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ercy."

Carter's UFOs

Jimmy Carter's favorite movie lately is *Close Encounters of the Third Kind*. As a matter of fact, the President has seen the movie several times.

This news has given renewed encouragement to UFO buffs who were discouraged by the government's January decision to drop plans for new investigations of the UFO phenomenon.

Last July the White House requested the National Aeronautics and Space Administration to take another look at the UFO sightings. NASA later reported, however, that there was nothing new to warrant further investigation and the matter was dropped.

Under the circumstances NASA's decision was a prudent one. There had, after all, been no discoveries of the "hard" evidence strict scientific investigation requires — something left behind by the alien visitors. A lunch wrapper. A sign. Something.

But then Jimmy Carter discovered *Close Encounters of the Third Kind*. Hope has returned. Should Carter be helicoptering to Devil's Tower, Wyoming, sometime soon, NASA won't need a lunch wrapper clue.

Phx Gazette, March 18, 78

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have violated, I feel, at this time, and we intend to carry out. Obviously I can't do everything that I want to. Nobody could. But I am determined to do my best.

MR. DeFRANK: Is there anything about being President which has surprised you so far or proven particularly frustrating? Some of your closest friends and advisers worry that you concern yourself with too much detail and that to some extent you take your "in-basket" too seriously. Would you agree?

THE PRESIDENT: That has always been my nature. I couldn't do it otherwise. The last week, for instance, I spent an extraordinary time working on the energy question, the two messages, and trying to make the final decision, and in the process my in-basket built up. By midnight last night my in-basket was empty. Ordinarily I don't get more than four or five hours behind on my incoming responsibilities.

I have made one decision quite early that saved me from myself, and that is to appoint Cabinet officers who can manage their own departments without my interference.

I have never felt constrained to look behind any of the Cabinet Secretaries to check on their performance of duty, and I have never felt restrained to ask any of my White House staff members to do that; that they are strong and able and competent and independent. And in order to make sure that I know what goes on under those circumstances, we have initiated a weekly Cabinet meeting where we spend two, sometimes three hours together going over those matters.

I have been pleasantly surprised at the President's job. I had been a Governor. There are a lot of parallels. Obviously, there are two things that are not parallel, is the defense matters and foreign affairs. (Inaudible) nuclear decisions, both in power production, reprocessing, non-proliferation and weapons. But I have been pleasantly surprised at the harmony that now exists within my own staff here in the White House, between the staff and the Cabinet officers and among the Cabinet officers themselves.

I have found it difficult to accept the complete absence of confidentiality. I have just come to expect that when I have a conversation about a sensitive matter in private, that it is going to be made public very quickly.

And I had to be a little more cautious about my oppression of opinion on a tentative basis or when it affects some personal, potentially personal embarrassing subject.

That has been an opinion that I haven't been able to accommodate yet.

MR. DeFRANK: That must be the reason why Hamilton never tells us who wins.

THE PRESIDENT: I could say this: We are pretty evenly matched.

MR. DeFRANK: That is not what he says. He says you are not evenly matched and you kill him.

MS. CLIFT: Some people in and out of government feel that you might be trying to do too much too fast. And the energy package, for example, one of your own aids said it could have used 30 days of staff work. Is that a fair criticism?

THE PRESIDENT: Not in the case of energy. I think in some other areas we have tried to move too fast, but there is a built-in delay mechanism that exists in the Federal Government that saves you from moving too fast.

You might try to move too fast, so I don't think that you often do. To the extent that we don't do our staff work, when our proposals get to Congress they get bogged down in committees unnecessarily.

I believe that had I had another 30 days on the energy package there would not have been any substantial difference on what we proposed.

The one item on which we changed our mind in a major degree was the \$50 rebate. At the time we made the decision (inaudible) everything about the economy was dismal, growth was down, employment was up, inflation was less than it is now. That has recovered so well so that I think even the latest data that came out since we made that decision is confirmed that we just don't need it.

Defense Finance and Accounting Service

Agency	Address	Phone	Website
Defense Finance and Accounting Service	1115 North Crystal Drive, Suite 2000, Arlington, VA 22204-4302	703-605-1000	www.dfas.mil

The Defense Finance and Accounting Service (DFAS) is a federal agency that provides financial and accounting services to the Department of Defense. It is a major component of the Department's financial management system.

Defense Finance and Accounting Service

1115 North Crystal Drive, Suite 2000
Arlington, VA 22204-4302

Director: Thomas R. Blum
Deputy Director: (NACDAG)

The Defense Finance and Accounting Service was established by Executive Order on November 13, 1949, and reports to the Chief Executive Officer (CEO). The Defense Finance and Accounting Service is the primary financial and accounting authority for the Department of Defense. The Service is responsible for the consolidation, harmonization, approval, and integration of financial and accounting requirements, functions, processes, operations, and systems in the Department.

For more information, contact the Public Affair Office, Defense Information Systems Agency, 70 South Capitol Mall, Arlington, VA 22204-2799. Phone: 703-605-6000.

Defense Information Systems Agency

70 South Capitol Mall, Arlington, VA 22204-2799
Phone: 703-605-6000

Director: Lt. Gen. David D. Hester, USA
Deputy Director: Maj. Gen. John H. Lawrence, USAF
Chief of Staff: Col. J. Howard Westerman, USA

The Defense Information Systems Agency (DISA) is a central support agency committed to the provision of timely, objective, and credible military intelligence to the warfighter—officer, sailor, airmen, and marine—and to the decisionmakers

Community, Control, Communications, and Intelligence.

The Agency is organized into a headquarters and field activities acting in the Director's assigned areas of responsibility. The field organizations include the White House Communications Agency, Joint Interoperability and Engineering Organization, DSA Western Hemisphere, Joint Interoperability Test Command, Defense Information Technology Contracting Organization, Defense Technical Information Center, and the Joint Spectrum Center.

The Agency is responsible for planning, developing, and supporting command, control, communications, and information systems that serve the needs of the National Command Authorities under all conditions of peace and war. It manages the Defense Information Infrastructure (DII) and is responsible for

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For more information, contact the Public Affair Office, Defense Information Systems Agency, 70 South Capitol Mall, Arlington, VA 22204-2799. Phone: 703-605-6000.

Defense Intelligence Agency

The Pentagon, Washington, DC 20340-7407
Phone: 703-695-6071. Website: <http://www.dia.mil>

Director: Lt. Gen. Patrick W. Hughes, USA
Deputy Director: Brian C. Clark
Chief of Staff: Barbara A. Ditzworth

The Defense Intelligence Agency (DIA) was established by JOSS Directive 310521, effective October 1, 1949, under provisions of the National Security Act of 1947, as amended (50 USC, 401 et seq.). DIA is under the authority, direction, and control of the Assistant Secretary of Defense for Command, Control, Communications, and Intelligence.

The Defense Intelligence Agency is a central support agency committed to the provision of timely, objective, and credible military intelligence to the warfighter—officer, sailor, airmen, and marine—and to the decisionmakers

and policymakers of DOD and the Federal Government. To accomplish its assigned mission, DIA produces military intelligence for national foreign intelligence and counterintelligence products; coordinates all DOD intelligence collection requirements; operates the Central Assessment and Signature Intelligence (MASSINT) Organization; manages the Defense Human Intelligence (PLAWINT) Service and the Defense Attaché System; operates the Joint Military Intelligence College; and provides foreign intelligence and counterintelligence

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Defense Threat Reduction Agency

45045 Aviation Drive, Dulles, VA 20166-7517
Phone, 703-325-2102. Internet, <http://www.dtra.mil/>.

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Deputy Director

JAY C. DAVIS
MAJ. GEN. WILLIAM F. MOORE,
USAF

The Defense Threat Reduction Agency (DTRA) was established as a separate agency of the Department of Defense on October 1, 1998, by DOD Directive 5105.62. DTRA was formed by the consolidation of selected elements of the Office of the Secretary of Defense, the Defense Special Weapons Agency, the On-Site Inspection Agency, and the Defense Technology Security Administration. DTRA is a combat support agency of the Department of Defense and is under the authority, direction, and control of the Under Secretary of Defense for Acquisition and

Technology. DTRA is responsible for threat reduction to the United States and its allies from nuclear, biological, chemical (NBC), and other special weapons, as well as advanced conventional weapons. Through the execution of technology security activities, cooperative threat reduction programs, arms control treaty monitoring and on-site inspection, force protection, NBC defense, and counterproliferation, DTRA supports the U.S. nuclear deterrent and provides technical support on weapons of mass destruction matters to DOD components.

For further information, contact the Office of Public Affairs, Defense Threat Reduction Agency, 45045 Aviation Drive, Dulles, VA 20166-7517. Phone, 703-810-4326. Internet, <http://www.dtra.mil/>.

National Imagery and Mapping Agency

4600 Sangamore Road, Bethesda, MD 20816-5003
Phone, 301-227-7400. Internet, <http://www.nima.mil/>.

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The National Imagery and Mapping Agency (NIMA) was established on October 1, 1996, as a member of the intelligence community and a Department of Defense combat support agency. It is chartered under DOD Directive 5105.60, pursuant to the National Imagery and Mapping Agency Act of 1996 (10 U.S.C. 441 *et seq.*). NIMA operates under the authority, direction, and control of the Secretary of

Defense, with the advice of the Chairman of the Joint Chiefs of Staff, and in accordance with the policies and priorities established by the Director of Central Intelligence. The Assistant Secretary of Defense for Command, Control, Communications, and Intelligence exercises overall supervision over NIMA.

The Agency is responsible for providing timely, relevant, and accurate

imagery, imagery intelligence, and geospatial information in support of the national security objectives of the United States. With a vision of guaranteeing the information edge, NIMA is committed to delivering the imagery and geospatial information that gives national policymakers and military users information superiority in a rapidly changing global environment.

NIMA supports national policy objectives by committing substantial imagery analysis resources to national priorities, especially as they relate to diplomatic and regional security policy, arms control and treaty monitoring activities, counterterrorism, nonproliferation, chemical and biological warfare, and information operations activities.

NIMA also provides geospatial information, such as natural and cultural feature data, elevation data, controlled imagery, international boundaries, and place names necessary to understanding the context of intelligence information. This information supports a full range of

diplomatic, disaster relief, countermobility, no-fly zone enforcement, force protection, and humanitarian and multi-national peacekeeping activities.

NIMA also provides accurate and current geospatial information required by the unified combatant commands to plan, operate, and if necessary, fight and win. NIMA's strategy supports operational readiness through a concentrated investment in geospatial foundation data, including controlled imagery, digital elevation data, and selected feature information, which can be rapidly augmented and fused with other spatially referenced information, such as intelligence, weather, and logistics data. The result is an integrated digital view of the mission space that is crucial for diplomatic, military, and civil relief operations.

NIMA is headquartered in Bethesda, MD, and operates major facilities in Washington, DC, Reston, VA, and St. Louis, MO.

For further information, contact the National Imagery and Mapping Agency, 4600 Sangamore Road, Bethesda, MD 20816-5003. Phone, 800-826-0342, or 301-227-7386. Fax, 301-227-7638. Internet, <http://www.nima.mil/>.

National Security Agency/Central Security Service

Fort George G. Meade, MD 20755-6000
Phone, 301-688-6524. Internet, <http://www.nsa.gov/>.

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The National Security Agency was established by Presidential directive in 1952 as a separately organized agency within the Department of Defense. In this directive, the President designated the Secretary of Defense as Executive Agent for the signals intelligence and communications security activities of the Government. In 1972, the Central Security Service was established, also in accordance with a Presidential

memorandum, to provide a more unified cryptologic organization within the Department of Defense, with control over the signals intelligence activities of the military services. In 1986, NSA was designated a combat support agency of DOD.

As the U.S. cryptologic organization, NSA/CSS employs the Nation's premier codemakers and codebreakers. It ensures an informed, alert, and secure



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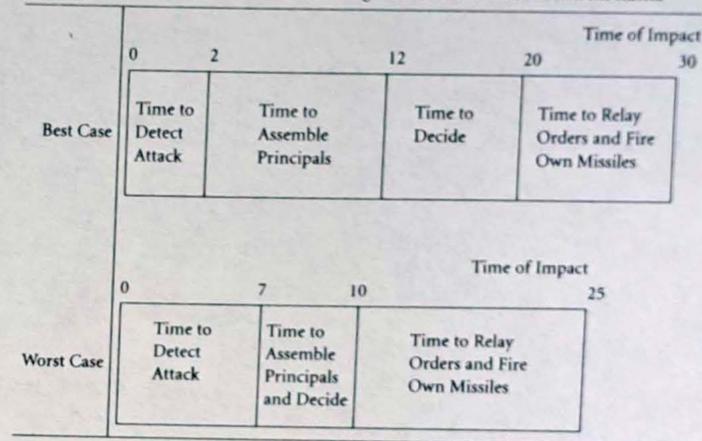
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signed to enable us to launch a response between the time we detect an incoming attack and the time it actually impacts. The flight time of a ballistic missile from Russia to the United States is twenty-five to thirty minutes. Within two to seven minutes of launch we should have detected and identified any massive attack. There are elaborate procedures for cross-checking and evaluating the evidence while gathering senior military commanders and civilian officials on a conference telephone call. That could mean rousing people out of a sound sleep, interrupting meetings, locating those who are playing golf or shopping, and so on. There would be duty officers continuously in the command centers of the major military commands, the Pentagon, and the White House, but the probability of getting most of the principal officials on whom the president relies (e.g., the secretary of defense) on the phone within five to ten minutes is not high. Once these officials assembled, they would need some time to ask their own questions and to make their own evaluations before deciding to bring in the president. Scrambling a president summarily is not something that can be done cavalierly, especially if the commander in chief is engaged in some very public activity.

Thus, the president would be facing a very short deadline once brought into the debate. At least ten minutes, and more likely fifteen, would be needed to transmit an order to launch our weapons, to verify it, and to give the missiles and bombers time enough to launch and fly far enough away to avoid the effects of the incoming attack. That means there could be as little as three minutes, and at the very most eighteen, to assemble principals and for the president to make the most momentous decision in history (see Figure 1.1). It is irresponsible even to pretend we have the capability for making a decision of this import under these conditions—or that we would do so even if we could.

However, maintaining the pretense of being able to launch on warning has been an additional way of dissuading the Soviets, and now the Russians, from attempting a surprise attack. Yet that benefit must be weighed against the risk of keeping a large part of our nuclear force on constant hair-trigger alert. We have had thousands of false alarms of impending missile attacks on the United States, and a few could have spun out of control. One such incident took place on June 3, 1980. Zbigniew "Zbig" Brzezinski, President Jimmy Carter's assistant for national security affairs, was awakened at 2:26 A.M. by a phone call from Colonel William Odom, a

FIGURE 1.1 Best and Worst Cases for Firing Our ICBMs Under Attack from Russia



staff officer responsible for matters of nuclear readiness. Odom told him the warning system was predicting a nuclear attack of 220 missiles on the United States with the specific destination unknown. The alarm bells of nuclear alert were ringing, and the conference calls were under way. Shortly thereafter, Odom called back to say the warning indicators had changed to an all-out attack of 2,220 missiles. Bomber crews on alert were manning their aircraft and the Pacific Command's airborne command post had taken off. What flashed through Brzezinski's mind was that in less than thirty minutes it would be all over for him and most other Washingtonians. He was determined to ensure that the Soviet Union would be equally devastated but decided he had another minute before having to wake President Carter and confront him with a decision on whether to launch a counterattack immediately. Brzezinski asked Odom to give him one more update. Odom called again almost immediately to say that only one of our warning stations had reported the impending attack. The fact that no other station saw it indicated there was a computer error in the system. The crisis came and went in a matter of minutes.'

Still, the chances of our going to war on the basis of a false alarm have always been low. A president would see that releasing any number of nu-

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ance that would count but how much of our lethal potential would still be available after a surprise, preemptive attack by the Soviets. Would there be enough retaliatory potential to pose a devastating threat? If so, that should deter the Soviets from attempting one. We looked at the worst possible case—assuming they would launch the most disabling attack they could and that we would simply ride it out. We then assessed the number of hard targets and the size of the urban area in the Soviet Union that our surviving nuclear forces would still be able to destroy. The result was revealing and meaningful: No matter what the Soviets did, and despite their being ahead of us quantitatively, the United States could still level the entire urban area of the Soviet Union between one and two times. Put simply, in the worst case imaginable we had much more than enough invulnerable retaliatory force to destroy the Soviet Union as a society. I was encouraged, because I could now tell Downey and his colleagues something relevant to the decisions they had to make.

Alas, the conclusion was all too meaningful for the Pentagon. It sent a clear message that the United States possessed more than enough nuclear weaponry. Yet at that very moment our military was proposing to build still another ICBM, the MX. The rationale was that our existing mix of forces was too vulnerable to surprise attack, something our analysis clearly disputed. The Pentagon's argument against us at CIA, that we in the intelligence field were doing war-gaming and that was not our province, was a sterile bureaucratic ploy.

As we debated this into 1980, I found myself increasingly isolated. Even the CIA's analysts were not behind me. They were concerned not to get the CIA involved in the debate over the MX. There is a strong ethic among intelligence professionals that they must not take sides on policy issues, lest they be accused of slanting the intelligence to support their views. Intelligence analyses, however, must be relevant to policymaking. This one was, and it laid out the facts without taking sides.

In December 1980, despite the objections of the secretary of defense, I sent this analysis to President Carter. It was customary to permit those who dissented with an intelligence report to include their contrary views in it. In this instance, the military intelligence organizations dissented, as did, with my permission, my own staff at CIA. It revealed to me how deeply embedded the view was that more is better. The CIA's analysts, having spent years carefully measuring whether we matched the Soviets in

every category of nuclear capability, simply could not countenance being the ones to reveal that we did not need to be equal in order to deter.

NUCLEAR WEAPONS ARE NOT ONLY MUCH MORE POWERFUL than conventional ones but are also qualitatively different (see Table 2.1). It is not too far-fetched to think of them as small pieces of sun brought to earth, creating effects otherwise not experienced. That nuclear weapons are a species unto themselves is best shown by the terminology we employ to describe their power. The pound is the unit of measure for the explosive in conventional munitions. In contrast, for nuclear munitions the unit of measure is the metric tonne (2,200 pounds), but the weapons are so powerful that we refer to their force in kilotons (KT—thousands of tonnes) and even megatons (MT—millions of tonnes). Five hundred pounds of TNT is the explosive force of a common conventional bomb; in contrast, a typical warhead in Russia's strategic arsenal carries 550 KT of force. A 550-KT weapon is the equivalent of 550 × 1,000 (kilo) × 2,200 (lbs./metric tonne), that is, 1,210,000,000 pounds of conventional explosive. A freight train 150 miles long would be needed to transport that much conventional explosive to an airfield. It would take more than 25,000 sorties by our most modern bomber, the B-2, to deliver it. In the course of some 44,000 aircraft sorties during the six-week air campaign in the Gulf War in 1991, we dropped only 84,000 metric tonnes of conventional bombs, or less than one-fifth of the explosive force of a single 550-KT nuclear bomb.²

It is understandable that we prefer to use MT and KT instead of ten-figure numerals when referring to the force of nuclear weapons; the acronyms are much handier. Doing so, however, has encouraged us to talk rather cavalierly about the magnitude of the power involved. For instance, it is not so incongruous to talk about a "small" nuclear warhead when we label it as .1 KT. A warhead of that lethality is small enough to fit in an artillery shell but is the equivalent of .1 × 1,000 (kilo) × 2,200 (lbs./tonne), or 220,000 pounds of conventional explosive. That means that every time a nuclear artillery shell is fired it is the same as launching five fully loaded B-2 bombers at the target.

We must, however, be careful. Equating 550 KT of nuclear explosive with 1.2 billion pounds of conventional explosive, or .1 KT of nuclear

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the Joint Chiefs of Staff, or even from Zbig Brzezinski, who favored the MX. They simply shifted the discussion to whether the president should select a large- or moderate-size version of the missile. My opinion was that the smaller MX was decidedly preferable because we would have the option of making it modestly mobile, and hence less vulnerable, by mounting it on a truck trailer, a railroad car, or an aircraft. What our military clearly wanted was the most powerful counterweight to the even larger ICBMs on the Soviet side. The unspoken argument favoring the larger missile, however, was that nothing less would placate those senators who were wavering on whether to ratify SALT II. It was going to be nip and tuck to garner the sixty-seven votes necessary for approval. The president had to hook some of the senators who were in doubt, and the MX was the bait.

As the meeting drew to a close, President Carter said, in effect, "As I understand the discussion, everyone agrees we should proceed with the MX and in the larger version." I raised my hand: "Mr. President, it is not my role to comment on policy issues, but your use of 'everyone' included me. I do not agree." Not unexpectedly, this had no effect.

CHANGING THE UNDERLYING PREMISES of our nuclear policies as fundamentally as I have suggested would require dedicated leadership by the U.S. president and Congress alike. We have aspired in the past to similarly dramatic changes but have always failed. In 1946 we submitted the Acheson-Lilienthal/Baruch plan to the United Nations for international control over nuclear technology, either for weapons or energy, the end objective being to dispense with nuclear weapons entirely. The Soviet Union thought this was a guise for perpetuating U.S. nuclear hegemony, and the plan was killed almost the moment it was submitted. In 1986 in Reykjavik, Iceland, Ronald Reagan and Mikhail Gorbachev, working without advisers, almost agreed to eliminate either all ballistic missiles (the U.S. proposal) or all strategic nuclear weapons (the Soviet proposal) within ten years. This startling breakthrough foundered on differences over strategic defenses.

The question today is whether these precedents suggest we should proceed cautiously toward similarly revolutionary changes or, with the end of the Cold War, whether we should hold out for even greater change. In my

view, the forces of resistance are sufficiently in retreat that a firm commitment from a president could move us forward aggressively. Moreover, to proceed piecemeal would only play into the hands of those who will seek to slow the process at every stage.

Surprisingly, however, presidents have not played decisive roles in deciding numbers of nuclear weapons or plans for targeting them, although they certainly knew that the numbers in our arsenal and the amount of damage designed into our war plans were excessive. We can surmise a number of reasons for their reluctance to grapple directly with these wasteful and risky practices. One is that mastering nuclear terminology and technology is time consuming. It also requires perseverance, because military officers are always reluctant to involve civilians in war plans—conventional or nuclear—lest the civilians tinker without possessing adequate expertise. That feeling has been especially strong with nuclear plans because they have been considered so essential to the nation's security.

Early in the nuclear era, this aversion to outside interference bordered on insubordination. General Curtis LeMay, commander of the Strategic Air Command from 1948 to 1957, felt so strongly that only he and his experts could formulate our nuclear strategic plans that for several years he failed to inform even the Joint Chiefs of Staff of changes he had made to those plans.¹ LeMay was an extremist, but his reluctance to share information on nuclear war plans persisted. Beginning with Robert McNamara in 1961, secretaries of defense intruded more and more into this military province, but presidential involvement still was limited. For instance, until the early 1970s the Joint Chiefs of Staff did not brief any president on their annual nuclear war game, which estimated the outcome of a nuclear exchange with the Soviet Union, and then did so largely because they believed the results would justify requests for more nuclear weapons.² During the late 1970s, President Carter made a diligent, personal effort to understand our nuclear position. By 1989 the balance had tipped sufficiently that President George Bush, through Secretary of Defense Dick Cheney, put his hand directly on the targeting situation, eliminating thousands of unnecessary targets. And in 1991 President Bush unilaterally withdrew almost all tactical nuclear weapons from deployed positions.

One reason this process took so long is that it has been neither necessary nor advantageous for a president to stir up the issue of reducing numbers of nuclear weapons. It was not necessary because all had confi-

all bets were off. Since I could not imagine the United States starting a nuclear war with Russia, it looked like the legal point was an academic excuse to help justify larger forces. It also fit General LeMay's thesis that we might go first.

I left feeling that despite all the changes that had taken place since Curtis LeMay left SAC in 1957, his influence on StratCom was much stronger than was Lee Butler's.

SECRECY IN A DEMOCRATIC GOVERNMENT IS ANATHEMA. This applies to the necessary secrecy of intelligence operations, to military war plans and equipment, to illegal or improper activities of the government itself—and to nuclear strategy. **Nowhere in our government has secrecy been more profound than with respect to nuclear weapons.** The great emphasis on secrecy concerning the Manhattan Project back in 1942 was easy to understand. After all, we saw ourselves in a fight with Germany on which the fate of the free world hinged. This carried over into the Cold War. **Information about nuclear weapons was one of the first to be sequestered in a special compartment above "Top Secret" labeled "Restricted Data."** Access can still be had only with a special permit. A similarly restrictive approach was applied to our programs for biological and chemical weapons when they were active. It carries over to today for much data on those programs.

A partial result of all of this compartmentation of information is that **presidents and the Congress have played a less active role in formulating policies on weapons of mass destruction than on any other policy of comparable import and expense.** Even within the military, access to information on these weapons has been severely restricted. Under these circumstances, it is no wonder citizens have not been well informed. Indeed, they have been misinformed. Many civilian and military experts who shaped policy on nuclear weapons simply lost focus in concocting sophisticated theories that never made sense when first formulated, for example, the necessity of a TRIAD of nuclear forces and plans to escalate nuclear war until we dominated—no matter what the damage to our country. If ever scrutiny by the public was needed because scrutiny by the bureaucracy was so limited, this was it.

Today, adequate citizen input to policies concerning weapons of mass destruction is still lacking. It will take greater openness on the govern-

ment's part to generate it. **The excuse against public involvement continues to be secrecy.** There are, though, only two sectors where secrecy on weapons of mass destruction remains necessary. One is our capabilities and intentions for retaliating to attacks with weapons of mass destruction. The other is advanced techniques for making such weapons. The basic equations are readily available, but we do not want other data that would simplify the task to reach the hands of would-be proliferators. Iraq, for instance, has been forced to follow some cumbersome processes for refining fissionable material in searching for a nuclear capability. Within these limits, we need to devise ways to involve our citizens more. One approach would be for the government to publish more information to help the public grasp the essential elements of weapons of mass destruction. For example:

- A guide to the lethality of these weapons could be produced in the language of nonexperts. This would require the government to acknowledge why and how it has historically underestimated the effects of nuclear weapons. Much the same would apply to explaining the wide variations, even within the government, in estimates of the effects of chemical and biological weapons.
- Data could be released on the problems others face in manufacturing weapons of mass destruction and the state of progress of various aspirant countries. There would be objections that releasing such data showing just how much we know about other countries could compromise our intelligence sources. This need not be the case, however. There are ways to conceal the origin of the data, even by deliberately distorting it by modest amounts.
- Information on the past, present, and future costs of U.S. programs for weapons of mass destruction. This would enable the public to place these programs in perspective with other national needs. This should include the costs of repairing damage to the environment.
- Perhaps most important of all, statistics could be released on the risks we have taken and are taking, especially data as to the number of deaths and the amount of destruction we estimated would be caused by our nuclear war plans at various points in the past. The public needs to understand the extremes to which we

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EXECUTIVE

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THE WHITE HOUSE
WASHINGTON

December 19, 1977

To Dr. Carl Sagan

I greatly appreciate the time you took from your busy schedule yesterday to spend two hours with me discussing so many interesting aspects of astronomy.

It was a welcome diversion from earthly concerns, as well as most fascinating and instructive in its own right, to hear from you about such subjects as the planets and stars, black holes, exobiology, and the probabilities of extraterrestrial life.

Many thanks and best wishes to you and your family for the holiday season.

Sincerely,



Dr. Carl Sagan
X Cornell University
Ithaca, New York 14850

RECEIVED

DEC 21 1977.

CENTRAL FILES

70 re. meeting on astronomy

June 12, 1979

To Dr. Carl Sagan

I was pleased to be able to meet with you on the Strategic Arms Limitation agreement, and appreciated this opportunity to discuss the issues involved.

As the national debate on the new SALT agreement begins, I would be interested in your personal views on the agreement and its presentation to the Senate and the American people. Having your opinion on these matters will be helpful to me.

Sincerely,

JIMMY CARTER

Dr. Carl Sagan
Cornell University
302 Space Sciences Building
Ithaca, New York 14853

June 18, 1979

Dear Dr. Sagan:

As you know, the President and President Brezhnev have signed today in Vienna a new strategic arms limitation treaty between the United States and the Soviet Union. In view of the critical importance of this undertaking, the President wanted you to see and review the relevant documents at the earliest opportunity.

I am enclosing courtesy copies of the Treaty and the Protocol to the Treaty (with their associated Agreed Statements and Common Understandings); the Joint Statement of Principles and Basic Guidelines for Subsequent Negotiations on the Limitation of Strategic Arms; a Memorandum Regarding the Establishment of a Data Base on the Numbers of Strategic Offensive Arms (together with a Statement of Data on the Numbers of Strategic Offensive Arms as of the date of signature of the Treaty); and the Statements on Backfire.

The President will transmit the official texts of these documents to the Senate upon his return from Vienna. I hope that you will give these documents your most careful consideration.

Sincerely,

Frank Press
Science and Technology Adviser

Dr. Carl Sagan
Department of Astronauts
and Space Sciences
Space Sciences Building
Cornell University
Ithaca, NY 14853

Enclosures



NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
WASHINGTON, D.C. 20546

Handwritten initials

OFFICE OF THE ADMINISTRATOR

JAN 17 1972

Mr. Robert E. Leonard
147 Bridgton Road
Westbrook, ME 04092

Dear Mr. Leonard:

I am absolutely thrilled for you and your family. By accepting Christ as your Savior, you have taken the most important step of your lives, one that will lead all of you to greater happiness in this world and ultimate in the next.

At your request, I will be delighted to give you my personal testimony. Let me emphasize that I view religious beliefs as very much a personal matter and am not suggesting that mine be adopted in part or in total by anyone else.

A Scientist Meets His Maker: The road to a strong faith in God and Jesus Christ, His Son, is arduous to say the least. In my early teens, I suffered from a case of supreme arrogance in which I even questioned in my mind the existence of God. I think all of us go through this phase at one time or another. My movement from a position of indecisiveness to commitment was a factor of two kinds of experience: one with science and one with man.

In my education, as I became exposed to the law and order of the universe, I was literally humbled by the unerring perfection of its mechanisms; I became convinced that there must be divine intent behind it all. It is one thing to accept natural order as a way of life, but as I asked the question, "Why?", then God entered in all His glory. Science and religion ceased to be antagonists. On the contrary, they became sisters. It was revealed to me that while science tries to learn more about the Creation, religion seeks a better understanding of the Creator.

MAY 1 1978

While through science man tries to harness the forces of nature around him, through religion he seeks to control the forces of nature within him.

Today, in our modern world, many young people in particular feel that our rapid advance in the field of science renders such things as religious beliefs untimely or old-fashioned. They wonder why we should be satisfied in "believing" something when science tells us we "know" so many things. It was this way for me. The simple answer to this contention appeared to me as I began to gather scientific knowledge: "knowing" introduces more "questions" in an almost geometric proportion. For example, our venture into space has, in actuality, been only the smallest of first steps and has certainly presented us with more mysteries than it has solved. There is no scientific reason why God cannot retain the same position in our modern world that He held before our inquiry into the nature of just about everything.

Atheists the world over call upon science as their crown witness against the existence of God. But as they try to render proof through scientific reasoning that there is no God, the simple and enlightening truth is that their arguments boomerang, for one of the most fundamental laws of natural science is that nothing in the physical world ever happens without a cause. There simply cannot be a creation without some kind of spiritual creator.

Yes, I would have to say that for me the grandeur of the cosmos confirms my belief in the certainty of a Creator. There are the gift of love, the will of a species to live and propagate, the powerful force at work on a galactic scale, and the growth of an ungainly seed into a beautiful flower. Finite man cannot begin to comprehend an omnipresent, omniscient, omnipotent, and infinite God. In the final analysis, any effort to reduce God to comprehensible proportions beggars His greatness. The universe, as revealed through scientific inquiry, is the living witness that God has indeed been at work. Understanding the nature of the creation provides a substantive basis for the faith by which we attempt to know the nature of the Creator. My experience with science, then, led me to God--it was as if I were putting a face on God.

My experience with man led me in the same direction. One aspect about human behavior that cannot be understood without believing in

Divine Intent is "conscience." An animal's actions are solely controlled by its basic instincts and urges, such as hunger, fear, love, and need for shelter. The response to these drives by the animal is entirely automatic. In an animal's makeup there is no room for freedom of the will, for searching curiosity, for freedom of doubt and conflict between urges and ethical standards. Only man has been burdened with the conflicts arising out of being an image of God cast into the form of an animal. And only man has been bestowed with a soul which enables him to cope with the eternal.

Conscience is like carrying with you at all times a needle like the localizing needle in an airplane that guides you to a landing. An animal does not know that mysterious little needle that tells you unequivocally what is right and what is wrong. Sometimes you may not like to hear what it tells you; but in most cases you really know what is right even if you choose not to act accordingly. Animals know no scruples as for example, lions naturally hunt and kill gazelles, and gazelles naturally fear lions. For man this little needle, conscience, makes all the difference, because in all other respects man is still an animal and has all the instincts of animals. My realization that man experiences an entirely different dimension as a consequence of being given the gift of conscious reasoning brought me to a strong faith in God.

Now, as a basis and foundation for my faith in God acquired through my experience with science and man, I find Christianity the most rewarding and comforting. I think it is all too easy to overlook the unique beauty of the Christian religion. It is simply that the idea of God creating an extension of Himself as a man and letting this God-man, Jesus Christ, die in an agony, with which each of us can identify, is the ultimate of any sacrifice that God could make to show His love for mankind.

In our search to know God, I have come to believe that the life of Jesus Christ should be the focus of our efforts and inspiration. The reality of this life and His resurrection is the hope of mankind. The basic teachings of Jesus are unambiguous, consistent, and unforgettable, as anyone who has ever read the Sermon on the Mount will testify.

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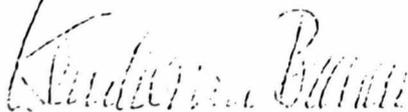
Jesus greatly expanded mankind's basic moral laws. His commandment, to "love thy neighbor as thyself," established the unselfish attitude that enables human beings to live peaceably together. Even more revolutionary, was His commandment to "love thy enemies." Although it is all too rarely followed, it has left an indelible and unforgettable imprint on the man-to-man relationships among people everywhere on our globe. When man was given the opportunity to know Jesus Christ almost 2,000 years ago, the world was turned upside down through the widespread witness of His followers. The same thing can happen again today.

As a Christian, it seems to me that one of the most important eternal truths that Christ left with us is that if we seek it earnestly enough, there can be a very direct personal relationship between God and man. I am not in despair about the discordant conditions of our social environment. In spite of all the temporary setbacks that humanity has suffered through the centuries, I strongly believe that God, through our personal relationships with Himself and Jesus Christ, will see to it that man's path will continue upward leading toward gradual improvement. In this relationship, I accept God, through faith, as an intelligent will, perfect in goodness, revealing Himself through His creation--the world in which we live.

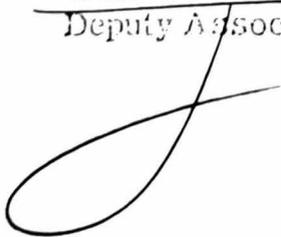
In conclusion, let me say that I think it is grand that you speak out for Jesus in the jails of Portland. If you use my testimony, please remember that I do not hold it out as a blueprint for the correct path to Jesus for anyone else.

I pray that your efforts among the inmates will reap many rewards and that you and your family will enjoy health and prosperity.

Sincerely,



Werner von Braun
Deputy Associate Administrator



4-104. Classified information no longer needed in current working files or for reference or record purposes shall be processed for appropriate disposition in accordance with the provisions of Chapters 21 and 33 of Title 44 of the United States Code, which governs disposition of Federal records.

4-105. Classified information disseminated outside the Executive branch shall be given protection equivalent to that afforded within the Executive branch.

4-2. Special Access Programs.

4-201. Agency heads listed in Section 1-201 may create special access programs to control access, distribution, and protection of particularly sensitive information classified pursuant to this Order or prior Orders. Such programs may be created or continued only by written direction and only by those agency heads and, for matters pertaining to intelligence sources and methods, by the Director of Central Intelligence. Classified information in such programs shall be declassified according to the provisions of Section 3.

4-202. Special access programs may be created or continued only on a specific showing that;

(a) normal management and safeguarding procedures are not sufficient to limit need-to-know or access;

(b) the number of persons who will need access will be reasonably small and commensurate with the objective of providing extra protection for the information involved; and

(c) the special access controls balance the need to protect the information against the full spectrum of needs to use the information.

4-203. All special access programs shall be reviewed regularly and, except those required by treaty or international agreement, shall terminate automatically every five years unless renewed in accordance with the procedures in Section 4-2.

4-204. Within 180 days after the effective date of this Order, agency heads shall review all existing special access programs under their jurisdiction and continue them only in accordance with the procedures in Section 4-2. Each of those agency heads shall also establish and maintain a system of accounting for special access programs. The Director of the Information Security Oversight Office shall have non-delegable access to all such accountings.

4-3. Access by Historical Researchers and Former Presidential Appointees.

4-301. The requirement in Section 4-101 that access to classified information may be granted only as is necessary for the performance of official duties may be waived as provided in Section 4-302 for persons who:

- (a) are engaged in historical research projects,
- or
- (b) previously have occupied policy-making positions to which they were appointed by the President.

4-302. Waivers under Section 4-301 may be granted only if the agency with jurisdiction over the information:

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STATEMENT BY THE PRESIDENT

I am pleased to sign the Executive Order revamping the government's security classification system.

The public is entitled to know as much as possible about the government's activities. Classification should be used only to protect legitimate national security secrets and never to cover up mistakes or improper activities.

While some material must be classified, the government classifies too much information, classifies it too highly, and for too long. These practices violate the public's right to know, impose unnecessary costs, and weaken protection for truly sensitive information by undermining respect for all classification.

The new Order will increase openness in government by limiting classification and accelerating declassification. At the same time, it will improve protection for information that needs to be kept secret.

The standard for classification has been tightened. No document is to be classified unless its release reasonably could be expected to cause identifiable damage to the national security. Insignificant damage is not a basis for classification. In addition, the number of agencies and officials with classification authority is being reduced. Delegation of such authority shall be held to a minimum.

All documents should be declassified as early as national security permits. Under the new Order, most documents will be declassified after no more than six years. Only agency heads and officials with Top Secret classification authority may classify for a longer period and only by indicating why classification will remain necessary despite the passage of time. With a few exceptions, the documents given extended classification will be declassified after no more than 20

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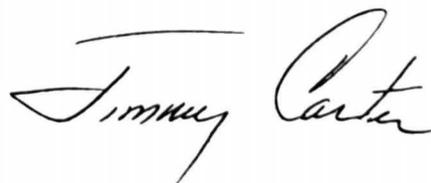
ELECTROSTATIC REPRODUCTION MADE FOR PRESERVATION PURPOSES

years. The millions of documents classified under prior Orders that are over 20 years old will be reviewed and -- in almost all cases -- released as quickly as possible.

I expect all officials to follow these procedures and the others set out in the new Order. But experience has taught us that strong oversight is needed, both to make the classification system as open as possible and to safeguard properly classified documents. Each agency that handles classified information should take care to ensure that its personnel understand and follow the new procedures.

In addition, I have created an Information Security Oversight Office to provide overall supervision. This Office will have authority to review agencies' procedures and files. It can overrule their regulations and their decisions on classification of individual documents, subject to appeal to the National Security Council. The Office will report regularly to the NSC and to me on compliance with the Order. The Office is a key element to the new classification system, and it will have my strong support.

In a break from precedent, this Order was drafted in consultation with several Congressional Committees and private groups. I particularly wish to thank Senators James Abourezk, Joseph Biden, Edmund Muskie, and Representatives Edward Boland and Richardson Preyer for their valuable assistance.



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