

**THEORY AND PRACTICE: NUCLEAR DETERRENTS
AND NUCLEAR ACTORS**

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and
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and Nuclear Actors**

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Introduction

For more than forty years, the central organizing concept of American defense policy has been “deterrence.” In a bewildering variety of forms, deterrence has been articulated as policy while the American deterrence theorists Schelling, Kahn, Brodie, Wohlstetter, and others produced a theory so rich that it colours all perceptions. Indeed, the theory of deterrence, history of the nuclear age, and history of deterrence theory have become so intermingled as to be virtually indistinguishable.

As played through many variants, the endpoint of analyses of super power deterrence was that there are very few circumstances under which countries would take positive actions that might bring even a single nuclear weapon down on their heads. There has been strong western predilection to argue that only defense of those rights or territories which are already possessed can justify running such risks; the converse of this is that the threat of nuclear weapon use against nuclearly armed opponents in aid of aggression lacks credibility.¹ Viewed in this light, “the essence of decision” is to make clear exactly which national interests are so compelling that they must be defended even at the risk of nuclear war.

Whether or not deterrence was universally accepted by military planners, much of the language of deterrence was certainly accepted by political leaders on both sides of the East-West divide.² Certainly, in the end, the robustness of the balance of terror as understood by the highest political leaders of both the East and West helped insure that Soviet leaders never perceived military adventurism in the west as an alternative to political change.

Even as we see the superpowers and the established nuclear powers both reducing total nuclear arsenals and reducing the readiness of remaining nuclear forces, there are renewed worries about the proliferation of weapons of mass destruction. There is certainly no lack of theory in proliferated situations. Unfortunately, this rich body is divided

¹This is a major focus of Thomas C. Schelling, *Arms and Influence*, Yale University Press, New Haven, Connecticut, 1966, pp. 34–91.

²There is a real question of whether the Soviet military ever accepted or planned for war in Europe on the basis of nuclear use only as a step in an escalation ladder. Evidence gathered from East Germany after the reunification suggests that the Soviet military had planned for early and extensive operational use of nuclear weapons and other weapons of mass destruction. See Lothar Ruhl, “Offensive Defence in the Warsaw Pact,” *Survival*, v. XXXIII, no. 5, September/October 1991, pp. 442–450.

into camps: one which centers around proliferation as a stabilizing process while the other believes exactly the opposite. The application to particular cases is obviously the deciding factor in which theory actually holds.³

³The two schools on proliferation appear very early in the literature with Pierre Gallois arguing for the utility of proliferation in Europe while Albert Wohlstetter was more concerned about a further proliferation. See Pierre Gallois, *The Balance of Terror: Strategy for the Nuclear Age*, Houghton Mifflin Company, Boston, 1961. Albert Wohlstetter, "Nuclear Sharing: NATO and the N+1 Country," *Foreign Affairs*, v.39, no. 3 (April 1961), pp. 335-387.

A Different Problem

“We are all agreed that your theory is crazy. The question which divides us is whether it is crazy enough.”

Neils Bohr⁴

Perhaps the most alarming aspect of the current environment is the possibility that the international system of antiproliferation measures may be remarkably ineffective in preventing nuclear proliferation even while that same system is remarkably effective in hindering proliferators from integrating proliferated weapons into a successful deterrent posture. Together these effects may mean that in proliferated situations nuclear deterrence may only be possible after nuclear use and not before.

Are there people who might think nuclear weapons can solve their problems? It is not clear, but it helps to ask if there are people with problems so large or people so desperate that nuclear weapons might look more like a solution than a problem.

The change in eastern Europe and the former Soviet Union has set loose new states who have situations much different from their former position within the Soviet Union or the Warsaw Pact. These new states, whether ancient nations or semi-colonial aggregations, present us with a new situation in which we have greatly expanded the range of our ignorance. As we move from the East European states we know, whose capitals we recognize, and whose leaders have pronounceable names to the Central Asian republics whose names, capitals, and leaders are equally unpronounceable and virtually indistinguishable, our ignorance becomes truly profound. Generally, we do not understand the situations of these new states, sympathize with their plight, nor provide significant assistance. In turn, they probably noticed that they had the attention of the outside world during the discussions on the control of Soviet nuclear weapons and they do not have that attention now.

It is also clear that many of the former Soviet states have inherited ethnic hatreds and territorial disputes that were only in suspended animation during the period of Soviet rule. Some of these disputes have a character of brutality and totality that make clear that the loser risks more

⁴Bohr was responding to a lecture by Wolfgang Pauli. Cited in Nigel Calder, *The Key to the Universe*, Viking Press, New York, 1977, p. 15.

than minor territorial adjustments. The dissolution of the Soviet Union has also provided its successor republics with large and modern conventional military equipment inventories that cannot be sustained on the basis of their own economies. Some states and disaffected regions are currently facing situations so desperate that they may very well perceive genocide as a possible outcome. There are even more states who may believe that while not now engaged in active hostilities if a conflict were to develop it would soon take on such a character.

The particular psychology of states that have just emerged from more than fifty years of foreign cultural domination also deserves some consideration. While western analysts readily credit Israeli government's with a "never again" motivation based on the experience of the Holocaust, we should not underestimate the strength of a similar sense in the newly freed states of the former Soviet Union. The leaders of these states may quite legitimately feel themselves obliged to defend a national culture with exactly just such a "never again" mind-set.

Other states beyond the former Soviet Union also face problems of opponents with overwhelming conventional forces and unlimited objectives. Some states that formerly relied on the Soviet Union or the United States as an outside protector in the context of the larger East-West conflict may no longer have high confidence in such protection and imbalances. And many states certainly sense that they have sunk below the notice of the international community. One lesson that such states might draw from the Yugoslavian and Somalian situations, is that frightful acts can be committed and people threatened with extinction without major powers or the international community regarding the situation as a crisis.

All of these countries have incentives to possess nuclear weapons.⁵ Moreover, the poverty of the former Soviet Union, the looseness of controls over nuclear materials and widespread corruption within the former ruling class are powerful aids to the rapid acquisition of nuclear weapons. The series of recent news reports of western interception of nuclear weapons material from the former Soviet bloc only underlines the greater possibility of such transfers within the former Soviet Union. Moreover, the omnipresence of highly radioactive nuclear waste within the former Soviet Union provides an even more accessible

⁵Throughout this paper, we will try to use the useful distinction of incentives/disincentives and aids/restraints as used by Stephen Meyer. Incentives/disincentives refer to motivational factors for a decisionmaker to acquire nuclear weapons while aids/restraints refer to technical capabilities to physically accomplish the task of acquiring a weapon. See Stephen M. Meyer, *The Dynamics of Nuclear Proliferation*, University of Chicago Press, Chicago, 1984, pp. 14–15.

route to technologically primitive, but frightening, radiological weapons. Neither of these routes to nuclear material acquisition are controlled by a “policy” process—the essential motivators are corruption and personal greed, and while the successor governments can attempt to control the consequences, their range of control has been markedly decreased. While China has not descended into chaos, its weapons industry has shown a strong willingness to contribute to the potential problem, and this industry also may not be totally under the control of government policy.⁶

The essential fact seems to be that interested parties might leap-frog the entire process of achieving an ability to itself produce a nuclear weapon and simply acquire fully-assembled weapons or the principal components of weapons. This leap-frogging would evade the entire chain of primary nuclear material production and weapons fabrication that has been used to trace the movement toward nuclear weapon capability.⁷

While simple proliferation of nuclear weapons might be bad enough, the particular circumstances of a rapid acquisition of a few nuclear weapons make it difficult to integrate such weapons into a deterrent strategy which meets the requirements of a policy of dissuasion. As stated very clearly at the start of the nuclear era, such a policy has “two factors, one of which, purely technological, represents the operational value of the military means used to effect retaliation, and the other, a subjective element, expresses the threatened nation’s desire to resort to force rather than appeasement.”⁸ Rapid acquisition of nuclear weapons has problems with both of these factors.

The pure technological question on operational value of the weapons relates to assurance that the weapons would survive an attacker’s attempts to destroy them in an initial attack and then penetrate to intended targets. The question of “stability” and counterforce prospects at very small force levels is quite different from the superpower calculus.⁹

⁶Kurt M. Campbell, Ashton B. Carter, Steven E. Miller, and Charles A. Zraket, *Soviet Nuclear Fission: Control of the Nuclear Arsenal in a Disintegrating Soviet Union*, Center for Science and International Affairs Studies in International Security, No. 1, Harvard University, November 1991. John W. Lewis, Hua Di, and Xue Litai, “Beijing’s Defense Establishment: Solving the Arms-Export Enigma,” *International Security*, v. 14, No. 4, (Spring, 1991), pp. 87–109.

⁷Leonard Spector has provided the most complete series of such indicators with his series of Carnegie Endowment books, most recently, in Leonard S. Spector with Jacqueline R. Smith, *Nuclear Ambitions: The Spread of Nuclear Weapons, 1989–1990*, Westview Press, Boulder Colorado, 1990.

⁸Gallois, p. 109.

⁹The various views on the calculus of such concepts in the superpower case are collected and contrasted in Lynn Eden and Steven E. Miller (editors), *Nuclear Arguments: Understanding the Strategic Nuclear Arms and Arms Control Debates*, Cornell University Press, Ithaca, New York, 1989.

There are a number of disincentives for possession of just a few weapons in a fragile basing structure or one which has a "window of vulnerability" until a survivable basing structure can be constructed. The first of these is certainly the possibility of preemptive action by neighbors who already have aggressive intentions. But even if immediate preemptive action can be avoided, the anticipated burden of maintaining a secure deterrent with only a few weapons over an unlimited time horizon may be more than a small state can accept.

While the technological aspect is important, the rapid acquisition of nuclear weapons has even more problems with subjective side of communicating to the opponent (and others). In the youth of deterrence theory, the nature of such a communication was clear, the potential aggressor must be made to know "The reprisal must be set off automatically so that the possible aggressor knows that neither political subjection, moral constraint, nor fear of additional punishment can paralyze it."¹⁰ In the current state of the world, such clarity and straightforwardness is not possible. Instead, the second generation of nuclear states have had to resort to "opaque proliferation" in which their communication of threat and determination is much more roundabout with consequent danger in miscommunication and misreading of deterrent messages.¹¹ While "opaque" proliferators have had some ability to communicate their possession of nuclear weapons and some sense of what situations might cause their use, they have had the time to take advantage of gradual exposure and indirect paths of communication. Unfortunately, the operational record of such communication is both confused and distressing.¹²

The Arab-Israeli War of 1973 provides an alleged case of an opaque proliferator attempting to communicate a nuclear threat during a conventional war. As others have pointed out, the first essential fact is that a diffuse knowledge that Israel possessed nuclear weapons did not deter a conventional attack. Once in the war, the Israeli cabinet appears to have misjudged Arab intent and ability to exploit initial successes, Israel then armed the weapons and displayed them in a manner that left Israel almost totally dependent on the superpowers to communicate the existence of the nuclear threat to the Arabs. While it is believed that this

¹⁰Gallois, p. 141.

¹¹The very useful concept is described in Avner Cohen and Benjamin Frankel, "Opaque Nuclear Proliferation," *Journal of Strategic Studies*, v. 13, no. 3, (September 1990), pp. 14-44. This entire issue of *Journal of Strategic Studies* is devoted to the subject of opaque proliferation.

¹²Not the least important of such communication paths has been selective disclosure through such mediums as the Carnegie Series on proliferation.

message was conveyed verbally by Secretary Kissinger to President Sadat, it is not clear that the deterrent message was fully understood or decisive.¹³ The point is not that the Israeli cabinet made mistakes and could have done better; the point is that the Israeli cabinet was a battle-hardened, experienced team; any other group would, almost certainly, have done worse. Unlike the more stereotyped situation of superpower “nuclear crises management,” the Israeli cabinet appears to have been forced to decide whether to mount a nuclear threat, what targets should be targeted, and how to communicate this threat all within a few hours in the midst of what they then perceived as the loss of a conventional war.¹⁴

The run-up to the Gulf War also showed the difficulties of communicating deterrent positions under press of time. In a series of statements asserting possession of chemical weapons (in particular binary chemicals) associated with long-range delivery capability, which may have been intended to deter particular Israeli actions, Saddam Hussayn succeeded only in alarming the entire region and confirming previous perceptions of the Iraqi leader’s irresponsibility and perhaps predetermining his reception during the actual Gulf crisis.¹⁵

¹³See the accounts in Seymour M. Hersh, *The Samson Option: Israel’s Nuclear Arsenal and American Foreign Policy*, Random House, New York, 1991. Yair Evron, “The Relevance and Irrelevance of Nuclear Options in Conventional Wars: The 1973 October War,” *The Jerusalem Journal of International Relations*, v. 27, no. 1–2, 1984, pp. 143–176.

¹⁴The stereotype of a more structured nuclear crisis management situation is, of course, open to question. See John Keegan, “The Human Face of Deterrence,” *International Security*, Summer 1981, pp. 136–151. Richard Ned Lebow, *Nuclear Crisis Management: A Dangerous Illusion*, Cornell University Press, Ithaca, New York, 1987.

¹⁵In one of the concluding statements of the affair, Saddam Hussayn makes a fair attempt at communicating the essential elements of a deterrent posture of the classic type:

I come back to my statement. I said: If Israel strikes, we will strike back. I repeat now in your presence, that if Israel strikes, we will strike back. I believe this is a fair stand. A stand known in advance is what helps peace, and not otherwise. For if Israel realizes it will be struck, it might refrain from striking. Then, if the West truly wants peace such behavior is for the sake of peace. This behavior, furthermore, only disturbs those who want Israel to strike at Iraq without Iraq retaliating. I also have said: If Israel uses atomic bombs, we will strike at it with the binary chemical weapon. I reiterate now that if Israel does this, we will do that. We have given instructions to the commanders of the air bases and the missile formations that once they hear Israel has hit any place in Iraq with the atomic bomb, they will load the chemical weapon with as much as will reach Israel and direct it at its territory. For we might be in Baghdad holding a meeting with the command when the atomic bomb falls on us. So to make the order clear to the air and missile bases’ commanders, we have told them if they do not receive an order from a higher authority and a city is struck by an atomic bomb, they will point toward Israel any weapons capable of reaching it.

“Full Text” of President Saddam Hussayn’s remarks during a meeting with a delegation of U.S. senators led by Robert Dole in Mosul on 12 April 1990 read by announcer, Baghdad Domestic Service, in Arabic, 16 April 1990 in FBIS-NEW-90-074, 17 April 1990, pp. 5–13. Whether this deterrent message was Saddam Hussayn’s original intent or simply an attempt to retrieve a blustery threat that had gotten out of control remains an open question.

The “binary chemical” affair also highlights the difficulty that in the current setting communication is always conducted to two separate audiences: one’s regional adversaries and the existing members of the nuclear club. An aspiring proliferating power must communicate resolve and the certainty of reprisal to regional adversaries while communicating reasonableness and responsibility to the existing nuclear powers. The stakes are high in this communication. Not only must the aspiring proliferator not make outside nuclear powers so anxious as to themselves consider preemption, but the aspirant must consider that its quest for outside aid, as unrewarding as it may now be, can only get worse if it is identified as actively interested in acquiring nuclear weapons.¹⁶

Altogether, the risks of preemption from near or afar, the financial burdens of acquiring and sustaining secure deterrent forces, and the possible effects on external reputation and outside aid might sway a decisionmaker from becoming an open, or even an “opaque,” nuclear proliferator. But if a state still faces a merciless opponent, an imbalance in conventional forces, cannot acquire an outside protector or rely on the international community as a moderating force, and does not believe it can acquire or sustain a secure nuclear deterrent force, then it may be obliged to be more creative in its military planning. One such path might be the covert acquisition of nuclear weapons. The covert acquisition and possession of such weapons would not provide the posture to deter an opponent, but it might provide other options.

The first option is nuclear use for direct military advantage should war occur. The military value of a single weapon detonation depends on the tactical placement of the weapon. Depending on yield and placement, single weapons might kill a large number of unprotected and unwarned opposing troops. With the bulk of the forces in close proximity, there is also a fair chance that with adequate secrecy surrounding such an operation there would also be a fair number of unwarned and unprotected troops on the initiating side. The intelligence support and operational skill needed to support the execution of such an option, insuring that an attack would reach the intended target would be a daunting task and difficult to extemporize. And, in the end it is difficult to envision a single battlefield use of the weapon obtaining decisive results. Alternatively, the weapon might be used as a “strategic” weapon.

What constitutes “strategic” use of nuclear weapons in the sort of wars typified by the struggle in Yugoslavia, Georgia, or Nagorno-

¹⁶The United States is legally bound by the Symington Amendment not to send foreign aid to such states.

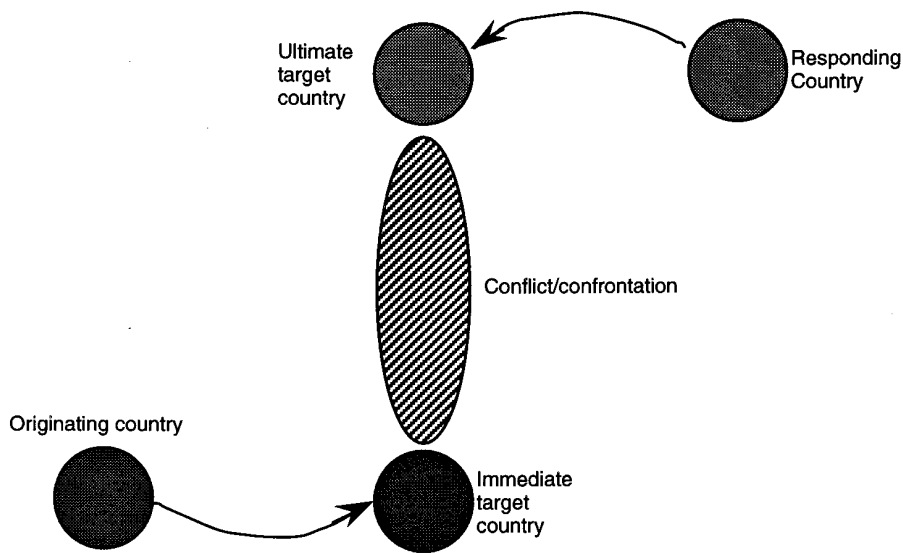
Karabakh? The fighting forces in these wars do not rely on war-supporting industry—the forces are relying on dispersed stocks of weapons and equipment inherited from the Soviet Union. In the same way, the forces do not rely on large quantities of consumables such as oil or food because of the limited distances over which operations are conducted. Direct attack on the opposing leadership might be taken as a plausible war-winning option. Indeed, in the only case of intra-war nuclear targeting on which there is supposedly information, the Arab-Israeli War of 1973, the Egyptian and Syrian military headquarters were supposedly on the target list.¹⁷

Another way a nuclear weapon might be used “strategically” is to intimidate the opposing leadership by an intra-war demonstration of a nuclear capability. The problem of an intra-war announcement of such a capability is making the threat credible. In such a situation, a harassed, pressured government would have to make a decision equivalent to the Truman Administration decision on the atomic bomb while undergoing defeat rather than on the verge of victory. In order to be credible, there is really no alternative to detonation of a weapon. And detonation of a weapon demonstrates only that one *had* a weapon rather than one still possesses a nuclear threat. As in the American case, there would be pressure to use the first weapon to maximum effect and immediately detonate another weapon.

All of the above variants on the use of nuclear weapons reveal the nuclear initiator. While an initiating state might make public appeals for the international community to intervene simultaneously with the nuclear strike, it is hard to imagine an international community that had refrained from supporting the country suddenly motivated to reward a country for initiating nuclear warfare.

Another completely different option for the use of covert nuclear weapons would be to “frame” one’s opponent with the intent of embroiling him either with the immediate target or some other state. Figure 1 shows the basic idea of such a “catalytic” nuclear weapon use. The state that possesses the covert nuclear weapons capability, identified as the originating country, delivers the weapon to another country, the immediate target country. The immediate target country is either in a conflict/confrontation situation with the ultimate target country and presumes that the weapon was directed at it by the ultimate target country. Under this impression, the responding country—which may be identical with the immediate target country—intervenes against the ultimate target country.

¹⁷Hersh, p. 225.



How plausible such a scheme might be depends on many things, not the least of which is whether the immediate target and responding nation can be made to believe that the ultimate target country really possessed such a capability and whether they would have used it. In many ways, aspiring regional hegemons known to be seeking nuclear weapons or other weapons of mass destruction have postured themselves to be framed by anxious neighbors using just such a ploy. If outside powers were already anxious over the nuclear weapon potential of such countries, they might be only too ready to intervene to break the power of such a country. Coalition, and most particularly American, behavior in the Gulf War only emphasizes the strong motivation for the existing nuclear powers to remove such as aspirant's nuclear ambitions.

Whatever the state of the U.S. alert posture, U.S. warning assets will be adequate to locate the point of launch of a ballistic missile. Thus, someone planning on launching a catalytic attack could only prefer a missile weapon if U.S. knowledge of the point of launch either promotes, or, at least, does not interfere with the progress of the operation. In a situation in which a conspiring nation can subvert individuals within the ultimate target nation's own military to launch a ballistic weapon, U.S. knowledge of the point of launch might actually be part of the scheme. In most other situations where the conspiring nation must itself provide the initial weapon or weapons, U.S. knowledge of the launch point might be operationally unacceptable. Thus, in many situations, the ballistic missile would not be a first choice delivery system.

Could anyone believe that they would actually get away with this? Since the essence of the act is to exploit the short-term response of

decisionmakers caught between limited information and a perceived need for prompt action, it is not clear that the perpetrator can assume that he can maintain his secret forever. The secret may not be blurted out on the headlines or on CNN, but it may come to be known at some level to those who were duped. There are, however, a number of reasons why the perpetrator might believe that he can avoid being called to account for his actions. First of all, if the originating country provided the pretext for an action the responding country wished to carry out and this pretext was provided without serious cost to the responding country, its allies or interests, there might be general relief that a potential threat was removed before it could become critical. On the other hand, if the responding nation was duped into an action that accomplished its ends only at the cost of many lives, then the victim of the deception will be motivated to rationalize and justify his action even if he suspects he was duped.

Without claiming to predict behavior, Table 1 presents some hypothetical cases in which the existing situation is such that catalytic attacks are not totally incredible.

Table 1
Some Not Incredible Catalytic Attacks

Originating Country	Immediate Target Country	Responding Country	Ultimate Target	Originating Act
Iran	Turkey	U.S.	Iraq	nuclear/wmd use during border tensions with Iraq perceived as perpetrator
Iraq	Turkmenistan	Russia/CIS	Iran	Nuclear/wmd use with Iran perceived as perpetrator
Libya	Algeria	France	Algeria	large chemical release

What Might Be Done?

“Revenge is a dish best eaten cold.”

Beyond removing underlying causes of conflict, measures specifically aimed at nuclear threat situations can be broken down into two categories: (1) Adding disincentives/restraints to nuclear acquisition and use and (2) devising procedures in the event of nuclear use.

Within the range of disincentives/restraints to nuclear acquisition and use, further strengthening of the antiproliferation regime that does not actually hinder weapon acquisition but does make it more difficult for successful proliferators to communicate this fact to their adversaries is probably counterproductive.

International guarantees to insure that wars cannot be fought to genocidal conclusions may strike many as too idealistic. Certainly, recent history does not provide much hope that such international guarantees can be demonstrated. Nevertheless, such guarantees may be more practically achievable than long-term success of an antiproliferation regime. The end-state achieved in Yugoslavia will invite a catalytic attack by its declaratory policy and alert posture. Changing American declaratory policy to emphasize a deliberate response to any use of weapons of mass destruction whether against allies or against the United States itself would be a disincentive to outside countries who might want to embroil the United States in their problems through catalytic attacks. Improving American confidence in its own anti-proliferation policies would reinforce such disincentives and dispel any idea that the United States might precipitately respond because of its own ineffectual anti-proliferation policies.

In the more exotic category of procedures to be put in place in the event of nuclear use:

The first casualty of any nuclear weapon use should be the presumption that we understand exactly what is going on. Besides the intelligence system reporting current reporting, we should develop a “forensic” analysis capability that can approach even a nuclear attack as a crime to be investigated so that the perpetrators can be identified “beyond a reasonable doubt and to a moral certainty.” While the United States certainly has the basis for such a system latent in the intelligence agencies and national laboratories, the system should be systematized

and bureaucratized. By carrying out this process now we would, at a minimum, avoid the temptation inherent in any crisis of restricting the information-providing circle and never consulting the right people—the exact behavior that might motivate someone to plan a catalytic attack in the first place.

The intelligence and analysis system needs to be back-stopped with a system that provides an accounting trail on the origin of critical facts in the chain of intelligence reasoning. The purpose of this system is solely to insure that a nuclear incident would not be the culminating event of a chain that included capture of the critical intelligence sources for evaluating the event leading to using American power against an innocent party.

