Bioviolence is the hostile infliction of disease. Terrorists or criminals could use disease to cause catastrophic consequences and panic, making everyone vulnerable. Too little is being done to prevent bioviolence, and accelerating advances of bioscience open new threat potential. While bio-offenders are becoming more focused and organized, prevention policies are vague, gap-ridden, and unsupervised. No other threat presents such severe danger yet such a failure of leadership to reduce risks. This book explores how global governance should evolve to address bioviolence challenges. Law enforcers, scientists, and public health officials should coordinate their prevention efforts. Nations and international organizations, especially the United Nations, need to cooperatively improve humanity’s security. Altogether, the strategy for preventing bioviolence requires a global covenant to promote bioscience while understanding its inherent and unavoidable dangers.

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BIOVIOLENCE

Preventing Biological Terror and Crime

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For

Aly, Bobby, and Shannon
and Theirs and Theirs and Theirs

May This Book's Fears Prove Illusory
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As this book is written, civil war and insurgency inflame Iraq; Palestinians and Israelis unrelentingly clash; and genocide perpetuates in Darfur. With time, other and perhaps worse conflicts will come to the fore. Eventually, some combatant or fanatic will choose to raise the stakes by using a weapon that altogether multiplies casualties. Just as planes flying into towers on 9/11 instantly became an historical marker dividing strategic perspectives before from after, that day will herald the onslaught of disease as an instrument of malevolence, profoundly changing everything.

Today, leaders proclaim that they are doing everything possible to meet this threat. Following a truly catastrophic act of bioviolence, they will likely tell the public that they had no idea where, when, or how a bioattack would occur – if they had known, they would of course have dedicated all their prodigious powers to thwart it. And the evil perpetrators of this horrible crime surely will be caught and punished.

These proclamations are disingenuous and these avowals will be half-truths, deluding all of us about where security may be found and how to get there – not so much a deliberate lie but a mirage grounded on little more than a wish and a prayer. The more complete truth is that little is being done to prevent bioviolence; if catastrophe occurs, leaders must be held responsible for willful disregard of the well-being of countless victims who entrust them to prevent unspeakable horrors. There is no way to know where, when, or how a bioattack will occur, but much can be learned if we gather information more effectively. A promise to hold the attackers to account is a small gesture: most likely they will be dead or very hard to find; in any event, punishing them will scarcely compensate for the massive injuries inflicted.

This book is in small part an indictment, in larger part a policy map. More broadly, it is a discussion of how international law should cope with
the planetary implications of advancing bioscience. It is born of seven years of traversing five continents and participating in hundreds of workshops, meetings, and briefings with officials of governments and international organizations, scientists, diplomats, and advocates of peace and development. Emerging from this experience is a strong belief that humanity is more vulnerable than it should be and that the dangers are speedily and unnecessarily accelerating.

The central reality of bioviolence is that it is an immense threat, but a massive catastrophe has not yet happened. Few informed policy makers are sanguine about this threat, but it is at the periphery of their vision, superseded by more urgent crises. Without a bioattack that reveals the failure of current policies, support for progressive initiatives is difficult to rouse. Truth is, we are likely to take appropriate steps to prevent a second bioattack, but we seem fated to suffer the wounds of one disease disaster before this conjectural threat becomes real enough to embrace complex policies. Frustrating as this realization might be, it exposes the dilemma of how to make tough choices in uncharted policy arenas at the frontiers of science and law.

Ultimately, placing blame would be pointless. It is important to know why decisions have been unwise, and readers are entitled to be discouraged by our leaders’ disarray in addressing bioviolence. Yet, the analytical challenges associated with preventing bioviolence are difficult to resolve. The threat is a multifaceted phenomenon; each facet reflects angles and depths that intersect with ever more far-reaching implications. At the heart of this difficulty is how to grapple with a problem that necessarily demands humanity-wide cooperation in the context of fragmented and anarchic political systems.

A pervasive question is whether the sweeping changes called for in this book are “worth it.” Does the level of risk justify the cost of globally implementing expensive intrusions into scientific freedom, national sovereignty, and personal privacy? Many policies must be pursued with potentially adverse ramifications for professional and scientific communities that are key to addressing bioviolence. And underlying this question is the wish that anxiety about bioviolence turns out to be a false alarm – hopefully much ado about something that never occurs.

What is certain is that trend lines are pointing the wrong way. Technological progress increasingly enables a mere handful of maniacs to commit a monstrous level of violence. Until recently, only a powerful nation-state could threaten such devastation. Whatever their motives – greed, distorted sense of political grievance, nihilism – a nano-fraction of humanity can
now inflict a species-wide catastrophe that breaches the progression of history. At the beginning of the third millennium, bioviolence scenarios that crack the foundations of modern civilization's stability are the most likely deliberate threat to humanity's survival and progress.

How these risks should be measured, what they justify in terms of commitment of resources and insistence on change – these are questions that deserve serious discussion. Currently, that discussion is impaired by inadequate systematic analyses of relevant issues. Absent breadth of perspective, threats of bioviolence are met with planetary silence. This book is a refusal to perpetuate that silence.

We can make the world a lot safer, save some children from dying whether by hand of nature or man, and, most intriguing, we can appreciate the role of law in shaping human affairs at this time.

Barry Kellman
Chicago, USA
Foreword

Ronald K. Noble
Secretary General, Interpol

Throughout the centuries, diseases unleashed by nature have savaged humankind on a horrific scale, inflicting wide-scale death, as well as social, political, and economic upheaval. In the 20th Century alone, more people died of smallpox (over three hundred million) than in both world wars combined, and an influenza epidemic claimed over forty million lives. Even a disease that afflicts only animals can have devastating consequences. The outbreak of foot and mouth disease in the United Kingdom in 2001 took months to control, required the slaughter of millions of animals, and caused billions of dollars in losses.

These are the risks posed by nature. Now, added to these risks, we face the threat of bioterrorism.

We know from recent events that terrorists remain committed to perpetrating large-scale violence. And we also know that there is much evidence that terrorists have a strong interest in the use of biological weapons and are planning to use them. The eleventh volume of Al Qaeda’s Encyclopedia of Jihad is devoted to chemical and biological weapons. Captured terrorist suspects have admitted that their organizations are plotting potential biological attacks. Authorities have seized documents, computer hard drives, and terrorist training materials that discuss the acquisition, production, and use of bioweapons.

We also know that, as biotechnology industries continue to expand throughout the world, new pathogens and pathogen-making technologies are rapidly proliferating, increasing the risk that terrorists could get their hands on deadly pathogens or on the means of producing them. And many experts believe that advances in biotechnology could produce genetically engineered pathogens more lethal than any currently known to man.

There are many ways for terrorists to obtain deadly pathogens. They can buy or steal them from universities, research labs, pharmaceutical
companies, military stockpiles, or commercial supply houses; acquire them from “friendly states” or other sympathizers; buy them on the black market; or produce the agents on their own.

It is also becoming ever more possible for terrorists to themselves produce the pathogens, as the volume and sophistication of the necessary information becomes increasingly accessible through publications, the internet, and other sources.

Once terrorists get their hands on the pathogens, they can all too easily determine how to use them in a biological attack. The information and materials for creating biological weapons – both crude and sophisticated – are publicly available. They could even cause a so-called “martyr” to become infected and act as a suicide bioweapon. Or they could simply adopt the approach used by the anthrax terrorists in 2001 in the United States, who disrupted the world’s economy by targeting and murdering nearly ten U.S. citizens merely by placing powder laced with anthrax in envelopes mailed to just a handful of people.

In my view, Al Qaeda’s global network, its proven capabilities, its deadly history, its desire to do the unthinkable, and the evidence collected about its bioterrorist ambitions and plans ominously portend a clear and present danger of the highest order that Al Qaeda (or another terrorist group) will someday perpetrate a biological terrorist attack.

As was made clear in a letter dated December 1, 2003, addressed to the president of the United Nations Security Council from the chairman of the United Nations Security Council Committee established pursuant to Resolution 1267 concerning Al Qaeda and the Taliban and associated individuals and entities, “Undoubtedly Al Qaeda is still considering the use of chemical or biological weapons to perpetrate its terrorist actions. When might this happen? Nobody really knows. It is just a matter of time before the terrorists believe they are ready. They have already taken the decision to use such chemical and biological weapons in their forthcoming attacks. The only restraint they are facing is the technical complexity of operating them properly and effectively.”

To be sure, there are some technical and other obstacles involved in obtaining pathogens and effectively deploying them on a mass scale in the real world, but as we learned on September 11, 2001, where there’s a will there’s a way.

Now, I realize that my statement that the bioterrorist threat is real goes against the natural human tendency to operate under the assumption that terrorists will not use biological weapons in the future on a large scale because they have not done so in the past. But this assumption is dangerous.
Some would prefer not to think about the possibility of such deadly terrorist acts. Yet, we cannot avoid the danger by ignoring it. Both the assumption that it won’t happen because it hasn’t happened and the tendency to want to avoid a danger by not thinking about it are irresponsible. Moreover, whatever the history, the current threat is real. Indeed, no one ever crashed commercial airplanes into buildings before September 11, 2001, and, yet, as we learned, that threat was nevertheless all too real.

Given the magnitude of the harm that would be caused by a bioterrorist attack – hundreds, thousands, and even millions of deaths are possible – it is clear to me that this alone mandates that we take this threat seriously. Even if hundreds or thousands do not die, the panic and the social and economic upheaval that could follow such an attack represent another set of reasons why we should take this threat seriously. Unfortunately, however, the world is not taking this threat seriously, and this represents a very grave situation.

There is a lack of awareness and understanding of the threat, lack of the required specialized training, lack of required specialized resources, lack of the required legal and regulatory framework, and lack of the required coordination mechanisms for the most effective prevention and response. Because governments and their law enforcement agencies have limited experience dealing with bioterrorism, it remains a remote and esoteric topic understood by few officials, given little attention by policy makers, and perceived by the political leadership as having little domestic impact. Political support and funding for security programs tend to be oriented toward the traditional and concrete areas of crime that affect citizens on a daily basis, such as robbery, rape, murder, and so on. There is a natural tendency for governments to neglect threats of future harm in favor of the seemingly more pressing matters of the day with which they are more comfortable in dealing, but this is putting the world’s citizens at great risk. The world must start paying much more attention to the threat of bioterrorism. Pretending that this threat does not exist is a recipe for disaster.

THE ACTIONS REQUIRED TO MEET THIS THREAT

Meeting the threat of bioterrorism requires capabilities in the following four areas: 1) threat assessment, 2) attack prevention, 3) attack detection, and 4) attack response (mitigating the damage, apprehending the perpetrators, and gaining knowledge and expertise to enhance future capabilities in these four areas).
Foreword

Threat assessment is required to shape and guide the other three areas. Attack prevention includes tactical intelligence, interdiction, disruption, facilities protection, pathogen control, etc. Attack detection means being able to detect a biological attack as early as possible (many pathogens have incubation periods ranging up to a week or more before symptoms appear, and even then it can take time to realize that they are the product of an attack). Early detection is critical to save the injured, contain the disease, and apprehend the perpetrators before they can attack again. Attack response includes medical services, containment, security, environmental remediation, investigation, apprehension, intelligence gathering, and learning.

To accomplish these things, the relevant constituencies must develop or acquire the requisite skilled personnel, tools, and equipment. They must also establish and implement protocols and procedures to share information and cooperate in prevention and detection efforts, to mobilize response resources in the event of an attack, and to coordinate all of these efforts and resources (within and across functions, agencies, levels of government, and internationally).

Written plans should be created covering the conceivable potentialities (e.g., mass decontamination, medical supply distribution, isolation, evacuation, quarantine, compulsory medical exams and vaccinations, security for health care sites and shipments, etc.). Personnel should be trained and equipped to execute the plans, and the plans should be exercised through periodic drills.

Benchmarking and best practices should be developed and shared to guide the design, exercise, implementation, and revision of plans, protocols, and procedures. Measurable standards and metrics must be developed to promote and determine accountability, performance, and progress.

The relevant constituencies include police, customs, immigration, intelligence, bioscientists, health care professionals, emergency management, military/security organizations, environmental management, agriculture, and other relevant private and public resources (local, regional, national, and international).

Broadly speaking, however, the principal relevant constituencies are the law enforcement, bioscience, and public health communities. These three communities must work together nationally and internationally to analyze the relevant threats that each sees in order to help society enhance the likelihood of preventing a bioterrorist attack and of minimizing the damage if such an attack occurs. Unfortunately, the law enforcement,
bioscience, and public health communities have very limited history of working together nationally in most countries, even less so internationally.

These three communities must forge partnerships in order to ensure an integrated approach. This is required to maximize the synergies of their complementary skills, methodologies, perspectives, and resources, and to minimize their conflicts (e.g., in the collection, transport, and analysis of evidence so as to best serve medical, epidemiological, intelligence, and law enforcement purposes). This means overcoming many formidable obstacles (security clearance, patient privacy, cultural divides, etc.), but it is essential to do so.

Each agency has its own deeply embedded culture, and, generally speaking, is highly resistant to change, even in times of crisis. Each agency responds with its own routines, its own distinctive view of “the threat,” and its own understanding of its particular mission. Although it is beneficial for each agency to pursue its own mission, and with the methods that are uniquely suited to that mission, it is also important to integrate these missions and methods across agencies. This type of coordination is difficult even among agencies that are all within the law enforcement community. It is dramatically more so when the agencies are in different professional communities. This is why it is so challenging to achieve effective collaboration between law enforcement, bioscience, and public health agencies.

Undergirding all of the above is the need to modify legal and regulatory frameworks to support the necessary activities. This means 1) the frameworks for controlling the manufacture, possession, storage, transportation, use, trafficking, and deployment of pathogens, and their means of production, weaponization, and delivery; 2) the frameworks for thwarting attacks before they occur (e.g., intelligence, investigation, interdiction, and disruption); 3) the frameworks relating to the protection of the points of possible pathogen intrusion (e.g., those relating to water supplies and the food chain); 4) the frameworks relating to activities aimed at early detection of attacks that do occur (e.g., so-called medical surveillance systems); and 5) the frameworks governing the activities required for attack response (isolation, quarantine, forced medical exams, forced vaccinations, investigation, etc.).

All of the above-described required actions should be done on the local, national, regional, and international levels. The inherent nature of this threat is global. International coordination is therefore essential. For example, national and international Incident Response Teams specialized in bioterrorism should be assembled for rapid deployment whenever
and wherever a major incident occurs. Ultimately, to address the threat of bioterrorism, international cooperation must be strengthened. Achieving this is a central part of Interpol's mission.

**WHAT INTERPOL IS DOING**

In order to understand Interpol's role in the international effort to prevent and respond to bioterrorism, one must understand what Interpol is today. Interpol is the world's largest international law enforcement organization, linking together essentially all of the world's law enforcement agencies (covering 186 member countries). It has been around since 1923, but it is virtually all new.

Interpol has reorganized itself around three core functions. The first core function is to maintain the world's first secure global law enforcement communication system. This system, called I-24/7, was created by Interpol in 2001, and it now allows law enforcement agencies around the world to exchange information in real time, and to have instant access to Interpol databases and notices.

The second core function is to further develop Interpol databases (such as our database of wanted and suspected terrorists and other international criminals, stolen passports, fingerprints, and DNA) and international notices (which serve to alert global law enforcement of fugitives, suspected terrorists, dangerous criminals, missing persons, weapons threats, and unidentified dead bodies, and, in the case of the Red Notice, to request the arrest of a wanted person anywhere in the world). These databases and notices represent powerful tools in the fight against terrorism and other serious international crime, and their contents, usage, and results have been soaring in recent years.

The third core function is to provide operational police support services to Interpol's National Central Bureaus and member countries' law enforcement agencies wherever and whenever it is needed. This means access to Interpol experts who are available to aid police agencies in specific investigations. It also means access to Interpol's Command and Coordination Centre, which operates around the clock in all of Interpol's four official languages (English, French, Spanish, and Arabic) and serves as the first point of contact for any member country faced with a crisis situation. Incident Response Teams are also available and can be dispatched to the scene within hours of an attack. Major Event Support Teams are available to help secure major international events.
These types of communication, coordination, access to information, and expert assistance are crucial in the fight against terrorism and other serious international crime.

Together with its 186 National Central Bureaus in its 186 Member Countries, Interpol has in recent years implemented major changes in response to the threat of terrorism. In 2004, we began moving into the area of bioterrorism prevention and response in particular.

We sought and received funding from the Alfred P. Sloan Foundation to create a Bioterrorism Prevention Program to be delivered to law enforcement in collaboration with the bioscience and public health communities, as well as the other relevant professional communities. The Sloan Foundation has since committed $2.5 million and the Canadian Department of Foreign Affairs and International Trade has since committed $300,000, which will support Interpol’s Bioterrorism Prevention Program in its current form through 2007.

We identified the former Director General of the UK National Criminal Intelligence Service, John Abbott, to chair a steering committee to guide the program. We recruited a small but talented staff to develop and implement the program. We have regularly drawn on the expertise of experts from various related fields. In fact, it was Professor Barry Kellman who first inspired me to make this a priority for Interpol and the international law enforcement community.

To kick off the program in a way that would bring together all of the professional communities under one roof at one time, Interpol hosted the Global Conference on Preventing Bioterrorism in March 2005 at Interpol Headquarters in Lyon, France. That event was attended by over 500 law enforcement officials and other professionals from 155 countries, as well as representatives of 16 international organizations. It was the largest gathering of international law enforcement in history.

The results of that conference have been positive and far-reaching, but they have also highlighted the tremendous amount of work needed to be done in this area.

Through the Interpol Bioterrorism Prevention Program, we provide an awareness campaign, capacity-building measures, expertise, training, and knowledge to law enforcement – to help them develop effective plans to meet the threat of bioterrorism. And we help them form bridges to the bioscience and public health communities. We encourage them to enhance interagency cooperation at the national and international levels. And we urge policy makers to enact laws and regulations that provide law
FOREWORD

enforcement with the tools they need to prevent attacks and to respond to them.

Relevant information and training are provided to law enforcement worldwide through workshops and other training modalities. We have conducted regional workshops in Africa, South America, Europe, and Asia, attended by law enforcement officials and other professionals from a total of 115 countries. This knowledge transfer and training improve capabilities to prevent attacks and to respond to them. It also forges partnerships among the relevant communities. And it encourages national police forces to become advocates for resources to augment their capabilities and for improvements in the legal and regulatory frameworks within which they operate.

We have created a “Bioterrorism Prevention Resource Center” on our website that is now at the disposal of the entire law enforcement community. This site helps police find training materials, online tests, scientific documents, planning guidelines, response and crisis management materials, and other useful resources.

We are developing another part of our website that will be dedicated to training materials that have been provided to us by our National Central Bureaus and governments, to show what is being done at national levels in terms of bioterrorism preparedness and response.

We have designed “Table-Top” exercises that are conducted with great effect at our workshops. We will be conducting various “Train-the-Trainer” programs and international interagency exercises. We have created the “Interpol Bioterrorism Incident Pre-Planning and Response Guide” to be used by police around the world.

We convened a board of experts comprised of professionals from the health and bioscience fields, the police, and the specialized bodies of the United Nations to help us network with these diverse communities, and to identify emerging developments and opportunities that might enhance our program.

In the future, we hope to find financing for a police officer rotation program in which police can rotate through our Bioterrorism Prevention Program, bringing their added expertise to the program, and then returning home with still greater expertise to share with their national colleagues in building their own programs.

With the help of the U.S. State Department, which provided a grant of $554,000, we launched a new project that focuses on biocriminalization. The project’s goal is to assess the relevant criminal and administrative
laws around the world, and to assist countries in drafting, enacting, and enforcing such laws.

We are studying the possibility of making available to global law enforcement a database of information relating to all known cases of bioterrorism.

There is a great need for the development of other global databases relating to bioterrorism – databases relating to the manufacture, possession, storage, transportation, and use of pathogens, and their means of production, weaponization, and delivery. Unfortunately, such development is costly, and Interpol would require external funding for any such new initiatives.

As the world's largest international law enforcement organization, embracing 186 member countries and their National Central Bureaus, Interpol can play a critical role in helping the world confront the threat of bioterrorism. But the world must begin taking this threat much more seriously. This means devoting greater focus and greater resources, which are always in limited supply, but never more precious than the life itself that hangs in the balance.
Here, I can inadequately offer a few words to recognize the enormous debts owed to colleagues and friends. If there is a fun aspect to working on a subject as inherently dismaying as bioviolence, it is the opportunity to engage and be engaged by these people and many others who, due to limited space and failing memory, are regrettably omitted.

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who, on the strength of his personal reputation and that of Interpol, has actually taken my ideas into the arena of international governance.

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