

1: Michael Smithson

Bammer, G , 'Adopting orphans: uncertainty and other neglected aspects of complex problems', in Gabriele Bammer and Michael Smithson (ed.), *Uncertainty and Risk: Multidisciplinary Perspectives*, Earthscan Publications Ltd, London, pp.

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2: Library Catalogue

Introduction / Gabriele Bammer and Michael Smithson *The many faces and masks of uncertainty / Michael Smithson*
Adopting orphans: uncertainty and other neglected aspects of complex problems / Gabriele Bammer.

Dealing with Uncertainties in Policing Serious Crime Introduction Gabriele Bammer Police have always had to grapple with uncertainties in their investigations of crime, so considerable effort has gone into reducing unknowns by developing technologies, like DNA testing, and procedures, like a record of interview. As crime, especially serious crime, has become more complex and resources have become more stretched it is starting to become evident that reduction cannot be the only approach to uncertainties. But how else can unknowns be tackled? It turns out that many aspects of understanding and managing unknowns have long been a blind-spot in western intellectual thought Smithson However, in recent years, as researchers have increasingly engaged with complex real-world problems, the need to develop richer approaches to uncertainties has become more evident and pressing. Responding to that need is still in early stages. Considerable effort is required to develop a more sophisticated understanding of unknowns, let alone a range of effective options for dealing with them. One of the central challenges is that although every complex real-world problem contains many different kinds of unknowns the way each discipline and practice area handles uncertainty covers only a fraction of the terrain. Further, different kinds of unknowns do not map neatly onto disciplines and practice areas. That project demonstrated that one way to deal more effectively with the myriad unknowns in social and environmental problems is to bring together different disciplinary experts and practitioners enabling them to learn from each other, as well as to contribute and integrate their insights. That is the task undertaken by this book, which maps out some of the prime territory for dealing with uncertainties in policing serious crime, as well as reviewing key areas for further development. It has also brought in leading contributors from other domains, in a strong partnership between CEPS and other major organisations. The process used to produce this book involved inviting authors to develop draft chapters, which were circulated to the whole group. Each author was asked to undertake a specific task in line with their expertise, as described in more detail below. The papers were then presented and discussed at a one-day conference which was open to interested participants from the policing and research worlds. After this, the final chapters were written. There were two primary activities designed to integrate the insights. First, four authors were asked to write commentaries reflecting on the other chapters in light of particular aspects of policing practice. The second process is ongoing. Conference participants were asked to document and hand in notes on their own reflections at the end of the meeting. These were collated and circulated and, along with this book, will form the basis for follow-up activities in promising areas. Sue Wilkinson and Michael Smithson set the scene. Sue Wilkinson describes the major challenges for the profession in responding to serious crime. She shows how crime has changed, especially by exploiting globalisation, as well as by the spread and increasing sophistication of information technologies. Uncertainties are compounded by the unpredictable nature of government priorities and subsequent impacts on resources, lack of inter-operability across jurisdictions and difficulties in cooperating with other countries to fight international crime, as well as differences between countries in legal codes and respect for human rights. Major developments in research on unknowns are highlighted by Michael Smithson, who also starts to tease out different kinds of uncertainties and their consequences. He specifically describes problems where reduction of uncertainty is not possible or not warranted. He also shows how reducing one uncertainty can increase or generate others. In particular he demonstrates that uncertainties are not always negative, but underpin important forms of social capital like privacy and trust. This has important consequences for reducing uncertainty, which always requires trade-offs, some of which should be avoided. The next set of authors was asked to describe established areas for dealing with uncertainty and to discuss new trends in applying them to policing serious crime. Robyn Attewell, along with Richard Jarrett and Mark Westcott, focus on recent developments in statistics, while Mark Kebbell, Damon Muller and Kirsty Martin concentrate on developments in psychology for dealing with bias. Robyn Attewell demonstrates how the basic tools of statistics descriptive statistics, graphs, geospatial mapping, cluster analysis and process

controlâ€”have continued to evolve, providing effective insights for dealing with serious crime. She also compares and contrasts policing with public health and medicine to discuss how the evidence base for policing could be improved, as well as the limitations to such developments. A brief introduction to risk analysis is provided by Richard Jarrett and Mark Westcott, showing that many of the qualitative methods currently in use are open to subjective and inconsistent interpretations. They demonstrate an effective method for quantifying consequences and likelihoods of risks, as well as for combining these assessments. They also take this further by examining different kinds of risksâ€”death, injury and illness; economic; social; environmental; symbolic; external; and reputationalâ€”and show how these can be rated and combined, allowing for a rich appraisal of a wide range of situations. It therefore becomes possible to construct much more sophisticated and quantified risk matrices to assist police decision-making about allocation of resources and other responses to serious crime, including terrorism. Mark Kebell and colleagues describe how short cuts in thinking are essential for effectively responding to the informational complexity of the world. Heuristics are essential aids to thinking, but can have maladaptive outcomes, including leading to bias. They describe a selection of heuristics and biases relevant to policing, namely the representativeness heuristic, the availability heuristic, anchoring and adjustment, confirmation bias and hindsight bias. They also outline advances in debiasing. They demonstrate the particular pertinence of these issues in counterterrorism investigations, which involve both inherent and created uncertainties, and which are both time pressured and high stakes. They argue for the importance of realistic expectations, highlighting the dangers of hindsight bias in particular, especially in politically charged situations. The third set of authors come from areas which have significant intersections with policingâ€”the law the Hon. Tim Carmody SC, politics the Hon. Carmen Lawrence and business Neil Fargher. The purpose of providing introductions to these areas is twofold. First, they highlight differences that throw policing procedures into sharper relief. Further exploration may then open the potential to enhance policing effectiveness, for example, in developing cases for prosecution in the courts and in responding to political pressures. Second, advances in these areas in dealing with uncertainties may be able to be adapted to policing purposes. A review of the foremost uncertainties inherent in the practice of criminal law is provided by Tim Carmody. For any serious crime, important uncertainties arise from the language of the law, liability for punishment, court processes and the use of discretion. Luck also plays a role. In the second half of the paper he lays out some challenges in preventing and penalising crimes such as terrorism. Carmen Lawrence explores the fundamental issue of fear. While a central role of policing is to reduce fear in the community, there is always a temptation for politicians to exaggerate and exploit fear as a path to maintaining power. Pressures from the media, which thrives on the reporting of crime, exacerbate this temptation. She demonstrates how common psychological processes make communities more vulnerable to manipulation through this fear and how evidence and more nuanced arguments can be blocked out. Business thrives on uncertainty and Neil Fargher provides an introduction to this world. Profit and risk are directly correlated. For a business to succeed risks have to be taken, but risks and other uncertainties also have to be managed. Policing already uses many strategies from business, so it is helpful to stay on top of mechanisms for reducing uncertainties through managing information, accepting uncertainties through scenario testing and exploiting them through sharing and shifting, using mechanisms such as insurance and derivatives. Policing already understands the value of seeing crime as business and is on the look out for up-to-date understanding of factors that make businesses fail, given that this is the fate of most new businesses and that even profitable established businesses can come to grief. For example, the chapter concludes with a tantalising analysis of drug dealing, demonstrating similarities to professional sports and accounting partnerships, where junior employees put up with low pay and high risk for the chance of being extremely well paid if they reach the top. Legitimate businesses may be able to provide new insights into the criminal world. The final four authors were given the most challenging task, namely to relate all the other insights back to practical policing issues. They were asked to concentrate on an area of practice in which they have particular expertise. Thus Peter Martin deals with undertaking and managing investigations, Tracey Green and Greg Linsdell with higher education in policing, Steve Longford with capacity building through consultancy work and Alastair Milroy with the work of specialist agencies established to deal with serious crime. Peter Martin provides insights into the worlds of the investigating

officer and investigation manager. Serious crime investigation is a multidisciplinary effort, where a major challenge is dealing with masses of information. He describes processes, honed through experience, which allow the protracted, complex and controversial nature of serious crimes to be dealt with and he highlights the importance of intuition, the tacit knowledge derived from that experience base. He confirms the importance of dealing with bias, not only among the investigating officers, but also among witnesses. He outlines the importance of the authorising environment, which seeks to provide public value through appropriate allocation of resources to give effect to the law and to achieve efficient outcomes. The authorising environment is essentially the legislative and regulatory support for the investigation, which can also have the downside of diverting effort from the investigation to meet political and media needs, such as pressure to achieve results and demands for information about the investigation to be made public prematurely. Helping police deal with uncertainty is central and becomes more sophisticated as police proceed from recruits to senior managers. There are three tenets relevant to all layers of the club sandwich, which are critical thinking, analysis and research. They highlight the importance of police becoming active partners in research designed to improve policing practice, including initiating investigations and being the lead researchers, which is facilitated by masters and PhD programs. Higher education alone cannot meet all the demands of policing in dealing with the myriad relevant uncertainties, with consultancy services filling an important niche. Steve Longford describes how his business tackles education and research in the critical area of decision-making. In essence, the business aims to increase understanding of how biases impact upon decision-making and to provide a framework, guidelines and tools that assist with more effective decision-making. He systematically works through decisions and decision processes, including programmable and unprogrammable decisions. He highlights three important biases—“cognitive, situational and personal”—and describes an inverse correlation between uncertainty and confidence, which he argues must be dealt with by concentrating on uncertainty, not confidence. He also examines decision quality, including false positive and negatives. Alastair Milroy concludes the book with a law enforcement agency perspective. The aim of an organisation like the Australian Crime Commission is to bring together all arms of law enforcement intelligence gathering to unite the fight against serious criminal activities. The challenges that such organisations face include lack of accurate and comprehensive statistics about serious crime; lack of agreement across jurisdictions about priorities; jurisdictional differences in legislation, operating standards, powers and cultures that impede collaboration; and turf wars between agencies and professional groups. An operation against an Asian criminal drug syndicate is used as a case study, where both information gaps in some areas and information overload in others were challenges. Despite the difficulties, the operation had marked successes. But as Alastair Milroy points out a significant uncertainty remains: Each of the authors emphasises the importance of bridging the chasm between research and practice. They identify key areas of intersection between practice concerns and research efforts, as well as areas critical to uncertainty in practice that warrant further research. Moving forward There is a long way to go before understanding and managing unknowns takes its rightful place in research and practice effort on complex real-world problems, including the policing of serious crime. There are at least five major challenges which an expanded consideration of unknowns must deal with: Let us discuss each of these in turn. Appreciating that unknowns are infinite, but research capacity is finite There are at least four reasons why unknowns are unlimited: It is sobering to couple the unlimited nature of unknowns with the fact that the capacity to undertake research is a limited resource. In his book *Inquiry and Change*, Charles Lindblom, p. Professional inquiry is a scarce resource even in a wealthy U.

3: Australian National University

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5: Prof Gabriele Bammer - Vitae Website

Uncertainty and Risk: Multidisciplinary Perspectives (ed.), Gabriele Bammer and Michael Smithson (eds), Earthscan Risk in Society Series, London, pp. Available in hardback, paperback and as an e-book.

6: Uncertainty and risk : multidisciplinary perspectives in SearchWorks catalog

Recent works include a chapter in a book on "Agnology," the study of the social production of ignorance, and a co-edited volume (with Gabriele Bammer) on multidisciplinary perspectives on uncertainty.

7: - Dealing with Uncertainties in Policing Serious Crime - ANU

Introduction / Gabriele Bammer and Michael Smithson -- 2. *The many faces and masks of uncertainty* / Michael Smithson -- 3. *Adopting orphans: uncertainty and other neglected aspects of complex problems* / Gabriele Bammer.

8: Professor Gabriele Bammer - Researchers - ANU

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9: Professor Gabriele Bammer | Research School of Population Health

INTEGRATION INSIGHTS. Number 7, May *UNDERSTANDING UNCERTAINTY*. Gabriele Bammer and Michael Smithson. *Managing unknowns is just as important as making maximum use of what is known when responding to real world.*

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