to critically examine who is generating knowledge on post-conflict processes. In the case of Rwanda, a lot of the discussions were being framed by non-Rwandans, creating inequalities in the distribution of knowledge around responses to large-scale violence. The ways of knowing project prompted us to think about how to widen the set of actors involved in generating responses to transitional justice, and how to widen the set of initiatives that are being taken. We are now working on a follow-up project with Rwandan-UK civil society organization the Aegis Trust, supported by the British Academy to further involve Rwandan scholars in peace education, including through how their research can inform the peace and values education programme in their high school curriculum.

What would you want policymakers to know about this work?

One of the takeaways for the policy community is the importance of having a wider set of voices around the table. Doing so changes the nature of the discussion. The project also highlighted the different meanings that communities can ascribe to justice processes, highlighting the need for policymakers to ensure that there are representatives from affected communities involved throughout the design, implementation, and assessment of institutionalized responses to violence – whether it is a truth commission, a criminal trial, a memorialization process, or an education programme in schools.

IV. Identity, Radicalisation & Political Violence

Foreword by Suzanne Raine

Suzanne Raine is an Affiliate Lecturer at the Centre for Geopolitics at Cambridge University, a Trustee at the Royal United Services Institute (RUSI), and a Visiting Professor in the Department of War Studies at King's College London. She previously served in the Foreign Office from 1995-2019, where her work included time as Head of the Joint Terrorism Analysis Centre, and as Director of Counter Terrorism. In the below text, she explores the complexities of understanding and researching terrorism.

If your purpose is to protect against terrorism, then you need to know what you are protecting from.

In the UK there is a well-established system within the state which does this – from the collection of intelligence about possible planning, through investigation and analysis to – if possible – disruptive action (before the terrorist attacks), and prosecution. This usually falls to the police, the security services, and the Crown Prosecution Service. Disruptive action also includes the introduction of protective and preventative mechanisms, which fall to a wider group of government bodies, local agencies, and industry partners.

This is a complex system, made more complex by the fact that the issue at the heart of it is, by definition, not known until it happens. Terrorists aim to plan and mount their attacks without being found out, devising a plan which will evade security measures and inflict maximum casualties. That puts the stress on the collection analysis and understanding of information, and the right kind of protective action.

It is of course right that when talking about terrorism and counterterrorism there is a picture which only the security and law enforcement agencies can see, if they are to be effective in penetrating terrorist cells and disrupting them. But this needs to be situated in a wider societal understanding, especially if we are to take reasonable, sensible action to keep ourselves safe. This is where the PaCCS research comes in.

The longevity of the basic tenets of the UK's Counter-Terrorism Strategy – Pursue, Prevent, Protect, Prepare – is down to the fact that, although not perfect, these four words do articulate different aspects of the problem which need to be understood and addressed. The last two decades have seen terrorists' tactics evolve as technology introduces new possibilities for both the attacker and defender. This has included types of attack, as well as the way that terrorists communicate, raise money, recruit, and radicalise. The more inventive terrorists became, the more defensive measures needed to be put in place; these new countermeasures then lead terrorists to be increasingly inventive to evade them.

A big shift came with the invention and promotion of Anwar Al -Awlaqi's "Just Do It" terrorism – it was no longer necessary to be part of a plotting cell or to travel to hot dusty places for training when you could get all the information you needed online; a terrorist attack could be conducted alone with kitchen implements. The formation of Daesh in 2014, and the wave of attacks which

subsequently swept across Europe, demonstrated new methodologies - particularly stabbings, (especially of representatives of the state, including uniformed personnel and members of parliament), and attacks on places of worship – Jewish, Christian, and Muslim. The cheapest and simplest attacks could be just as deadly as those which take time, expertise, and money – see, for instance, the 2016 attack in Nice on Bastille Day when a 19-tonne truck was driven into crowds killing 86 and wounding 450. There remains a very open question about how terrorism will develop next – there has been significant growth in far-right extremism and violence and several cases of lone actor violence where it is very hard to work out motivation or even to decide whether it counts as terrorism at all.

Some aspects of terrorism are difficult for researchers and academics to analyse (because – inevitably – research is limited to what can be publicly seen). But others are so enmeshed in psychology, societal and community dynamics, cultural differences and identity - and sometimes other criminal activity - that it is difficult to see how good policy could be made without the benefit of input from academic research. Academics are best-placed to contribute through their research, and to come up with novel solutions, when they have a clear understanding of the problem. That requires a close working relationship between academic researchers and those charged professionally with addressing the problem – in the case of terrorism and political violence this will be the police and other elements of the state responsible for security.

The best analysis always stems from a thoughtful question. This assumes that the useful information has been collected and made accessible for analysis. In this discipline, given limitations of information-sharing noted above, that work must often be done by the researchers themselves. Then the understanding starts: what are the patterns in the data? How is the profile of activity changing? What are the trends in types of attack – lone actor versus teams of attackers, simple weapons versus complex bombs? How are terrorist groups recruiting? What impact is government activity having on the problem?

One of the hardest questions to answer is also one of the most important: what works? What techniques are most effective in deterring and disrupting those who wish to conduct political violence? Sometimes the most helpful research takes this a step further: are the assumptions upon which interventions are based correct? Is the problem actually what we know or think it is? We assume that radicalisation is happening online, but is it?

The chapters in this section demonstrate how much research can (or could) contribute to action. On detection and protection, they explore the protective security aspects of this technological arms race, giving an important insight into the science behind the detection of threats to mass transportation. To the question of how protective materials might keep people safer, one might also add the question about whether more can be done to make it easier to take an idea from prototype to development and implementation, to make innovation commercially possible.

Research provides insight into how forensic psychology could inform techniques for police interviews of terrorism suspects, such that they are better able to detect deception, and just importantly ascertain if an individual is less involved in terrorist activity than they are believed to be. It examines how social media has impacted on social interaction, addressing that question of

whether radicalisation can happen online. Of course, nothing stands still. A long look at the UK's Prevent Strategy shows how it has changed in response to events and to technological changes over twenty years, including the lowering ages of people being radicalised and provides insights into government policy on safeguarding and countering radicalisation, clear evidence of gaps in understanding, and suggestions.

Interdisciplinary research on identity, radicalisation and political violence offers exciting insights. These chapters show overlaps – between economic development and political violence, or between nationalism and Islamism, or nationalism and identity. One study looked at patterns of violence in Northern Ireland to understand the drivers for this within communities. Another looked at how terrorist groups – in this study the Shia Hizballah – used selective reading and interpretation of the past to construct and advertise their version of the future nation. A great deal of historical invention contributes to the creation of a new nationalistic identity which then shapes the community. The question of the overlap between crime and terror has long been a vexed one, partly because - as the chapter on the crime-terror nexus in Tripoli, Lebanon shows - the answer is rooted in specific local circumstances and individuals. This means that while sweeping generalisations about the problem may be broadly correct, they are never going to be sufficient to understand exactly how the phenomenon is working or what is the best way to intervene.

In the case of terrorism, changes either happen very quickly (so that they are shocking) or so slowly that they are almost intangible until it is too late. Research needs to keep pace with – or ideally ahead of – the rapid changes. But it will be just as critical to understanding the gradual but fundamental changes which determine how political violence is organised within societies. In either case, it is vital that research is fully connected to the implementation of policy, with information and understanding flowing in both directions, enabling research to shape more effective interventions, provide the technical means by which people are kept safe, and when appropriate challenge the assumptions upon which a policy rests.

The Detection of Explosive Substances Using Spectroscopy

In early 2021 the University of Lancaster's Professor Malcolm Joyce spoke with PaCCS to discuss his work on the detection of explosive substances by tomographic inspection using neutron and gamma-ray spectroscopy. This work, which was conducted in collaboration with partners from industry between 2006-2009, was funded by the EPSRC and offers a key example of how UKRI-funded research can be translated into innovative technologies.

Would you mind telling me a bit about your research background, and how you ended up working on the detection of explosive substances by tomographic inspection using neutron and gamma-ray spectroscopy?

I began my career with a PhD in nuclear physics at Liverpool, and I then left academia and worked in industry for four years before returning to work on nuclear engineering at Lancaster. During my years in industry, I worked on neutron detection and neutron spectrometry. This work measuring the energy of neutrons is important in the use of nuclear reactors, as well as being relevant to the detection of explosives and contraband.

When I returned to Lancaster 22 years ago, I had a half a dozen ideas in terms of the research that I would do, one of which weas about nuclear safety and security. Before 9/11, this was mostly an area of academic interest, but after 9/11 there was a great deal of investments – especially in the USA – to improve the detection of neutrons non-intrusively. Meanwhile, after Lockerbie in 1988, there had been an acceptance of the need to screen baggage to combat the risk that a small amount of explosive material might be loaded onto a passenger aircraft. Those two events stimulated interest into research into looking at the management of threats to mass transport mechanisms, and the development of measurement and detection techniques.

Over the years, I have conducted research and developed several products for application in radiation measurement and the neutron measurement space. In 2003, I set up a spin-out business based on my research called Hybrid Instruments, which is still in operation today.

For those of us who do not have a science background, would you mind describing the basics of what this research involves?

You start with a clever idea and a whole host of reasons why it might not work. There are so many potential ways by which contraband or explosives might be measured, but it can be difficult to do so in practice because – at least prior to the pandemic – there were a reported billion pieces of luggage in transit at any one time which need to be scanned. That scan might need to be quite comprehensive, and there is a time limit associated with how quickly the people involved need to get some information about whether there is a reason to be concerned. Moreover, the people administering the technology are generally not going to be highly skilled or educated in the underlying science, so they need to be able to use the technology without understanding how it works. Then, there is also something called the limit of detection constraint. Your technology will not be useful unless it can detect something we regard as being a threat or danger, but there are conflicting requirements. If you can measure for an infinite amount of time, you can detect something quite small. However, if you are constrained to

something like standing in an airport queue, you might need that scan to be done in 30 seconds, which means you are limited to larger risks in terms of system design, validation checks, and fundamental measurements.

There are also significant costs involved along the way to getting a system fully deployed. Several years ago, for example, Manchester Airport over Christmas had to change all their scanning systems because of an event related to a liquid explosives issue, and that rollout cost millions of pounds to supply different systems.

Can you tell me a bit more about the Distinguish project specifically?

The Distinguish project involved a collaboration with partners from industry, including a company called NIS Limited, BAE Systems, John Caunt Scientific Limited, the Police Scientific Development Branch, and Manchester Airport. I also collaborated with a colleague at Manchester University, Dr Anthony Peyton. Together, we realized we needed a different electronic system to measure neutrons, and this project gave us the opportunity to develop that unit. While in the end our findings were not used for explosives detection, we established a collaboration with the International Atomic Energy Agency that lasted for five years, and they deployed our units as part of their electronic systems. We also developed another product that is supplied by my company Hybrid Instruments. We had set out with safeguards and a security application in mind, but in this field the opportunities to see your technology used often come out of left field, and that is what happened in this case.

Where has your research taken you in the security space in the years since this project?

I have done subsequent work associated with the assessment of nuclear materials, rather than explosives. This is a space where there was initially concern about a broad range of potential future threats in the aftermath of 9/11 with the most significant threat being the risk that nuclear material would be dispersed or that a nuclear weapon would fall into the wrong hands. Because a lot of countries are now building nuclear power plants, there has been more interest in research associated with the assessments of nuclear materials. Recently, for example, I have been working with ETH Zurich on assessing plutonium in soils. More broadly, my expertise has ended up in the nuclear material security space as a result.

My understanding is that much of your research has been on Fukushima – what has it been like conducting research in the aftermath of a disaster?

The positives have been that collaboration with Japan before Fukushima was not easy. The Japanese universities were regarded as extremely good, and Japan did not really appreciate the added value that there might be in working with universities elsewhere, such as in the UK. Prior to Fukushima, the decommissioning programme in Japan was not as advanced as that in the UK. That is not a criticism of Japan mind you – the reason the UK's decommissioning programme is so advanced is because we have to sort out the problem of the Sellafield site, whereas Japan does not have the same type of nuclear weapons legacy. After Fukushima, Japan opened the door for collaboration in seeking to resolve some of challenges they now face. This has largely been a positive experience, though it is in part patently a technology transfer activity to some extent.

Japan needs to internalize the knowledge and expertise that they gather through these collaborations so that they can then challenge themselves somewhat independently in this area.

The Fukushima work has also involved a lot of robotics work, and that has actually spawned quite a lot of research back in Britain associated with robotics. Here in the UK, we identified robotics as a key area for investment several years ago, but the Fukushima link has really accelerated those programs, some of which are in part still linked with Japan.

Engineering Auxetic Materials and their Implications for Security

In the summer of 2022, we spoke with Professor Ken Evans, Chair of Materials Engineering at the University of Exeter, to discuss his work on engineering auxetic materials. His exploration of Auxetic Textiles for Blast Mitigation received funding from the EPSRC under the 'terrorism' and 'threats to infrastructure' themes.

Can you tell me a bit about your work, and how it links to issues in crime and security?

I work in a new area called auxetic materials, which are materials with very unusual properties. If you take a normal material like a rubber band and pull on it, it gets longer and thinner. The types of materials I work on, are unusual because when you pull on them, they get longer and thicker. So, they are extremely unusual, which results in differences in their overall mechanical properties, and creates opportunities at the atomic, micro-structural level and the macro-scale. We can then put different types of geometry into materials, and people have tried to make auxetic materials in different ways and by using different materials. One of the earliest areas of work with auxetic materials were foams – you can make these foams condense and increase their density when squashed, for example. That has massive potential in terms of impact protection, knife protection, ballistic performance, acoustics, and any other impact situation where materials react to impact.

This technology has now expanded beyond foams – so you could use auxetic ceramics for ballistic protection, or foams for knife protection, or auxetic textiles for blast protection. We are also using 'honeycomb' structures and are also making geometries with textiles through specific types of knitting, yarns, and weaves. You can thus create materials with unusual geometry and unusual behaviours, such as improved energy absorption. That could be useful for changing the suspension in a vehicle so that it can be soft of hard depending on the circumstances. Meta materials are another area of development here, where at a nano scale you can create things which have negative thermal expansion (materials which get smaller when they get hot), negative stiffness, etcetera. However, auxetic materials have been around the longest in this field, more than 20 years now, and that has created opportunities for commercial development.

Have you sought to commercialize this technology or to develop products based on your findings?

We did some work with the Home Office a few decades ago, which then turned into some work with the Ministry of Defence. The Home Office work was to make auxetic blast curtains which would be protective when there was a terrorist explosion – the curtains would not be lacerated by the glass, instead, it would collect the glass shards, which would reduce damage. We also looked at improving helmet design for people travelling in tanks – we could make the helmets smaller while getting better protection, which is great for soldiers operating in confined spaces. In both cases, the proof of concept for the technology worked, but we struggled at the commercial development stage.

The Home Office and MoD did not have the means to continue to fund the research, and because they were interested in security and protection, there were complications when it came to possibly bringing in commercial partners which had venture capital funding. For example, there were patent protection concerns which got messy. I was hopeful that the innovation unit within the university would be able to help – this was earlier in my career and perhaps I still had rather naïve expectations – but it did not work well, with relatively limited funding for patenting. The US seems to be doing better than the UK at commercialization in this way, with the US Defence Department appearing to be more open to the possibility that technology associated with it might be also commercially developed.

Is this field continuing to grow, and are there other opportunities for this technology to be applied?

These materials have massive opportunities in terms of protection, and research has been growing in this area for 30 years now. But where we are seeing the most growth in research is in China. The Chinese research groups are very well funded, and it is very difficult to know where they are going with it. China puts an enormous amount of funding into research, and while what they are trying might not yet be quite as innovative as the research going on in Europe and the United States, China is protective enough that it is hard to say what is happening commercially. There is a possibility that we may lose out relative to the investment China is putting in, and we would not know until it is too late.

Have there been more successful attempts at applying this technology in other areas?

In the United States, there has been a textiles company that has been set up which is interested in blast curtains for the oil industry, though I am not sure how far that has gotten. The major area of commercialization for this technology at present is in sportswear, Nike have done things on the soles of shoes, for example and another company is doing work in Florida looking at auxetic foam protection for the American football market. But it is easier to get a sporting good on the market as opposed to a product designed for security and protection.

What are you working on now?

I spent some time in management and leadership roles within my university but was lucky that I have a good research group and publication has continued. Now, I am on study leave, and I am getting back to textiles and composite materials. I am interested in the behaviour of auxetic carbon fibre reinforced composites, which can be used in industries like aircraft design. The direction of the fibres can be oriented to make them auxetic. Though this is a heavily regulated industry so there are restrictions on how the fibres can be designed, I do think there are potentially exciting things that can be done here. I am also working with chemists on molecular level auxetic compounds, but I'd say that scaling things up in chemistry is probably 5-10 years away, while in other areas, things are ready to take off and it's just a question of which country gets there first.

What does work in the textile area look like? Where do ideas for new patterns come from, and how does the knitting and weaving get done?

We have worked with a textiles group at Drexel University in the US. It is a classic example of taking an odd idea, and then trying to find someone who can understand it – in the UK it is harder to find people who do fundamental work on textiles anymore. It is not our industry anymore. So, it is a question of finding people who can do it. I came up with the conceptual ideas about geometry, and then I had to find someone in the world of textile research who knows about the knitting or weaving machines to make it. They also sometimes bring in people who know about the unique properties of yarns, for example, and then we have to figure out if we can actually make a machine do the thing, we want it to do. It has been relatively conceptual, in exploring the ways of predicting unusual properties in knits and weaves, but you have to be able to work with people who know the computer control of the equivalent textile equipment. It is also not a million miles away from additive manufacture – things like 3D printing. All these technologies are coming of age and will be used in future production.

What do you want policymakers of industry to know about this area of work?

If you do a commercial development, right now it is easy to get to a development stage but making innovation commercially possible still seems to me to be hard and slow in the UK. We do not bring the people together soon enough, whereas in the US they are more flexible – people give "wacky" academics money there and hope that something might become a commercial development and expect a reasonably high margin of failure at the early stages. Meanwhile in Europe and the UK, the research councils fund the "wacky" ideas, and the innovation and industry steps are seen as later, separate processes. There is a lack of join up between the different stages of development and it would be nice to build relationships earlier, especially where academics have great ideas but no commercial backgrounds. Innovate UK does a really good job at what it does of course, but I think it needs to find a way to support innovation earlier in the game. That might involve clashing with the research councils, but an academic does not care about that – when we have good ideas, we just want to run with them as quickly as possible.

There are bigger picture questions and challenges in security right now. Security from a software and data protection side is flourishing as a set of commercial developments – people have bright ideas which can come in from a commercial perspective. Meanwhile, in materials and manufacture, talking about security seems to mean secrecy and not being able to commercially develop in the same way. Maybe our sector needs to learn more from the data protection people, about how to do security-related research in a way that does not discourage commercialization or dissuade individuals with good ideas from getting involved.

Online Radicalisation and Social Psychology

In the autumn of 2019, PaCCS spoke with Dr Laura Smith, a Senior Lecturer in the Department of Psychology at the University of Bath and a co-investigator at the Centre for Research and Evidence on Security Threats. In 2015, Dr Smith was awarded an Innovation Award under the PaCCS Conflict Theme for a project on predicting online radicalisation, which she has described as focusing on "develop[ing] a conceptually-grounded algorithm that can be combined with social media analytics software to predict radicalisation of mainstream users". In this interview, she spoke with PaCCS about linkages between shared norms and social media, and the lessons learnt from developing a new counter-extremism tool.

How did you end up working on the topic of radicalisation?

I am a social psychologist by training, and throughout the last 10-15 years I have focused on the role of social interaction in societies. When we get together with like-minded others in groups, we tend to develop shared understandings of the world, which in turn impact our understanding of what is appropriate to do. My work focuses on the processes of developing those shared norms and behaviours.

I have studied social interaction and behaviour in lots of different contexts. For example, I've examined workplaces and how new staff settle into their jobs. I've also looked at groups of young people and how their attitudes and stereotypes can change through discussion, and the formation of social movements including Occupy and the Arab Spring.

Over the past decade while I have been looking at social interaction and how it impacts upon behaviour, social media has transformed everyone's lives. We have gone from the very early days of Facebook, to now having multiple social media platforms with which lots of different people engage. As social media has become a new location in which people talk to each other, online and network interactions have become natural places to apply what I have learnt about face-to-face interactions.

While working in this research area, there was an increase in terror attacks, and I encountered an accompanying narrative in traditional media about whether social media interactions are implicated in the rise of terror attacks. This raised a research question for me: can radicalisation happen online, as so many politicians suggest? There was no empirical evidence connecting social media interactions with an increase in psychological commitment to extremist organisations. That brought me to my current set of projects, including the work on online radicalisation I did through the PaCCS Conflict Theme Innovation Award.

You and your colleagues wrote an article for the PaCCS blog on this project in 2016, when the project was in its early stages. What has happened since then?

We have now completed all our empirical work, and we're working on writing up papers at the moment. As papers become available, you'll be able to follow along with research output from this project on Research Gateway. At this point, I've already written a few pieces sharing some of the findings resulting from the use of our new methods, including a paper on how social media

responses to Aylan Kurdi's death predicted expressions of solidarity with refugees, and a chapter in a book on ISIS propaganda which was published this year.

What were some of the project's biggest successes and challenges along the way, and what have the key outcomes been?

Throughout the project, we had to design a completely new method to look at large volumes of textual social media data and the associated metrics you get with, for example, a post on Twitter. We needed a way of looking at text, likes, numbers of friends and followers, etcetera. To do this, we had to create entirely new methods to analyse those types of data. This included creating a new programme that uses natural language processing and which breaks up language data into its linguistic components. It is not just the words that people post that matter. We needed to incorporate both what people are saying and how they are saying it into our analysis. We care about vernacular, but we are also interested in the linguistic, or grammatical, style of tweets and posts. Both have psychological meaning.

Based on our work using these methods, we have been able to identify evidence of psychological change over time in social media posts. Looking at a large volume of social media accounts over time, we can identify change in linguistic styles which would suggest that people can develop commitment to extremist groups through the interactions they have online.

This has raised new questions. The research we have conducted thus far has looked at extremist groups and online radicalisation, however this is just one small part of how social interaction changes people. It is part of a much broader process of socialisation. Here, ultimately, through interacting with others, people learn to socialise into new groups. We learn the norms of those social circles, and how to behave around different groups. This means you can apply the same methods that we have developed to lots of different contexts in which people interact and start developing attachments to groups.

How broadly can these methods be applied? Elements of this project focused on Islamic extremism – are you saying that the results are applicable to other kinds of extremism, such as far right extremism, or are the findings even more widely applicable than that?

These findings are applicable not just to extremism, but to any group – in health contexts, sports, and so on – that might connect people with like-minded others. It is an incredibly broad tool, and now we have to choose where to go next. It is quite exciting that now have this new method we can apply to lots of different groups in different contexts.

We also can use these methods to look at the de-socialisation process. While the methods were designed to focus on how people develop attachments to groups, they also work for examining detachment. We have recently been invited to present our ideas on detachment to the United States Institute of Peace, which looks at de-radicalisation programs. So, I will be going to Washington in January to work on that.

Do you think the things you have learned about online social interaction have taught you things about offline socialisation as well?

There are differences in the communication medium that can change the nature of interactions in specific ways, however, the same general socialisation processes apply offline and online. The same psychological process that underlies social interaction online and offline is the process of connecting with like-minded others and getting social validation.

How have you managed the ethical dilemmas posed by this line of research thus far?

We discuss ethics at every team meeting, as it is a very sensitive context. We do not want our tool to be used inappropriately. For example, we do not want it to be used to identify people who have no insidious aims. Consequently, what we have done in our publications is to keep the content of our tools private so that they cannot get into the wrong hands. We know that it is important that they are used appropriately, and that means we're being very careful about how we design the tools and their usage. We want to be confident that what we are doing is being used to prevent harm from coming to others rather than to discriminate.

Where do you plan to take this line of research next?

I am interested in how groups and people in groups change and de-radicalise through social interaction and socialisation processes. It is quite common that a group that has previously advocated for radical or extremist actions decides to change their strategy, and we can apply our tools and conception frameworks to examine whether we can model and understand those changes, so that we can inform policy and interventions.

We have also been working with partners in government to translate our tools and methods so that they work with Arabic social media data. We are at the stage where we have translated the tools, but we still need to validate them. Obviously, there are many other languages that our tools could be used with, but we would have to decide on the context we would want to study first, before we know the languages it would be most useful to translate the tool into.

What would you want people working in policymaking to know about this line of inquiry? Have you written anything accessible to broader audiences that you would recommend to policymakers in our audience?

We just published a paper in Perspectives on Psychological Science which details our conceptual model, and in which we make specific policy recommendations. The paper, available on my University of Bath webpage, reviews the ways in which three different country contexts have designed their de-radicalisation policies, including counter extremism policies that focus on anti-radicalisation and counter-extremism interventions.

Throughout this work, we explain how people develop understandings of shared grievances through social interaction, and how policymakers should shift their attentions to group contexts and the group interaction site of radicalisation rather than targeting individuals. Individual targeting tends to discriminate and can even lead to radicalisation itself. Based on these findings, we would like to engage with policymakers and people who run counter-extremism interventions

to discuss how group-based radicalisation works and why it matters. We also want to communicate that people should be permitted space to voice their social grievances, and that governments should engage with people in a way that acknowledges and recognises those grievances (without agreeing with them, necessarily) and work with them to come up with peaceful solutions.

Forensic Psychology: Interviewing Suspects of Serious Crimes

In the spring of 2020, the University of Derby's Professor Ray Bull spoke with PaCCS about his work on D-SCENT: Raising challenges to deception attempts using data scent trails. This focused on exploring the tools for interviewing used to produce clear evidence for arrests and prosecutions, and received funding from the EPSRC, ESRC, AHRC and CPNI. While this project began in 2007, the data produced during the study are still resulting in new findings and new papers more than a decade later, highlighting the long-lasting impacts which can emerge from work supported by the research councils.

How did you end up working on interviewing tactics for suspected terrorists?

I am a forensic psychologist by training, and over recent decades I have been conducting research on and with police organisations. That work on psychology and policing really began in the 1980s, when I was the lead author on a pioneering book called Psychology for Police Officers.

After that, I worked on issues related to investigative interviewing – the interviewing of suspects, witnesses, and victims of crime in an ethical, non-coercive way. Throughout the late eighties and early nineties, I was asked by the Government to work with a law professor to draft what became the official government advice on how to best interview children who may have witnessed crimes or been the victims of crime. At around the same time, I became involved in knowledge translation – sharing the findings of psychological studies with a committee of senior police officers who were writing national guidance on what has come to be called the PEACE method of police interviewing, and I was also part of the team commissioned by government to write the official guidance on how to interview vulnerable people.

Those experiences helped to inform my understanding and gave me a solid foundation off which to begin an investigation into how to best interview suspects and witnesses of serious crimes such as terrorism.

What did the D-SCENT project involve in practice?

We conducted two substantial studies on strategic approaches to police interviewing. There are three main approaches used for police interviewing – early disclosure where police reveal everything they already know at the beginning; gradual disclosure, which is the incremental disclosing of information throughout the interview and the holding of some information back; and the late disclosure approach pioneered in Sweden, where you only give away what you know at the end of the interview and then allow the suspect the opportunity to respond to what you know. We wanted to know which approach was most effective, and particularly whether police should reveal information that might not be in and of itself incriminating until the person says something to the contrary.

In the first study, we had 120 people take part in a mock terrorism crime, and then had an ex-police officer who had also held a PhD in a relevant area of psychology interview the suspects,

while the interviews were filmed for observers. Here, we learned that people who watched the recorded interviews were best able to detect deception with the gradual disclosure approach – and some of those observers were police officers.

In the second study, we had five senior detectives spend their free time conducting the interviewing of the suspects of this mock terrorism, and after the interviews they had to decide whether people had committed acts of terrorism or whether they had committed similar acts that were innocent. Here as well, we found that those police officers were best able to detect deception using the gradual disclosure approach. We are now analysing more of the data to see whether, as was the case in the first study, people observing recordings of the interviews are also able to make better judgements about deception when this approach is used.

I am surprised that you are still analysing this data! Was this all planned from the start, or has the project built over time?

It has built up over time. We initially completed the work we had said we would in our funding proposal, but both me and another professor who was previously a postdoc on the project have continued to look at the data that was not part of the main proposal. As we have disseminated the findings of the initial research, we received feedback from people asking about whether we did or could do other things with the data, and we have tried where possible to then take that feedback and run with it.

For example, we are presently writing up a piece focused on interview recordings because in a number of countries, including in England and Wales, it is very common to record when interviewing suspects of serious crimes like terrorism, and to have an interview advisor watching.

How does this project fit with what you have been working on since?

Both myself and the postdoc who worked with me on this project (Professor Coral Dando) have since been invited to a variety of places around the world to update senior investigators on recent findings in psychological research which might be able to help them improve their training. The findings of the D-SCENT project are part of what we share when we talk around the world about these issues.

Have you encountered a lot of different ways of doing policing as you have travelled around?

Yes, but there has been a big turning point around the world which has been led, for historical reasons, by the police in England. When interviewing terrorism suspects there are two main ways of doing it – the old-style, American coercive way, or the peaceful, relaxed humane way. And at last, several countries are moving away from the traditional coercive approach and are interested in learning more about ethical investigative interviewing.

I have worked in more than 30 countries now, and it is wonderful to see countries becoming more open minded. Places which used to take the view that nobody who is planning or has

committed a serious crime like terrorism will ever tell you the truth are now changing tactics. The PEACE method, to which psychologists like me contributed, is becoming more popular.

All the research around the world now shows that if you use these peaceful investigative interviewing techniques, more suspected persons will tell you the truth than would have been the case if you coerced them. And there is increasing awareness amongst policymakers and professionals that coercive approaches and torture-based approaches to interviewing or interrogation are not just inhumane, they also are less effective.

What is it been like, working at a knowledge translation interface with police officers? Did you have to adjust your thinking to engage in effective two-way dialogue?

I have always believed in working with organisations, and the main one I have worked with over my career is the police. I think that as a university researcher, one should ask the professionals what their needs are, what their strengths and weaknesses are, how we can help, etcetera. Obviously, that would not be the totality of the reasons for doing research, but it helps to design work that is likely to have impact, and which is likely to be well received.

Historically in the UK, many researchers saw their role as telling professionals what they should be doing in a one-sided conversation, and the professionals would then react negatively to that – as anyone would. In many countries, there is still that lack of dialogue between universities and organisations such as the police, so as I go around and talk to people in other countries, I always recommend starting a two-way dialogue. It can be so helpful to understand the beliefs, opinions and problems faced by the people whom you are researching.

Do you have any other key messages for policymakers and police forces?

The crucial thing, which seems so obvious, is that when a suspect is being interviewed or interrogated, the professionals conducting that process have to be open minded. It is possible that this suspect is innocent or is significantly more or less involved in the crime than you suspect. You have to be open to a variety of possibilities, and of course humans find it difficult to be open minded. The PEACE method tells you how to be open minded, and how not to base your decisions on weird behaviour like "oh, that person scratched their nose, so they must be lying." That is a load of rubbish. You need to concentrate on what the person says and compare it with what you know, and that is the crucial basis of the recommendations we make to policymakers.

I also think it is important to recognize that interviewing someone suspected of a serious crime such as terrorism and getting relevant information in an ethical way is a very high-level skill. It is time consuming, and it is not easy to do. In the old days, a lot of politicians and senior police wanted interviews to be done quickly, but if you do this quickly, you do not get good information. It is like a lot of things in life – doing it properly takes time.

I have also been working as part of a committee of 15 people involving the retiring UN Special Rapporteur on Torture which is producing a worldwide guidance document on how to interview suspects. The recommendations we will be making are grounded in an approach which is very similar to the PEACE method, and I think it will be a very important read for policymakers and police forces.

Prevent: Counter-Radicalisation and Education

In the autumn of 2019, PaCCS sat down with Professor Paul Thomas, Associate Dean-Research, School of Education and Professional Development and member of the Huddersfield Centre for Research in Education to discuss Prevent, the UK's counter-radicalisation programme. Professor Thomas's work offers insights into how communities in the UK have experienced anti-extremism policy interventions.

Would you mind getting started by talking about your transition from youth work to academia, and your research interests?

Community cohesion, which has been what we have called it in the UK since 2001, is very much of interest to me. I used to work for a youth work organisation, and I initially transitioned to academia to teach qualification courses in youth and community work. Alongside that, I started researching youth workers' responses to multiculturalism and youth racial tensions. I became interested in how young people experience racial tensions and mutual antagonisms, as well as how practitioners intervene, and what they attempt to achieve when conducting community and anti-prejudice work.

How did you become interested in Prevent?

When the UK started the Prevent strategy, youth work rather than schools was the main avenue for the programme's implementation. Money was provided to local authorities, who developed community-based youth activities. I became involved in researching Prevent implementation by local authority partners and assisting with value-adds. Out of that, I developed an interest in Prevent and the role of practitioners in preventing violent extremism activity in young people.

How do you think this space has evolved over the time period in which you've been working in it?

There have been two distinct phases to the Prevent Programme, and its content and priorities have both shifted.

From 2006 until the Prevent Review in 2011, the programme was focused on giving money to local authorities and was explicitly focused on working with young Muslims.

From there, Prevent has evolved in different directions. Community-based work has been significantly reduced, and the focus now is on developing systems for identifying and intervening with individuals who seem to be vulnerable to radicalisation. The focus now is on the whole public sector, and the formal education sector from early years settings through to university has become the forefront of Prevent work. Examples of those changes would be the introduction of the Channel scheme, and the introduction of the Prevent Duty in 2015.

After the Prevent Duty was introduced, I worked with colleagues from Coventry and Durham Universities to conduct the first national study examining how staff in English schools and colleges understood and implemented this duty.

What are some of the pros and cons of the evolutions in the programme? Has it improved through these shifts in strategy and priorities?

Some of the developments have been problematic. In the Western world, most countries use community-based resilience programming in their counter-extremism efforts. Meanwhile, Britain has moved too far away from that kind of resilience-building work between and within communities. One of the reasons for this is that Britain was not convinced of the impact or value-for-money of community-based programmes, but that is a generic problem involved in prevention work. Compounding that was that over the last few years we have had governments who were dubious when it came to partnerships with Muslim community groups, who had been the historic partners in the first phase of Prevent. I think that's problematic, because too many British Muslims now feel that Prevent is being done to them, rather than with them. We need more partnership and involvement with community groups, especially at a time when hundreds of young British Muslims have travelled to places like Syria and gravely damaging their own lives and those of their families.

With that said, the expansion of the programme's focus to all forms of violent extremism – including far right and neo-Nazi extremism - rather than focusing solely on Muslims or Al Qaeda or ISIS-inspired extremism - has been positive. Prevent now intervenes with people of all backgrounds and all kinds of communities, which is a positive development because the original programme stigmatised and othered Muslim communities, giving Prevent a toxic image.

As the programme's focus has broadened, have those implementing Prevent been equipped with the appropriate knowledge and tools to respond to a diverse variety of types of extremism?

The educationalists we spoke with in our research were clear that Prevent was concerned with far right and other types of extremism as well as Islamist-inspired extremism, and in many of our research settings far right extremism was a much more tangible threat than Islamist-inspired extremism. The increase in far-right extremism has also made many of the teachers we researched re-think how they teach aspects of their curriculum related to community cohesion, anti-racism, and equality.

The government's educating tool is the Educate Against Hate website, however there are different views about how helpful that tool is. Overall, there is a constant battle about whether there is enough training material available, and our research has indicated that educators are not happy with the level of curriculum materials and training support provided about all types of extremism.

Are educators happy with other aspects of the Prevent programme, such as the focus on fundamental British values?

The expectation there is that schools and colleges promote 'fundamental' 'British' values, teaching students about things like free speech. Our research shows that teachers were entirely happy teaching about the values of tolerance, respect, and democracy, because they already do that. Educators are accustomed to working with school values, community values, and

universal values in their educational setting. However, they were not happy about the words 'fundamental' or 'British,' because they were not seen as helpful terms.

How has the evolution of Prevent taken into account the ways in which the role of the internet in society has changed over the course of the programme's history?

In education, internet access is quite supervised, and there's a really strong focus on what students are engaging with in and out of educational settings. In educational settings, there are blocks and filters and monitoring of what is being searched for. That educational side came long before Prevent, because internet safety, including anti-extremism education, would be considered safeguarding education.

Until coming across a recent Guardian article on Prevent, I had been unaware of the extent to which the programme's efforts focused on minors. What are the reasons that underlie that, and is this focus appropriate?

Prevent scaled up substantially with the introduction of the Prevent Duty in 2015. More than a million state professionals and public sector workers, including everyone who works in the NHS, schools, and colleges has been trained in Prevent. Alongside this, we have seen a large increase in the number of Prevent referrals, with the largest proportion of referrals involving children and young people referred from the education sector. We do not know whether that proportion of referrals reflects the nature of the threat of extremist radicalisation in society, or whether it is a function of having trained so many people in the education sector to be alert to these subjects.

We did see a lot of inappropriate referrals, including many from education, in the first few years after the Prevent Duty was introduced. Some of the most egregious examples, such as a 4-year-old Muslim boy in a Luton nursery who was referred after pronouncing 'cucumber' as 'cooker bomber' reach the papers. Those individual cases have given many people the impression that those stories are typical examples of the impact of the programme upon children and their families.

We carried out research in English schools and colleges to get a better sense of how representative those egregious individual cases are, and we found much less opposition to Prevent from professionals in schools and colleges than we expected. Trade Unions are opposed to Prevent, but their membership does not reflect that.

Educators have accepted the government's paradigm that Prevent is a form of safeguarding, and safeguarding has very established roots in education. Educators see parallels between radicalisation and extremism and other vulnerabilities such as gang involvement, sexual exploitation, and drug involvement. Moreover, they accept that the existing safeguarding mechanisms are appropriate to deal with concerns. Consequently, it is not surprising that a large proportion of Prevent referrals come from these educational settings which have well developed safeguarding systems. However, there are areas where it gets complicated.

What are the dilemmas involved in a programme geared towards counter-extremism efforts focused on young people?

One dilemma is that that a sizeable proportion of the referrals to Prevent remain children and young people of Muslim background, which some critics see as *prima facie* evidence of an Islamophobic focus within the policy. However, others, including many within Muslim communities, say that this proportion reflects the reality of the terror threat because of the impacts of Syria and people attempting to travel there or being influenced by events there.

Another dilemma is that there is a big attrition rate in those referred, particularly among those referred from the education sector. Informal referrals – where schools ring up the local authority's Prevent coordinator to talk through concerns, are not included in this. Even when people are referred formally, there is quite a large attrition rate, where there is no further action for those involved. Of the proportion that go to the Channel Panel, a local authority multi-agency body, many are diverted into other forms of intervention or there are no further actions. This high attrition rate may lead some to see the referral rate as too high as well.

However, education professionals did not think the system was heavy-handed or appropriate, because only a small proportion of referrals in most forms of safeguarding multiagency boards lead to an intervention in a family's life, which means that this form of safeguarding is consistent with others. Only ten percent of Prevent referrals being acted upon is a success in educators' eyes, not a failure. They see these proportions as proportionate, and the attrition rates as justifiable, however, that is a paradigm-specific view.

For a young person who has been referred to Prevent, what does it look like to end up in that system, and what are the consequences for referrals which do not lead to actions?

This is where we start to get into some of the operational dilemmas and concerns about Prevent. There are campaign groups who advocate on behalf of people who feel they were inappropriately referred to Prevent. And some critics allege that quite often children are referred and do not know it.

People who work with Prevent say that, like any other safeguarding referral, referral should only come after family and carers have been spoken with, and that the family should be aware that there has been a referral. However, we do not know enough about Prevent's operations to know whether that is true in all cases, or only some.

We also do not know, especially for referees who do not end up in the Channel system, what happens to Prevent records. There is a real lack of clarity about whether those records are expunged or held. If they are held, we do not know who holds them, or how long they are held for. If you are referred to Channel at 15 and there is no further action, what happens if you later apply to join the police or work a job, let's say at a bank, that requires background checks. We do not know whether the Prevent referral will show up in that security screening. So, there are concerns about data and transparency that the current Prevent review needs to clarify and explain to the public.

What else would you like to practitioners and policy makers working on countering extremism with British youth to know, or be thinking about?

We are not focusing enough on the curriculum input in Prevent's education programme, and we need to do more work against hatred. We need better curriculum support and training for educators, including building educator confidence to get into open debates and air difficult issues. Research evidence shows you need to create a space in which young people can openly talk about strong, extremist, or prejudiced feelings, where you can respect them while getting into a dialogue that helps youth interrogate their ideas and think about them in a more complex way. Educators need to be supported in creating those spaces.

You also cannot separate those conversations from building community cohesion in terms of how young people of different backgrounds relate to each other. It is important for educators to bring young people from different areas and communities together so that they have a chance to break through the fears and prejudices they may have about other communities. We need to help young people learn to deal with complexity and diversity.

What are you working on now?

I've just completed a study with colleagues focused on community reporting and intimates – close friends or family members – who are getting involved in extremism. Evidence has suggested that the families or partners of people who become terrorists can sense something about them, but do not know what they are seeing or what to do with the information, which is a gap in our prevention work. We were looking at whether individuals would share concerns with the authorities if a loved one was getting involved in extremism. We learned that people would want to share with authorities, but they need all kinds of help and support to do so.

We are now replicating that study in the US and Canada.

Are you also looking at tools which might help support individuals considering contacting authorities?

Yes, we are. The initial pilot study was conducted by my collaborator in Australia, and New South Wales has an independent help website which offers support and does not report site visits to the police. Rather, it is designed as a place for family members to go seek help in making decisions about whether to go report.

Since the beginning of the UK study, we've been talking to the national police, and we hope that our findings will help UK policymakers and law enforcement to develop a public education campaign aimed at helping people who are concerned about someone close to them.

Economic Theory and Localized Violence in Northern Ireland

In the summer of 2020, Dr Neil Ferguson, a Senior Researcher at the International Security and Development Centre in Berlin, and a Senior Research Associate at BIGS in Potsdam, sat down with PaCCS to reflect on insights gained from his ESRC-funded studentship researching the relationship between unemployment and terrorism in Northern Ireland. This work, funded while Dr Ferguson was a student at the University of Edinburgh and Heriot-Watt University, offers insights into what Dr Ferguson describes as "what happens after violence," and has continued to shape Dr Ferguson's approach to research beyond his studies.

Tell me a bit about your background as a researcher, and how you found yourself working on the relationship between unemployment and terrorism in Northern Ireland?

I grew up in Northern Ireland towards the end of the Troubles. When I was a teenager there was still this kind of post-conflict feel about the place. I was in my mid-teens when the Good Friday Agreement was signed, so up until that point, even though there was not much open violence, Northern Ireland was not at "peace" by any standard definition I would use today, and much less in a situation of positive peace. When I first went off to university, I studied economics, and I became interested in how the subject might describe the place I was from. I was interested in how there were places in Northern Ireland where there was basically no violence at all, and other places where violence was quite intense and how this gap was observable even in places that were geographically close together. I wanted to understand how economics might shed a light on what drove the intensity of violence in certain areas, and I thought I might be able to draw on Charles Becker's work on crime and punishment while looking at fine-grained regional variation in employment levels.

So, I applied to conduct this research as an ESRC 1+3 studentship on the Scottish Graduate Programme in Economics – first at the University of Edinburgh and then at Heriot-Watt University, which gave me the opportunity to turn my master's into research training, and to explore this idea that local measures of unemployment might help to explain fine-grained variations in violence. Being honest, it also gave me the chance to complete a post-graduate education that might not have been open to me otherwise.

What did conducting this research entail, and what did you end up learning from it?

I first split Northern Ireland into nearly 600 sub districts based on census units, for our analysis. After that, I thought the economic theory was going to be simple. If you have no opportunities in the legal labour market, you turn to an illegal labour market, which might be a militant organization. However, the first thing I realized once I got started was that the logic of Becker might not always hold with violent crimes, let alone political violence. There is a logic that socio-economic and demographic status might predict 'rational' crimes like burglary, where the perpetrator stands to personally gain from the action. I quickly found out that this logic might not hold water when it comes to crimes of passion, let alone organized, group-based violence – at least not at highly geo-spatially disaggregated levels in Northern Ireland.

So, I began to look deeper at the fine-grained localized violence, and what I found is that networks between violent organizations are a strong predictor of violence. In places where both a Republican faction and a Loyalist one were present, you had a very specific pattern of violence targeting civilian populations. While I later learned that there is a substantial body of literature exploring this broader topic in political science, my goal was to bring it back to economics – so I ended up exploring the violence premium, where violence could be considered as having a positive or negative externality on other groups, depending on how they were networked. Based on the data I put together to do this, I also ended up writing about some of the longer-term legacies of the conflict and on the effectiveness of EU-led efforts to deal with these legacies.

My doctoral research ended up falling somewhere between economics and political science, and that has been good for my career in the long term because my work still sits between those two disciplines. There is a lot of value in bringing new ways of thinking to the understanding of these sorts of topics, although I know not everyone agrees. There is also, I think, value in thinking about how post violence landscapes – economically and socially – are shaped by the patterns of violence that took place and individual exposure to violence, particularly within small geographic concentrations. That realization has shaped my career ever since.

Can you tell me more about what you are working on now, and how your research career has evolved since the completion of your PhD studentship?

My PhD work cemented the importance for me of patterns of violence and what causes those. I am slowly learning that these micro-dynamics have a lot to say about what shapes post-conflict societies, too. I do work that now straddles conflict types and that takes place in different phases of the conflict cycle. It is interesting to me that I have begun to see glimpses of conflict micro-dynamics come through in a range of projects across multiple topics. Consequently, I am starting to explore how one can trace the micro-dynamics of violence through pro-social behaviour, intergroup interactions, attitudes towards violence and so on: as well as to the functioning of post-conflict reconstruction, development, and peacebuilding programming.

In terms of my research interests, I remain interested in what happens after violence. For example, individuals who experience conflict have different behavioural responses when it comes to community engagement and other "pro-social" behaviours. I have recently done some work on those topics, that I hope will make it into the public arena sooner or later.

I am also interested in peace processes and am doing some work on coding what is relevant for their functioning – particularly on how they are financed. I also do a lot of work on impact evaluations and behavioural games, with a lot of focus on how theories of change of development programmes might break down in fragile, violent, or potentially violent contexts. So, for example, I've recently done an impact evaluation in Niger, where we examined a nutrition programme which focuses on child health.

I am also interested in how this breakdown in theories of change might mean programmes have impacts beyond the narrow outcomes they are designed to have. I am presently doing work on a job training programme where we have found that even though graduates of the programme are emerging into the context of Lebanon's economic collapse, the training impacted positively on

their intergroup behaviours. This builds on a wider body of research where we look into the notion that employment can be an effective peacebuilding strategy.

I now work at a not-for-profit institute in Berlin called the International Security and Development Centre, which focuses on evidence-based, empirical approaches at the nexus of economic development and political violence, and increasingly, on broader humanitarian emergencies, too. I had previously worked at the German Institute of Economic Research and the Stockholm International Peace Research Institute, but I learned during my PhD that I wanted to do work which sits between economics and political science, and which straddles the divide between the high-level theoretical work associated with academia and evidence-based policy research. This job gives me the opportunity to both publish in journals and write policy reports and briefs, and to work directly on the topics that interest me. ISDC is a very good fit for my interests.

Empire and Transnational Religious Identity

In May 2020, we sat down with Dr Mohanad Hage Ali, the director of communications and a fellow at the Malcolm H. Kerr Carnegie Middle East Center, to discuss his past work on "Empire and Trans-national Religious Identity", completed while he was attending the London School of Economics and Political Science.

Can you tell me a bit about your research background, and how you ended up working on this project?

I started my career as a journalist, reporting on Islamic movements, the Iraq war, and the ensuing Lebanon turmoil. As a copy editor and reporter at a pan-Arab newspaper, based in London, my scope of work covered different parts of the Middle East. However, the Iraq war was a major turning point in my career, given its significance in reshaping the region.

The toppling of the Saddam Hussein regime, and the ensuing conflict, unleashed sectarian tensions across the region, with competing claims and narratives, much of which were not new but drew on earlier conflicts. And Iraq, given its tumultuous political shifts, embodied the transformations in the region. In the 1960s and 70s, Iraq was a hotbed of Arab nationalism, and witnessed in the 1980s, at the same time as Syria, a violent repression campaign by the Nationalist Baathist regime against a popular Islamist group (The Islamic Da'wa Party). Iraq's Da'wa, just as the Moslem Brotherhood in Syria, made a claim to power, and emphasized the significance of the religious in both private and public life.

Following the Kuwait war, the Saddam regime itself utilized religion, and sought to reconcile its Baathist ideology with Islam. This Saddamist policy, known as the faith campaign (*al-Hamla al-Imaniya*), resonated later as we were trying to understand the role of Baathist officers in Islamic groups fighting against U.S. occupation and the Iraqi government forces. Saddam, just like Islamists, sought legitimacy from claiming to be a descendant of the Prophet Muhammad and his cousin Imam Ali, also the first and most important Shiite Imam.

I was particularly interested in an insurgent group of mostly pan-Arab Baathist officers some of whom later joined al-Qaeda and the Islamic State. This transformation, and the links and overlapping features between nationalism and Islamism interested me, and subsequently became the focus of my work at the London School of Economics and Political Science (LSE).

What questions did your work seek to address?

The underlying question is the relevance of the central debates in nationalism studies, to the study of Islamist movements. I took Hizbollah, the Lebanese Shi'i movement as a case study, posing the question of how it produces/constructs its identity, and disseminates it in the Lebanese Shi'i community. How modern is Hizbollah? Who produces its version of Shi'i identity? What are this identity's main pillars?

The research drew on the nationalism debates and studies to address the question of how modern is the Hizbollah phenomenon?

The reason why this question of "how modern" is important, is its relation to the Islamists identity project (based on their claims of continuity for legitimacy purposes), which consumes much of their attention and resources, whether in education, publications, and media production.

In the field of Nationalism studies, the central question of "the role of the past in the creation of the present", as Anthony Smith articulates it, contests the raison d'être of these movements. Nationalists claim some form of continuity with the ethnic past, and this fuels their legitimacy among the populace, leading to stronger mobilization of the masses in certain cases. Well, Islamist movements are not that different. They claim to represent a continuity of the Nation of the Prophet Mohammad and his legacy until this day – so basically, we're talking about 1442 years of continuity, and more, given that "the sacred" dates back to the birth of the universe. This claim, and in order to be recognized and to contest other pre-existing and often conflicting narratives, requires a great deal of reconstruction of events and histories. This partially explains why Hizbollah, with a wide set of subsidized and affiliated publishing houses, was after the end of the civil war, the country's largest publisher, claiming nearly half of books, magazines, and periodicals.

This is a nation-building project. Nationalists, as Smith contends, construct their nation as "political archaeologists" who selectively rediscover and reinterpret the past. Islamists are political archaeologists, and they're good at it, even more successful than the founding fathers of the modern Arab State. Hizbollah has fully engaged in this project, with little inhibitions, given the Lebanese State's weakness and failures.

What kind of identity are these groups disseminating? Why? What is their communal impact? How are they changing communities? I believed these questions would help us, partially, understand the transformation of society, conservative attitudes, and how individuals think about their place in their region, their place in the nation, and their role as citizens.

How did you go about conducting this research?

Firstly, the research entailed a great deal of discourse analysis, which included news articles, pamphlets, magazines, books, and school curriculums. I spent a good deal of time at Hizbollah affiliated publishing houses and bookstores, to understand the scope of their dissemination effort.

Secondly, I conducted fieldwork at Hizbollah's institutions, and interviewed members of the organization at both senior and lower levels. We discussed the questions of identity, history, and the dissemination effort.

And what were some of your key conclusions, based on the research?

My main conclusion was that this is a modern phenomenon – basically Hizbollah, which claims to be the latest manifestation of a continuous history of resistance and adherence to an Islamist hierarchy, *Welayat al-Faqih*, or the absolute guardianship of the jurist, is a modern construct. As in the case of all nations and national narratives, a great deal of historical invention goes into the Hizbollah narrative. And this is not only inclusive of the organization's narratives and identity work, but also a good deal of its ideology, mostly based on the 20th century scholarship of Imam Ruhollah Khomeini. What the research focused on was the web of institutions, and its work on

constructing and disseminating an identity. Hizbollah is not only an Islamic resistance organization, it is a wide-scale identity-building project for the Lebanese Shia. This work is disseminated through Hezbollah's publications and institutions. Hezbollah runs many institutions, including a microloan bank, schools catering for thousands of students, higher education institutions, and a media network with radio and TV channels catering to adults and children. They also established foundations/institutions to care for the injured, the poor, and the families of martyrs. All of these institutions are publishers too, with tailored content and educational activities based on the organization's ideology and narrative. I tried to shed light on this nation-building project, which is at odds with both the official and sectarian Lebanese narratives.

However, as I worked on the topic, I tried to touch upon the questions of economic marginalization of Lebanese Shiites in Lebanon's post-colonial era, and the impact of Israeli occupation and the brutal 1978/1982 invasions. These economic policies and the occupation years laid the ground for this transformation in Lebanese Shia politics and identity.

Another conclusion is how Hizbollah reconciles a supposedly transnational Islamic ideology with underlying ethnic claims. This is in line with Iranian claims, basically reconciling Persian identity with Islam. Hizbollah's literature has this subtle claim that there is something special about the people of Jabal 'Amel, South Lebanon. Their resistance and commitment to Islamic causes, is a recurrent feature in the Hizbollah narratives. These claims are intertwined with supernatural narratives in their literature.

What do you think the impact of this project was, and what have you been working on since?

The project resulted in a book called 'Nationalism, Transnationalism, and Political Islam', which received decent reviews and generated some conversation. It also picked up some coverage in Arabic newspapers, which I thought was useful, specifically as I haven't translated the book. My hope was to have a follow up journal article looking at the wider lens of the work, specifically the study of political Islam as a nation-building project. Such an approach, building on the nationalism debates, I thought, would help us understand the wider changes in the region, the culture, collective attitudes towards the state, and the overall decline of tolerance. This is work in progress.

At the Carnegie Middle East Centre, I am currently writing on the growing Russian and Turkish roles in the region, and the impact on intercommunal relations and politics in an increasingly fragmented region.

Researching the Crime-Terror Nexus in Tripoli

In the summer of 2020, the University of Oxford's Dr Raphael Lefevre and the University of Kent's Professor Caroline Rooney spoke with PaCCS to discuss their work on the 'The Crime-Terror Nexus from Below: Criminal and Extremist Practices, Networks and Narratives in Deprived Neighbourhoods of Tripoli'. This project has received funding through the 2018 PaCCS call on Transnational Organised Crime: Deepening and Broadening our Understanding.

Tell us, Raphael, about your research background, and what brought you to this project?

Dr Raphael Lefevre: My background is in Middle Eastern politics, and I have spent time living in Syria and Lebanon, including time spent in Lebanon while conducting my doctoral and postdoctoral research. During this period, I realized there was a gap between the macro analysis of Middle Eastern politics and the local realities lived by many on the ground.

The themes and questions which have guided this research project have been centred on why and how transnational organized crime can sometimes become rooted so locally. We became interested in investigating the nature of the relationship between crime and terrorism after hearing about a resident of an impoverished part of Tripoli who had gained prominence as 'public enemy number one' of the Lebanese Government. He was part criminal and part terrorist, known to be smuggling weapons to Syria and with links to al Qaeda. While he was despised by many in Tripoli and Lebanon, he was a local hero in his neighbourhood, where he was seen as a modern-day Robin Hood. Here, he was seen as a defender of the local community, an avenger of the poor, and a provider of goods and services. When he was arrested by the Lebanese army, they had to release him because there was such anger in his neighbourhood over the arrest that the army feared there would be a mass uprising in the city.

This work on the crime-terror nexus focuses on Tripoli. Why that city?

Dr Raphael Lefevre: Tripoli is the second city of Lebanon, and it is a main trading hub situated close to the border with Syria. While the city has a rich history, it has become portrayed in the media as a city of extremism, violence, and criminality. I wanted to investigate whether these outside perceptions matched the local reality, so I moved there to find out. And what I found was that Tripoli was a diverse city, which did not easily fit the stereotypes that it had earned. While there was a lot of criminal and extremist activities going on in the city, they were mostly centred in a small number of neighbourhoods. My experiences there taught me that there is a need to bridge the gap between the perceptions of outsiders and the local complexities on the ground.

Professor Caroline Rooney: My recent work has focused on the Arab uprisings, and so it was of great interest to me when the Lebanese revolution began in October 2019. Tripoli was at the forefront of the 2019 Lebanese revolution, and the city has been called the bride of the revolution. The revolution showed Tripoli to be a significant creative hub of the movement characterized by inclusiveness and festiveness, reflecting the warmth, hospitality, and solidarity of the city. I was particularly interested in how the Tripoli uprisings conveyed their messages through things like graffiti and chants. For example, there is one image of a man holding a peace sign, which says he is fighting corruption, sectarianism, and violence.

What gaps does this research seek to fill?

Dr Raphael Lefevre: Caroline and I are seeking to make contributions to the literature in security studies on transnational organized crime and on terrorism. One contribution we want to make is to undertake a history and a sociology of crime and terrorism in Tripoli. We want to find out who the main criminal and terrorist actors are in the city, where they operate, and what contexts they operate in. Tripoli has remained an enigma for researchers and policymakers alike, and I hope that our work will help bring nuance to issues discussed those working on Tripoli. I also hope that by highlighting the local politics of a global phenomenon, we will be able to derive broader insights from our work on Tripoli which can help shed light on the role of the local in how extremist and transnational organized crime groups operate.

How have you gone about conducting this research?

Dr Raphael Lefevre: We have used a combination of quantitative methods which map out the main hubs of crime and terror, and qualitative methods which seek to explore why those areas are the main hubs of crime and terror. We have collected data by collaborating with the Lebanese Ministry of the Interior, conducted interviews in neighbourhoods where crime and terrorism thrive, and explored the neighbourhood effect, as well as working to build local networks. Though our work has been disrupted by the covid-19 pandemic, our next step will be to organize workshops with local organizations which bring together local activists to generate impact, construct a network, and to discuss transnational organized crime and terrorism.

What have you learned through your research thus far?

Dr Raphael Lefevre: We have identified strategies through which criminal and terrorist groups are able to root themselves in neighbourhoods and draw on local solidarities. For example, it is common for senior officials in criminal and extremist organizations to marry the daughters and sisters of residents in local neighbourhoods to set up local alliances, and we have also seen them work to become informal leaders of neighbourhoods. Extremist groups are driven by a transnational agenda; but they are skilled at exploiting local solidarities and local grievances to root themselves and expand their influence.

How has this project drawn on arts and culture?

Professor Caroline Rooney: I find that local writers often act as the scribes of their communities. They know the local history, troubles, aspirations, legends, and array of characters. For example, Robin Hood gangster types appear in Arabic fiction as the strong men of the alley. This archetype of a criminal who helps the community is a specific phenomenon that is interesting to look at in the context of recent writings about Tripoli. I have also just published a book called *Creative Radicalism in the Middle East* which traces how extremism and creative radicalism such as emerges with revolutions emerge out of the same conditions but take different trajectories. I am interested in exploring what specific variations of these themes we find in the Tripoli context, and we are hoping to be able to make a documentary exploring some of these themes.

The Globalization of Rendition and Secret Detention

In the spring of 2020, Professor Ruth J Blakeley, a professor of Politics and International Relations at the University of Sheffield, spoke with PaCCS to discuss her work on the globalization of rendition and secret detention. Professor Blakeley's work focuses on a range of issues across the areas of international security, the global governance of human rights, terrorism, and political violence. Her work on the Rendition Project received funding from the ESRC during her time at the University of Kent and served as the foundation for an impactful career researching torture, rendition, and detention.

How did you start working on the globalization of rendition and secret detention?

I had just completed my first book, called State Terrorism and Neoliberalism, which explored the dynamics of state terrorism, and the intersections between the global political economy and the ways in which states such as the US and UK have been involved in human rights abuses as part of the process of transforming economies in the Global South. One of the final chapters of that book explored how the US and UK were involved in human rights abuses in the fight against terrorism after 9/11. As I was finishing that research, reports began to come out about the CIA's use of kidnapping operations, secret prisons, and the torture of terror suspects which alleged that some of those kidnapping operations involved European states. My past research seemed like a good jumping off point to begin an exploration of this secretive and nefarious programme, so I applied for ESRC funding with the hope of starting a new project on rendition and detention.

The research councils thought what I wanted to accomplish was too ambitious for one researcher, so I teamed up with Dr Sam Raphael, who is now at the University of Westminster, and we've been working together in this area ever since.

How did you begin to plan and expend your ideas to build this project, and to figure out what approach to take in tackling this incredibly complex topic?

At the beginning, we had planned on mainly doing desk-based research using open-source material from journalistic investigations of secret detention. However, we quickly worked out that most of the academic research being done on this subject was in the field of international human rights and law, and that there was not any international relations or international security research on the dynamics of these secretive programmes. Why were different countries involved? How did it work? The only organizations researching these questions were human rights groups and litigators representing specific victims, and there was a clear need for research which would develop a collective understanding of this issue on a wider scale.

With that in mind, Sam and I contacted a legal action charity called Reprieve, which represents people in the US facing death sentences, including some prisoners in Guantanamo. At first, Sam and I had wanted to take a regional approach to understanding the CIA's rendition programme, but Reprieve convinced us that this issue required a global approach. I think it was a good example of how getting practitioners involved on the ground can help shape your thinking as an academic.

What was it like working with a non-governmental organization?

It took more than six months to really build trust with that organization, and I think that like a lot of NGOs, they had had mixed experiences working with academics. They wanted to ensure that we were trustworthy, because there are so many sensitivities involved in representing people still held in prisons in Guantanamo Bay. I think they were also quite rightly concerned that some academics can be a bit predatory about crediting and data, so we worked quite hard to build our relationship with them, and it ended up being very worthwhile.

Once you had built your relationship with Reprieve, what did the project itself entail?

Reprieve told us that there was a lot of air traffic control data relating to the aircraft that the CIA had hired to carry out kidnap operations. They had some of the data already, and they negotiated with EU investigators our behalf to help us get access to more of this data. Once we got it, in 2011, it took us about 18 months to figure out how to make that data useable – because it was just row after row of private aircraft journeys on spreadsheets. There is a huge amount of data there that has nothing to do with the CIA, so we were looking for journeys with stop offs in key hotspots – say a flight which started in Langley, Virginia, stopped in Scotland to refuel, and then went to Afghanistan. We then triangulated with open-source information, including human rights investigations and victim testimonies, to match flight data to specific prisoners. In doing so, we were able to show that UK airports had been used much more extensively than had been previously realized. As far as we were able to work out, there was never a prisoner on the aircraft landing in the UK, but there were UK stops for refuelling or logistical support. Successive governments had always denied UK involvement, except for one admittance by David Miliband, but our work found that dozens and dozens of operations involved stop-offs in UK territory.

We published that flight data, teaming up with the Guardian newspaper to build an interactive database that makes our findings accessible. That was published in 2013, alongside a series of Guardian articles demonstrating that the UK was much more extensively involved in rendition operations than had been previously accepted or acknowledged.

Thus far, you have spoken about the period during which your project fell under the Global Uncertainties programme – what happened afterwards?

We kept thinking we would come to a point where we had exhausted what we could do with the research… and then something else would happen. One important moment was that in 2014, the US Senate Select Committee published some findings from its own investigation into CIA torture. Only the executive summary was ever released publicly, and even it was heavily redacted. The senate report corroborated many of our findings. They had given prisoners and locations pseudonyms in their report, but we were able to reidentify many of the places and people using what we had found in our earlier investigation with air traffic control data. From there, we started to determine whether we could uncover some of the other things that were hidden in the redacted sections of Senate Select Committee Report, continuing to collaborate with Reprieve and some folks from the Bureau for Investigative Journalism. From that, we were able to publish a book last year on CIA torture which is our attempt at un-redacting the Senate report.

What do you think the impact and legacy of this work has been?

It would be delusional to think that this work will stop people who are pro-torture from being pro-torture. I mean, the reality is that the current US President thinks that waterboarding is fantastic. And certainly, recent governments here in the UK have been unwilling and unprepared to avoid running operations where there is a risk that third parties will be engaging in torture in the same place. However, the research shows that torture does not work, and the US Senate concluded that torture had significant blowback effects and resulted in more support for Al Qaeda and ISIS in certain areas of the world. Notwithstanding arguments someone wants to make about the ethics of torture, the bottom line is that strategically, torture is a bad idea.

So, our work has not stopped torture, but I think we have been able to set forth a more honest reckoning in the UK about how extensively the UK is involved in operations which involve torture, and we've been able to prove that individuals were subjected to rendition and torture at the hands of the CIA and a number of global partners.

That work has only been possible because of the close collaborations Sam and I have had with a whole range of civil society actors and human rights NGOs. With their help, we have been able to produce research which has been used by litigators representing victims of torture at the European Court of Human Rights, the African Commission, and the Military Trials at Guantanamo Bay. Moreover, it was used in evidence provided to the UN Committee on Torture's periodic review of the UK in 2019, which resulted in the UN calling on the UK to undertake a full, independent inquiry into UK collusion in torture. Wherever possible, we and our civil society partners have taken opportunities to interject into government narratives and government processes to inject some accountability.

Our research has also informed and shaped the Investigatory Powers Commissioner's review of the guidance given to UK intelligence and security services on collaborating with overseas partners where torture is a risk, resulting in some key changes to the guidance. Rendition is now recognized as a form of torture, and the guidance on torture has now been extended to apply to a whole host of British agencies. Sam and I were the only academics called as witnesses by the UK's Intelligence and Security Committee for the investigation into UK involvement in rendition and detainee abuse which resulted in those changes. We were able to convey that there are significant weaknesses in the guidance given to intelligence and security committees which has resulted in breaches of international law. That committee, led by MP Dominic Grieve, took our findings seriously, and the NGOS we had worked with had encouraged us to go and share our evidence because it's vital that the public record on torture is correct.

Dominic Grieve's investigation was hamstrung, and there have been subsequent calls, including from the UN, for an independent inquiry. One of the last things Theresa May did as Prime Minister was to refuse to launch an independent inquiry into the UK's involvement in rendition. Our research informed legal action by MPs Dan Jarvis and David Davis and Reprieve against the UK government for refusing to launch that independent inquiry, and in December 2019, the High Court ruled that there should be a judicial review of the decision not to launch an independent

inquiry. I do not know whether the ongoing pandemic will affect this, but as of right now the hearing on that was scheduled for July 2020.

On a lighter note – I also understand that your research has inspired a theatre production?

Yeah! There was a theatre producer with the Edinburgh theatre company, Tragic Carpet, who works with marionettes and immersive theatre. She contacted me after reading about my work, and then wrote this production based around the story of two or three of the prisoners. She uses recordings and multimedia contributions from different protagonists to create a really moving production. As a consultant on the project, I did not really know what it was going to be like, but I went to the last night of a five-night run in Edinburgh and to do a Q&A with her after the production, and the production absolutely blew my mind. To be honest, depictions of torture in films and TV shows like *Homeland* and *24* is wrong. It is salacious, and gratuitous, and there is often the incorrect narrative in those stories that torture gets intelligence, when that is just not true. This Tragic Carpet production did a much better job of suggestively conveying the emotions involved in the rendition and detention experience. The production got various accolades and ended up coming to Sheffield for the ESRC's Festival of Social Science.

It was unexpected and nice to see your research inspire a very different group of people. NGOs and students are familiar with these kinds of things, but this production was a really great way to introduce people who are interested in theatre to the politics surrounding torture and detention.

V. Criminal Networks & Transnational Organised Crime

Foreword by Dame Sara Thornton & Katherine Lawson

Dame Sara Thornton is a Professor of Practice at the University of Nottingham's Rights Lab. She previously served as the United Kingdom's Independent Anti-Slavery Commissioner from 2019-2022. Prior to becoming the Anti-Slavery Commissioner, she had worked in policing since 1986. Ms. Katherine Lawson is the Research and Innovation Lead in the Office of the Independent Anti-Slavery Commissioner. In this text, they reflect on lessons learned while promoting research in their roles with the Office of the Independent Anti-Slavery Commissioner.

Introduction: Dame Sara Thornton

In June, the UK Parliament was told that several police forces including the Metropolitan Police have been put in 'special measures' by HM Inspectorate.

There is currently a widespread lack of confidence in police forces which undermines legitimacy in policing – a foundational requirement in a nation where policing is by consent. Police forces need to regain trust and I believe that cultivating the values and ethics of policing as a profession is key to this.

Police professionals need to act ethically and independently – without fear or favour, but they also need to be able to use expert knowledge. In short, they need the wisdom of the academy, of research, evidence, and data insights. This has been my approach as a chief constable, leader of the National Police Chiefs' Council and more recently as the UK Independent Anti-Slavery Commissioner I ensured that evidence and data were at the heart of my work.

When I was appointed Commissioner in 2019, I made promoting relevant research one of my four priorities. In my work, I was greatly assisted by Katherine Lawson my research policy lead. Together we worked on this significant agenda, and in the text that follows we will reflect together with the goal of giving you a sense of what we did and the importance of our work with PaCCS.

Using Research into Modern Slavery: Dame Sara Thornton and Katherine Lawson

Modern slavery is the exploitation of men, women, and children by others for personal and financial gain. This is happening on our streets and in our farms, factories, and our homes. Although it is happening everywhere we often do not see it. That is why my strategic plan as Commissioner set out to better understand the issue, bridging the gap between research, policy and practice to ensure there is a relentless focus on what works. One of my early priorities was to consider the impact of modern slavery research and PaCCS supported me in this mission. Through PaCCS I hosted a researcher who examined the breadth of academic research on survivor support and how far this has informed policies and practice in the UK.

The resultant report by Dr Juliana Rinaldi Semione found that despite a substantial amount of academic research, this is not always informing policy and practice or having an impact on the

effectiveness of survivor support. The report called for researchers and stakeholders to cultivate a culture of collaboration, understanding and respect to overcome barriers and translate research into impact. We shared the findings with parliamentarians, government officials and at a large online event. A year after the report was published, we held another event with the Modern Slavery and Human Rights Policy and Evidence Centre to assess the modern slavery research landscape and the remaining barriers to impact. A poll with over one hundred attendees at the start of the event found that the biggest barrier to impact was access to research outside academic circles although the discussion demonstrated a shared desire from all sides to bring evidence and policy closer together.

A desire to maximise impact from serious organised crime research has been the driving force of PaCCS. From blue crime through to e-waste and exploitation, the articles in this section of the sampler outline the significant contribution of academic research in addressing the global security challenges. The constantly changing nature of exploitation is examined by Professor Kristofer Allerfeldt in his article exploring modern slavery through the eyes of a historian. He encourages us to look beyond the traditional conceptions of slavery, making the case for innovative approaches whilst never forgetting the human tragedy central to this crime. Dr Semione reflects on her placement with my office and the benefits of working in close quarter with us to bridge the gap physically - until the pandemic began - and metaphorically between research, policy, and practice. She explains the barriers she identified to the impact of survivor support research but also the opportunities to overcome these using values of collaboration, understanding and respect.

Over the years PaCCS has sought ways to bring together academics and non-academics through placements and conferences and the 2021 conference on maximising impact from serious organised crime research was no exception. Senior police professionals and early career researchers shared new insights on how to understand and undermine serious organised crime by working in partnership to combat shared challenges. Again, the rapidly evolving nature of crime was discussed as was the need to trial interventions which look promising whilst considering value for money.

Reflections: Dame Sara Thornton

As Commissioner, I found a partnership approach was most effective to generate policy relevant research. Building on the success of my partnership with PaCCS, I developed collaborative ways of working with other research bodies including the University of Nottingham Rights Lab to produce research on access to work for modern slavery survivors and on the evidence base on re-trafficking. I also worked with the educational charity Cumberland Lodge to explore shared thinking on practitioner responses to child trafficking, culminating in a conference and report informed by practitioner and survivor insights.

Survivor expertise is crucial in shaping research agendas, and I commissioned a researcher with lived experience to examine survivors' experiences of mental health support and how far this is culturally sensitive. Further expertise was developed in house with two team members completing the University of Cambridge MSt in Applied Criminology and Police Management, with theses applying the evidence based policing paradigm to modern slavery. We also created an extensive

network of early career researchers aided by an online form on my website to submit research requests and share opportunities to collaborate.

Having worked with an array of experts, I found there were repeated evidence gaps on modern slavery and that targeted research was needed to meet the most pressing needs of policymakers. I developed a series of modern slavery research priorities and published a briefing paper on emergent and published research which begins to meet these needs. Whilst there is more to be done, there is appetite and scope to do so, and we must ensure research efforts are informed by practice wisdom as well as by those with lived experience.

The approach that I and PaCCS have taken to research is deliberately not an 'academic' one. Listening to early warnings and heeding the evidence base about emerging crime and conflict risks is essential. I recently supported UCL to bring together multi-sector experts to examine the risks of trafficking and exploitation facing those affected by the war in Ukraine. UCL produced a comprehensive report which clearly finds that the war in Ukraine presents real risks of human trafficking and that our response must be targeted, trauma informed and evidence based. Responses must also be swift to counter the agility of those constantly seeking to exploit the most vulnerable including during war. The recent Europol 'hackathon' which targeted criminal networks grooming Ukrainian refugees for sexual and labour exploitation through online platforms illustrated the prescience of this work initiated by UCL and PaCCS. During the hackathon law enforcement agencies taking part checked 42 online platforms linked to human trafficking and identified nine suspected human traffickers and nine possible victims.

This brief sampler illustrates the range of relevant and insightful papers that have been written. Over the last 15 years PaCCS has contributed to this engagement and scholarship. Police practitioners as well as policymakers must listen to the evidence base on emerging serious organised crime risks if we are to stand any chance of addressing these complex challenges.

Blue Crime: Transnational Organised Crime at Sea

In 2019 and 2020, we sat down with Professor Timothy Edmunds, Professor Christian Bueger and Dr Scott Edwards for a series of discussions to explore their work on transnational organised crime at sea through the Safe Seas project. Safe Seas is an international network of scholars interested in maritime security in different regions of the world, whose work covers areas such as blue crime. Their work was supported by a 2018 PaCCS grant on Deepening and Broadening our Understanding of Transnational Organised Crime.

Why should we pay more attention to crime at sea?

There is an awful lot of crime that takes place in the maritime arena. For example, transnational organized crime's movements of illicit goods and criminal activities often take place at sea. Yet, when it comes to more traditional areas of security and law enforcement, there is a continuing legacy of sea blindness at the academic, policy, and practitioner levels.

There has been a lot of interesting work done on the sea from a security perspective with respect to great power competitions at sea and military confrontations, and there is also a lot of good scholarly work on the law of the sea, but maritime security issues often fall through the cracks between those areas. Opening the discussion about transnational organized crime at sea also opens some interesting themes and conversations between and within disciplines.

In recent years, alongside the rise of piracy off the coast of Somalia in the 2000s, there has been increased international attention to issues of piracy and illegal fishing. Here in the UK, the Brexit process has brought the discussion of maritime security further into focus. Here at Safe Seas, we hope to build on that momentum and increase discussion of blue crime more widely.

Should piracy and illegal fishing be our prime areas of focus with respect to blue crime, or do we need to be thinking further in new directions?

We do need to think in broader terms about what we mean by blue crime, and there are number of reasons for that. Firstly, while piracy and illegal fishing are the most high-profile maritime activities, they are part of a whole pattern of organized criminal activities that take place at sea, and which sometimes have a much higher cost. Other examples include the smuggling of narcotics, people, illicit goods, arms, and/or wildlife. Secondly, while environmental crimes at sea are significant, they extend beyond illegal fishing to include issues of pollution, illegal resource extraction, and mining critical infrastructure. There are synergies and interlinkages between different expressions of blue crime, and it is not helpful to think about these issues in specific, compartmentalized ways. To understand these patterns of criminality, you need to understand the bigger picture.

You have used the term "blue crime" a few times. There's a forthcoming article in Marine Policy which emerged from TOCAS and which argues that we should talk about "blue crime" rather than "crime at sea". Why do you think that "blue crime" is the best label for these criminal activities?

Blue crime is a pragmatic concept that tries to let us get to the heart of some of the security issues that occur at sea through understanding how and where they take place. The issues 'blue crime' encompasses allows us to open this space for broader discussions, particularly in opening up the space between legal and criminological discussions.

We are building our own definitions because we found some of the more established frameworks for examining organized crime at sea were often too restrictive, particularly where they were legal concepts and approaches. We also noticed that issues of legality can differ, particularly when trying to determine how national laws apply at sea or where crimes are conducted by vessels of uncertain nationality. The notion of blue crime is rooted in legal concepts, but also recognizes some of the limitations and problems they have. For example, it allows us to draw on some of the work around green criminology and activities that cause significant harms at sea even where there might not be obvious human victims, such as crimes which have consequences for marine biodiversity.

You have argued that this concept of "blue crime" also pushes people to explore the different synergies and commonalities across forms of criminality. Can you tell us a bit more about these synergies?

There are synergies in a couple of areas. Often, the entry requirements for engaging in blue crime are relatively low. You need access to a boat, seamanship skills, and perhaps access to a gun. Those entry requirements can be applied equally to piracy, arms smuggling, narcotics trafficking, and legitimate fishing activities. So, the same people can adapt and engage in multiple kinds of legitimate and/or criminal activities. Moreover, the criminal networks which support these activities are often enduring and adaptive. So, a lot of evidence suggests that piracy networks off the coast of Somalia have adapted to counter-piracy measures by becoming involved in people smuggling and trafficking.

Using 'blue crime' as the lens for these discussions forces us to look more broadly at why and how these crimes take place, the connections between what happens on sea and what happens on land, the roles of organized criminal groups in orchestrating these activities, and what the underlying root causes of this criminality might be. For example, we know that blue crime often takes place because people in coastal communities feel that their livelihoods may collapse for whatever reason, and blue crime may offer a way of securing a livelihood. This points us to look at sustainable development, social exclusion, and the international political economy more generally. The problem with simply taking a law enforcement approach to these issues is that it does not offer the same glimpse into the structural reasons as to why these crimes are happening.

How did you end up working on maritime security and issues of crime at sea?

Several years ago, I [Timothy Edmunds] bumped into my now co investigator Professor Christian Bueger from the University of Copenhagen at a conference in Belgrade. At the time he was working on piracy while I was working on land-based security sector reform.

I'd been interested in the role of security institutions, such as police, intelligence agencies and armed forces, in processes of political and organisational and change throughout my academic career. While I'd long been aware of an absence of discussion surrounding maritime security concerns in most mainstream security reform publications, most of my early work was on land-based security reform in places like the Western Balkans.

Christian and I had a discussion around the need for more serious work on maritime security sector reform issues at that conference, which led to a grant with the British Academy on security-building and capacity building in the Western Indian Ocean. Our work initially focused on piracy but became much wider than that as part of this project.

What prompted the widening of the project's scope?

During the course of that project we saw that there were interesting things happening in how what was becoming known as the maritime security agenda had spread out from the piracy problem to encompass other forms of transnational organised crime at sea, including the smuggling of drugs, arms and other illicit goods, illegal fishing, human trafficking and environmental protection. Fascinatingly, the governance framework responding to these challenges was bringing together, through informal processes, a sometimes counter-intuitive network of actors who were often working together effectively, but whose collaborations were understudied.

We also recognized that there was a gap in the dialogue surrounding maritime security reform which was particularly problematic for some parts of the global South, where countries with rich marine resources often don't have the capacity to protect their waters from serious criminal activities or predation from international actors in relation to things like industrial fishing or hazardous waste dumping.

This double angle led into what is now the Transnational Organised Crime at Sea (TOCAS) project, which examines interlinkages between different components of maritime security and maritime crime, and the responses to them across regions.

Why is it important for us to understand those interlinkages?

What has quickly become apparent to us is that you cannot really look at one element of the picture without thinking about how it impacts and relates to other elements of maritime security.

The obvious example, which we have explored in some of our published work, is piracy off the coast of Somalia. That problem emerged in part as a consequence of the collapse of the Somali state. With the Somali government no longer able to police the waters, foreign vessels began to prey on fish stocks off the coast, and part of the emergence of Somali piracy was at least initially a response by fishermen to the predation by those vessels. Pirates portrayed themselves as an

informal coast guard responding to the theft of their fish. From there, piracy became an alternative livelihood for some people with few other options and fairly swiftly developed into a much more organised and rapacious criminal activity.

There was a powerful and effective counter-piracy response off the coast of Somalia and while the problem has largely died away there since 2012, most of the evidence suggests that the pirate networks have not. Instead, they have spread into other forms of organised criminal activity, including smuggling weapons and people. It is these kinds of interconnections which are significant. Applying pressure to one type of criminal activity can result in others popping up elsewhere. If the criminal organisational structures are in place for one kind of crime, these are quite easily transferable elsewhere, particularly given that resources needed to engage in maritime crimes – a boat, possibly a gun and people with the skills and willingness to use these – are quite widespread in many coastal communities.

Your work on transnational organized crime at sea has focused on the Indo-Pacific. What has influenced your focus on that region?

There has been a long tendency in international relations to view global politics in terms of land-based regions and interactions between those regions. However, when we start to examine global politics from the sea, what we mean by regions shifts. Studying the Indo-Pacific region lets us see the interlinkages between East Asia, South Asia, and Southeast Asia in a new transnational way. We can also see where innovations happen in maritime security in the Western Indian Ocean and the South Pacific, and how these maritime security measures are then emulated elsewhere. Moreover, this region has become emblematic of issues in blue crime in a lot of ways. Piracy is one example of that. So, the region gives us the opportunity to examine the various aspects of how blue crime manifests, as well as seeing in practice how responses to blue crime are formulated, what works, and how those experiences get shared.

At this point, how well do we understand the scope and nature of blue crime?

In February of 2019, the UN Security Council held its first debate on transnational organised crime at sea, however they were unable to come up with a resolution or to decide on how to address blue crime because they couldn't agree on the scope, meaning and reach of the concept.

One of the things we are working on in TOCAS is how can we conceptualise transnational organised crime at sea in a way that recognises its diversity, but also provides a unified basis for action. We are doing this through a systematic cross-disciplinary literature review, developing our own conceptual and theoretical work, and the creation of a comprehensive online evidence base which we will launch as an online wiki in the next couple of months.

What have been some of the key takeaways for this project thus far?

There are several takeaways from the project so far. The first and most obvious, is that maritime crime is about much more than just piracy. It involves a whole range of difference issues and that these are often interconnected with each other in various ways. In the TOCAS project we identify three broad categories of blue crime in this respect: crimes against mobility such as

piracy, criminal flows focused around smuggling and environmental crimes such as illegal fishing.

We also need to consider what kind of problem blue crime represents. There is a been a tendency to treat these challenges as matters of either security or law enforcement, which is fine up to a point but often does little to address their underlying causes and structures. As I noted before, cracking down on one form of crime in one area can lead to it popping in another form elsewhere. Fundamentally, are these problems of security? Of law enforcement and criminal justice? Or of development and political economy? How do all these things interact?

That in turn tells us something about effective responses. Enforcement and policing at sea can have an important deterrent effect but do little to address either the land based organisational structures behind the crimes or their structural causes. In essence, blue crime is a problem of *both* land and sea. It incorporates issues of enforcement and policing yes, but also sustainable development in coastal communities, criminal investigative capacities on land and the role of – often external – markets in driving the demand for goods such as illegally caught fish.

Finally, that points to the need for the various actors involved in fighting blue crime to work together in doing so. That involves cooperation, coordination between states, but also between different organisations and agencies within states, and – importantly – meaningful engagement with private or community actors like shippers or coastal communities.

What are the next steps for you in this project?

We plant to explore regional best practices and lessons learned in the governance of, and the fight against, transnational organised crime at sea.

The work we have undertaken thus far has been broad and conceptual, so in the next phase of the project we are going to zoom in. We are about to embark on regional case studies in the Indian Ocean, Southeast Asia, and the South Pacific. In each of those regions, we will do a deep dive into the institutions and organizations that are engaged in that region's flight against organised crime at sea. We want to map who these players are, and to understand how they work together and communicate, and how experience is shared between different organisations, countries, and regions. As part of this field work, we will be running co-production events with maritime stakeholders in each region.

Reflecting on your academic career thus far, are there things you learned in your research on land-based security reform and governance in post-communist contexts that has influenced the way you think about what you are working on now?

There is a great deal of read across between these kinds of issues, particularly with respect to international capacity building and reform sector methods.

Part of the growing interest in maritime security has also been a consequence of the proliferation of international responses aimed at assisting developing countries in their maritime security sector capacities and institutions. That process mirrors what happens on land with security sector reform, and these types of initiatives experience a set of common pathologies.

For example, in both land-based and maritime security sector reform, there is a habit of applying one-size-fits-all solutions to capacity-building which are derived from the experiences of those who have not paid enough attention to local knowledge and the specifics of the problems individual countries face.

I also think that there are some real success stories that have come out of things such as the response to piracy which highlight the importance of informal structures for those operating in security reform more broadly. These informal structures are a different way of encouraging constellations of access, in which actors can come together to identify and work on shared problems while creating a lower bar for participation and effective coordinated action.

Why is it so important to have a good evidence-base to inform our understanding of blue crime, and what work have you been doing to contribute to this evidence-base?

Good policies and responses require good evidence, and we have found that in a lot of cases, a weak evidence base has led to weak responses and poor policies concerning blue crime. Consequently, we are developing a centralized 'one stop shop' which aims to be an accessible resource for anyone interested in blue crime or maritime security and will be particularly useful for policymakers and law enforcement. This centralized evidence base, which will be launched in the autumn of 2022 and which you will be able to learn more about on the Safe Seas website, aims to address a few key challenges:

1. The evidence base aims to be able to inform people on the kind of core issues around blue crimes and raise awareness of blue crime.

2. While there is a lot of evidence about certain crimes, such as piracy and human trafficking, the different sources of evidence in these areas are underlined by very different perspectives, creating a disparate understanding, and making it difficult for policymakers, practitioners, and academics to navigate. Those perspectives need to be brought together in one place.

3. Improving the evidence-base is one way of addressing the current lack of understanding about how blue crimes intersect with one another. Right now, this lack of understanding of the dynamics between different forms of blue crime inhibits appropriate responses from enforcement agencies.

4. There is some great research out there which suffers from problems of accessibility, for example, it might not be readily available in the public domain. We aim to bring evidence together and make it accessible in a centralized way.

I think there is an appetite for work which provides reliable data to inform responses and to help convey the significance of maritime security and blue crime to governments and policymakers who otherwise might suffer from sea blindness, or which see maritime security primarily in terms of naval responses.

How is the covid-19 pandemic transforming blue crime?

There appears to have been some degree of suppression of blue crime, particularly some forms of smuggling, because of states entering lockdown and introducing tougher entry controls. However, the pressure of the pandemic has also created new opportunities for criminals. It is still early days, but there does seem to be quite a significant uptick in piracy activities in the Gulf of Guinea. In the longer term, I suspect that the organized crime groups well-placed to thrive under pandemic conditions are those which are most organized and best resourced – such as those who have been able to stockpile narcotics. The concentration in more organized groups is a really worrying trend.

Those engaging in legal fishing have also struggled during the lockdown, and I suspect that over the long term we will see a lot of economic deprivation and cuts in livelihoods in some coastal communities. We know from previous experiences, such as the 2008 financial crisis, that economic deprivation can push people to turn to blue crime, whether it is illegal fishing or smuggling to help make ends meet. So, there is a risk that we will see a more conducive environment for engaging in blue crime emerge alongside the strengthening of the core criminal groups which have been able to weather the storm through the pandemic.

You cannot understand the impact of covid-19 without understanding how that affects what is happening to people in coastal communities, fishing communities, and regions where maritime crime is an issue.

Mapping The Illicit E-Waste Trade Between the UK and Ghana

In August 2021, PaCCS student placement researcher and University of Cambridge doctoral student Kanchelli Iddrisu wrote for PaCCS about her experiences mapping the illicit e-waste trade between the UK and Ghana as part of her placement with CEMLAWS, the SafeSeas Network, and PaCCS.

I wrote 'Mapping the Illicit E-waste Trade between the UK and Ghana' during a PaCCS placement at the Centre for Maritime Law and Security Africa (CEMLAWS) in Accra, Ghana. The aim of this report was to research the nature, impact, and extent of the e-waste trade between the UK and Ghana. I became interested in transnational organised crime and maritime issues during my time working at a Ghanaian law firm, but my research background is in Education and Law.

The Placement

This placement was an amazing experience. I grew both personally and professionally during the three-month research period. My fieldwork required I reach out to organisations, agencies, and individuals in Europe and West Africa, and this was a massive change from my usual youth-centred research. I have always been interested in environmental law and issues affecting the environment, and this opportunity to study e-waste in depth was beneficial in further expanding that interest. I felt especially connected to this topic as I had visited Agbogbloshie (commonly referred to as one of the world's biggest e-waste sites) several times as a child, and as a young adult have a deep understanding of the reality of the dark side of technological advancement.

Before I started my e-waste research, I did as much reading as I could on e-waste sites globally, and in Africa especially. The lessons I learnt during my MPhil in Education, Globalisation and International Development at the University of Cambridge helped me to grasp poverty as a foundational issue of the e-waste trade, and the implications of global inequalities. I enjoyed speaking to e-waste experts who had been involved with combatting the negative consequences of the e-waste trade for years. Usually during these conversations, these experts would ask me how much had changed in the last few years. I had to tell them that while interventions had increased, the situation was still challenging, with the most marginalised groups in Ghana feeling the effects of this trade the most.

I benefitted greatly from the assistance of the CEMLAWS team, led by Dr Kamal-Deen Ali. When I struggled to organise interviews with less accessible agencies, CEMLAWS was always available to help, and made sure to make me feel included in their office. Dr Tristram Riley-Smith of PaCCS and Professor Tim Edmunds of the Safe Seas Network both supported my research from the UK, regularly reviewing my documents, meeting with me, and guiding me throughout the process. I found this very helpful as I could openly discuss my ideas with them and learn from them.

My placement was a positive experience, but I did experience some challenges. It was not easy getting research interviews. I often had to visit the same office several times to persuade a

representative to grant me an interview, and I worried at the beginning that I would not have enough by the end of the placement. Fortunately, and with the help of Dr Riley-Smith, Professor Edmunds, and Dr Kamal, I was able to interview over 40 representatives by the end of the fieldwork phase of my study. Additionally, I had so much data by the end of my fieldwork that I struggled to choose what was most relevant to include in my report, as e-waste is such a complex industry.

During my research, I observed all covid-19 protocols and conducted most of my interviews virtually, either through Zoom or WhatsApp. Ghana was not on lockdown during this, but most of the people I interacted with were careful and took the pandemic very seriously.

Professor Edmunds gave me a chance to present at the Safe Seas Blue Ideas Lab during my placement. My presentation was 10 minutes, with 20 minutes allocated for questions after. I was grateful for this opportunity as it allowed me to practice presenting my research, and I got to listen to the presentations of people who are experts in their fields. At the end of my placement, Dr Kamal invited me to act as a rapporteur for a National Integrated Maritime Strategy Workshop in Koforidua, Ghana. This was also a great experience and by the end of it I had met so many knowledgeable people involved with the maritime industry in Ghana. The opportunities I have received so far because of this placement have been invaluable.

Findings

Through my research, I mapped eight key sites along the e-waste trade route between the UK and Ghana. In my report I discussed the significance of each site and determined how they related to each other. It was also important to the team that I focus on the illicit aspect of this, so I characterised this feature, and examined the main drivers of the illicit e-waste trade.

I found mapping the e-waste trade and distilling the activities and actors involved into compact sites a complicated process, but I was able to create an overview of the trade by doing this. This ‘site based’ method was suggested by Professor Edmunds, and I found it a helpful way to organise my data collection and structure the report. My findings showed that the e-waste trade between the UK and Ghana is loosely organised, dynamic, and consists of small groups, with actors usually involved with more than two aspects of the e-waste trade at a time. The key drivers discovered were profit, the need or desire for second-hand Electrical and Electronic Equipment (EEE), and the short lifespan of EEE.

My report raised many interesting points. I got to examine the movement of precious materials from e-waste found in Ghana to other countries for profit. I also highlighted the reality of domestic consumption of EEE in Ghana as a major contributor to the generation of e-waste. In addition, I was able to document people’s attitudes to the e-waste trade and the crimes, such as money laundering, that this network could conceal.

My recommendations included:

- During the fieldwork part of this research, it was found that many relevant institutions, offices, and companies were based in Accra, the capital city, and Tema, a port city. Most of the e-waste workers in Agbogbloshie were from the North of Ghana, yet the

interventions to encourage local job creation and awareness of the consequences of informal e-waste recycling in regions in the North of Ghana are limited. It is recommended that Ghana implements more active decentralisation of institutions linked to reducing e-waste flows.

- Digitisation of data should be improved across institutions to increase access to e-waste statistics
- Increased data sharing and collaboration between institutions is recommended. This report found that some institutions were not up to date on current e-waste projects and interventions
- Ghana has signed the Bamako convention; however, it has not yet ratified it. It is recommended that Ghana does this to strengthen collaboration with other West African countries
- Enforcement agencies and prosecutors should be more aware of the crimes that concealed or made possible due to the logistical network that the e-waste trade provides. These crimes include tax evasion and money laundering in the e-waste industry.
- The return of shipments of e-waste back to the UK should be facilitated when appropriate.
- The problem of e-waste is often framed as Ghana's problem. Private actors in the UK such as manufacturers and consumers should be made more aware of their role in this trade.

The full policy briefing which emerged from this placement is available here.

This experience was brilliant, and I am looking forward to future e-waste research. I am thankful to everyone who supported me during this placement. There are many aspects of this trade that need more attention and I am excited to continue my work in this field however I can.

Cyber-TNOC: Online Technologies & Organised Crime

In 2020, we sat down with the University of Cardiff's Professor Michael Levi to discuss his work on how online technologies are transforming transnational organised crime (Cyber-TNOC). This project has received funding through the 2018 ESRC funding call on Transnational Organised Crime: Deepening and Broadening our Understanding.

How did you end up exploring the question of how online technologies are transforming transnational organised crime?

My undergraduate degree was in philosophy, politics, and economics at Oxford. From there, I went on to postgraduate studies in criminology at Cambridge. At the time, that was the only criminology postgraduate course in the UK. During my time at Cambridge, I became interested in long-form fraud – which is when gangsters intimidated fraudsters and then offered them the advantages of economies of scale. In this area, there were a mixture of professional fraudsters, organized criminals, and some people normally doing legitimate business who had turned to bankruptcy fraud when times were hard. After learning about these things, I became interested in how the police and the criminal courts dealt with this phenomenon.

Over the course of my 45-year career, I have continued to be interested in fraud and money laundering. My first research into money laundering started in 1988, when the Commissioner of the Metropolitan Police and the Deputy Chairman of a bank asked me to look at the public-private relationship between police and banks in light of the Brink's-Mat Robbery, where the equivalent of £100 million of gold bullion was stolen. That event raised several questions about the powers of the police and the obligations of the private sector.

When the ESRC asked for projects to be proposed on transnational organized crime, I got together with some colleagues at Cardiff who have worked on drugs, markets, malware, and cybercrime, and we decided to look at the impact of technologies on transnational organized crime.

What has your work on Cyber-TNOC entailed?

Technology has always been part of organized crime. Imagine what a difference the telegraph made, for example, to the speed of transmission of money. So, our aim here is to think about some specifically modern and post-modern technologies, with the goal of understanding what effect these technologies might have on criminal markets. For example, we have explored the impact of the dark web on the markets for drugs, prostitution, malware, and human trafficking. We are interested in how transactions between suppliers and demanders in illicit commodities have changed because of these new technologies. For example, have technologies changed the level of violence involved in organized crime, the ways in which organized crime recruits, or the economics of criminal markets? We are also interested in the social relationships between offenders, and between offenders and victims.

We have used existing resources to set up our project, facilitating cooperation between the private sector, police, and third sector bodies. We have interviewed them about the challenges they have faced and have asked for access to datasets we might be able to analyse which could

shed insight into the development of dark markets. We have also developed techniques for collecting data to assess, for example, how police raids impact the price of illegal drugs. We have been fortunate to be able to recruit people from the University of Montreal and Milan's Università Cattolica del Sacro Cuore who have helped us to develop more global datasets for understanding illicit markets. The research is still in progress, and covid-19 has affected how we are conducting the research – though we know that criminals are also now remote working!

Have you learned anything surprising from the project thus far?

One of the things that surprised me was how dark markets managed to rebound when they are intervened against. I think police raids are important for public reassurance, and they raise the risk for criminals, but we have noticed that even in major undercover operations where police have intervened and taken over criminal markets, other markets rebound and replace them. That leads to a certain pessimism about what we can do and makes me wonder whether we should be thinking quite hard about the role of criminal markets in finding a silver bullet for dealing with transnational organized crime. Our team has been wondering about whether we need to think about other ways of regulating illicit markets, and one member of my team has recently made the point that there is an awful lot of research on drug treatment interventions, but there is very little research on drug markets or the criminal market.

Another thing that surprised me is the number of people contacted on social media who might be willing to lend their bank accounts to criminals, but who do not realize they are interacting with criminals who are engaging in money laundering. These people are asked to lend their accounts for money to flow through and then out again, but many have a blindness, potentially wilfully so, as to how their accounts are being used.

I know that it is still early days for your project, but how do you plan to generate impact going forward?

A big part of generating impact is getting people to think about things they had not considered before. Everybody is busy trying to do a good job operationally, and the value-add that our project can provide is the additional headspace to think strategically about criminal markets on a longer term.

As we go forward, we will be hosting seminars with both the public and private sector and will engage with government and policing bodies. We will be presenting at academic conferences and writing short, policy-focused, and practice-focused papers (because nobody has the time to read a kind of '*War and Peace for Criminologists'*). It is very important for us to not just focus on academic audiences. Some of the findings are uncomfortable, because, in the case of police raids for example, people do not usually want to hear that their activities might be less effective than they think or claim. We need to manage our relationships quite carefully. We do not want to undermine processes or be negative for the sake of it. We want to find both the positive and the critical things for people to try to develop better, more sophisticated strategies, while telling truth to power.

Isotope Profiling of Drugs: A Tool to Disrupt Organized Crime

In early 2021, PaCCS Communications Officer Kate McNeil sat down with the University of Dundee's Professor Niamh NicDaeid and Robert Gordon University's Professor Wolfram Meier-Augenstein to discuss their work on isotope profiling. This project was funded by the EPSRC and fell under the transnational organized crime theme of the Global Uncertainties project.

What are your research backgrounds, and how did you end up working on this project together?

Professor Wolfram Meier-Augenstein: My background is in bioorganic chemistry, and earlier in my career I had done work on biochemical pathways based on radioactive tracer studies. My work had involved mass spectrometry and looking at very small differences in isotopic abundance for stable isotopes in an increasingly precise fashion. I became interested in the various potential applications of stable isotope tracers and became involved in the forensic isotope ratio mass spectrometry network. However, I felt that I did not know enough about what was being done forensically at the time. At that point, I contacted Niamh, and we were invited to an EPSRC sandpit where we were exploring how stable isotope data might add another independent variable to data that Niamh was looking at already.

Professor Niamh NicDaeid: I am an analytical chemist with a background in chemistry and mathematics. I am also a forensic practitioner and undertake case work in fire investigation, investigation of explosives and the examination of illicit drugs. I have applied data analytics to chemical data with the goal of exploring inferences that the data may produce. Our work on a PaCCS-funded project emerged from some work I had been doing on the chemical characterization of drugs, which focused on the synthesis and characterization of ecstasy and methamphetamine. These drugs are synthetic, and we were interested in repetitively synthesizing materials using all of the known methods used by clandestine laboratories to make the same drug, with the same materials, under the same conditions. Inferences about chemical differences in these drugs were being made by forensic practitioners and we wanted to get a better sense of what repetitive synthesis could tell us, and to get chemical profiles of the impurities that were being produced and the inorganic elements that might be present. So, the project grew from there – we put in a grant application to include a range of external partners and received funding which supported our work and the work of two PhD students.

What were some of the key outcomes of your research?

Professor Wolfram Meier-Augenstein: Including conference proceedings, books, and papers, there were more than a dozen written outcomes which emerged from this work. Moreover, our research prompted a response from police professionals – one wrote an article about our work, while others at the Australian Federal Police and the US Drug Enforcement Administration to name just two adopted our toolkit as a standard technique. Ultimately, by cooking these synthetic drugs several times and then studying the products, we were able to understand the isotopic

signatures, and develop databases which could shed light on the recipes used by criminals when developing drugs later seized by police. We might be able to infer what kind of synthetic route had been used to make that drug, making it easier for the police to build a link between clandestine labs to particular drug distribution organizations.

Professor Niamh NicDaeid: Our results produced a lot of useful complementary information that allowed us to open up doors with different law enforcement organizations, including the Australian Federal Police, the Drug Enforcement Laboratory in Washington, and the Royal Malaysian Police. Beyond that, translating the research demonstrated that when we create a data set through repetitive synthesis, we can get meaningful information about the reproducibility of the process and a solid understanding of the synthesised material. This enabled us to begin conversations which gave others the confidence to extend this type of research into other areas such as explosives. We also ended up working on a side project on fibres, where we looked at the stable isotope profiling of un-dyed cotton – through that we could provenance cotton, and we ended up speaking to people in the Egyptian cotton industry who were interested in combatting the presence of fraudulent materials in the marketplace.

Professor Wolfram Meier-Augenstein: I also spoke with American colleagues who were interested in the applications of our cotton toolkit for custom and excise purposes –with some there interested in using it to identify the origin countries of materials so that people could not avoid import taxes.

Do you think your research changed the conversation around the use of these kinds of scientific tools?

Professor Niamh NicDaeid: We were able to take what we did and bring our findings to areas that stretched beyond the domains of forensic science, and our work pre-empted a 2015 report from Mark Walport which suggested that the forensic analytical approach should be applied to other areas such as product authentication. A REF impact case study also emerged from our work, which generated impact at the coalface. Looking back at what we did, I would say that the UK would now benefit from doing stable isotopic profiling in new areas such as synthetic benzodiazepines, synthetic cannabinoids and other Novel Psychoactive Substances that flood the illicit drug market. Other countries are now benefitting from the work that we undertook while unfortunately the UK's capability in stable isotopic work within the forensic science domain has waned and I think there is a need for the UK to re-invest in this technology and to capitalize on the national expertise in this area.

What is next for research in this area?

Professor Wolfram Meier-Augenstein: Right now, advances on our work and really robust outputs are being made by colleagues in Europe, the United States, Australia, Singapore, Hong Kong, and others. Going forward, I think we need to do more to support funding in forensic science research in the United Kingdom, to match the advances that others are now making. For example, the Australians and the Dutch are now studying synthesized explosives, while colleagues at the Drug Enforcement Administration in the United States have done an exceedingly good job on the subject of stable isotope profiling of cocaine and combining these

multivariate stable isotope signatures with chemical signatures. They now extend this approach to fentanyl and its derivatives. The European Drugs Agency (EMCDDA) contracted to me to design a protocol for provenancing cannabis using multivariate stable isotope profiles. I have also been involved more recently in cases on human remains, using stable isotopes to determine where unidentified persons may have previously lived. I have also done some advisory work for the Netherland's Forensic Institute – another government institute which has decided to set up its own stable isotope laboratory – on identifying the production batches used for duct tape then used to bundle drugs and money. We are not doing this kind of work in the UK anymore, which is a real shame. We also need to foster more conversations about the validity of tools used in forensic science, how safe are convictions, and the vital role of longitudinal studies and data-basing to underpin and validate not just forensic stable isotope analysis as tools for successful investigations.

Is there anything else you want to add before we finish up?

Professor Niamh NicDaeid: The summary for me is that from an initial investment out of an EPSRC sandpit that we both attended, we put together a grant proposal, got funded, and carried out a project which supported doctoral students and then proliferated. We demonstrated a proof of concept, we worked with practitioners to demonstrate that our work was scientifically validatable and sufficiently rigorous to appear in a court of law. While the implementation of our work was initially within the UK forensic science area, our work has influenced significant subsequent developments in Australia, the United States, the Netherlands, Singapore, Hong Kong, and Malaysia. That initial EPSRC funding created a real UK success story.

Civil Society Collaborations in Response to Crime & Violence in Mexico

In early 2021, PaCCS Communications Officer Kate McNeil sat down with the University of Aberdeen's Professor Trevor Stack to discuss his work on civil society collaborations in response to crime and violence. This work has received funding from the AHRC.

How did you come to work on issues related to crime and civil society organisations, and what has your work in this area involved?

My background is in social anthropology, although I teach in Spanish and Latin American Studies here at the University of Aberdeen. Much of my early work was on the anthropology of citizenship, trying to understand what it means to people to be citizens in Mexico and the United States. During that research, I encountered the topics of violence, crime, and civil society, which together now form the focus of much of my work.

My work on citizenship and civil society in Mexico led me to conduct ethnographic fieldwork with a wide variety of civil and political organizations, and from 2007-2013 I began to encounter reports of criminal organisations increasingly infiltrating some of the same organisations I was studying. After concluding my research project on citizenship in 2013, I began to focus more closely on how violence and criminal organisations were becoming a major public and political issue in Mexico. That led to work in the state of Michoacan, which was characterized by high levels of violence and organised crime, and where we explored societal responses from organisations to these issues of crime. We are just about to publish a book, *Citizens against Crime and Violence*, which will be released in June, and which presents the findings of that team project.

Since 2019, I have also built on that work by putting together another team who are interested in how civil society organisations engage and collaborate with states and communities. That research team is interested in identifying types of civil society collaborations that exist at present, making recommendations to civil society organisations on how to collaborate more effectively with government and communities. In so doing, our team – which consists of academic researchers and civil society organisations – is also engaging in that process of collaboration. We are working to figure out how civil society can collaborate more effectively with other actors to address different kinds of non-war violence, particularly that exacerbated by organised crime. While my research is centred on Mexico, there are many other countries which are affected by similar problems, and there are signs that these kinds of violence exacerbated by organised crime are on the rise across many parts of the world. The current research team is international and is collaborating with a range of organisations around the world including the Global Initiative Against Transnational Organised Crime, as we work to conduct research which will have a wider applicability across contexts.

What advice would you give for other researchers seeking to collaborate with civil society groups?

We are in the process of developing a guide for civil society organisations interested in collaborating with government and communities in response to the types of violence exacerbated by organised crime. There are so many possible lessons that it's hard to pick out any one or two of them. With that said, one distinction that I have been making recently is between collaborating to complement what state agencies are doing – such as Neighbourhood Watch groups which complement policing activities – and other types of collaborations to change or transform the work of government. In these contexts, and perhaps in many other places, government itself is part of the problems that we are trying to address. Governance is directly responsible for some of the many kinds of violence that we are interested in, and so many people make omissions regarding those kinds of violence. They may not respond effectively or may turn a blind eye to gender-based violence, and so it seems important to be that civil society organisations consider how to collaborate in ways that change and challenge what government itself does.

I also think that even when there are topics which may appear very different from each other… someone working on the intersections between organised crime and terrorism in Lebanon will have something to say to someone working on county lines in Britain, or someone working on cartels in Latin America. There are many overlaps between topics and contexts, and we as researchers have a great deal to say to each other and learn from each other in the broader field of organised crime research. I also lead a centre here at Aberdeen on citizenship and civil society. The centre focuses primarily on political contexts – as they are used out in the world by politicians, media commentators, and organisations, and we have researchers working in places like Iraq and Vietnam who often face similar challenges to those facing our team in Mexico. The topics themselves often connect in ways that you perhaps wouldn't expect.

Finally, I would want to acknowledge the difficulty of both conducting research and working to generate impact within a context where the stakes are very high. The UK academic context pushes us to seek impact for our research, but in fieldwork we are often confronted by dilemmas about how to push for some positive impacts, without inadvertently creating some particularly negative ones. It is important to be aware that there are wrong kinds of impact, and to be very cognisant of trying to avoid them, particularly in difficult contexts.

What is next for your research?

Beyond my current project, I am interested in developing a more acute understanding of some of the complex challenges facing places where violence is exacerbated by organised crime. I want to conduct comparative research, drawing upon findings from different parts of Mexico and research from other contexts, to understand what we even mean by organised crime. That has been a major challenge to me personally – taking the time to reflect on the basic concepts in the context of complex, local cases, to gain the understanding that is often missing or difficult to obtain in a regional context because of the nature of organised crime activities. That detailed understanding is going to be essential to make any kind of headway against these very complex social, economic, and political problems.

Building Safer Communities

In late 2020, PaCCS Communications Officer Kate McNeil sat down with Manchester Metropolitan University's Professor Jon Bannister to discuss his work on the ESRC-funded Building Safer Communities project, funded during his time at the University of Glasgow.

How did you end up working on Building Safer Communities?

I am an urban criminologist with a multi-disciplinary background. I am interested in how urban processes and transformations impact upon people's wellbeing, with a particular focus on crime. My research on crime is embedded it within an urban and criminological theoretical framework. I have researched multiple topics including violent crime, community safety and policing.

My work on Building Safer Communities was proposed in response to a call for impact-focused research from the ESRC, which was linked to supporting organisations in accessing the best possible evidence base to inform their policy and practice. Prior to the project, I had already developed an interest in knowledge exchange and knowledge mobilization, and I was motivated by this opportunity to use what I knew to bring about positive changes in societal well-being. I was motivated to explore how those working in crime prevention in the private, public, and voluntary sectors might make better use of evidence in support of effective, efficient, and equitable service delivery.

What did the Building Safer Communities project entail, and what emerged from it?

The Building Safter Communities project focused on community safety partnerships in Scotland. From 2009-2010, we were funded by the ESRC to help develop resources for these partnerships. The project was so successful that after the ESRC funding ended, the organisations involved funded me to continue that work for another few years. During that time, we built a range of resources which, in a simple and affordable way mirrored much of what has subsequently been developed by What Works centres. We sought to ensure that the developed evidence base was communicated in a manner to meet the needs of the policy and practitioner community. We achieved this by engaging in dialogue with these partners throughout the project. The intention here was to understand the challenges that local communities were experiencing, and what interventions policymakers and practitioners were able to advance – then we negotiated between the two as we developed our evidence base, collaborated on analysis, and produced outputs in accessible formats. Though my involvement with those organisations in Scotland has since come to an end, many of the things we started have evolved and continue to exist in different forms.

From the project, we produced multiple papers, as well as a book on knowledge mobilization which was designed to explain why academics hold an obligation to engage with policymakers and practitioners across the public, private and voluntary sectors. This book was also designed to provide information on how to best work with policymakers and practitioners to bring about change. We had learned throughout the Building Safer Communities project that a coproduction approach, one in which all those involved in a particular challenge felt that they had ownership of the research and its end products, was vital to its success. We wanted to share that knowledge with others.

What are you working on now?

While I still maintain significant research and policy links in Scotland, I am now based in Manchester. My current work involves working with the police to make better use of their data to enable them to offer more effective, efficient, and equitable service delivery, a clear link to my previous work. For example, I have recently completed projects aimed at improving the risk prioritization of victims of domestic abuse, addressing knife crime, improving understanding of the policing of mental ill-health, as well as numerous studies of shifting inequalities in the exposure to crime. My work continues to be driven by my belief in the value of coproduced research, and I continue to be informed by my understanding of the interface between crime and the urban environment.

I continue to produce academic papers for academic audiences, but I also do a lot of work which is targeted at policymakers and practitioners which relies on alternative engagement and dissemination approaches. When we write for policymaking audiences, we use short pieces, with photos, and which take a narrative approach to ensure that we are engaging with our audience. We also produce blogs, host webinars, share slide sets with our partners. It is important to work directly with the users of research because this is most likely to result in the uptake of the research and the achievement of meaningful impact.

Based on your experiences as a crime researcher, are there areas where you think the research community needs to improve or evolve its approach?

Two things. Firstly, doctoral training schools provide strong theoretical and methodological training, but they fall behind in training towards knowledge mobilization. You need certain skills to be able to speak in different ways to different groups, and a lot of academics do not have that skillset. Moreover, while established professors can contact organisations and initiate projects, scholars earlier in their careers do not have the resources or power to be able to broker these relationships unless they are fortunate to have powerful mentors to do it for them. Academic institutions require to establish these resources – training and networks.

Secondly, and specifically thinking about the social sciences, we need to advance our learning through comparative research design. For example, we need a clearer understanding of whether crime problems and their solutions are (and require being) unique to particular contexts or shared (and can be shared) across multiple localities and polities. This demands increased academic and policy collaboration and the development of clearly evidenced comparative programmes. While research into crime is increasingly multidisciplinary and employs mixed methodologies, not enough is being done to explore issues across multiple sites, so that we can distinguish the global from the local. Just because something works in one way and in one place does not mean that the same applies elsewhere.

Preparing for Impact: Bridging the Gap in the Anti-Slavery Space

In 2020, Dr Juliana Rinaldi Semione, a Communities & Society researcher at the University of Nottingham's Rights Lab, wrote for PaCCS about her experiences working on a PaCCS-funded research placement on bridging the evidence gap in anti-slavery work and research.

I wrote 'Preparing for Impact: How we can overcome barriers and cultivate a culture of collaboration, understanding, and respect to achieve impact on survivor support' during a PaCCS placement as a policy researcher in the Office of the Independent Anti-Slavery Commissioner (IASC). The aim of this review was to bridge the gap between anti-slavery researchers on one side and evidence users on the other. The outcome of successful bridge building in this space will be stronger, evidence-informed survivor support practices across the various sectors that meet in the anti-slavery field. During Spring 2020 I was seconded to this placement from my work as a Rights Lab PhD candidate and research associate. My research background is in modern slavery, but I have always had a foot firmly planted on the evidence user side of the 'gap,' as well. That is why this placement was so compelling to me.

The Placement

I have told friends and colleagues that this placement was an excellent experience. I met scores of individuals from across multiple sectors, not only expanding my network but expanding my perspective on the vast array of activity within my own field. And the relatively rapid pace of the project from my start date on 20 January to the review's 2 July launch afforded me my first experience of independently seeing a project through from concept to completion—discovering, along the way, the benefits - and the limitations - of a project with a hairpin turn around.

As positive an experience as the placement was, the project faced its share of challenges. The placement, initially slated for three months full-time, ultimately ran for six. This was the result of the back-to-back University and College Union (UCU) strike (they called it their biggest ever) and onset of the covid-19 pandemic in the UK. With many of the stakeholders on the 'researcher' side of that figurative gap either striking as UCU members or striking in solidarity, my data collection efforts were not producing enough information to meaningfully include researchers' voices in the review. As the effects of covid-19 set in across the country and when a full-on lockdown was officially enacted, individuals on both sides of that gap became nearly impossible to reach. I suspect many of us—myself included—will remember the early days of the pandemic as largely unproductive, as we faced the disorientating and sudden shift to working from home and coming to grips with the fact the world as we knew it had come to a screeching halt.

Completing a rapid-turnaround research output while up to half of my participants were striking and during the onset of a global pandemic was an interesting experience. Probably, reflections on this could fill out the remainder of this post. Both PaCCS and the IASC's office were flexible and completely understanding in light of these challenges, and we agreed to spread my

remaining time on the project across the remainder of the spring term on a part-time basis, thus stretching the placement from three months to six.

My research plan itself faced a third challenge—this one garden-variety. I changed research strategies partway into the project. 'Preparing for Impact' features nine case studies demonstrating real-world examples of obstacles to impact and good practice in overcoming them. Initially, the goal was to feature twelve case studies demonstrating research that had impact, research that did not have impact, and research that created 'buzz' but had not achieved impact to date. But despite dozens of topical pieces of literature, it proved difficult to conclusively put most of them in one of these three categories (the reasons for this are described in the review). What did emerge was a clear set of themes: there are six common barriers to impact and there are three cultural values that our field must embrace to achieve impact. With a short-term project and with the aforementioned challenges to connecting with interviewees during a critical stretch of the project timeline, revising the research strategy became necessary. Once again, PaCCS and IASC were flexible and understanding. We agreed a revised research approach together.

I will offer one final word about my experience during this placement. From day one, both the IASC's office and Tristram Riley-Smith's PaCCS team welcomed me as a team member. I had access to office space (until lockdown), was introduced to stakeholders as a member of both teams whenever meeting someone new, and I never felt I was a burden to anyone when I asked rookie questions about the ways of the office or the Civil Service. PaCCS and the IASC's office embodied some of the very recommendations I make in the review. Any realistic reflection must acknowledge areas for improvement, of course, but many barriers to conducting research were proactively removed and most of my interactions with PaCCS and the IASC team were characterized by a spirit of collaboration, understanding, and respect. I look forward to follow-on work with the IASC as the office seeks to implement 'Preparing for Impact.'

Research findings

Survivor support research is not informing policy and practice as often as it should. Yet many stakeholders communicated an appetite for quality evidence and an eagerness to put it into practice. And researchers, of course, are eager to see their work applied. This is how I know 'Preparing for Impact' was worthwhile, and why it leans so heavily on ways *forward*. We have the will to achieve impact in the anti-slavery field. Just not, it seems, a very long history of choreographing that forward movement together. So, what occasions our relatively short repertoire of research with definitive impact upon the field?

The six barriers to impact most commonly named by interviewees were access, feasibility, funding, preconceptions, relevance, and time. Additionally, there are three values that anti-slavery stakeholders say they hold—and expect one another to embody: collaboration, understanding, and respect. The good news is that, for every barrier named, there were examples of stakeholders overcoming it. And for each of the values appealed to, there were examples of how someone was already exemplifying them.

The review's recommendations (further detailed in the document itself) were written for individuals on both sides of the figurative gap. Impact, the marriage of research and practice, cannot be achieved unless both parties are committed.

1. Plan for impact from the beginning
2. Respond to issues on the ground
3. Be realistic and specific
4. Make research accessible to stakeholders
5. Share findings strategically
6. Receive the questioning of frameworks and processes with an open mind
7. Take proactive steps to understand each other's worlds
8. Gain first-hand experience of anti-slavery work
9. Communicate throughout the research process
10. Share emerging findings

The importance of strategizing to overcome barriers should not be diminished, but I would be remiss not to reiterate interviewees' emphasis on the values of collaboration, understanding, and respect that undergird impact—values that can stand in spite of barriers on occasions when overcoming the latter seems especially challenging. Concerted efforts to overcome those six barriers will allow us to build a bridge; the three values will guarantee it is structurally sound.

This review is a reflection of the field—a reflection of the experiences and aspirations of individuals on both sides of our figurative gap. So how do we undertake this bridge building? Paired with the case studies and overall narrative of the review, my ten recommendations provide instruction. But what the review reflects is a call for a shift at the heart of our field; the fact is, our present culture is not entirely conducive to our purposes. What do we require of one another if we are to see impact realized? A refreshed approach to each other and to our field itself, and personal investment not in impact alone, but in survivor support itself.

Transparency in Supply Chains: A PaCCS Placement with TISCReport

In early 2021, Lancaster University's Yongyu Zeng, then a doctoral researcher at Manchester University, wrote for PaCCS about her experiences completing a student research placement with the TISCreport, which explored approaches to tackling modern slavery in supply chains.

The research report "Progress & Challenges in Tackling Modern Slavery in Local Government Supply Chains" emerged from a three-month Policy Placement that I undertook with the Partnership for Conflict, Crime & Security Research (PaCCS) and the TISCreport. I was delighted to be involved in the organisation's work, and to have the opportunity to collaborate with TISCreport CEO Jaya Chakrabarti as part of my secondment.

Jaya is extremely passionate about delivering positive social and environmental impact through the application of sophisticated techniques which can improve corporate transparency. Throughout my placement, I played a key role in exploring the state of ongoing work to improve transparency in local government supply chains through a research project I co-designed, co-managed, and executed in collaboration with Jaya and the PaCCS team.

My placement greatly benefitted from the time and efforts devoted by Dr Tristram Riley-Smith, my supervisor at PaCCS who provided thorough support and professional comments on the final report; Jaya Chakrabarti – who offered substantive insights into my topic; the University of Cardiff's Professor Mike Levi – who provided professional opinions on the project and offered feedback on the initial draft of the survey; and Kate McNeil – who produced the policy briefing and made sure that the research findings were seen by people.

The goal of our research was to empirically investigate the challenges facing local government officers in tackling modern slavery in supply chains. More specifically, our work explored to what extent relevant measures have been employed in the procurement cycle. We also examined the factors which influenced the measures undertaken by local authorities to improve supply chain transparency. Our research uncovered encouraging progress by local authorities in actively contributing to modern slavery risk assessments, and in driving suppliers towards socially responsible practices. However, there remain gaps between aspiration and practice, which we suspect to be linked to challenges in financial resourcing.

Using our findings, we produced a list of recommendations which are addressed to stakeholders in local, regional, and central government. These recommendations outline steps which could be taken to strengthen their efforts to improve supply chain transparency and tackle modern slavery. We believe that by promoting best practices and sharing practical solutions among local authorities, certain challenges associated with the implementation of the TISC Provision can be overcome.

My policy placement offered the opportunity for close collaboration with an industry partner and provided me with the opportunity to conduct research which delivered impact. In the initial stage of the placement, Jaya shared with me her insights on the challenges I might face over the course of my work – including in accessing up-to-date supply chain information – and shared her

knowledge on assessment of corporate impact and the risk posed by criminal activities throughout supply chains. Faced with a tight timeline, close collaboration throughout this project was vital in efficiently carrying out my research. From this starting point, I conducted a literature review to refine the research question. Then, we co-developed a pilot survey and administered it during the height of the pandemic and conducted in-depth interviews with officers from local government.

Surveying and interviewing local government officers during the pandemic proved to be challenging. However, we were able to use TISCreport connections with local government as a starting point, and to build from this effort through “snowballing” to reach a larger set of participants. For this, I sincerely thank the local government officers who took part in this research, and who have worked so hard to support communities during this difficult time. I hope our report sufficiently represents their voices and helps to develop solutions which address the issues they have encountered in risk-screening suppliers.

Modern Slavery Through the Eyes of a Historian

To mark Anti-Slavery Day in 2019, PaCCS sat down with Professor Kristofer Allerfeldt, an Associate Professor of History at the University of Exeter, to discuss modern slavery from the perspective of a historian.

Tell us about yourself, and the broad areas of research you are involved in?

I am an Americanist and a historian of the period between 1845 and 1941. I have worked on all sorts of different projects during that timeframe, but my research broadly concentrates on crime and criminality. I work on areas including organized crime, criminality, enslavement, and the Klu Klux Klan. What really interests me, and the common theme throughout my work, is trying to understand why people do things they're not meant to do or why they do things they are despised for doing.

How does the history of modern slavery feature in your work?

My interest in modern slavery emerged from my work on organized crime because I discovered that frequently aspects of slavery were often tied to criminal gangs. For example, in the US, that relationship emerges from a Chinese perspective, African American convict leasing and the white slave scare in the early 20th century, and then continues from there.

I also got really interested in the idea that there was a specific development of legislation that headed towards classifying modern slavery in the American context with ideas of human trafficking, and particularly sex trafficking.

You wrote a piece on Marcus Braun and white slavery. What are the key takeaways?

Marcus Braun was a very publicity-hungry character, and he saw the public agitation surrounding white slavery as a way of making his name. His initial investigations looked at ideas of white people being enslaved and being used as forced labour. However, he then realized that this was not really rocking the public's boat, so he shifted his attitude to become more in line with his contemporary agitators – focusing white slavery as the idea that young girls were being kidnapped and used as sex slaves.

What is interesting about Marcus Braun is that he later moved away from that, saying that there was not much evidence that that was really happening. However, the moral lobby of the US viewed things differently, and started cherry picking his investigation. They were taking his writings out of context and using them to argue the opposite of his main message. The moral lobby really wanted to see themselves as people who were bringing in this modern-day, Lincoln-style, abolition.

Those events really drew a line between American perceptions of modern slavery, and British perceptions. To get a rough idea of what this was … I set up a Google Alert [English language], which showed that about 98% of the human trafficking search results in the present day were American, while 70-80% of the ones which used the term 'modern slavery' were British. That difference in perception and language draws upon this history from the early 20th century.

Interestingly, the same thing happens again at the turn of the 21st century. You have a shift away from the idea of the 2000s legislation [Trafficking Victims Protection Act] which aimed to control modern slavery, which was very forward-thinking legislation. It was hijacked by a moral lobby who pushed for this legislation to work against prostitution. That is essentially the same event being repeated, and to me that's where the significance of this history lies.

And the consequences of that moral lobby then have effects on the extent to which that legislation protects people who are victims of other kinds of modern slavery?

Exactly. If we look at modern investigations of slavery, for example Mexicans being used as slaves in agriculture, the newspaper coverage of that is minimal compared to the sex trafficking aspects of modern slavery. Which has impacts on public perception. It is a very interesting conundrum, and a clear example of history repeating itself.

How is this language split been reflected in British and American differences in legislative approaches?

British legislation has been very different from American legislation. The thrust of it is that American legislative efforts started off in 2000 with a very sophisticated, interesting, targeted legislation, but emerged from that process with pretty standard anti-slavery legislation which focuses on continuity with the processes after the 13th amendment. These tend to see the enslaved as foreign, or alien in some way. So, the enslaved must brought into the US specifically to be enslaved. It is not focused on those people that are being exploited who are American citizens.

Meanwhile, the British legislation is very different. It introduces the idea that we have got to track slavery through the supply chain. It is an interesting difference in approach. One which I am not certain stems from differences in perception of who are modern slaves, but rather may come from the history of how slavery has been perceived in those two countries.

You did some work funded by the PaCCS research stream focused on transnational modern crime, which focused on the British 2015 Modern Slavery Act. What can you tell me about that project?

I brought together people who work on disparate aspects of modern slavery, including academics, the Chief Constable of Devon and Cornwall, and others from different elements of society whose work touches upon this subject. One of the things I was interested in discussing with them is the question of what the growth areas of modern slavery might be in the future. One of the theories we came up with is that legislation and public perception in terms of what constitutes slavery changes all the time.

In the US, that evolution of what is considered slavery starts with the 13th amendment, while in the British Empire it began with the abolition of slavery in 1834. Since then, we have different ideas of slavery evolving. We have the idea of Chinese gangs, of contract convict labour, and the idea of white slavery I have already discussed. Looking to the future, are we going to be looking at people being enslaved by multinational corporations? Might people be enslaved by the algorithm? We discussed the idea of artificial intelligence and how its development will contain

possibilities of enslavement for people. Kay Firth-Butterfield, Head, Artificial Intelligence and Machine Learning, World Economic Forum, had some interesting things to say on that subject. Where we go with the future of modern slavery is now my favourite hobby horse.

Well, where do you think we will go?

I do not know, and I wish I knew. I am fascinated by the idea of enslavement by the algorithm. However, part of me thinks that the term 'slave' is so emotive, such a horrific idea which conjures up so many images, that maybe the loss of privacy should not be regarded in the same breath. Part of me feels that it is demeaning people in the past who experienced slavery to do that, but I do not know. Apart from anything else, these ideas are a fascinating intellectual problem, and one that is becoming fashionable. I am looking at my bookshelf and I have got 20 or 30 books which say similar things about privacy, and how we are going down a route where we will never be able to think of privacy again in the same light.

Beyond that, modern slavery is a high return, low risk form of criminality. Until we change that, until we get some big convictions, I suspect that it will probably remain pretty much that. We will continue to see the exploitation of people at the bottom of the pile – the so-called Precariat.

What is one thing you learned while working on your PaCCS project that you would like the broader public to be aware of?

The policing aspects of modern slavery have become so difficult in part because of the widening perception of what constitutes modern slavery. There are a couple of very famous cases now involving enslaved agricultural workers where it was almost impossible for the police to get in and sort things out.

The other thing I thought was very interesting is the statistics the police released to us. These showed that well over half of the people who have been enslaved or have been convicted in the UK for modern slavery are native-born British Citizens. We need to break the stereotypes that this is a problem of 'foreigners.' A Vietnamese girl in a nail bar, or an Eastern European worker on a large farm, these are not our only modern slaves, and we need to get away from that perception.

Were there any other final key takeaways you wanted to share?

I would say perhaps the key takeaway is that legislation may not be the way to stamp out modern slavery. Maybe it's too clumsy a tool to be able to utilise. Perhaps we need very broad legislation, and more imagination in how we enforce it. During my PaCCS project I learned that people working in this area find it so difficult, because current legislation is both so broad and so specific at the same time.

In the US context we can say it is also not about simply working with the 13th amendment, which essentially outlawed slavery, but rather coming to grips with the idea that perception of slavery at that time and perceptions of slavery now are very different.

Last question. If you got to recommend one piece on this subject to policymakers, what would it be?

I would recommend *California Bound* by Jean Pfaelzer. It is a history of slavery in California which shows the evolution from California as a "free state" in the Gold Rush, through to the present day. Along the way, it addresses Chinese enslavement, ideas of sexual enslavement, and workers being exploited and enslaved in California marijuana plantations. It is beautifully written, and it runs through a clear narrative of how slavery evolved and changed, and how we got to the present-day situation. I think that is a good lesson for any legislator. We are in a position where we are essentially playing whack-a-mole. You get one aspect of the issue, then it pops straight back up again elsewhere.

Other people doing interesting work in this area include Austin Choi-Fitzpatrick who has done some fascinating work interviewing people who have been convicted of modern slavery offenses in Northern India, and Kevin Bales, Professor of Contemporary Slavery at the University of Nottingham. He started the modern debate surrounding this issue, and he is both passionately articulate and interestingly original.

VI. Cybersecurity & Emerging Technology

Foreword by Tom Ilube, CBE

Tom Ilube is the founder and CEO of Crossword Cybersecurity. He is an entrepreneur and philanthropist with wide ranging experience in the technology sector. He is also an honorary fellow at the University of Oxford's Jesus and St Anne's colleges, and he has previously chaired the UK Government's Technology Strategy Board's Network Security Innovation panel. In the below text he reflects on his experience with cyber security academic research in the UK.

Britain has for decades been a world leader in cyber security academic research.

A few years ago, working in partnership with PaCCS, my company, Crossword Cybersecurity plc, comprehensively mapped the UK's cyber security research landscape. We identified over a thousand cyber security related research projects that had received in total over £1 Billion in funding over the preceding decade.

The challenge that we saw was how to ensure that this treasure trove of research could have real-world impact. Britain was not punching its weight in terms of the contribution that this wealth of world-class research was having across industry. I founded Crossword to take on this challenge and over the past few years we have built relationships with over forty universities and collaborated closely with several, in different ways, to bring their research work to market. In the process we have learnt interesting lessons about what works in terms of collaboration between industry and academia.

Our first collaboration was with City, University of London. Professor David Stupples and his team had undertaken interesting research around quantitative approaches to assessing cyber risk in large organisations. We licensed that intellectual property and used it as the basis for building a software platform called Rizikon, a cyber risk assessment platform delivered as a service. As we took the platform to market, its focus shifted to evaluating cyber risk in supply chains, a very topical area. Today, Rizikon is a revenue-generating service being used by over 500 organisations in multiple countries.

Around the same time, we met Professor Siraj Shaikh, then of Coventry University. His research on early warning systems for cyber threats was compelling. I personally took the lead in creating a new company, CyberOwl, to commercialise this research, acting as interim CEO, raising venture capital within a matter of weeks, hiring a full-time CEO and CTO and chairing the company for the first year or so. CyberOwl is now a rapidly growing and high profile British cyber start-up, making 'waves' in the maritime cyber security sector.

CyberOwl took a different journey to Rizikon. It was clear to us at the start that it needed to be a stand-alone company in its own right, to attract investment rather than being a product within the broader Crossword portfolio. A mistake that is often made in trying to commercialise academic intellectual property is to assume that every piece of IP needs to result in its own spin-out company. That is not the case in our experience. It's very much horses for courses.

The next company that we created, ByzGen, followed yet another path. The starting point was a series of brainstorming workshops that were hosted by Professor Tim Watson at Warwick University. Over several months, we explored ways in which blockchain technology could be used in a cyber security context, leveraging the expertise that the Warwick researchers had in this area. Eventually we focused in on a specific application in the military domain and approached the Defence Science and Technology Laboratory (Dstl) for support on an R&D project. Later on, we worked with Professor Bryan Ford, an expert in distributed ledger systems at the Swiss Federal Institute of Technology in Lausanne (EPFL). Up until this point we had not decided whether our collaborations would result in another product or a new spin-out. But in this case, we decided to spin-out ByzGen, because the product we had in mind was going to target the defence sector and we felt it needed dedicated focus and its own investors. We managed to attract General Sir Nick Houghton, the former Chief of Defence Staff of the British Armed Forces to take on the role of Chairman, as well as securing venture capital investment and recruiting a top-class former Army officer as ByzGen's CEO.

Identiproof illustrated yet another model. In that case, Professor David Chadwick of the University of Kent and his team had already created a spin-out, called Verifiable Credentials Ltd. Our Chief Product Officer, Jake Holloway, had worked with the team on the CyberASAP programme, an excellent collaboration programme supported by DCMS, helping them to shape the business and consider routes to market, a challenge that academic spinouts often wrestle with. This led to a broader conversation about whether the spin-out company would be better off under Crossword's umbrella. So, Crossword acquired the whole company, buying out the University of Kent and absorbing the team, enabling us and the team to launch its product, Identiproof, into the market. Academics are often well-versed in finding grant funding and the acquisition brought with it several research grants that have enabled us to push forward standards in verifiable digital credentials.

Crossword has also collaborated with Academia to enhance our existing thinking in an important area. In 2020/21, we worked closely with Liverpool John Moores University (LJMU) on a "Manufacturing Made Smarter" project, funded by InnovateUK's Industrial Strategy Challenge Fund and focused on supply chain research. LJMU brought rigour and structure to the research which anchored our conclusions and prototypes in reality.

Several years ago, Crossword was commissioned by the Department for Digital, Culture, Media & Sport (DCMS) to bring together a group of leading British cyber security academics with their USA counterparts, to explore how their academic institutions collaborated with industry. The group of British academics visited MIT, Harvard, Stanford University and University of California, Berkeley as well as holding discussions with the Department of Homeland Security, a range of Silicon Valley venture capital firms and others. Subsequently, we invited academics from the USA to visit us and we hosted discussions at Imperial College and elsewhere. This led to a detailed report highlighting key learnings from commercialisation models in the USA. Crossword also launched a project involving Imperial College, Edinburgh University and MIT alongside a

global investment bank, a leading insurance company, a British retail bank and a Big Four consulting firm in exploring the used of AI in cyber security.

What have we learnt from all this activity? Firstly, it is fair to say that it is hard work bridging the gap between industry and academia and it takes committed companies like Crossword and others, to make this work successfully. It is not enough for venture firms or corporate investors to simply write a cheque to enthusiastic Professors and expect to see amazing commercial results. It needs to be much more hands-on than that.

Academia needs industry for access to real-world problems, systems and most importantly messy, large-scale, real-world data. Industry needs academia for structure research, access to patient grant funding and multi-disciplinary approaches. Academia has a unique ability to bring together computer science, maths, psychology and even dance and comic strips (!) to explore complex cyber security challenges. After all, let's not forget that Bletchley Park embraced historians, classicists, crossword puzzle champions and mathematicians to solve very real-world problems!

Collaboration between cyber security academia and industry is an incredibly rich source of benefit to both parties and to Britain as a whole. This is one area that is genuinely win-win. By collaborating with industry, academia can see the direct impact and benefits of their work. Industry can create value for itself and its academic partners. As a result of this collaboration, Britain sees cyber risks reduced across the board, and at the heart of this collaboration over the past decade and more has been the work of PaCCS bringing industry and academia together to help all of us understand current and future global security challenges.

Games and Abstraction: The Science of Cybersecurity

In Summer 2021, we sat down with Professor Pasquale Malacaria, a mathematician and computer sciences researcher at Queen Mary University of London, to discuss his work on Games and Abstraction: The Science of Cybersecurity. This project was funded by the EPSRC.

Tell us about your research background – how did you end up working on this project?

My background is in theoretical computer science: in the past I worked mainly on mathematical foundations for computer programs. I am interested in the mathematical objects that computer programs are, and I more recently have begun to explore the mathematical foundations of computer security. My interest in the Science of Cybersecurity project was fuelled by an interest in what it means for a system to be secure from a mathematical point of view, and the project also drew on my interests in game theory and information theory in mathematical disciplines.

What were the main aims of the project, and what theoretical advances were you able to make?

This project really emerged from collaboration with Chris Hankin, a colleague at Imperial College. That collaboration was driven by the question "*how can we help people make better security decisions using game theory?"* Out of that question emerged two main objectives, the first of which was to examine game theory in cybersecurity modelling. Game theory is the mathematical theory for modelling adversarial behaviour. It can naturally be applied to the kinds of conflicts that involve organizations or security rules. While people had written about game theory and cybersecurity before, we thought the existing theories were leaving out some important components. For example, if your idea of security is changing your password every day because you think that is the most secure way of dealing with passwords, then there are consequences to your policy – namely that you will forget your password. So, we argued that any kind of security measures that may be positive, can also have some negative consequences – and our work introduced those consequences to the modelling, which increased the model's sophistication.

Secondly, in terms of the advances were able to make in mathematics, these kinds of games could not be solved well with existing mathematical techniques, because there are many possible strategies, which made doing the calculations very difficult. Our work has been looking for a way to solve these kinds of games more efficiently.

What about the more practical side of your research?

At this stage, we are very happy with the theories that we developed, so the important next step for us is to look for a case study where we can showcase our work. One area of potential application is critical infrastructure, in areas such as electricity grids, or water or gas supplies. This kind of infrastructure is clearly a big target for cyberattacks, as exemplified by the recent cyberattack on a gas pipeline in the United States. So, it is very important to have optimal cybersecurity in these contexts, and we are developing a case to use our tools and techniques to optimize cyber defences for these types of infrastructures.

At the same time, we are also developing a case study for a hospital. Cybersecurity in hospitals is also very important, because you want to protect patient data, and you do not want attackers to take control of machines which could cause damage, for example x-rays or scans with electromagnetic resonance that could be harmful.

Based on the findings of your recent research into cybersecurity, do you have any recommendations for regulators or policymakers?

There are some challenges in cybersecurity that fall outside of the work of academics. My background is as a theoretician, but in cybersecurity the theory is only one of the things involved. Cybersecurity also involves financial commitments, and it involves data. Organizations often do not want to disclose cybersecurity data, because it does not look good for them if people know that an organization is often being attacked. However, that makes it very difficult for us mathematicians to have the data we need to test and improve cybersecurity theories. We need policymakers to help by creating the space for testbeds for cybersecurity ideas, and we need policymakers to help facilitate the links with industries and data we can use to help tackle the cybersecurity challenge.

Where do you see your research in this area going from here?

After our initial round of EPSRC funding, we received additional funding which has helped to fund our case study research. I am also working on a follow-up project focusing on AI cyberthreats in a home environment. With that project, we are exploring the threats home users may face as we are exposed to devices that are more and more intelligent, and therefore potentially more of a threat in terms of their capabilities. So, we want to develop strategies to help protect home users, and at this stage I am beginning to involve industrial organizations in applying this idea, because the theory is quite mature.

Malware Behaviours in a Changing Cyberthreat Landscape

In late May 2021, PaCCS Communications Officer Kate McNeil sat down with Cardiff University's Professor Omer Rana to discuss his work on Modelling Victim, Business, Regulatory and Malware Behaviours in a Changing Cyberthreat Landscape. This project was funded by the EPSRC.

What's your research background, and how did this project come about?

Professor Omer Rana: I am a computer scientist, and my work has mainly focused on distributed computing. I became interested in cyberattacks which occur on systems, particularly as we move to greater reliance on cloud services online. While computer scientists often work in a very siloed environment, over the years I have learned that great impact can come from learning and working at the periphery of multiple areas. Multi-disciplinary, multi-perspective approaches often give a focus to a given problem in a way that leads to some really interesting outcomes. This project was my first go at applying a deep level of multidisciplinary to questions in cybersecurity.

What did this project entail?

We worked with people in law, computer science, social sciences, and the economic side of cybersecurity to explore a multi-perspective approach to cyberthreats – particularly how they affect users, and when users become victims of cybercrime. We were interested in understanding user behaviour in online services, particularly in cloud computing. One angle of our research focused on trying to understand the types of attacks which happen, while a second strand of our research – led by Professor David Wall – focused on the legal and social aspect of cybercrime. He explored why prosecution of cybercrimes is so rare, potential changes needed to the Computer Misuse Act, regulatory compliance, and the types of evidence that needs collecting in order to prosecute cybercrime cases.

Was there anything that particularly surprised you as you conducted this research?

One strand of our work involved obtaining data on cyberthreats coming onto a university campus, using cyberthreats at Cardiff University as our case study. We were shocked to discover that there were thousands of attacks happening in university environments over just a few days. Over a four-day period, there were roughly 40 000 cyberattacks on Cardiff University's systems. The most common attacks in a university environment turned out to be on the Microsoft Remote Desktop protocol.

What were some of the outcomes of your research?

Our findings explored how, and to what extent, we should alert users of the risks and potential threats that they face online. We also created a software tool which collects data from campus-based environments in order to characterize this risk and applied a mathematical model which can now be used to assess risk signatures in campus environments.

What would you want policymakers to know about the findings of your work?

My colleague David has been drawing upon our findings to make a case to policymakers about how cybercrime can be better prosecuted, and the limitations that we presently face around the interface between people who commit cybercrimes, people who are victims of those crimes, and law enforcement. We have been exploring how the Computer Misuse Act might be extended to make it easier to prosecute some of the people committing cybercrimes. For people using online services, we need increased reliability and assurance that the law is there to protect them. From a policymaker's perspective, more needs to be done to highlight to users how the law protects them online – this needs to be more visible and explicit to users. Secondly, we need to figure out how cloud service provides can better support legal prosecution services in order to bring justice where people have committed cybercrimes.

What are you working on now?

The *Modelling Victim, Business, Regulatory and Malware Behaviours in a Changing Cyberthreat Landscape* project led to two other funded projects, opening up this multidisciplinary cybersecurity focus for us. Recently, we have done a lot of work on cybersecurity in grid computing and cloud computing. During the pandemic, as workforces have gone remote, questions around cybersecurity for distributed systems have become particularly important.

With everyone using online services, we are interested in how that impacts users and providers. I am particularly interested in how to ensure a greater level of transparency for the users of cloud services, including how those services manage user data. Here at Cardiff for example, we have been outsourcing our email systems and internal services to third party companies like Microsoft Office, while individuals often share data with photo sharing sites like Flickr or Smugmug. When I give my data to a cloud service provider, the cloud service provider might share this data with a variety of other services which operate in the background – including advertising services and profiling services. As the user, I never know that that whole behind-the-scenes ecosystem of services exist, because I am only interacting with one website. So, I want to understand how we could expose those behind-the-scenes interactions, while exploring the concept of GDPR in the context of cloud services.

What is next for your work?

We are all connected to the Internet of Things. We have devices at home, and the number and types of things we can connect to online services are increasing. In the future, for example, we will have smart vehicles. Going forward, as our data is fragmented across more devices, we need to make it more explicit to the user as to who is using their data, the legal issues around what happens if someone misuses their data, and how users can tell which services to trust. I am also interested more broadly in risk-taking behaviours online, and why even where cyberthreats have been made explicit to the user, there are some people who will still go ahead and use unsafe sites. Why people are willing to take risks online which they would not take offline is fascinating to me.

Cyber-Security across the Life Span

In early 2021, we sat down with Northumbria University's Professor Pam Briggs, to discuss her work as part of the Cyber-Security across the Life Span (cSaLSA) team. This project received funding through the EPSRC Human Dimensions of Cyber Security Grants under the Cybersecurity Theme of PaCCS.

Would you mind getting started by telling me a bit about your research background, and what brought you to this project?

Professor Pam Briggs: I am a psychologist by training, and my past work has focused on identity management and the way that people authenticate themselves online. I studied how various groups, including minority ethnic groups, those with disabilities, refugees, and those with mental health problems, manage online authentication.

For several years there has been a growing interest in what people have sometimes termed 'human-centred cybersecurity.' In the early days of cybersecurity work, a lot of the focus was on the automated ways of improving protection. Then there was a suggestion that humans are the weakest link in cybersecurity, followed by a well-known paper which argued that the only reason humans are the weakest link is because the systems are not designed to be very useable for people. Unless you design cybersecurity systems, campaigns, and support systems that help people stay secure online and which are sensitive to the way people think, you are not going to be able to create a secure ecosystem. I became interested in the specifics of the human in the cyber ecosystem, including their vulnerabilities and what kind of support different users might need.

The cybersecurity across the lifespan project has given me the opportunity to explore the needs and behaviours of certain groups of internet users. The project is predicated on the idea that the kinds of behaviours and activities that younger people undertake online and the kinds of advice they are given in schools is very different from what happens when you are working age and are possibly getting workplace training, and that is different again from the way older adults manage and get advice about their security online.

Particularly with respect to aging populations, there is so much diversity in people's experiences of cybersecurity and using the internet. Some people might get a retirement package and buy a whole new raft of products that come with support and advice, while others might struggle with money, have hand-me-down equipment that does not have the same kind of security protection, and may not have access to the same sorts of support and resources.

What has the project entailed thus far, particularly from the Northumbria perspective?

This project has been conducted in partnership between academics at the universities of Bath, Cranfield, Portsmouth, and Northumbria. The Bath group focused on younger adults, children, and families. The Cranfield/Portsmouth team looked at working age internet users, and here at Northumbria we focused on older adults. At the start of the project, the teams worked together, trying to understand more about how the language of cybersecurity changes over the lifespan.

Led by Bath University, we developed a cybersecurity dictionary which gave a comprehensive overview of the ways in which people were talking about cybersecurity.

We found that the whole language of cybersecurity for young people is really framed in schools, and a lot of it is around cyber bullying and 'Stranger Danger.' But as young people move into independence and open bank accounts, there is not really support at that transition to teach young people about other online threats such as phishing activities. They were not being prepared for independent adult life where people start to worry about their finances and loss of identity. We did not find that same disconnect between working adults and older adults.

Since then, the Northumbria team has focused more exclusively on the cybersecurity issues of older adults. We have conducted qualitative research interviewing older adults about where they get their cybersecurity advice from, how they keep updated on advice, how they hear about different threats, and how they hear about the kinds of protective measures they should adopt. Our research was guided by "Protection Motivation Theory" which had been developed and used to understand how people respond to health emergencies. The motivation to protect yourself is based on a combination of how personally threatened you feel, how severe you think a threat is, and how vulnerable you feel in terms of that threat, plus judgements about how capable you feel in dealing with the threat and what actions you might take that might make a difference.

We found that for older adults, information about threats often comes from the radio, but there are few reliable sources of advice about what steps to take – i.e., where they might learn to cope with threats, manage passwords, spot phishing emails etc. There simply are not enough good sources of 'coping information' that reach older adults. PhD students and postdocs on our team then looked at the retirement transition and what changes during retirement can create vulnerabilities. For example, the way your social environment changes and whether in your immediate social group you have people with technical knowledge that you can turn to.

At the same time, the other project teams were conducting parallel research on younger adults and how families share information with younger children, and how children might report their vulnerabilities or talk to their parents about these threats. We also realized that whilst there is a lot of human-centred cybersecurity work going on within the workplace, there is not an awful lot of training or support on vulnerabilities that arise in the home, away from workplace support. One of the interesting things which emerged from our later research was a discussion on what makes people more resilient. A lot of this understanding comes from the health literature, but we were able to use it to understand more about the factors that make people more resilient and able to bounce back in the aftermath of a cyber-attack. In part, that relates to whether they have procedures and routines, or mastery and expert knowledge to hand that will enable them to put the right things in place. But there is also something about attitudes to disaster – whether you try to rise to the challenge or end up sticking your head in the sand. Self-efficacy, the belief that you can cope, and your willingness to learn and bounce back from bad experiences all matter.

What comes next for this project, and how is your team planning to take some of the things you have learned thus far and translate them into practice?

We have developed this resilience scale and doing a lot of quantitative work to help refine it. We are planning to see whether we can get some data from outside of the UK to make the comparisons which would shed light on how robust this scale could be internationally. We are also interested in how resilience correlates with other measures. We are exploring some of the security dynamics in households, particularly those that have different generations or age groups within the household, asking how information is shared within the household, and what kinds of everyday security practices the household adopts. So, we are opening to exploring household ideas about who takes control? Who does the backups in a house, or updates the systems regularly? Who in the household is likely to open up the system to vulnerabilities?

Throughout the project, we have been keen to communicate our results to key stakeholders. We have had two workshops targeted at government departments, for example. And we have tried to communicate our findings to the National Cybersecurity Centre, the Home Office, and DCMS, the Met Police and smaller cybersecurity organizations across the UK.

Automotive Cybersecurity

In the autumn of 2019, PaCCS sat down with Prof Siraj Ahmed Shaikh, then a Professor at Coventry University's Institute for Future Transport and Cities to discuss automotive cybersecurity. *Professor Shaikh has previously worked with PaCCS on PaCCS/KTN Policy Briefing on "Innovation Challenges in Cybersecurity". Professor Shaikh is now based at Swansea University, where he is a Professor in Systems Security.*

The last time PaCCS spoke with you in 2016, you had just launched a cybersecurity start-up, CyberOwl. Can you update us on what has happened with it since?

CyberOwl does advanced risk analytics, and we are very much focused on the maritime sector and critical national infrastructure. It has been a remarkable journey. We have scaled up from being part of a GCHQ accelerator to working out of a facility in London, where we are working to deliver proof of concept for the maritime sector. We have also expanded overseas, with work in Greece and Singapore.

This year, Forrester listed us as one of the new emerging cybersecurity companies for critical infrastructure, in their report on New Tech: Industrial Control Systems (ICS) Security Solutions, Q1 2019, which is exciting. With that said, we are still in the early stages of our growth and are working energetically to make it commercially viable.

You are also, of course, an academic. On the academic side, what does your research focus on?

Over the last ten years or so, one of my key areas of focus has been cyber-physical systems. I have worked on things like cars and automotive systems, marine vessels, and IoT devices. My work examines how traditional cybersecurity models and tools measure up to the recent challenges posed by these cyber-physical systems. I also look for key gaps in current practice where we may need to develop new approaches, models, tools, or techniques to meet industry needs.

A lot of my colleagues focus on hacking into or breaking cyber-physical systems, which is important for demonstrating how flawed these systems are. However, that is only one piece of the work that needs to be done to achieve secure systems. Here at Coventry, our research group focuses on engineering secure systems. We look at use-driven research, which entails working very closely with industry partners on real-world problems.

Can you give me an example of an exciting problem you have been working on in that space?

We are building an IoT Security Testbed with a consortium of industry partners. The project will formally begin in December this year. It is a breakthrough demonstrator that does deep level monitoring and security analytics and is focused on automotive cybersecurity problems. That project is being done in conjunction with a leading electronics company, UltraSoC, based in Cambridge, which has technology to look at low level monitoring. I'm working with them to solve various problems, one of which for example is measuring resilience in such environments.

You've done a lot of work in the automotive cybersecurity space, with papers touching upon issues including security assurance and testing, and you lead the Systems Security Group involved in automotive and transport security. What is the core focus of your work there?

A lot of my work in automotive security focuses on how we test systems, whether that is the full automotive systems or their components. Testing for security is an open problem for research; and testing for security in the automotive sector is an even deeper problem. So that has been a key focus for me.

Alongside that we are also looking at system level study and analysis of cybersecurity problems. This means not just looking at vehicles on their own, but rather also looking at the people, organizations, and infrastructure they are connected to. In that area, we are really focused on modelling efforts. We are trying to represent the complexities of the real world in a model that lends itself to more analysis, more assurance, and more reasoning. As an example, some group colleagues have worked on evaluation ontologies for connected vehicle security assurance.

How has increasing research into autonomous cars changed the way in which you have to work or think about security and risk in the automotive space?

A lot of the technologies we are working with in risk are, at their core, about protecting software. We are concerned with algorithmic implementation. There is no doubt that the roadmap for the development of autonomous vehicles has other key challenges in terms of the machine learning and AI that is used for sensors, data activity, and safety. However, security a fundamental component falling under the umbrella of these problems because everything else is doing through a layer of software somewhere. This means that the trust we talk about today in terms of safety and the perception of autonomous vehicles could be violated if these vehicles are insecure. Safety and security go hand in hand.

Do you think that good cybersecurity approaches in this area are about creating the conditions for trust?

The work we do feeds into technical assurance. It is helping supply chains make sure that systems are standing up to security challenges. The wider impact is to make sure that as technology matures, it matures alongside the know-how to build more secure systems. Consumers benefit from that through key members of the supply chain they can trust.

You have done work in automotive security in both the civilian and military sectors. Were there any challenges in the defence space of automotive security which were unique?

I've working with both established companies that seek to provide consumer assurance, and with smaller companies who can bring in breakthrough technologies to help solve problems in the cybersecurity space. For example, we have worked with CryptaLabs in London to develop automotive applications for a quantum random number generator developed for cybersecurity.

Work on passenger vehicles is generally more open ended and is driven by technological trends emerging in industry. That research is multidisciplinary and pays a lot of attention to the

consumer. Passenger vehicle manufacturers are also very cost sensitive, and the cost to the driver is very important as well. Meanwhile, the work done in a military context is either very well defined from the outside or is scoped by the clients from inside the defence world. There is insight to be had from both sides of the military-civilian divide, and my role is to make sure that we become a trusted source of insight and analysis on both ends of the spectrum.

Over the course of your career, you have engaged in a lot of multidisciplinary work with colleagues in the social sciences and international relations. You have also worked to engage with those in the policymaking community. What has that experience been like, and do you think there are things that people working on the hard sciences side of cybersecurity could be doing to make their work more accessible?

I have been interested in the policy side of things over my career because I am mindful that our community of scientists needs to translate findings and insight from our work into wider policy contexts.

Policy in this area traditionally has happened through regulation, standards, and best practices in heavy technological industries. Security is somewhat similar insofar as we need more standards, however the core fundamentals of cybersecurity are not straightforward in the same way.

Cybersecurity is a human problem, a technology problem, and an economics problem, all mixed together. At a scientific level, there is now a push to make some aspects of security more measurable, and to devise different measuring methods, including readiness and capacity assessments. However, I think unless we start accessing more qualitatively, those working in policy will struggle to distinguish between good and bad security options, which will make policy incentives and mechanisms less effective.

In this vein, we developed an evidence quality model in 2018, which tries to help people distinguish between the kinds of quality criteria they can apply to evidence for policymaking. We know there are problems today with deep fakes and fake news, and we know that policymakers are becoming social media savvy. So, we see problems with sometimes even politicians ending up propagating fake news. And there is a real problem there. I am not suggesting policymakers do not understand evidence, but that rather in the context of cybersecurity, we need more tools, and it remains an important problem our society needs to do more work on.

What are some of the examples of your current work in the policy space?

I've written policy briefs for the Government Office for Science, and I ran a project with colleagues at UCL which looks at the evidence base for cybersecurity. We have been working on a scenario-based gains approach to setting responses to cybersecurity related incidents. This has led to another project looking at corporate boards and cyber readiness that has just started.

Trustworthy Voting Systems

In late 2020, we sat down with the Director of the University of Surrey's Centre for Cyber Security, Professor Steve Schneider, to discuss his work on trustworthy voting systems and electronic voting. Professor Schneider's EPSRC-funded work on trustworthy voting culminated in the deployment of the world's first end-to-end verifiable electronic voting system used in a statutory state-wide election. Professor Schneider's current work focuses on online voting, including work on the Verify My Vote system presented in a conference paper in October 2020.

How did you end up working on trustworthy voting systems?

My background is in theoretical computer science and concurrency theory – which focuses on how different agents interact and what can go wrong in those interactions. Quite early in my career I became interested in cybersecurity, because a huge part of cybersecurity is ensuring that we know who we are talking to in online interactions and that we have the credentials of the other party.

In 2004, I became interested in electronic voting because it poses some unique security challenges – you need to protect the secrecy of the vote while being confident in the integrity of the overall result. Consequently, you need to have a system that can process votes even though the system should not know how any one individual voted. At first, these strong security requirements seen almost incompatible, especially if you want the system to work without needing to trust the authorities who are running the system. There are some really difficult questions there around how cryptography can be used to provide solutions.

While working on an approach to tackling this problem known as "Pret a Voter," some colleagues and I applied for and were awarded funding for a project on trustworthy voting systems, which became the project that we are here to talk about today.

What were you trying to achieve with the trustworthy voting systems project?

When we started the trustworthy voting systems project, the question we were trying to answer was: *how can you design an electronic voting system that is not only trustworthy and secure, but which is also understandable to the general public*? Ordinary voters just want to get on and vote, and when security gets in the way it may put them off voting. So, the challenge was to introduce solutions to ensure that the system was trustworthy, but then to ensure that these technical solutions were accompanied by interfaces which were sufficiently understandable for the general public to trust the integrity of the voting system. We wanted people to feel secure using it.

It is worth noting that when we started this project, the idea of well-resourced attacks on election systems was still quite remote and was viewed as a theoretical possibility. The situation has changed a lot in the years since, and well-resourced hostile attacks from nation states on critical infrastructure, including attempts to undermine or influence elections, are now a fact of life. So, these cybersecurity challenges are now more relevant and realistic than ever.

Has the system you developed during your work on the trustworthy voting systems project been used anywhere?

The Victorian Electoral Commission reached out to us about using our product to help run their state elections. They had already been using electronic balloting over the internet, but they wanted to use our system to ensure security while making electronic voting, including casting a secret ballot, more accessible for users with accessibility issues, particularly those who had visual impairments and mobility issues.

In Australia, voting systems are quite complex. In Victoria voters may be presented with a list of maybe 40 candidates and can either choose a pre-determined list provided by one of the parties, or they can rank all the candidates in any order they choose. So that is quite a challenge for electronic voting systems, but we were able to adapt our system to make it work. So, the Victorian Electoral Commission provided the usability features and interfaces at the front end, while we provided all the security features and secure design in the background. In the end they considered that there was quite a high overhead for rolling out this system to a relatively small number of voters and so didn't want to roll it out again for those numbers. However, it was an exciting opportunity for us to have a case study on how this technology works in the real world, and we would expect the costs to come down as the technology matures.

What lessons did you learn throughout this pilot project with the Victorian Electoral Commission?

We learned that this kind of secure voting system requires substantial resourcing to get it to the place where it is ready for large-scale voting. Once we got it up and running, the voters liked it and found it useful, but the business model of having electoral commissions develop new software products in-house probably is not the way forward because that is not the business electoral commissions are in.

What we were most excited to learn, however, is that our efforts to incorporate verifiability mechanisms into our security systems worked. So, voters can check that their vote has been captured the way they cast it. They can ensure that their vote has not been tampered with, but no one else can check their vote, and the election can be tallied up without the system ever giving away how any individual voter voted. We proved that this sort of verifiability was not only a theoretical idea, but one that could be made useable by voters.

Have you continued working on voting-related issues in the years since the trustworthy voting systems project finished?

Yes, I am still working in this area. Mostly recently, I have been working on a project with Civica Election Services, which runs electronic ballots for organizations including professional societies, political parties, building societies and trades unions. What has been challenging about this work has been applying verifiability mechanisms not to voting machines at polling places as we had developed for Australia, but instead applying those same security principles to internet voting. Voting online is voting in an uncontrolled environment – you do not know whether the voter has somebody over their shoulder telling them how to vote, for example. It is also much

more difficult to preserve verifiability in this environment, and you do not have control over the platform people are voting on – which increases the risks from malware. We know that the public wants electronic voting over the internet to be more available, but from a cybersecurity perspective, we are not there yet. There are still open research questions about how to manage complex security behaviours while making them usable and understandable to voters.

I am also currently working with the Institute of Engineering and Technology as the chair of a working group on electronic voting. We have just published a report on electronic voting which explores and explains the cybersecurity challenges involved in electronic voting. We know that the pandemic has increased the sense of urgency around online voting, and that some policymakers had already wanted online voting as a way of increasing turnout. But there are so many challenges which still must be resolved before online electronic voting can safely be implemented for high stakes political elections. The challenges are solvable if there is a concerted effort to conduct research in the right areas, but it is not going to be ready tomorrow.

Social Media and the Military

In early June 2020, PaCCS Communications Officer Kate McNeil sat down with Professor David Denney, Emeritus Professor of Social and Public Policy at Royal Holloway University of London, to discuss his work on the current and future use of social media technologies by military personnel in their families. This project was funded by ESRC and Dstl and was accredited as a Global Uncertainties Project under the cybersecurity and conflict themes.

Would you mind getting started by telling me a little bit about your background as a researcher, and how your work on the use of social media in the military fits into that?

My academic career has been long and varied. My early research in the 1970s and 1980s was concentrated mainly within the criminal justice system, looking specifically at various aspects of race and racism in the criminal justice system. Between 1997 and 2002 with other colleagues from Royal Holloway, University of London, I was involved in the ESRC Violence Research Project. In all this produced twenty studies of contemporary aspects of violence in society. Our own study led by Professor Jon Gabe concentrated on violence committed against professionals in the community. From this I developed an interest in the theoretical concepts related to risk. From there, I went on to write a book entitled *Risk and Society* , and went on to edit a book on fear, uncertainty, risk and social policy called *Living in Dangerous Times*. I was then put in touch through one of my colleagues with a Royal Holloway team that collaborates on science, security, and society. Our proposal to study the ways in which the military uses social media was partly linked to my work on risk.

What did that project entail?

The project, which ran from 2014-2015, took a mixed methods approach, led by a multidisciplinary research team from Royal Holloway. We did 39 focus groups with military personnel across the Royal Air Force, Navy, and Army; we conducted interviews with senior military personnel; and a survey across the services. We also conducted a network analysis of 825,000 Twitter users. Our focus group work enabled us to visit British military bases in the UK, Cyprus, and the Falkland Islands. We were very fortunate to be working in conjunction with Dstl on this project, and the military were always cooperative, helpful, and supporting of the research.

Was there anything that emerged from the project that surprised you?

We did not really have any preconceptions going into the project, because it was such a new area for us and for the military, however, one major finding that surprised us was that the military had become digital by default. We found that, at that point in 2014-2015, 70% of military personnel between the ages of 18-34 were using social media several times a day, and 70% of those above the age of 35 used it at least once a day. Meanwhile, only 7% of military personnel at the time did not use any form of social media.

Facebook was the most used platform for military personnel and their families. However, we also found that WhatsApp had been informally integrated into some military units to distribute messages within teams. This had replaced some of the traditional top-down communication channels. Surprisingly, there was a much lower level of Twitter usage, while LinkedIn was used

often – particularly among senior personnel who were at the stage where they were considering moving on from the military.

The other thing that surprised us was the lack of connectivity, particularly in distant locations such as the Falklands. We found that military personnel had very high expectations that there would be connectivity, and then when there was not, it could potentially have a significant impact upon morale.

Finally, one other thing I found fascinating was social media's double-edged sword. The implications of connectivity are complicated, particularly when it came to the emotional ramifications of connectivity upon personnel who were separated from their families for instance at Christmas.

Based on your findings, were there things you found that you think policymakers or the administrative bodies within the military need to be thinking more about?

Definitely. We were lucky to be able to share our findings with Dstl and other parts of the Ministry of Defence, though because of the security implications within our findings, I am not in a position to know how or whether our findings were integrated into policies across the services.

However, at the time, one of our major recommendations was that there should be a Joint Service policy document to codify and clarify what appeared to us to be a somewhat uncoordinated approach to social media use. It seemed to us that there should be clearer communication of social media 'dos and don'ts' for personnel, and better communication and training concerning the potential dangers inherent within it, such as, taking a selfie near potentially sensitive material in the background or sharing your location. There needed to be top-level involvement in formulating these policies, and a more consistent approach in dealing with inappropriate uses of social media.

We also noted a generation gap in how military families and personnel engage with social media features, and we felt that the knowledge held by younger military personnel was not being properly utilized across the services. Moreover, better management of expectations concerning connectivity were needed – especially as we have come to live in a world where connectivity is almost seen as a human right, and where you are likely to have some problems with retention and recruitment if members regularly cannot access social media services.

What have you been working on since this study finished?

I have continued to be interested in military research and have recently been working with colleagues on research commissioned by the Forces in Mind Trust, *the mental health needs of serving and ex-Service personnel: a systematic review*, which was published earlier in the year by Nat Cen Social Research. The aim of the review was to bring together evidence to support FiMT's Mental Health Research Programme, as well as to provide a resource to inform wider research, policy, and practice. This review examined the prevalence experience and effectiveness of mental health interventions. It is an extensive report, which examines the transition from being in the military back to being a civilian again. One of the key findings of that report was the impact of post-traumatic stress, particularly upon those who had been in combat. Many of the

mental health challenges suffered by military personnel can also be seen in the general population, such as depression. However military personnel were less likely to ask for help. It would seem plausible to deduce that underlying mental health problems can therefore be hidden in a military organisational culture which emphasises self-reliance and where it can be seen as a weakness.

At some point in the future, I hope to be able to link the work I have done on social media usage in the military with that work on mental health. For example, someone in a focus group in the Falklands suggested that bad connectivity might be linked to increased alcohol consumption and possibly depression. So, I would love to explore that further.

The Internet, Political Science & Public Policy in the Digital Era

We sat down with Helen Margetts, Professor of Society and the Internet at the University of Oxford to discuss her work on The Internet, Political Science and Public Policy: Re-examining Collective Action, Governance and Citizen-Government Interactions in the Digital Era, a programme of work which was designated as part of the Global Uncertainties Project by the UK Research Councils. Professor Margetts was Director of the Oxford Internet Institute from 2011-2018. She is presently the Director of the Public Policy Programme at The Alan Turing Institute.

Would you mind getting started by sharing how you ended up working on intersections between the internet, political science, and public policy?

The Economic and Social Research Council funded this work as a professorial fellowship – they provided me with the funding to carry out a programme of research that was not so specified in advance. The research councils can tend to be quite risk adverse, and funding my professorial Fellowship was a brave thing to do, because while I had identified various sorts of possibilities and data sources in my initial proposal, I was not quite sure yet what I was going to do with them. In the end, I like to think that the programme ended up being pretty good value for money. The research councils took a bit of a risk on what I was going to do, and it paid off. The professorial Fellowship ended up being an opportunity for me to develop methodologies, tools, theoretical frameworks, and multidisciplinary teams, and to build capacity within and outside the research community for policymakers and regulators.

I think you can create a direct path between that professorial Fellowship and where I have ended up today.

Can you tell me a bit more about what the programme entailed?

Half of the project focused on citizens and political behaviour, while the other half focused on government and what government is doing with technology. What was exciting about this work was that I was working with big data and thinking about how it could transform social science back before the term 'big data' even existed. I was collecting data about political activity, such as petition signing and other 'micro-acts' of political participation, and a lot of exciting things developed out of that.

On the political behaviour side of things, I wrote a book with a multi-disciplinary team of co-authors called *Political Turbulence*, which focused on how social media shaped collective action. I ended up speaking about that book all over the world, because it was a new way of looking at politics. The central argument was that social media is not a source of all evil or all good, but rather it shapes political institutions and behaviour, and we need to understand the dynamics of that. It makes possible new 'tiny acts of participation which can scale up rapidly and dramatically into large-scale mobilizations – or fail completely, which is what happens to most nascent attempts to do this. In this way, social media is a source of volatility and political pressure. In the years since we published that book, I think that line of thought has become kind

of influential in raising the degree of attention that has been paid to certain kinds of political mobilisation and the importance of social media in that.

As part of this project, you did some work on how internet activity played an important part in revolutions and mass protests, with a focus on the Arab Spring. What sort of work did that entail, and how have you used the tools developed during that work since?

We analysed complex networks and large datasets, and we ended up developing tools in the field of computational social sciences, which is a field that had always been rather underdeveloped in the UK. I am now chairing some research projects which use similar techniques, but which focus more on the negative aspects, the threats such as hate speech and other online harms, which can come from these forms of participations.

You do have 'good' participation and 'bad' participation. Positive participation aims to change the world for the better through, for example, mobilisations and demonstrations. On the negative side of things, there's conspiracy theories, the spreading of misinformation, extremism, radicalisation, and terrorism. However, no matter what you are measuring, you need the same tools – you need machine learning to detect and measure what is happening, and natural language processing to turn text into data.

Was there anything that really surprised you over the course of this research?

It was a real voyage of discovery, and I ended up working with people from disciplines I had never expected to collaborate with. The first two researchers I employed on the project were a computer scientist and a physicist, both of whom went on to faculty positions at the Oxford Internet Institute. So, this project showed me that multidisciplinary research of this could really happen, which is something which social scientists had always been rather dubious about. Ultimately, our research ended up being a forerunner within UK computational social science, which was a very positive development. The extent to which that whole field took off really surprised me.

How do you think your work has influenced policymaking?

Part of our project involved thinking about the possibilities of data science and data intensive technologies for government and policymaking, which is how I got involved in the Alan Turing Institute for Data Science and AI. I hope the stream of work that I have developed there, the Turing Public Policy Programme that I set up and now direct, has had a direct influence on the UK's policy world's understanding of data science.

And while traditionally, policymakers were not optimistic about the relationship between information technology and government, I think that attitude has shifted, and policymakers are now really interested. Through the Public Policy Programme, we are now working with over 70 government organisations, developing ways to improve policymaking, public services, government and regulation with data science and AI. We have, for example, produced the UK's official guidance for the ethical use of AI in the public sector, the first comprehensive guide of its kind anywhere in the world. I do not believe that programme would have happened without the research that I carried out in the ESRC fellowship, and I think it has had a really positive

impact. In fact, the programme is being submitted by Oxford as an impact case study in the Research Excellence Framework.

One great piece for policymakers and researchers who are interested in learning more about my work would be a short article that I wrote last year with my Deputy Director, the economist Cosmina Dorobantu which was published in Nature called Rethink Government with AI. There is a lot of hype about artificial intelligence, but here we really explore what you can do with the more workaday tools and methodologies we have been talking about today – things like measurement, detection, and prediction. Those create both opportunities and threats for government, the public good, and public policymaking. Another useful data-intensive tool is agent computing, which can be used to simulate policy interventions and see what the effect might be without suffering potential unintended consequences. This can be a good way of dealing with uncertainty in advance. We are also building usable and theoretically rigorous frameworks for using these tools, based on values and principles such as fairness, accountability, and transparency.

Propaganda: Researching Cambridge Analytica

In early 2020, *PaCCS sat down with Dr Emma Briant, then an Associate Researcher in Human Rights at Bard College, to discuss her research on propaganda and her experience researching Cambridge Analytica. Dr Emma Briant has written about Rights, Media and Mass-surveillance in a Digital Age; the Pentagon's role in reshaping the field of propaganda, and the role of the press in the war on asylum. Her work on Cambridge Analytica began during her time at the University of Glasgow.*

Your work first came to PaCCS' attention because your PhD project on propaganda and modern conflicts, which was funded by the ESRC, was designated a Global Uncertainties project. Would you mind telling our readers a little bit about that work?

My work on propaganda started in about 2004 with my master's degrees, and it carried on through my PhD and beyond. It started when I was based at the University of Glasgow, researching on propaganda and counterterrorism. I was interested in how governments were changing their propaganda strategies over time in adaptation to modern conflicts, and how the modern media environment was rapidly changing after 9/11. My work specifically focused on examining the view of people across governments in the UK and in the US. I travelled over to Washington, DC for my research, and was continually interviewing – including with a lot of people who were working as contractors for firms that worked on the US and British governments counter-terrorism campaigns.

Out of that research, I ended up publishing a book, *Propaganda and Counterterrorism: Strategies for Global Change*, about the development of UK and US propaganda, Anglo-American relations, and the impact of this relationship upon the development of propaganda strategies.

How did that project lead into the work that you are doing now?

Throughout the course of that project, because I was interviewing propagandists and government contractors, I was introduced to people in companies like SCL, which is the parent company of Cambridge Analytica. After completing my PhD, I went back to them for further research. I was initially interested in how they were impacting changing practice and policy, as they were relatively small but influential in steering western governments toward greater focus on behavioural change in information operations. Other parts of the company were also, of course, simultaneously doing work in politics and over the last 4-5 years my interviews prompted me to have concerns about data misuse, unethical international political campaigns and the conflicts of interest that come into play when contractors for defence and security projects might also be working in politics.

I have researched both security and political campaigns, which gives me a unique perspective for observing how the present set-up poses challenges for policy and governance or regulation. My work over this period was very revealing of things like the misuse of data in 2016 and implications of mass surveillant influence for human rights. So now, I have been briefing inquiries from my expertise in this area, and my knowledge of Cambridge Analytica and the

parent company SCL, and how we address conflicts of interest posed by this network of companies and others operating across different domains.

What was it like, discovering what you found about Cambridge Analytica? How have these discoveries influenced you and your approach to research?

You are obviously aware that people do bad things, especially if you study something like propaganda, but I tugged a thread and the research snowballed uncovering an endless web that couldn't be seen by most, which is still being revealed. Sometimes you find things you did not expect in social science, which cannot be anticipated fully, that is what happened to me. You roll with it; the world revealed its horror and complexity around me. With whistle-blowers and revelations and a PR front by the company, it was rapidly changing like moving ice, throwing up obstacles in left, right and centre, as I was trying to research, requiring constant contingency plans for months. I faced security risks.

I was not particularly an activist, but I believe in engaged research with a public interest dimension. While I was not naive, I never expected to discover the extent of the wrongdoing I stumbled across. If you find such knowledge, I think you are ethically compelled to do the right thing with that information, which is why I think it was important to reveal the company through the inquiries rather than simply waiting to publish academic work. Although this was very difficult for me.

Once I broadened my vision beyond a very defined security focus to be able to see what these actors were doing in multiple areas and why they were doing it, I started to realize the importance of the connections between their political work and the work these companies do for governments. Companies want to get more contracts; political campaigns can enable further contracts with the government once that party's leader is put into power. This throws up worrying implications if that company's business is war. Understanding the relationship between politics and security is crucial to how we understand international affairs and domestic power dynamics, and in understanding the dynamics and political economy of the influence industry where it works across the two.

In academia, we tend to examine things narrowly – examining specific cases such as Russia Today propaganda or a state department public diplomacy campaign in a specific location (often not considering any companies contracted as actors in their own right). Usually, the focus is the content produced not the political economy. Because of this, networks of opaque industries are often overlooked and unseen by researchers. We tend to look at what is superficially visible, such as media content, but often miss the underbelly of stuff that is being deliberately hidden – including the money that drives it. That hidden world is what I am most interested in. I feel now that I want to do research that is more applied, and it's led to me wanting to change policy, to want to try to make a difference, and to make sure that our governments do things better.

What would you want to tell policymakers interested in working on these issues?

The 'War on Terror' gave birth to a multi-billion-dollar industry in data-driven influence, and during this period, defence contractors like SCL have been able to repurpose their techniques for

politics. The political communications structures that we have today are really a mass surveillance system for political communication, and the problem is that we are putting more money into these private companies that are being recruited to respond to counterterrorism or Russia without tightening up the related processes that gave us SCL and allowed companies to meddle in our elections.

So, we need to look at defence contracting and fix it. There has been a failure to manage the conflicts of interest posed by these networks of companies that are working on different projects and have access to data and knowledge. For example, SCL was working for NATO at the same time that their subsidiary Cambridge Analytica was pitching contracts to Russian oil company Lukoil. If a hostile foreign power wanted to, they could go to one of these same companies that we use, so if you do not have very careful data restrictions and transparency, how the hell do we know that we can trust these companies with data? The oversight of government departments' contracting processes is absolutely inadequate beyond belief. Thus far, there has been very little effort to address this both in the US and the UK – they don't want to talk about it.

I understand that you had an opportunity to share some of your research concerning Cambridge Analytica and SCL with parliamentarians during the House of Commons Digital, Culture, Media and Sport Committee's investigation into disinformation and fake news. Can you tell us a little bit more about that?

I was required to hand over some of my research to the Fake News Inquiry in 2018 because it was believed that I had gathered evidence regarding SCL's wrongdoing and unethical activities which was of great immediate public interest and that it would be relevant to the inquiry. After consulting with my university, some of my findings and policy recommendations were published as parliamentary evidence, and the committee also published a three additional explanatory essays I had written.

What was it like as a researcher, engaging in that parliamentary process?

I cannot even begin to put into words how valuable I felt this outlet was. I am not a journalist, but I had uncovered information with a massive public importance that badly needed to be published rapidly. It is frustrating to find that as an academic I was limited in my options to communicate powerful findings when it was in the public interest to do so. Everything stood in my way. Academic blogs do not have legal teams the way newspapers do and the blog I hoped to use backed out for this reason, I phoned all around the world and could not find another who would take my explosive Cambridge Analytica findings. If there had not been this Fake News Inquiry and it had not found me, I do not know how I would have got this information out. The fact that there was an inquiry going on was wonderful, because I had been worried for quite a long time about these processes, and few people would listen to my concerns about the governance of propaganda in the UK and the US. No journalists were interested until Carole Cadwalladr came knocking. And until a public inquiry puts it on the map, people do not pay attention to academics.

The committee themselves and their staff were also friendly, trustworthy, and reassuring during what was also a scary and difficult process.

All of a sudden, I ended up with my research all across the media, and it was research about unethical activities, security and controversial political campaigns like Cambridge Analytica's work for Trump and on Brexit. It made me very exposed in my security situation and also, I realized that the academic apparatus really isn't designed for discovering what is essentially breaking news about powerful people. You are not very well supported as a researcher rather than a journalist.

You've also done a lot of work to help make the general public more aware of these issues, ranging from acting as a senior researcher on Netflix's documentary The Great Hack to writing opinion pieces. What are your key messages for the general public?

We have been talking a lot about regulation of platforms like Twitter and Facebook. We need proper regulation when it comes to data and protection of our data rights, to make it work for the public good. Honestly, I think people should come off Facebook and be extremely careful with their data until this is properly regulated because it is hard to know the dangers still at present. Especially in the US.

Another key thing we need to push our legislators for is to – independently – regulate the influence industry. By influence industry I mean a web of contractors and companies embracing everything from lobbying, PR and advertising, data analytics and the strategic communication and intelligence firms. While many of the activities of these sectors may be perfectly legal and not necessarily nefarious, there is so much we cannot see, and it is hard to know the risks or who to trust. Assemblages of companies work across borders and jurisdictions with shell companies hiding activities.

One of the reasons we have difficulties in the UK is that there is very little regulation of lobbying. It is possible for companies to manipulate different jurisdictions and perhaps carry out activities that would be forbidden in one place by doing it with a contractor in another country. This is not just about foreign countries' lobbying or foreign money coming in – it also has ramifications for our domestic politics, transparency, and security.

We need to expose the dark money and influence systems, to make the system more transparent for everyone and to develop databases tracking things like beneficial owners of corporate entities. We also need to extend data rights and basically end shell companies, because that's how a lot of this gets covered up. GDPR is not enough, because auditing all these opaque companies is very difficult. How do you operate GDPR unless someone can figure out who they need to ask for their data back? We need to tackle the lack of transparency to be able to expose, monitor and prevent future wrongdoing.

Do you think that the lines between using data, propaganda, and other forms of messaging have blurred over the course of your career thus far? What risks to you think this might pose?

I would say that what we are now calling digital marketing is not what we ever used to call digital marketing, it has become a hybrid between mass surveillance and marketing practices.

In December 2019, I revealed that universities were hiring Cambridge Analytica to do their digital marketing, which means they were giving the company data about their students in order to try to increase recruitment. This is not just about universities. Rather, it demonstrates that these companies are being contracted in all sorts of different areas to gather data. We would be fools to trust them.

I think we have normalised something as marketing that is not – it has essentially become an information warfare tool. This is not the same as putting a billboard near a community or an ad in the newspaper. We are now using very targeted advertising in combination with profiling people in every aspect of our lives, while moving into an age which will be dominated by the internet of things. Technologies are moving so rapidly that an ordinary person should not have to try to anticipate how other people are dedicating their lives to creatively imagining new ways to manipulate them. We do not really know or understand – and certainly cannot anticipate – the potential threat of having every single aspect of our lives – from our behavioural responses to our feelings and biological state – monitored and potentially weaponized against us.

Ethics & Technology

In late September 2019, we sat down with Professor Tom Sorell, Professor of Politics and Philosophy at the University of Warwick, and Head of the Interdisciplinary Ethics Research Group in PAIS for a discussion reflecting on the ethical challenges posed by emerging technology. Professor Sorell was a Global Uncertainties Leadership Fellow from 2013-2016.

Thank you for taking the time to speak with me about your work. Would you mind getting started by telling our readers a little bit about your research interests, and your work with the Global Uncertainties project?

I work across the whole field of ethics and technology, and the leadership aspect of my Global Uncertainties Fellowship involved looking at projects that had previously been funded by PaCCS in tech development. I spoke to people involved in those projects about ethical issues they could have considered in that work.

On the research side, at the time of my fellowship I was working on ethical issues that arose from counter terrorism and the fight against organized crime. I was primarily looking at a body of literature focused on preventive justice, and I was especially interested in legal writers who worry about preparatory offenses – offenses to do with steps on the way to say, a terrorist act. For example, visiting certain extremist websites, or buying certain potentially dangerous things for making bombs.

What is the crux of the debate on that issue?

A range of preparatory offenses are recognized, and there are a lot of legal theorists who think there are too many. They are concerned that criminalising preparatory acts is a step on the way to the precognition of offenses, where people are punished for things, they have not done yet. Preparatory offenses are sometimes viewed as steps on the way to penalizing the thoughts people have, rather than the actions they are committing. Criminal justice is typically backward looking –penalising acts that have already been committed. Preventive justice changes the perspective in time and, according to some, erodes the norms of criminal justice. My own view is that preventive justice is defensible, because preventing harm is a goal of justice, and criminalising preparatory acts can sometimes prevent serious harm.

You have written about online grooming as well – was there overlap between the philosophical problems you encountered in these lines of inquiry?

Online grooming is not usually organized crime, though it can be. But yes, grooming is as preparatory offence. Some academics argue that grooming a child, as opposed to having sex with a child, is not necessarily harmful, so having a preparatory offense might be unjust. Meanwhile, in the UK, there has been a proliferation of preparatory offenses. For example, since 2017, it has been an offense under the Sexual Offences Act to have a sexualized conversation with a child. This sets the threshold for prosecution much lower than the threshold for grooming.

I think that preventive justice can be justified for a large range of offenses, including grooming and that's what I've argued in a whole range of papers. I am not so sure about criminalising sexualized conversations.

More broadly, how varied are the types of ethical challenges that your research deals with? Are many of the ethical issues which underpin the challenges you research similar across subject areas?

Ethics issues can vary a lot. To give you an example, a completely different type of project I am working on is the Pericles Project, a European Horizon 2020 project. Most of that work is on research ethics, which is a completely different kettle of fish. That project involves interviews with ex-extremists and some current extremists, and there are many issues that can arise. Research ethics tells you to promise them confidentiality, but the law says that you must report things with security implications. So that is one issue. Moreover, cooperation with researchers could look like betrayal or cooperation with authorities to those in an extremist community, putting the lives of research subjects at risk. The whole area is fraught with moral problems because it can put people in danger.

This piece will be featured as part of our October cyber series. You have done a lot of work that relates to cyberspace, and you are a featured researcher in the cybersecurity collaboration space on the RISC Academic Marketplace. Is there anything about that aspect of your work that you would like to speak to?

Cyber ethics is a semi-independent line of research that I have been following. I have done a lot of cyber ethics work at different times, and there is a whole host of a range of things I have been involved in.

This line of inquiry has gone beyond examining just the actions of trolls, and groups like Anonymous and WikiLeaks, to include things like cyberstalking.

I have also done work on cyber fraud. Recently, I was involved in a project that was funded by EPSRC that was focused on training machines to recognize whether some posts on romance websites are fraudulent or not. The idea was to try to identify features of the languages of those posts, and feature of the images that would be characteristic of fraudulent romance scam posts. The project, which finished last year, was very successful at producing algorithms that could recognize some of these things much better than human beings could.

What does an ethicist bring to a project like that?

When people go on romance scam sites, they are made to fall in love with various fraudsters, often West African fraudsters. Then these people try to get them to send money on various pretexts. Refusing can look like betraying a loved one. So, people pay and pay again, sometimes losing hundreds of thousands of pounds.

It is one thing for somebody to be a victim of fraud once, but some people go into these scams again and again and ignore many warnings from police and other people that they are probably being defrauded. In conjunction with Professor Monica Whitty, a cyberpsychologist, I have

looked at the ethical issue whether victims share responsibility with fraudsters when they are defrauded many times. What do we say about these people? Are they co-responsible for the problems they are in, or not? It is a tricky area to write about because it is possibly victim blaming.

What were some of the findings of that inquiry?

There are different cases. We learned that there are cases where people have good excuses to be defrauded more than once. There are psychological factors involved in romance scamming, and some personalities are more vulnerable to hyper-personal computer contact than others. This hyper-personal computer contact is one of the contexts in which defrauding takes place.

The norms of being in love and the norms of being a rational evaluator of evidence conflict at times. If someone you are in love with is asking you for money, but the police come along and suggest that you are being defrauded, you may say '*no, no, this is not fraud… I know this person, and I am in love with them.*' Here, you have a clash of two different norms. One is a norm of proportioning your belief to evidence, and the other norm is being loyal to someone you love and not thinking the worst of them lightly.

It is this clash of norms that makes repeat scamming victimhood less bad looking than you might think. Because people are doing the right thing morally by their loved ones, even though they are violating what we call in philosophy an epistemic norm about belief formation. So that is one thing we wrote about that I thought was interesting. It is a quite new idea in this field.

What are some of the big challenges you are beginning to work on in the intersections between ethics and technology? Are there challenges you want others to be thinking about?

One example of a theme that comes up comes up when you deal with this sort of stuff is, should there be a human in the loop? When machines are producing judgements or warnings – or whatever else they might need to produce – should this be submitted to a human being? If so, when and what is the human supposed to do?

There is a lot of technology being developed, for example, which distinguishes between normal and abnormal movements in protected areas in a city or infrastructure site. How do you train a machine to recognize something that is normal or abnormal? What should happen as a result of the judgement of the machine or algorithm when something is abnormal? Sometimes, the answer to that question is "refer it to a human being." But how much discretion do they have?

These issues are becoming more pressing as we carry on with AI. It used to be that we had machines identifying something as abnormal, and a human being would then decide on what action if any to take. Now, you can have much more sophisticated machine responses. A verdict on a situation could lead to something being prioritized in a police control room, for example. These human in the loop issues have become more pressing the quicker machines are, and the more urgent some of the responses are to things machines are saying.

As those types of technologies are used in a more diverse array of fields, have the ethical issues encountered in the course of their use become more complex or varied?

Sometimes more varied, but the technology used is often a refinement of things that exist in some form already. For example, controversial technology for tracking people through CCTV camera output has been improving. That has obvious value for investigations of crime. It speeds up a problem that previously would have involved lots of police officers looking through lots and lots of camera output. Now a machine can do it without wasting a human's time. So that is an example of something that was done in the past, but which can now be done much quicker by machines with real benefit to investigations.

So, it is not necessarily about new ethical challenges, but rather the consideration of new technology being introduced?

It is possible that the new capabilities of machines will reduce the ethical challenges. It depends on how accurate the technology is. There are some things machines can spot more reliably than humans can. This means their use can sometimes deal with problems of human bias or human attention spans which sometimes create injustices.

Looking Forward: Strategic Priorities for UKRI

In the spring of 2022, ESRC's Andrew Stafford spoke to researchers at a PaCCS-convened workshop about UKRI strategic planning for 2022-2027 and reflected on upcoming priorities for the research councils. This strategy, which has been informed by conversations with researchers, innovators, and UK businesses, has been designed to maximize value out of UK research and innovation. In this closing essay, the PaCCS team shares findings from Mr Stafford's reflections on future strategic priorities for UKRI.

A Vision for UK Research

UKRI's new research vision has created an opportunity for the research councils to share a five-year plan, and to work in unison with partners and stakeholders with the goal of achieving objectives on areas including ideas, impacts, innovation, people, and place. It tackles key priorities which will help to improve people's lives, as well as topics such as infectious diseases, climate change, and security threats. Building a greener future, securing better health, aging, and well-being, and building a secure and resilient world were all key priorities described by Dr Stafford throughout the discussion.

Supporting research and development is a cross-departmental priority, with budgets for R&D in other government departments rising alongside a growing interest in key issues including levelling up, digital work, and national security. Here, Dr Stafford noted that UKRI collaborates closely with these departments in co-funding and coordinating various activities and strands of work, and that UKRI is becoming increasingly agile in its work to organize and prioritize interconnection and integration. Ultimately, the goal of this work is to support a thriving knowledge economy while tackling social and economic challenges, suggested Dr Stafford. While working towards these aims, UKRI also recognizes the importance of discovery research, and of supporting talent, infrastructure, partnerships, and knowledge exchange. Ultimately, increased coordination across UKRI on areas such as security and resilience will underpin and drive forward the new activity that the research councils will support.

Research For Building a Secure and Resilient World

One of the thematic focus areas of UKRI's vision for impact focuses on how to build a secure and resilient world, by strengthening social and economic resilience, enhancing national security, improving threat awareness, and advancing capabilities in preparedness, decision-making, and response to risk.

As part of UKRI's investment in building a secure and resilient world, investments will be made in a variety of areas – including environmental science, technology, and social and behavioural science. Translating these ideas into practice has involved, and will continue to involve, collaboration with scientific advisors across government, as well as key stakeholders – including

in the security and defence community. For researchers interested in getting involved in tackling this challenge, key areas of research interest identified by Dr Stafford included:

- quantifying risk or confidence deficits
- living with technology
- understanding global challenges
- digital technologies related to security and defence
- understanding the shifting geopolitical order and the UK's evolving role within it
- improving resilience in an interconnected world.

The research councils are also exploring future research programs on security, including related to resilience in crises, transnational organised crime, use of Artificial Intelligence and autonomous systems, cybercrime, terrorism, and conflict.

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