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The Problem of Intelligence on Iraqi WMD

Comparing the Senate Select Committee, Butler, and Flood Reports

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Three major reports have now been made public on intelligence assessments of Iraq's holdings of weapons of mass destruction -- or lack of them. One report is from the US, one is from Britain, and one is from Australia. All provide important insights into the intelligence process, but all have serious flaws.

The Senate Select Committee on Intelligence's "Report on the US Intelligence Community's Prewar Intelligence Assessments on Iraq"

No one who reads through the 500-plus pages of the Senate Select Committee on Intelligence's "Report on the US Intelligence Community's Prewar Intelligence Assessments on Iraq," or even simply reads its conclusions, can fail to learn that there are critical problems in US intelligence that go far beyond the Iraq War. Like similar reporting by the House Permanent Select Committee on Intelligence, it outlines critical failures in the way the intelligence community, the CIA, and Director of Central Intelligence do business.

Like the British Butler report, the Senate Select Committee report is also essential reading for anyone interested in arms control and counterproliferation. It provides some of the best real world insights ever made public into the real world problems in collecting and analyzing intelligence on different types of weapons of mass destruction and different delivery systems.

At the same time, the Senate Intelligence Committee report has serious failures. The most glaring such failure is its inability to detect and describe the level of indirect political and policy level pressure on the intelligence community to reach the "right" conclusions.

The report may well be right in concluding that senior officials never interfered directly or acted to politicize intelligence. However, it fails to address the climate of policy-level expectations that indirectly demand one type of answers, the impact of repeated searches for revised analysis, the staff and higher level questions searching for the "right" answers, and the knowledge that policy level recognition affects intelligence careers. This is pressure of a different, but very real, kind. Intelligence officers and managers are only human, and the intelligence community almost always responds to strong user demands and perceptions when an Administration decides that one view is correct.

The report also creates an artificial decoupling of intelligence from the policy maker and user. It does not examine what was done with intelligence products or informal intelligence inputs and support. The failure to fully examine the writings and role of lower level political appointees in the Vice President's office, and the Office of the Under Secretary for Policy in the Office of the Secretary of Defense,

means that the report puts the blame on the intelligence community without examining the full range of classified and intelligence-related data that policy-level staff sent to policymakers. The issue of what policy level staff did with intelligence and classified information is just as important as any failings in the intelligence community.

The narrow focus on prewar assessments of weapons of mass destruction, and links between Iraq and terrorism, is even more serious. The report does not address the almost catastrophic failure to accurately assess the problems of security and nation-building in Iraq – a failure duplicated in Afghanistan. It is hard to believe that this omission did not have a political dimension, since the evidence of inept and destructive political interference would have been far clearer.

In fairness, the report also fails to note how many of the problems in the intelligence community's underlying assessment of Iraq developed or grew during the Clinton Administration. It effectively dodges the responsibility of Administrations from both parties.

Perhaps for similar reasons, the report leaves the current and future situation of US intelligence in limbo. It makes no real analysis of the corrective steps, if any, that have been taken to date. It makes no analysis of the community's plans to fix things in the future. It also fails to adequately link its analysis of the problems in dealing with Iraq to a broader analysis of the performance of the intelligence community in dealing with other countries and problems. Presumably, the same failings affect all of our intelligence work globally in every area, but the report largely brushes over this issue.

There is no sense of history or continuity in the Committees analysis. As someone who has had to deal with similar intelligence failures in the past, I am struck by the fact that almost all of the major problems and criticisms highlighted in the conclusions could have been written after Vietnam or in describing the CIA's problems in assessing Warsaw Pact conventional forces back in the late 1980s and early 1990s.

Certainly the problems with over-compartmentation and over-classification, failure to explicitly analyze uncertainty, failure to examine alternative approaches and conclusions, repetition and layering of past studies and assessments, failure to share with other agencies are all problems that have been raised repeatedly from the 1970s and 1980s onwards. A failure in preparing for a single war is one thing; twenty to thirty years of similar failures is another.

The report's criticism of the HUMINT in Iraq is devastating, but no effort is made to look at the adequacy of HUMINT in the broader war on terrorism or elsewhere.

There also seems to be little understanding of the severe limits on what HUMINT can and can not do, and the illusion that HUMINT can always succeed where national technical means fail. The report would also be more convincing if it explained whether the current HUMINT effort has the money and people it needs, rather than simply asking CIA agents to be more daring..

The Senate report does provide a useful critique of “group think,” and the dangers in bureaucratic solidarity. Yet, the report fails to address the impact that US intelligence has on our allies and other outside assessments. Of course many allies agreed with us on our WMD assessment. They have far less independent collection capability than the US, and limited national technical assets. Similarly, outside analysts who rely on declassified US intelligence naturally tend to agree with it. The idea that US failures can be excused because allied and outside analysts often had similar views is ludicrous to the point of absurdity.

More generally, these problems in the actions of the Senate’s Select Committee on Intelligence raise serious questions about what the Congress does next. Most of the proposals that members have made to date are likely to do more damage than good. Follow-on efforts to cure the problems in US intelligence by changing the role of the DCI, or simply giving him more control of the intelligence budget, are counterproductive. It is the entire process of collection and analysis that needs fixing, not the organization chart, the top of the chain of command, or budgeting methods. Moreover, creating a stronger “intelligence czar” is the last way to get debate, alternative views, independent efforts at analysis, and honest discussions of uncertainty.

The Butler (Privy Councilors) “Review of Intelligence on Weapons of Mass Destruction

To put it bluntly, the Butler Report is a far more professional and competent assessment of the problems in intelligence, and there are portions of the Butler report that indirectly act as a devastating critique of the lack of professionalism in the Senate Select Committee's report, and its lack of scope and relevance:

To be specific, the Butler Report performs task after task that the Senate Select Committee either totally or effectively failed to address. The Butler Report:

- Examines the inherent limits of intelligence collection and analysis and does not tacitly assume intelligence should be perfect.

- Compares the work on Iraq with intelligence collection and analysis on other target countries, in order to help put the Iraq case in perspective.

--Analyzes the actual text of key intelligence judgments by the Joint Intelligence Committee (JIC) relating to Iraq and other relevant British intelligence activities in historical terms and quotes them in depth to show what the intelligence community did and did not conclude over time.

--Traces the history of the intelligence effort in Iraq back to 1990, and examines continuity.

--Shows how the British government used intelligence and tasked the community, particularly in the key period before the war (e.g. p. 72).

--Provides explicitly comparisons of what intelligence said to the government, and how the government used intelligence in its public papers. (pp. 81) -- *Although the report sharply understates the importance of the resulting differences.* (e.g. p. 86 #340)

--Explicitly analyzes the work done by UNMOVIC and the UN to see how good it was, the level of intelligence review, and the degree to which the UN analysis and that of British intelligence agreed. (e.g. pp. 92-93)

--Addresses the linkage between intelligence analysis and the need to examine the legality of the war.

--Looks in depth at the trends in intelligence collection and analysis of WMD activity in terrorist movements.

--Looks at the role of intelligence in dealing with UNMOVIC and UNSCOM, and the extent -- at least in terms of Operation Mass Appeal -- that intelligence attempted to use the UN effort (pp. 120-121).

--Examines how the post-war efforts to collect data on the Iraqi WMD program do and do not track with the intelligence estimates before the war--although the analysis is weak and almost deliberately understates the degree to which the postwar effort has not confirmed prewar estimates (pp., 97-99).

--Examines progress now underway to improve analysis.

--Examines the broad nature of counter-proliferation activity in the UK, and how intelligence fits into the activities of the rest of the British government's counterproliferation activities and organizational elements outside the intelligence community.

In short, any comparison of the two reports shows that the US report was almost designed to focus all of the blame on the intelligence community in ways that ignored the role of policymakers under both the Clinton and Bush Administrations, and that the Senate report is virtually worthless in providing a useful basis for solving the problems

in intelligence, and understanding the inherent limits of intelligence. In short, by comparison, the Senate report is both incompetent and unprofessional.

There are some serious problems in the Butler Report as well, and in some ways it seems to be more overtly politicized in avoiding criticism of the government and British intelligence community than the Senate Select Committee report was of the Bush Administration and US intelligence community:

--The Butler Report is far too general, almost deliberately polite, about the problems and limits to the British collection and analysis effort, and the problems in its coverage of given countries.

--The report does not adequately analyze the strengths and weaknesses of British analysis of Iraq's WMD programs over time, and particularly after the UN left Iraq in 1998, and often simply states that the Butler commission staff found them adequate.

--It notes that the JIC does not present alternative or dissenting views to British policymakers without analyzing the dangers of such a process. In areas like p. 67, the report virtually glosses over the failure of the JIC to highlight the acute limits to British coverage and analysis in its reporting to the government, or -- as in the following page -- sharply understates the importance of the differing views of the DIS.

--The report systematically exaggerates the reliability of one-source reports that appeared at precisely the time the policy maker needed such intelligence collection as justification for war (e.g. p. 88, #349).

--It uses language that disguises the failure of the community to objectively tell policy makers the limits to intelligence, and its tendency to provide intelligence to please. (e.g. pp. 72-73).

--The Butler report copies the Senate Intelligence Committee report in failing to see the importance of the policy climate after mid-2002 in putting immense indirect pressure on the JIC and British intelligence community to provide intelligence to please (e.g. p. 75).

--The report fails to address whether the "significant new intelligence" referred to that was used to justify the war involved pressure to find sources that gave a worst case view of Iraqi WMD because of the intelligence community's knowledge that this is what the policy level wanted. Again, intelligence to please (e.g. p. 74).

--It glosses over the seriousness of the failure in claiming a 45 minute readiness to launch and the failure to properly assess whether failure mobile biological equipment existed.

--With all deference, the statement that there is no evidence that the British dossier on Iraqi WMD was not designed to make the case for war (p.77, #315-319, and p.113, #461-462), borders on the theater of the absurd. British had already been preparing for war for months.

--The report discusses serious problems in HUMINT sources, but sharply understates their importance, and the scale of problems in SIS analysis and verification (pp. 99-104 and pp.106-109.), although it does raise these points briefly in its conclusions (p.109, #444 and 445).

--The report has similar failings to the US report in never analyzing whether intelligence explicitly looked at UNMOVIC's work or analyzing whether waiting for more inspection was practical. (It does note a failure in this area, p. 116, #472)

--It never looks at the level of preparation for war at any given time, and the level of intelligence knowledge that decision makers were preparing for, and had decided on, war.??

In one critical area, the Butler report does agree with both the Senate Select Committee report and 9/11 Commission Reports: It finds no meaningful cooperation between Iraq and Al Qaida and Iraq and Islamist terrorist groups(pp. 119-120).

The Flood Report on Australian Intelligence Agencies

The Flood Report on "Australian Intelligence Agencies" is the best of the three official reports for one key reason: It assesses the problems in analyzing Iraqi WMD in the full context of all of the problems in the Australian intelligence community, and not simply in the context of one set of problems. It also examines the role of intelligence in war fighting and the need for operational support, rather than focusing purely on how intelligence can support the senior policymaker.

This is a nearly fatal set of flaws in the US Senate Select Committee report on Iraqi WMD, and the US 9/11 Commission report. They have a tunnel vision approach to fixing intelligence based almost solely on one case. The Butler Report is somewhat better, but it is still narrowly focused.

As such, the Flood Report deserves considerable attention as one of the few contemporary reports on the problems a power with limited resources face in trying to provide global coverage, deal with a crisis outside its main area of operations, and support war fighting. It is also one of the few reports on intelligence written by a real intelligence expert.

At the same time, the Flood Report correctly notes that Australia was in a limited position to provide intelligence analysis of Iraq:

...WMD is an inherently difficult and demanding target, requiring judgments to be made on the basis of information which is nearly always open to a range of interpretations. The fact that many components and facilities associated with WMD have legitimate uses and are therefore characterized as 'dual-use' illustrates these difficulties. During the period of inspections between 1991 and 1998, intelligence agencies had a range of information from often publicly available and reliable sources to supplement covertly acquired intelligence. However, following the withdrawal of inspectors, the volume of available material reduced significantly. In the absence of such corroborating material, and with relatively limited covert collection against Iraqi WMD targets, judgments on Iraq's WMD programmes became very much more difficult to make. Intelligence assessment is almost always inexact - precision is difficult in an endeavor which seeks to discover what others seek to conceal. In the case of Iraq's WMD, these difficulties were acute.

Adding to the problem was the thinness of the intelligence on which analysts were expected to make difficult calls. There was little by way of hard current intelligence available to analysts across the range of WMD capability issues, although the intelligence on Iraq's efforts to deceive inspectors was clearer. Much of the information that was available was equivocal or of uncertain validity. A good deal of it was either reporting of dual-use acquisition activity, inherently difficult to interpret, or human intelligence of uncertain sourcing and reliability. The weakness of the intelligence picture on Iraq was in part due to inadequate collection.

Australian agencies had the added complication of an almost complete reliance on foreign-sourced collection and, on occasion, foreign assessments. Additionally, Australia's focus on its nearer region meant there was limited analytical capacity in relation to Iraq and, while there was better capability in relation to WMD issues, it was still limited when compared to the capacity of US and UK counterparts. And it is in practical terms more difficult for analysts to query and challenge foreign-sourced material, especially when there is little or no alternative input. In general, source descriptions were less than helpful for analysts, tending to be selected from a small group of standard phrases. It is noteworthy in this context that most if not all of the material from Iraqi opposition groups was clearly marked as such, and was treated by Australian assessors with appropriate skepticism.

...ONA and DIO, along with the rest of the international community, failed to judge accurately the extent and nature of Iraq's WMD programmes. And both agencies' assessments about Saddam's intent and capacity to use WMD against US forces, or against those countries who allowed their territory to be used by the US in the event of a US-led invasion, were not borne out. Nevertheless, ONA's and DIO's key judgments on Iraq's WMD capabilities were relatively cautious. They drew the most likely conclusions from the available information, and generally presented them with appropriate qualification. The obverse conclusion - that Iraq did not have WMD aspirations and capability - would have been a much more difficult conclusion to substantiate.

This means that the Flood Report has far less application to the very different types and scale of problems the US faces in carrying out the analysis of proliferation than the critiques of intelligence in the Butler Report. At the same time, some criticisms are made of Australian intelligence that do have general application to the work done in the US:

...the Inquiry also found a number of systemic weaknesses in both assessment agencies which played a role.

The first of these was a failure rigorously to challenge preconceptions or assumptions about the Iraqi regime's intentions. It is natural that analysts approach an issue with a set of expectations and contextual understanding. Analysts are valued for their background in the subject matter under

assessment. In the case of Iraq WMD, assessors' preconceptions had a clear logic - they were based on UNSCOM reporting, Iraq's history and perceived strategic imperatives.

But on an issue with such potentially serious policy implications as Iraq's WMD capabilities and the threat posed by Saddam, more rigorous challenging of the assumptions underlying their assessments should have been carried out. While individual analysts almost certainly traveled the ground in their own minds, and managers challenged the bases for particular judgments, there is little evidence that systematic and contestable challenging was applied in a sustained way to analysts' starting assumptions.

There is also little evidence of a consistent and rigorous culture of challenge to and engagement on intelligence reports from collectors, and limited evidence of dialogue on assessed material. There are a number of reasons for the lack of rigorous questioning of sources, including the limited extent to which some raw material influenced key judgments in this case. But the lack of a dynamic dialogue on sources, one indicator of a healthy assessment process, is of concern.

The agencies did not always make clear from the text of their assessments the strength and range of specific information supporting a particular conclusion, as opposed to the judgments of the analyst about the likely behavior and intentions of the Iraqi regime. This lack of clarity can allow readers to infer inappropriate levels of certainty to judgments.

... It is significant that, using similar but not all of the material available to the UK and the US, Australian assessments on Iraq's capabilities were on the whole more cautious, and seem closer to the facts as we know them so far. There was not, as some have charged, a blind adherence to US and UK assessments. The bulk of conclusions drawn by Australia's assessment community on individual pieces of intelligence were sound, and there is evidence of our agencies applying healthy skepticism to the intelligence received on a number of specific issues, in some instances maintaining a different or more cautious line in the face of firm conclusions by allies. This is true on the issues of sourcing uranium from Niger, mobile BW production capabilities, the threat posed by smallpox, Iraqi capability to deliver CBW via unmanned aerial vehicles, and links between Al Qaida, Iraq, and the September 11 terrorist strikes in the US.

There was also a proper place, in intelligence analysis of a topic as potentially threatening as Iraqi WMD, for reporting to cover worst-case scenarios, particularly in the policy context in which the intelligence assessments were being made. It was right for our assessment agencies to focus on the challenges troops might face should they be deployed - and to highlight the worst of a potential adversary's capabilities. DIO's primary duty is to support the safety and success of Australian Defence Force operations. In the case of Iraq's WMD, the intelligence community had the institutional memory of having underestimated Iraq's WMD (especially nuclear) capabilities at the time of the first Gulf War.

- Greater rigor must be applied to the evaluation of sources. Analysts must, in collaboration with collectors, actively assess the reliability of sources.
- More rigor in identifying intelligence gaps is needed. Analysts must consciously identify and then articulate gaps to collectors, rather than accepting without challenge what has been collected.
- Similar levels of rigor need to be applied to allied collection and assessment, both in terms of access to material and challenge to sources and/or judgments, including in areas where Australia has limited technical or regional expertise.
- Where such technical limitations exist, agencies should take remedial action and recruit or develop appropriate technical expertise.
- Incremental 'creeps' of judgment must be avoided. Previous assessments should be restated and any changes highlighted.

- Greater attention must be paid to the language of assessments to ensure that judgments are consistent, that variations to previous assessments are properly identified and that loose language does not inadvertently alter key assessments, or leave them unclear or open to interpretation.

One point that is of particular importance, and that should have been made in both the Senate Select Committee and Butler reports is that:

Another contributing factor was the lack of sufficient integration between the assessments of Iraq's global, regional and domestic considerations and its WMD capabilities and aspirations. While dialogue and sharing of drafts did take place both within and across agencies, the assessments did not reflect an effective synthesis of technical and geopolitical issues. The content and style of the assessments, and discussions with relevant staff, suggest that the process of consultation and clearance across disciplines was less substantive than it might have been. Specifically, there were many assessments which presented fragments of the WMD picture, but few which synthesized technical conclusions about possible Iraqi capabilities with judgments about the regime's likely strategic game plan. Such meaningful interaction between technical and geographic specialists might have tempered the conclusions drawn and helped to challenge assumptions.

One key flaw in the report, however, is all too similar to the flaws in the Senate and Butler reports. The Flood Report states that,

Finally, the Inquiry has found no evidence of politicization of the assessments on Iraq, either overt or perceived. The Inquiry received no indication that any analyst or manager was the subject of either direct or implied pressure to come to a particular judgment on Iraq for policy reasons, or to bolster the case for war. While agencies and their analysts are conscious of the policy environment, both their processes and their cultures and, in ONA's case, its legislation, promote independence of assessment. The Inquiry's conclusion that, on the basis of the available information, ONA and DIO drew the most likely conclusions, is consistent with and supports the finding that there was no evidence of politicization.

The practical problem with such conclusions is that direct pressure to change analysis almost never occurs, and particularly at top policy levels. The problem is whether a climate of demands and expectations exist at the policy level where indirect pressure could affect the judgments of the intelligence community, and whether low and mid-level staff contact takes place that have the same net impact as policy from senior officials. Discussions with US intelligence officers indicate that such pressure certainly did exist in the US, and was compounded by the knowledge that the US was preparing for, and intended to go to, war.

Discussions with British intelligence officers also indicate that much the same pressures may have existed in the UK. This may well have been the case in Australia, but the Flood Report does not address the issue.

Looking Beyond the Reports: Problems in Collecting Data on Iraqi and Other Country WMD Capabilities and Delivery Systems

If one looks at the overall content of the Senate Select Committee, Butler, and Flood reports one also sees more specific lessons regarding the limits of collection capabilities dealing with weapons of mass destruction. Some of these problems are equally apparent in the UNSCOM, UNMOVIC, and IAEA reports, and it is clear that proliferating nations like Iraq are aware of many of these problems and how to exploit them:

- ***Iraq and other developing powers that are 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 used 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 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 of the ways to defeat intelligence collection and import controls. When information does become available, it is often impossible to put it in context. Moreover, a given import or technology transfer can often be used in many difficult ways, often ways 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.*** First, there is no way to know the end destination and use of the import and how it is integrated into the overall effort. Second, 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. And third, since many imports have civilian or other military uses, these so-called “dual-use” imports may have legitimate use. May want to leave paragraph as it was.
- ***In most cases, the problem of technology can be solved through imports or through internal development. The problem of creating effective and well managed programs, however, has often proved to be difficult to near impossible, as has the effort to integrate complex mixes of technology into effective systems.*** Such problems are further compounded in many countries by the fact that the managers or heads of such programs lack the experience to objectively analyze their own efforts or deliberately lie to their political superiors. There are few physical indicators, however, that allow intelligence assessment of how effectively a given effort is managed or the level of systems integration involved. The end result is to encourage “worst case” analysis in the absence of any clear evidence and indicators.
- ***There are few reliable benchmarks or measures of effectiveness.*** Even transparent access to a nation’s efforts to proliferate would often lead to major uncertainties regarding the lethality and quality of its chemical, biological, and nuclear weapons activities, and missile and other delivery programs. For example, the level of quality control in producing key weapons components may be so uncertain that it is impossible to determine the outcome. There may be too few tests to know how good a given country’s efforts are, and it may rely on engineering and simulation methods whose adequacy simply cannot be accurately assessed. It is almost axiomatic that intelligence cannot collect what the proliferator does not know. In most cases, however, there is no transparency in terms of key issues like nuclear weapons design, quality of biological agent development and/or production, quality of chemical agent development and/or production, and missile reliability. Collection requires a level of access that simply is not credible.
- ***There may be no reliable technical parameters for measuring weapons effectiveness.*** Both the weapons development and arms control communities often take technical measures for granted that may have little or no real-world meaning. Collection is based on the assumption that the proliferator knows its level of effectiveness, or that measures developed for assessing Western programs conducted by the standards of developed countries do, in fact, apply to developing countries. The end result often blurs the distinction between collection and analysis but creates the following kinds of problems:
 - ***Nuclear weapons design and effectiveness:*** No proliferating country has conducted an adequate set of weapons tests to fully characterize its weapons or – in most cases – to allow that country to predict the reliability and yield of its weapons. Countries like India and Pakistan have claimed far higher yields than they have been able to test, and have lied about the yields of the weapons they have tested. Other countries such as Israel are

credited with thermonuclear or boosted weapons designs of very high efficiency (and low weight) without any known test data. The level of fissile enrichment is often assumed to meet US weapons grade standards, although material with less than one-third of such enrichment could produce a fissile event. The triggering and HE lens design is assumed to have a given level of quality. In short, virtually every aspect of a weapons design and assessments of its effectiveness may have to be based on country claims or mirror imaging.

- **Biological weapons design and effectiveness:** US Army and other studies have indicated that the level of uncertainty surrounding estimates of the lethality of a nuclear weapon can reach two orders of magnitude both because of the inability to know how well a given agent is produced and weaponized, and because of the inherent uncertainties surrounding the use of weapons that have never had large-scale human testing and whose behavior will not mimic natural outbreaks. These problems are compounded by the fact that the method of delivering wet or dry agents has a major impact on lethality; there often is no way to know what strain of disease is being used, and there are virtually no empirical data for estimating the lethality of mixes (or cocktails) of different biological agents delivered at or near the same time. These problems are compounded since the proliferators probably have no realistic basis for estimating the real-world lethality of the weapon being developed or deployed.
- **Extremely suspect models are used for infectious diseases, usually based on natural outbreaks that may have little relation to military or terrorist use.** The nominal data used for such estimates usually are not based on statistically relevant historical data in terms of infectivity and lethality, and tend to use point estimates rather than a range based on sigma?. The assumption is made that the disease strain is known or behaves according to prediction. These problems are compounded because the proliferators probably have no realistic basis for estimating the real-world lethality of the weapon being developed or deployed.
- **Chemical weapons design and effectiveness:** While chemical weapons are considerably less lethal than biological or nuclear weapons, they present many of the same problems. Without actual testing or empirical experience, lethality estimates are speculative at best, and the problem is compounded by the ability of given countries to handle the complex targeting and meteorological data necessary to achieve high lethality and the sheer randomness of many real world delivery conditions.
- **Radiological weapons:** The development of crude contaminates is relatively easy, but the technology for distributing lethal material over a wide area is highly complex and theoretical. Most devices will produce largely Alpha and Beta effects with limited lethality and decontamination problems. If such weapons are improvised, however, the attacker may use virtually any agent at hand, and the end result could be far more lethal. As a result, radiological weapons tend to have a high degree of randomness, where intelligence collection may be impossible.
- **Missile/aircraft/UAV range-payload:** The range of a given delivery device is often based on a theoretical calculation based on a nominal payload like 1,000 kilograms (and on the assumption of aerodynamic efficiency). The real world device may be much heavier or lighter, and it is usually impossible to know how much is really the weapon versus other components. A country may never test a real weapon to maximum range or fly such sorties. As a result, range estimates may have little real world validity.
- **Accuracy vs. reliability vs. targeting:** both the proliferators and intelligence analysts tend to make estimates that assume the weapon actually works according to design and is properly targeted and then deliveries are the proper point and moment of detonation necessary to achieve the desired effect. The chances of most developing countries doing this with any consistency – if ever – are negligible. There is no clear way, however, to assess the impact of random error.

- **Misuse of CEP:** Many estimates attempt to apply the term “circular error of probability” (CEP) to collection and assessment. In practice, this term assumes sufficient data exist to estimate where 50% of the weapons go if the entire delivery system and guidance function perfectly. It then describes the length of the radius from the aim point. Quite aside from the fact most developing countries do not test enough to produce empirical CEPs, this measure ignores the fact that half the weapons will go somewhere else in a far more random pattern along the weapon’s vector, and that reliability and targeting may critically degrade actual performance.
- **Warhead/bomb/device design:** The actual weapon or agent is only part of the problem in regards to assessing proliferation. The physical nature of a warhead or bomb can be just as critical. For example, the timing of height of burst and efficiency of dissemination may be more important in terms of real world lethality than the chemical or biological agent used, and will be critical in determining the level of fall out and trade-offs between radiation-thermal-blast in a nuclear weapon. Moreover, reentry effects can have a major impact as can sprayer design.
- **Production capacity verses actual capability.** The theoretical or nominal design production capacity is used because no data are available on actual capability.
- **Deployed forces are active forces, and nominal strength is actual strength.** Although few developing countries come close to achieving high readiness rates, or ever supply all of their combat units with their fully UE or TO&E, they are assumed to be combat ready and have the required or nominal number of launchers/delivery vehicles and weapons.
- **Psychological effects are theoretical or unknown.** Both nations and terrorists may use weapons for demonstrative or psychological effect, but the impact is largely speculative.
- **For proliferating countries, arms control is an extension of war by other means.** 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 effectively 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 strategy is to bring weapons to full development, and to wait until a threat becomes imminent to actually produce the weapon. A second strategy 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. Key assembly lines, however, can be concealed in a wide range of other commercial activities.ⁱ Weapons production facilities can be stockpiled for a later and sometimes sudden breakout. A third strategy 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.
- ***There is no clear case other than the worst case.*** 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 to 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 varying or 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 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. 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.ⁱⁱ
- ***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.

- ***Even if a nation's war plans and doctrine are known – which is unlikely – they may not be relevant.*** Many countries almost certainly acquire and deploy such weapons without developing detailed war plans or doctrines. Leaders may treat such weapons more as symbols or deterrents than in terms of actual use. Targeting and escalatory doctrine may be nominal or highly unrealistic. An actual crisis may then lead to efforts to develop a completely different approach to using such weapons that then interact with the enemy's behavior. The resulting "escalation ladder" may then bear no relation to the peacetime intentions on either side, or to any game theoretic model of efficient deterrence and use. Moreover, the inability on both sides to properly target and predict weapons effects – and simultaneously manage conventional and WMD combat – can give any resulting combat a highly random character.

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. Moreover, in spite of the disclosures in the Senate, Butler, and Flood reports, many of the details of the methods the U.S., British, and Australia use in analyzing WMD remain classified. Nevertheless, these reports, and background discussions with intelligence analysts and users, do seem to 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."ⁱⁱⁱ
- ***Even under these conditions, the resulting analytic effort faces serious problems. Security compartmentation within each major aspect of collection and analysis severely limit 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 a 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 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 toward 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 short comings 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.^{iv}
- ***Time or bureaucratic momentum and poor supervision lead to a failure to proper review or “zero-base” analysis.*** Any review of unclassified reports shows a tendency to endlessly repeat prior assessments and conclusions without reviewing their content or with any effort to comprehensively review past judgments.

The User as the Problem

One final point. It is not clear whether many of the problems revealed in the Senate, Butler, and Flood reports will not be repeated in future crises. All three reports effectively absolve the policy level user of responsibility. No one can work in both worlds, however, without learning that users of intelligence are at best intolerant of analysis that consists of a wide range of qualifications and uncertainties.

This is true 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 go unused or make 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 made by the intelligence community or the user.

All three reports address the problem of the intelligence-user interface by omission, or in the form of platitudes. They are directed almost exclusively at reforming intelligence. In practice, reform may have to focus as much on reforming the user.

ⁱ 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.

ⁱⁱ 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.

ⁱⁱⁱ 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.

^{iv} 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 press 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..