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E: Human and Societal Dynamics - Vol. 132

Identification of Potential Terrorists and Adversary Planning

Emerging Technologies and New Counter-Terror Strategies

Edited by
Theodore J. Gordon
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IDENTIFICATION OF POTENTIAL TERRORISTS AND ADVERSARY PLANNING

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Foreword

Twenty years ago, terrorism was a problem for only a limited number of countries and followed a relatively predictable pattern. Nationalist groups, such as the IRA in Ireland or the Basque separatists in Spain, had been around for a long time, used largely the same methods and had a well-known political agenda. It was not easy, but still possible to negotiate with such groups, divide them internally, and ultimately integrate them into a democratic political process. Other groups, more ideological in nature, such as the Bader Meinoff gang in Germany, the Red Brigades in Italy, or the Cellules Communistes Combattantes in Belgium flared up only briefly and with minimal political impact. In short, terrorism seemed both finite and containable. There was light at the end of the tunnel.

As we begin 2017, this is no longer the case. Terrorism has become a universal challenge. The number of countries experiencing attacks or terrorist activities on their territories is increasing all the time, even if the majority of attacks are still overwhelmingly concentrated in conflict zones such as Iraq, Syria or Afghanistan. There are many more groups, increasingly networked, and some, such as ISIS or Al Queda, have acquired a global outreach and appeal. Given their agendas of extreme confrontation derived from religious fundamentalism and rejection of liberal, open societies, negotiation with these groups is inconceivable.

Their ability to rapidly metamorphose and adapt to new technologies, such as the Internet and social media, exploiting the key elements of the Western societies they claim to despise, makes it difficult for the international community, let alone the countries most affected, to come up with convincing, short-term solutions. Whereas the old terrorists focused on state institutions or representatives, the new brand is more focused on the liberal way of life and all its manifestations, such as young people in a Paris concert hall or shoppers at a Berlin Christmas market. This makes the range of targets almost endless, and the ability of the terrorist to sow fear and stoke sectarian hatred, with even modest means, all too easy; especially in a media environment which tends to hype the impact of these attacks, and give them 24/7 coverage, beyond their actual significance. It may well be true for political leaders, like former President Obama, to claim that "terrorism is not an existential threat" (especially compared to nuclear war, pandemics or extreme weather events driven by climate change); this fact doesn't prevent a growing climate of public fear, loss of confidence in institutions, and a popular perception, reflected in several opinion polls, that ISIS is public enemy number one and more terrorism is virtually inevitable.

In response, some commentators have asserted that we will need to learn to live with terrorism, adapt to it, and to cite the famous slogan in World War Two Britain, "keep calm and carry on." Certainly more resilience in the face of terrorism is one of the solutions to it. Yet what is neither necessary nor desirable is that resilience comes to mean passivity or acceptance. There is much that we can do to make life harder for the terrorist, to frustrate his plans, limit the damage from his attacks, and dismantle his networks, finances and supply chains. We need not only to better share intelligence, but also experiences, tactics and modus operandi. We need to identify what works sooner and drop approaches that do not before they become counter-productive. While we seek to prevent the exploitation by terrorists of new technologies, especially in the fields of weapons of mass destruction, cyberspace, biology, new materials and robotics, we also need to examine how we can better exploit our own technological resources to better anticipate, and thus prevent, the planning, training and conduct of terrorist operations. The terrorist is good at doing a lot with often modest resources. How can we do better with the much greater resources that we have at our disposal, but where we are less able to pull all the various elements together?

At a time when a new U.S. administration is taking office and promising a fresh approach to defeating ISIS and other terrorist groups, and other NATO nations are also reviewing their terrorist strategies against an evolving threat, the Advanced Research Workshop that was held in Washington, DC last July could not have been more timely. Organized by the Millennium Project USA in collaboration with the FIRST2T group, Israel, and with the help of the TAM-C solutions/USA+Israel, this Workshop brought together many of the finest and sharpest minds that we have to analyze our current state of play, and suggest ways of doing better to fight terrorism in the future. Lasting three days, the Workshop was able to address in a most comprehensive fashion all the key dimensions of a successful counter-terrorism strategy for the NATO countries: technical, legal and social, and to look ahead with realism but also imagination. For this reason, NATO was very pleased to be able to support the Workshop through our Science for Peace and Security Programme.

To my great satisfaction, the results of the many expert presentations and exchanges are now published in this succinct but comprehensive volume. My thanks go to the editors, Theodore Gordon, Elizabeth Florescu, Jerome Glenn, and Yair Sharan, for the fine work that they have done to blend many insights and topics into 16 excellent chapters. To my mind, this publication is one of the best studies of modern terrorism and what to do about it that we have at our disposal. So I am confident that it will find a wide readership not only in academic or think tank circles but, even more importantly, among policy makers and government officials. They stand to benefit most and they can afford least of all to ignore the important conclusions and recommendations that this wise publication has provided.

Jamie SHEA

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The editors want to thank the NATO Science for Peace and Security Programme for the support and the opportunity to organize the Advanced Research Workshop on "Identification of Potential Terrorists and Adversary Planning – Emerging Technologies and New Counter-Terror Strategies" that was held July 24–27, 2016, in Washington DC area.[1] The workshop gave futurists, security experts, and S&T experts working in fields associated with emerging detection and identification technologies the opportunity to share views and develop scenarios about new approaches that could help identify potential terrorists and their plans as early as possible. The listing and short bio of all contributors is in Appendix B. All participants were exceptionally engaged, as reflected in the results (see Chapter 2 and the "Conclusions and Recommendations" sections) as well as in the presentations throughout this book. We are most grateful for their remarkable involvement.

Special thanks go to CSRA, Falls Church VA, USA, which offered the venue for the workshop, and to Aaron Richman and TAM-C Solutions for helping with logistics and different organizational matters.

Particular acknowledgements for important suggestions provided during the preliminary research and organization of the workshop go to Karlheinz Steinmüller, Philippe Destatte, William Tafoya, as well as FIRS2T group and TAM-C solutions. Their recommendations were essential to the selection of the participants, design of the workshop and its final success and results reported here.

In preamble to the workshop, a Real-Time Delphi (RTD) has been conducted (results presented in Chapter 1 of this book) to gather preliminary insights on different detection technologies and strategies. We are most thankful to the 100 experts from over 30 countries who provided answers. They are listed in the summary report of the Pre-Detection of Terrorism RTD, available online at: http://www.millennium-project.org/millennium/NATOARW-Presentations/Pre-Detection-RTD-Participants.pdf.

And our final thanks go to the readers of this report, who will reflect about the challenges addressed and will do their best in their respective positions so that we all live and build a safer world for humanity as a whole.

[1] See the workshop's webpage at: http://www.millennium-project.org/millennium/NATO-PredetectionWorkshop.html.

The Millennium Project, USA. The Millennium Project was founded in 1996 within the American Council for the UNU after a three-year feasibility study in cooperation with the Smithsonian Institution, The Futures Group, and the UN University with funding from the US EPA, UNDP, and UNESCO. Today, it is an independent non profit organization registered in Washington, DC with 60 Nodes (groups of individuals and institutions that connect global and local perspectives on the future) around the world. It produced the monthly international environmental security reports for the US Army for ten years and other reports for the US Army, US EPA, Woodrow Wilson Center, World Bank, US Department of Energy Office of Science, Rockefeller Foundation, Foundation for the Future, Hughes Space and Communication, and Governments of Argentina, Azerbaijan, Egypt, Kuwait, and South Korea.

The Millennium Project created and manages the Global Futures Intelligence System, produces the annual State of the Future reports for 20 years, updates the Futures Research Methodology collection (39 Chapters on 37 methods), and developed the State of the Future Index. Its websites are http://millennium-project.org and Global Futures Intelligence System: https://themp.org. It is listed as the 6th best think tank in the world for new ideas and paradigms by the University of Pennsylvania’s Go to Think Tank Index.

The FIRS2T Group, Israel. The Future Insight Research Security, Society and Technology (FIRS2T) group is a consortium of researchers from different disciplines carrying out interdisciplinary research and studies. It was established in 2013. Studies focus on policy topics, supporting decisionmakers to use experience in foresight processes and in different societal issues. Key considerations in its strategic thinking are developments stemming from new and future technologies which will have a critical impact on the future of society. In that context, FIRS2T group works alongside its clients and partners to help achieve their objectives using updated foresight methods, assessment of emerging technologies, knowledge management and others. Important fields of activity include security, environment and energy, science and technology policy, and more. Current research includes the prospects of lone actor's terrorism worldwide, smart cities in the age of terror, pre-detection of terror and potential terrorists to reduce the impact terror threat, the future of work and free time, and more.

FIRS2T members have a vast experience in international research partnerships including the EU framework program, NATO science for peace and security (SPS) program, the European Parliament, and alike. FIRS2T members are partners in the Israeli sub-Node of the Millennium Project and in the World Energy Congress. FIRS2T website is http://ronydayan.wix.com/firs2t.

Contents

Introduction

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We hear, almost daily, about new atrocities committed against civilized society by terrorists. The perpetrators are most often killed or captured but the significance of these attacks seems to be growing. Anticipation and thwarting of these crimes is likely to become even more urgent since would-be terrorists have easier access to new tools that will enable them to develop massively destructive weapons (such as using CRISPR and synthetic biology to create new infectious viruses; and the creation of digital viruses in cyberspace to cause disruption of vital services). Many of these weapons will be very difficult to pre-detect[2].

Never before have technological advances had so great an impact on security—not only increasing the nature and level of threats, but also for the possibility of providing the means to address the threats. Technologies that could increase security include ubiquitous and omnipresent surveillance systems, the use of new algorithms for big data, improving bio- and psycho-metrics, and artificial intelligence and robotics. Yet trustworthy and reliable partners and an active and alert society remain sine qua non to reduce terrorism.

While there is much research going on in different domains and disciplines—from all types of screening and surveillances, to use of remote-controlled objects—there is little communication among the developers and even less among different countries' security organizations about the priority and applications of these technologies. Similarly, there are few public discussions or debates on the implementation of new and emerging techniques for the discovery of people with mal-intent and a universal legal framework for the use of different practices and information. What are the available techniques? What are the emerging technologies? What are the impacts of large population screening? What type of screening are being used and how reliable are the data? Who has the right to collect information? How can it be used, shared, analyzed and who has access to the assessments? How can these assessments be used?

For addressing some of these questions, a three-day Advanced Research Workshop was held in Washington DC, July 23-27, 2016, supported by NATO's Science for Peace and Security Programme[3]. It has been organized by The Millennium Project[4], USA, in collaboration with the FIRS2T[5] group, Israel and the help of the TAM-C USA/Israel.

[1] Corresponding author

[2] In the context of this book and the workshop, "pre-detection" represents "the operational concept of identifying a potential terrorism act or a person with such intent before the plan's implementation".

[3] NATO's Science for Peace and Security Programme http://www.nato.int/science

[4] The Millennium Project, http://www.millennium-project.org

[5] FIRS2T group http://ronydayan.wix.com/firs2t

The workshop was designed to promote discussions and information exchange among futurists, security experts, and S&T experts in fields associated with emerging detection and identification technologies about new approaches that could help identify potential terrorists and their plans as early as possible.

The threat is clear enough. During the month in which this workshop took place, about five terrorism incidents took place each day, on the average. While there was great variation in the lethality and damage of these incidents, researchers in the security field have recognized the potential for escalation, perhaps to include the use of Weapons of Mass Destruction.

Thus, within the limits of security classification considerations (the workshop was unclassified), the meeting was expected to address potential strategies that might help NATO and other relevant bodies anticipate attacks, prospective detection technologies, and possible positive and negative aspects, as well as uncertainties and anticipated difficulties in implementing these techniques. The discussions were designed to facilitate transfer of knowledge from one discipline to another and support productive synergies and cooperative activities that did not exist before.

More specifically, the objectives of the workshop were to:

- Provide a forum to exchange information about emerging detection technologies and their relation to security issues.
- Review of the successes and limitations of currently known methods of identification of adversary planning as well as detection of potential terrorists and their activities.
- Describe emerging detection technologies and systems that are available or are in development, their promises and limitations, as well as their uncertainties. The discussions surrounding this objective will include operating concepts of emerging techniques, expectations about the future capability of these systems, and research programs that may improve accuracy and coverage of the new systems.
- Describe practical issues involved in the application of these systems, in identifying potential terrorists and their plans to attack people and infrastructure, including cyber attacks.
- Assess the potential impacts of the Internet-of-Things and big data and their use by security services as well as potential terrorist organizations.
- Identify social, cultural, and regulatory consequences that may accompany early detection and identification. Strategies based on new technologies are raising questions about regulations and the lack of global frameworks on a range of issues from cybersecurity to privacy and confidentiality of data. How can issues such as the conflict between the desire for privacy and need for intrusive screening, or anticipating and dealing with the stigma that may arise from false positive identification of suspects as well as the need for remedies be reconciled?
- Identify some “wild cards” that would impact both terrorism and strategies to address it.
- Sketch macro-scenarios that could help test ideas and strategies using “case studies” through joint activity of the participating experts.

A Real-Time Delphi (RTD) preceded the workshop to gather preliminary information and rate the importance, likelihood, and implementation timeframe of different detection technologies and strategies; potential terrorism triggers, scope and spectrum; eventual response to prevent attacks, as well as potential ethical and social implications of different strategies. Inputs from the RTD were used to design and focus the discussion themes of the workshop itself and a presentation of the RTD results was made at the workshop. Other facilities and resources used in the construction of the workshop were:

- The Millennium Project's Global Futures Intelligence System, to help gather background material and explore technical, legal and social implications of the use of various policies and techniques
- Ted Gordon's "What If" databases of events to form lists of long-shot events that could impede or facilitate pre-detection techniques.

The three-day workshop featured intensive presentations and discussions in different formats. The diversity of the contributors generated interesting and novel potential approaches for terrorism pre-detection and prevention. The participants prized the workshop for its innovative insights and creation of new collaboration opportunities.

This book contains the descriptions of some of the presentations, a summary of the preliminary RTD results, and an analysis of the workshop outcomes and recommendations. Appendix A details the program of the workshop with a synopsis of the presentations. Appendix B presents a short biography of the participants. The presentations and short biography of the presenters are also available online at: http://www.millennium-project.org/millennium/NATO-PredetectionWorkshop.html.

Feedback on this report is invited and can be addressed to Ted Gordon (tedjgordon@gmail.com), Elizabeth Florescu (Elizabeth@millennium-project.org), Jerome C. Glenn (Jerome.Glenn@millennium-project.org), and Yair Sharan (sharany@gmail.com).

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