

INTRODUCTION

JUST AS FORCES OF NATURE can create disastrous upheaval, so too can human-engineered activities indelibly shape destiny. Humans have courted inconceivable jeopardy by harnessing a natural force, disease, for pernicious reasons. One of several historical cases, Iraq's covert biological weapons program, imperiled the Middle East until international inspectors found and shut down the program in the 1990s. Contemporarily, the lack of governance of the life sciences could exacerbate the proliferation of biological weapons, a matter with direct implications for the security and well-being of present and future generations.

Iraq's notorious dictator of the late twentieth century, Saddam Hussein, triggered the events recounted in this book when he embarked on an ultra-secret program to acquire germ weapons. Alone, this initial decision was somewhat chancy, particularly when juxtaposed with Saddam's decision to try to obtain nuclear weapons. The pursuit of nuclear weapons draws international opprobrium, but some still view nuclear arms as the epitome of power and prestige.¹ While governments have even been known to parade nuclear arms through capital streets, such fanfare or tolerance for a biological arsenal is unimaginable. Biological weapons are perhaps the most insidious and feared of all weapons because deliberately released contagious diseases are the equivalent of a self-sustaining attack that could cause unlimited harm among human, animal, or plant populations. Even if non-communicable diseases are employed, the wind can sweep an aerosol of biowarfare agent off target, engulfing more victims. As if these attributes are not atrocious enough, some

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diseases entail considerable suffering prior to death, and biowarfare agents can be stealthily dispersed.²

In an attempt to preserve peace and mankind, the international community banned biological weapons in 1972.³ Neither the contemptible characteristics of biological weapons nor Iraq's signature of the Biological and Toxin Weapons Convention dissuaded Saddam's quest for these weapons.⁴ Moreover, Iraq's leaders were probably confident that Western intelligence did not have a firm fix on Iraq's bioweapons program. In contrast to Israel's 1981 preemptive attack on the Osiraq reactor, which set back Saddam's nuclear weapons aspirations, Iraq's germ agent production facility, Al Hakam, remained untouched before and during the 1991 Gulf War.⁵ Prior to that war, Iraq loaded enough biowarfare agents into weapons to devastate vast populations.

Swiftly defeated, Iraq accepted ceasefire conditions that required Baghdad to relinquish its unconventional weapons and pertinent capabilities to the United Nations Special Commission (UNSCOM), which the United Nations (UN) Security Council established to oversee Iraq's disarmament. A defiant Saddam wagered anew by launching an elaborate concealment and deception strategy to hide his bioweapons program and other unconventional weapons capabilities. In Baghdad, the risk must have seemed reasonable, for it pitted a government with enormous resources at the ready to conceal an unobtrusive weapons program against a small cadre of inspectors who lacked concrete data that Iraq even had biological weapons.

Surely the odds in this contest favored Iraq, not UNSCOM. The biological inspectors set about their work even before the international community truly began to examine the feasibility of verifying whether offensive military activity was being surreptitiously conducted at so-called dual-use biological facilities—sites that house equipment, materials, capabilities, and personnel that can perform peaceful activities just as readily as prohibited military work.⁶ Though an influential school of thought proclaimed biological inspections to be a weak, even a losing, proposition, UNSCOM inspectors persevered in the face of Iraqi obfuscation, in 1995 exposing Saddam's coveted bioweapons program for the world to see. In mid-1996, they oversaw the demolition of the crown jewel of Iraq's biowarfare program, Al Hakam. Had the outcome been different, Saddam's continued germ gambits might have drastically altered geopolitical history in the Middle East and spiraled into global public health and security catastrophes.

OTHER FACETS OF THIS CHRONICLE

While on one level this book is about monumental security and public health risks, other prominent themes emerge in the text. History is susceptible to individuals, organizations, and governments that deliberately twist facts to bur-nish their image or to justify a preferred course of action. Posterity benefits, however, from a historical record of what really transpired, how, and why.⁷ Like so many events, UNSCOM's bioweapons inspections have been prey to factual reinvention and subjective interpretation. To hear some tell it, all the inspectors did was follow a clear, plentiful trail of intelligence right to Iraq's bioweapons program. Other disputable contentions are that Saddam's power-ful son-in-law Hussein Kamal and the Haidar farm cache of documents that Iraq turned over to UNSCOM after Kamal's August 1995 defection provided the inspectors with significant new insights into Iraq's bioweapons program. UNSCOM's biological inspectors experienced their fair share of success, mediocrity, and failure. In this book, the inspectors themselves debunk the myths, relating what actually happened amidst the sands of Iraq.

Saddam's showdown with UNSCOM is also cause for reflection in rela-tion to contemporary matters of international security policy and process. UNSCOM appeared on the global stage at the dawn of a major transitional phase in modern world order. Amidst the flotsam of the Cold War, the world was simultaneously becoming increasingly fragmented yet bound by eco-nomic interdependence. The power of multinational corporations was on the rise, and governments had to reckon with multibillionaires and nongov-ernmental organizations with issue agendas and the growing ability to sway international policies, programs, and phenomena.⁸ Many galling problems also commanded the attention of international leaders, such as failing states; criminal gangs, drug cartels, and terrorists maneuvering on a global scale; climate change; and human rights crises. No state alone, no matter how pow-erful, could manage what was spilling across borders to disturb the domestic security and well-being of so many nations in unprecedented ways, so leaders began searching for new formulas and mechanisms and cautiously reshaping the roles and missions of alliances and international law and organizations. For some, the post-Cold War environment underscored the need for more robust global governance, but many still firmly embraced the Westphalian principle of state sovereignty.⁹

On this level, UNSCOM's experience can be read as a cautionary tale about the innate tensions between governments and international organizations

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and the evolving roles of each in the international arena. UNSCOM's spur-of-the-moment creation, direct reporting chain to the Security Council, and narrow geographic and functional mandate set it apart from other UN organizations.¹⁰ Once a ceasefire was in effect, many assumed that the worst of the "Iraq problem" was behind them, and nations contributed resources to enable UNSCOM's operations.¹¹ When Iraq did not readily forfeit its prohibited weapons capabilities, however, the *realpolitik* of economic and other national priorities encroached steadily on UNSCOM's international support. UNSCOM reported what its inspectors uncovered, but governments' tolerance for the facts shrank with successive headlines about Iraqi citizens suffering under economic sanctions.¹² The diplomatic solution for this political quagmire was to allow limited sales of Iraqi oil in 1996 to fund humanitarian aid to Iraq and in 1999 to shoot the messenger and replace UNSCOM with a less robust inspectorate. The interactions of states with UNSCOM on such matters as intelligence sharing and UNSCOM's eventual fate offer insight into nations' reluctance to cede important authorities to and vest significant capabilities in international organizations. Therefore, one salient point amongst these pages concerns the rocky road ahead for initiatives to strengthen international laws, organizations, and mechanisms.

On yet another level, the narrative underscores the travails of collecting information about activities of security interest and concern in an increasingly complex world. Even in an age when ludicrous amounts of information are at everyone's fingertips, vital data can still go undetected or can be collected but overlooked or misunderstood. Intelligence gatherers and analysts have long known the predicaments of "background noise" and misinterpreted data, having presented leaders with inaccurate or incomplete assessments only to encounter shattering unanticipated events.¹³ Indeed, the intelligence preceding the 1991 and 2003 Gulf Wars underrated and overrated, respectively, Iraq's bioweapons capabilities, shortcomings that can be attributed to overreliance on remote monitoring and defectors.¹⁴

Even if remote sensors could deliver reams of pertinent data and defectors proffered nothing but accurate information, intelligence and security analysts would still have to contend with the infamous "grey area." This term refers to the zone in which it is very difficult to differentiate between the offensive military capabilities that treaties prohibit and permissible defense and legitimate private sector activities.¹⁵ In the biological realm, this grey area can be particularly vexing because the Convention allows its members to retain and

work with pathogens, even ones known to have been weaponized, to maintain defenses and pursue research to find cures and treatments for diseases.¹⁶

UNSCOM's inspectors worked in the thick of the biological grey area, so their experience is germane to the long-simmering debate about the verifiability of the bioweapons ban, namely whether inspections can make a meaningful contribution to deciphering activities at dual-use facilities. This debate centers on the tensions between the intrusiveness and effectiveness of inspections and the need to prevent the compromise of national security and trade secrets unrelated to the treaty's prohibitions. The political faultlines that have permeated arms control debates in general have also colored discussions of the Convention's verifiability. Briefly, conservatives have a propensity to eschew arms control as anathema to peace through strength, skeptical that inspections will catch treaty violators, while liberals are apt to laud arms control as more likely to avert war and less costly than arms races, depicting inspections as imperfect but capable of detecting cheating in time to respond to the threat.¹⁷

Treaties inked during the height of the Cold War relied on "national technical means," a euphemism for spy satellites and other sources of intelligence to monitor compliance.¹⁸ Ushering on-site inspections into the architecture of modern treaties, U.S. President Ronald Reagan brandished the Russian proverb "trust but verify" to summarize the purpose of inspections in arms control.¹⁹ Inspections proved their mettle in the implementation of the 1987 Intermediate-Range Nuclear Forces Treaty and matured with the 1991 Strategic Arms Reduction Treaty, the 1993 Chemical Weapons Convention, and the 1997 additional safeguards protocol to the Nuclear Nonproliferation Treaty. Routine inspections guard against the presence of prohibited capabilities or activities at declared military and commercial facilities, while challenge inspections are meant to investigate compliance concerns at any undeclared location in participating states.²⁰

So much doubt remained about the utility of inspections in a biological setting that members of the Convention did not convene to evaluate methods to verify the treaty until 1992. Talks to draft a legally binding verification protocol for the Convention began in 1995 with negotiators using a slightly different lexicon for routine and challenge inspection concepts.²¹ The protocol negotiations faltered in 2001, and then folded in 2002.²² Bookending these talks and UNSCOM's field experience with biological inspections, the administrations of U.S. Presidents George H.W. Bush and George W. Bush pronounced

the Convention “not effectively verifiable” and “inherently unverifiable,” while Barack Obama’s deemed the draft protocol incapable of achieving “meaningful verification or greater security.”²³

Against this backdrop, what is to be made of the experience of UNSCOM’s biological inspectors? To some, UNSCOM’s experience is so singular that it is not applicable to other arms control and nonproliferation accords, including the Convention. Iraq’s disarmament was supposed to be cooperative, but UNSCOM at times relied on challenge-inspection-like tactics and the Security Council’s authority and threat to punish Iraqi noncompliance with military strikes.²⁴ Treaties have their own governing bodies, but all grievous compliance problems get referred to the same court of last resort, the Security Council, which can mete out political, economic, and military penalties as it did with Iraq.²⁵ Though UNSCOM’s inspectors pioneered inspection practices, they largely went about their jobs plying many of the basic tools used to police other arms control and nonproliferation regimes either before or after the UNSCOM years. Arguably, therefore, UNSCOM’s lessons should translate into other contexts.²⁶

Of note, the achievements of UNSCOM’s bioweapons inspectors appear to undermine the claim that the Convention is unverifiable. After all, UNSCOM inspectors detected Iraq’s bioweapons program using measures comparable to routine inspections. The inspections also generated copious data that shed light on Iraq’s bioweapons program as well as the legitimate, peaceful activity conducted in Iraq’s dual-use facilities.²⁷

Since the UNSCOM years, the job of collecting data to inform a bioweapons compliance assessment has gotten thornier because of the astonishing rate of discovery in the life sciences and the globalization of dual-use biological know-how, technology, equipment, and capabilities. Separately or together, these factors could accelerate the attempts of governments and subnational actors to acquire germ weapons. Whereas the military exploitation of chemistry begat the hallmark weapons of World War I (explosives and poison gas) and of physics World War II’s atomic bomb, the militarization of the fruits of modern biology may be the distinguishing feature of future conflict.²⁸ As proven repeatedly over the past century, intelligence alone has yielded imprecise data and assessments about dual-use biological activities.²⁹ With the prospect of militarized biology looming larger than ever, at the very time when intelligence agencies need to be right on top of matters biological, the background noise is rising to a deafening level. These circumstances raise

the question of whether intelligence can and should serve as the only alert system for suspect bioweapons activities.

SCOPE, METHODOLOGY, AND ROADMAP

This book's primary purpose is to capture how UNSCOM inspectors managed to root out Iraq's bioweapons program against considerable odds—sketchy intelligence, scant direct precedents to inform their efforts, the challenges of discriminating offensive military work from legitimate biological activity, and Iraq's campaign to impede the inspections. Secondly, the book aims to glean from this experience the lessons that should be applied to reduce the chances that the world will stand again at the precipice of manmade biological disaster.

Like every book, this one has its limitations. Without access to interview the Iraqis, this history of UNSCOM's biological inspections is from the inspectors' perspective. To a certain extent, this ground has already been tilled; some inspectors have written about their experiences with UNSCOM.³⁰ The book is based on interviews with those who played enduring roles or participated at key junctures in UNSCOM's bioweapons inspections. Over ten of these centerpiece inspectors reviewed the book's historical chapters for accuracy and completeness. The recollections of UNSCOM insiders who worked side-by-side with UNSCOM's biological specialists supplement these pivotal interviews and further cross-check and round out the history. Official documents, news reports, analyses, and technical resources also buttress the text. The resulting collective history is authoritative, vibrant, and absent the bias or limited experience that may hinder autobiographical accounts.

Next, while the book includes considerable information about Iraq's germ weapons program, it should not be considered a definitive history of that program, nor is it intended to be. More information about the evolution and specific capabilities of Iraq's bioweapons program can be found in the official reports of UNSCOM, which delineate the major landmarks and provide ample detail. The Iraq Survey Group also added some elements to the historical record.³¹

Chapters 1 thru 7 present the history of UNSCOM's biological inspections. Chapter 1 describes UNSCOM's establishment, Iraq's early biological declarations, the pre-1991 Gulf War intelligence assessments, the onset of UNSCOM's operations in Iraq, Baghdad's concealment and deception strategy and tricks, and the reasons why Iraqi leaders may have gone to such lengths

to keep the bioweapons program. Chapter 2 details UNSCOM's first pair of biological inspections, which featured surprises for the inspectors and their Iraqi counterparts. Chapter 3 examines why UNSCOM suspended biological inspections for over two years, and then turns to the factors that helped to kick UNSCOM's biological inspections into a higher gear. The inspection activities that produced data sufficiently damning to compel Iraq's July 1, 1995, confession about the limited production of biowarfare agents are the subject of Chapter 4. Chapter 5 covers the events, revelations, and misperceptions surrounding UNSCOM's biological investigation and the defection of Kamal, a central figure in Iraq's unconventional weapons programs. Chapter 6 relates the inspectors' struggle to confirm important details associated with Iraq's testing, production, filling, deployment, and unilateral destruction of its biological arsenal. Chapter 7 spells out how UNSCOM navigated this bumpy terrain as other interests vied for political support in the Security Council.

In addition to the historical record, UNSCOM's biological inspectors divulged the lessons of their experience. In Chapter 8, the inspectors address factors that can be categorized as essential prerequisites for the successful conduct of inspections, namely recruiting personnel with the appropriate skills, augmenting those skills with specialized training, avoiding the handicap of a predetermined mind-set, capturing field experience during an inspection process to improve the efficiency of inspections, figuring out how to incorporate intelligence into inspections, recognizing the inevitability of mistakes during inspections, and bridging the communications gap between scientists, diplomats, and policymakers. Tool by inspection tool, in Chapter 9 the inspectors explain the inner workings of on-site observation, interviews, documentation review, and sampling. They also collectively articulate how to improve the tradecraft of inspections and evaluate the overall utility of inspecting dual-use biological facilities. Finally, Chapter 10 places the events in this book in a broader historical and scientific context, closing with a multifaceted strategy to curb biological risks.