

CSIS

Center for Strategic and International Studies

1800 K Street N.W.

Washington, DC 20006

(202) 775-3270

To download further data: CSIS.ORG

To contact author: Acordesman@aol.com

The Iraq War and Lessons Relating to Intelligence and Weapons of Mass Destruction

Anthony H. Cordesman

Arleigh A. Burke Chair in Strategy

December 2003

Working Draft

Author's Note

This draft report is an excerpt from Anthony H. Cordesman, The Iraq War; Strategy, Tactics, and Military Lessons, CSIS/Praeger, Washington/Greenwood, 2003.

An extended and update version is provided in the book version.

Table of Contents

INTELLIGENCE STRENGTHS AND WEAKNESSES 4

THE NEED FOR BETTER ASSESSMENT, CHARACTERIZATION, AND LOCATION OF WEAPONS OF MASS

DESTRUCTION AND KEY DELIVERY SYSTEMS 5

Key Points in the U.S. and British White Papers 5

 • British Summary 6

 Chemical Warfare Program..... 9

 CIA: Nuclear Warfare 16

Problems in Collecting Data on Iraqi and Other Country WMD Capabilities and Delivery Systems 17

Problems in Analyzing Iraqi and Other Country WMD Capabilities and Delivery Systems 20

THE POLITICS OF CHARACTERIZING AND TARGETING IRAQI WMD CAPABILITIES AND DELIVERY

SYSTEMS 21

Dealing with a Proven Proliferator 22

The Issues Left By Iraqi Compliance with the UN Effort..... 23

The Costs of Politicizing Intelligence 28

THE NEED FOR RAPID AND RELIABLE CHARACTERIZATION OF CHEMICAL AND BIOLOGICAL AGENTS AND

THE COALITION INTELLIGENCE EFFORT 32

ORGANIZED SEARCHES FOR WEAPONS OF MASS DESTRUCTION IN PROLIFERATING COUNTRIES: THE

SEARCH DURING AND AFTER THE WAR 34

The Initial Search Effort 35

Expanding the Effort and Creating the Iraq Survey Group (ISG) 36

Conversion to a Forensic Search Effort..... 37

LESSONS FOR THE FUTURE 38

A number of the lessons of the Iraq War affect intelligence, the ability to deal with weapons of mass destruction, and psychological warfare. Although these lessons cannot be fully separated from the analysis of IS&R, targeting, and conflict termination in other chapters, several issues merit detailed examination.

Intelligence Strengths and Weaknesses

The Coalition had overwhelming overall superiority in the intelligence aspects of IS&R. It also had the advantage of experience and a vast range of intelligence collection and analysis to build upon. The United States had used space and other intelligence assets to study and target Iraq for more than 12 years, from the summer of 1990 to the beginning of 2003, and it had had to prepare for war several times after 1991.

The United States and Britain had carried out major strikes during Desert Fox in 1998, and they repeatedly flew reconnaissance missions and strikes over Iraq to enforce the no-fly zones during 1998–2003. This combination of intelligence effort and combat experience provided a unique degree of situational awareness before the war began. At the same time, it is important to temper any lessons about the advantages of U.S. intelligence assets with the understanding that similar experience and knowledge may not be present in future contingencies.

At the same time, the Iraq War is a warning that even the world's most advanced intelligence systems and more than a decade of intensive intelligence collection and analysis could still leave major gaps and serious intelligence problems. As has been discussed throughout much the preceding analysis, the United States and its allies still had serious problems in the following aspects of intelligence collection and analysis:

- The United States and Britain were never able to establish a credible picture of Iraqi links to terrorist organizations, including Al Qaida. Many charges were made, but none were substantiated.
- The United States did not have enough area experts, technical experts, and analysts with language skills at any level to make optimal use of its sensors and collection, and data. This was as true at the national level as at the tactical level, and collection overload was a problem in many areas.
- The United States had a far greater capability to target buildings than to characterize what went on in the building and the effect of strikes on most sets of structures. It could not measure the level of wartime activity in many cases (facilities with high emission levels were an exception), and this made the efforts at “effects-based” operations discussed in later chapters difficult and sometimes impossible. Moreover, estimates of the level and nature of underground and sheltered facilities and activity were generally highly problematic.
- The IS&R effort mistargeted leadership facilities, exaggerated the importance of C4I strikes, and overtargeted fixed military facilities. It is unclear, however, that the United States and its allies had any other choice. Striking more targets in the face of uncertainty was probably better than striking only those targets where a high confidence could be established as to the effect.
- The IS&R effort often had to take a “worst case” approach to the potential role of Iraq's security forces, intelligence services, irregular forces like Saddam's Fedayeen, and unusual military formations like the Special Republican Guard. In fairness, however, it is difficult—if not impossible—to accurately characterize the warfighting capability of forces that have never fought and that do not conduct open and realistic exercises.
- The IS&R sensor and analytic effort focused more on major combat forces, with heavy weapons, than on infantry or irregular forces. It could do a much better job of locating and characterizing

weapons platforms and military emitters than dealing with personnel and forces that relied on light vehicles. It was generally difficult or impossible to locate distributed forces in a built-up or urban environment until they were forced into some form of open military activity, and the United States often lacked the density of specialized assets like UAVs to carry out this mission even when open activity took place.

- The IS&R effort did much to reduce collateral damage and the risk of civilian casualties. It was neither organized nor capable, however, of assessing either civilian or military casualties.
- The speed and intensity of the war seem to have led to a major breakdown in the battle damage assessment process. Quite aside from the many gaps and uncertainties remaining in the BDA process, the IS&R system could not close the cycle in terms of target-shoot-assess on a timely and accurate basis, which remains a critical challenge in creating true netcentric war.
- The IS&R effort was not able to characterize and target Iraq's weapons of mass destruction effort before or during the war, or to provide reliable warning of the tactical threat. It seems to have been somewhat better in dealing with potential delivery systems, but the level of improvement relative to the inability to locate the Iraqi chemical, biological, and nuclear effort is unclear.

The Need for Better Assessment, Characterization, and Location of Weapons of Mass Destruction and Key Delivery Systems

The most controversial failures in intelligence lay in the area of weapons of mass destruction. It may be months or years before it will be possible to locate and analyze the data the war makes available on Iraq's history of proliferation, its imports and domestic programs, its capabilities at the time of the war, and its goals or objectives.

It has become clear that the U.S. and British governments had only a tenuous understanding of the threat they faced from Iraqi weapons of mass destruction—and were unable to characterize the scale of the Iraqi effort they described as a key motive for the conflict—during the period before the war began.¹¹

It is also clear from the previous chapters that Coalition commanders had little intelligence on Iraq's WMD programs and warfighting capabilities as they advanced. A wide range of reports during the war make clear that there were many false alarms—when elements of the advancing forces thought they had found weapons of mass destruction or the facilities to produce them; when Coalition forces donned chemical protection gear they later turned out not to need; or when Coalition commanders, lacking the tactical intelligence support that would give them a clearer picture of the risks involved, had to ignore the risk that Iraq might use such weapons..[rewrite OK?OK]

Key Points in the U.S. and British White Papers

President Bush, Prime Minister Blair, and many U.S. and British officials made numerous charges before the war that Iraq was actively developing weapons of mass destruction that it had probably deployed combat-ready chemical and biological weapons; that it had an active nuclear weapons program; and that it was developing new delivery systems, including missiles and UAVs. The British government issued two white papers on Iraq, and the United States issued one. U.S. officials like Deputy Secretary of Defense Paul Wolfowitz made additional charges, and Secretary of State Colin Powell presented a detailed briefing to the United Nations setting forth additional U.S. charges against Iraq.

1

Most of the attention since the war regarding the **prewar** charges against Iraq has focused on the fact that both British and U.S. speeches and briefings included unvalidated statements that Iraq had sought uranium ore and was ready to use weapons of mass destruction, that the British paper on WMD stated that Iraq could deliver such weapons with only 45 minutes warning, and that one of the British white papers paraphrased unattributed material from a graduate student.

In reality, U.S. and British intelligence made a long series of complex charges, only some of which were properly qualified. To understand the true scale of the intelligence problems involved and the need for improvement in this intelligence, it is necessary to understand that the charges issued in the British Joint Intelligence Committee and CIA white papers involved the following detailed points: ⁱⁱ

Summary Conclusions

• British Summary

Intelligence shows that Iraq is preparing plans to conceal evidence of these weapons, including incriminating documents, from renewed inspections. And it confirms that despite sanctions and the policy of containment, Saddam has continued to make progress with his illicit weapons programs.

As a result of the intelligence, we judge that Iraq has:

- Continued to produce chemical and biological agents;
- Military plans for the use of chemical and biological weapons, including against its own Shia population. Some of these weapons are deployable within 45 minutes of an order to use them;
- Command and control arrangements in place to use chemical and biological weapons. Authority ultimately resides with Saddam Hussein. (There is intelligence that he may have delegated this authority to his son Qusai);
- Developed mobile laboratories for military use, corroborating earlier reports about the mobile production of biological warfare agents;
- Pursued illegal programmes to procure controlled materials of potential use in the production of chemical and biological weapons programmes; tried covertly to acquire technology and materials which could be used in the production of nuclear weapons;
- Sought significant quantities of uranium from Africa, despite having no active civil nuclear power program that could require it; recalled specialists to work on its nuclear program;
- Illegally retained up to 20 al-Hussein missiles, with a range of 650km, capable of carrying chemical or biological warheads;
- Started deploying its al-Samoud liquid propellant missile, and has used the absence of weapons inspectors to work on extending its range to at least 200km, which is beyond the limit of 150km imposed by the United Nations;
- Started producing the solid-propellant Ababil-100, and is making efforts to extend its range to at least 200km, which is beyond the limit of 150km imposed by the United Nations;
- Constructed a new engine test stand for the development of missiles capable of reaching the UK Sovereign Base Areas in Cyprus and NATO members Greece and Turkey), as well as all Iraq's Gulf neighbors and Israel;

- Pursued illegal programmes to procure materials for use in its illegal development of long range missiles;
- Learnt lessons from previous UN weapons inspections and has already begun to conceal sensitive equipment and documentation in advance of the return of inspectors.
- **U.S. Summary**

Iraq has continued its weapons of mass destruction (WMD) programs in defiance of UN resolutions and restrictions. Baghdad has chemical and biological weapons as well as missiles with ranges in excess of UN restrictions; if left unchecked, it probably will have a nuclear weapon during this decade.

- Baghdad hides large portions of Iraq's WMD efforts. Revelations after the Gulf war starkly demonstrate the extensive efforts undertaken by Iraq to deny information.
- Since inspections ended in 1998, Iraq has maintained its chemical weapons effort, energized its missile program, and invested more heavily in biological weapons; most analysts assess Iraq is reconstituting its nuclear weapons program.
- Iraq's growing ability to sell oil illicitly increases Baghdad's capabilities to finance WMD programs; annual earnings in cash and goods have more than quadrupled.
- Iraq largely has rebuilt missile and biological weapons facilities damaged during Operation Desert Fox and has expanded its chemical and biological infrastructure under the cover of civilian production.
- Baghdad has exceeded UN range limits of 150 km with its ballistic missiles and is working with unmanned aerial vehicles (UAVs), which allow for a more lethal means to deliver biological and, less likely, chemical warfare agents.

Although Saddam probably does not yet have nuclear weapons or sufficient material to make any, he remains intent on acquiring them.

- How quickly Iraq will obtain its first nuclear weapon depends on when it acquires sufficient weapons-grade fissile material.
- If Baghdad acquires sufficient weapons-grade fissile material from abroad, it could make a nuclear weapon within a year.
- Without such material from abroad, Iraq probably would not be able to make a weapon until the last half of the decade.
- Iraq's aggressive attempts to obtain proscribed high-strength aluminum tubes are of significant concern. All intelligence experts agree that Iraq is seeking nuclear weapons and that these tubes could be used in a centrifuge enrichment program.
- Most intelligence specialists assess this to be the intended use, but some believe that these tubes are probably intended for conventional weapons programs.
- Based on tubes of the size Iraq is trying to acquire, a few tens of thousands of centrifuges would be capable of producing enough highly enriched uranium for a couple of weapons per year.

Baghdad has begun renewed production of chemical warfare agents, probably including mustard, sarin, cyclosarin, and VX. Its capability was reduced during the NSCOM inspections and is probably more limited now than it was at the time of the Gulf war, although VX production and agent storage life probably have been improved.

- Saddam probably has stocked a few hundred metric tons of CW agents.

- The Iraqis have experience in manufacturing CW bombs, artillery rockets, and projectiles, and probably possess CW bulk fills for SRBM warheads, including for a limited number of covertly stored, extended-range Scuds.

All key aspects—R&D, production, and weaponization—of Iraq's offensive BW program are active and most elements are larger and more advanced than they were before the Gulf war.

Iraq has some lethal and incapacitating BW agents and is capable of quickly producing and weaponizing a variety of such agents, including anthrax, for delivery by bombs, missiles, aerial sprayers, and covert operatives, including potentially against the U.S. Homeland.

- Baghdad has established a large-scale, redundant, and concealed BW agent production capability, which includes mobile facilities; these facilities can evade detection, are highly survivable, and can exceed the production rates Iraq had prior to the Gulf war.

Iraq maintains a small missile force and several development programs, including for a UAV that most analysts believe probably is intended to deliver biological warfare agents.

- Gaps in Iraqi accounting to UNSCOM suggest that Saddam retains a covert force of up to a few dozen Scud-variant SRBMs with ranges of 650 to 900 km.
- Iraq is deploying its new al-Samoud and Ababil-100 SRBMs, which are capable of flying beyond the UN-authorized 150-km range limit.
- Baghdad's UAVs—especially if used for delivery of chemical and biological warfare (CBW) agents—could threaten Iraq's neighbors, U.S. forces in the Persian Gulf, and the United States if brought close to, or into, the U.S. Homeland.
- Iraq is developing medium-range ballistic missile capabilities, largely through foreign assistance in building specialized facilities.

Developments Since 1998

- **British Summary of Developments Since in 1998**

Iraq has a useable chemical and biological weapons capability, in breach of UNSCR 687, which has included recent production of chemical and biological agents.

Saddam continues to attach great importance to the possession of weapons of mass destruction and ballistic missiles that he regards as being the basis for Iraq's regional power. He is determined to retain these capabilities.

Iraq can deliver chemical and biological agents using an extensive range of artillery shells, free-fall bombs, sprayers, and ballistic missiles.

Iraq continues to work on developing nuclear weapons, in breach of its obligations under the Non-Proliferation Treaty and in breach of UNSCR 687. Uranium has been sought from Africa that has no civil nuclear application in Iraq.

Iraq possesses extended-range versions of the SCUD ballistic missile in breach of UNSCR 687, which are capable of reaching Cyprus, Eastern Turkey, Tehran, and Israel. It is also developing longer-range ballistic missiles.

Iraq's current military planning specifically envisages the use of chemical and biological weapons.

Iraq's military forces are able to use chemical and biological weapons, with command, control, and logistical arrangements in place. The Iraqi military are able to deploy these weapons within 45 minutes of a decision to do so.

Iraq has learnt lessons from previous UN weapons inspections and is already taking steps to conceal and disperse sensitive equipment and documentation in advance of the return of inspectors.

Iraq's chemical, biological, nuclear and ballistic missiles programmes are well funded.

- **CIA Estimate of Developments Since 1998**

Since December 1998, Baghdad has refused to allow UN inspectors into Iraq as required by the Security Council resolutions. Technical monitoring systems installed by the UN at known and suspected WMD and missile facilities in Iraq no longer operate. Baghdad prohibits Security Council- mandated monitoring overflights of Iraqi facilities by UN aircraft and helicopters. Similarly, Iraq has curtailed most IAEA [International Atomic Energy Agency] inspections since 1998, allowing the IAEA to visit annually only a very small number of sites to safeguard Iraq's stockpile of uranium oxide.

In the absence of inspectors, Baghdad's already considerable ability to work on prohibited programs without risk of discovery has increased, and there is substantial evidence that Iraq is reconstituting prohibited programs. Baghdad's vigorous concealment efforts have meant that specific information on many aspects of Iraq's WMD programs is yet to be uncovered. Revelations after the Gulf War starkly demonstrate the extensive efforts undertaken by Iraq to deny information.

Limited insight into activities since 1998 clearly show that Baghdad has used the absence of UN inspectors to repair and expand dual-use and dedicated missile development facilities and to increase its ability to produce WMD.

Chemical Warfare Program

- **UK: Chemical Warfare Program**

Since the withdrawal of the inspectors the JIC has monitored evidence, including from secret intelligence, of continuing work on Iraqi offensive chemical and biological warfare capabilities. In the first half of 2000 the JIC noted 17 reports of intelligence on Iraqi attempts to procure dual-use chemicals and on the reconstruction of civil chemical production at sites formerly associated with the chemical warfare programme.

In mid-2001, the JIC assessed that Iraq retained some chemical warfare agents, precursors, production equipment and weapons from before the Gulf War. These stocks would enable Iraq to produce significant quantities of mustard gas within weeks and of nerve agent within months. The JIC concluded that intelligence on Iraqi former chemical and biological warfare facilities, their limited reconstruction and civil production pointed to a continuing research and development programme. These chemical and biological capabilities represented the most immediate threat from Iraqi weapons of mass destruction. Since 1998 Iraqi development of mass destruction weaponry had been helped by the absence of inspectors and the increase in illegal border trade, which was providing hard currency.

In the last six months the JIC has confirmed its earlier judgments on Iraqi chemical and biological warfare capabilities and assessed that Iraq has the means to deliver chemical and biological weapons.

Subsequently, intelligence has become available from reliable sources which complements and adds to previous intelligence and confirms the JIC assessment that Iraq has chemical and biological weapons. The intelligence also shows that the Iraqi leadership has been discussing a number of issues related to these weapons. This intelligence covers:

Confirmation that chemical and biological weapons play an important role in Iraqi military thinking: intelligence shows that Saddam attaches great importance to the possession of chemical and biological weapons which he regards as being the basis for Iraqi regional power. He believes that respect for Iraq rests on its possession of these weapons and the missiles capable of delivering them. Intelligence indicates that Saddam is determined to retain this capability and recognizes that Iraqi political weight would be diminished if Iraq's military power rested solely on its conventional military forces.

Iraqi attempts to retain its existing banned weapons systems: Iraq is already taking steps to prevent UN weapons inspectors finding evidence of its chemical and biological weapons programme. Intelligence indicates that Saddam has learnt lessons from previous weapons inspections, has

identified possible weak points in the inspections process and knows how to exploit them. Sensitive equipment and papers can easily be concealed and in some cases this is already happening. The possession of mobile biological agent production facilities will also aid concealment efforts. Saddam is determined not to lose the capabilities that he has been able to develop further in the four years since inspectors left.

Saddam's willingness to use chemical and biological weapons: intelligence indicates that as part of Iraq's military planning Saddam is willing to use chemical and biological weapons, including against his own Shia population. Intelligence indicates that the Iraqi military are able to deploy chemical or biological weapons within 45 minutes of an order to do so.

When confronted with questions about the unaccounted stocks, Iraq has claimed repeatedly that if it had retained any chemical agents from before the Gulf War they would have deteriorated sufficiently to render them harmless. But Iraq has admitted to UNSCOM to having the knowledge and capability to add stabilizer to nerve agent and other chemical warfare agents that would prevent such decomposition. In 1997 UNSCOM also examined some munitions which had been filled with mustard gas prior to 1991 and found that they remained very toxic and showed little sign of deterioration.

Intelligence shows that Iraq has continued to produce chemical agent. During the Gulf War a number of facilities which intelligence reporting indicated were directly or indirectly associated with Iraq's chemical weapons effort were attacked and damaged. Following the ceasefire UNSCOM destroyed or rendered harmless facilities and equipment used in Iraq's chemical weapons programme. Other equipment was released for civilian use either in industry or academic institutes, where it was tagged and regularly inspected and monitored, or else placed under camera monitoring, to ensure that it was not being misused.

This monitoring ceased when UNSCOM withdrew from Iraq in 1998. However, capabilities remain and, although the main chemical weapon production facility at al-Muthanna was completely destroyed by UNSCOM and has not been rebuilt, other plants formerly associated with the chemical warfare programme have been rebuilt. These include the chlorine and phenol plant at Fallujah 2 near Habbaniyah. In addition to their civilian uses, chlorine and phenol are used for precursor chemicals that contribute to the production of chemical agents.

Other dual-use facilities, which are capable of being used to support the production of chemical agent and precursors, have been rebuilt and re-equipped. New chemical facilities have been built, some with illegal foreign assistance, and are probably fully operational or ready for production. These include the Ibn Sina Company at Tarmiyah (see figure 1), which is a chemical research centre. It undertakes research, development and production of chemicals previously imported but not now available and which are needed for Iraq's civil industry. The Director General of the research centre is Hikmat Na'im al-Jalu who prior to the Gulf War worked in Iraq's nuclear weapons programme and after the war was responsible for preserving Iraq's chemical expertise.

Parts of the al-Qa'qa' chemical complex damaged in the Gulf War have also been repaired and are operational. Of particular concern are elements of the phosgene production plant at al-Qa'qa'. These were severely damaged during the Gulf War, and dismantled under UNSCOM supervision, but have since been rebuilt. While phosgene does have industrial uses it can also be used by itself as a chemical agent or as a precursor for nerve agent.

Iraq has retained the expertise for chemical warfare research, agent production and weaponization. Most of the personnel previously involved in the programme remain in country. While UNSCOM found a number of technical manuals (so called "cook books") for the production of chemical agents and critical precursors, Iraq's claim to have unilaterally destroyed the bulk of the documentation cannot be confirmed and is almost certainly untrue. Recent intelligence indicates that Iraq is still discussing methods of concealing such documentation in order to ensure that it is not discovered by any future UN inspections.

Almost all components and supplies used in weapons of mass destruction and ballistic missile programmes are dual-use. For example, any major petrochemical or biotech industry, as well as public health organizations, will have legitimate need for most materials and equipment required

to manufacture chemical and biological weapons. Without UN weapons inspectors it is very difficult therefore to be sure about the true nature of many of Iraq's facilities.

For example, Iraq has built a large new chemical complex, Project Baiji, in the desert in north west Iraq at al-Sharqat (. This site is a former uranium enrichment facility that was damaged during the Gulf War and rendered harmless under supervision of the IAEA. Part of the site has been rebuilt, with work starting in 1992, as a chemical production complex. Despite the site being far away from populated areas it is surrounded by a high wall with watchtowers and guarded by armed guards. Intelligence reports indicate that it will produce nitric acid, which can be used in explosives, missile fuel and in the purification of uranium.

Iraq has a variety of delivery means available for both chemical and biological agents. These include: free-fall bombs: Iraq acknowledged possession of four types of aerial bomb with various chemical agent fills including sulphur mustard, tabun, sarin and cyclosarin; artillery shells and rockets: Iraq made extensive use of artillery munitions filled with chemical agents during the Iran-Iraq War. Mortars can also be used for chemical agent delivery. Iraq is known to have tested the use of shells and rockets filled with biological agents. Over 20,000 artillery munitions remain unaccounted for by UNSCOM; helicopter and aircraft borne sprayers: Iraq carried out studies into aerosol dissemination of biological agent using these platforms prior to 1991. UNSCOM was unable to account for many of these devices. It is probable that Iraq retains a capability for aerosol dispersal of both chemical and biological agent over a large area; al-Hussein ballistic missiles (range 650km): Iraq developed chemical agent warheads for al-Hussein. Iraq admitted to producing 50 chemical warheads for al-Hussein that were intended for the delivery of a mixture of sarin and cyclosarin. However, technical analysis of warhead remnants has shown traces of VX degradation product which indicate that some additional warheads were made and filled with VX; al-Samoud/Ababil-100 ballistic missiles (range 150km plus): it is unclear if chemical and biological warheads have been developed for these systems, but given the Iraqi experience on other missile systems, we judge that Iraq has the technical expertise for doing so; L-29 remotely piloted vehicle programme : we know from intelligence that Iraq has attempted to modify the L-29 jet trainer to allow it to be used as an Unmanned Aerial Vehicle (UAV) which is potentially capable of delivering chemical and biological agents over a large area.

The authority to use chemical and biological weapons ultimately resides with Saddam but intelligence indicates that he may have also delegated this authority to his son Qusai. Special Security Organization (SSO) and Special Republican Guard (SRG) units would be involved in the movement of any chemical and biological weapons to military units. The Iraqi military holds artillery and missile systems at Corps level throughout the Armed Forces and conducts regular training with them. The Directorate of Rocket Forces has operational control of strategic missile systems and some Multiple Launcher Rocket Systems.

- **CIA: Chemical Warfare Program**

Iraq has the ability to produce chemical warfare (CW) agents within its chemical industry, although it probably depends on external sources for some precursors.

Baghdad is expanding its infrastructure, under cover of civilian industries, that it could use to advance its CW agent production capability. During the 1980s Saddam had a formidable CW capability that he used against Iranians and against Iraq's Kurdish population. Iraqi forces killed or injured more than 20,000 people in multiple attacks, delivering chemical agents (including mustard agent¹ and the nerve agents sarin and tabun²) in aerial bombs, 122mm rockets, and artillery shells against both tactical military targets and segments of Iraq's Kurdish population. Before the 1991 Gulf war, Baghdad had a large stockpile of chemical munitions and a robust indigenous production capacity.

Although precise information is lacking, human rights organizations have received plausible accounts from Kurdish villagers of even more Iraqi chemical attacks against civilians in the 1987 to 1988 time frame—with some attacks as late as October 1988—in areas close to the Iranian and Turkish borders.

UNSCOM supervised the destruction of more than 40,000 chemical munitions, nearly 500,000 liters of chemical agents, 1.8 million liters of chemical precursors, and seven different types of delivery systems, including ballistic missile warheads. More than 10 years after the Gulf war, gaps in Iraqi accounting and current production capabilities strongly suggest that Iraq maintains a stockpile of chemical agents, probably VX,3 sarin, cyclosarin, and mustard.

Iraq probably has concealed precursors, production equipment, documentation, and other items necessary for continuing its CW effort. Baghdad never supplied adequate evidence to support its claims that it destroyed all of its CW agents and munitions. Thousands of tons of chemical precursors and tens of thousands of unfilled munitions, including Scud-variant missile warheads, remain unaccounted for.

UNSCOM discovered a document at Iraqi Air Force headquarters in July 1998 showing that Iraq overstated by at least 6,000 the number of chemical bombs it told the UN it had used during the Iran-Iraq War—bombs that remain unaccounted for.

Iraq has not accounted for 15,000 artillery rockets that in the past were its preferred means for delivering nerve agents, nor has it accounted for about 550 artillery shells filled with mustard agent.

Iraq probably has stocked at least 100 metric tons (MT) and possibly as much as 500 MT of CW agents.

Baghdad continues to rebuild and expand dual-use infrastructure that it could divert quickly to CW production. The best examples are the chlorine and phenol plants at the Fallujah II facility. Both chemicals have legitimate civilian uses but also are raw materials for the synthesis of precursor chemicals used to produce blister and nerve agents. Iraq has three other chlorine plants that have much higher capacity for civilian production; these plants and Iraqi imports are more than sufficient to meet Iraq's civilian

Of the 15 million kg of chlorine imported under the UN Oil for- Food Program since 1997, Baghdad used only 10 million kg and has 5 million kg in stock, suggesting that some domestically produced chlorine has been diverted to such proscribed activities as CW agent production.

Fallujah II was one of Iraq's principal CW precursor production facilities before the Gulf war. In the last two years the Iraqis have upgraded the facility and brought in new chemical reactor vessels and shipping containers with a large amount of production equipment. They have expanded chlorine output far beyond pre-Gulf war production levels—capabilities that can be diverted quickly to CW production. Iraq is seeking to purchase CW agent precursors and applicable production equipment and is trying to hide the activities of the Fallujah plant.

Biological Warfare Program

- **UK: Biological Warfare**

Since the withdrawal of the inspectors the JIC has monitored evidence, including from secret intelligence, of continuing work on Iraqi offensive chemical and biological warfare capabilities. In the first half of 2000 the JIC noted intelligence on Iraqi attempts to procure dual-use chemicals and on the reconstruction of civil chemical production at sites formerly associated with the chemical warfare programme.

Iraq has claimed that all its biological agents and weapons have been destroyed. No convincing proof of any kind has been produced to support this claim. In particular, Iraq could not explain large discrepancies between the amount of growth media (nutrients required for the specialized growth of agent) it procured before 1991 and the amounts of agent it admits to having manufactured. The discrepancy is enough to produce more than three times the amount of anthrax allegedly manufactured.

Iraq had also been trying to procure dual-use materials and equipment that could be used for a biological warfare programme. Personnel known to have been connected to the biological warfare programme up to the Gulf War had been conducting research into pathogens. There was intelligence that Iraq was starting to produce biological warfare agents in mobile production

facilities. Planning for the project had begun in 1995 under Dr Rihab Taha, known to have been a central player in the pre-Gulf War programme. The JIC concluded that Iraq had sufficient expertise, equipment and material to produce biological warfare agents within weeks using its legitimate biotechnology facilities.

In mid-2001, the JIC concluded that intelligence on Iraqi former chemical and biological warfare facilities, their limited reconstruction and civil production pointed to a continuing research and development programme. These chemical and biological capabilities represented the most immediate threat from Iraqi weapons of mass destruction. Since 1998 Iraqi development of mass destruction weaponry had been helped by the absence of inspectors and the increase in illegal border trade, which was providing hard currency.

In the last six months the JIC has confirmed its earlier judgments on Iraqi chemical and biological warfare capabilities and assessed that Iraq has the means to deliver chemical and biological weapons.

Subsequently, intelligence has become available from reliable sources which complements and adds to previous intelligence and confirms the JIC assessment that Iraq has chemical and biological weapons. The intelligence also shows that the Iraqi leadership has been discussing a number of issues related to these weapons. This intelligence covers:

Confirmation that chemical and biological weapons play an important role in Iraqi military thinking: intelligence shows that Saddam attaches great importance to the possession of chemical and biological weapons which he regards as being the basis for Iraqi regional power. He believes that respect for Iraq rests on its possession of these weapons and the missiles capable of delivering them. Intelligence indicates that Saddam is determined to retain this capability and recognizes that Iraqi political weight would be diminished if Iraq's military power rested solely on its conventional military forces.

Iraq has claimed that all its biological agents and weapons have been destroyed. No convincing proof of any kind has been produced to support this claim. In particular, Iraq could not explain large discrepancies between the amount of growth media (nutrients required for the specialized growth of agent) it procured before 1991 and the amounts of agent it admits to having manufactured. The discrepancy is enough to produce more than three times the amount of anthrax allegedly manufactured.

We know from intelligence that Iraq has continued to produce biological warfare agents. As with some chemical equipment, UNSCOM only destroyed equipment that could be directly linked to biological weapons production. Iraq also has its own engineering capability to design and construct biological agent associated fermenters, centrifuges, sprayer dryers and other equipment and is judged to be self-sufficient in the technology required to produce biological weapons.

Almost all components and supplies used in weapons of mass destruction and ballistic missile programmes are dual-use. For example, any major petrochemical or biotech industry, as well as public health organizations, will have legitimate need for most materials and equipment required to manufacture chemical and biological weapons. Without UN weapons inspectors it is very difficult therefore to be sure about the true nature of many of Iraq's facilities.

Experienced personnel who were active in the programme have largely remained in the country. Some dual-use equipment has also been purchased, but without monitoring by UN inspectors Iraq could have diverted it to their biological weapons programme. This newly purchased equipment and other equipment previously subject to monitoring could be used in a resurgent biological warfare programme. Facilities of concern include:

- The Castor Oil Production Plant at Fallujah: this was damaged in UK/US air attacks in 1998 (Operation Desert Fox) but has been rebuilt. The residue from the castor bean pulp can be used in the production of the biological agent ricin;
- The al-Dawrah Foot and Mouth Disease Vaccine Institute: which was involved in biological agent production and research before the Gulf War;

- The Amariyah Sera and Vaccine Plant at Abu Ghraib: UNSCOM established that this facility was used to store biological agents, seed stocks and conduct biological warfare associated genetic research prior to the Gulf War. It has now expanded its storage capacity.

UNSCOM established that Iraq considered the use of mobile biological agent production facilities. In the past two years evidence from defectors has indicated the existence of such facilities. Recent intelligence confirms that the Iraqi military have developed mobile facilities. These would help Iraq conceal and protect biological agent production from military attack or UN inspection.

Iraq has a variety of delivery means available for both chemical and biological agents. These include:

- free-fall bombs: Iraq acknowledged to UNSCOM the deployment to two sites of free-fall bombs filled with biological agent during 1990–91. These bombs were filled with anthrax, botulinum toxin and aflatoxin.;
- artillery shells and rockets: Iraq is known to have tested the use of shells and rockets filled with biological agents. Over 20,000 artillery munitions remain unaccounted for by UNSCOM.;
- helicopter and aircraft borne sprayers: Iraq carried out studies into aerosol dissemination of biological agent using these platforms prior to 1991. UNSCOM was unable to account for many of these devices. It is probable that Iraq retains a capability for aerosol dispersal of both chemical and biological agent over a large area.;
- al-Hussein ballistic missiles (range 650km): Iraq told UNSCOM that it filled 25 warheads with anthrax, botulinum toxin and aflatoxin.;
- al-Samoud/Ababil-100 ballistic missiles (range 150km plus): it is unclear if chemical and biological warheads have been developed for these systems, but given the Iraqi experience on other missile systems, we judge that Iraq has the technical expertise for doing so.;
- L-29 remotely piloted vehicle programme : we know from intelligence that Iraq has attempted to modify the L-29 jet trainer to allow it to be used as an Unmanned Aerial Vehicle (UAV) which is potentially capable of delivering chemical and biological agents over a large area.

- **CIA: Biological Warfare**

Iraq has the capability to convert quickly legitimate vaccine and biopesticide plants to biological warfare (BW) production and already may have done so. This capability is particularly troublesome because Iraq has a record of concealing its BW activities and lying about the existence of its offensive BW program.

After four years of claiming that they had conducted only “small-scale, defensive” research, Iraqi officials finally admitted to inspectors in 1995 to production and weaponization of biological agents. The Iraqis admitted this only after being faced with evidence of their procurement of a large volume of growth media and the defection of Husayn Kamil, former director of Iraq’s military industries.

Iraq admitted producing thousands of liters of the BW agents anthrax, 6 botulinum toxin, (which paralyzes respiratory muscles and can be fatal within 24 to 36 hours), and aflatoxin, (a potent carcinogen that can attack the liver, killing years after ingestion), and preparing BW- filled Scud-variant missile warheads, aerial bombs, and aircraft spray tanks before the Gulf war.

Baghdad did not provide persuasive evidence to support its claims that it unilaterally destroyed its BW agents and munitions. Experts from UNSCOM assessed that Baghdad’s declarations vastly understated the production of biological agents and estimated that Iraq actually produced two-to-four times the amount of agent that it acknowledged producing, including *Bacillus anthracis*—the causative agent of anthrax—and botulinum toxin.

The improvement or expansion of a number of nominally “civilian” facilities that were directly associated with biological weapons indicates that key aspects of Iraq’s offensive BW program are active and most elements more advanced and larger than before the 1990-1991 Gulf war.

- The al-Dawrah Foot-and-Mouth Disease (FMD) Vaccine Facility is one of two known Biocontainment Level-3—facilities in Iraq with an extensive air handling and filtering system. Iraq admitted that before the Gulf war Al-Dawrah had been a BW agent production facility. UNSCOM attempted to render it useless for BW agent production in 1996 but left some production equipment in place because UNSCOM could not prove it was connected to previous BW work. In 2001, Iraq announced it would begin renovating the plant without UN approval, ostensibly to produce a vaccine to combat an FMD outbreak. In fact, Iraq easily can import all the foot-and mouth vaccine it needs through the UN.
- The Amiriyah Serum and Vaccine Institute is an ideal cover location for BW research, testing, production, and storage. UN inspectors discovered documents related to BW research at this facility, some showing that BW cultures, agents, and equipment were stored there during the Gulf war. Of particular concern is the plant's new storage capacity, which greatly exceeds Iraq's needs for legitimate medical storage.
- The Fallujah III Castor Oil Production Plant is situated on a large complex with an historical connection to Iraq's CW program. Of immediate BW concern is the potential production of ricin toxin. Castor bean pulp, left over from castor oil production, can be used to extract ricin toxin. Iraq admitted to UNSCOM that it manufactured ricin and field-tested it in artillery shells before the Gulf war. Iraq operated this plant for legitimate purposes under UNSCOM scrutiny before 1998 when UN inspectors left the country.
- Since 1999, Iraq has rebuilt major structures destroyed during Operation Desert Fox. Iraqi officials claim they are making castor oil for brake fluid, but verifying such claims without UN inspections is impossible. In addition to questions about activity at known facilities, there are compelling reasons to be concerned about BW activity at other sites and in mobile production units and laboratories. Baghdad has pursued a mobile BW research and production capability to better conceal its program.

UNSCOM uncovered a document on Iraqi Military Industrial Commission letterhead indicating that Iraq was interested in developing mobile fermentation units, and an Iraqi scientist admitted to UN inspectors that Iraq was trying to move in the direction of mobile BW production.

Iraq has now established large-scale, redundant, and concealed BW agent production capabilities based on mobile BW facilities.

Nuclear Warfare Program

- **UK: Nuclear Warfare**

Since 1999 the JIC has monitored Iraq's attempts to reconstitute its nuclear weapons programme. In mid-2001 the JIC assessed that Iraq had continued its nuclear research after 1998. The JIC drew attention to intelligence that Iraq had recalled its nuclear scientists to the programme in 1998. Since 1998 Iraq had been trying to procure items that could be for use in the construction of centrifuges for the enrichment of uranium.

It is clear from IAEA inspections and Iraq's own declarations that by 1991 considerable progress had been made in both developing methods to produce fissile material and in weapons design. The IAEA dismantled the physical infrastructure of the Iraqi nuclear weapons program, including the dedicated facilities and equipment for uranium separation and enrichment, and for weapon development and production, and removed the remaining highly enriched uranium. But Iraq retained, and retains, many of its experienced nuclear scientists and technicians who are specialized in the production of fissile material and weapons design. Intelligence indicates that Iraq also retains the accompanying programme documentation and data.

Intelligence shows that the present Iraqi programme is almost certainly seeking an indigenous ability to enrich uranium to the level needed for a nuclear weapon. It indicates that the approach is based on gas centrifuge uranium enrichment, one of the routes Iraq was following for producing fissile material before the Gulf War. But Iraq needs certain key equipment, including gas

centrifuge components and components for the production of fissile material before a nuclear bomb could be developed.

Following the departure of weapons inspectors in 1998 there has been an accumulation of intelligence indicating that Iraq is making concerted covert efforts to acquire dual-use technology and materials with nuclear applications. Iraq's known holdings of processed uranium are under IAEA supervision. But there is intelligence that Iraq has sought the supply of significant quantities of uranium from Africa. Iraq has no active civil nuclear power programme or nuclear power plants and therefore has no legitimate reason to acquire uranium.

Intelligence shows that other important procurement activity since 1998 has included attempts to purchase:

- vacuum pumps which could be used to create and maintain pressures in a gas centrifuge cascade needed to enrich uranium;
- an entire magnet production line of the correct specification for use in the motors and top bearings of gas centrifuges. It appears that Iraq is attempting to acquire a capability to produce them on its own rather than rely on foreign procurement;
- Anhydrous Hydrogen Fluoride (AHF) and fluorine gas. AHF is commonly used in the petrochemical industry and Iraq frequently imports significant amounts, but it is also used in the process of converting uranium into uranium hexafluoride for use in gas centrifuge cascades;
- one large filament winding machine which could be used to manufacture carbon fiber gas centrifuge rotors;
- a large balancing machine, which could be used in initial centrifuge balancing work.

Iraq has also made repeated attempts covertly to acquire a very large quantity (60,000 or more) of specialized aluminum tubes. The specialized aluminum in question is subject to international export controls because of its potential application in the construction of gas centrifuges used to enrich uranium, although there is no definitive intelligence that it is destined for a nuclear programme.

In early 2002, the JIC assessed that UN sanctions on Iraq were hindering the import of crucial goods for the production of fissile material. The JIC judged

Iraq's long-standing civil nuclear power programme is limited to small-scale research. Activities that could be used for military purposes are prohibited by UNSCR 687 and 715.

Iraq has no nuclear power plants and therefore no requirement for uranium as fuel.

Iraq has a number of nuclear research programmes in the fields of agriculture, biology, chemistry, materials and pharmaceuticals. None of these activities requires more than tiny amounts of uranium, which Iraq could supply from its own resources.

Iraq's research reactors are non-operational; two were bombed and one was never completed.

...while sanctions remain effective Iraq would not be able to produce a nuclear weapon. If they were removed or prove ineffective, it would take Iraq at least five years to produce sufficient fissile material for a weapon indigenously. However, we know that Iraq retains expertise and design data relating to nuclear weapons. We therefore judge that if Iraq obtained fissile material and other essential components from foreign sources the timeline for production of a nuclear weapon would be shortened and Iraq could produce a nuclear weapon in between one and two years.

CIA: Nuclear Warfare

More than ten years of sanctions and the loss of much of Iraq's physical nuclear infrastructure under IAEA oversight have not diminished Saddam's interest in acquiring or developing nuclear weapons.

Iraq's efforts to procure tens of thousands of proscribed high-strength aluminum tubes are of significant concern. All intelligence experts agree that Iraq is seeking nuclear weapons and that these tubes could be used in a centrifuge enrichment program. Most intelligence specialists assess this to be the intended use, but some believe that these tubes are probably intended for conventional weapons programs.

Iraq had an advanced nuclear weapons development program before the Gulf war that focused on building an implosion-type weapon using highly enriched uranium. Baghdad was attempting a variety of uranium enrichment techniques, the most successful of which were the electromagnetic isotope separation (EMIS) and gas centrifuge programs. After its invasion of Kuwait, Iraq initiated a crash program to divert IAEA-safeguarded, highly enriched uranium from its Soviet and French-supplied reactors, but the onset of hostilities ended this effort. Iraqi declarations and the UNSCOM/IAEA inspection process revealed much of Iraq's nuclear weapons efforts, but Baghdad still has not provided complete information on all aspects of its nuclear weapons program.

- Iraq has withheld important details relevant to its nuclear program, including procurement logs, technical documents, experimental data, accounting of materials, and foreign assistance.
- Baghdad also continues to withhold other data about enrichment techniques, foreign procurement, weapons design, and the role of Iraqi security services in concealing its nuclear facilities and activities.
- In recent years, Baghdad has diverted goods contracted under the Oil- for-Food Program for military purposes and has increased solicitations and dual- use procurements—outside the Oil- for-Food process—some of which almost certainly are going to prohibited WMD and other weapons programs. Baghdad probably uses some of the money it gains through its illicit oil sales to support its WMD efforts.

Before its departure from Iraq, the IAEA made significant strides toward dismantling Iraq's nuclear weapons program and unearthing the nature and scope of Iraq's past nuclear activities. In the absence of inspections, however, most analysts assess that Iraq is reconstituting its nuclear program—unraveling the IAEA's hard-earned accomplishments.

Iraq retains its cadre of nuclear scientists and technicians, its program documentation, and sufficient dual-use manufacturing capabilities to support a reconstituted nuclear weapons program. Iraqi media have reported numerous meetings between Saddam and nuclear scientists over the past two years, signaling Baghdad's continued interest in reviving a nuclear program.

Iraq's expanding international trade provides growing access to nuclear-related technology and materials and potential access to foreign nuclear expertise. An increase in dual-use procurement activity in recent years may be supporting a reconstituted nuclear weapons program.

The acquisition of sufficient fissile material is Iraq's principal hurdle in developing a nuclear weapon. Iraq is unlikely to produce indigenously enough weapons -grade material for a deliverable nuclear weapon until the last half of this decade. Baghdad could produce a nuclear weapon within a year if it were able to procure weapons grade fissile material abroad.

Baghdad may have acquired uranium enrichment capabilities that could shorten substantially the amount of time necessary to make a nuclear weapon.

Problems in Collecting Data on Iraqi and Other Country WMD Capabilities and Delivery Systems

Even a cursory review of this list of U.S. and British charges **about Iraq's WMD capabilities** shows that point after point that was made was not confirmed during war or after the first two months of effort following the conflict. Despite all of the advances in their IS&R capabilities, the United States and Britain went to war with Iraq without the level of evidence needed to provide a clear strategic rationale for the war, and without the

ability to fully understand the threat that Iraqi weapons of mass destruction posed to U.S., British, and Australian forces. This uncertainty is not a definitive argument against carrying out a war that responded to grave potential threats. It *is* a definitive warning that this intelligence and targeting are not yet adequate to support grand strategy, strategy, and tactical operations against proliferating powers or to make accurate assessments of the need to preempt.

It is difficult to put these problems into perspective without access to classified material. Past declassified U.S. intelligence reporting on proliferation has made it clear, however, that proliferation presents very serious problems for intelligence collection and analysis. UNSCOM and UNMOVIC reports show that Iraq was well aware of these problems and how to exploit them:

- Iraq and other powers sophisticated enough to proliferate are also sophisticated enough to have a good understanding of many of the strengths and limitations of modern intelligence sensors, the timing and duration of satellite coverage, and the methods use to track imports and technology transfer. They have learned to cover and conceal, to deceive, and to create smaller and better disseminated activities.
- Intelligence collection of relies heavily on finding key imports and technology transfers. Such reports, however, only usually cover a small fraction of the actual effort on the part of the proliferating country, and the information collected is often vague and uncertain, in part because importers and smugglers have every incentive to lie and are also familiar with many the ways to defeat intelligence collection and import controls. When information does become available, it is often impossible to put in context, and a given import or technology transfer can often be used in many difficult ways, often was other than proliferation. Such import data can hint at the character of a proliferation effort, but give no picture of the overall character of the activity.
- Even when data are available on given imports or technology transfers, they generally present three serious problems. One is that there is no way to know the end destination and use of the import and how it is integrated into the overall effort. The second is there is no way to know if it is integrated into an ongoing research and development effort, a weapons production effort, being procured or stockpiled for later use, or simply an experiment or mistake that is never further exploited. The third is that many imports have civilian or other military uses. These so-called “dual-use” imports may have legitimate use.
- The very nature of arms control agreements like the Nuclear Non-Proliferation Treaty (NNPT), Biological Weapons Convention (BWC), and Chemical Weapons convention (CWC) encourages proliferating nations to lie and conceal as effectively as possible. The same is true of supplier agreements like the Missile Technology Control Regime (MTCR) and Australia List, and any form of sanctions. Arms control only encourages compliance among non-proliferators and non-sellers, and current enforcement efforts are too weak to be effective while their provisions effective license technology transfer to those nations who succeed in lying or concealing.
- The technology of proliferation generally permits the research and development effort to be divided up into a wide range of small facilities and projects. Some can be carried out as legitimate civil research. Others can be hidden in civil and commercial facilities. As proliferators become more sophisticated, they learn to create dispersed, redundant and parallel programs, and mix high secret covert programs with open civil or dual-use programs. Chemical, biological, and cruise missile programs are particularly easy to divide up into small cells or operations. However, this is increasingly true of nuclear weapons centrifuge programs, plutonium processing and fuel cycles, and the testing and simulation of nuclear weapons that does not involve weapons grade materials. Many key aspects of ballistic missile R&D, including warhead and launch system design fit into this category.
- Iraq and most other proliferators have, in the past, focused on creating stockpiles of weapons for fighting theater conflicts against military forces. These stockpiles require large inventories, large-

scale deployments, and generally mixes of training and warfighting preparations that create significant intelligence indicators. There are, however, other strategies and many proliferators may now be pursuing them. One is to bring weapons to full development, and to wait until a threat becomes imminent to actually produce the weapon. A second is to follow the same course, but create large dual-use civil facilities that can be rapidly converted to the production of weapons of mass destruction. These can include pharmaceutical plants, food-processing plants, breweries, petrochemical plants, and pesticide plants, but key assembly lines can be concealed in a wide range of other commercial activities.ⁱⁱⁱ Weapons production facilities can be stockpile for a later and sometimes sudden breakout. A third is to focus on creating as few highly lethal biological or nuclear weapons to attack key political or civilian facilities in a foreign country, rather than its military forces. Highly lethal non-infectious or infectious biological agents are one means of such an attack, biological weapons directed at crops or livestock are another.

- Countries can pursue very different strategies in dealing with their past inventories of weapons. They can disclose and destroy them, knowing they do not face an urgent warfighting need, better weapons are coming, and this suits current political objectives. They can claim to destroy and hide the remaining weapons in covert areas known only to a few. They can claim to destroy, or lie, and disperse weapons where they can be used for warfighting purposes. In many cases, intelligence collection may not be able to distinguish between such strategies, and a given proliferator like Iraq can pursue a mix of such strategies—depending on the value of the weapon.
- In many cases, there is no clear way to know whether a program is R&D, production and weapons deployment, or production capable/breakout oriented. The problem is further complicated by the fact that Iraq and other countries have learned to play a “shell game” by developing multiple surface and underground military facilities and dual-use facilities and to create relatively mobile mixes of trailer/vehicle mounted and “palletized” equipment for rapid movement. Large special-purpose facilities with hard to move equipment often still exist, but they are by no means the rule. Intelligence collection takes time and may often lag behind country activities.
- Unless a country keeps extremely accurate records of its programs, it is often far easier to estimate that maximum scale of what it might do than provide an accurate picture of what it has actually done.
- In most cases, it is impossible to know how far a given project or effort has gotten and how well it has succeeded. The history of proliferation is not the history of proliferators overcoming major technical and manufacturing problems. It is the history of massive management and systems integration problems, political failures, lying technical advocates and entrepreneurs, project managers who do not tell their political masters the truth, and occasional sudden success. Short of an intelligence breakthrough, it is rarely possible to assess the success of a given effort and even on the scene inspection can produce vary wrong results unless a given project can be subjected to detailed technical testing. For example, UNSCOM and the IAEA found that virtually all of their preliminary reporting on Iraq’s nuclear effort in 1992-1993 tended to exaggerate Iraqi capabilities once they had had the time to fully assess the efficiency of key efforts like the Calutron and centrifuge programs.
- The only definitive way to counter most of these collection problems is to have a reliable mix of redundant human intelligence (HUMINT) sources within the system or as defectors. The United States, however, has never claimed or implied it had such capabilities in any proliferating country, and the history of U.S., British, UNSCOM, and UNMOVIC efforts to deal with Iraq makes it painfully clear both that such transparency was totally lacking in Iraq and that most Iraqi defectors and intelligence sources outside Iraq made up information, circulated unsubstantiated information, or simply lied. Breakthroughs do occur, but HUMINT is normally inadequate, untrustworthy, or a failure, and these shortcomings cannot generally be corrected with data based on other intelligence means. Either inside information is available or it is not. When it is, imagery and signals intelligence generally do far more to indicate that HUMINT is wrong or suspect than to reveal the truth.^{iv}

- In many cases, even the leaders of a proliferating country may not have an accurate picture of the success of their efforts, and most probably do not have a clear picture of the accuracy, lethality and effects, and reliability of their weapons. U.S. and British research efforts have long shown that even highly sophisticated technical models of the performance and lethality of chemical, biological, and nuclear weapons and delivery systems can be grossly wrong, or require massive levels of human testing that simply are not practical even for closed authoritarian societies. No declassified intelligence report on any proliferation effort in any developing country has yet indicated that Iraq or any other proliferator has sophisticated technical and testing models in these areas. Intelligence cannot collect data that do not exist.

Problems in Analyzing Iraqi and Other Country WMD Capabilities and Delivery Systems

Many of the resulting problems in the analysis of the WMD capabilities of Iraq and other countries are the result of the previous problems in collection. The details of U.S., British, and allied intelligence analyses remain classified. At the same time, background discussions with intelligence analysts and users reveal the following additional problems in analyzing the WMD threat:

- The uncertainties surrounding collection on virtually all proliferation and weapons of mass destruction programs are so great that it is impossible to produce meaningful point estimates. As the CIA has shown in some of its past public estimates of missile proliferation, the intelligence community must first develop a matrix of what is and is not known about a given aspect of proliferation in a given country, with careful footnoting or qualification of the problems in each key source. It must then deal with uncertainty by creating estimates that show a range of possible current and projected capabilities—carefully qualifying each case. In general, at least three scenarios or cases need to be analyzed for each major aspect of proliferation in each country—something approaching a “best,” “most likely,” and “worst case.”^v
- Even under these conditions, the resulting analytic effort faces serious problems. Security compartmentation within each major aspect of collection and analysis severely limits the flow of data to working analysts. The expansion of analytic staffs has sharply increased the barriers to the flow of data, and has brought large number of junior analysts into the process that can do little more than update past analyses and judgments. Far too little analysis is subjected to technical review by those who have actually worked on weapons development, and the analysis of delivery programs, warheads and weapons, and chemical, biological, and nuclear proliferation tends to be compartmented. Instead of the free flow of data and exchange of analytic conclusions, or “fusion” of intelligence, analysis is “stovepiped” into separate areas of activity. Moreover, the larger staffs get, the more stovepiping tends to occur.
- Analysis tends to focus on technical capability and not on the problems in management and systems integration that often are the real world limiting factors in proliferation. This tends to push analysis towards exaggerating the probable level of proliferation, particularly because technical capability is often assumed if collection cannot provide all the necessary information.
- Where data are available on past holdings of weapons and the capability to produce such weapons—such as data on chemical weapons feedstocks and biological growth material—the intelligence effort tends to produce estimates of the maximum size of the possible current holding of weapons and WMD materials. While ranges are often shown, and estimates are usually qualified with uncertainty, this tends to focus users on the worst case in terms of actual current capability. In the case of the Iraq, this was compounded by some 12 years of constant lies and a disbelief that a dictatorship obsessed with record keeping could not have records if it had destroyed weapons and materials. The end result, however, was to assume that little or no destruction had occurred whenever UNSCOM, UNMOVIC, and the IAEA reported that major issues still affected Iraqi claims.

- Intelligence analysis has long been oriented more towards arms control and counterproliferation rather than war fighting, although DIA and the military services have attempted to shift the focus of analysis. Dealing with broad national trends and assuming capability is not generally a major problem in seeking to push nations towards obeying arms control agreements, or in pressuring possible suppliers. It also is not a major problem in analyzing broad military counterproliferation risks and programs. The situation is very different in dealing with war fighting choices, particularly issues like preemption and targeting. Assumptions of capability can lead to preemption that is not necessary, overtargeting, inability to prioritize, and a failure to create the detailed collection and analysis necessary to support warfighters down to the battalion level. This, in turn, often forces field commanders to rely on field teams with limited capability and expertise, and to overreact to any potential threat or warning indicator.
- The intelligence community does bring outside experts into the process, but often simply to provide advice in general terms rather than cleared review of the intelligence product. The result is often less than helpful. The use of other cleared personnel in U.S. laboratories and other areas of expertise is inadequate and often presents major problems because those consulted are not brought fully into the intelligence analysis process and given all of the necessary data.
- The intelligence community does tend to try to avoid explicit statements of the shortcomings in collection and methods in much of its analysis and to repeat past agreed judgments on a lowest common denominator level—particularly in the form of the intelligence products that get broad circulation to consumers. Attempts at independent outside analysis or “B-Teams,” however, are not subject to the review and controls enforced on intelligence analysis, and the teams, collection data, and methods used are generally selected to prove given points rather than provide an objective counterpoint to finished analysis.^{vi}

More broadly, the users of intelligence are at best intolerant of analysis that consists of a wide range of qualifications and uncertainties even at the best of times, and the best of times do not exist when urgent policy and warfighting decisions need to be made. Users inevitably either force the intelligence process to reach something approaching a definitive set of conclusions, or else they make such estimates themselves.

Intelligence analysts and managers are all too aware of this fact. Experience has taught them that complex intelligence analysis—filled with alternative cases, probability estimates, and qualifications about uncertainty—generally goes unused or makes policy makers and commanders impatient with the entire intelligence process. In the real world, hard choices have to be made to provide an estimate that **can** actually be used and acted upon, and these choices must either be by the intelligence community or the user.^{vii}

The Politics of Characterizing and Targeting Iraqi WMD Capabilities and Delivery Systems

All of these points have obvious importance in assessing the political and policy-level use of intelligence during the Iraq War. It is easy to focus on the extent to which the intelligence that the United States and Britain provided before the war was or was not “politicized” as part of the effort to make the case for the war. Yet, far broader issues are involved that are scarcely specific to the Iraq War. Rather, these issues are almost certain to apply to future crises and conflicts. The same problems that limited U.S. and British intelligence capabilities during the Iraq War—and which will limit them for the foreseeable future—necessarily apply to other countries and to any international organizations.

There also are no peers with superior capabilities. No other state can compete with the United States in intelligence collection and analysis resources, although a growing

number of states do have significant satellite and other technical means and any state can score a human intelligence breakthrough. Organizations like the UN have no independent intelligence collection capability other than the reporting and inspection provisions provided by international agreements. UNSCOM and UNMOVIC showed during their inspection efforts in Iraq that direct inspection can often provide important discoveries. But such search techniques also provide only limited and time-consuming coverage and cannot function effectively without intelligence data and analytic inputs from other countries.

No one who focuses on the specific case of the Iraq War can afford to ignore the fact that future threats of proliferation posed by states or terrorist movements may again seem so great that it may not be possible to wait to take military action until many key uncertainties are resolved. Moreover, it is difficult to see how leaders can lead if they communicate all of the uncertainties involved in the intelligence assessment of most proliferating countries.

In practical terms, any political effort to try to communicate the true level of uncertainty and probable outcomes inherent in most estimates of proliferation seems almost certain to make it difficult or impossible to gain a political consensus for timely and effective domestic or international action. Communicating uncertainty may be a good way of arguing against action, but only because its impact is to create nearly endless discussion and debate on any policy that requires broad political agreement on a single course of action or the use of military force. In practical terms, the United States and its allies may again have to act on the basis of something approaching “worst case” assumptions. This is a risk that proliferating nations and extremist movements may have to learn they take when they proliferate.

Dealing with a Proven Proliferator

It is also necessary to put any U.S. or British politicization of intelligence in context. Whatever mistakes may have been made in the intelligence assessments before and during the war, Saddam Hussein’s regime was clearly proliferating. During the period of 1991–1998, UNSCOM found that Iraq had concealed major chemical, biological, and nuclear programs, and it continued to lie about them until it expelled UNSCOM. These lies affected many detailed aspects of the Iraqi nuclear and missile program. They also, however, succeeded in concealing the existence of a biological weapons program until 1995—four years after the **Gulf War** was over and a massive inspection effort was under way. And they succeeded in concealing a major VX nerve gas weaponization program until 1997–1998—seven years after the war was over.

Iraq clearly failed to meet the requirements of the UN Security Council’s Resolution 1441 that established the ground rules for the resumption of UN inspections under UNMOVIC. Iraq’s declaration to the UN did virtually nothing to resolve immense uncertainties about the remaining scale of the Iraqi proliferation effort, which could still have involved massive stocks of chemical and biological weapons. UNMOVIC found that Iraq continued to try to conceal major violations of the ceasefire limits on the development of long-range missiles, and it was anything but forthcoming in making its scientists available for interviews and in implementing most other aspects of cooperation

with the UN. When it did improve its cooperation, it almost always did so because the threat of U.S. and British military action had become more imminent.^{viii}

The Issues Left By Iraqi Compliance with the UN Effort

Whatever the problems in the U.S. and British statements and white papers may have been, virtually all of the reports on the material, weapons, and equipment that Iraq had not accounted for were taken from reporting by UNSCOM during the period between 1991 and 1998. Interviews with French, German, Russian, and other experts before the war also indicate that few Western nations did not think that Iraq was actively proliferating, and most Western intelligence agencies saw similar risks—although some felt that Iraq's war-fighting capabilities were lower and its production capabilities were much more uncertain.

Hans Blix—the executive chairman of UNMOVIC before and during the war and a man who disagreed with many of the U.S. and British assessments of Iraqi capabilities issued to make the case for war—expressed serious concerns in his reports to the UN during 2003 about Iraq's failures to comply with UN Security Council Resolution 1441 as well as about the U.S. and British assessments of the Iraqi WMD threat. The UNMOVIC report to the Security Council of January 27, 2003, stated as follows:^{ix}

- Resolution 687 (1991), like the subsequent resolutions I shall refer to, required cooperation by Iraq but such was often withheld or given grudgingly. Unlike South Africa, which decided on its own to eliminate its nuclear weapons and welcomed inspection as a means of creating confidence in its disarmament, Iraq appears not to have come to a genuine acceptance—not even today—of the disarmament, which was demanded of it and which it needs to carry out to win the confidence of the world and to live in peace.
- As we know, the twin operation 'declare and verify', which was prescribed in resolution 687 (1991), too often turned into a game of 'hide and seek'. Rather than just verifying declarations and supporting evidence, the two inspecting organizations found themselves engaged in efforts to map the weapons programmes and to search for evidence through inspections, interviews, seminars, inquiries with suppliers and intelligence organizations. As a result, the disarmament phase was not completed in the short time expected. Sanctions remained and took a severe toll until Iraq accepted the Oil for Food.
- While Iraq claims—with little evidence—that it destroyed all biological weapons unilaterally in 1991, it is certain that UNSCOM destroyed large biological weapons production facilities in 1996. The large nuclear infrastructure was destroyed and the fissionable material was removed from Iraq by the IAEA.
- One of three important questions before us today is how much might remain undeclared and intact from before 1991; and, possibly, thereafter; the second question is what, if anything, was illegally produced or procured after 1998, when the inspectors left; and the third question is how it can be prevented that any weapons of mass destruction be produced or procured in the future.
- For nearly three years, Iraq refused to accept any inspections by UNMOVIC. It was only after appeals by the Secretary-General and Arab States and pressure by the United States and other Member States, that Iraq declared on 16 September last year that it would again accept inspections without conditions.
- It would appear from our experience so far that Iraq has decided in principle to provide cooperation on process, notably access. A similar decision is indispensable to provide cooperation on substance in order to bring the disarmament task to completion through the peaceful process of inspection and to bring the monitoring task on a firm course. An initial minor step would be to adopt the long-overdue legislation required by the resolutions.
- In this updating I am bound, however, to register some problems. Firstly, relating to two kinds of air operations.

- ...I am obliged to note some recent disturbing incidents and harassment. For instance, for some time farfetched allegations have been made publicly that questions posed by inspectors were of intelligence character. While I might not defend every question that inspectors might have asked, Iraq knows that they do not serve intelligence purposes and Iraq should not say so.
- On a number of occasions, demonstrations have taken place in front of our offices and at inspection sites.
- The other day, a sightseeing excursion by five inspectors to a mosque was followed by an unwarranted public outburst. The inspectors went without any UN insignia and were welcomed in the kind manner that is characteristic of the normal Iraqi attitude to foreigners. They took off their shoes and were taken around. They asked perfectly innocent questions and parted with the invitation to come again.
- Shortly thereafter, we receive protests from the Iraqi authorities about an unannounced inspection and about questions not relevant to weapons of mass destruction. Indeed, they were not. Demonstrations and outbursts of this kind are unlikely to occur in Iraq without initiative or encouragement from the authorities. We must ask ourselves what the motives may be for these events. They do not facilitate an already difficult job, in which we try to be effective, professional and, at the same time, correct. Where our Iraqi counterparts have some complaint they can take it up in a calmer and less unpleasant manner.
- Paragraph 9 of resolution 1441 (2002) states that this cooperation shall be “active”. It is not enough to open doors. Inspection is not a game of “catch as catch can”. Rather, as I noted, it is a process of verification for the purpose of creating confidence. It is not built upon the premise of trust. Rather, it is designed to lead to trust, if there is both openness to the inspectors and action to present them with items to destroy or credible evidence about the absence of any such items.
- On 7 December 2002, Iraq submitted a declaration of some 12,000 pages in response to paragraph 3 of resolution 1441 (2002) and within the time stipulated by the Security Council. In the fields of missiles and biotechnology, the declaration contains a good deal of new material and information covering the period from 1998 and onward. This is welcome.
- One might have expected that in preparing the Declaration, Iraq would have tried to respond to, clarify and submit supporting evidence regarding the many open disarmament issues, which the Iraqi side should be familiar with from the UNSCOM document S/1999/94 of January 1999 and the so-called Amorim Report of March 1999 (S/1999/356). These are questions that UNMOVIC, governments and independent commentators have often cited.
- While UNMOVIC has been preparing its own list of current “unresolved disarmament issues” and “key remaining disarmament tasks” in response to requirements in resolution 1284 (1999), we find the issues listed in the two reports as unresolved, professionally justified. These reports do not contend that weapons of mass destruction remain in Iraq, but nor do they exclude that possibility. They point to lack of evidence and inconsistencies, which raise question marks, which must be straightened out, if weapons dossiers are to be closed and confidence is to arise.
- They deserve to be taken seriously by Iraq rather than being brushed aside as evil machinations of UNSCOM. Regrettably, the 12,000 page declaration, most of which is a reprint of earlier documents, does not seem to contain any new evidence that would eliminate the questions or reduce their number. Even Iraq’s letter sent in response to our recent discussions in Baghdad to the President of the Security Council on 24 January does not lead us to the resolution of these issues.
- When we have urged our Iraqi counterparts to present more evidence, we have all too often met the response that there are no more documents. All existing relevant documents have been presented, we are told. All documents relating to the biological weapons programme were destroyed together with the weapons.
- However, Iraq has all the archives of the Government and its various departments, institutions and mechanisms. It should have budgetary documents, requests for funds and reports on how they have been used. It should also have letters of credit and bills of lading, reports on production and losses of material.

- In response to a recent UNMOVIC request for a number of specific documents, the only new documents Iraq provided was a ledger of 193 pages which Iraq stated included all imports from 1983 to 1990 by the Technical and Scientific Importation Division, the importing authority for the biological weapons programme. Potentially, it might help to clear some open issues.
- The recent inspection find in the private home of a scientist of a box of some 3,000 pages of documents, much of it relating to the laser enrichment of uranium support a concern that has long existed that documents might be distributed to the homes of private individuals. This interpretation is refuted by the Iraqi side, which claims that research staff sometimes may bring home papers from their work places. On our side, we cannot help but think that the case might not be isolated and that such placements of documents is deliberate to make discovery difficult and to seek to shield documents by placing them in private homes.
- Any further sign of the concealment of documents would be serious. The Iraqi side committed itself at our recent talks to encourage persons to accept access also to private sites. There can be no sanctuaries for proscribed items, activities or documents. A denial of prompt access to any site would be a very serious matter.
- When Iraq claims that tangible evidence in the form of documents is not available, it ought at least to find individuals, engineers, scientists and managers to testify about their experience. Large weapons programmes are moved and managed by people. Interviews with individuals who may have worked in programmes in the past may fill blank spots in our knowledge and understanding. It could also be useful to learn that they are now employed in peaceful sectors. These were the reasons why UNMOVIC asked for a list of such persons, in accordance with resolution 1441.
- Some 400 names for all biological and chemical weapons programmes as well as their missile programmes were provided by the Iraqi side. This can be compared to over 3,500 names of people associated with those past weapons programmes that UNSCOM either interviewed in the 1990s or knew from documents and other sources. At my recent meeting in Baghdad, the Iraqi side committed itself to supplementing the list and some 80 additional names have been provided.
- In the past, much valuable information came from interviews. There were also cases in which the interviewee was clearly intimidated by the presence of and interruption by Iraqi officials. This was the background of resolution 1441's provision for a right for UNMOVIC and the IAEA to hold private interviews "in the mode or location" of our choice, in Baghdad or even abroad.
- To date, 11 individuals were asked for interviews in Baghdad by us. The replies have invariably been that the individual will only speak at Iraq's monitoring directorate or, at any rate, in the presence of an Iraqi official. This could be due to a wish on the part of the invited to have evidence that they have not said anything that the authorities did not wish them to say. At our recent talks in Baghdad, the Iraqi side committed itself to encourage persons to accept interviews "in private", that is to say alone with us. Despite this, the pattern has not changed. However, we hope that with further encouragement from the authorities, knowledgeable individuals will accept private interviews, in Baghdad or abroad.

The International Atomic Energy Agency report of January 27, 2003, noted the following:^x

Little progress has been made in resolving the questions and concerns that remained as of 1998. On the question of external assistance to the past nuclear programme, Iraq has provided a letter that summarizes information provided by it during earlier discussions and which reiterates Iraq's previous statements that it had never followed up on offers of such assistance. On the issue of the abandonment of the programme, Iraq has indicated its intention to adopt, as required in paragraph 34 of the OMV Plan, laws prohibiting the conduct of proscribed activities in Iraq.

Blix reported a more favorable situation to the UN on February 14 in his last report before the war began. He also warned that the intelligence provided to UNMOVIC had been found to be flawed in some aspects:^{xi}

International organizations need to analyze such information critically and especially benefit when it comes from more than one source. The intelligence agencies, for their part, must protect their sources and methods. Those who provide such information must know that it will be kept in strict confidence and be known to very few people. UNMOVIC has achieved good working relations with intelligence agencies and the amount of information provided has been gradually increasing. However, we must recognize that there are limitations and that misinterpretations can occur.

Intelligence information has been useful for UNMOVIC. In one case, it led us to a private home where documents mainly relating to laser enrichment of uranium were found. In other cases, intelligence has led to sites where no proscribed items were found. Even in such cases, however, inspection of these sites were useful in proving the absence of such items and in some cases the presence of other items—conventional munitions. It showed that conventional arms are being moved around the country and that movements are not necessarily related to weapons of mass destruction.

The presentation of intelligence information by the U.S. Secretary of State suggested that Iraq had prepared for inspections by cleaning up sites and removing evidence of proscribed weapons programmes. I would like to comment only on one case, which we are familiar with, namely, the trucks identified by analysts as being for chemical decontamination at a munitions depot. This was a declared site, and it was certainly one of the sites Iraq would have expected us to inspect. We have noted that the two satellite images of the site were taken several weeks apart. The reported movement of munitions at the site could just as easily have been a routine activity as a movement of proscribed munitions in anticipation of imminent inspection. Our reservation on this point does not detract from our appreciation of the briefing.

Nevertheless, UNMOVIC's last report to the Security Council before the Iraq War, which was published on February 28, 2003, noted that UNMOVIC had found a small stock of mustard gas and some surviving bombs designed to carry weapons of mass destruction. The report also confirmed that Iraq had developed and deployed two missiles—the Al Samoud 2 and Al Fatah—in violation of UN Security Council resolutions.^{xiii}

UNMOVIC experts have found little new significant information in the part of the declaration relating to proscribed weapons programmes, nor much new supporting documentation or other evidence. New material, on the other hand, was provided concerning non-weapons-related activities during the period from the end of 1998 to the present, especially in the biological field and on missile development.

The part that covers biological weapons is, in UNMOVIC's assessment, essentially a reorganized version of a previous declaration provided by Iraq to the United Nations Special Commission (UNSCOM) in September 1997. In the chemical weapons area, the basis of the current declaration was a declaration submitted by Iraq in 1996 with subsequent updates and explanations. In the missile field, the declaration follows the same format, and has largely the same content as Iraq's 1996 missile declaration and updates.

...As there is little new substantive information in the weapons part of Iraq's declaration, or new supporting documentation, the issues that were identified as unresolved in the Amorim report (S/1999/356) and in UNSCOM's report (S/1999/94) remain. In most cases, the issues remain unresolved because there is a lack of supporting evidence. Such supporting evidence, in the form of documentation, testimony by individuals who took part in the activities, or physical evidence, would be required.

...Under resolution 1284 (1999), Iraq is to provide "cooperation in all respects" to UNMOVIC and the IAEA. While the objective of the cooperation under this resolution, as under resolution 1441 (2002), is evidently the attainment, without delay, of verified disarmament, it is the cooperation that must be immediate, unconditional and active. Without the required cooperation, disarmament and its verification will be problematic. However, even with the requisite cooperation it will inevitably require some time.

... During the period of time covered by the present report, Iraq could have made greater efforts to find any remaining proscribed items or provide credible evidence showing the absence of such items. The

results in terms of disarmament have been very limited so far. The destruction of missiles, which is an important operation, has not yet begun. Iraq could have made full use of the declaration, which was submitted on 7 December. It is hard to understand why a number of the measures, which are now being taken, could not have been initiated earlier. If they had been taken earlier, they might have borne fruit by now. It is only by the middle of January and thereafter that Iraq has taken a number of steps, which have the potential of resulting either in the presentation for destruction of stocks or items that are proscribed or the presentation of relevant evidence solving long-standing unresolved disarmament issues.

Blix made the following points about the problems in assessing Iraq's WMD programs in his last report to the UN, after the Iraq War was over.^{xiii}

...the Commission has not at any time during the inspections in Iraq found evidence of the continuation or resumption of programmes of weapons of mass destruction or significant quantities of proscribed items—whether from pre-1991 or later. I leave aside the Al Samoud 2 missile system, which we concluded was proscribed. As I have noted before, this does not necessarily mean that such items could not exist. They might—there remain long lists of items unaccounted for—but it is not justified to jump to the conclusion that something exists just because it is unaccounted for.

...we note that the long list of proscribed items unaccounted for has not been shortened by inspections or Iraqi declarations, explanations or documentation. It was the task of the Iraqi side to present items unaccounted for, if they existed, or to present evidence—records, documents or other—convincing the inspectors that the items do not exist.

If—for whatever reason—this is not done, the international community cannot have confidence that past programmes or any remaining parts of them have been terminated. However, an effective presence of international inspectors will serve as a deterrent against efforts aimed at reactivating or developing new programmes of weapons of mass destruction.

Although during the last month and a half of our inspections, the Iraqi side made considerable efforts to provide explanations, to begin inquiries and to undertake exploration and excavations, these efforts did not bring the answers needed before we withdrew. We did not have time to interview more than a handful of the large number of persons who were said by Iraq to have participated in the unilateral destruction of biological and chemical weapons in 1991. Such interviews might have helped towards the resolution of some outstanding issues, although one must be aware that the totalitarian regime in Iraq continued to cast a shadow on the credibility of all interviews.

The report before you gives details of the Commission's supervision of the destruction of 50 Al Samoud 2 missiles out of the 75 declared deployed and of other items in the missile sphere.... Fifty per cent of the declared warheads and 98% of the missile engines remained intact. Also, there was no time to assess whether the Al Fatah missile programme stayed within the range allowed by Security Council resolutions.

In the context of destruction of proscribed items, I should like also to draw the attention of the Council to the information... that the *weapons* that were destroyed before inspectors left in 1998, were in almost all cases declared by Iraq and that the destruction occurred before 1993 in the case of missiles, and before 1994 in the case of chemical weapons. The existence and scope of the biological weapons programme was uncovered by UNSCOM in 1995 despite Iraq's denials and concealment efforts. As to items, only a few remnants of the biological weapons programme were subsequently found. A great deal—Iraq asserts all—was unilaterally destroyed in 1991.

Thus, in the main, UNSCOM supervised destruction of actual weapons and agents took place during the early years of the Commission, and had regard mainly to items declared by Iraq or, at least, found at sites declared by Iraq. Subsequent UNSCOM disarmament activities dealt almost exclusively with the destruction of equipment and facilities for the production of weapons connected to past programmes. In addition, of course, UNSCOM was able, with great skill, to map large parts of Iraq's WMD programmes.

While we are all aware of the large amounts of proscribed items, which still remain unaccounted for, we should perhaps take note of the fact that for many years neither UNSCOM nor UNMOVIC made

significant finds of weapons. The lack of finds could be because the items were unilaterally destroyed by the Iraqi authorities or else because they were effectively concealed by them. I trust that in the new environment in Iraq, in which there is full access and cooperation, and in which knowledgeable witnesses should no longer be inhibited to reveal what they know, it should be possible to establish the truth we all want to know.

Before one places too much blame on the United States and Britain for faulty intelligence, it is important to note that Iraq could have resolved the issues involved simply by complying with the UN security council resolution. The United States and Britain may have been wrong, but Saddam Hussein played an almost suicidally stupid game in failing to immediately declare Iraq's true holdings and comply with UNSCR 1441's demand for immediate and comprehensive compliance. As Rolf Ekeus, executive chairman of UNSCOM from 1991 to 1997, pointed out after the war, Iraq never gave up the basic core of its chemical, biological, or nuclear weapons efforts or the effort to find dual-use and other production equipment.^{xiv}

The Costs of Politicizing Intelligence

That said, one key lesson of the Iraq War is still that it is dangerous to overpoliticize intelligence and to not provide a picture of the threat and reasons for warfighting that is properly qualified. Overselling the threat before a war leads to overreacting during a conflict, and to major credibility problems in the aftermath of the conflict that can interfere with nation building and limit domestic and international support in future conflicts.

It is now all too clear that the United States and Britain did not find the right balance of persuasion and objectivity in their public analyses of the threat before the war and in their arguments in favor of the conflict. The fact that no evidence surfaced during or soon after the war that tracked with the previous U.S. and British intelligence assessments—evidence showing that Iraq had the capability to use weapons of mass destruction in warfighting, or indicated that it had active programs for the production of weapons of mass destruction that were creating an imminent threat—has been a source of major embarrassment for the Bush and Blair governments, as well as for allied governments like Australia. It also seriously undermines U.S. and British credibility in dealing with future cases of proliferation.

Postwar reports and interviews make it clear that the United States and Britain presented worst-case estimates to the public and the UN without sufficient qualification. They also make clear that their intelligence communities came under serious political pressure to make something approaching a worst-case interpretation of the evidence, and to interpret the inability to account for missing weapons of mass destruction, delivery systems, and production capabilities as meaning that Iraq had something approaching matching inventories of deployed weapons.

As has been mentioned, there are also many indications that the U.S. intelligence community came under pressure to accept reporting by Iraqi opposition sources that had limited credibility and, in some cases, a history of actively lying to exaggerate their own importance or push the United States toward a war to overthrow Saddam Hussein.

In the US, this pressure seems to have come primarily from the Office of the Vice President and the Office of the Secretary of Defense. The Vice President and his assistant

Scooter Libby seem to have made repeated personal efforts to intervene in the intelligence process and push for the selection of material that would make a case for war. There also are reports that the Office of Special Plans (OSP) within the Office of the Secretary of Defense assembled a staff with strong biases in favor of war that sifted through intelligence data and pushed for the “worst case” interpretation of the data on Iraqi weapons of mass destruction and possible Iraqi ties to terrorist groups like Al Qaida. In what bore a striking resemblance to similar worst-case interpretations of the global threat from the proliferation of ballistic missiles under the Rumsfeld Commission, U.S. policymakers seem to have pushed for the interpretation that would best justify military action and to have focused on this as if it were a reality rather than a possibility.^{xv} The Bush administration as a whole sought intelligence that would support its case in going to war, and that this had a significant impact on the intelligence community from 2002 onward.^{xvi}

There are at least two cases where charges were made that should never have been made public. One such charge was the assertion by both the U.S. and British governments that there was evidence that Iraq had imported uranium **from Africa**. This assertion was made when the key source relating to Niger was already known to be fraudulent, and there was no credible evidence of supply by the Congo or Somalia.^{xvii} Part of the problem may have arisen because British and US intelligence did not share all of the data they had on this possibility.^{xviii} However, the key cause was political choices about the way in which uncertain indicators and warnings of forgery that overrode the recommendations of intelligence professionals not to use the material. Similarly, British claims that Iraq was able to deploy chemical and biological weapons within 45 minutes, including against its own Shi’ite population, later turned out to be based on a single unvalidated report from an Iraqi officer of very uncertain credibility.^{xix}

Senator Carl Levin, however, provided a much broader indictment of the US analysis in a speech to the Senate on July 15, 2003:^{xx}

Last week, CIA Director George Tenet accepted responsibility for having gone along with the African uranium statement in the President’s State of the Union address. His acknowledgment that it should not have been included in the address and his acceptance of responsibility were appropriate. But his explanation of the CIA’s acquiescence in allowing the use of a clearly misleading statement raises more questions than it answers, and statements by other administration officials, particularly National Security Adviser Condoleezza Rice, compound the problem.

Even more troubling, however, is the fact that the uranium statement appears to be but one of a number of several questionable statements and exaggerations by the Intelligence Community and Administration officials that were issued in the buildup to the war. The importance of objective and credible intelligence cannot be overstated. It is therefore essential that we have a thorough, open and bipartisan inquiry into the objectivity, credibility and use of U.S. intelligence before the Iraq War.

First, relative to the uranium issue: the President in his State of the Union message said that the British government had learned that Iraq recently sought to purchase significant quantities of uranium from Africa. The sole purpose of that statement was to make the American people believe that the American government believed the statement to be true and that it was strong evidence of Iraq’s attempt to obtain nuclear weapons. But the truth was that, at the very time the words were spoken, our government did not believe it was true. Condoleezza Rice’s effort to justify the statement on the grounds that it was “technically accurate” doesn’t address the heart of the matter, which is that the statement was calculated to create a false impression. It is simply

wrong to make a statement whose purpose is to make people believe something when you do not believe it yourself.

It is all well and good that the CIA has acknowledged its role in caving in to pressure from the National Security Council to concur in something which it did not believe. But Director Tenet's acknowledgment raises further questions of who was pushing the false impression at the National Security Council. The

NSC should not misuse intelligence that way. The President's statement that Iraq was attempting to acquire African uranium was not a "mistake." It was not inadvertent. It was not a slip. It was negotiated between the CIA and the NSC. It was calculated. It was misleading. And what compounds its misleading nature is that the CIA not only "differed with the British dossier on the reliability of the uranium reporting."

To use Director Tenet's words, but the CIA had also "expressed [its] reservations," again using Director Tenet's words, to the British in September 2002, nearly five months before the State of Union address. Furthermore, the CIA pressed the White House to remove a similar reference from the President's speech on October 7, 2002, and the White House did so - nearly four months before the State of the Union address.

The uranium issue is not just about sixteen words. It is about the conscious decisions that were made, apparently by the NSC and concurred in by the CIA, to create a false impression. And it is not an isolated example. There is troubling evidence of other dubious statements and exaggerations by the Intelligence Community and Administration officials.

Aluminum tubes: In a speech before the UN General Assembly on September 12th, 2002, President Bush said "Iraq has made several attempts to buy high-strength aluminum tubes used to enrich uranium for a nuclear weapon." In fact, an unclassified intelligence assessment in October acknowledged that some intelligence specialists "believe that these tubes are probably intended for conventional weapons programs," and on February 5th, 2003, Secretary of State Colin Powell told the UN Security Council that "we all know there are differences of opinion," and that "there is controversy about what these tubes are for." The International Atomic Energy Agency, after conducting an inquiry into the aluminum tubes issue concluded they were not for uranium enrichment.

Iraq-al Qaeda connection: On September 27 of last year, Secretary of Defense Donald Rumsfeld described the Administration's search for hard evidence for a connection between Iraq and al Qaeda. He said, "we ended up with five or six sentences that were bullet-proof. We could say them, they are factual, they are exactly accurate. They demonstrate that there are in fact al Qaeda in Iraq." While Secretary Rumsfeld later went on to say, "they are not beyond a reasonable doubt," he did not say there was considerable uncertainty in the Intelligence Community about the nature and extent of ties, if any, between Iraq and al Qaeda. It was certainly never a "bullet-proof" case.

Nuclear reconstitution: Last Sunday, Ms. Rice said, "we have never said that we thought he [Saddam] had nuclear weapons." But Vice President Cheney said on March 16 "we believe he [Saddam] has, in fact, reconstituted nuclear weapons."

Certainty that Iraq possesses chemical and biological weapons: On August 26, 2002, Vice President Cheney said: "Simply stated, there is no doubt that Saddam Hussein now has weapons of mass destruction. There is no doubt he is amassing them to use against our friends, against our allies, and against us."

On September 26, 2002, President Bush said, "The Iraqi regime possesses biological and chemical weapons." On March 17, 2003, President Bush told the nation that "intelligence gathered by this and other governments leaves no doubt that the Iraq regime continues to possess and conceal some of the most lethal

weapons ever devised." And on March 30, 2003, Secretary of Defense Donald Rumsfeld said, "We know where they [weapons of mass destruction] are. They're in the area around Tikrit and Baghdad and east, west, south and north somewhat." The fruitless search to date for Saddam Hussein's weapons of mass destruction

during and after our entry into Iraq suggests that our intelligence was either way off the mark or seriously stretched.

Mobile biological warfare labs: On May 28, 2003, the CIA posted on its website a document it prepared with the Defense Intelligence Agency entitled "Iraqi Mobile Biological Warfare Agent Production Plants." This report concluded that the two trailers found in Iraq were for biological warfare agent production, even though other experts and intelligence community members do not agree with that conclusion, or believe there is not enough evidence to reach such a conclusion. None of these alternative views were posted on the CIA's web page.

White House Web Site Photos: On October 8, 2002, the White House placed three sets of satellite photos on its web site, with the headline "Construction at three Iraqi nuclear weapons-related facilities". Although one of the facilities was not nuclear-related, the captions of the photos gave the impression that Iraq was proceeding with work on weapons of mass destruction at these facilities, although UNMOVIC and IAEA inspections at these facilities found no prohibited activities or weapons. For the Al Furat Manufacturing

Facility, the caption notes that "the building was originally intended to house a centrifuge enrichment cascade operation supporting Iraq's uranium enrichment efforts," and that after construction resumed in 2001, "the building appears operational."

So the misleading statement about African uranium is not an isolated issue. There is a significant amount of troubling evidence that it was part of a pattern of exaggeration and misleading statements. That is what a thorough, open and bipartisan investigation should examine.

Finally, Mr. President, again relative to the uranium statement, I am deeply troubled by Ms. Rice's continuing justification of the use of the statement in the President's State of the Union address. She repeatedly says it was "accurate," despite the fact that its clear aim was to create a false impression. Her statement and Director Tenet's statement raise more questions than they answer. Here are some of those questions:

1. Who in the Administration was pressing the CIA to concur in a statement that the CIA did not believe was true, and why did they do so even after the CIA objected to the text?
2. Who at the CIA was involved in pressing the White House to remove the similar reference from the October 7th speech, and what reasons did they give for removing it?
3. Who in the White House was involved in removing a similar reference from the President's speech on October 7th, nearly four months before the State of the Union speech?
4. Who at the CIA knew about the decision to tell the British intelligence service in September, 2002 of CIA's "reservations" about the inclusion of references to Iraqi efforts to obtain uranium from Africa in the British intelligence service's September 24 dossier?
5. Given the doubts of the U.S. Intelligence Community, why didn't the President say in his State of the Union speech not only that "The British government has learned that Saddam Hussein recently sought significant quantities of uranium from Africa," but that "our U.S. Intelligence Community has serious doubts about such reporting"?
6. How and when did the US government receive the forged documents on Niger, and when did it become aware that they might be bogus?
7. What role did the Office of the Vice President have in bringing about an inquiry into Iraq's purported efforts to obtain uranium from Africa? Was the Vice President's staff briefed on the results of Ambassador Wilson's trip to Africa?

These and many other questions underscore the critical importance of a thorough, open and bipartisan inquiry into the objectivity and credibility of intelligence concerning the presence of weapons of mass destruction in Iraq immediately before the war and the alleged Iraq-al Qaeda connection, and the use of such intelligence by the Department of Defense in policy decisions, military planning and the conduct of operations in Iraq.

Like many similar speeches by members of the Australian and British Parliaments, Senator Levin's speech clearly had the motive of politicizing the politicization of intelligence. Both the issues and questions that Senator Levin raised were valid, however, even if they did focus on politics rather than the problems in intelligence analysis and capability. They also illustrate the "backlash" effect that is almost inevitable when short-term political priorities ignore long-term consequences.

In Britain, much of the political character of what was said came as the result of more direct interference in the reporting of the British intelligence community by the Prime Minister's office, and particularly by Alastair Campbell and other special advisors to the Prime Minister who sought to create the strongest possible political case. A report by the House of Commons Foreign Affairs Committee noted enough problems in the way the British estimate of Iraqi capabilities were generated to call it the "dodgy dossier."^{xxi}

The report cleared Campbell of a direct role in British claims that Iraq could use weapons of mass destruction with only 45 minutes notice, but noted deep concerns about the fact this claim was ever made and the way in which the British government made and defended claims relating to Iraq's attempts to purchase Uranium ore. It also noted that Alastair Campbell chaired intelligence meetings for which he had no background or qualifications, and that placing the review of the data under Campbell and the Iraqi Communications Group he chaired, and the Coalition Information Centre, "were contributory factors to the affair of the 'dodgy dossier'."^{xxii}

The British reporting on the Iraqi threat presented further problems because the intelligence report presented by the British government copied text from the work of a graduate student.^{xxiii} The House of Commons Foreign Affairs Committee report stated that we, "conclude that it is wholly unacceptable for the Government to plagiarize work without attribution and to amend it without either highlighting the amendments or gaining the assent of the original author."^{xxiv}

Moreover, a detailed comparisons of the British and CIA reports shows that the British document often implied that intelligence had more certainty than the US document, although both governments shared virtually the same intelligence. It is clear from the investigation by the British parliament that this was partly because the British report had a much heavier degree of editing by the Prime Minister's office.

In general, political spin artists and public relations experts have zero background in the details of intelligence, and are among the last people who can ensure the credibility of the product. This is a lesson confirmed by less serious problems in the speeches on the subject by President Bush, Secretary Powell, National Security Advisor Rice, and Deputy Secretary Wolfowitz.

The Need for Rapid and Reliable Characterization of Chemical and Biological Agents and the Coalition Intelligence Effort

The problems in the intelligence efforts of the United States and other Coalition members affected warfighting as well as the politics of the war. Despite all of the advances in IS&R capabilities, and despite more than a decade of additional intelligence collection and targeting experience, the United States and its allies were just as unable to characterize and target Iraq's capabilities to use, produce, and deliver weapons of mass

destruction during military operations as they had been during Desert Storm and Desert Fox. If anything, the United States was more successful in the Gulf War, although many of its limited successes during that war were more the accidental result of hitting secondary targets than the product of intelligence analysis and military planning.

Each of the military services had to plan before and throughout the Iraq War for the risk that Iraq would use weapons of mass destruction. General John P. Abizaid, General Franks' deputy during the war and the new commander of USCENTCOM, described the situation as follows to the Senate Armed Services Committee:^{xxv}

Intelligence was the most accurate I've ever seen on the tactical level, probably the best I've ever seen on the operational level, and perplexingly incomplete on the strategic level with regard to weapons of mass destruction. It is perplexing to me...that we have not found weapons of mass destruction, when the evidence was so pervasive that it would exist...I can't offer a reasonable explanation....

Lt. Gen. James Conway, commander, First Marine Expeditionary Force describes the problems created by such uncertainties as follows:^{xxvi}

...we were... not hit with weapons of mass destruction—I think we had four triggers that we were prepared to defend ourselves against—different times when we thought that the regime might try to employ the weapons of mass destruction against us. And we truly thought that they were distributed—not to everybody, not to the regular army divisions that we saw in the south. But my personal belief was that they probably did reside in the Republican Guard units, and we encountered, arguably, three, maybe four, Republican Guard divisions on the way to Baghdad. But my personal belief was that the Republican Guard corps commander probably had release authority, and that we might well see them when we started to encounter his force or enter his area.

It was a surprise to me then, it remains a surprise to me now, that we have not uncovered weapons, as you say, in some of the forward dispersal sites. Again, believe me, it's not for lack of trying. We've been to virtually every ammunition supply point between the Kuwaiti border and Baghdad, but they're simply not there. Now, what that means in terms of intelligence failure, I think, is too strong a word to use at this point. What the regime was intending to do in terms of its use of the weapons, we thought we understood or we certainly had our best guess, our most dangerous, our most likely courses of action that the intelligence folks were giving us. We were simply wrong. But whether or not we're wrong at the national level, I think, still very much remains to be seen.

It is important to note that from an operational point of view, no commander could know whether weapons of mass destruction could or would be used until the end of the war. There were many cases where units had to use protective gear, and the speed of maneuver involved significant potential risk in the face of any sudden Iraqi escalation to the use of such weapons.

In many cases, more sophisticated and quicker reacting detectors and grids could have reduced the strain on U.S. and British forces. It is also clear from the results of the search for weapons of mass destruction during and after the war that **current** field equipment cannot rapidly and accurately characterize some chemical and biological threats and can produce serious false alarms. In case after case, units encountering suspect facilities and weapons produced a false positive finding that could be disproved only after further testing in the rear.

Problems also still exist in using protection suits in combat. While reporting to date is anecdotal, several field reports indicate the equipment produced significant fatigue and interfered in operations. One typical field report states:

We had guys tripping over their floppy MOPP boots trying to attack trench lines. One guy tripped, fell into a trench, and found himself fighting with a Republican Guardsman. Shot him in the head, by the way, and then took his MOPP boots off and tossed them out of frustration. Regardless of what people say, you can't do fire and movement effectively in the shit for extended periods.

This point is further illustrated in the report on the lessons of the war by the commanding general of the 1 Marine Division:^{xxvii}

During the planning phase for offensive operations in Iraq, it became apparent that the Division had insufficient decontamination capability to free us from contamination without siphoning off combat capability. The doctrine for NBC decontamination states that the NBC section needs augmentation from combat engineers, motor transport, and other Division elements. We assigned this task to 3rd AA Battalion along with the additional task of traffic management control. The Division NBC Platoon augmented the battalion to provide expertise and support. Decontamination sites were placed by water sources because the Division does not have the organic capability to transport the volume of water necessary to conduct decontamination operations.

Recommendation: ... Adopt the doctrinal roles of operational decontamination and traffic management and control. The Division possesses a more robust capability, in both personnel and equipment, to achieve the ability to conduct decontamination at the rate of one company per hour. CSS assets should be tasked with providing the water for the decontamination site to keep the location independent of local water sources.

Assessing proliferation is not simply an intelligence or policy problem, it is an operational problem. The greater the uncertainty, the greater the operational dilemma in choosing between protective and defensive measures and in maintaining the tempo and focus of combat. If the Iraq War provides a lesson in this area, it is that the United States and its allies have no reliable way as yet to reduce this dilemma, reduce the risks involved, or reliably deal with this aspect of asymmetric warfare.

Organized Searches for Weapons of Mass Destruction in Proliferating Countries: The Search During and After the War

The Iraq War provides important lessons about the need to search for possible weapons of mass destruction and sensitive facilities during a war, and the need to secure such facilities as soon as possible. The United States did carry out an ongoing effort to find and secure Iraqi weapons of mass destruction and related facilities as it advanced. But this effort had limited manning and uncertain intelligence support, and could provide only limited coverage. The United States lacked an effective plan and coordinated effort to secure Iraq's WMD and missile facilities as U.S. forces advanced, and some—including nuclear facilities—were looted as a result.

The United States was so convinced that it would find large stocks of Iraqi weapons and/or major ongoing proliferation efforts that it failed to formulate a clear strategy for dealing with the almost inevitable charges that it would conceal the facts. It was similarly unprepared for challenges in the UN over the lifting of sanctions^{xxviii}

The mix of biologists, chemists, nuclear experts, arms control experts, computer and document experts, and special forces troops **put together by the United States to search for Iraq's weapons of mass destruction and delivery systems** was tailored around the case that Saddam had deployed **WMD** and had given his commanders authority to use them under certain circumstances.^{xxix} It did not really have the scale, expertise, or language skills to deal with other types of Iraqi proliferation activity—such as covert

research and development efforts, tracking down complex patterns of illegal imports, locating and interviewing scientists, searching out concealed and dispersed facilities, and analyzing possible destruction sites.

The United States made little preparation for conducting a timely disarmament and inspection effort with a credible audit trail. It relied on U.S. teams operating without international support and observers. It did not aggressively seek to include the UN. The inclusion of UNMOVIC and the IAEA would certainly have created political problems, but the United States does not seem to have been sensitive to the need to create teams that would have a high degree of international credibility.^{xxx}

The Initial Search Effort

During the war, the U.S. military tasked various elements of Special Forces and other units to search for weapons of mass destruction as U.S. forces advanced into Iraq. The overall level of equipment and training was limited, however, and many units overreacted to suspected sites and failed to properly characterize the weapons, equipment, facilities, and substances they found.^{xxx} Task Force 20, the U.S. Army Special Forces team that had a key mission in this search, was deployed in March, evidently before the actual fighting began. However, the team in Task Force 20 was relatively small and had the much broader mission of looking for key figures in the Iraqi leadership. Similar problems in resources and mission focus affected many of the other special purpose teams involved.^{xxxii}

The main initial U.S. effort was conducted by a 600-person group called the 75th Exploitation Task Force. It was supported by the 513th military intelligence brigade and a smaller effort sent in by the Defense Threat Reduction Agency. These specialists spent most of their time at first going through known facilities slowly and by the numbers. They focused on the facilities most likely to have been vacated months earlier because they were known to be targets both for UNMOVIC and U.S. military action. But they failed to ensure that the United States secured key declared facilities like the nuclear facilities subject to IAEA inspection.^{xxxiii}

There are conflicting reports about the pace of the initial search effort. One source reports that as of early May, the United States “had secured only 44 of the 85 top potential weapons sites in the Baghdad area and 153 of the 372 considered most important to rebuilding Iraq's government and economy.”^{xxxiv} Another states that the U.S. inspections teams had visited 19 top weapons sites, with two left for investigation, and that they had surveyed another 45 out of 68 top “non-WMD sites”—sites without known links to weapons of mass destruction, but suspect as potential sites.^{xxxv} In still another report, the 75th Exploitation Task Force was reported to have visited some 300 facilities by the end of May.^{xxxvi} The true scale of the targeting and search problem may best be indicated by the fact that Stephen A. Cambone, the under secretary of defense for intelligence, announced on May 30 that only 70 of roughly 600 potential weapons facilities on an “integrated master site list” prepared by U.S. intelligence agencies before the war had been examined.^{xxxvii}

Expanding the Effort and Creating the Iraq Survey Group (ISG)

As time went on, the growing political and military problems created by the lack of an effective wartime and early postwar search effort forced the United States to greatly expand its search team and give it far more capability. In late May, the United States announced it would supplement the 75th Exploitation Task Force with a much larger Iraq Survey Group (ISG) that included elements from the U.S., British, and Australian intelligence communities. The search effort expanded to the point where the ISG was manned by between 1,300 and 1,400 people from the U.S. government and from the United Kingdom and Australia.

The way the United States initially approached the postwar effort to survey Iraq's weapons of mass destruction, and the reasons for creating the ISG, are described as follows in a Department of Defense briefing on May 7, 2003:^{xxxviii}

The command, USCENTCOM, has a command inside of Iraq known as the Coalition Land Component Commander—Coalition Forces Land Component Commander or CFLCC...And each day, within that organization in what they have as their operation center, which is known as the C3, they sit down and work through their priorities. That priority list itself has been pulled together as a consequence of information that we had going into the conflict of sites that we thought important. As you know, there are some thousand sites that we identified; those sites included not just weapons of mass destruction sites, but also prisoner of war—prisoner camps—prisons, rather, prisoner of war locations, terrorist camps and facilities, as well as regime and leadership targets. So there are some thousand of them, roughly, of which about half are related to weapons of mass destruction..

...As it stands now, we have been to about 70 sites that we were looking to cover. Now, what's interesting about that is that those are the 70 sites that were on the list when we started. Since then, we have been to about another 40 which have come to light as a consequence of this process that I have been describing to you here. And the way this works is with respect to a WMD site in particular, once it's been identified, there is a survey team, which may have been there already, having come up with the troops as they came through the countryside, or sent out in advance. And they will go to the site, they will do a survey and determine whether or not it's important for more advanced units to come in and take a look at what's there. So, it's a site survey team. And so their job is done.

Next would come in a mobile exploitation team, an MET, as they're being called, which would do a much more thorough assessment of the site and also inspect any additional sites that USCENTCOM might have recommended.

And then, to the extent you need disablement of a facility or a capability in the site, there are disablement teams that are sent out to disarm, or render safe or destroy those—any delivery systems, weapons, agents or facilities that might be found.

Now, the organization that currently is assigned this mission is...known as the 75th Group. It is assigned this discovery and exploitation mission. It, in turn, is supported by a military intelligence brigade, the 513th. These units have been, by the by, in theater for a very long period of time.

The expertise within the 75th Group extends across some 600 people, and they are distributed across interrogators, interviewers, people who do the document exploitations, the material exploitation and the analysts; that is, the people who each day sort of come together, take the information that's come on board and try then to make recommendations about what might be done next. The expertise within the group is made up of people from the Central Intelligence Agency, the Defense Intelligence Agency, from the individual services, from DTRA, the Defense Threat Reduction Agency, the FBI, and then there are coalition partners who, themselves, are part of this ongoing effort.

That group, the 75th, will soon, toward the end of this month, begin to have an augmentation take place, and that will be done under the auspices of what we're calling the Iraq Survey Group. That group will be headed by a two-star general, a major general, Keith Dayton, who, as it turns out, is a member of Admiral Jacoby's staff. He will take the lead for the discovery and the exploitation that we have been talking about. And in particular, its mission is to discover, take custody of, exploit and disseminate information on individuals, records, materials, facilities, networks and operations as appropriate relative to individuals associated with the regime, weapons of mass destruction, terrorists and terrorist ties and their organizations, information having to do with the Iraqi Intelligence, Security and Overseas Services, and those accused of war crimes and crimes against humanity, and POWs. So it's a very large undertaking of which the weapons of mass destruction effort is a part in an important part of that effort, but only a part.

The organization will pretty much double or triple in size. There'll be some 1,300 experts who will be associated with this organization, plus another support element of maybe another 800. So you're talking about 2,000 people, more or less, who will begin arriving with the lead elements of the command starting toward the end of this month and the expertise, again, from the organizations I described a moment ago and will include, as well, people from Treasury, some of whom are already in theater, by the way, as well as U.S. citizens who had been in the past UNSCOM inspectors, some other contractors, and again, our coalition partners.

Now, that effort is going to be supported by a fusion cell that is being constructed here in Washington, again under the executive agency of the Defense Intelligence Agency. It is made up of experts from around the United States government. And they receive information from the 75th Group now, and they will receive it from the ISG as it stands up. And their job is going to be to do that kind of in-depth analysis that's necessary in order to make this a successful effort over time.

...When one comes across a site where we think that we need to be taking samples, for example, there are roughly four sets of samples taken, one for processing in-theater, two are sent here to the United States, and another one is sent to a non-U.S. laboratory for independent analysis and the verification of the results of those tests. And there is a very strict chain of custody process that is put in place to assure that those samples are not tampered with either in the theater, in transit, when they're in the laboratories, or when the results come back to us here. That's all supplemented, then, as I said a moment ago, by interviewing the personnel who we think are involved. I made mention to you that the subordinate scientists as well as the lead scientists are being interviewed. The regime figures are interviewed. We go through the documents and so forth. And then, if we find we've got to dispose of materials, we do so in a way that is safe for all concerned.

The ISG's main center of activity remained in Iraq, with a headquarters in Baghdad and additional facilities in Qatar. Its collection operation included a joint interrogation debriefing center, a joint matériel exploitation center, chemical and biological intelligence support teams and an ISG operation center. Its main analytic effort was co-located with the CENTCOM forward headquarters in Qatar, along with its combined media processing center. The ISG had liaison elements with CJTF-7 in Kuwait and with other U.S. government agencies inside Iraq and an intelligence fusion center in Washington, D.C. All of its elements were linked electronically.^{xxxix}

Conversion to a Forensic Search Effort

Somewhat ironically, the Coalition's search for Iraqi weapons of mass destruction was forced to take on much of the character of the previous UNMOVIC effort. It had to shift from a search for warfighting capability to a much more forensic effort to search through Iraqi records and facilities, a task greatly complicated by its inability to **safeguard** many key facilities from looting. Douglas Feith, the under secretary of defense for policy, and Lt. General Norman Schwartz, director of operations of the Joint Staff, testified to the House International Relations Committee in May that the Bush administration now

estimated that the process of determining Iraq's true level of proliferation could take years, and that no new chemical and biological weapons had yet been found.^{x1} Moreover, the United States was forced to allow the International Atomic Energy Agency to resume its inspection efforts.^{x1i}

It is still unclear what this search effort will find. In late June, U.S. officials were talking about the need to go through tons of documents. They noted that the United States had taken custody of only 69 of some 255 top Iraqi officials who might know something about Iraq's WMD effort, and only 7 of some 3,152 lower-ranking officials. They also stated that the United States had conducted meaningful inspections of 157 of 578 suspect sites.^{x1ii}

As of July 2003, the U.S. search effort **still** had not shown that any suspect site was a valid military target. It also had **not** found any valid evidence that a significant Iraqi capability to use weapons of mass destruction existed before the war, or that Iraq had any major imminent capability to produce such weapons. The only meaningful discoveries were buried plans and parts for a centrifuge design dating back to 1991 and what appeared to be two trailers designed to produce biological weapons.^{x1iii}

It seems certain, given the results of the UNSCOM and UNMOVIC effort, that the United States will find some evidence of an ongoing **WMD** program. But it is far from clear what kind of Iraqi program and effort will emerge. The centrifuge discovery did nothing to shed significant light on recent Iraqi efforts.^{x1iv} The trailers may well be a more significant discovery, and the CIA has made a powerful case to this effect. But even experts within the U.S. intelligence community—particularly within the State Department—dispute whether the trailers were really being used for biological weapons purposes.^{x1v} This again illustrates the inherent uncertainty surrounding estimates of proliferation and foreign WMD capabilities.

Lessons for the Future

The end result so far of the entire intelligence and search effort relating to Iraqi weapons of mass destruction has been to strengthen those who argued against the war and who have since sought to discredit or block a Coalition-led nation-building effort. It also threatens to become a specter that will haunt any future U.S. and allied efforts to deal with the threat of proliferation, particularly in winning domestic and international political support for military or preemptive action.

The solution to some extent is to admit the scale of problems that exist in the collection and analytic effort and then make major efforts to reduce them. It is also to lay the groundwork for any future action in a crisis by systematically educating decisionmakers, the media, and the public about the inevitable level of uncertainty in such assessments; this can be done through a series of classified and unclassified intelligence products that are as detailed and objective as possible. Credibility and understanding have to be created over a period of years, not in a crisis. Moreover, the United States and Britain need to understand that the Iraq War has left a heritage of distrust that must be overcome.

It is not enough to have a preemptive strategy. The key argument for preemptive attack must be that it is in fact preemptive and that the potential threat is real enough to justify a major war. Legalistic arguments over whether threats must be imminent may have only

secondary value in the real world. The need to unambiguously resolve the kind of uncertainties that surrounded the Iraqi effort in weapons of mass destruction in both the Gulf War and Iraq War is a critical national priority, however. So is the need to examine far more intrusive methods of data gathering, such as unattended ground sensors. If the choice is between infractions of national sovereignty, on the one hand, and war or unacceptable risks on the other, aggressive intelligence gathering and infractions of national sovereignty are by far the better course,

There are two important corollaries of this lesson. The first is that until this aspect of intelligence can be greatly improved and made far more accurate and reliable, the United States, Britain, and other nations must place primary reliance on both operational and national defense and response capabilities. Missile defense is only one of these capabilities and currently may have limited cost-effectiveness. The fact the United States could never characterize Iraqi links to terrorism or Iraq's ability to make covert use of weapons like smallpox is a warning that defense and response must look at the full range of threats and possible asymmetric attacks.

The second corollary is that the problems involved go far beyond any failures on the part of the United States. Over a decade of the most intrusive international inspection of a country in history also failed to characterize its efforts in weapons of mass destruction and delivery systems, and failed to disarm it. It is easy to focus on the fact that the United States and Britain may have exaggerated the threat and miss the point,

The United Nations accomplished a great deal, and the work of the IAEA, UNSCOM, and UNMOVIC merits the world's gratitude and respect. What could be done was done. Nevertheless, an intensive international arms control effort by UNSCOM, the IAEA, and UNMOVIC -- using better means of inspection and arms control to deal with Iraq than now cover any other nation in the world -- was still inadequate. This is a grim warning that major improvements are needed in the scope, intrusiveness, technology, and intelligence support provided for international arms control efforts if they are to be effective, and if they are ever to be an effective substitute for preemptive or other military action.

ⁱ Many of the comments made in this section are based on interviews with U.S., British, and Australian officials, officers, and experts after the war, and the author's prior experience in analyzing proliferation. There are many useful press reports that have emerged since the war. **In addition to those referenced later in this chapter**, these include Warren P. Strobel and John Walcott, "CIA Lack Info To Counter Claims About Iraqi Weapons," *Miami Herald*, June 3, 2003; James Risen, "Word that US Doubted Iraq Would Use Gas," *New York Times*, June 18, 2003; Bruce Auster, Mark Mazetti, and Edward Pound, "Truth and Consequences," *U.S. News and World Report*, June 9, 2003; Evan Thomas, Richard Wolffe, and Michael Isikoff, "Where are Iraq's WMDs?" *Newsweek*, June 9, 2003; Michael Duffy, "Weapons of Mass Disappearance," *Time*, June 9, 2003; James Risen, "Iraq Arms Report Now the Subject of A CIA review," *New York Times*, June 4, 2003; Maggie Farley, "Blix's Final Words to Security Council are Words of Caution," *Los Angeles Times*, June 6, 2003; Tony Capaccio, "Pentagon 2002 Study Reported No Reliable Data on Iraq Weapons," *Bloomberg.com*, June 6, 2003;

ⁱⁱ All of the following points are quoted, with minor editing and reformatting, from the British ("Iraq's Weapons of Mass Destruction—The assessment of the British Government," September 24, 2002 -

<http://www.pmo.gov.uk/output/page271.asp>) and U.S. (CIA, "Iraq's Weapons of Mass Destruction Programs," "October 4, 2002-
http://www.governmentguide.com/govsite.adp?bread=*Main&url=http%3A//www.governmentguide.com/ams/clickThruRedirect.adp%3F55076483%2C16920155%2Chttp%3A//www.cia.gov) White Papers. Additional British charges against Iraq for concealing evidence of its weapons of mass destruction can be found in a second white paper: "Iraq: Its Infrastructure of Concealment, Deception and Intimidation," October 7, 2002, <http://www.number-10.gov.uk/output/Page1470.asp>.

ⁱⁱⁱ For an interesting discussion of the problems in assessing dual-use facilities in Iraq, see Walter Pincus, "Weapons Linked to Dual Use Facilities in Iraq," *Washington Post*, June 2, 2003.

^{iv} For some additional data on this aspect of these assessments made of Iraq, see Bill Gertz, "Iraqi Group Aid CIA Intelligence," *Washington Times*, June 12, 2003; John Diamond, "Broad Purges Wiped Out Most Iraqis Helping CIA," *USA Today*, June 17, 2003; John Diamond, "Weak Spy Network Hurt Hunt for Arms," *USA Today*, June 17, 2003.

^v Earlier unclassified CIA reports on problems like the ballistic missile threat often projected alternative levels of current and future capability. The qualifications and possible futures are far less well defined in more recent reports. For example, see CIA, Unclassified Summary of a National Intelligence Estimate, Foreign Missile Developments and the Ballistic Missile Threat Through 2015," National Intelligence Council, December 2001, http://www.cia.gov/nic/pubs/other_products/Unclassifiedballisticmissilefinal.htm.

^{vi} There is no way to determine just how much the Special Plans Office team set up within the office of the Secretary of Defense to analyze the threat in Iraq was designed to produce a given conclusion or politicized intelligence. The Department has denied this, and stated that the team created within its policy office was not working Iraqi per se, but on global terrorist interconnections. It also stated that the Special Plans Office was never tied to the Intelligence Collection Program—a program to debrief Iraqi defectors—and relied on CIA inputs for its analysis. It states that simply conducted a review, presented its findings in August 2002, and its members returned to other duties. See Jim Garamone, "Policy Chief Seeks to Clear Intelligence Record," American Forces Information Service, June 3, 2003; and Briefing on policy and intelligence matters, Douglas J. Feith, under secretary of defense for policy, and William J. Luti, deputy under secretary of defense for special plans and Near East and South Asian affairs, June 4, 2003, <http://www.defenselink.mil/transcripts/2003/tr20030604-0248.html>.

Some intelligence experts dispute this view, however, and claim the team's effort was used to put pressure on the intelligence community. Such "B-teams" also have a mixed history. They did help identify an intelligence community tendency to underestimate Soviet strategic nuclear efforts during the Cold War. The threat analysis of missile threats posed to the United States by the "Rumsfeld Commission," however, was a heavily one-sided assessment designed to justify national missile defense. Also see Greg Miller, "Pentagon Defends Role of Intelligence Unit on Iraq," *Los Angeles Times*, June 5, 2003; and David S. Cloud, "The Case for War Relied on Selective Intelligence," *Wall Street Journal*, June 5, 2003..

^{vii} Some press sources cite what they claim is a deliberate effort to ignore a September 2002 DIA report on Iraqi chemical weapons capabilities called "Iraq-Key WMD Facilities-An Operational Support Study." See James Risen, "Word that US Doubted Iraq Would Use Gas," *New York Times*, June 18, 2003 and Tony Capaccio, "Pentagon 2002 Study Reported No Reliable Data on Iraq Weapons," *USA Today*, June 6, 2003.

In fact, the unclassified excerpts from the DIA report, show that DIA was not stating that Iraqi did not have chemical weapons, but rather that it had, No reliable information on whether Iraq is producing and stockpiling chemical weapons, or where Iraq has—or will—establish its chemical weapons facilities." The report went on to say that, "although we lack any direct information, Iraq probably possess CW agent in chemical munitions, possibly include artillery rockets, artillery shells, aerial bombs, and ballistic missile warheads. Baghdad also probably possess bulk chemical stockpiles, primarily containing precursors, but that also could consist of some mustard agent of stabilized VX."

If anything, the report is a classic example of what happens when intelligence reports do state uncertainty and of how the user misreads or misuses the result.

^{viii} See Felicity Barringer, "UN Inspectors Say Baghdad Never Resolved Arms Issues," *New York Times*, June 3, 2003; Maggie Farley, "Blix's Final Words top Security Council on Iraq are of Caution," *Los Angeles Times*, June 6, 2003; Bob Drogan, "UN Nuclear Experts Back In Iraq," *Los Angeles Times*, June 6, 2003; "UN Nuclear Team Heads for Iraq," BBC News, June 4, 2003, 0943 GMT.

^{ix} “The Executive Chairman provides the Security Council with an update required by the Security Council 60 days after the resumption of inspections in Iraq,” <http://www.un.org/Depts/unmovic/>. Taken from transcript provided by ABC News.

^x <http://www.iaea.org/worldatom/Documents/>. Transcript provided by ABC News.

^{xi} “The Executive Chairman provides the Security Council with an update on UNMOVICs work,” <http://www.un.org/Depts/unmovic/>. Taken from transcript provided by ABC News.

^{xii} “Twelfth Quarterly Report,” Note by the Secretary General, February 28, 2003, S/2003/232, <http://www.un.org/Depts/unmovic/>.

^{xiii} Hans Blix, Executive Chairman of UNMOVIC, “Notes for briefing of the Security Council on the thirteenth quarterly report of UNMOVIC,” June 5, 2003, <http://www.un.org/Depts/unmovic/>.

^{xiv} Rolf Ekeus, “Iraq’s Real Weapons Threat,” *Washington Post*, June 29, 2003, p. B7. For the full text of the report, see the thirteenth report of the Executive Chairman of the UN Monitoring, Verification, and Inspection Commission, S/2003/580, May 30, 2003.

^{xv} In addition to the previous sources, see James Risen, CIA Studying Prewar Reports on Iraqi Threat,” *New York Times*, May 22, 2003, p. 1; Walter Pincus, “Officials Defend Iraq Intelligence,” *Washington Post*, June 9, 2003; Walter Strobel and John Walcott, “CIA Lacked Info To Counter Claims About Iraq Weapons,” *Miami Herald*, June 3, 2003; David S. Cloud, “Case for War Relied on Selective Intelligence,” *Wall Street Journal*, June 5, 2003; James Risen, “Iraq Arms Report Now the Subject of A CIA Review,” *New York Times*, June 4, 2003; Dan Plesch and Richard Norton Taylor, “Straw, Powell Has Serious Doubts Over Their Iraqi Weapons Claims,” *The Guardian*, May 31, 2003; Julian Borger, “The Spies Who Pushed for War,” *The Guardian*, July 17, 2003; Glenn Frankel, “Blair Accused of Exaggerating Claims About Iraqi Weapons,” *Washington Post*, May 30, 2003; John Diamond, “Uranium Reports Doubted Early On,” *USA Today*, June 13, 2003; Walter Pincus, “CIA Says It Cabled Key Data to White House,” *Washington Post*, June 13, 2003; Walter Pincus, “Bush Recantation of Iraq Claim Stirs Calls for Probes,” *Washington Post*, July 9, 2003; Dana Milbank and Mike Allen, “Bush Skirts Queries on Iraq Nuclear Allegation,” *Washington Post*, July 10, 2003; Walter Pincus, “Tenet Says He Didn’t Know About Claim,” *Washington Post*, July 17, 2003..

^{xvi} In addition to the previous sources, see Walter Pincus and Dana Priest, “Analysts Cite Pressure on Iraq Judgments,” *Washington Post*, June 5, 2003; and Warren P. Strobel and John Walcott, “CIA lacked Info to Counter Claims About Iraqi Weapons,” *Miami Herald*, June 3, 2003.

^{xvii} Bill Gertz, “Iraqi Group Aided CIA Intelligence,” *Washington Times*, June 12, 2003.; Warren Hoge, “Iraq Report Mishandled, Blair Aide Concedes in Letter,” *New York Times*, June 9, 2003; Mark Huban and Mark Turner, “Evidence About Iraqi Uranium Not Fake,” *London Financial Times*, June 6, 2003, p. 3; Walter Pincus, “Officials Defend Iraq Intelligence,” *Washington Post*, June 9, 2003; Andrew Sparrow and Benedict Brogan, “Blair: I have Weapons Proof,” *London Daily Telegraph*, June 2, 2003; Glenn Frankel, “Blair Accused of Exaggerating Claims About Iraqi Weapons,” *Washington Post*, May 30, 2003; John Diamond, “Uranium Reports Doubted Early On,” *USA Today*, June 13, 2003; Walter Pincus, “CIA Says It Cabled Key Data to White House,” *Washington Post*, June 13, 2003; Walter Pincus, “Bush Recantation of Iraq Claim Stirs Calls for Probes,” *Washington Post*, July 9, 2003; Dana Milbank and Mike Allen, “Bush Skirts Queries on Iraq Nuclear Allegation,” *Washington Post*, July 10, 2003; Walter Pincus, “Tenet Says He Didn’t Know About Claim,” *Washington Post*, July 17, 2003.

^{xviii} Glenn Frankel, “Allies Didn’t Share All Intelligence on Iraq,” *Washington Post*, July 17, 2003; Mike Allen and Jim Vandhei, “Uranium Flap Dims Brief Visit by Blair,” *Washington Post*, July 17, 2003.

^{xix} “Serving Officer was 45-Minute claim Source,” *Times On Line*, June 15, 2003.

^{xx} Statement by Senator Carl Levin Regarding Iraq Intelligence, Office of Senator Carl Levin, July 15, 2003, Tara_Andringa@levin.senate.gov

^{xxi} For the full details, see House of Commons Foreign Affairs Committee, the Decision to Go to War in Iraq,” Ninth Report of Session 2003-03, House of Commons, London, July 3, 2003.

^{xxii} House of Commons Foreign Affairs Committee, the Decision to Go to War in Iraq,” Ninth Report of Session 2003-03, House of Commons, London, July 3, 2003.

^{xxiii} House of Commons Foreign Affairs Committee, the Decision to Go to War in Iraq,” Ninth Report of Session 2003-03, House of Commons, London, July 3, 2003.

^{xxiv} House of Commons Foreign Affairs Committee, the Decision to Go to War in Iraq,” Ninth Report of Session 2003-03, House of Commons, London, July 3, 2003.

^{xxv} John Hendren, “Weapons Reports Called Lacking,” *Los Angeles Times*, June 26, 2003.

^{xxvi} Lt. Gen. James Conway, commander, First Marine Expeditionary Force, "Live Briefing From Iraq, May 30, 2003, <http://www.defenselink.mil/transcripts/2003/tr20030530-0229.ht>.

^{xxvii} Commanding General, 1st Marine Division, "Operation Iraqi Freedom (OIF): Lessons Learned," MEF FRAGO 279-03, May 29, 2003.

^{xxviii} For example, see Seymour M. Hersh, "Annals of National Security: Selective Intelligence," *New Yorker*, May 12, 2003.

^{xxix} Barton Gellman, "Frustrated, U.S. Arms Team to Leave Iraq: Task Force Unable To Find Any Weapons," *Washington Post*, May 11, 2003, p. A1.

^{xxx} Bob Drogan, "New Hunt for Iraqi Arms Resembles Old," *Los Angeles Times*, June 18, 2003.

^{xxxi} William J. Broad, "U.S. Civilian Experts Say Bureaucracy and Infighting Jeopardize Search for Weapons," *New York Times*, April 16th, 2003; Dan Morse, "U.S. Troops Go House to House in Search of Chemical Weapons," *Wall Street Journal*, April 16, 2003; Judith Miller, "U.S. Inspectors Find No Forbidden Weapons at Iraqi Arms Plants," *New York Times*, April 16, 2003

^{xxxii} Barton Gellman, "Covert Unit Hunted for Iraqi Arms," *Washington Post*, June 13, 2003;

^{xxxiii} John J. Fialka, "U.S. Readies A Different Army to Search for Weapons in Iraq," *Wall Street Journal*, April 17, 2003,

^{xxxiv} Barton Gellman, "Frustrated, U.S. Arms Team to Leave Iraq: Task Force Unable To Find Any Weapons," *Washington Post*, May 11, 2003, p. A1.

^{xxxv} See Seymour M. Hersh, "Annals of National Security: Selective Intelligence," *New Yorker*, May 12, 2003, and Barton Gellman, "Frustrated, U.S. Arms Team to Leave Iraq: Task Force Unable To Find Any Weapons," *Washington Post*, May 11, 2003, p. A1.

^{xxxvi} "Briefing on the Iraq Survey Group," Stephen A. Cambone, under secretary of defense for intelligence, and Army Maj. Gen. Keith W. Dayton, director for operations, Defense Intelligence Agency, May 30, <http://www.defenselink.mil/transcripts/2003/tr20030530-0231.html>.

^{xxxvii} Seymour M. Hersh, "Annals of National Security: Selective Intelligence," *New Yorker*, May 12, 2003. The best reporting on the issue at this writing, however, can be found in Barton Gellman, "Frustrated, U.S. Arms Team to Leave Iraq: Task Force Unable To Find Any Weapons," *Washington Post*, May 11, 2003, p. A1.

^{xxxviii} Department of Defense Briefing, Stephen A. Cambone, USD (Intelligence) presenter, May 7, 2003, <http://www.defenselink.mil/transcripts/2003/tr20030507-0158.html>

^{xxxix} "Briefing on the Iraq Survey Group," Stephen A. Cambone, under secretary of defense for intelligence, and Army Maj. Gen. Keith W. Dayton, director for operations, Defense Intelligence Agency, May 30, <http://www.defenselink.mil/transcripts/2003/tr20030530-0231.html>.

^{xl} Bill Nichols, "Weapons Search Could Take Years," *USA Today*, May 16, 2003, p. 1; Judith Miller, "Radioactive Material Found at Test Site Near Baghdad," *New York Times*, May 12, 2003; Barton Gellman, "Seven Nuclear Sites Looted," *Washington Post*, May 10, 2003, p. 1.

^{xli} Bob Drogan, "UN Nuclear Experts Back In Iraq," *Los Angeles Times*, June 6, 2003; "UN Nuclear Team Heads for Iraq," BBC News, June 4, 2003, 0943 GMT; Bob Drogan, "New Hunt for Iraqi Arms Resembles Old," *Los Angeles Times*, June 18, 2003. The U.S. Department of Defense spokesman explained the role of the IAEA by stating that, "The purpose of the inspection is to inventory and assess the condition of the material that is under IAEA safeguards at the Baghdad yellow-cake storage facility. The material at this facility includes approximately 500 metric tons of safeguarded uranium and several non-fissile radioisotope sources that are not under IAEA safeguards. The uranium is mostly in the form of yellow cake, an isotopically natural form that is an impure oxide. There is a small quantity of low-enriched and depleted uranium. Typically, the IAEA would conduct an NPT safeguards inspection at this location annually. The last inspection was conducted in December of 2002. Given the changed circumstances, the United States has determined it would be helpful to have the IAEA reinventory this location. I would like to underscore, though, that this is a cooperative effort. The coalition will be providing necessary transportation, security and other minimal logistics to the team, which will consist of seven IAEA experts. The safeguards activity will be led by the IAEA under the protection and auspices of coalition forces. To ensure safety and protection, coalition forces will accompany the IAEA at all times. Coalition nuclear experts will also participate in the inspection and the inventory. Upon completion of the inventory, the IAEA will repackage the material as necessary, reseal all safeguarded rooms, buildings and containers as appropriate, and the coalition will, as appropriate, assist in this effort. I want to note that this access to the IAEA is not an IAEA inspection pursuant to the U.N. Security Council resolutions and does not set any precedent for future

IAEA involvement in Iraq in any disarmament or UNSCR-related activity. And lastly, we expect that the IAEA will share their findings with us as we work cooperatively on this effort.” U.S. Department of Defense spokesman explained the looting problem as follows: “Tuwaitha, as has been stated earlier, is about a 23,000-acre facility that's about 20 kilometers to the southeast of Baghdad. And Site Charlie, where radiological materials, principally yellow cake were stored, consists of three buildings, and they're surrounded by a fence and a wall of concrete barriers about 12 feet tall on three sides. According to reports from civilians in the area, on or about the 10th of March, Iraqi army forces who were guarding the site reportedly left their weapons—some of their weapons with the local civilians—and abandoned the site. We also believe, from talking to the local civilians, that on or about 20 March, the 20th of March, the civilians guarding the site abandoned it also. And, of course, we were conducting our attack across the Kuwaiti border on the 21st. On the 7th of April, U.S. Marines from our land component first arrived at Tuwaitha Site Charlie and assumed the security, and remained there until the 20th of April, when they turned over control of the facility to U.S. Army soldiers from another unit. And Tuwaitha Site Charlie has been secured and under the positive control of U.S. forces since the 7th of April. When the U.S. forces first arrived, they found the Tuwaitha site facility, Tuwaitha Charlie facility, in disarray. The front gate was open and unsecured, and the fence line and barrier wall on the back side of the facility had been breached. And the troops reported that there were no seals on the exterior doors of the buildings. But since taking control of Tuwaitha Site Charlie, no thieves or looters have been allowed inside the facility. We have taken several positive steps to try to mitigate any risks from Tuwaitha Charlie to either the soldiers or the population in the surrounding area or to the environment. And I'll list of a couple of those. Between the 8th and 10th of April, a team conducted an initial survey outside the buildings at Tuwaitha Charlie, and they determined that additional exploitation was required beyond their capability. And so the exploitation task force, the folks responsible for that operation, decided to keep the security at the site and to deny access to anyone except properly trained personnel. On the 18th of April, some Iraqi scientists from the Iraqi Atomic Energy Commission, who had worked at the facility, were allowed in to check the site and to mitigate any radiological hazards within their capability. And they moved some sources into a building from the concrete outside. On the 12th of May, our Threat Reduction Agency personnel arrived in Iraq and began planning for its operation at Tuwaitha Charlie. And between the 15th and 20th of May, our task force disablement and elimination team conducted its technical assessment and an inventory of what was there. And from what we know at this time, the quantity of materials we have found at the site exceeds the quantity of materials that we had assessed would be present at the site. On the 18th of May, a direct support team teamed up with the Coalition Provisional Authority personnel and some additional people from IAEC, the Iraqi Atomic Energy Commission, and they decided to conduct a buy-back operation because the troops were starting to hear stories that some of the barrels—there were barrels in the local community that resembled those that were at the site. The team went to two villages and offered to pay \$3 a piece for any items that may have come from the facility, and they pointed out what these items might look like. The team recovered over 100 barrels of various sizes and shapes and condition, as well as five radioactive sources and some other items. But virtually none of the people admitted to having taken the items from the facility. They said they had bought them. And indeed, barrels like these are ubiquitous around Iraq. And although there are some similar containers available in markets—and the same type barrels are sometimes found in people's homes. The team checked the items for radioactivity and also checked the people to reassure them. None of the people registered any radiation above normal background levels. And these barrels of various sizes and shapes and colors—none of them registered more than background level or slightly above normal background radiation. They then transported the items to Tuwaitha Charlie and secured them. And so, there's no way to tell at this point if they came from Tuwaitha, but they were taken back there just in case, for safety. The technical assessment also determined that outside the fence line at Tuwaitha Charlie, there was negligible risk to the soldiers guarding the site and to the population within a wide area out to a kilometer from the fence line. But the site had apparently been looted before U.S. soldiers arrived. Uranium materials and some other stored materials had been dumped on the floor in places, and in one building, there were a number of radiological sources scattered around the floor. Radiological readings measured only background levels out at the fence line, and readings at the buildings and inside were somewhere between two and 10 times background readings—background readings. We've been conducting weekly meetings with the Iraqi Atomic Energy Commission, with our coalition forces experts and with the Coalition Provisional Authority experts to continue the way ahead in a joint manner. We've developed a plan and objectives for improvement of the site. This week, the Center for Health

Promotion and Preventive Medicine, commonly called CHPPM, arrives from the United States. And they'll conduct a risk assessment on the soldiers and Marines who were there and those who are still there. And the purpose of that is to reassure those soldiers and Marines, but also to determine what, if any, risks they might have occurred—incurred, rather, from being at—near the site. Together with the Iraqi Atomic Energy Commission and the Iraqi Ministry of Health, CHPPM will also help to conduct a wider search and a health risk assessment of the surrounding civilian area, out to about five kilometers. Iraqi scientists and physicians began that work this week by conducting an initial assessment and a census of those people out there. We also formed a joint team with the Iraqi experts and repaired and sealed the buildings as a further measure of safety, so that even if the weather changed to something severe that we hadn't expected, the buildings would still be secure. We've also recruited a 100-man Iraqi guard force. And we're in the process of training them so that once they meet standards, they'll eventually take over the security. And of course, IAEA arrives in Baghdad this weekend to begin its work. And that's about all I have for opening comments.” (Senior Defense Official, “Background briefing on the upcoming IAEA nuclear safeguards inspection and the Tuwaitha Nuclear Facility in Iraq,” June 5, 2003, <http://www.defenselink.mil/transcripts/2003/tr20030605-0250.html>.)

^{xliii} Judy Keen, “U.S.: Weapon Search has Barely Begun,” *USA Today*, June 20, 2003.

^{xliiii} See William J. Broad, “US, In Assessment, Terms Trailers Germ Laboratories,” *New York Times*, May 29, 2003.

The CIA summarized the importance of this discovery as follows in a report on Iraqi Mobile Biological Warfare Agent Production Plants dated May 28, 2003 (http://www.cia.gov/cia/reports/iraqi_mobile_plants/index.html)

“Coalition forces have uncovered the strongest evidence to date that Iraq was hiding a biological warfare program.

- Kurdish forces in late April 2003 took into custody a specialized tractor-trailer near Mosul and subsequently turned it over to U.S. military control.
- The U.S. military discovered a second mobile facility equipped to produce BW agent in early May at the al-Kindi Research, Testing, Development, and Engineering facility in Mosul. Although this second trailer appears to have been looted, the remaining equipment, including the fermentor, is in a configuration similar to the first plant.
- U.S. forces in late April also discovered a mobile laboratory truck in Baghdad. The truck is a toxicology laboratory from the 1980s that could be used to support BW or legitimate research.

The design, equipment, and layout of the trailer found in late April is strikingly similar to descriptions provided by a source who was a chemical engineer that managed one of the mobile plants. Secretary of State Powell's description of the mobile plants in his speech in February 2003 to the United Nations (see inset below) was based primarily on reporting from this source.

Secretary Powell's speech to the UN in February 2003 detailed Iraq's mobile BW program, and was primarily based on information from a source who was a chemical engineer that managed one of the mobile plants.

- Iraq's mobile BW program began in the mid-1990s—this is reportedly when the units were being designed.
- Iraq manufactured mobile trailers and railcars to produce biological agents, which were designed to evade UN weapons inspectors. Agent production reportedly occurred Thursday night through Friday when the UN did not conduct inspections in observance of the Muslim holy day.
- An accident occurred in 1998 during a production run, which killed 12 technicians—an indication that Iraq was producing a BW agent at that time.

Analysis of the trailers reveals that they probably are second- or possibly third-generation designs of the plants described by the source. The newer version includes system improvements, such as cooling units, apparently engineered to solve production problems described by the source that were encountered with the older design. The manufacturer's plates on the fermentors list production dates of 2002 and 2003—suggesting Iraq continued to produce these units as late as this year.

The source reported to us that Iraq in 1995 planned to construct seven sets of mobile production plants—six on semitrailers and one on railroad cars—to conceal BW agent production while appearing to cooperate with UN inspectors. Some of this information was corroborated by another source.

- One of the semitrailer plants reportedly produced BW agents as early as July 1997.
- The design for a more concealable and efficient two-trailer system was reportedly completed in May 1998 to compensate for difficulties in operating the original, three-trailer plant.
- Iraq employed extensive denial and deception in this program, including disguising from its own workers the production process, equipment, and BW agents produced in the trailers.

Examination of the trailers reveals that all of the equipment is permanently installed and interconnected, creating an ingeniously simple, self-contained bioprocessing system. Although the equipment on the trailer found in April 2003 was partially damaged by looters, it includes a fermentor capable of producing biological agents and support equipment such as water supply tanks, an air compressor, a water chiller, and a system for collecting exhaust gases.

The trailers probably are part of a two- or possibly three-trailer unit. Both trailers we have found probably are designed to produce BW agent in unconcentrated liquid slurry. The missing trailer or trailers from one complete unit would be equipped for growth media preparation and postharvest processing and, we would expect, have equipment such as mixing tanks, centrifuges, and spray dryers.

These other units that we have not yet found would be needed to prepare and sterilize the media and to concentrate and possibly dry the agent, before the agent is ready for introduction into a delivery system, such as bulk-filled munitions. Before the Gulf war, Iraq bulk filled missile and rocket warheads, aerial bombs, artillery shells, and spray tanks.

The majority of our information on Iraq's mobile program was obtained from a chemical engineer that managed one of the plants. Three other sources, however, corroborated information related to the mobile BW project. The second source was a civil engineer who reported on the existence of at least one truck-transportable facility in December 2000 at the Karbala ammunition depot. The third source reported in 2002 that Iraq had manufactured mobile systems for the production of single-cell protein on trailers and railcars but admitted that they could be used for BW agent production. The fourth source, a defector from the Iraq Intelligence Service, reported that Baghdad manufactured mobile facilities that we assess could be used for the research of BW agents, vice production.

Our analysis of the mobile production plant found in April indicates the layout and equipment are consistent with information provided by the chemical engineer, who has direct knowledge of Iraq's mobile BW program. The source recognized pictures of this trailer, among photographs of unrelated equipment, as a mobile BW production plant similar to the one that he managed, even pointing out specific pieces of equipment that were installed on his unit.

Common elements between the source's description and the trailers include a control panel, fermentor, water tank, holding tank, and two sets of gas cylinders. One set of gas cylinders was reported to provide clean gases—oxygen and nitrogen—for production, and the other set captured exhaust gases, concealing signatures of BW agent production.

The discovered trailers also incorporate air-stirred fermentors, which the source reported were part of the second-generation plant design. Externally, the trailers have a ribbed superstructure to support a canvas covering that matches the source's description. Data plates on the fermentors indicate that they were manufactured at the same plant the source said manufactured equipment for the first generation of mobile plants. The plant also was involved in the production of equipment used in Iraq's pre-Gulf war BW program.

Employees of the facility that produced the mobile production plants' fermentor revealed that seven fermentors were produced in 1997, one in 2002 and one in 2003. The seven fermentors appear to corroborate the source's reporting that Iraq in the mid-1990s planned to produce seven mobile production plants. The two fermentors produced in 2002 and 2003 reportedly were sent to the al-Kindi Research, Testing, Development, and Engineering facility in Mosul—the site where the second trailer was found—and probably are the fermentors found on the trailers in U.S. custody.

There are a few inconsistencies between the source's reporting and the trailers, which probably reflect design improvements. The original plants were reported to be mounted on flatbed trailers reinforced by nickel-plate flooring and equipped with hydraulic support legs. The discovered plants are mounted on heavy equipment transporters intended to carry army tanks, obviating the need for reinforced floors and hydraulic legs. The trailers have a cooling unit not included in the original plant design, probably to solve overheating problems during the summer months as described by the source. The original

design had 18 pumps, but the source mentioned an effort to reduce the number to four in the new design. The trailer discovered in late April has three pumps.

Coalition experts on fermentation and systems engineering examined the trailer found in late April and have been unable to identify any legitimate industrial use—such as water purification, mobile medical laboratory, vaccine or pharmaceutical production—that would justify the effort and expense of a mobile production capability. We have investigated what other industrial processes may require such equipment—a fermentor, refrigeration, and a gas capture system—and agree with the experts that BW agent production is the only consistent, logical purpose for these vehicles.

The capability of the system to capture and compress exhaust gases produced during fermentation is not required for legitimate biological processes and strongly indicates attempts to conceal production activity. The presence of caustic in the fermentor combined with the recent painting of the plant may indicate an attempt to decontaminate and conceal the plant's purpose. Finally, the data plate on the fermentor indicates that this system was manufactured in 2002 and yet it was not declared to the United Nations, as required by Security Council Resolutions.

Some coalition analysts assess that the trailer found in late April could be used for bioproduction but believe it may be a newer prototype because the layout is not entirely identical to what the source described.

A *New York Times* article on 13 May 2003 reported that an agricultural expert suggests the trailers might have been intended to produce biopesticides near agricultural areas in order to avoid degradation problems. The same article also reported that a former weapons inspector suggests that the trailers may be chemical-processing units intended to refurbish Iraq's antiaircraft missiles.

Biopesticide production requires the same equipment and technology used for BW agent production; however, the off-gas collection system and the size of the equipment are unnecessary for biopesticide production. There is no need to produce biopesticides near the point of use because biopesticides do not degrade as quickly as most BW agents and would be more economically produced at a large fixed facility. In addition, the color of the trailer found in mid-April is indicative of military rather than civilian use.

Our missile experts have no explanation for how such a trailer could function to refurbish antiaircraft missiles and judge that such a use is unlikely based on the scale, configuration, and assessed function of the equipment. The experts cited in the editorial are not on the scene and probably do not have complete access to information about the trailers.

Senior Iraqi officials of the al-Kindi Research, Testing, Development, and Engineering facility in Mosul were shown pictures of the mobile production trailers, and they claimed that the trailers were used to chemically produce hydrogen for artillery weather balloons. Hydrogen production would be a plausible cover story for the mobile production units.

The Iraqis have used sophisticated denial and deception methods that include the use of cover stories that are designed to work. Some of the features of the trailer—a gas collection system and the presence of caustic—are consistent with both bioproduction and hydrogen production.

The plant's design possibly could be used to produce hydrogen using a chemical reaction, but it would be inefficient. The capacity of this trailer is larger than typical units for hydrogen production for weather balloons. Compact, transportable hydrogen generation systems are commercially available, safe, and reliable.

We continue to examine the trailer found in mid-April and are using advanced sample analysis techniques to determine whether BW agent is present, although we do not expect samples to show the presence of BW agent. We suspect that the Iraqis thoroughly decontaminated the vehicle to remove evidence of BW agent production. Despite the lack of confirmatory samples, we nevertheless are confident that this trailer is a mobile BW production plant because of the source's description, equipment, and design.

- The initial set of samples, now in the United States, was taken from sludge from inside the fermentor, liquid that was in the system and wipes from the equipment. A sample set also was provided to a coalition partner for detailed laboratory analysis.
- As we expected, preliminary sample analysis results are negative for five standard BW agents, including *Bacillus anthracis*, and for growth media for those agents. In addition, the preliminary results indicate the presence of sodium azide and urea, which do not support Iraqi claims that the trailer was for hydrogen production.

- Additional sample analysis is being conducted to identify growth media, agent degradation products, and decontamination chemicals that could be specific for BW agents, as well as to identify a chemical associated with hydrogen production.

Although individuals often interchangeably use the terms production plant and laboratory, they have distinct meanings. The mobile production plants are designed for batch production of biological material and not for laboratory analysis of samples. A truck-mounted mobile laboratory would be equipped for analysis and small-scale laboratory activities. U.S. forces discovered one such laboratory in late April.

The mobile laboratory—installed in a box-bodied truck—is equipped with standard, dual-use laboratory equipment, including autoclaves, an incubator, centrifuges, and laboratory test tubes and glassware. These laboratories could be used to support a mobile BW production plant but serve legitimate functions that are applicable to public health and environmental monitoring, such as water-quality sampling.” **[end of quote here]**

One Iraqi defector has made claims of a much more serious ongoing biological weapons effort, but these have not been validated. See Bob Drogin, “Iraq Had Secret Labs, Officer Says,” *Los Angeles Times*, June 8, 2003.

The CIA issued the following statement on the discovery of the centrifuge on June 26, 2003 (http://www.cia.gov/cia/wmd/iraqi_centrifuge_equipment.htm):

- The head of Iraq’s pre-1991 centrifuge uranium enrichment program, Dr. Mahdi Shukur Ubaydi, approached U.S. officials in Baghdad and turned over a volume of centrifuge documents and components he had hidden in his garden from inspectors since 1991. Dr. Ubaydi said he was interviewed by IAEA inspectors—most recently in 2002—but did not reveal any of this.
- Dr. Ubaydi told us that these items, blue prints and key centrifuge pieces, represented a complete template for what would be needed to rebuild a centrifuge uranium enrichment program. He also claimed this concealment was part of a secret, high-level plan to reconstitute the nuclear weapons program once sanctions ended.
- This case illustrates the extreme challenge we face in Iraq as we search for evidence of WMD programs that were designed to elude detection by international inspectors.
- We are working with Dr. Ubaydi to evaluate the equipment and documents he provided us.
- We are hopeful that Dr. Ubaydi’s example will encourage other Iraqis with knowledge of Saddam’s WMD programs to come forward.

^{xliv}Joby Warrick, “Iraqi Scientist Turns Over Nuclear Plans, Parts,” *Washington Post*, June 26, 2003, p. 14.

^{xlv}Douglas Jehl, “Agency Disputes View of Trailers as Labs,” *New York Times*, June 26, 2003.