

CONTEMPORARY TERRORISM STUDIES

Putting Terrorism in Context

Lessons from the global terrorism
database

Gary LaFree, Laura Dugan and
Erin Miller



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This book offers a guide to interpreting available statistical data on terrorist attacks around the world using the Global Terrorism Database (GTD), which now includes more than 100,000 terrorist attacks, starting in 1970. By analyzing these data, researchers demonstrate how a very small number of terrorist attacks have had an outsized effect on attitudes and policies toward terrorism. These attacks, referred to as ‘black swan’ events, are difficult to predict but have an enormous impact on human affairs for years to come. The book discusses terrorist attacks, such as 9/11, possibly the most high-profile ‘black swan’ event in living memory, by putting them into context with thousands of less publicized attacks that have plagued the world since 1970.

Historically, the study of terrorism has suffered from a general lack of empirical data and statistical analysis. This is largely due to the difficulty of obtaining valid data on a topic that poses significant collection challenges. However, this book makes use of the fact that the GTD is currently the most extensive unclassified database on terrorism ever collected. While there have been summaries of the research literature on terrorism and important analyses of international terrorism event data, this is the first book that provides a comprehensive empirical overview of the nature and evolution of both modern international and domestic terrorism. This book will be of interest to students of terrorism and political violence, criminology, international security, and political science in general.

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Erin Miller**

First published 2015
by Routledge
2 Park Square, Milton Park, Abingdon, Oxon OX14 4RN

and by Routledge
711 Third Avenue, New York, NY 10017

Routledge is an imprint of the Taylor & Francis Group, an informa business

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British Library Cataloguing in Publication data

A catalogue record for this book is available from the British Library

Library of Congress Cataloguing in Publication data

A catalog record for this book has been requested.

ISBN: 978-0-415-67142-2 (hbk)

ISBN: 978-1-315-88172-0 (ebk)

Typeset in Baskerville
by Out of House Publishing

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Acknowledgements

Acknowledging those who have contributed to this book may engender the kind of surprise that many of us feel when we see the small army of contributors listed at the end of films. Indeed, it was made possible thanks to the unflagging support of officials in several key government agencies, dozens of staff, researchers, and graduate students, and hundreds of student interns who contributed to the collection of the data that comprise the Global Terrorism Database that is at the heart of the book.

This begins with recognition of Doug Loveland, who provided the initial tip about potentially useful data at the Pinkerton Global Intelligence Service, and Hugh Barber, the PGIS analyst who helped us get the project started. Margaret Zahn, who was then at the US National Institute of Justice, helped us secure early funding that allowed us to digitize the PGIS data. Continuation of the project would not have been possible without the support of Mel Bernstein, Director of the Office of University Programs at the US Department of Homeland Security, and his successor, Matt Clark, who have provided ongoing support for data collection for nearly ten years. Joseph Kielman and Allison Smith, also at DHS, supplemented our funding at several key moments. More recently, Rhonda Shore at the Bureau of Counterterrorism of the US Department of State has helped fund the collection of data and in particular the development of tools to improve the efficiency of the process. We particularly appreciate that all of our supporters have steadfastly preserved our academic freedom to collect a robust dataset free of political influence.

We have also received a good deal of institutional support from the University of Maryland and want to thank in particular John Townsend, Dean of the College of Behavioral and Social Sciences, and Pat O'Shea, Vice President for Research, and our colleagues in the Department of Criminology and Criminal Justice.

The quality of the GTD has been greatly enhanced over the years by a number of people who have served as advisors, including Gary Ackerman, Victor Asal, Charles Blair, Steve Chermak, Martha Crenshaw, Susan Cutter, Josh Freilich, Michelle Keeney, David Laitin, Clark McCauley, Magnus Ranstorp, Todd Sandler, Alex Schmid, Jake Shapiro, Kathie Smarick, Brent Smith, Sundara Vadlamudi, and John Wigle.

It is impossible to name all of the individuals who have participated firsthand in the collection of the GTD, beginning with the retired Air Force personnel who worked for PGIS to record handwritten details of terrorist attacks from news-wires on more than 60,000 index cards. Data collectors and analysts have since included staff and students based all over the United States. In particular, we want to acknowledge those who worked under the supervision of Gary Ackerman and Charles Blair from the Center for the Study of Terrorism and Intelligence Studies (CETIS) and those who worked with our partners Richard Ward and Daniel Mabrey from the Institute for the Study of Violent Groups (ISVG). For more than a decade, numerous staff and students at the University of Maryland have contributed to GTD data collection and analysis. Among those who have had the longest tenure on the project are Brandon Behlendorf, Michael Distler, Susan Fahey, Heather Fogg, and Omi Hodwitz. Recently, Michael Jensen and Brian Wingenroth at the University of Maryland have played a critical role in developing tools to sustain the collection of the GTD as the landscape of technology and media evolves. We are grateful to all who invested their time and energy to improve the accuracy, consistency, and completeness of the data in the interest of supporting sound empirical research on terrorism.

We acknowledge the contributions of Martha Crenshaw and Sue-Ming Yang, who co-authored an earlier version of the analysis in Chapter 3 and Erica Chenoweth, who co-authored an earlier version of the analysis in Chapter 10. We are grateful to Bill Braniff and Emily Iarocci for their helpful comments on drafts of chapters, and to Michael Distler, Sumit Kumar, and Scott Menner for their assistance with the preparation of the manuscript.

Finally, we thank our friends and family that have supported our efforts and entertained endless debate about the complexities of collecting and analyzing data on terrorism.

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1 The enduring impact of 9/11

If names be not correct, language is not in accordance with the truth of things. If language be not in accordance with the truth of things, affairs cannot be carried on to success.

Confucius, *Analects*, c. 500 BC¹

In the early morning hours of September 11, 2001, 19 men armed with knives and box cutters boarded four transcontinental flights originating in major cities on the eastern seaboard of the United States. Within minutes they had successfully seized control of all four aircraft and turned them into deadly weapons, each loaded with thousands of gallons of highly explosive jet fuel. In a surprisingly short amount of time, a small group of dedicated zealots had defeated all of the protective layers of the American civil aviation security system. The coordinated attacks of 9/11 claimed nearly 3,000 lives, including the passengers on the planes, people on the ground, and the 19 hijackers – more than the number who perished during the attack on Pearl Harbor during World War II.² This was not only the greatest loss of life from a coordinated terrorist attack in the United States, it was also the deadliest terrorist attack worldwide in more than four decades of modern history.

It is hard to overestimate the impact that the 9/11 attack has had on the United States in particular and on the world in general. It led directly to the creation of the Department of Homeland Security and the largest reorganization of the US government since World War II. Within weeks of the attack, Congress passed the USA PATRIOT Act, which greatly expanded the power of federal authorities to obtain evidence in terrorism cases, and share information from intelligence and criminal investigations, and has prompted an ongoing debate about the limits of privacy. Also within a week of the attack, Congress passed the Authorization for the Use of Military Force, giving the President the authority to use the military to bring those responsible for 9/11 to justice. The focus of the Federal Bureau of Investigation shifted away from the enforcement of drug laws and white-collar crimes toward countering terrorism. And 9/11 has had a lasting impact on a wide spectrum of national policies, including immigration, border security, emergency preparedness, law enforcement, and even education.

Not surprisingly, estimating the economic impact of 9/11 is complex, but there is universal agreement that it was profound. The effect on US businesses has been estimated at between \$100 and \$200 billion (Richardson *et al.* 2007; Rose *et al.* 2009). Perhaps hardest hit were the firms in the World Trade Center towers, especially those specializing in finance, insurance, and investments. There was also a direct and lasting impact on the airline industry and on hotels, restaurants, entertainment, and tourism. And this of course does not include downstream indirect costs of two major wars and massive changes in intelligence and defense.

The political fallout of 9/11 is even harder to assess. In direct response to the 9/11 attacks, the Bush administration launched a limited military operation in Afghanistan and a much more extensive campaign in Iraq. The Obama administration changed the military focus away from Iraq and more toward Afghanistan but nonetheless continued investing huge human and material resources in both countries. As this book was being prepared, the US and coalition occupation of Iraq and Afghanistan was drawing to a close. But the impact of the invasions on global politics will reverberate for years to come.

Given the importance of 9/11 in the history of the United States and beyond, it is unsurprising that much of our thinking about terrorism, right down to basic assumptions about who commits terrorism, what terrorism is, where it occurs, how often it happens, why it happens, and what governments can do about it have been shaped for the past decade in large part by the enormous shadow cast by 9/11. However, 9/11 draws its power precisely from the fact that it was an extraordinarily rare event. While it is obviously critical to understand as much as we can about a momentous incident such as 9/11, it is perhaps even more important to put this attack in perspective by considering the more typical characteristics of terrorist attacks.

The purpose of this book is to provide context for the 9/11 attacks by examining the thousands of other terrorist attacks that have plagued the world since 1970. The main information we rely on for this account is the Global Terrorism Database (GTD), an unclassified source for data on terrorist attacks maintained by the National Consortium for the Study of Terrorism and Responses to Terrorism (START), headquartered at the University of Maryland. At the moment, the GTD is the longest, most comprehensive unclassified source of data on terrorist attacks ever assembled, including more than 113,000 attacks around the globe from 1970 to 2012.³ These attacks are limited to non-state actors – individuals or groups – that use violence or the threat of violence to advance their political agenda. We will not be examining violence that is directly carried out by governments – a worthy topic that deserves its own specialized treatment. Following this introduction, we use the GTD to consider the general characteristics of terrorism, the nature of terrorist attacks, the tactics used by terrorist groups, how governments have responded to terrorism, and the effectiveness of these responses.

To some extent our analysis will challenge conventional wisdom, revealing that terrorist attacks are overwhelmingly launched against local targets, are highly concentrated in a few locations, rely largely on readily available, unsophisticated weaponry, are often perpetrated by individuals or groups whose identity cannot

be positively confirmed, and frequently involve few or no fatalities. Further, the typical terrorist group disappears in less than a year, and evidence suggests that groups sometimes but not always mimic tactical advances made by other groups. Our analysis suggests that governments should consider a wide range of strategies when responding to terrorist threats and attacks, and not get locked into a single approach.

Tuesday morning, September 11, 2001

September 11, 2001, dawned as a beautiful, nearly cloudless, autumn day in the eastern United States. Millions of men and women readied themselves for work. Thousands made their way to the Twin Towers, the signature structures of the World Trade Center complex in New York City. Two hundred miles away in Arlington, Virginia, many others began arriving at the Pentagon. Across the Potomac River, the United States Congress was back in session that day. At the other end of Pennsylvania Avenue, visitors began to line up for a White House tour. In Sarasota, Florida, President George W. Bush was starting his day by jogging.

The US government's *9/11 Commission Report*, completed in 2004, paints a portrait of the attacks as they unfolded in painstaking detail. Early that morning in Boston, Egyptian-born Mohamed Atta and four accomplices boarded American Airlines Flight 11 bound for Los Angeles. The flight departed at 7:59 a.m. A few minutes later the first of four coordinated 9/11 hijackings began. Atta's accomplices stabbed two unarmed flight attendants, and shortly after, Atta moved into the cockpit of the aircraft. The hijackers sprayed Mace or some other irritant into the first class cabin and forced passengers and attendants to the rear of the plane. The hijackers claimed that they had a bomb and threatened to detonate it if the passengers did not follow their orders. Flight attendant Betty Ong was able to contact an American Airlines office and report that "The cockpit is not answering, somebody's stabbed in business class ... I think we're getting hijacked" (*The 9/11 Commission Report* 2004:5). Shortly afterward, flight attendant Madeline Sweeney managed to contact the American Flight Services Office in Boston and reported, "We are in a rapid descent ... we are all over the place" (p. 6). At 8:46 a.m., American Flight 11 crashed directly into the North Tower of the World Trade Center in New York City. All on board and hundreds of people in the tower died instantly.

At nearly the same time as these events were unfolding, Marwan al Shehhi, along with four other accomplices, checked into United Airlines Flight 175, also departing from Boston and bound for Los Angeles. United 175 departed at 8:14 a.m., and the hijackers attacked about 30 minutes after the plane departed. As in the American Airlines hijacking, the assailants used knives, Mace or a product like Mace, and the threat of a bomb. They stabbed members of the flight crew and murdered both pilots. At 8:51 a.m. the flight deviated from its assigned altitude. At 9:00 a.m., in Easton, Connecticut, a man named Lee Hanson received a phone call from his son Peter, a passenger on United 175: "It's getting bad, Dad – a stewardess was stabbed ... I think we are going down – I think they intend

to go to Chicago or someplace and fly into a building – Don't worry, Dad. If it happens, it'll be very fast ...” Three minutes later, United 175 struck the South Tower of the World Trade Center. Again, all on board and hundreds of people in the tower died instantly. Thousands more were killed when each tower eventually collapsed.

A few hundred miles southwest of Boston, at Dulles International Airport in the Virginia suburbs of Washington, DC, another team of five men checked in on American Airlines Flight 77, bound for Los Angeles. The flight departed at 8:10 a.m. About 40 minutes later, the hijackers brandished knives and box cutters, and moved all of the passengers to the rear of the aircraft. At 8:54 a.m., the plane deviated from its assigned flight plan. At 9:29 the autopilot on American 77 was disengaged. Shortly after, the hijacker piloting the plane advanced the throttles to maximum power and dove toward the Pentagon. At 9:37 a.m. American Flight 77 slammed into the Pentagon traveling at more than 500 miles per hour. All on board, as well as many civilian and military personnel in the Pentagon, were instantly killed.

Just before 9 a.m. a final team of hijackers departed from Newark, New Jersey, for San Francisco on United Airlines Flight 93. The hijackers attacked about 45 minutes later. The other three aircraft had been hijacked by teams of five men. In the United 93 hijacking there were only four hijackers.⁴ Shortly after the hijacking began, a woman, most likely a flight attendant, struggled with one of the hijackers and was either subdued or killed. Passengers and flight crew began making a series of calls from air phones and cellular phones once the attack unfolded. As in the other hijackings, the assailants wielded knives, moved the passengers into the back of the plane, and claimed that they had a bomb. Several of the passengers who were able to make phone calls learned of the crashes that had already taken place at the World Trade Center. From these calls, we know that the passengers and surviving crew members planned a revolt against the hijackers, and at least one call indicated that the passengers took a vote before deciding to rush the terrorists. At 9:57 a.m., the passenger assault began. One of the passengers ended her telephone message: “Everyone's running up to first class. I've got to go. Bye.” The passengers continued their assault and at 10:02, perhaps realizing that the passengers were about to overcome them, the hijackers headed the plane steeply downward. With the sounds of the passenger counterattack in the background, United 93 plowed into an empty field in Shanksville, Pennsylvania, traveling at a speed of 580 miles per hour. The hijackers had most likely planned to attack either the Capitol or the White House, but were thwarted by a group of unarmed passengers.

The enduring impact of 9/11

Few would disagree with the conclusion that the coordinated attacks of September 11, 2001, have had a major impact on the United States in particular and on the world in general. In an influential book, essayist Nassim Nicholas Taleb (2007:xvii) defines 9/11 as a “black swan” event – one that falls outside the realm of regular

expectations, has a high impact, and defies prediction. The term is based on the observation that before they visited Western Australia, Europeans had assumed that all swans were white and a black swan in everyday language came to refer to a phenomenon that was presumed not to exist. The discovery of black swans by European explorers in the late 1600s smashed a fact that was previously thought to be unassailable. The importance of the metaphor for Taleb is to show how fragile human knowledge can be. Indeed, Taleb argues that a small number of black swan events explain many of the most important developments in human history, including scientific discoveries, major financial outcomes, and even the success of ideas and religions. In addition to 9/11, Taleb regards the dissolution of the Soviet Union, the start of World War I, the rise of the Internet, and the development of the personal computer as black swan events. Taleb argues that because these events are so rare, they are difficult or impossible to predict with standard scientific methods. Nonetheless, says Taleb, human nature resists uncertainty, and human beings try very hard to make black swan events seem explainable and predictable after they occur.

A key characteristic of these black swan events is their enduring impact on human history. An immediate effect of the 9/11 attacks on US history was a major reorganization of government, represented most dramatically by the establishment of the Department of Homeland Security. The creation of a Cabinet-level department dedicated to overseeing homeland security has been the largest reorganization of the US federal government since World War II. In January 2003, Tom Ridge, former Governor of Pennsylvania, became the first Secretary of the Department of Homeland Security (DHS), an amalgamation of more than 20 agencies and 180,000 employees from disparate corners of government. Agencies folded into the new department included the Customs Service, the Immigration and Naturalization Service, the Coast Guard, the Secret Service, and the Border Patrol.

However, substantial as it was, the creation of the new Department of Homeland Security was only a part of the administrative reorganization sparked by 9/11 in the United States. In fact, many of the national security policies enacted by the United States in the wake of 9/11 were a direct reaction to the coordinated attacks. For example, just a few weeks after September 11, Congress passed the PATRIOT Act, and ever since its passage it has generated controversy, hailed by some as an indispensable tool in the war on terror, and by others as a frontal assault on civil liberties. What is not disputed is the conclusion that the PATRIOT Act substantially expanded the power of the police to obtain evidence in terrorism cases, and of intelligence and criminal justice investigators to share information collected. Another immediate impact of 9/11 was a major shift in the focus of the Federal Bureau of Investigation (FBI) from its traditional emphasis on drug laws and traditional crimes toward counterterrorism. After the passage of the PATRIOT Act, the FBI made major efforts to integrate its criminal investigations with foreign and domestic intelligence operations. The FBI also lessened its criteria for opening investigations, which allowed it to gather information on communities even in the absence of indicators of criminal activity.⁵

Other federal programs experienced similar reorganizations. Perhaps most dramatically, Congress passed legislation shortly after the attacks of September 11 that created the Transportation Security Administration, which for the first time federalized passenger and baggage screening at the nation's airports. Anyone who boards aircraft these days is depressingly familiar with the enhanced security measures that now require passengers to arrive at airports hours before flying, to remove liquids from their carry-on luggage, to submit their shoes, jackets, and laptop computers for inspection, and to be compelled to walk through full body scanners or endure potentially invasive pat-downs. The same legislation also required that passenger airplanes flying in the United States have reinforced cockpit doors to prevent intruders from gaining access to flight decks.

The creation of DHS in 2003 brought together several former border and security agencies under one umbrella now called Immigration and Customs Enforcement (ICE). In combining the resources, jurisdictions, and functions of the US Customs Service, the Immigration and Naturalization Service, the Federal Protective Service, and later, the Federal Air Marshals Service, ICE has become Homeland Security's largest investigative bureau. Its responsibilities include securing the nation's long, porous borders with Mexico and Canada. Agents also track weapons smuggling and shipments of equipment that could be used to produce weapons. One of the most far-reaching changes was the drastic reduction of immigration quotas from Muslim countries.

Increased numbers of plainclothes federal air marshals now fly aboard passenger airlines to deter terrorists and respond to hostile activity as needed, and interdiction teams coordinate air and land responses to border threats. Meanwhile, ICE's Student and Exchange Visitor Information System (SEVIS) has automated and centralized tracking of foreign students during stays in the United States, and a US-VISIT program launched in 2004 requires visa holders to be photographed and fingerprinted before entering the country. Critics say such programs still have major loopholes, especially because the terrorist watch lists against which names are compared are incomplete and often inaccurate (US Government Accountability Office 2007). These criticisms were especially shrill following the Christmas Day 2009 attempt by Umar Farouk Abdulmutallab to detonate a bomb hidden in his underwear and bring down a Northwest Airlines flight from Amsterdam as it approached Detroit. Abdulmutallab, a 23-year-old Nigerian engineering student and one of 279 passengers on the plane, had been on one of the watch lists maintained by DHS.

Indeed, the most vocal challenges to the Bush and Obama policies on terrorism and counterterrorism are also being set to a large extent by our reactions to 9/11 and its uniqueness. For example, the controversial expansion of the US government's data collection programs, aimed at citizens around the world as well as its own citizens, can be traced directly to the perceived intelligence failures of 9/11. On the other hand, opponents of heightened surveillance and expansive government authority frequently cite a low threat of terrorism in the United States – pointing to the fact that no attacks even approaching the scale of the 9/11 attacks occurred before or since.

It is hard to imagine starting a book about terrorism in the early twenty-first century that does not begin by referring to 9/11. As researchers who see a lot of work written about terrorism, we have grown accustomed to some reference to 9/11 in the opening paragraph of most of the articles and books we review. It was a definite game changer. In fact, many of our current assumptions about terrorism and our responses to terrorism have been greatly influenced by 9/11 – including our impression that terrorist attacks have been rapidly increasing, that most attacks originate in the Middle East, that terrorist attacks rely on complex planning and sophisticated weaponry and are incredibly lethal, and that most terrorist groups make irrational demands that cannot be solved by negotiation.

The incredible impact of 9/11 on the political, economic, legal, and social fabric of the United States and the world has made it a prism that filters – and in some cases distorts – our understanding of terrorism. In fact, obtaining objective data on terrorism is not easy. Thus, on September 12, 2001, the world's information about terrorism was surprisingly incomplete. There was not then and still is not today a universally accepted definition of terrorism. No comprehensive, unclassified database on terrorist attacks was available.⁶ Few academic researchers were collecting systematic data on domestic terrorism, despite the fact that many researchers and policymakers suspected that domestic attacks were far more common than international ones. No researchers or journalists could tell us with certainty whether worldwide terrorism was increasing, decreasing, or remaining at the same levels. And while academics in the social and behavioral sciences were producing research products of dizzying scope and diversity, studies of terrorism were relatively rare.

While the coordinated attacks of 9/11 are remarkable in terms of the outsized impact they have had on US history and even world history, other countries have also been disproportionately affected by their own black swan terrorist events. For example, in recent years we can think of the major impact that the coordinated attacks on the Madrid commuter train system on March 11, 2004, have had on subsequent policies in Spain; the impact that the terrorist attacks on the London transportation system on July 7, 2005, have had on politics in the UK; the impact that the eight coordinated shootings and bombings in November 2008 in Mumbai have had on Indian policies; and the impact that the shooting rampage by Anders Brevik in July 2011 is having on the politics of Norway. While we focus especially on the impact of 9/11 in this book, these and a small number of other terrorist attacks from around the world also share some of the characteristics of black swan events in that they were high profile, hard to predict, and outside the realm of normal expectations.

Building a terrorist attack database

On a cloudy afternoon in late November 2001 – just two months after the 9/11 attacks – the lead author of this book rode the Washington, DC, Metro from suburban Maryland to the offices of the Pinkerton Global Intelligence Service (PGIS), located in a tall modern office complex in Northern Virginia. A graduate

student at the University of Maryland had served in the Air Force and told me that a colleague of his who worked with PGIS had explained to him that the company had been collecting data on terrorist attacks around the world for nearly three decades in order to provide risk assessments for its corporate clients; and that it might be willing to share the information with university researchers. The PGIS data initially appealed to me because, as a criminologist, I had spent much of my time examining databases that included archived information on violent deeds: homicides, robberies, rapes. I explained to administrators at PGIS that I was a university professor and that I thought many in the research community would be very interested in the data on terrorism that had been collected by PGIS. Apparently I was convincing because the administrators agreed to let me transport the original PGIS data – more than 50 archival storage boxes of event records handwritten on 5×7 index cards – to the University of Maryland for analysis. A digitized and reconstructed version of the PGIS data was the original platform for the Global Terrorism Database (GTD) that we use throughout this book.

Plan of the book

Our main thesis in this book is that the exceptional originality of a handful of events such as the 9/11 attacks has greatly influenced thinking about terrorism and has promoted conventional wisdom about terrorism that is not necessarily supported by a broader look at its general characteristics. An important extension of this argument is to consider the extent to which research and policy that is based primarily on extremely rare events may be misleading and ineffective. In the chapters that follow, we use the GTD to contrast the 9/11 attacks to the more than 100,000 other terrorist attacks that have occurred around the world over the past four decades. However, before we begin to use the GTD to put terrorism into context, we first need to consider the characteristics of the database, including its strengths and limitations. In Chapter 2 we examine the evolution of the GTD and also compare its history to the development of other databases on terrorist attacks over the past four decades.

We then begin exploring the characteristics of the terrorist attacks in the GTD. We start with the most basic features of terrorism, its longitudinal and spatial patterns. In Chapter 3 we examine long- and short-term trends in global terrorist attacks. Given the impact of 9/11, we also consider terrorist attacks that have been specifically directed against the United States. In Chapter 4 we examine the geographic distribution of terrorist attacks around the world, and consider the regions and countries responsible for the most and the fewest terrorist attacks over time. We also consider the extent to which terrorist attacks have taken place on US soil since 1970. In Chapter 5 we study the groups that are attributed responsibility for the terrorist attacks recorded in the GTD by more closely examining their life spans. While the media often emphasizes terrorist attacks that can be clearly attributed to specific groups or individuals, many terrorist attacks are never claimed, and the perpetrators remain anonymous. Given the persistence of high-profile, long-lasting groups such as al Qaeda, the Fuerzas Armadas Revolucionarias de

Colombia (FARC), or the Euskadi Ta Askatasuna (ETA), there is also a common perception that terrorist groups typically have long life spans. In Chapter 5 we show that this perception is greatly exaggerated.

In the next part of the book, we examine several more specific characteristics of terrorist attacks. In Chapter 6, we provide a detailed assessment of the weapons, tactics, and targets that terrorists use in their attacks. Based on events like 9/11 it is easy to assume that terrorist attacks often rely on elaborate planning and cleverly deployed weaponry aimed at killing or injuring unsuspecting civilians in the course of their daily activities. As we shall see, over the past four decades terrorists have most often relied on readily available weapons that are relatively unsophisticated. Further, while most terrorist attacks do target civilians engaged in everyday activities, the range of targets is extremely broad and the whole issue of targeting is far more complex than is usually assumed. In Chapter 7, we examine the fatalities and injuries produced by terrorist attacks. Again, the horrific destructiveness of attacks such as those on 9/11 encourages us to think of terrorism as producing mass casualties. However, a careful examination of more than 100,000 terrorist attacks from the GTD shows that mass fatality attacks are rare and that attacks that claim no fatalities are actually more common than attacks that do.

In the final part of the book, we step back and examine terrorist attacks from a broader perspective. Many high-profile terrorist attacks, including the coordinated attacks of 9/11, have been international – where citizens from one country carry out an attack on citizens from another country. In Chapter 8 we explore the complexities involved in distinguishing between international and domestic attacks, and then use the GTD to compare these two types of attack. Because a major theme of this book is that 9/11 was a highly innovative and unusual event, in Chapter 9 we identify four relatively recent tactical innovations (aerial hijacking, the use of chemical and biological weapons, the use of radiological and nuclear weapons, and suicide attacks) and then examine how rapidly they have been adopted by different terrorist organizations. We find a good deal of variation in the diffusion of these terrorist innovations across groups and over time.

Finally, because the ultimate goal of developing a comprehensive database on terrorist attacks is to provide empirical support to aid governments in reducing the number of attacks, we turn next to policy responses to terrorism and the actions of terrorist organizations. The belief that credible threats of apprehension and punishment deter crime is as old as criminal law itself, and it has broad appeal to both policymakers and the public. Deterrence models generally assume that human beings are rational, self-interested actors who seek to minimize personal cost while maximizing personal gain (Dugan *et al.* 2005; LaFree *et al.* 2009). Deterrence-based models have long dominated our thinking about responding to terrorism. Indeed the demand to take direct action against the perpetrators was a common and strong reaction to the 9/11 attacks. In Chapter 10 we consider the argument that punitive reactions are an effective method for combating terrorism, relying especially on evidence from the GTD. We also describe research efforts to evaluate the effectiveness of deterrence; and we introduce a recent effort to collect comprehensive data on government efforts to reduce terrorism.

We reserve the final chapter for taking stock, summarizing the main conclusions, and considering their implications for our understanding of worldwide terrorism. A major challenge raised by terrorism in general, and the 9/11 attacks in particular, is that black swan events encourage outsized responses, whose scope may be greater than it needs to be to prevent further attacks. Overreaction by governments has been a stated goal of those that use terrorist tactics. But the flip side of this argument is that without credible responses to terrorist threats, we may be increasing to unacceptable levels the risk for another catastrophic attack. As we shall see, correctly balancing these two concerns represents a fundamental challenge to governments – one that is not likely to disappear during the next century.

Notes

- 1 Confucius, *Analecs*, from Leonard A. Lyall. 1909. *The Sayings of Confucius*. London: Longmans Green.
- 2 Given how much attention has been devoted to 9/11, it is surprisingly difficult to count the total number of fatalities associated with the attacks. There are at least three challenges. First, it was never possible to unambiguously separate casualties from Towers One and Two in the World Trade Center attacks. Second, it is complex to determine how far after an event fatalities linked to an event should be included. For example, several victims of 9/11 developed respiratory and other ailments that may have led to their deaths months or even years after the attacks. Victims who died as a result of lung disease caused by the attacks have been added to the official tally of casualties as recently as 2011. And finally, it appears that an unknown number of individuals used the World Trade Center bombings for various types of insurance-related and other fraud, filing false fatality claims. Nonetheless, the New York City Medical Examiner's Office maintains an official list of those who were killed by the 9/11 attacks in New York City, and makes changes to that list as cases are adjudicated. The GTD records the number of deaths according to this official source.
- 3 Readers can see the database for themselves at www.start.umd.edu/gtd.
- 4 The hijackers likely planned to round out the team with Mohamed al Kahtani, who was refused entry into the United States by an attentive immigration inspector in Florida (*The 9/11 Commission Report* 2004:11).
- 5 See the FBI Domestic Investigations and Operations Guide (DIOG) at <http://vault.fbi.gov/FBI%20Domestic%20Investigations%20and%20Operations%20Guide%20%28DIOG%29> (last accessed September 17, 2014).
- 6 Important open source databases such as ITERATE and the RAND-MIPT database existed prior to 9/11 but they were limited to international terrorist attacks, a small fraction of all attacks. We discuss these databases in more detail in Chapter 2.

References

- Dugan, Laura, Gary LaFree, and Alex Piquero. 2005. Testing a Rational Choice Model of Airline Hijackings. *Criminology* 43:1031–1065.
- LaFree, Gary, Laura Dugan, and Raven Korte. 2009. The Impact of British Counter Terrorist Strategies on Political Violence in Northern Ireland: Comparing Deterrence and Backlash Models. *Criminology* 47:501–530.
- National Commission on Terrorist Attacks upon the United States, The. 2004. *The 9/11 Commission Report*. Final Report. New York: W. W. Norton.

- Richardson, H. W. P. Gordon, and J. E. Moore. 2007. *The Economic Costs and Consequences of Terrorism*. Cheltenham, UK: Edward Elgar.
- Rose, Adam, Gbadebo Oladosu, Bumsoo Lee, and Garrett Beeler Asay. 2009. The Economic Impact of the September 11 Terrorist Attacks: A Computable General Equilibrium Analysis. *Peace Economics, Peace Science and Public Policy* 15:1–28.
- START (National Consortium for the Study of Terrorism and Responses to Terrorism). 2013. Global Terrorism Database. <http://www.start.umd.edu/gtd> (last accessed May 21, 2014).
- Taleb, Nassim Nicholas. 2007. *The Black Swan: The Impact of the Highly Improbable*. New York: Random House.
- US Government Accountability Office. 2007. *Terrorist Watch List Screening: Recommendations to Promote a Comprehensive Approach to Terrorist-Related Screening*. Washington, DC: Government Printing Office.

2 The creation of the Global Terrorism Database

Accurate and minute measurement seems to the non-scientific imagination, a less lofty and dignified work than looking for something new. But nearly all the grandest discoveries of science have been but the rewards of accurate measurement and patient long-continued labour in the minute sifting of numerical results.

Sir William Thomson, Lord Kelvin, 1871¹

In this chapter we describe the origins and evolution of terrorist event databases. We pay particular attention to the Global Terrorism Database (GTD), given that we will rely on it throughout the rest of the book to explore patterns of terrorism. Terrorist event databases have important strengths and limitations but they persist primarily because at present we have no better method for tracking terrorist attacks. Although terrorist event databases are far from perfect, some methods produce much better results than others. Before we explore the history and characteristics of event databases, we begin the next section with the even more fundamental question of why it is important to be able to count terrorist attacks.

Counting terrorist attacks

In fact, we argue that all science begins with counting things: atoms, earthquakes, and the distance from the earth to the sun. It seems clear that we cannot do a very good job of fighting terrorism if we cannot first assess how much of it there is. Imagine trying to construct or evaluate policies to reduce unemployment without knowing how much unemployment there is or to reduce cancer without knowing how much cancer there is. This stubborn fact has posed a central irony in our approach to global terrorism in the last half century: while effective policy against terrorism depends especially on hard data and objective analysis, our ability to define and study terrorism has lagged behind many other fields in the social and behavioral sciences. In their encyclopedic review of terrorism, historians Alex Schmid and A. J. Jongman (1988:177) identified more than 6,000 published works but pointed out that much of the research is “impressionistic, superficial (and offers) ... far-reaching generalizations on the basis of episodal evidence.” More