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PRELIMINARY THOUGHTS ON CRISES: MORE QUESTIONS THAN ANSWERS

By Amrom H. Katz - Mar 1972

We are well into the second decade of increasingly successful and varied satellite recon operations. Their success is so routine and their technical performance is so remarkable, that these massive facts might lead the unwary (or unthinking) observer into a mood of smugness and complacency. But because my audience cannot be so characterized, I will address some visible problems directly.

The requirements for prompt, timely, accurate intelligence about quickly moving foreign politico/military crises were the basis for the recent (cancelled) big project.

The nature of such crises is illuminated by a (partial) listing of some that have occurred within the newspaper memory of the reader. Several have occurred in the Middle East: the Six-Day war in 1967 - the rapid deployment of SA-2s and SA-3s in the Suez Canal area in violation of the Aug 7, 1970 cease-fire, the multiple commercial aircraft hi-jackings to Jordan (1970), the incident of Syrian tanks invading Jordan (1970). The Aug 20, 1968 Soviet invasion of Czechoslovakia - the 1969 Soviet-Chinese encounter on the Ussuri River and the recent (Dec 1971) India-Pakistan war, furnish examples of situations where (in my judgment) our curiosity was intense, but a precommitment

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to stay-the-hell-out-in-any-event was so strong that it couldn't have been shaken by any intelligence data.\*

New shiny systems exist on paper. They promise to "solve" the reconnaissance aspects of the national decision-maker's problems in coping with such crises, but both the extent of the promise, and the confidence in it, seem (to me) to be proportional to the square of the time from now till IOC.

So, sensible people argued "if we need such capabilities then, we certainly and a fortiori need it now." This logic resulted in the start of the recent "interim solution" exercise. The fascinating point is that the original source of the requirement for "the interim" - The State Dept - is still pushing for such a system. As I pointed out to Ray Cline, this push will be over someone's dead bodies - those who "won" and especially those who are numbered among the casualties of the last encounter and are dispirited about another battle. But there it is, with requirements (derived from the fall 1970 Middle East crisis) of a ground resolution of 2' - 3'.\*\*

\*Discussions with readers of an earlier draft have suggested such precommitments are not guaranteed for all time and all places. Things may change. Also, even though we may be curious, some of our allies or friends might be involved, and perhaps they could use the data.

\*\*One of the readers of an earlier draft, noting the origin of this requirement, wonders whether there is a sharp cutoff in utility, i.e., how useful is 4'-6' resolution, or 6'-9'? At this writing, it beats me. Suspensions are not coequal with analysis. In addition to timeliness and resolution, we need some measure of required coverage (area or number of targets). I've heard nothing on this.

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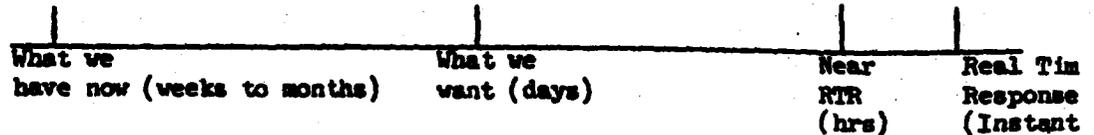
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I find that the diagram below - a qualitative "timeliness" scale - can be used in discussion with such people. They are responsive to simple expression of ideas.



Note that I have been careful to omit any numerical scale. Sir Robert Watson-Watt's elegant description of what radar equipment the British wanted in WWII went like this, "We want the third best. The first best is unattainable, and the second best comes too late." Similarly, with regard to our problem, if logically defined, honest-to-god real time is unattainable, and near-real time comes far down-stream. We should want the third best. Can we put any number on the location of that midpoint? I think so. If you talk to State, which is constrained and frustrated by present system delays, you'll find that a response time of 2-3 days - from question to answer - would be great. I agree.

Cline, long ago, carefully defined the type of crisis in which he was most interested as "one where the cutting edge of our response is primarily political, not military." In other words, such crises would involve the Secretary of State more than they would the JCS.\*

\*A reader suggested that timeliness is a requirement for "political response, the resolution requirement is for "military" response. He argues further that "A military response of a few days based on photography implies a variable standby capability to intervene at various levels of force in different parts of the world. Such a capability is a military planner's nightmare. Diplomatic words are more rapidly deployed than military forces (they are also cheaper, at least in the short-term)."

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This point can stand, and needs, fuller and separate discussion, because on it hinges both the timeliness requirements and resolution requirements. That is, if resolution as we use it, is relevant at all. how do we photograph a palace revolt? Or a coup being plotted at night in a rathskeller? Stated simply, how come the answer to Cline's question comes out to be a satellite? Is it because the "satellite community" - the industrial contractors and the government operators - are organized, vocal, confident, geared up to tackle (almost) anything? Perhaps this minor heresy is sufficient unto the day thereof.

Considerable confusion exists about crises. Lately, as a direct result of the continuing successful Soviet anti-satellite tests, we have begun to be worried about the vulnerability of our satellites. And, because the word "crisis" is used in this case as well as in the cases described earlier, we had better differentiate between crises. I propose to preempt, semantically. Let us agree, in the absence of universally accepted standards that:

CRISIS Type I refers to good, old fashioned international crises such as the Middle East, India-Pakistan, Cuba II, etc. Those are terrestrial, on the ground.

CRISIS Type II refers to a crisis involving the interruption of our satellite reconnaissance by active means employed by another nation. Such crises are out in space.

Having defined our terms, let's see what can be said about Crises Type II. First, let us narrow our field of view, suppressing, for a first cut, all political considerations, and consider recce satellites as a juicy target system. We are embarked on a course of development that produces and deploys bigger and bigger, more and more complex,

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longer and longer life systems. These birds have been protected by assumption - the belief that nobody would interfere with their operation. Even in the absence of evidence that the assumption rests on questionable premises, it should have been clear that the line of development we were pursuing - a predictable manifestation of U.S. style - might by itself greatly influence or change the other guy's behavior. Said simply, we are tempting him with juicier targets than we used to.

Then there's the COSMOS series, a demonstrated capability to knock off birds. We are forced to explain what the Soviets are up to. Unfortunately, they have not seen fit to explain, despite public (U.S.) discussion of our concerns. We must construct our own explanation. The simplest explanation of what they're up to is that they want to interfere with our recon satellites. The principle of Occam's razor would argue that this is the best explanation, but in this case, for reasons that will follow later, I'd argue with it.

Alternative "explanations" include:

(1) The S.U. wants to be able to knock off one of their own birds, say a disabled bomb-in-orbit. This idea, though fascinating, is not mine yet. I leave the arguments against it to the reader, but I also suggest that this idea is too interesting to dismiss, and that its novelty alone is insufficient to argue against it. The main technical arguments include that it would be easier to deorbit the bomb than to shoot it down. But what if the orbital bomb really isn't listening or responding?

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(2) The S.U. is really more worried about Chinese satellites. If this is valid, the S.U. would have started work 5 years before a Chinese satellite existed. This is hard to believe.

(3) The bureaucratic explanation. This is short form for a complicated explanation of S.U. behavior. Behind the seeming seamless wall surrounding the S.U., there is the same kind of inter-service rivalry as we enjoy, the same kind of non-coherent decision-making, the same kind of hobby-horse riding, etc. Perhaps there's a general or a minister with clout who says "goddamn it, we just gotta have an anti-satellite capability." In other words, the visibility and "fact" of anti-satellite experiments, and even the relatively large costs involved (some excellent economists could easily wipe me out on this last point) do not automatically mean that a plan exists. If this goes down cross-ways, back off and look at our own shuttle program. Or at the Skybolt, Navaho, Snark, B-70 - - - etc.\*

But defining or arguing the problem away is a cop-out. What do we do about this threat? Here's where NRO has a problem. We can do one or more of the following (the list is not exhaustive).

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\*It has been suggested that perhaps the start of our anti-satellite efforts - Program 437 - may have catalyzed Soviet efforts ("If they are doing it, we should too." Note that either the S.U. or the U.S. can be the "they" in this statement, in which case the other becomes the "we"). The S.U. may not believe that we cancelled our system, or even if they believed us, they may have figured that their project works fine so why cancel? It is a delicious, if unprovable, thought, that we may have, however inadvertently, led them into a cul-de-sac.

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(1) Make our satellites invulnerable to attack\* (or relatively so)

(2) Make our satellites invisible, i.e., undetectable (or relatively so)

(3) Make sure that we have a standby system ready, that can be useful, can be deployed fast, and has other characteristics which either make it invulnerable, or failing that, confront the S.U. with a too expensive or too intractable a problem.

(4) Prepare to shoot their birds down (or up). I must comment on this last point. I never could understand, and still don't, how our ABM is a response to their ABM. Our ABM doesn't fight their ABM; in fact the two systems never see each other. Enough for the moment. Similarly, if we need recce, shooting their birds down doesn't get it for us.

This leads to a point that must be made sooner or later. I ignore the arguments that will appear later against the S.U.'s interfering with our birds. Let's just suppose that one of our recce birds is attacked

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\*Built into this entire discussion is the notion of non-nuclear attack, which gives rise to a prediction I made over a year ago (before the announcement that the POTUS would visit the PRC) that the Chinese would let go a nuclear weapon at (our) satellite altitudes, thus causing intense discomfort to both the U.S. and the S.U. Of course, as Lew Allen keeps reminding me, part of my prediction was that it would happen within a year.

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the S.U., that we know it, and that we have a standby system. What should it do?\*

Here we come smack up against something to which, (to the best of my knowledge) no thought has been given, by us, or by anyone else.

Requirements: what are they?\*

I reject out of hand the quaint idea that what we were doing the day or week or month before the attack, is guidance or prescription for what we should do immediately after an attack. Unchanged continuation of our technical intelligence objectives, surveillance, etc., etc., as tasks for our Crisis, Type II recce response makes no sense, unless the attack on the bird is unrelated to some ground activity that the S.U. doesn't want us to see. But if such an attack is unrelated, why should we bust our back to be in a hurry in the pursuit of an

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\*On the other hand, how do we determine a priori, something which is at best determined a posteriori? Were one of our main recce birds attacked, and disabled, I can readily imagine that the President would tell this community, "I'd give anything for recce." Yet, because of the realities of the budget, we'd be lucky to have a (relatively) cheap system to respond with. This is a real paradox. By the way, to calibrate our thinking about "cheap," consider that the whole St. Lawrence seaway project cost about 400 megabucks, Hoover Dam and its power complex, about 150 megabucks, and the State Dept, our embassies, and everybody involved in the Dept of State runs about 400 megabucks/year.

\*\*One of the readers suggests that I am in error on this point. He claims that this is a plan, and that the first step is to utilize some QRC to obtain photos and get them to the decision makers in 12 hours (!). The ground crisis area is to be covered, or if there is no recognized crisis on the ground, 50% of the indicator/warning targets are to be covered. Resolution required: 2'-4'. In light of this, I've decided to allow my statement to stand.

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otherwise leisurely activity? A notorious advocate of a standby system argues that the basis for such a system is clear. It should, he says

- a) Conduct normal operations with some pre-emphasis
- b) Investigate what led to the shut-down, i.e., detect changes
- c) Show the flag
- d) Confuse and confound (Ed note: them, not us)

Why should the S.U. attack our recon satellites? Here we must recognize at least two cases:

- a) A single isolated attack on only one of our birds.
- b) Wholesale, continued attack on all our birds, and their replacements.

I would argue that the first case is improbable from first principles. If the S.U. objective is to blind us for a short period so that they can keep us ignorant about an operation, they need also deafen us. We here tend to forget about the ELINT/COMINT birds, which are always up and usually in quantities greater than one. So, the S.U. would have to deny us both sight and sound.\* This requires multiple attack. Note that I am ignoring other sources of data, in particular ground-based technical collectors. I can be cavalier about this, but I suspect the Soviet Union can't or won't be.

I must cope with a potential objection to my emphasis on other sources. If satellites have proved to be indispensable, and such

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\*Someone who knows more about this than I do comments: "SIGINT - easily tricked; deny us sight and sound - easily done." To be fair, I include this comment, but I can't evaluate it.

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really great producers, how dare I consider ground based systems as an alternative? To answer this, please recall that satellites are superb for going over otherwise denied or inaccessible areas. But where are the crises likely to be? Look at the recent examples. Not only was none deep in the S.U. itself, but all were outside the S.U., except for the Ussuri River S.U. - Chinese incidents; all were in fairly accessible areas. So blinding us temporarily is likely insufficient to guarantee privacy to a Soviet operation.\*

Why should they do it? Although there is abundant evidence that the Soviets don't reason exactly as we do, they do reason. They make errors, but never capriciously. Their past actions have been conservative, but the changes in the military balance of the U.S.v.a.v. the S.U. may increase the S.U.'s propensity to take risks.\*\* (The excellent testimony by experts and scholars of the Soviet Union before Senator Jackson's Subcommittee on International Negotiations should be read. These hearings are compact, accessible, well written and better yet, unclassified).

Were the S.U. so stupid as to knock off one of our birds, all kinds of costs would have to be paid by them, without reaping any benefits. Let's look at some of the goals the S.U. cherishes.

\*Several readers have pointed out that this argument is not completely valid because there have been activities within the Soviet Union that did cause us to pay attention; these activities were observable only by satellite. I accept the addition. In partial rebuttal, I argue that these episodes did not turn out to be crises.\*\*\*

\*\*Several of my readers make the point that the S.U. may be developing a capability that may not yet have a specific purpose but that obtaining an AS/T capability is just a square that should be filled in enroute to achieving military superiority.

\*\*\*One of my readers claims that I've got my eye on the wrong target. He says watching the Soviet reaction to a crisis is more important than watching the crisis, e.g., watching changes in S.U. alert posture, and other signs of readiness for exploiting the crisis.

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In my opinion (and that of the experts who agree with me) the fundamental, long term, persistent goal of the Soviets is to dominate the world, at least in a supervisory sense, and to achieve this end without war.

The S.U. has at least two near term objectives. First is a SALT treaty, one which would shut down expansion of certain weapon systems, and which, more important, would create (in the U.S.) a mood of detente, an atmosphere in which defense thought, let alone appropriations, would be like skiing uphill.

Second, the S.U. is interested in a European Security Conference, with the view in mind of reducing forces in Europe. MBFR (an unpronounceable term meaning Mutual Balanced Force Reduction) is our jargon for this. Not that the U.S. doesn't want to reach the same nominal goals. We do. The recent Mansfield move to cut our European forces in half, unilaterally, was forestalled only on the promise of MBFR negotiations.

This memo is not a course in international relations, power politics, SALT, or MBFR. But I need to note these ideas in order to remove or at the least, bend, technological blinders. There's more to our problem of COGNCS and vulnerability than that alone.

For example, a fundamental premise underlying our SALT negotiations is that national means of verification will be employed, and that they are sufficient. (This is the accepted euphemism for unilateral satellite

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reconnaissance). Further, it is implicitly understood (perhaps it will become explicit) that neither side will interfere (actively) with the other's satellites. Now I argue that achieving a SALT treaty, and the concomitant political and atmospheric consequences of so doing, are a pearl of exceedingly high price, one which the S.U. would not easily sacrifice for a cheap shot at our birds. Such an event, a Junior Pearl Harbor in space, might trigger us out of complacency, produce new defense appropriations, stop European negotiations, alert our allies, etc., etc.\*

But maybe they could get away with it without our getting all stirred up. For us to arouse the public, let alone excite them, over the destruction of a satellite that they had been uninformed about is a bit much. I would argue that even if a city is destroyed, we won't react automatically and quickly. And this is more serious than a ship sunk or captured at sea, which is more serious than an a/c being shot down, which is more serious a piece of secret unmanned apparatus being killed in space. I have constructed a crude PPO (Provocation Pecking Order), that tends to negate my earlier argument that a shot at one of our birds would have serious repercussions, adverse from the Soviet view.

This discussion raises a possibility not yet addressed in these notes. Were the Soviets interested in negating one of our recce satellites (rendering it impotent), they might prefer doing it in an undetectable

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\*One of my readers doubts this (and on other occasions, so have I), saying "Given the history of the U.S. in breaking its back to live up to treaties, should overhead reconnaissance not be written into the treaty and denied us by the Soviets, we would not break the treaty but would intensify collection by other existing or promising futuristic methods (also skiing uphill)"

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manner. Ground based systems could meet this requirement. Thus they'd get the bonus without the onus. Note however that what's being proposed has nothing to do with the COSMOS type of ambush in space.

Let's take another look at the alleged S.U. incentive - to blind us temporarily. They haven't done so in the past. So, I ask, how did they suffer? Were we, with all unpaired satellites, on top of the Six-Day war? the Czech invasion? the violation of the standstill ceasefire in the Middle East? We weren't, and I claim that these facts are known to the S.U. So why should they bother?

The careful reader will notice that I've not yet talked about the single most disturbing "explanation" of the Soviet anti-satellite activity - preparation for a first-strike. This suggestion would go along with the "explanation" of the huge SS-9 program, because in our military calculations, the SS-9 makes sense only as a first strike weapon.

Presumably, a Soviet first strike would be enhanced, were all our early warning systems knocked out. If this be true, the Soviet requirement would be to knock out our synchronous 647 system as well as the three BMEWs radars. The sticking point is that the relationship between the observed COSMOS anti-satellite experiments and a synchronous altitude kill capability is unclear, and to me, non-existent.

Further, all we can do with early warning (what a misnomer: the warning derived from BMEWs and 647 is really very late) is to flush

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a fraction of our B-52 force. We're certainly not going to fire any missiles on warning. So the utility of this exercise to the Soviets is questionable and mushy.

I am left hoist by our questions.

I pause now, to avoid the twin diseases of length and repetition.

I will try to resolve the questions raised above. More later.

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