

(U) Chapter 17

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The New Targets and Techniques

~~(S-CCO)~~ The demise of the Southeast Asia problem caused a revolution in SIGINT targeting. In many ways, though, it was no revolution at all, because the new focus was simply an old problem - the Soviet Union.

(U) STRATEGIC ARMS LIMITATION

(U) History shows that many presidents who have been given credit for starting something actually did not. This was the case with the negotiation of strategic arms limitations with the Soviets. President Lyndon Johnson, rather than Richard Nixon, initiated negotiations in 1967. At the time, Secretary of State Dean Rusk predicted that it would become "history's longest permanent floating crap game."² He was very nearly right.

(U) The Warsaw Pact invasion of Czechoslovakia in 1968 brought the abortive Johnson negotiations to an early and abrupt end. But Richard Nixon, hoping for some real departures in the foreign affairs field, got them started again. His new foreign policy ombudsman, National Security Advisor Henry Kissinger, contacted the Soviet ambassador to Washington, Anatoly Dobrynin, and they agreed to meetings in Helsinki. The "crap game" then floated to Vienna and finally to Geneva, where it settled for the duration of the Cold War. Negotiations survived the bombing of Hanoi, the Watergate crisis, and the invasion of Afghanistan in 1979.³

(U) In May 1972 the protracted negotiations produced the first Strategic Arms Limitation Treaty, called SALT I. The treaty had two parts.

a. Part 1 was defensive. The two sides agreed to limit their antiballistic missile forces to two locations. Each side was permitted to defend its capital city with defensive missiles, plus one other site, which would be a single cluster of silo-based launchers. This part of the treaty was of unlimited duration, to be reviewed every five years.

b. Part 2 was offensive. It froze the silo-based missiles and submarine-launched ballistic missiles at their current (1972) level for five years (until October 1977). Since the Soviets would not admit what total number they possessed, the treaty did not express any numerical figures. American intelligence estimated that they possessed about 2,400 launchers while the U.S. had only 1,700. This left the Soviets with a larger total missile force, but there were compensations. It did not cover strategic bombers and excluded

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MIRVs (multiple independently targetable reentry vehicles) – the U.S. was far ahead in both categories.

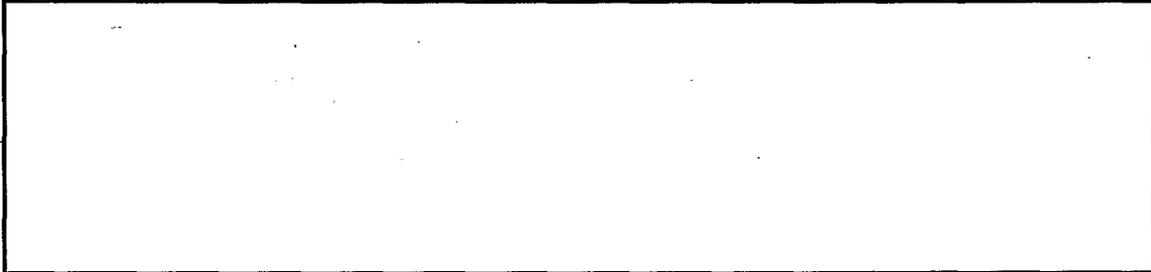
(U) Congress ratified both parts of the treaty, but Senator Henry M. Jackson of Washington succeeded in passing an accompanying resolution requiring that future treaties embody the principle of numerical parity. This set the tone for treaty negotiations through the end of the decade.⁴

(U) With "numerical parity" being the goal, the two sides continued negotiating and set 1974 as a goal to hammer out a SALT II treaty. But Watergate turmoil set back the timetable, and when Gerald Ford moved into the White House in August of 1974 things were far from settled on the SALT front. But then chance intervened. Kissinger had arranged a "getting to know you" meeting between Ford and Brezhnev in the Russian city of Vladivostok, and the meeting produced an unexpected interim agreement, henceforth called the Vladivostok Accords. The two chiefs agreed on a numerical ceiling of 2,400 launchers (which just happened to be the approximate total of Soviet launchers) and a ceiling of 1,320 MIRVed warheads for each side. The Soviets had for the first time accepted the principle of numerical equivalence, and in return the U.S. had agreed to count strategic bombers. They dropped their insistence that future treaties include U.S. forces in Europe, which the American side regarded as strictly tactical and defensive.⁵

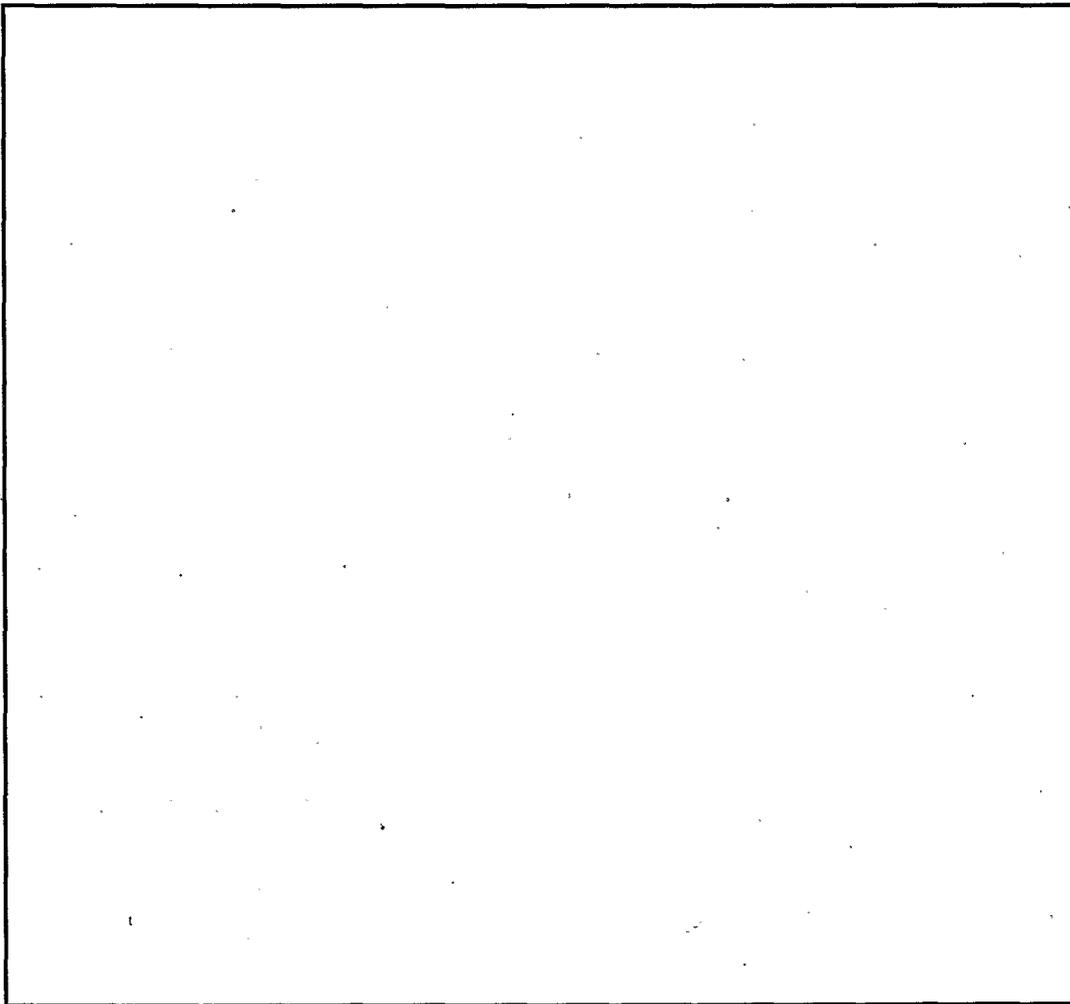


(U) President Ford and Soviet premier Brezhnev in Vladivostok, 1974

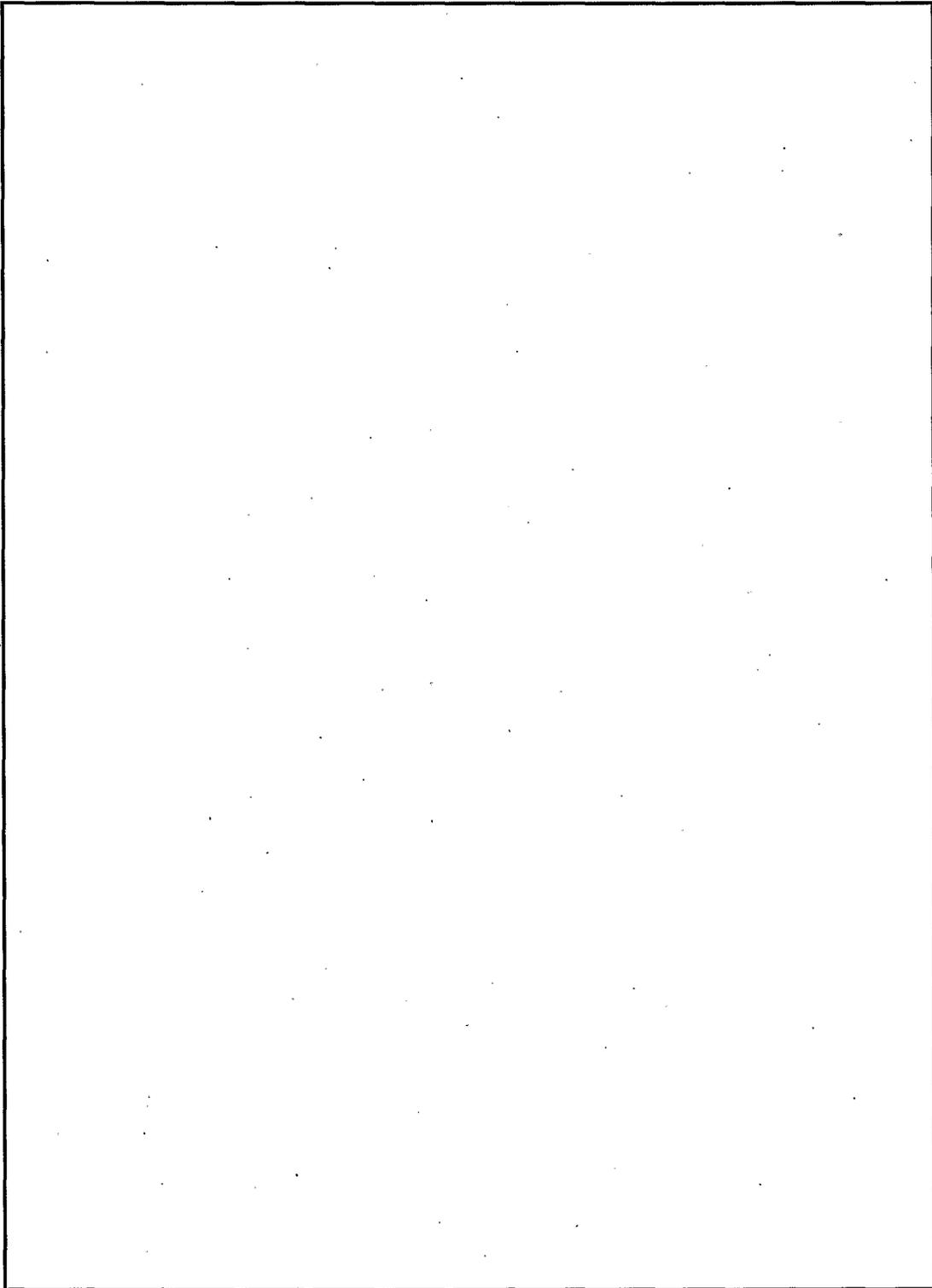
(U) The Vladivostok Accords left as many loose ends as they tied up. They did not define "strategic bomber," and future years saw endless wrangling over whether or not the new Soviet Backfire would be counted in SALT II. On the American side, the F-111 fighter-bomber would have a nuclear capability, but would it have any sort of strategic mission? These issues remained murky.



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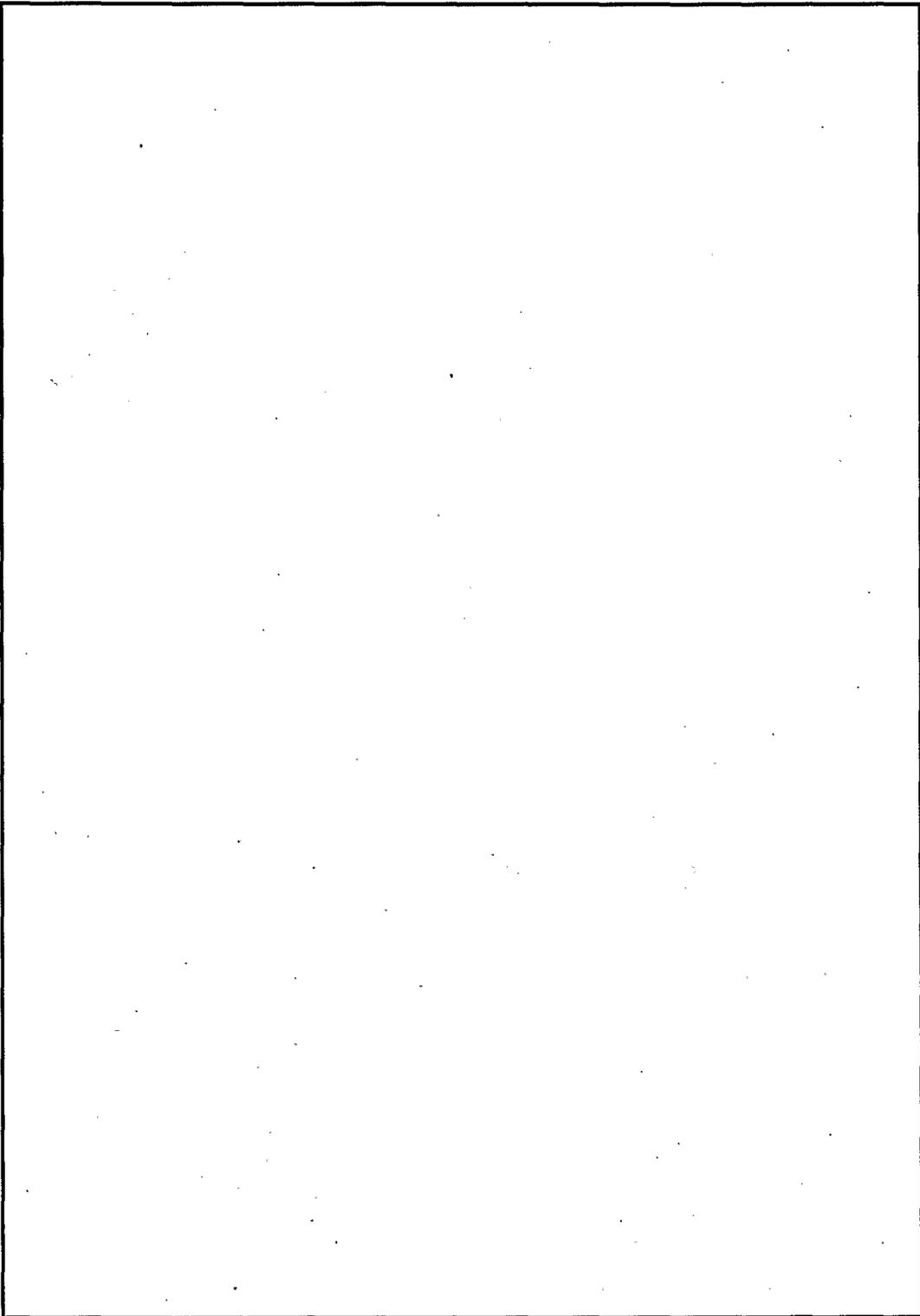
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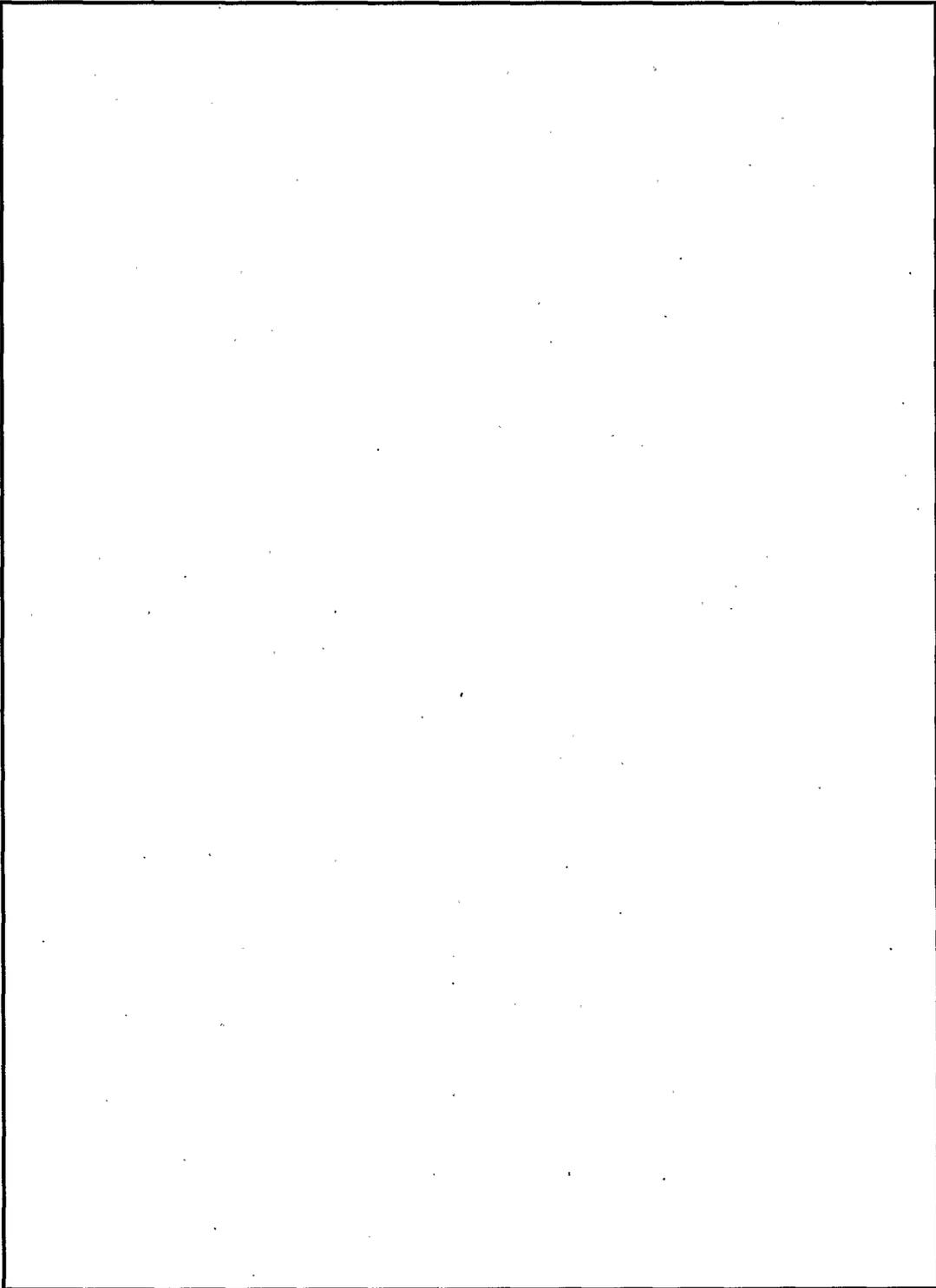
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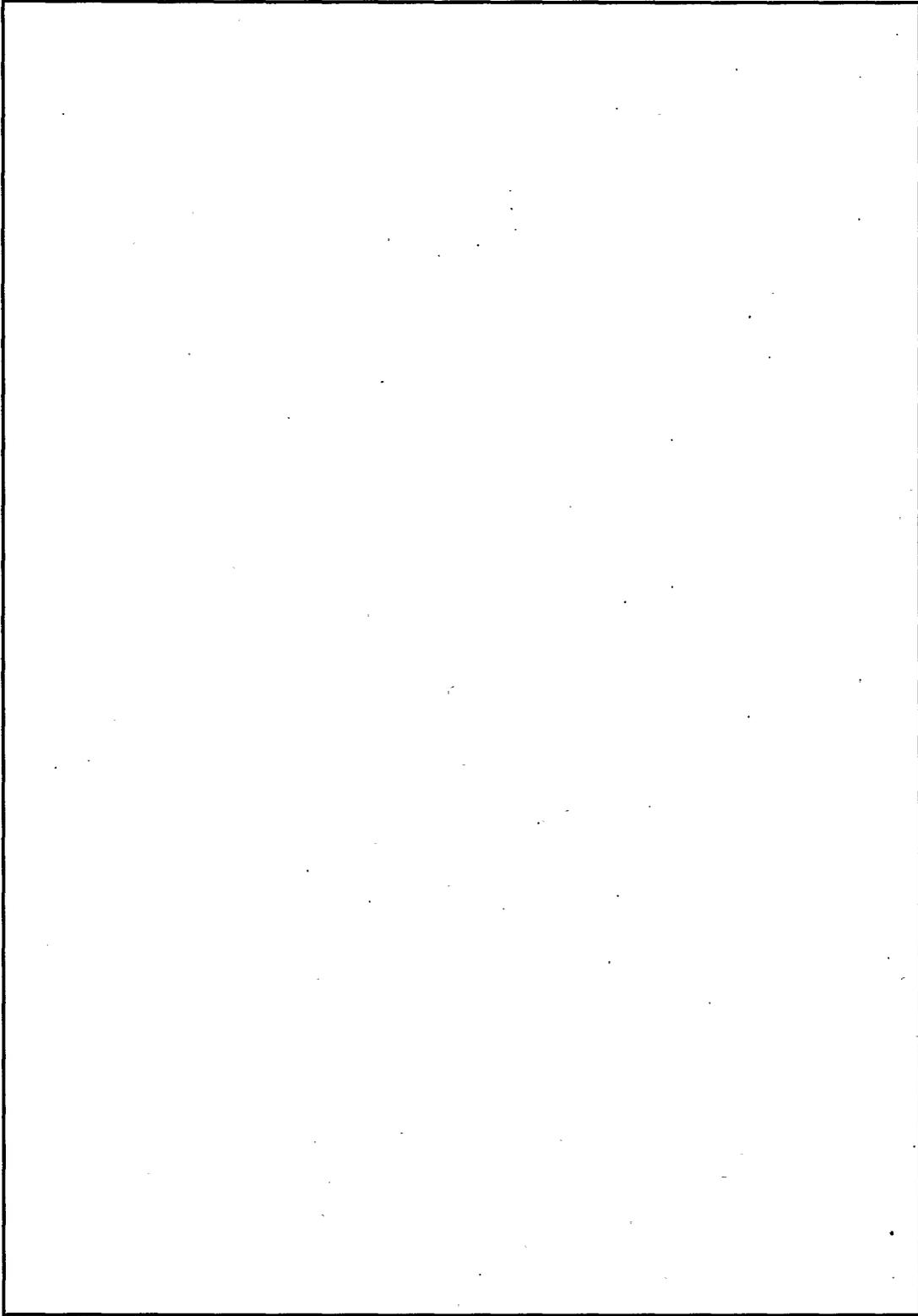
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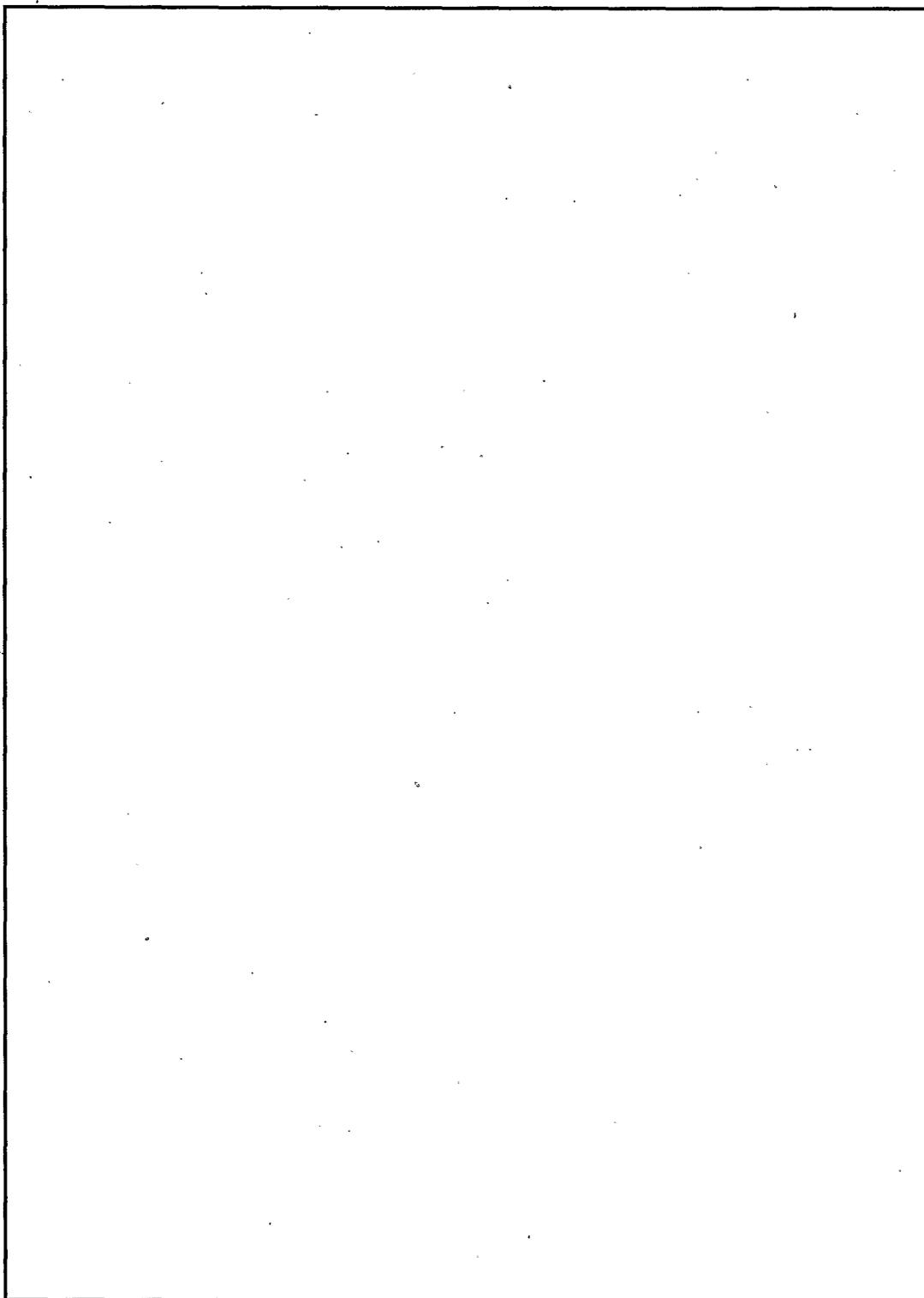


(U) David Boak

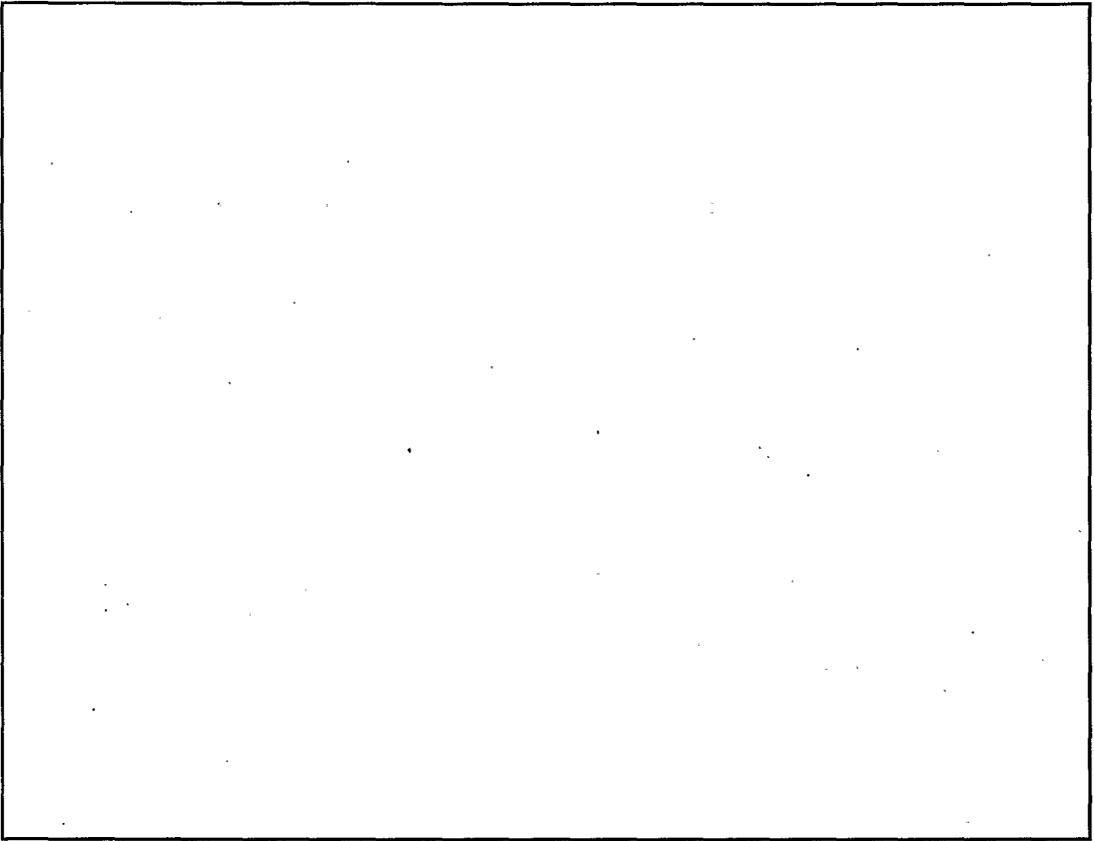
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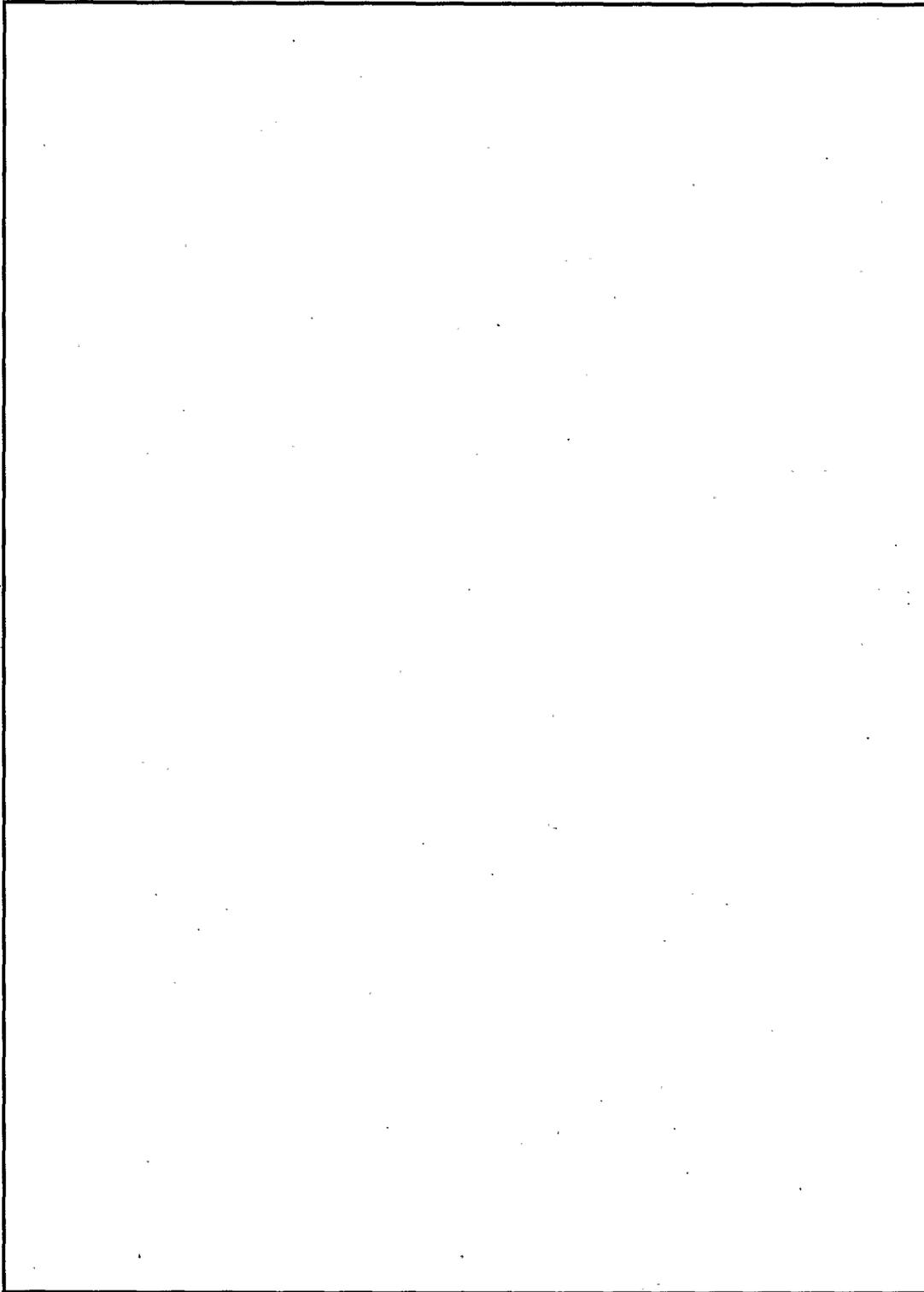
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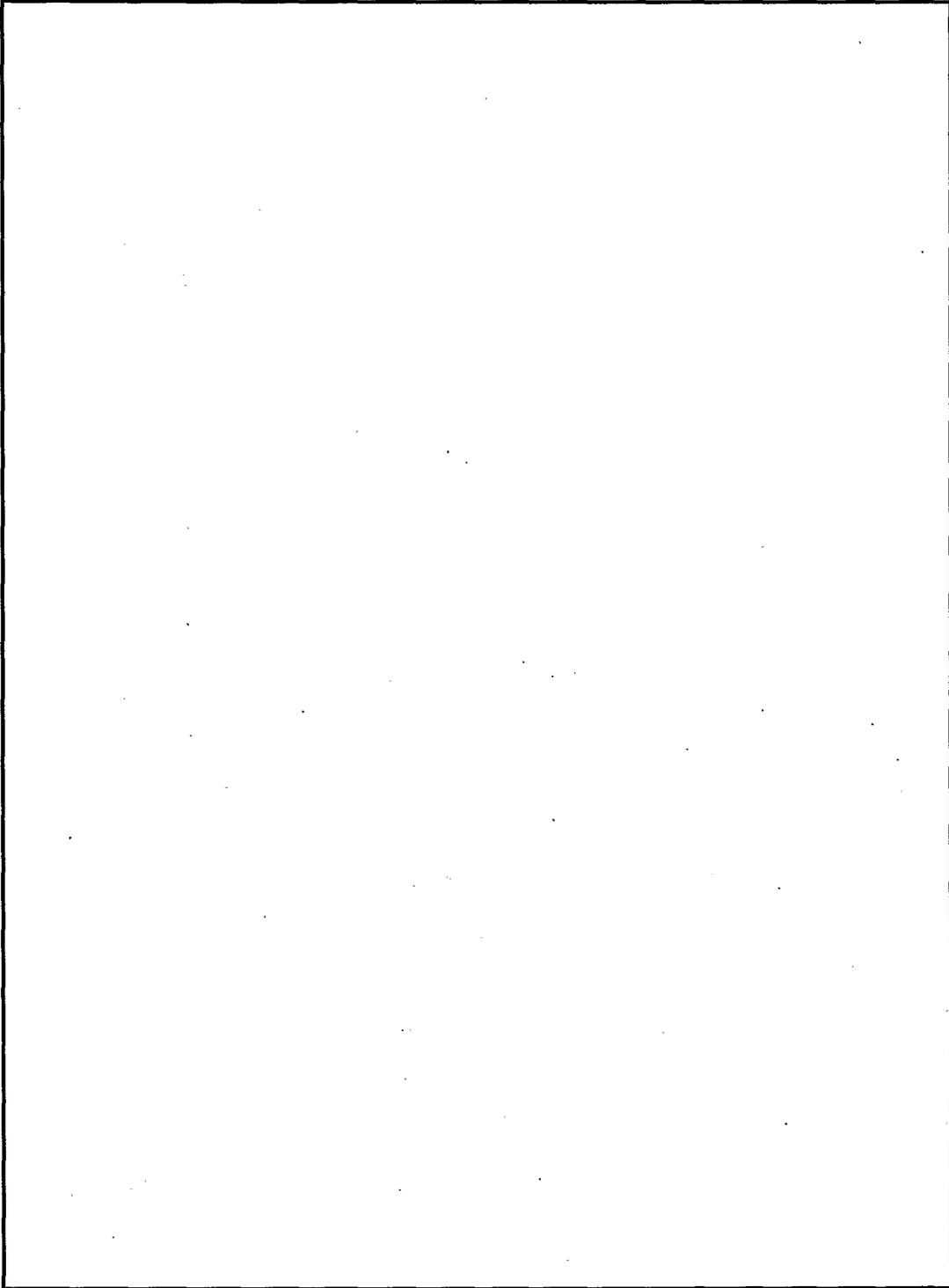
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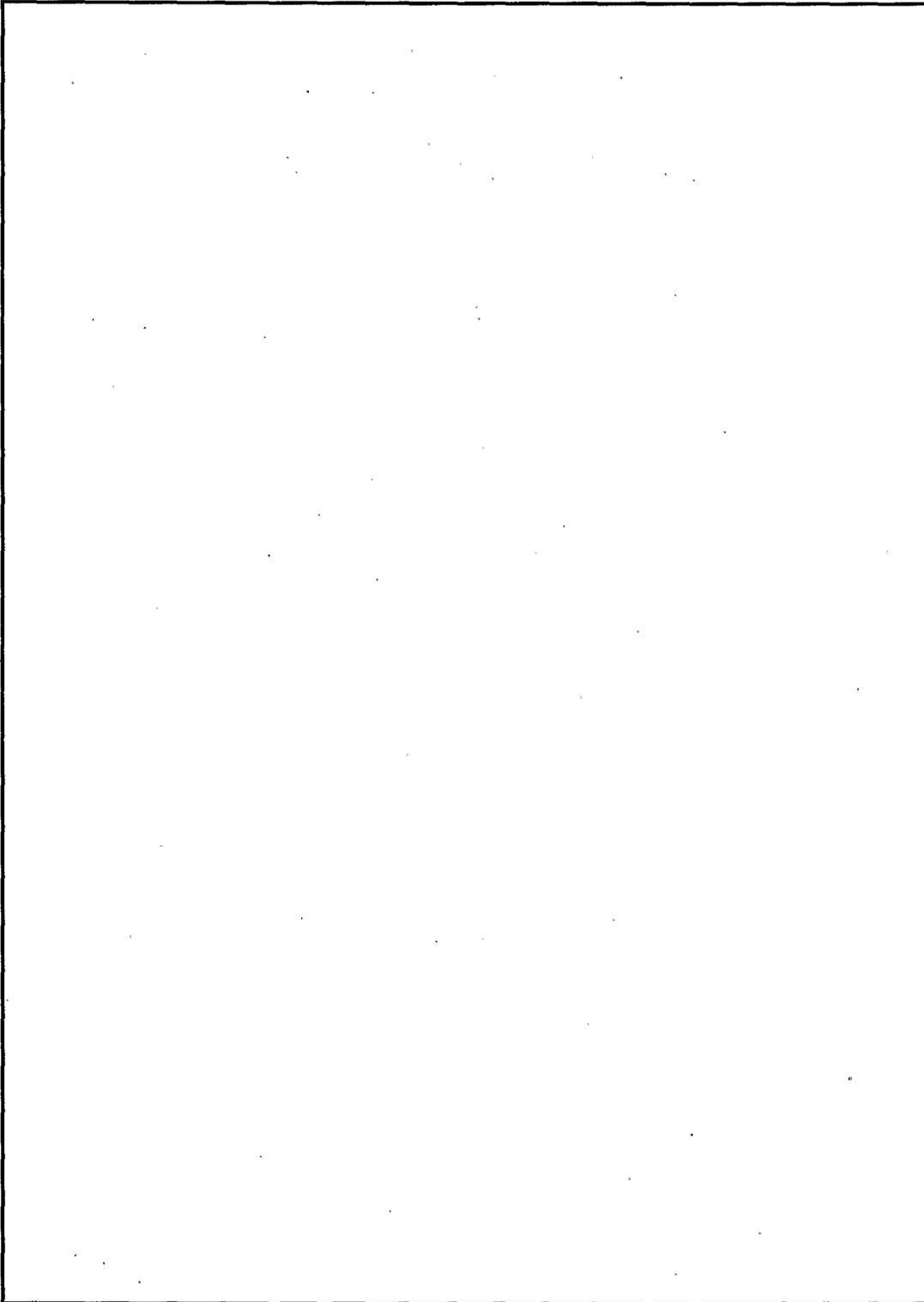
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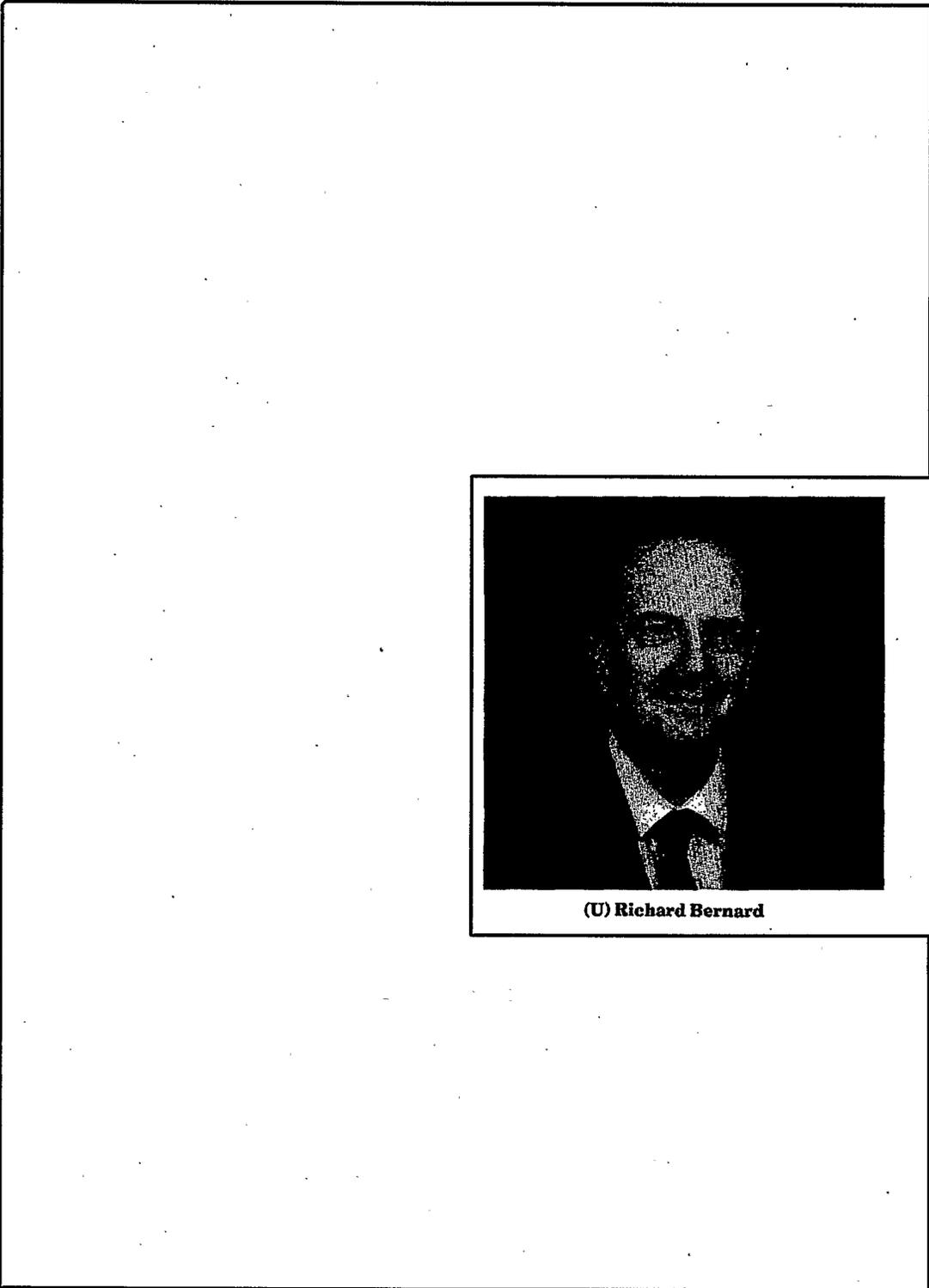
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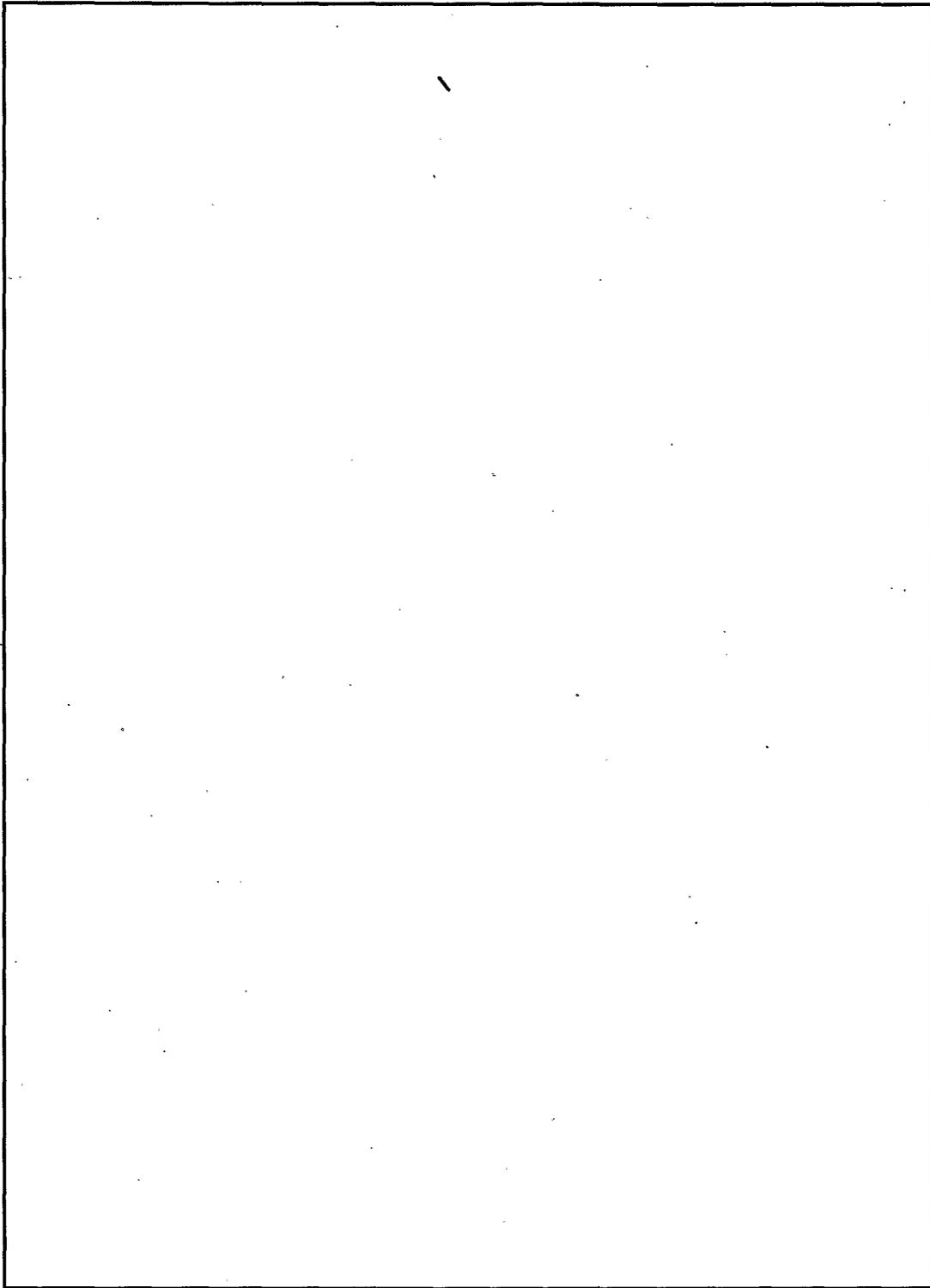
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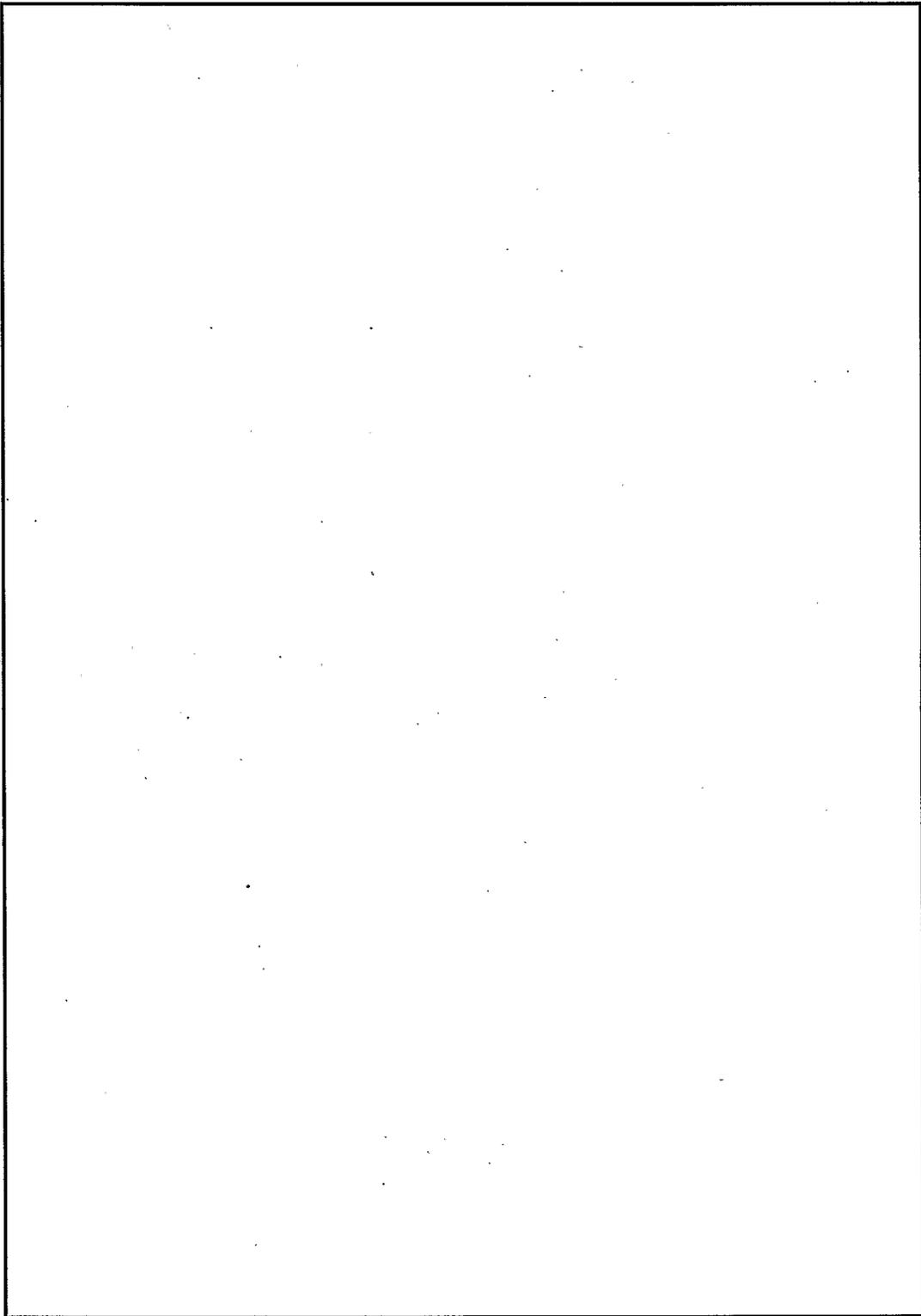
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(U) Richard Bernard

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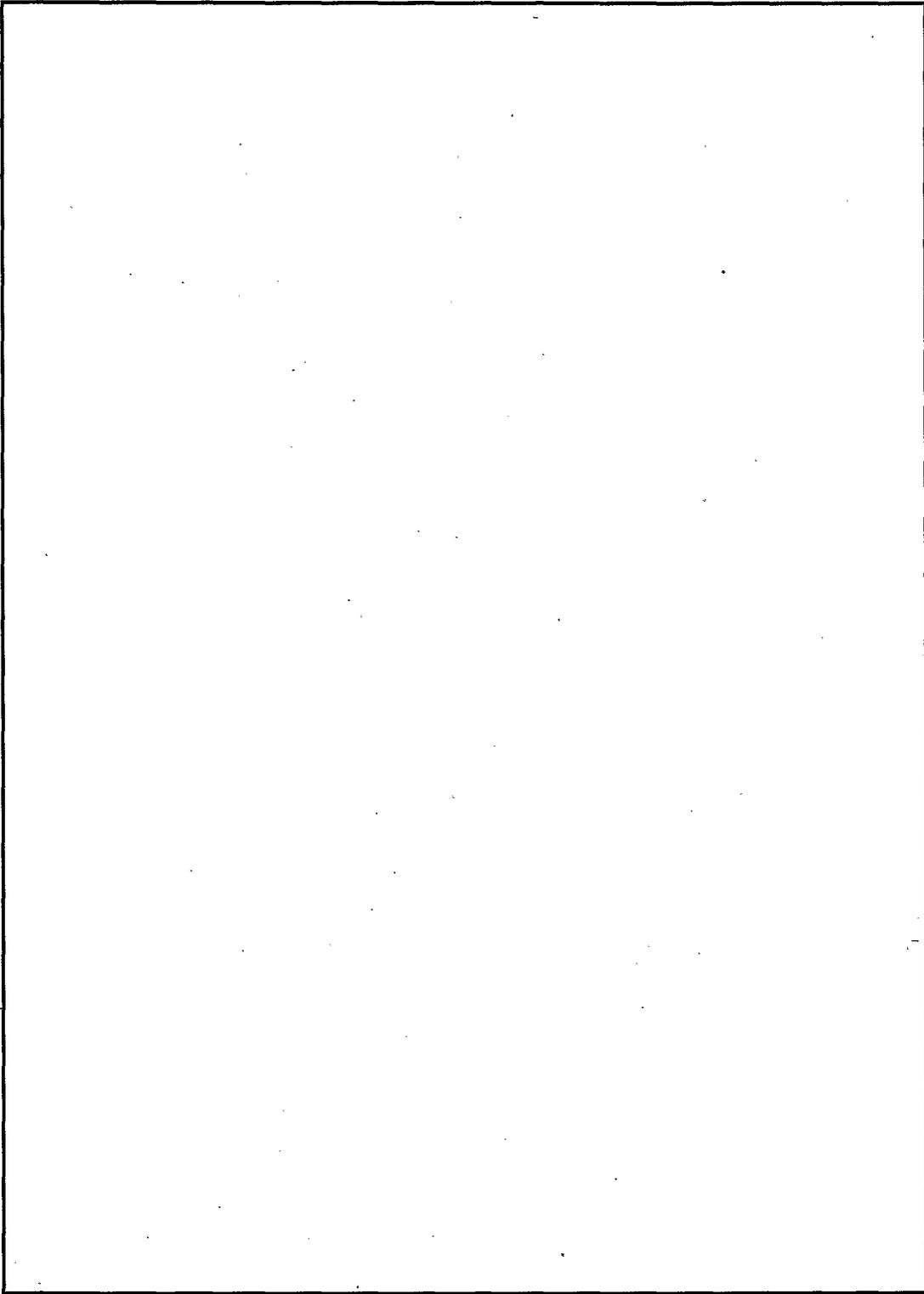


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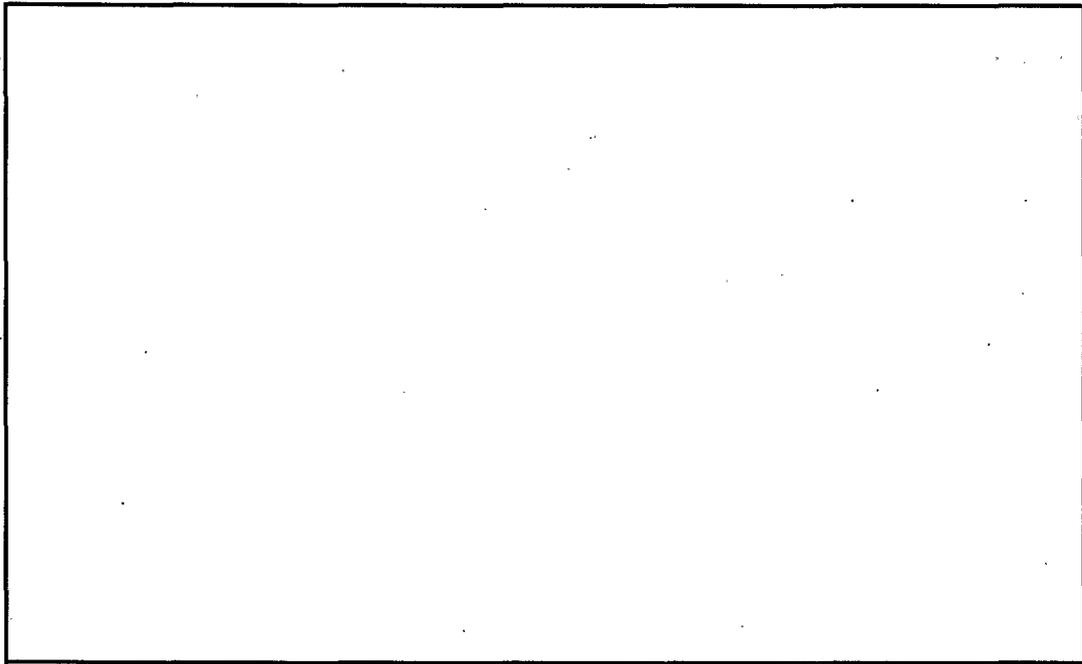
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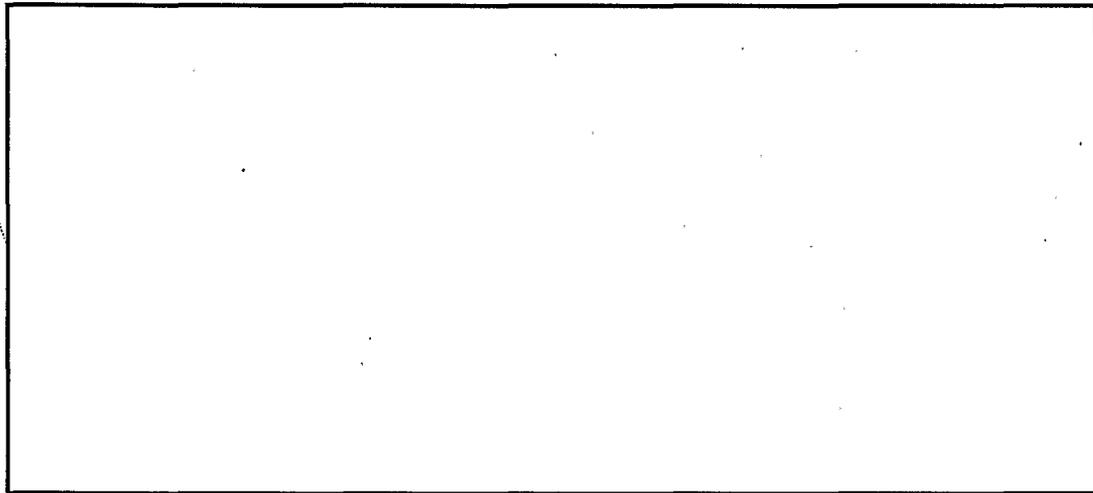
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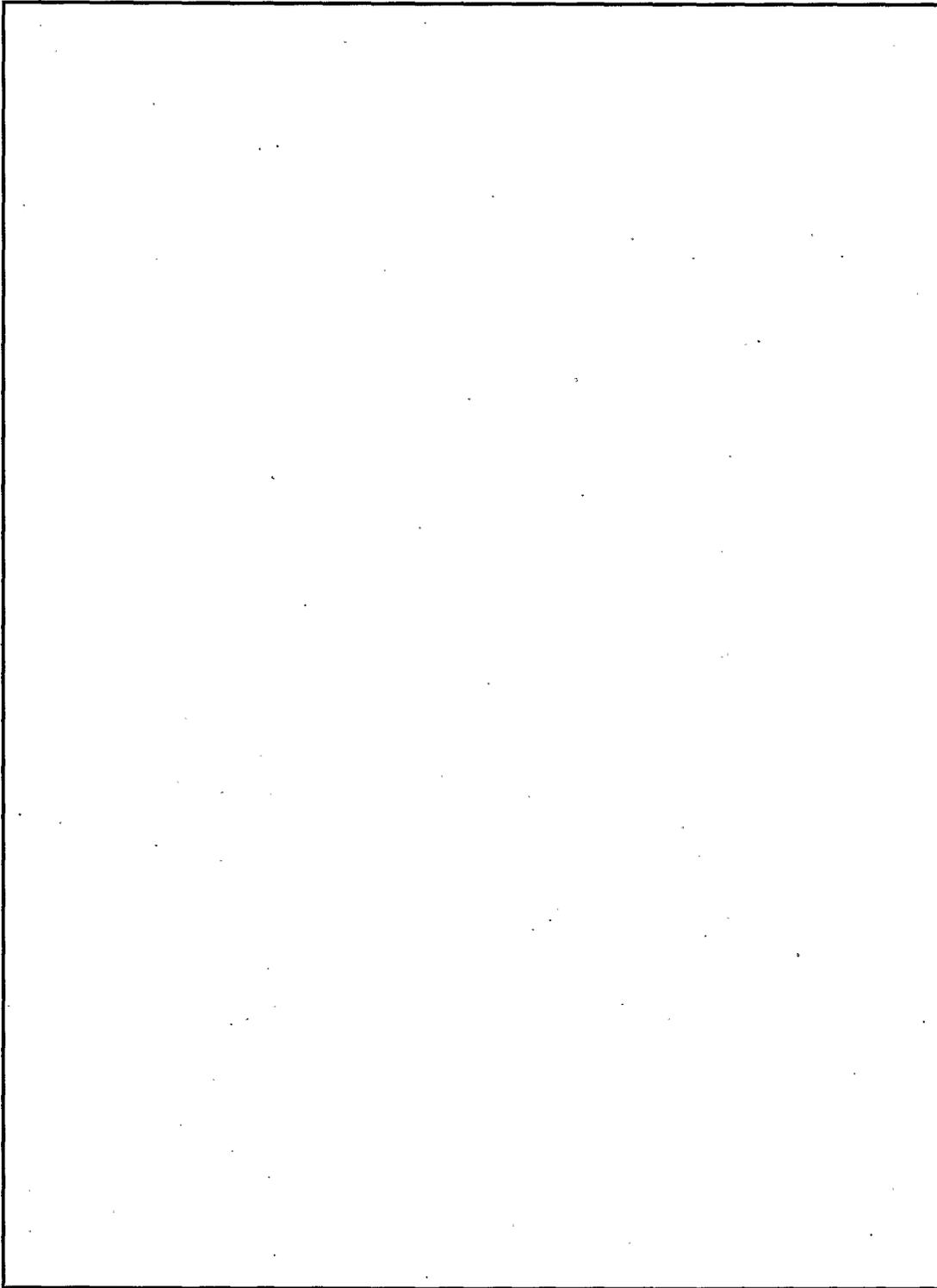
~~(S-CCC)~~ The rapid growth of communications satellites spurred NSA in the 1960s to develop a whole new SIGINT program. The original idea had been to try to do all space-related collection from the same set of facilities

But the idea, while seductive, soon fell to the ground.

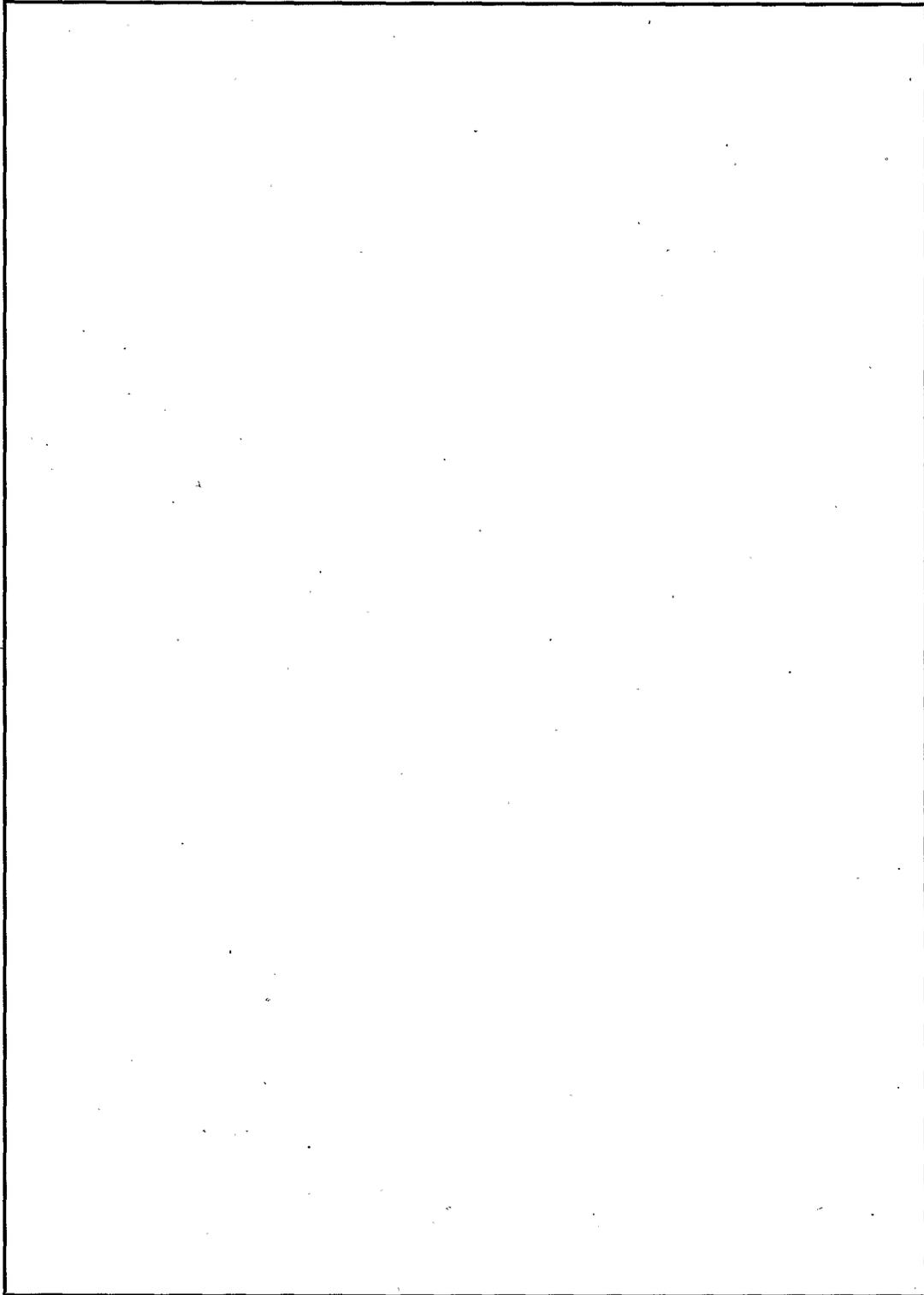
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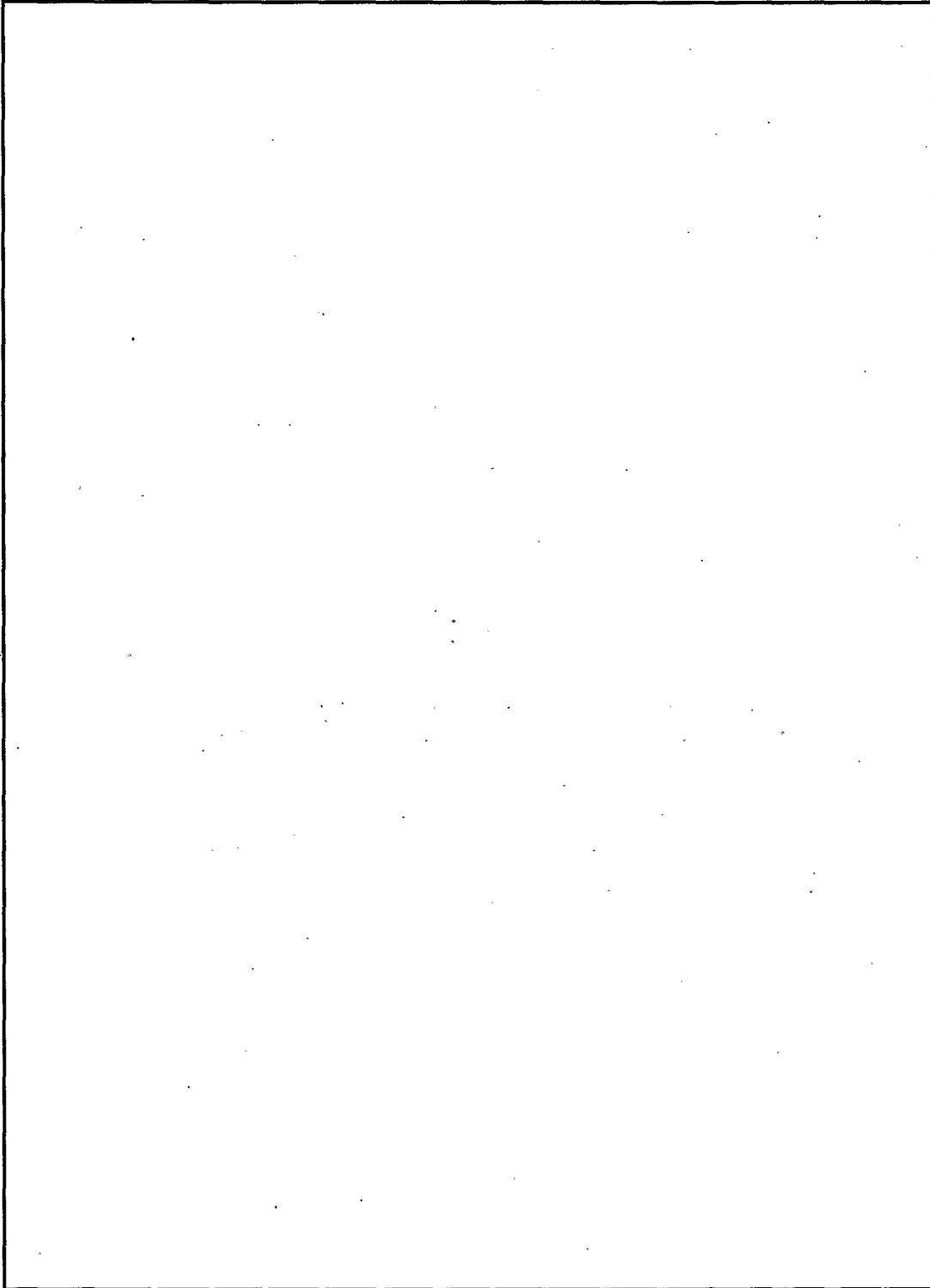


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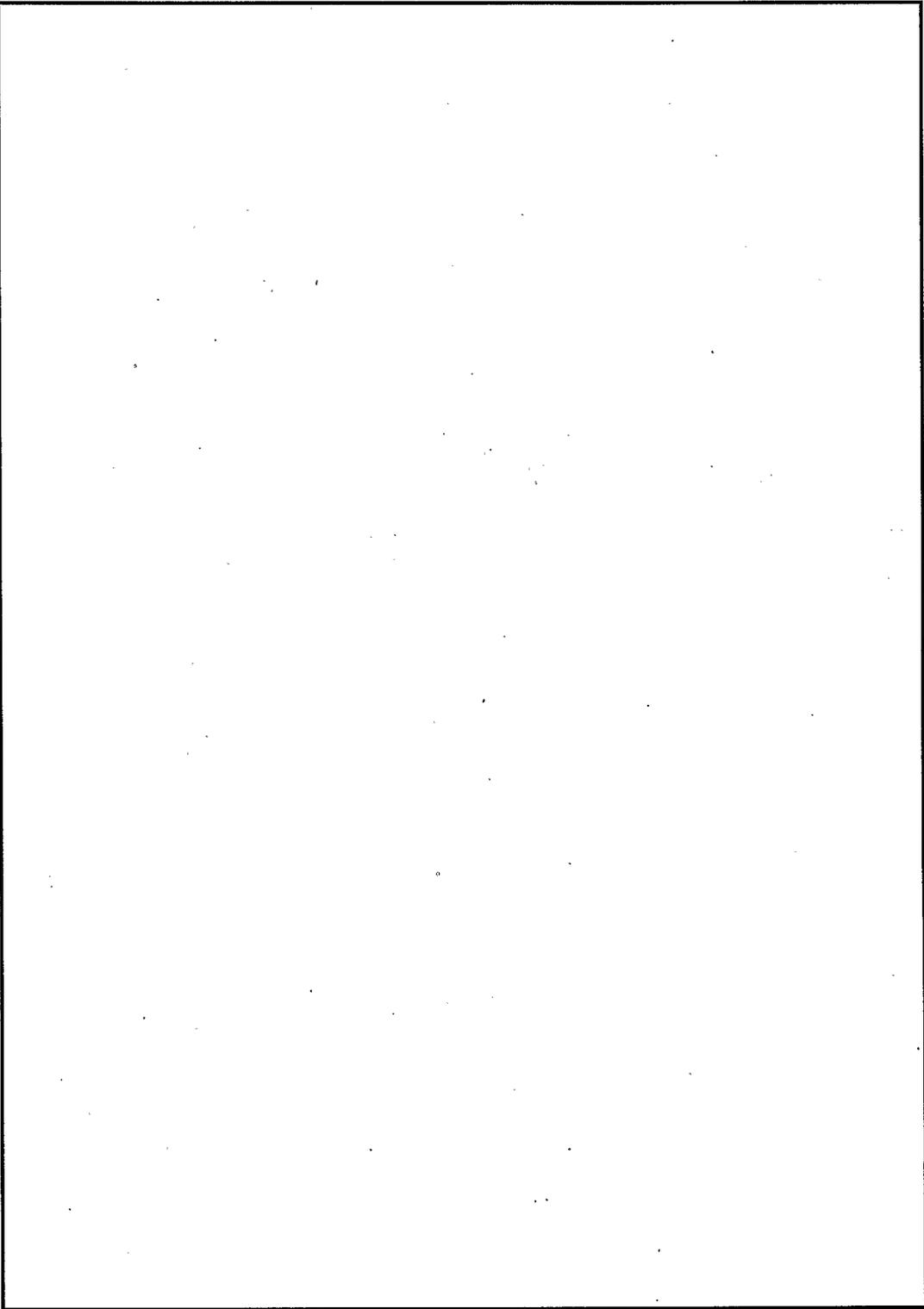
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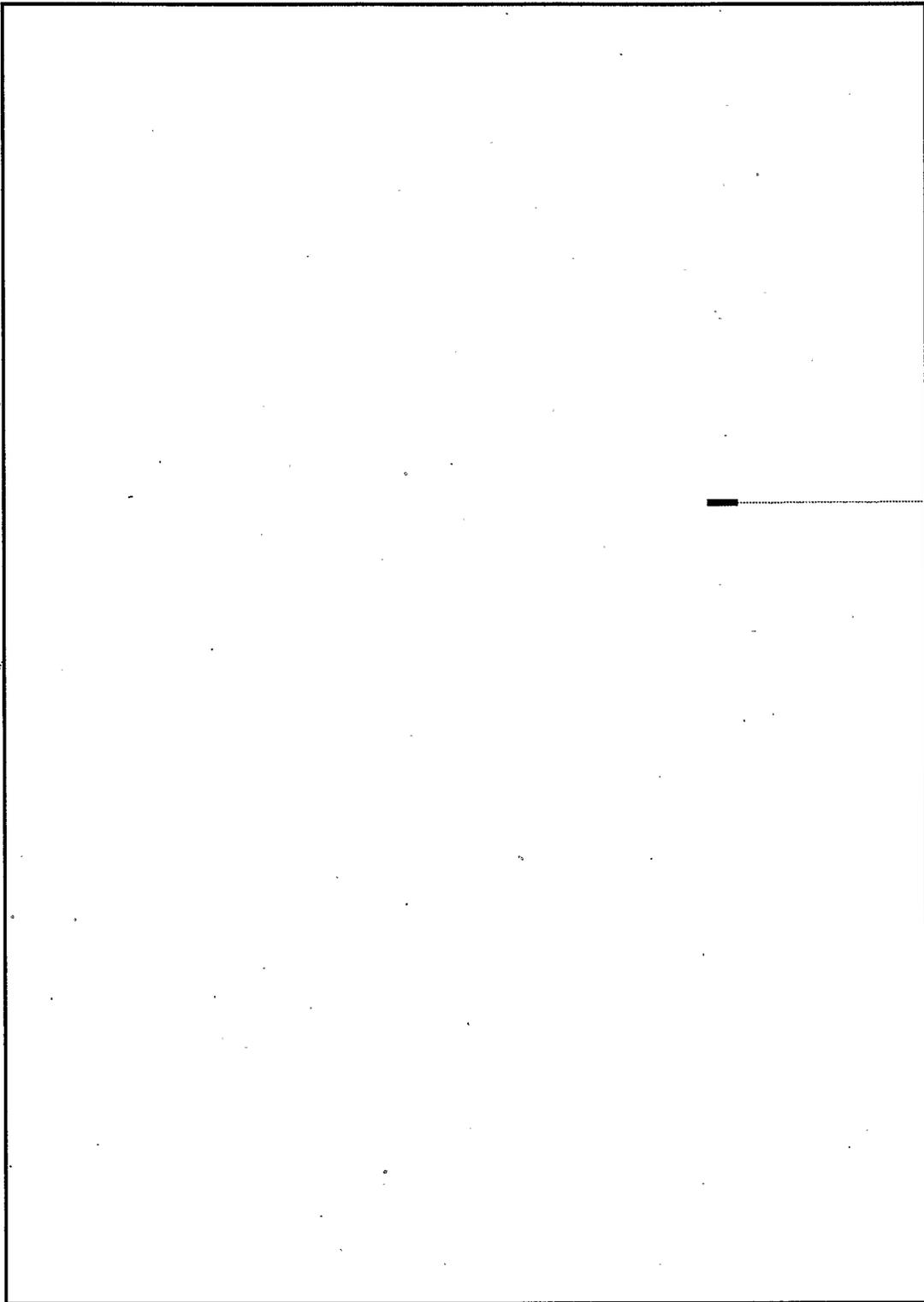
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(U) CRYPTOLOGIC COMMUNICATIONS IN THE POST-VIETNAM ERA

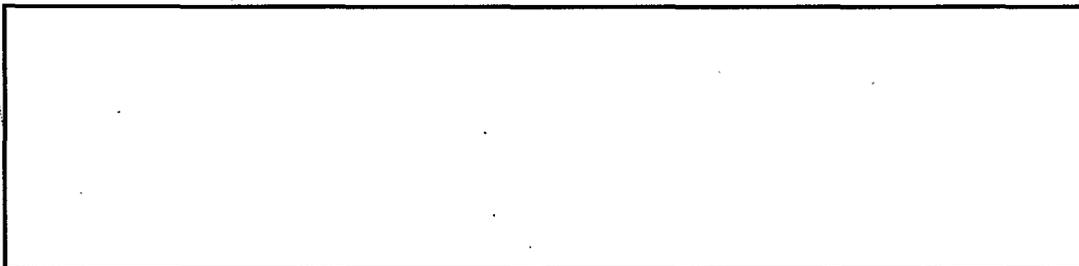
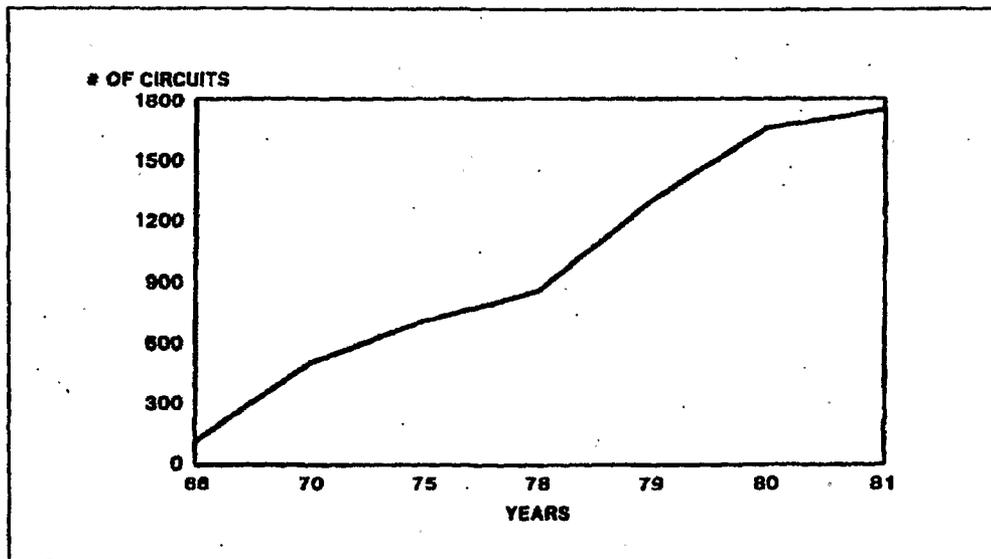
(S-CCO) The communications engineers who had devised ways to get raw traffic back to Fort Meade electrically in the 1960s were not permitted to rest. The new requirement for the 1970s was to bring back raw RF so that all intercept and processing could be done in the U.S. The new communications capabilities came just in time to solve the woeful budget problems of the early 1970s [redacted]

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[redacted] In a way, the communicators had become victims of their own success - remoting and data linking, now technically feasible, became the minimum essential requirement for a cryptologic system that was becoming increasingly centralized.

(FOUO) To understand the explosion of circuit requirements, one need only glance at Table 9. Cryptologic remoting brought the number of NSA circuits up to 1,755 by 1981, an increase of almost 1,100 percent in fifteen years. Cryptology had become the largest single user of DoD communications capability.⁷⁰

(U) Table 9⁷¹
Growth of NSA Telecommunications Circuits (1966-1981)



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~~(C)~~ The communications conflicts of the 1960s were not resolved by the end of the decade. The great move toward centralization was a creation called the Defense Special Security Communications System (DSSCS), which was to combine Criticomm (the NSA system) with Spintcom (the DIA system to support the SSOs). It involved new sponsorship (DCA, Defense Communications Agency), new technology, and lots of money. Within five years all was wreckage. DSSCS was grossly over budget and under capability, and DCA terminated it in 1969. So the decade ended with NSA still clinging tenaciously to its own unique communications network, with all its offshoots - Criticomm, Opscomm, Strawhat, and the like. NSA had designed the entire system to support unique cryptologic requirements, and DCA, despite promises, had been unable to meet them.⁷³

~~(FOUO)~~ In 1970, the secretary of defense decided that the remnants of DSSCS would join its new Autodin communications system, which had been created to carry Genser traffic for the rest of the Department. Because Genser (general service, non-SI) communications centers operated on the basis of noncodeword traffic, all cryptologic traffic would have to enter the system already encrypted. To insure that a firewall existed between codeword and noncodeword messages, DCA introduced a special communications router system - Genser stations had R routers, while cryptologic stations had Y routers. NSA joined Autodin in 1972, phasing in over the ensuing three years.⁷⁴

~~(FOUO)~~ DCA had great hopes for the Autodin system, and in this case they were (mostly) fulfilled. Manpower required to operate the system declined by almost 1,800 billets, while speed of service increased dramatically. But while record traffic melded into the Autodin system, NSA retained its "special" systems: IATS (which had replaced Strawhat), Opscomm, and direction finding circuits. The General Accounting Office pointed out rather testily in 1973 that the IATS circuitry alone had a higher capacity than all the circuits NSA had integrated into Autodin. NSA admitted this and promised that it would work to achieve IATS/Autodin integration.⁷⁵

~~(S-CCO)~~ The Opscomm explosion of the 1960s had continued unabated into the 1970s. By 1973 there were 323 of them, being used for every conceivable purpose from passing analyst-to-analyst chatter to technical reports and diarized raw traffic. The largest single owners were NSOC, DEFSMAC and the COC [REDACTED]

[REDACTED]. The operators loved having their own communications system, but the communicators chafed. Chief NSA communicator Max Davidson wrote in that same year that "Production personnel consider the OPSCOMM complex as their 'own' communications, quite apart from the CRITICOMM, et al., systems. . . . It is unconventional, expensive, uses non-standard procedures and requires dedicated circuits. Paradoxically, it either rigidly enforces specific formats or ignores formats and procedures entirely." Despite such protests by communications people, Opscomms survived because of their great versatility. They had been the bases for the revolution in timely reporting, and no one in DDO could conceive of operations without Opscomms.⁷⁶

(U) NSA continued its communications improvement program to speed message processing. After the activation of IDDF, the new communications center in 1972, the Agency matched the new technology with AMPS (Automated Message Processing

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY~~

System), which was a way to prepare outgoing messages in a format that could be read by an OCR (optical character reader) by typing it on an IBM Selectric typewriter with a special ball. Mating the AMPS message preparation system with the OCR devices in the communications center relieved communications operators from the drudgery of retyping messages for transmission. Initially activated in May 1970, AMPS technology spread slowly through the headquarters and out to the field.⁷⁷

(U) After working with DCA for many years to come up with an automatic switch for comm center use, NSA turned to its own resources and finally developed a usable product in the early 1970s. The new system, called Streamliner, automated communications center functions like traffic routing. It was married to OCR technology and new Teletype Mod 40 terminals to replace the antiquated Mod 35s. Streamliner was developed at NSA, and the contract was awarded to General Telephone Electronics Information Systems in 1974. The first of thirty-three Streamliner systems was activated at Northwest, Virginia, in 1976.⁷⁸

(U) COMSEC AND THE SECURE VOICE PROBLEM

~~(FOUO)~~ Operations security studies like Purple Dragon (see *American Cryptology during the Cold War, 1945-1989, Book II: Centralization Wins, 1960-1972*, 551) brought home the vulnerability of telephones and speech sent over unprotected tactical radios. Of all the various areas of OPSEC, the unsecure telephone was the greatest security threat. A DoD study in 1971 stated that "Voice communications are the most significant exploitable weakness in present-day military communications. The highest national COMSEC priority is assigned to research, develop, production and operational deployment of techniques and equipment to reach an acceptable level of voice security." It was estimated that voice security was required on five to ten percent of all the Department of Defense telephones.⁷⁹

(U) Through prodigious effort, NSA had fielded families of equipment for use on the battlefields of Southeast Asia, some of which filled the need, and some of which were wanting. But voice security was costly and added considerably to the weight of equipment that had to be dragged along. Narrowband systems produced Donald Duck voice quality, while wideband systems, while producing good voice quality, were hardly small enough to be called "tactical." Keying was always a problem, and most potential users did not use voice security in any form. The enemy went right on exploiting voice communications. This was the most frustrating of all NSA's COMSEC concerns.

(U) NSA's first program for DoD telephone protection had been Autosevocom, a cumbersome and expensive system that was available only for high-level users. Because of its inadequacies, the Defense Department capped it at 1,850 terminals, and in the late 1960s, hoping for something better, decided not to continue with the expansion of Autosevocom.⁸⁰

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(U) In order to produce a system that worked, NSA needed to solve two problems: voice quality and keying. The first was solved through a revolutionary system called "linear predictive coding," which permitted good voice quality in a narrowband system.

(C) In 1967, because of the tremendous pressure to build a cheap, high-quality voice encryption system, Howard Rosenblum of NSA's R&D organization proposed a radical departure in key distribution. At the time, the limit of keyholders for a single secure telephone system was about 300. So Rosenblum proposed that each secure telephone should have its own unique key, and that secure telephones communicate with each other after using their unique keys to receive a common session key from a central key distribution center. When a user picked up his secure telephone and dialed a number, the transmission would go to a central key facility which would look up the key of both the sender and receiver and match them so they could talk. Neither end had the key of



(U) Howard Rosenblum

the other; only the central facility would hold both. He called the concept Bellfield, and through it, he hoped to be able to put a secure telephone on the desks of everyone in DoD.⁸¹

(C) NSA secured a secret patent on the concept and worked on Bellfield for several years, first designing a system called STU-I (Secure Telephone Unit I). STU-I would involve a narrowband, full-duplex voice security system using commercial telephone lines. Everything would be contained within the terminal device, so that no communications center would be needed to encrypt the voice. The goal was to develop a system that would cost, initially, about \$5,000 per unit, but that cost would slide to \$2,500 once contractors began full production. The key to it all was to deploy huge numbers of the devices so that unit production costs could go down to an affordable level.⁸²

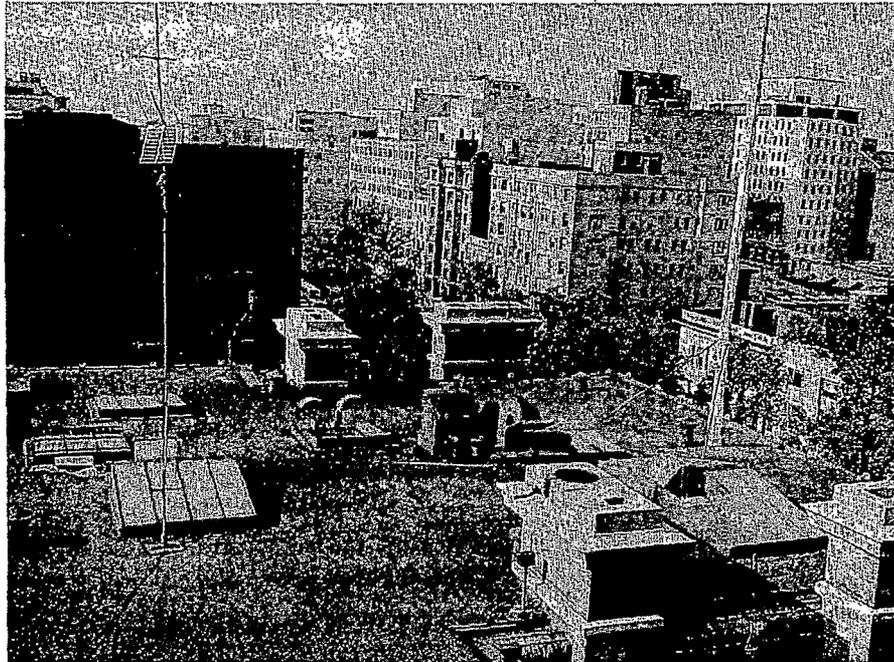
(C) STU-I did not measure up. It was as big as a two-drawer safe and cost \$35,000 per copy. But it validated the Bellfield operational concept, and NSA gave no thought to not continuing. The COMSEC organization promptly embarked on its replacement, STU-II.

(C) To tackle the tactical secure voice problem, NSA launched the Saville program in the late 1960s. The objective was inexpensive, small, lightweight, high-voice quality (i.e., wideband) tactical COMSEC appliques for the warfighter. The war in Vietnam drove this program almost completely. Vinson, designed to replace the far bulkier KY-8, was part of the Saville family and became virtually synonymous with Saville. Perhaps the most innovative area in Vinson design was the application of Saville Advanced Remote Keying, which permitted local users to generate cryptographic keys and distribute them over the

Vinson protected net. Eventually over 250,000 Vinson tactical secure voice equipments were delivered to U.S. and Allied forces.⁸³

(U) The Soviet Threat

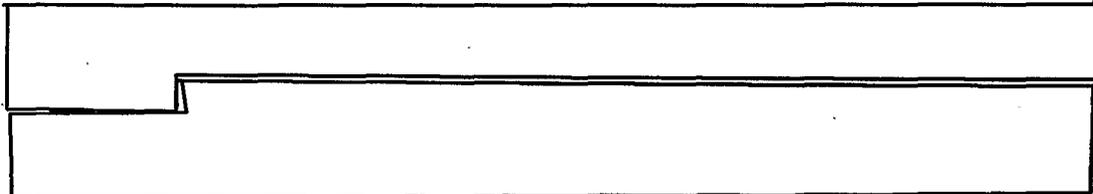
~~(S)~~ During the 1960s U.S. counterintelligence officials got wind of Soviet SIGINT operations in the United States. In the early years, the information, primarily from HUMINT, was rather vague, but was sufficient to focus attention on the Soviet embassy on 16th Street in downtown Washington, only two blocks from the White House; the Soviet mission to the UN in Manhattan; and the Soviet residential centers at Oyster Bay, New York, and Glen Cove, Long Island. There were also reports of the Soviets using cars to conduct microwave surveys and of their using apartments in Arlington, Virginia, and New York. A defector reported that the Washington area intercept was the most valuable source of intelligence that the Soviets had in the U.S.⁸⁴



(U) West portion of the roof of the Soviet embassy, Washington, D.C.

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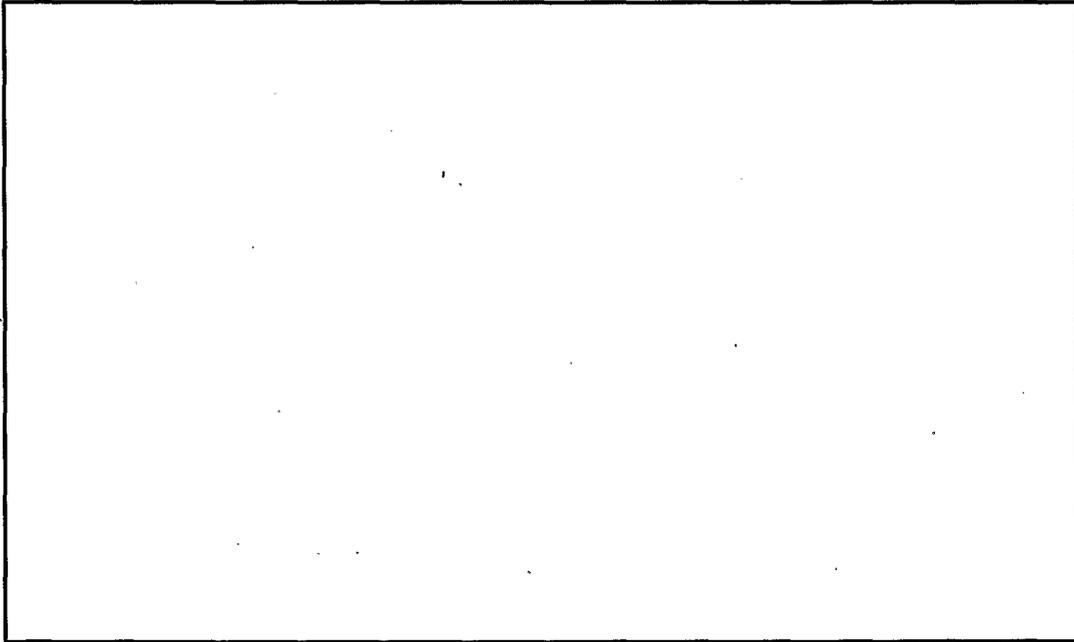


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~~(S)~~ In the early years the Soviets concentrated on U.S. government communications, including military commands like SAC and NORAD, military airborne command posts, and nonmilitary agencies, including the State Department, FBI, and NASA [redacted]

[redacted] In 1968, 126 military command and control circuits were rerouted from microwave to cable in the Washington area, but these were the only countermeasures taken before the mid-1970s.⁸⁵

~~(S)~~ In the early 1970s Soviet interest began to shift to defense contractors. A 1971 KGB directive ordered that intercept work against scientific and technical work be strengthened. Grumman, Fairchild, GE, IBM, Sperry Rand, and General Dynamics were all named as targets by confidential sources. The Soviets reportedly obtained information on the most sophisticated new weapons systems, including the F-14 fighter, B-1 bomber, Trident submarine, and advanced nuclear weapons developments. If true, this would mean that the Soviets no longer needed spies as they had during the years of the Philby and Rosenberg rings. They could simply get the information from the airwaves. This brought a new factor into the equation. If telephones were such lucrative targets, the U.S. would have to start thinking about voice security for defense contractors, too.⁸⁶



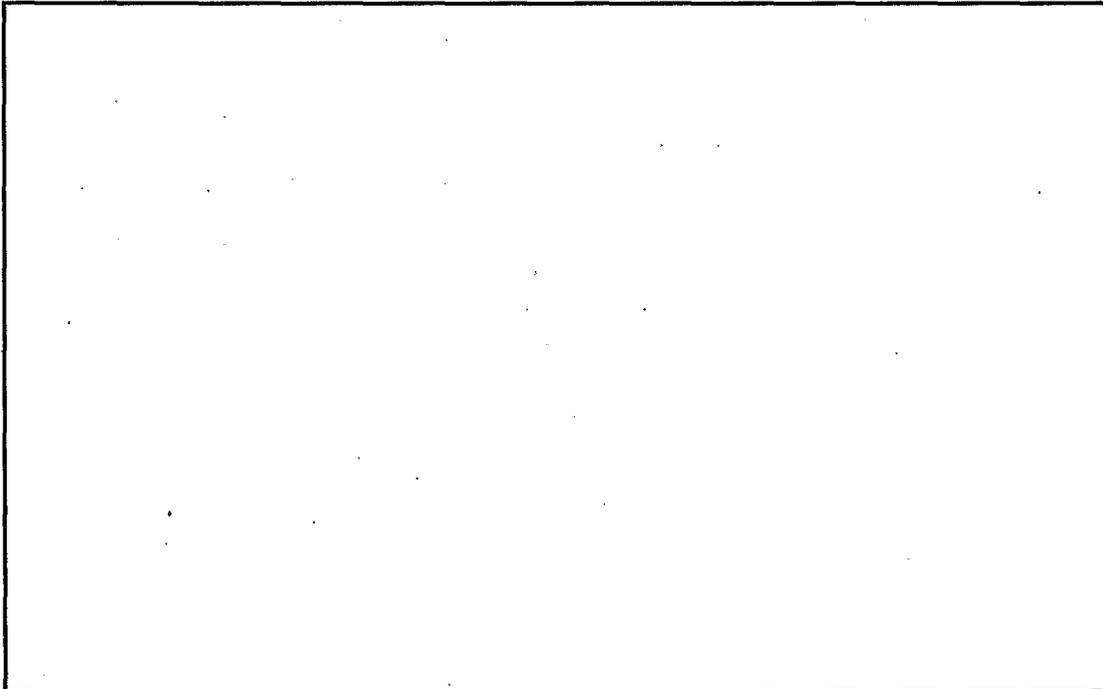
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(U) The Solutions

~~(TS-CCO)~~ [redacted]
[redacted] The initial result was a highly sensitive National Security Defense Memorandum 266, signed by Henry Kissinger, then the National Security

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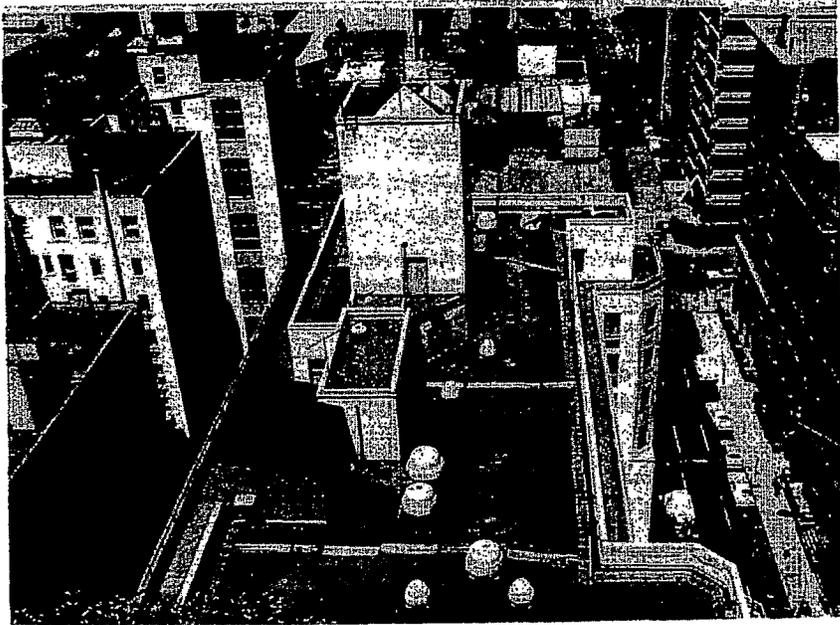
Advisor, and addressed only to the secretary of defense, director of OMB, DCI, and the director of Telecommunications Policy. This memorandum directed that Washington area microwave communications be buried to the extent possible. This would be a near-term measure. Longer term solutions would include expanding secure voice communications throughout the government and private industry. The Office of Telecommunications Policy would work on the long-term solutions.⁸⁸



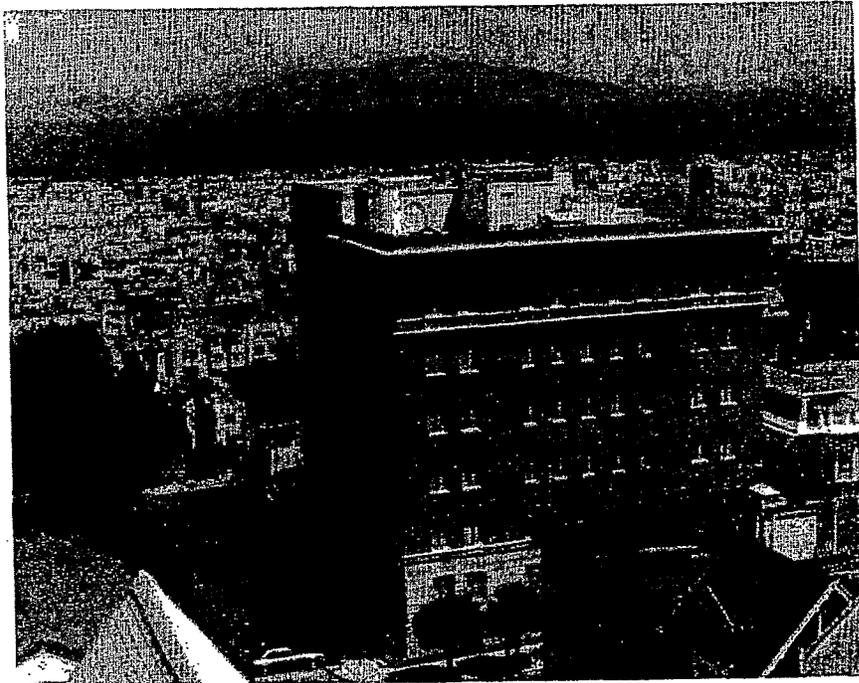
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~~(TS)~~ The issue remained under study, and President Ford reviewed the options in the waning days of his administration. By that time [redacted] it became obvious that securing only Washington area communications would not do. Some circuits had been secured, but many had not. The major corporations were cooperating with the government program, but other, smaller companies just entering the market did not have the capital base to pay for a large program of rerouting their circuits to underground cables. Forcing them to bury their circuits could put them at a competitive disadvantage with AT&T. Ford's advisors outlined a wide-ranging and complex program which would include burying more microwave circuits, developing and distributing more and better secure telephones, close interworking between government and private industry, and federally mandated programs directing implementation of approved protection techniques throughout the national microwave net. Securing the nation's vital national defense-related communications would cost in the neighborhood of \$1 to \$2 billion.

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(U) Soviet mission,
United Nations



(U) Soviet consulate
in San
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~~(TS)~~ Ford approved a program to proceed with protection of both government and private sector communications. He also approved the establishment of a joint National Security Council/Domestic Council Committee on Telecommunications Security to oversee the effort. But he did not approve making a public announcement about the problem.⁹²

~~(TS)~~ Just prior to the November elections in 1976, President Ford signed PD-24, a presidential directive so sensitive that only fifteen copies were made. Expressing the administration's concern over the Soviet exploitation program, the directive brought contractors into partnership with the government to evaluate the potential damage. Five companies - Vitro Laboratories Division of Automation Industry, Newport News Shipbuilding and Drydock Company, General Electric, IBM, and Lockheed - were named to work with the federal government on the issue.⁹³ Only a matter of days later Ford lost the election, and the whole issue became Jimmy Carter's problem.

~~(TS)~~ Ford and his vice president, Nelson Rockefeller, had been strong supporters of NSA's efforts. Carter's administration brought a new look. New White House officials were not so inclined to view this solely as a national security issue, but as related also to the protection of individual liberty and privacy. Carter directed a complete review of the Ford administration program. Carter was concerned about countermeasures, including the legality of the program to secure wirelines in the Washington, New York, and San Francisco areas under Project [redacted]. He questioned the effect of proposed countermeasures, including denial of Soviet requests to purchase more property in the Washington area. He also wanted to know what effect the [redacted] project, which involved close interworking with AT&T, would have on the ongoing Justice Department antitrust suit against that same corporation. He suggested that countermeasures could lead to Soviet retaliation, especially the possible increase in microwave bombardment of the U.S. embassy in Moscow. In short, he wanted a new program that would have the stamp of the Carter administration. And he wanted the entire thing kept absolutely secret.⁹⁴

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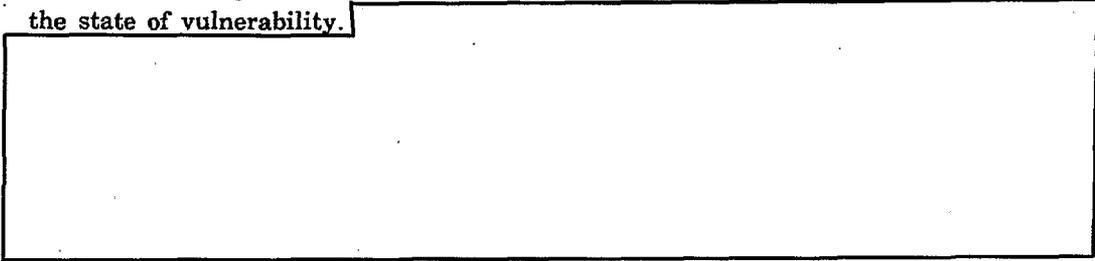
~~(TS)~~ The joint government-contractor study initiated by Ford concluded that the Soviets were getting very valuable national security data from defense contractor communications. The CEOs of the participating companies were shocked at the degree to which their telephone conversations were being exploited. With this report in hand, in June 1977 the deputy secretary of defense told Lew Allen to alert certain other defense contractors and bring them into the problem. Ultimately, NSA contacted seventeen contractors and briefed them about their vulnerabilities.⁹⁵

~~(TS)~~ Meanwhile, Carter's national security advisor, Zbigniew Brzezinski, directed that [redacted] the wireline security project, be rushed through to completion. He also requested that government-developed wireline and circuit security technology be made available immediately, but here the competing Defense and Commerce authorities slowed things. The Carter administration, initially suspicious of Defense influence in the private sector, wanted Commerce to take the lead in dealing with private industry on the issue. A presidential directive in 1979 divided responsibility between Defense (with NSA as the executive agent) for the protection of government communications, and Commerce for the

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protection of private and industry communications. This was to be the first of many conflicts between Defense and Commerce over cryptographic and telecommunications technology policy.⁹⁶

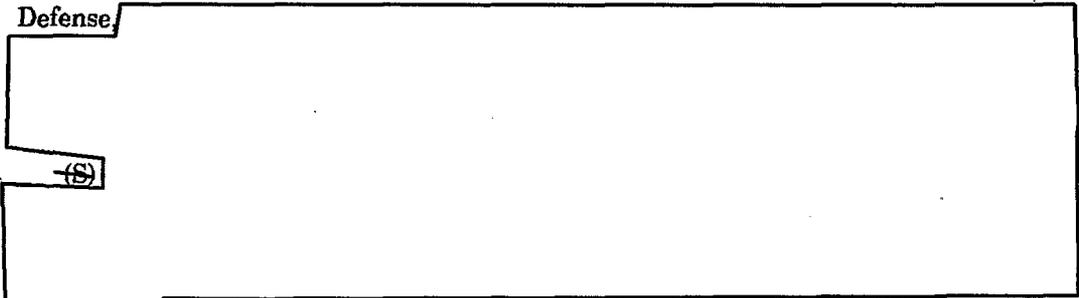
~~(TS-CCO)~~ As part of the Carter strategy, the White House directed the DCI to assess the state of vulnerability.



~~(TS)~~ Brzezinski, who was turning out to be a hawk's hawk in a generally dovish White House, actually considered employing active measures such as jamming the Soviet interception program. But his DCI, Stansfield Turner, pointed out that the U.S. could lose much more than it might gain by this, and headed off further consideration.

~~(S)~~ Another diversion which proved not at all helpful at solving the problem was Vice President Mondale's concern for the protection of individual privacy. The vice president viewed the matter in the context of civil liberties, and he kept wanting to know how we were going to stop the Soviets from reading the mail of individual Americans. This frequently diverted cabinet-level discussions into fruitless pursuits, until Brzezinski succeeded in relegating it to a low priority at meeting agendas. As the national security advisor told Mondale at one point, "An effective program in this area would cost several billion dollars and we need to know much more about the actual threat before recommending an expenditure of this magnitude. . . ." Budgetary realities do have a way of killing off diversionary issues.⁹⁸

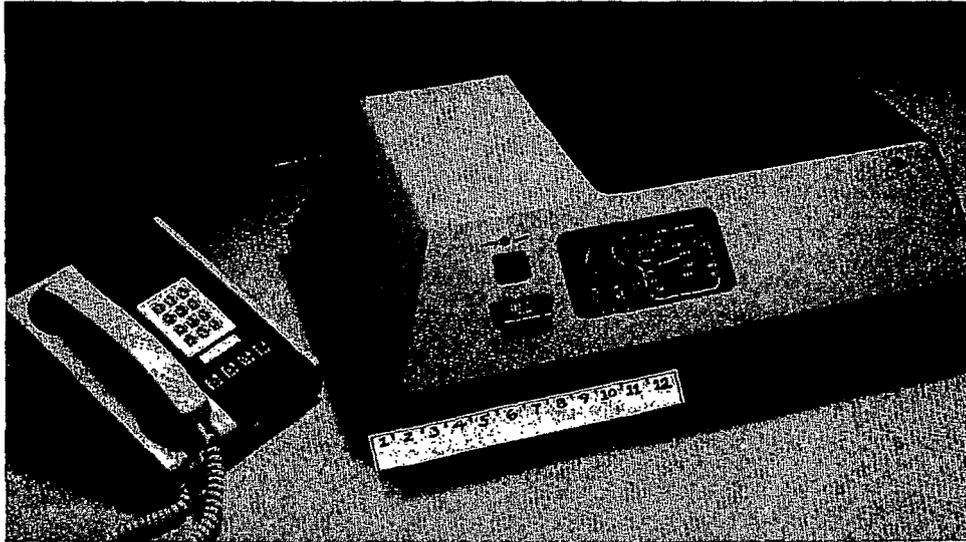
~~(S)~~ The whole matter became a key input into the "battle of the embassies" that was so important during the Reagan administration. In 1966 the U.S. and the Soviet Union began negotiating for new space in Moscow and Washington for the construction of new, modern embassies to replace the cramped and aging buildings then in use. State notified Defense.



The protest did not crest until after Ronald Reagan had been elected, but the Carter administration was concerned about it, even though determined to keep the whole matter quiet.

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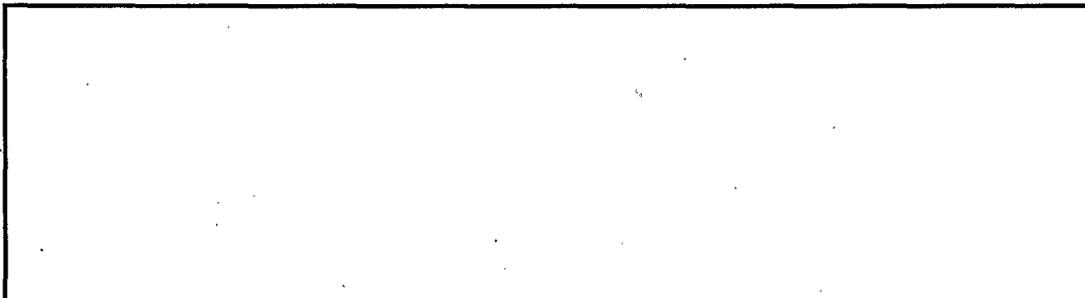
(U) The long-range solution was to develop the elusive universal telephone encryption device. STU-I, with its \$35,000 price tag, had not been the answer. The follow-on, STU-II, came in at half the cost, but still required that all contacts run through a central key facility. This made call set-up awkward and time consuming and meant that even people



(U) STU-II

having the instruments would use them only when they had plenty of time or were certain that they would get into classified material during the call. Moreover, the instrument itself rested on a fifty-pound box that resembled the aged KY-3. It just wasn't user friendly, and only 15,000 of them were produced before the program ended. It began in 1979 and ended in 1987 when it was overtaken by the "real deal," the STU-III.¹⁰⁰

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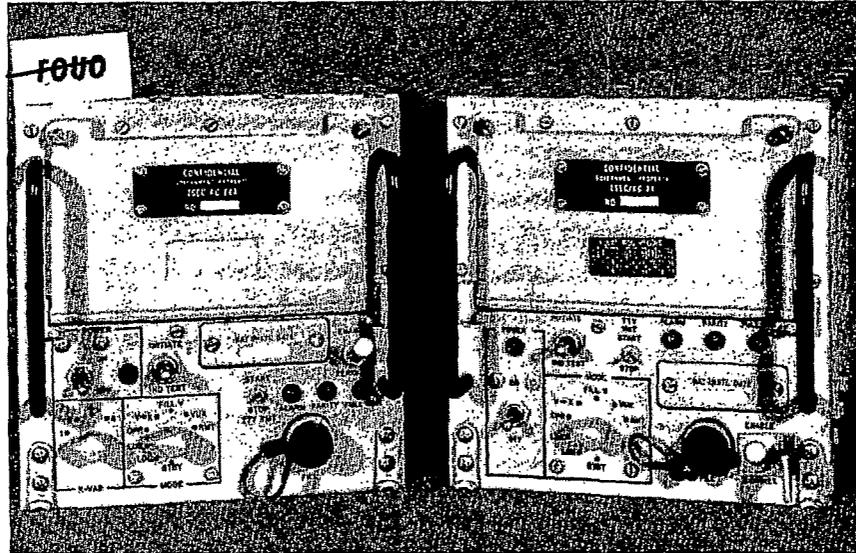


(U) Record communications were easier to protect than were voice systems, and the U.S. government had secured just about all the circuits that it needed to protect long before. But the redoubtable KW-26, which had been the standard since the mid-1950s, was showing its age. NSA had known about the KW-26's drawbacks since its first deployment. A point-to-point circuit encryption device, its numbers had to be multiplied by the number of circuits arriving in a comm center. In the mid-1960s NSA began working

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on a replacement under Project [redacted] was designed under the premise that the only thing unique to an individual circuit was the key generator. All other equipment, including modems and amplifiers, could be used by all circuits in common.¹⁰²

(U) What emerged from [redacted] was the KG-84, the next generation of key generator. It was a key generator only, and a very fast one which could be used on the high-speed circuits that had evolved since the early days of the KW-26. NSA awarded the contract to Bendix in 1979, with delivery scheduled to begin in December of 1981.¹⁰³



~~(FOUO)~~ KG-84

(U) NSA COMPUTERS ENTER THE 1970s

(U) By the 1970s NSA was no longer making computer history. Industry development was more diffuse, and many of the ideas that spawned corporate computer development were originating in other places. Important as it was, cryptology did not drive technology to the extent that it had earlier. Internally, concerns were shifting to organizational issues.

(U) The Era of Mainframes

~~(FOUO)~~ Beginning with Harvest in 1962, NSA was dominated by general-purpose mainframes. These were "nested" in centralized complexes consisting of many computers, and each complex was dedicated to a particular purpose. A 1973 study of NSA computers done by a panel chaired by Dr. Willis Ware of the Rand Corporation identified six large complexes.¹⁰⁴

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(S-CCO) At the front end of the process was the communications complex. This complex consisted primarily of Univac and Honeywell products, which were especially adaptable to receiving streams of data typical of those originating from communications centers. (Honeywell, in fact, provided the IATS computers at field sites.) IDDF, the main communications center, used Sigma computers which processed record traffic from the Criticomm system. On the operations side, the complex of Univacs and Honeywells sucked up the deluge of intercept files being forwarded from field sites via the IATS system. It entered NSA through the Daysend program, and from there it was sent to [redacted] which split out the intercept files for various applications programs according to the target signals (A Group, B Group, and G Group, primarily).

(S-CCO) The next stop was [redacted]

[redacted] These fourth generation computers were the most advanced on the market, but IBM products were notoriously difficult to mate with those of other companies, and material from the [redacted] system had to be reformatted and spun off onto magnetic tapes, which were then hand-carried to the [redacted] complex and processed in job batches according to their priority. Batch jobs tended to be run at night so that the material would be ready for the analyst in the morning. [redacted] ran the applications programs that were specific to each analytic organization. This was almost entirely a traffic analytic process.

(S-CCO) The Rye complex began in the late 1960s supporting NSOC's predecessor, the Current SIGINT Operations Center (CSOC), which served as a timely operations center on the Soviet problem. Klieglights were the grist for the mill - short, highly formatted information fragments which often became formal product reports. The technology had been put together by [redacted] and a team of traffic analysts and computer systems people. Like his boss, Walter Deeley, [redacted] was abrasive and iconoclastic. But he got things done, and Deeley liked that.

(S-CCO) The Rye complex ran several different software systems, most important of which was called Tide, which processed incoming Klieglights. Rye became the central nervous system for NSOC, and it internetted over 100 Opscomm circuits. By this time the Opscomm traffic (primarily Klieglights) flowed directly into two Univac 494s, which distributed it via CRTs to analysts on the NSOC floor. But by the mid-1970s Tide had become overburdened. [redacted]

[redacted] The end was near, and programmers and systems analysts hurried a new system, called Preface, into being. Preface operated on a Univac 1100. Although it began handling its first job in 1978, it took several years to move all the processing off the 494s and onto the new system.¹⁰⁵

(S-CCO) Cryptanalytic processing was still the biggest computer processing effort. [redacted] In addition, cryptanalysis was still the home of the special-purpose device (SPD) [redacted]

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[REDACTED]

~~(S-660)~~ Two other complexes made up the NSA computer mainframes.

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The CDC 6600, considered by many to be the first supercomputer, was built by the successor to ERA, which had done so much contracting in support of NSG in the days following World War II.

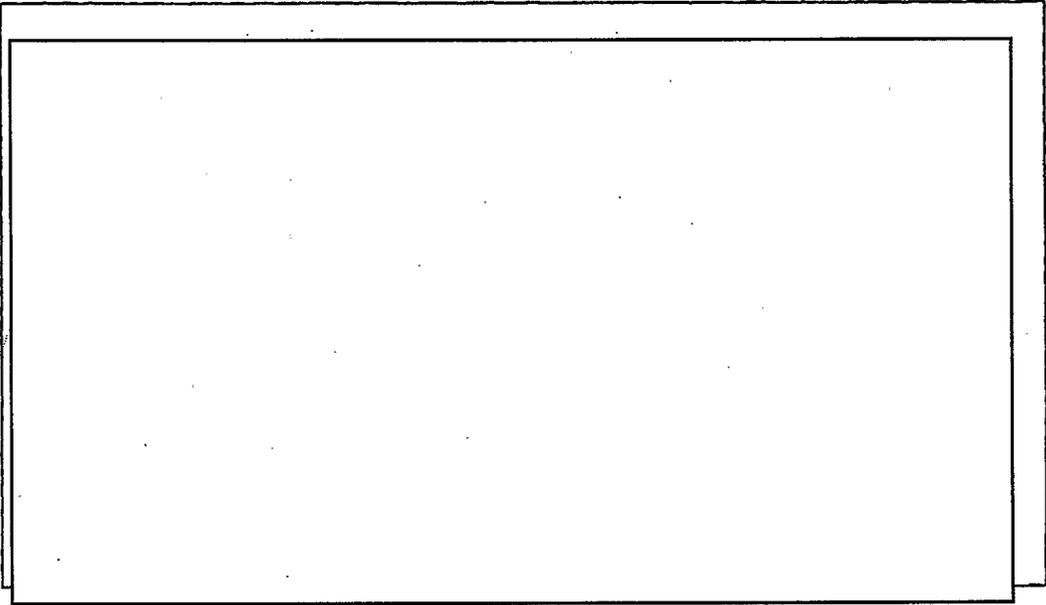
(U) In fact, the CDC 6600 represented the dawning of the supercomputer business in NSA. It was succeeded by the CDC 7700, four times as fast and more capable in every respect. Seymour Cray, who started at CDC, formed his own company, Cray Research Incorporated, in 1972, and NSA purchased the first machine, the Cray 1, in 1976.¹⁰⁷ (Table 10 contains a brief history of supercomputer purchases by NSA.)

~~(FOUO)~~ In 1973 a full-scale debate erupted within NSA over closed- versus open-shop programming. Under the closed-shop system, naturally favored by C Group, all programming and systems design people would be concentrated in a central organization (i.e., C Group), which would take care of all requests for support. In the open-shop concept, most computer people would be distributed to customer organizations where they could write applications programs while in daily contact with the people who needed the support. Needless to say, DDO favored this approach and even pushed the idea that the best applications programmer would be a person who came from the supported organization and did programming on the side. Dr. Willis Ware, a Rand Corporation executive who served on NSASAB, sponsored a compromise, wherein large systems would be centralized in C Group, but applications programming would be done, in the main, in the customer organization. After a long and bitter argument, this approach prevailed, to the relief of many who believed that this was the inevitable outcome.¹⁰⁸

(U) A year earlier another simmering organizational feud had resulted in a special study. The debate, which had begun at least as early as 1970, involved the possible merger of computer and telecommunications functions into the same organization. The two had become so inextricable that the technology drove the issue. In 1972 Paul Neff, the chief of the policy staff, suggested that a full study be made, and this spawned the Carson Committee, chaired by Neil Carson of P1. Carson recommended that the computer organization should be pulled out of DDO and merged with telecommunications, the so-called "take T and C" approach. DDO strongly opposed the divestiture of resources, and the issue remained an irritant for four more years, when Lew Allen took a new look and finally directed the merger.¹⁰⁹

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(U) Table 10^{1st}
Evolution of the Supercomputer



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(U) Platform

~~(S-CCO)~~ The great weakness of the disconnected mainframes was interaction. As systems became more interdependent and SIGINT requirements became more time-sensitive, the need to send information across computer boundaries affected NSA more and more seriously. Under Walter Deeley's direction (Deeley was then chief of V, the organization that ran NSOC), William Saadi wrote a requirements paper for the internetting of Agency computers. [redacted]

(U) Kermit Speierman, the chief of C, asked his deputy, Cecil Phillips, to put together a seminar of NSA and non-Agency people to look at the problem. A young systems engineer named [redacted] was urging NSA to look at some technology that had been developed by the Defense Advanced Research Projects Agency (DARPA). In 1969 DARPA had developed a computer internetting system called ARPANET. At the seminar called by Phillips, the DARPA representative explained ARPANET, and NSA quickly adopted the DARPA solution. The project was called Platform.¹¹²

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(U) The schema for Platform was worked out for NSA by Bolt, Beranek and Newman, Incorporated, which released its report to NSA in 1974. The original plan allowed for four host complexes, which could be expanded as the system got bigger. The core process was to be run on a Honeywell 316, which would be the Interface Message Processor (IMP). Platform soon expanded to the field; [redacted] was the first field site brought into the system.¹¹³

~~(S-CCO)~~ The 1970s was a period of accelerated development of software and database systems. The volumes of data flowing into the Agency every day demanded very sophisticated databases, and in this NSA pioneered relational systems. Some, like M-204, were developed specifically for NSA. One database, called COINS (Community On-line Information System), began in the mid-1960s under NSA executive agency. Initially a joint NSA/DIA project, it became a community-wide database at the SI/TK level. COINS became a substitute for various product reports, and customers were simply given direct access to massaged SIGINT data rather than having NSA take the data and manufacture a product report of mind-numbing length and detail. Still another database, then called SOLIS, was created in 1972 to hold all NSA electrical product reports.¹¹⁴

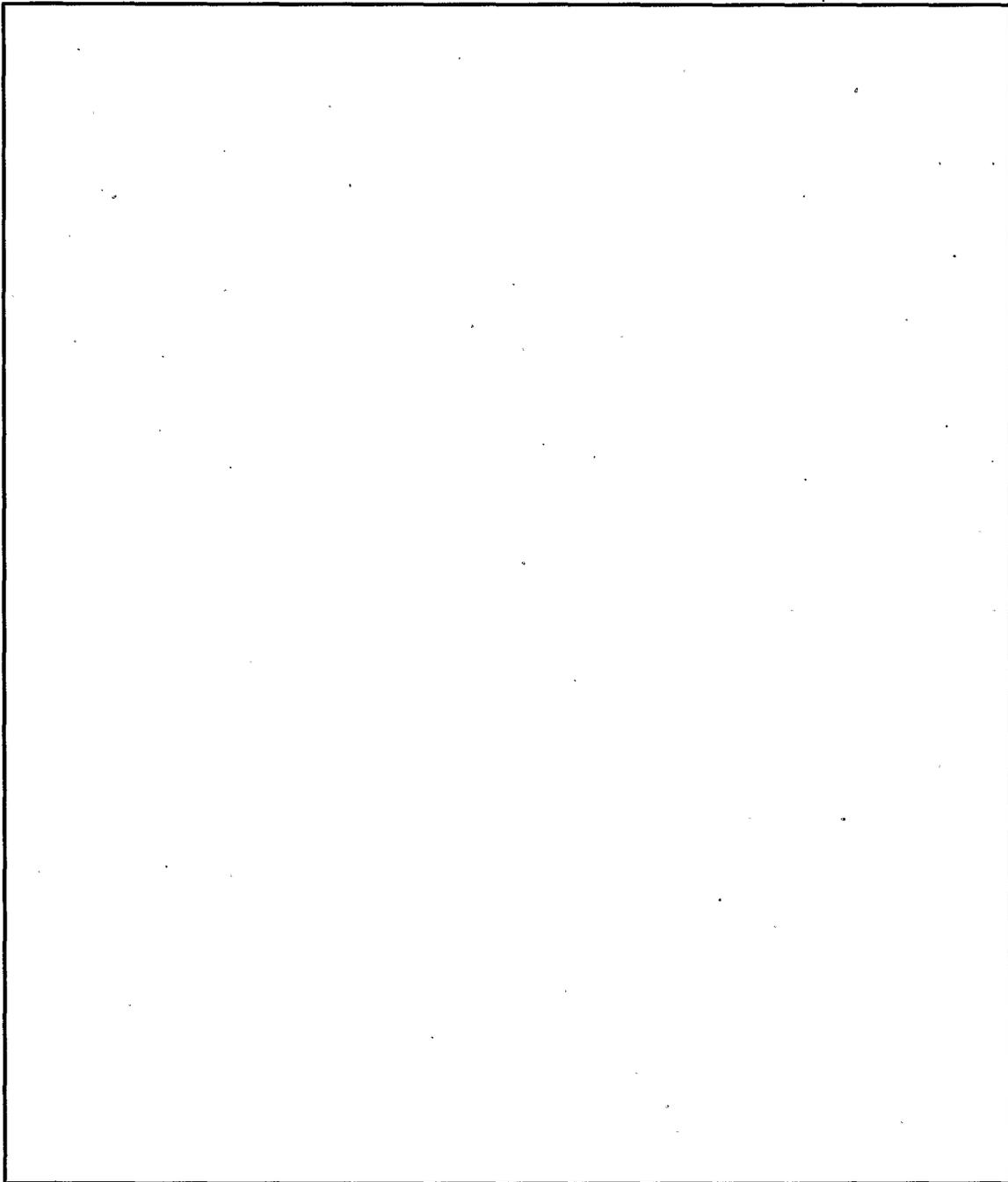
(U) NSA'S FOREIGN COLLABORATION

~~(S-CCO)~~ Scarce resources meant reliance on outside help. And as the budgets got slimmer, NSA turned increasingly to the help that foreigners could provide. This trend accelerated in the 1970s to a greater degree than at any time in U.S. post-World War II cryptologic history.

~~(S-CCO)~~ There were dramatic differences in reliance on foreign partners depending on the target. [redacted]

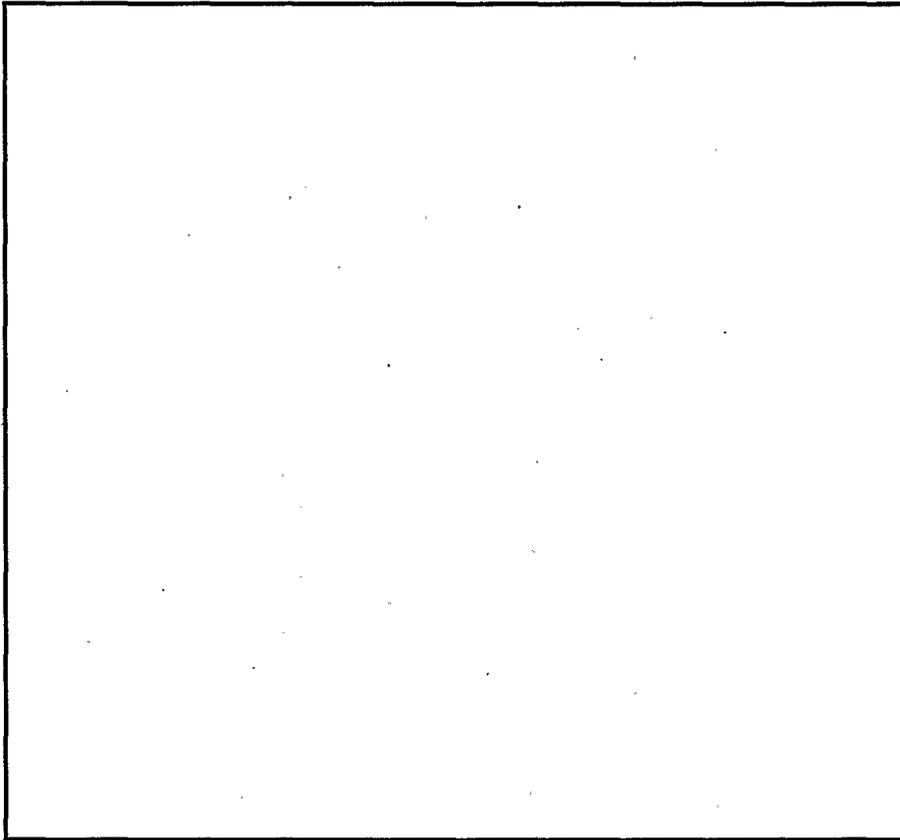
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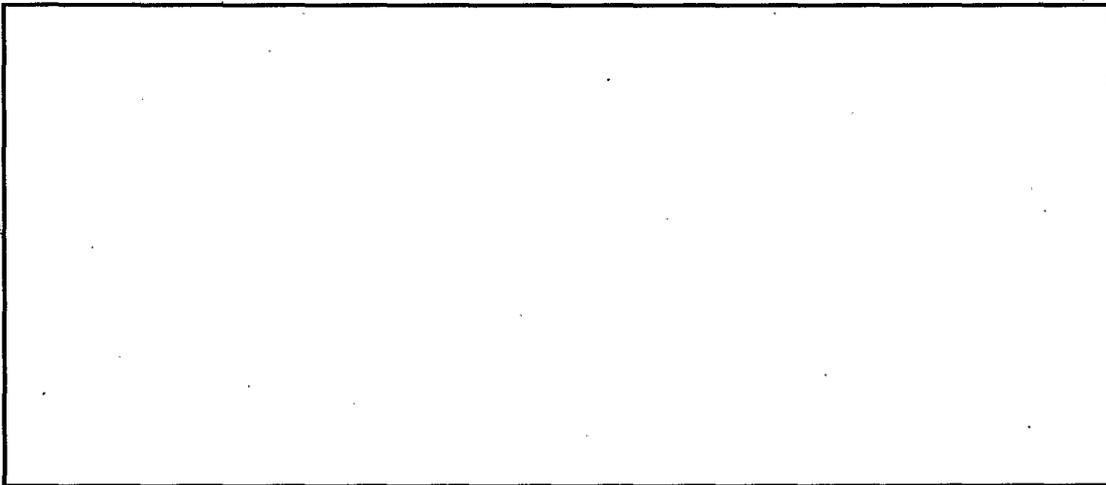
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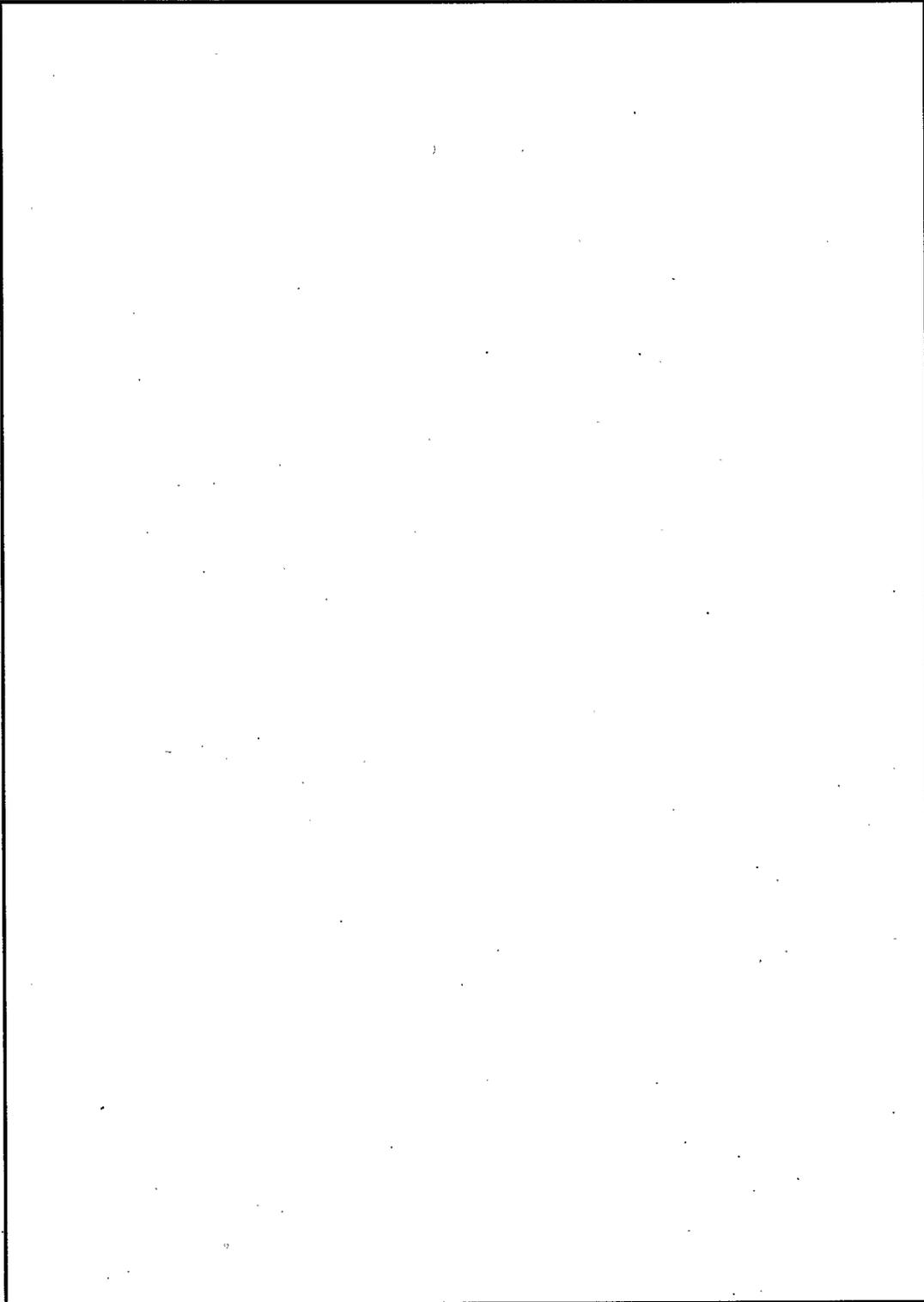
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(U) Great Britain

~~(S-CCO)~~ With the British, collaboration remained almost total. The key decisions that kept the two countries closely tied related generally to advances into new technological realms. At each bend of the road, NSA made a conscious decision to remain engaged.



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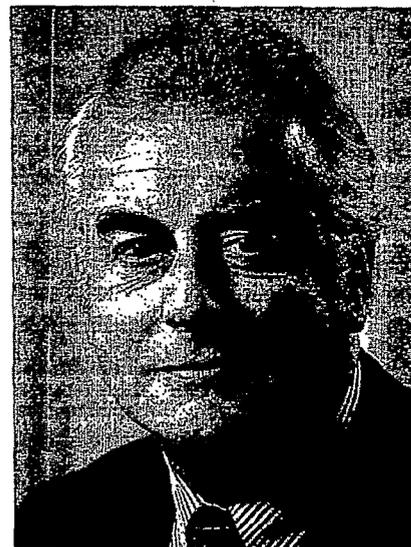
(U) Each country lived with the foibles of the other. The American tendency to leak everything significant to the press was counterbalanced in England by the Official Secrets Act, by which the government tried, often unsuccessfully, to stop publication of material regarded as "sensitive." GCHQ employees were unionized from an early date, and this introduced some interesting twists to the relationship with the Americans, who were not unionized. Politically, the Left in England was stronger than in the U.S., and they employed some novel techniques to attempt to wreck the intelligence business. One such was the device of "public foot paths," a Medieval concept by which, under British common law, paths that had been used by walkers in previous centuries were required to be kept open. Careful research into public records almost always yielded one or more such ancient walking routes through military installations. Thus diligent British researchers discovered foot paths across both [redacted] and would endeavor, at least once a year, to walk them to maintain the concept. [redacted]

(U) Australia

(U) American intelligence had enjoyed a long and close relationship with Australia from the time of the election of Robert Menzies (of the Liberal Party) in 1949 through the end of his very long term of office (1961). His successors were also inclined to be pro-American, and the sunny situation continued through the end of the decade. But in 1972 the Australian Labor Party (ALP), headed by one Gough Whitlam, assumed the reins, and relations turned stormy. While conservative Australians generally supported the bilateral relationship with the U.S., the ALP had developed a leftist and decidedly anti-American stance.¹²²



(U) Robert Menzies

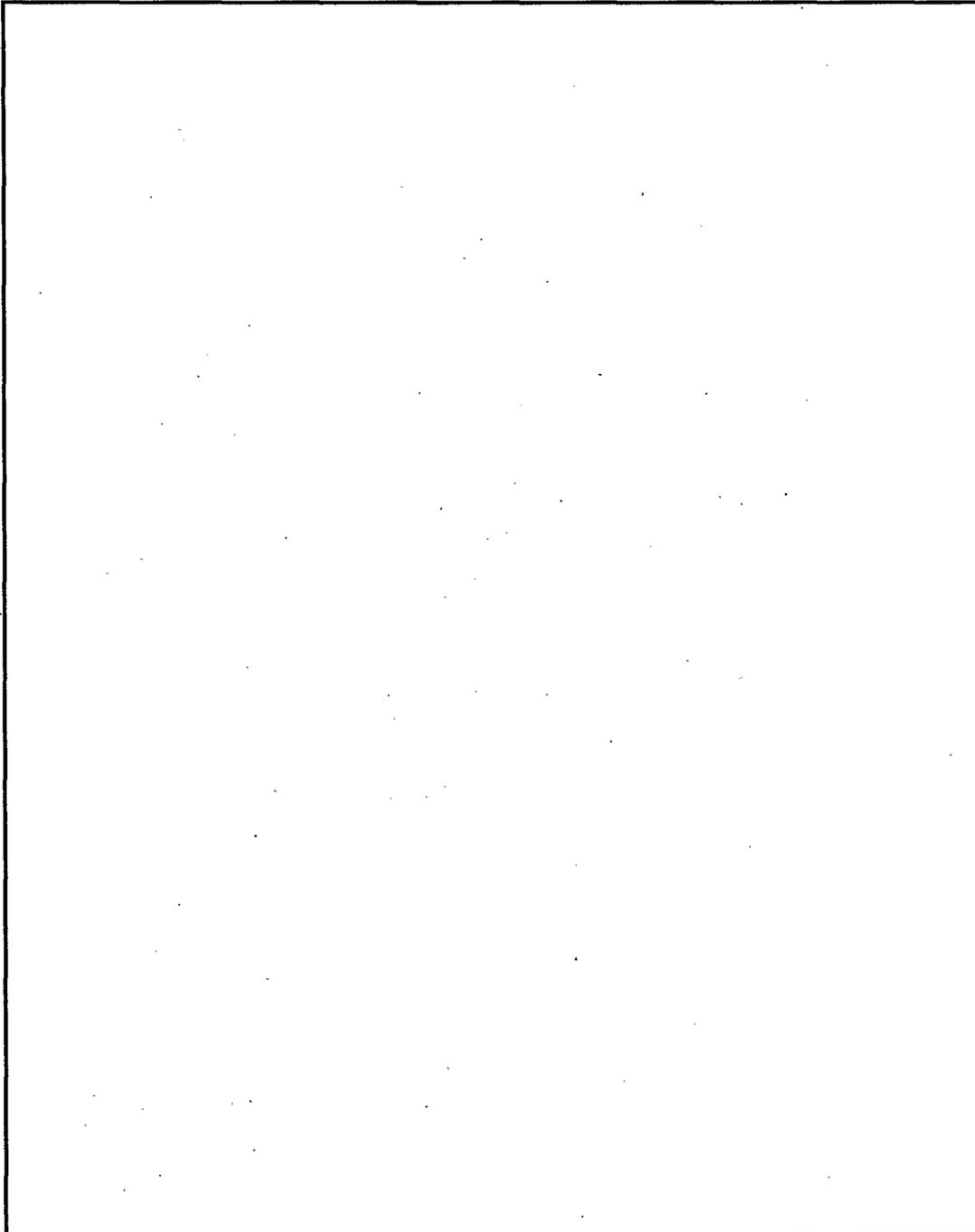


(U) Gough Whitlam

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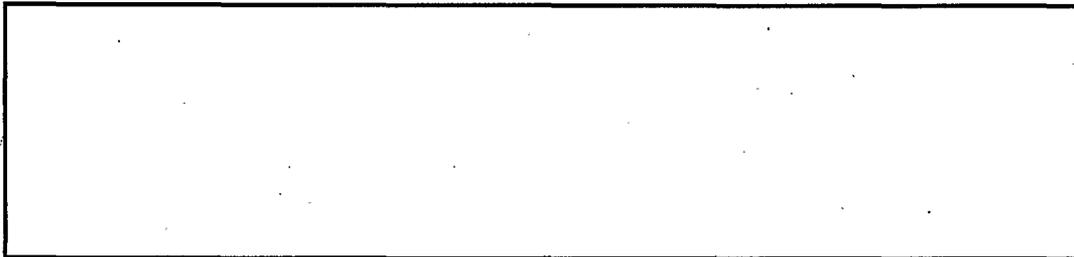
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(U) Whitlam was opposed to Australian participation in the war in Vietnam, and he pulled Australian troops out of the combat zone. He also announced that he would see to it that Australian forces came home no matter where they were; this included a small contingent in the island nation of Singapore.

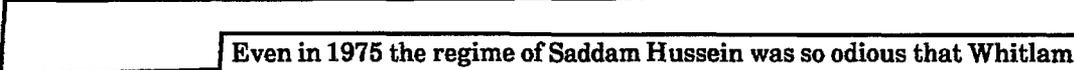


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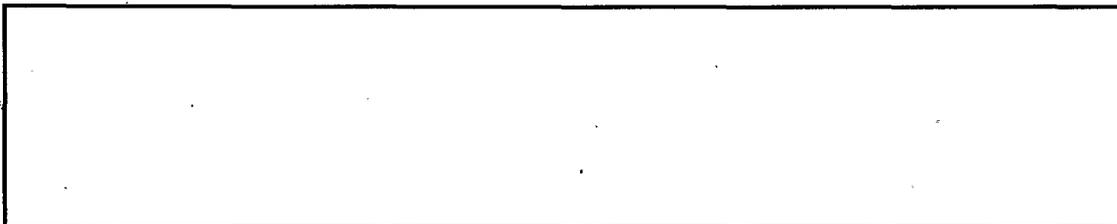
(FOUO) Cryptology and Whitlam were not done, even after he departed for private life. Soon after he was sacked, the press revealed that Whitlam planned to accept a hefty financial donation to the ALP from the Ba'ath Party in Iraq.



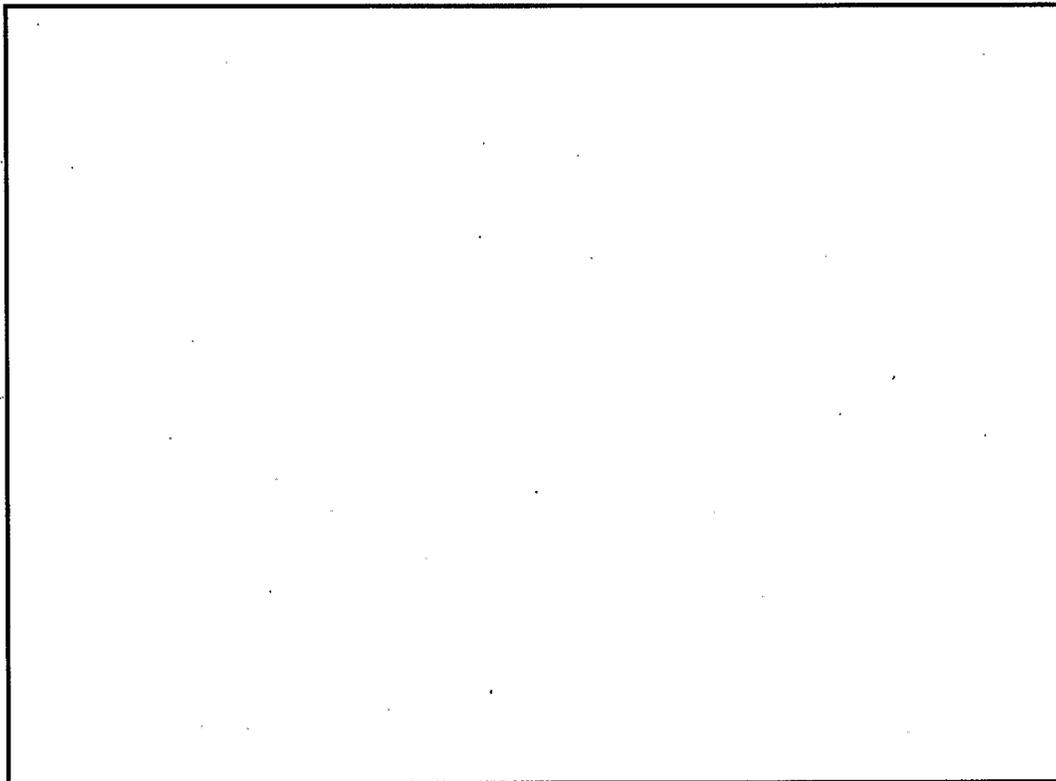
Even in 1975 the regime of Saddam Hussein was so odious that Whitlam could not survive the besmirchment. His political career was effectively over. The new prime minister, Malcolm Fraser, was decidedly pro-American, and U.S.-Australian relations returned to something approaching an even keel.¹²⁶

(U) During his days in power, Whitlam subjected his entire intelligence establishment to a searching evaluation. To take charge of the investigation, he appointed Mr. Justice R. M. Hope, whom everyone in Labor regarded as a dedicated civil libertarian. The Hope Commission continued to investigate and deliberate for almost three years, releasing its final report in 1977, long after Whitlam was at home growing roses. But instead of destroying the intelligence mechanism that Whitlam so detested, Hope proposed to strengthen it. His greatest praise was reserved for DSD, which he and his committee members regarded as the best source of intelligence available.

(U) DSD resided in the Defence establishment, but rather than remove it, Hope proposed to give it more autonomy, more people, and more money. In many ways Hope's recommendations paralleled events in the United States in 1952, when NSA was created within Defense, but autonomous from the JCS. DSD's mission was a national one, Hope wrote, and should be strengthened in all its aspects, especially in economic and diplomatic intelligence important to non-Defence organizations. The commission also praised the relationships with NSA and GCHQ.¹²⁷



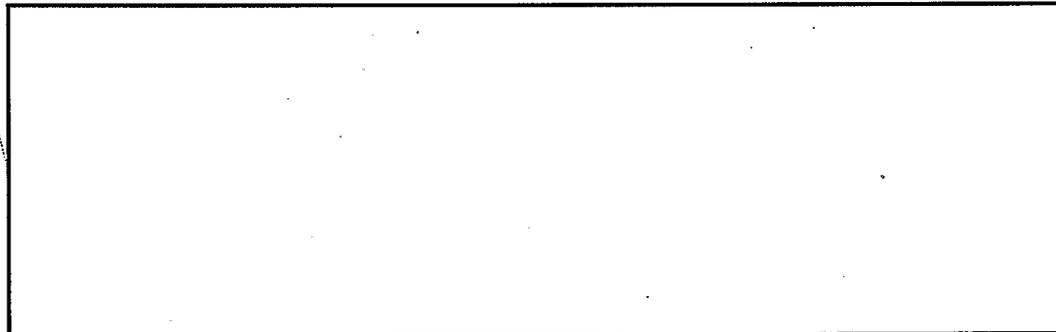
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(U) Third Party Programs

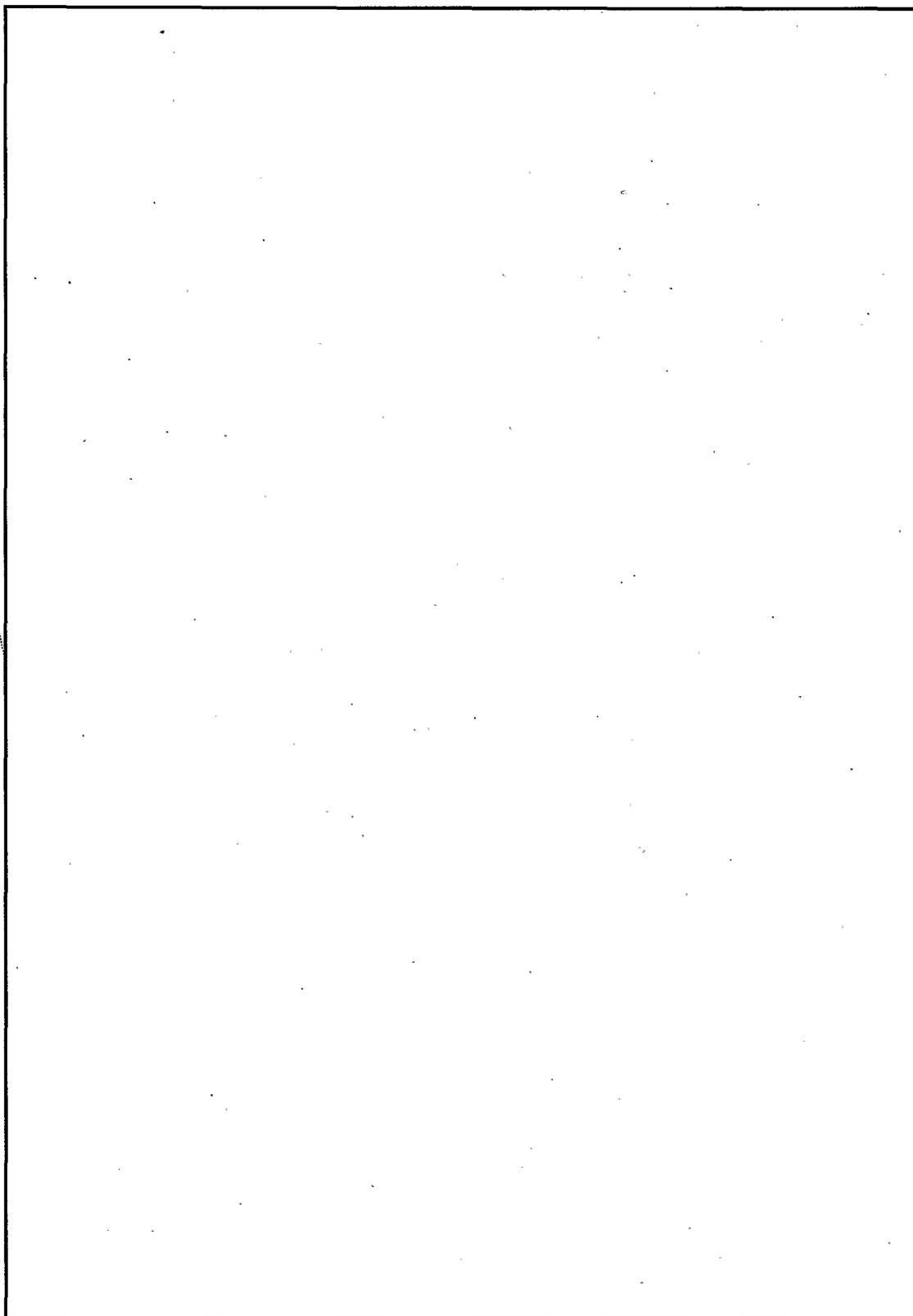
~~(S-CCO)~~ Until 1974, NSA's Third Party programs had been run by the deputy director, Louis Tordella. This highly centralized management arrangement worked as long as Third Parties remained relatively unimportant. By the time Tordella retired in 1974, this was no longer the case, and the new deputy, Benson Buffham, promptly changed the arrangement, naming a separate Third Party program manager (originally Robert Drake, the DDO, who wore it as a second hat). This effectively decentralized Third Party management outside of the deputy director's office and got more people involved in decision-making. It was a long-overdue reform.¹⁹²



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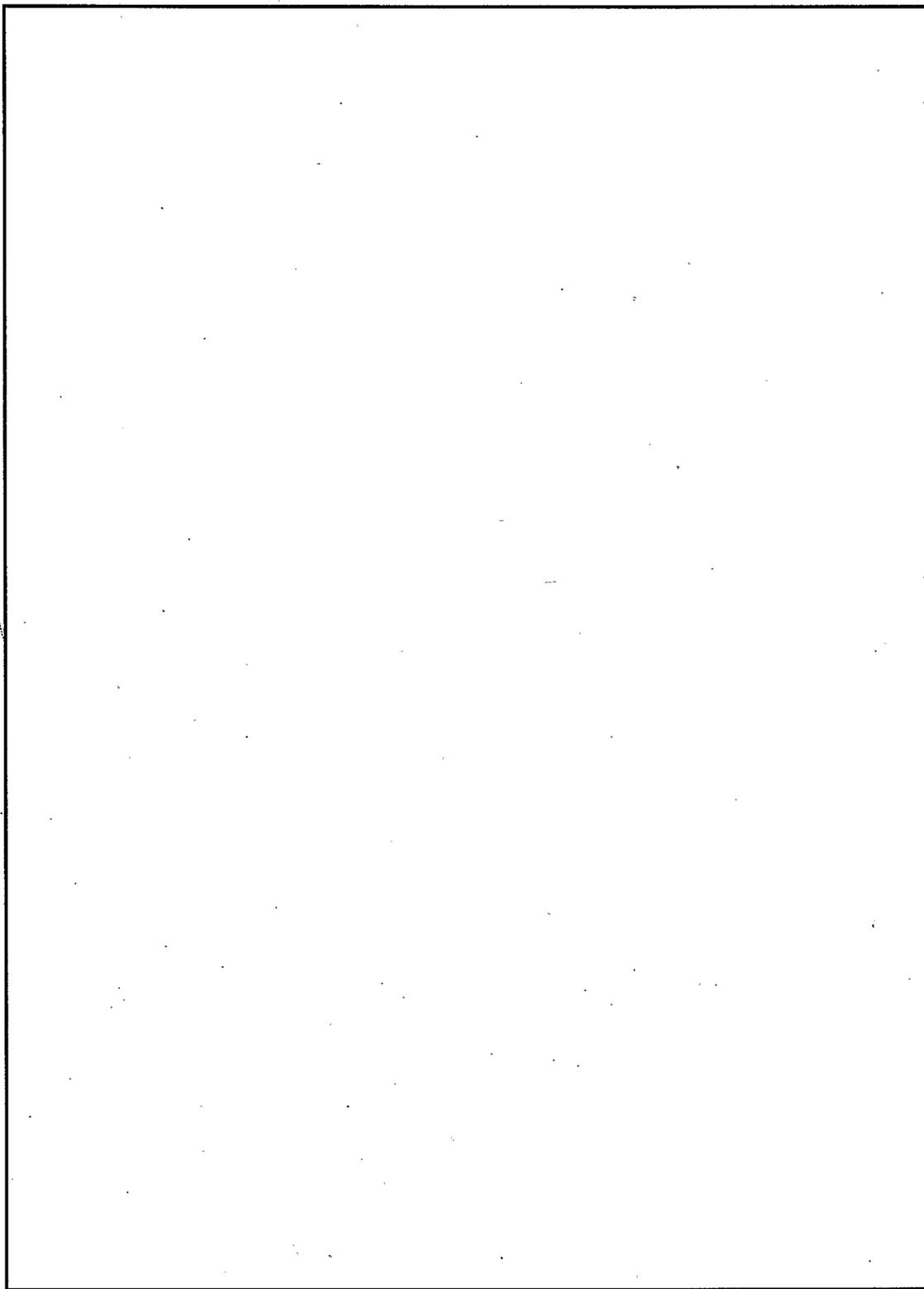


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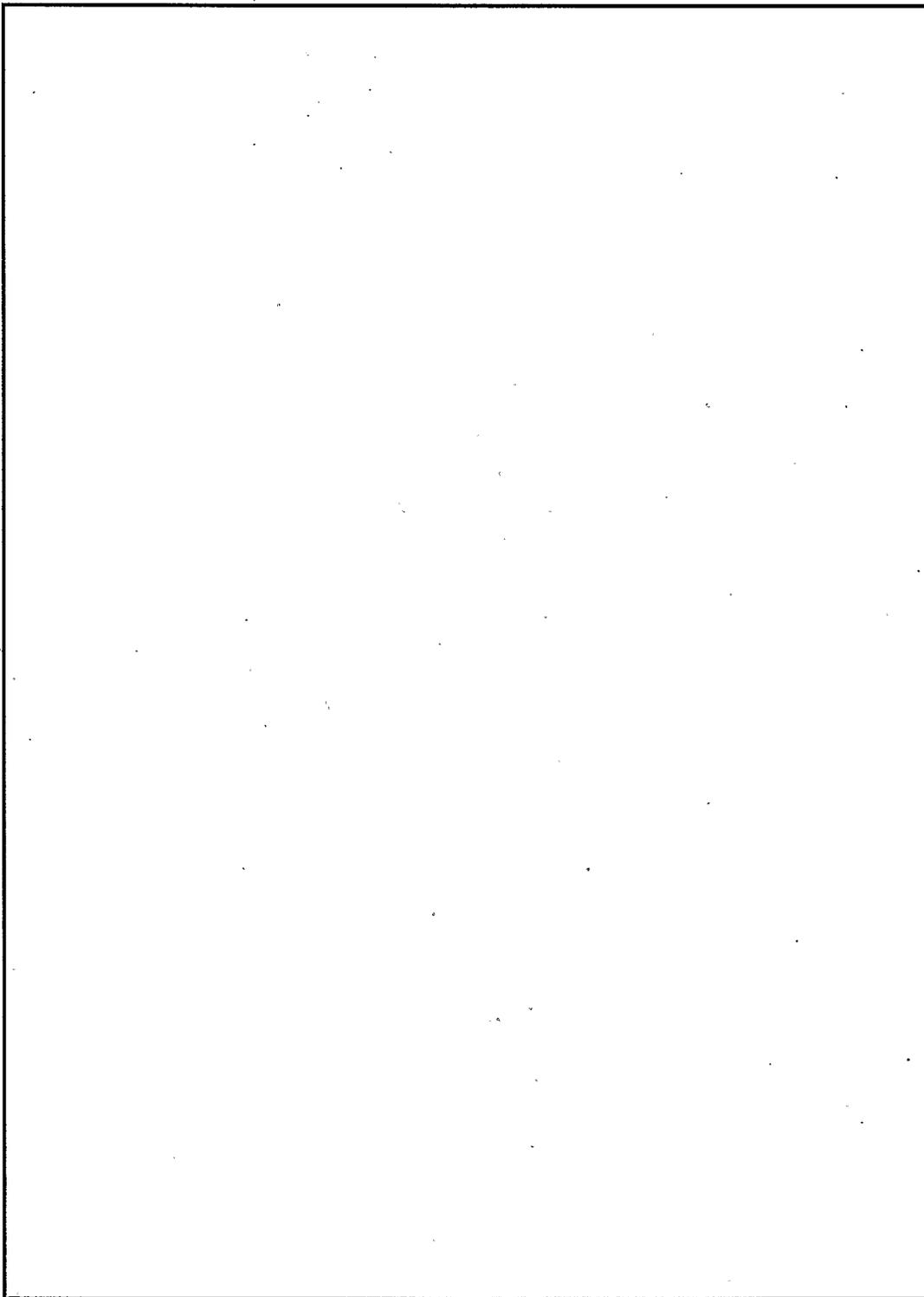
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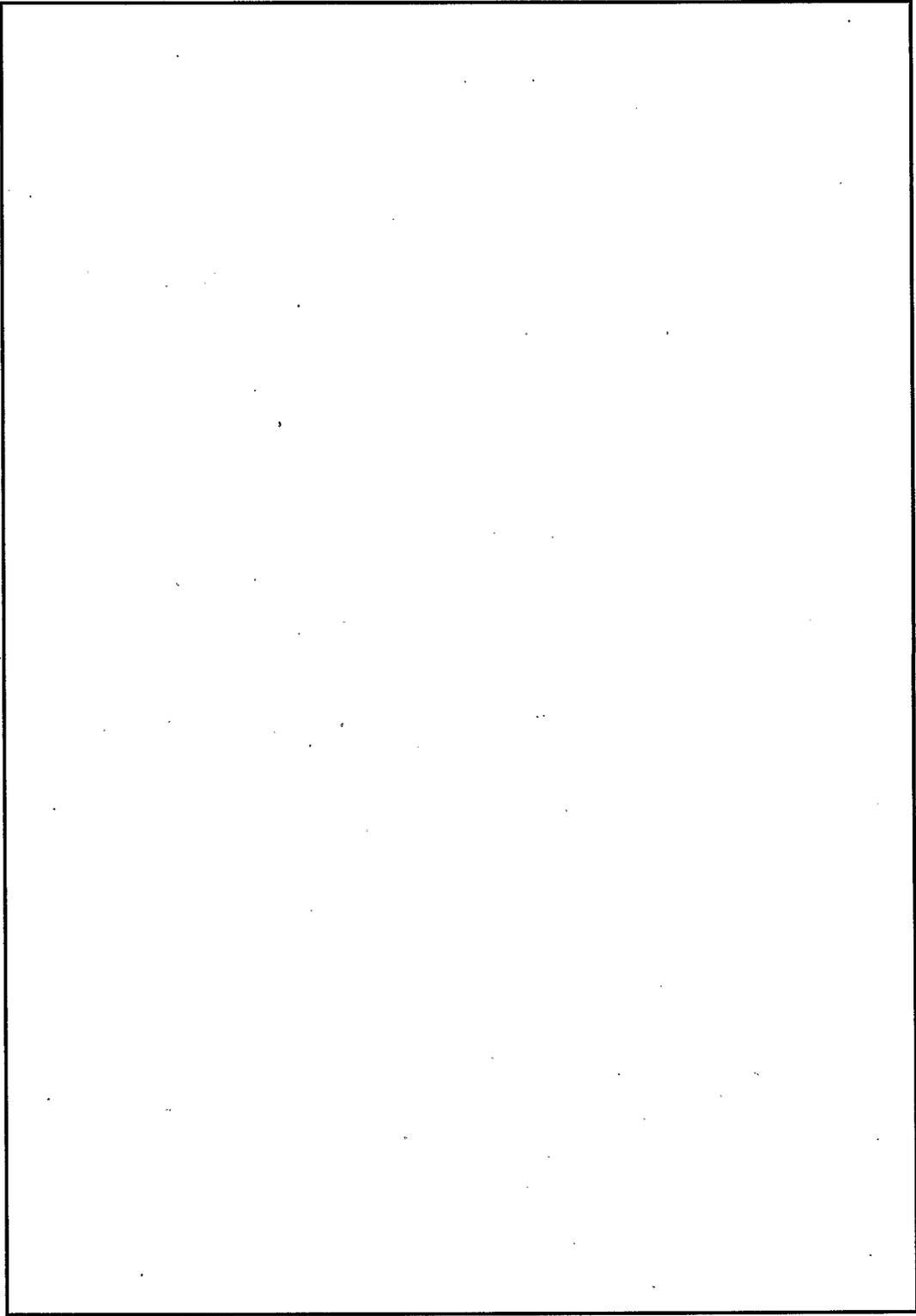
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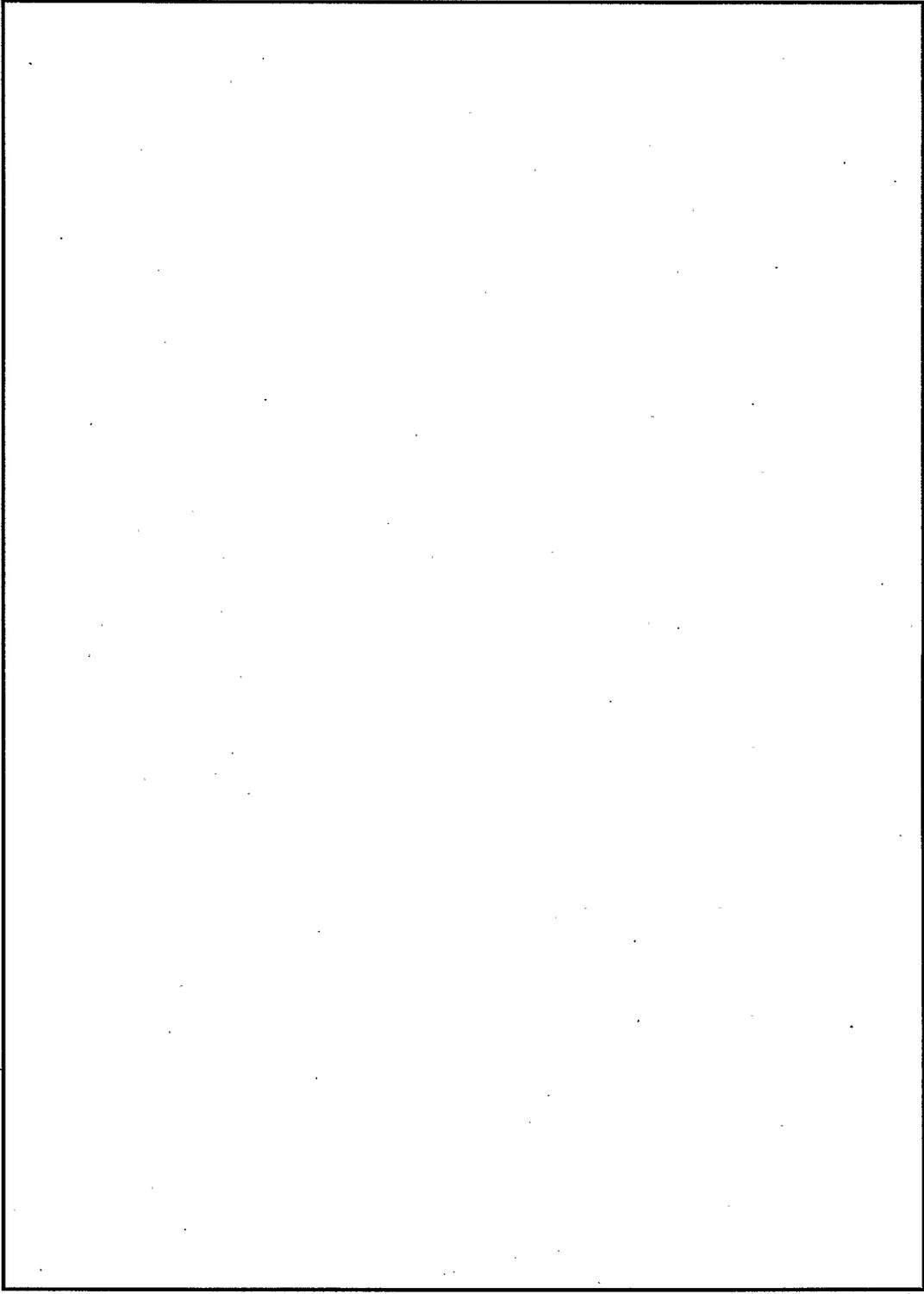
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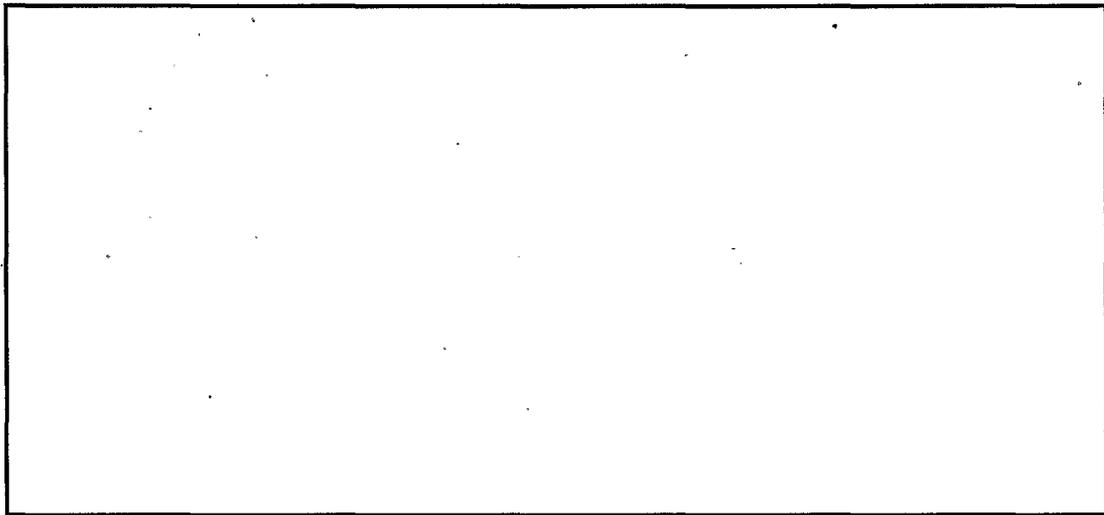


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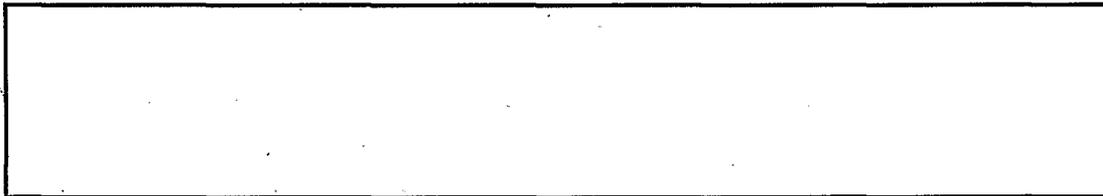


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Notes



2. (U) Strobe Talbot, *Endgame: The Inside Story of SALT II* (New York: Harper and Row, 1979), 19.
3. (U) *Ibid.*, 20.
4. (U) *Ibid.*, 21-40.
5. (U) *Ibid.*, 32-33.
6. (U) *Ibid.*, 30.



10. (U) *Ibid.*
11. (U) *Ibid.*
12. (U) *Ibid.*
13. (U) *Ibid.*
14. (U) *Ibid.*
15. (U) NSA Archives, acc nr 37849Z, G12-0504-1.



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19. (U) NSA Archives, 37849Z, G12-0504-1.

[Redacted]

21. (U) Ibid.

[Redacted]

25. (U) Ibid.

[Redacted]

28. (U) NSA Archives, acc nr 30995Z, H0-0708-6.

[Redacted]

30. (U) Ibid.

31. (U) Ibid.

[Redacted]

35. (U) DDIR files, 96026, box 5, "Evaluation of Collection, Analysis and Distribution of Intelligence, 1973."

[Redacted]

38. (U) Interview, George Cotter, by Tom Johnson, December 1996, OH 7-96, NSA.

[Redacted]

41. (U) NSA Archives, acc nr 31441Z, H01-0307-1.

[Redacted]

44. (U) NSA Archives 42202Z, H03-0407-2.

45. (U) [Redacted] interview.

46. (U) Ibid.

[Redacted]

48. (U) [Redacted] interview.

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49. (U) Ibid.

[Redacted]

52. (U) Ibid.

53. (U) Hermann interview.

[Redacted]

57. (U) NSA retired records, 44959, 80-302.

58. (U) Interview, Richard L. Bernard, by Tom Johnson, 4 June 1996, OH 18-96, NSA.

[Redacted]

60. (U) Bernard interview.

[Redacted]

62. (U) Bernard interview; NSA retired records, 44959, 80-302.

63. (U) Bernard interview; QMR, 1/79, in CCH Series X.

64. (U) Interview [Redacted] by Tom Johnson, 17 February 1997, OH 4-97, NSA; NSA Archives, acc nr 4308, G12-0511-2.

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65. (U) NSA Archives, acc nr 18776, H19-0711-6.

66. (U) Interview [Redacted] by Tom Johnson and [Redacted] 20 April 1994, OH 23-94; Ch, A2 papers, NSA retired records, 96228.

67. (U) [Redacted] interview.

[Redacted]

69. (U) Ibid.

70. (U) Historical Study of NSA Telecommunications, Annual, 1973-75, "Evolution of SIGINT Communications Support 1949-Present," in CCH Series VI.A.1.10.

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72. (U) QMR, 77T.

73. (U) NSA Archives 31614, H01-0308-5, folder 2.

74. (U) NSA Archives, 31614, H01-0308-5, folder 2; QMR, 4/81, in CCH Series X. Historical Study of NSA Telecommunications.

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76. (U) Ibid.

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- 78. (U) Historical Study of NSA Telecommunications; NSG Command History, 1974, in CCH files.
- 79. (U) NSA Archives, acc nr 44898, H03-0702-3; 31614, H01-0308-5.
- 80. (U) NSA Archives, acc nr 44898, H03-0702-3.
- 81. (U) Interview, David Boak, 11 May 1998, by Tom Johnson, OH 19-98, NSA; Interview, Howard Rosenblum, by Robert D. Farley and Charles Baker, August 1991, OH 3-91, NSA.
- 82. (U) NSA Archives, acc nr 44989, H03-0702-3.
- 83. (U) QMR, 2/93, 82, in CCH Series X. Manuscript provided by [redacted] May 1998; Rosenblum interview.
- 84. (U) DDIR files, 96026, box 12, "PD-24." Interview [redacted] by Tom Johnson, Charles Baker and [redacted] 16 December 1993, OH 29-93, NSA.
- 85. (U) Ibid.
- 86. (U) Ibid.
- 87. (U) Ibid.
- 88. (U) DDIR files, 96026, box 14, "Soviet Threat to U.S. Communications."
- 89. (U) [redacted] interview; Interview, Raymond Tate, by Tom Johnson, OH 5-98, NSA.
- 90. (U) [redacted] interview; DDIR files, 96026, box 14, "Embassy Telecommunications Security Assessments."
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- 92. (U) Ford Library, NSF, in CCH Series XVI.H; [redacted]
- 93. (U) DDIR files, 96026, box 12, "PD-24."
- 94. (U) DDIR files, 96026, box 10, "Director's Correspondence, January 1977"; Interview, Raymond L. Tate, by [redacted] and Tom Johnson, 10 April 1998, OH 35-96, NSA.
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- 96. (U) Ibid; Carter Library, NSF, in CCH Series XVII, "Soviet/Comsec Threat."
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- 98. (U) Carter Library, NSF, memo from Brzezinski to Mondale, 16 September 1977, in CCH Series XVII., "Soviet/Comsec Threat."
- 99. (U) DDIR files, 96026, box 14, "Schlesinger papers."
- [redacted]
- 102. (U) NSA Archives, acc nr 34420Z, H01-0109-6.
- 103. (U) NSA Archives, acc nr 32597, H01-0101-7.
- 104. (U) "Report of the Second Computer Group," May 1973, in CCH collection.
- 105. (U) [redacted] article in *Cryptolog*, December 1981.
- 106. (U) NSASAB report on technology for special purpose processors, in CCH Series XII.Z.

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- 107. (U) QMR, 2/93, in CCH Series X; Article in *Washington Post*, 6 October 1996, B6.
 - 108. (U) "Report of the Second Computer Group"; Interview, Kermit H. Speierman, 16 January 1986, by Robert D. Farley, OH 2-86, NSA.
 - 109. (U) DDIR files 96026, box 3, "Telecommunications Study"; box 4, "C/T Merger"; Memo fm Maj Gen John Morrison, August 1972, in CCH Series XII.D.
 - 110. (U) QMR, 2/93, in CCH Series X.
 - 111. (U) Speierman interview; Interview, Cecil J. Phillips, by Charles Baker and Tom Johnson, 8 July 1993, OH 23-93, NSA.
 - 112. (U) Speierman interview; Phillips interview.
 - 113. (U) [redacted] "The Platform Network Evolution," *Cryptologic Quarterly*, Winter 1991; Phillips interview; Speierman interview.
 - 114. (U) CCH Series XII.H.23; Deputy Director for Intelligence, *Report on the Intelligence Community*, January 1978, 22, in CCH Series VI.C.1.23; Interview, Russell L. Parker, by Tom Johnson and Colin B. Burke, 30 November 1994, OH 52-94, NSA.
 - 115. (U) QMR, 4/76, in CCH Series X.
 - 116. (U) Ibid.
 - 117. (U) NSA Archives, acc nr 37825, H03-0304-6.
 - 118. (U) Ibid.
 - 119. (U) NSA Archives, accn nr 27984, CBUH 31.
 - 120. (U) Ibid; e-mail note from [redacted] NSA, 21 May 1998.
 - 121. (U) NSA Archives, acc nr 31441Z, H01-0307-1.
 - 122. (U) "White Paper on Australia," by [redacted] 18 December 1981, in William Black papers, NSA retired records.
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- 124. (U) Ibid
 - 125. (U) [redacted] memo, Black papers.
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- 127. (U) Toohey and Pinwill, 181.
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- 130. (U) Interview [redacted] by Tom Johnson, 3 August 1997, OH 10-97, NSA.

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132. (U) CCH Series XII.H.58.3; [Redacted] NSA's *Involvement in U.S. Foreign SIGINT Relationships* (Fort Meade: NSA, 1995), 89.

133. (U) NSA Archives, acc nr 33249Z, H18-0708-2 [Redacted] NSA's *Involvement*, 89.

134. (U) Memo for the DCI, "Joint Report on CIA SIGINT Activities," 26 August 1977, in CCH files.

135. (U) Ibid.

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1.4.(c) 136. (U) [Redacted] NSA's *Involvement*, "93-4.

137. (U) Ibid., 94-100.

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1.4.(d) 138. (U) Carter Library, NSF, Memo, Bert Lance (OMB) to Stansfield Turner (DCI), 6 June 1977, in CCH Series XVI.

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[Redacted]

142. (U) Ibid.

143. (U) Ibid.

144. (U) NSA Archives, acc nr 33263, G220-0405-2.

145. (U) Interview, Eugene Becker, by Tom Johnson, 14 May and 13 June 1996, OH 11-96, NSA.

146. (U) Interview [Redacted] by Charles Baker and Tom Johnson, 23 December 1992, OH 8-92, NSA.

147. (U) USIB memo, 15 September 1976, in CCH collection; State cable, 4 April 1980, in CCH collection.

[Redacted]

150. (U) Ibid.

[Redacted]

(U) Chapter 18
The Middle East and the Yom Kippur War



(U) BACKGROUND TO WAR

(U) The Middle East War of 1967 ended as World War I had ended – that is, in a most unsatisfactory way. Arab nations were humbled and bitter, while triumphant Israel had finally gained the additional territory it needed to make its precarious borders “defensible.” Palestinian refugees invaded neighboring countries and became a thorn in the side of all who wished to forget about the Arab-Israeli problem. In short, nothing had been solved, and the situation was made to order for another war.

(U) In the aftermath of 1967 the United Nations Security Council passed resolution 242, which served thereafter as the formal basis for peace. Its basic premise was the “inadmissibility of acquiring territory by war,” and it established an important quid pro quo. If the states of the Mideast agreed to recognize Israel’s right to exist and its territorial integrity, Israel would in turn withdraw from the occupied territories. This was coupled with the principle of navigation through international waterways (including, of course, the Suez Canal and Straits of Tiran) and the repatriation of refugees.

(U) As a general proposition this was recognized by most contending parties (Syria being the noted exception). But all parties interpreted the seemingly solid prose to fit their own cases. Arab states, for instance, assumed that the resolution required total withdrawal, while Israel contended that it only meant withdrawal to “defensible borders.” This would not, in the Israeli view, include withdrawal from the West Bank (and certainly not Jerusalem). On the Arab side the most divisive issue was the refugee problem, which beset all the states bordering Israel to some degree. Israel felt that the Arab states should accept all refugees within their borders; the Arab states wanted to return them all.¹

(U) In the years following the war, political developments changed the face of the dispute. In one year, 1969, revolutions resulted in the overthrow of three moderately pro-Western governments: Libya, Sudan, and Somalia. Of these the most significant was the advent of Muḥammad Gaddhafi in Libya. Gaddhafi became the first sponsor of “state-sponsored terrorism,” that most unwelcome development of the Mideast situation. Gaddhafi was only twenty-seven at the time – clearly the Middle East would contend with him for a long time to come.

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(U) In the same year, Egypt's Gamel Abdel Nasser, unrepentant of his disastrous sojourn to war in 1967, announced that he would begin a "war of attrition" which would include shelling the Israeli positions on the Bar Lev Line in the Sinai. This elicited a predictable Israeli response, and for several years artillery duels raged in the desert.

(U) But the most difficult problem remained the refugees. The two largest groups were in Lebanon and Jordan, and in the Jordanian camps, the Palestinian political and military organization advanced to the point where it had become an independent power within the state of Jordan. In 1970, George Habash's Popular Front for the Liberation of Palestine (PFLP) hijacked four commercial airplanes filled with tourists to a remote air strip near Amman, demanding a massive release of Arabs imprisoned in various capitals. His harsh treatment of the hostages brought worldwide condemnation, and the obstreperous behavior of his minions within the camps in Jordan brought clashes between his forces and the Jordanian Army. Nasser stepped in to negotiate a cease-fire, but the strain was too much, and he died suddenly of a heart attack. Ultimately the PFLP blew up the planes, European governments freed seven Arab prisoners, and the guerrillas released 300 hostages and dispersed the rest to refugee camps in and around Amman.²

(U) British trained, the Jordanian army of King Hussein was small but effective. On September 17 it moved against the Palestinian camps, and the U.S. responded with an intensified military buildup in the eastern Mediterranean to insure that Hussein kept his hold on his throne. Syria attacked Jordan from the north, but withdrew before U.S. intervention was necessary. The refugees were driven out, and decamped for Lebanon, thus transferring the central refugee problem to that country. The embittered Palestinians formed the Black September terrorist movement (after the September date of their ouster from Jordan).³

(U) In Egypt, the completely unexpected rise of Anwar Sadat, one of the original group that ejected the ruling monarchy in 1956, injected new dimensions to the Mideast situation. Sadat was at once more democratic, more intelligent, and more skilled in military matters, than Nasser had been. Thought to be a temporary figurehead, he quickly maneuvered politically to cut down his rivals. He also maneuvered his forces toward the inevitable future clash with Israel, but in new and unpredictable ways, and with less fanfare and rhetoric. Once he had secured his power base in Egypt, he ejected the Soviet advisors on whom Nasser had relied and began negotiating with the West for military aid. It was shaping up as a diplomatic revolution in the Middle East.⁴

(U) The early 1970s were the heyday of international Mideast terrorism. The PLO, the PFLP, and various other warring factions contended for press attention. In 1972 the PLO attacked the Olympic Village in Munich. They also targeted a trainload of emigrants from the USSR entering Austria and helped assassinate the U.S. ambassador in Khartoum.⁵



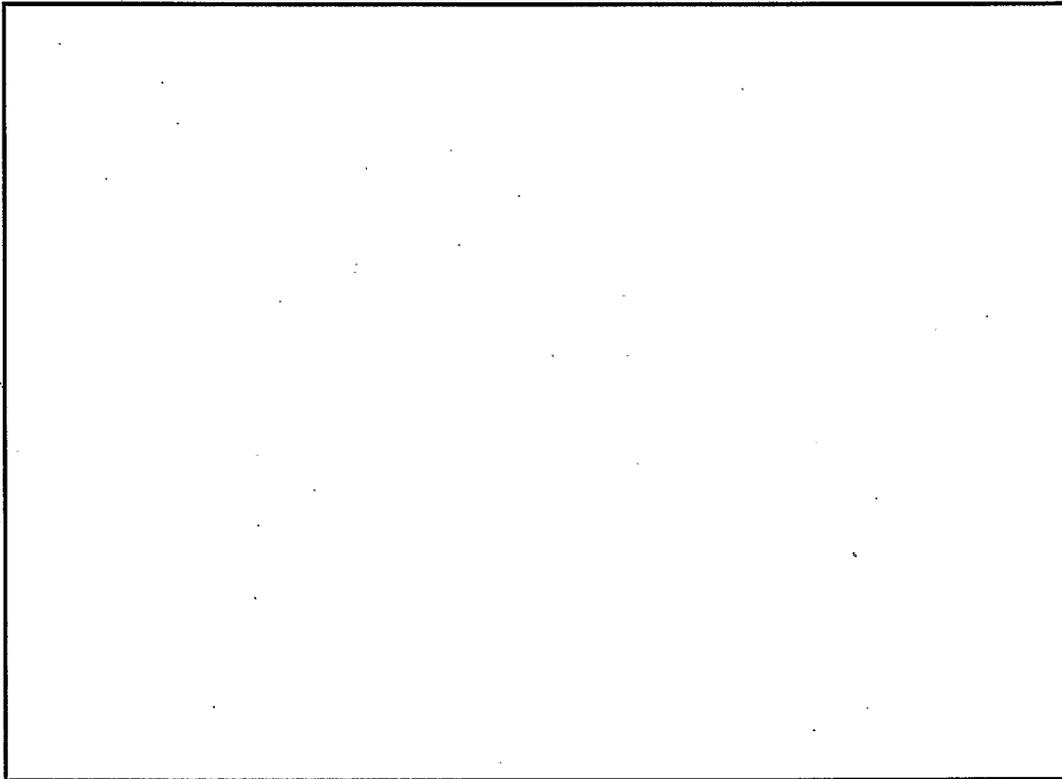
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(U) Anwar Sadat

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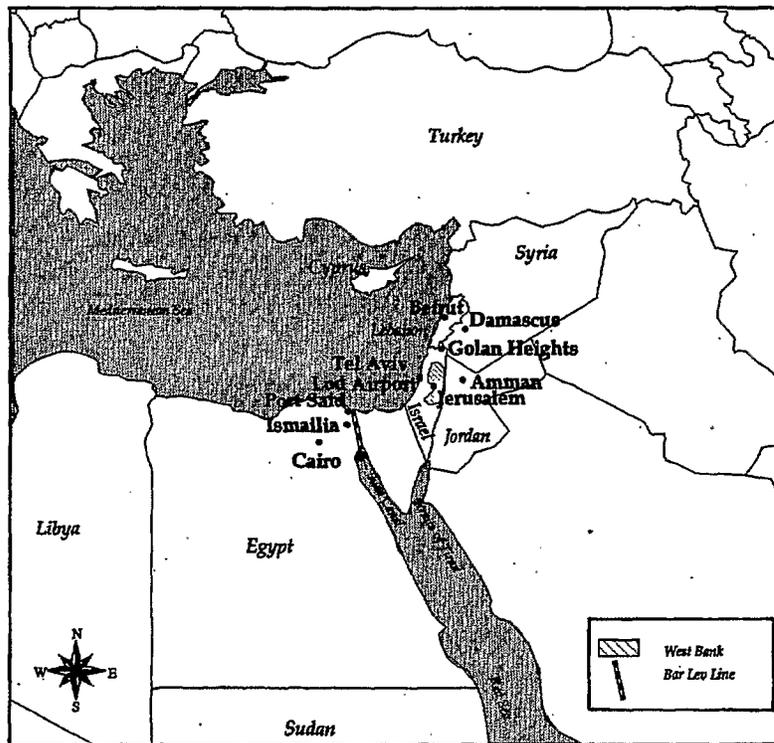
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(U) THE PREPARATIONS

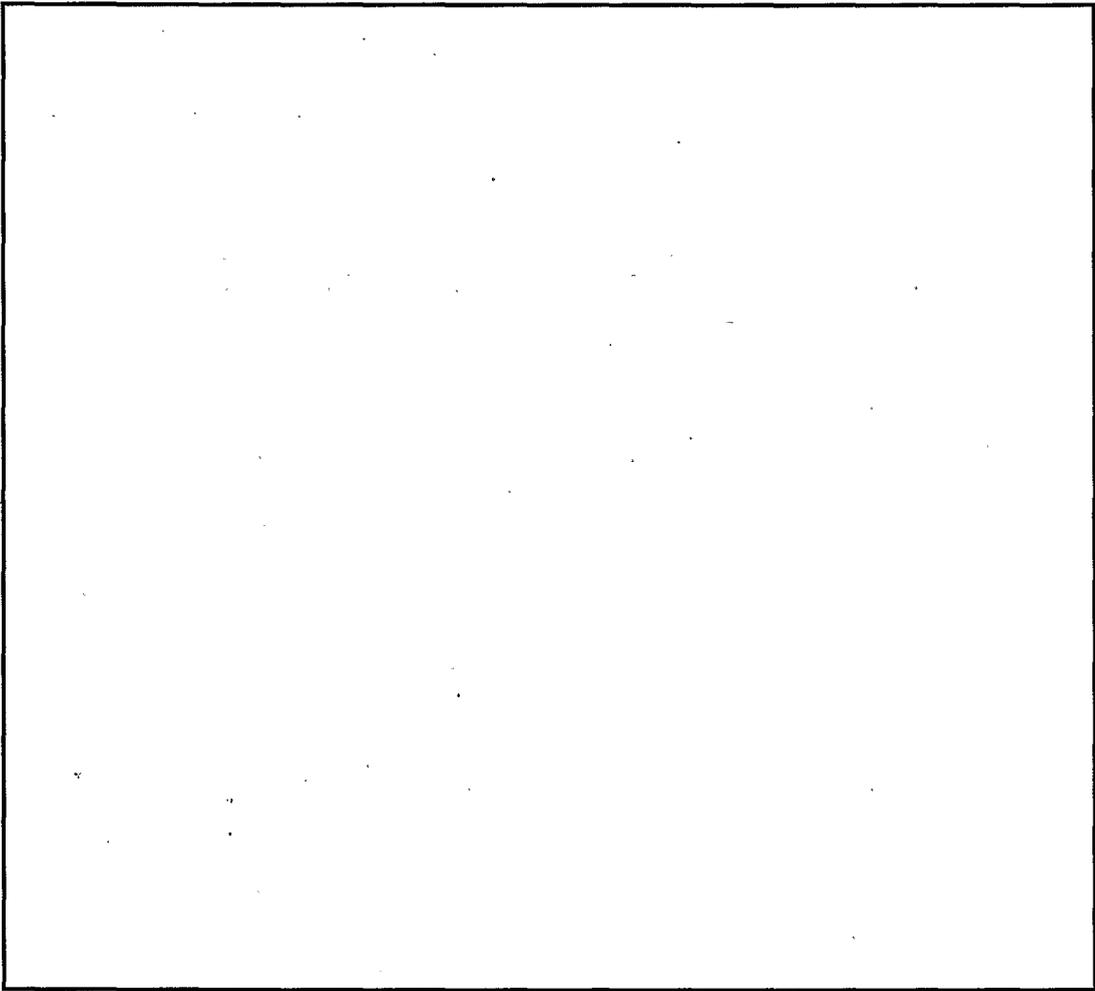
(U) Sadat and his allies in Syria and Jordan decided on a preemptive war at a meeting in Cairo in September of 1973. They agreed to launch simultaneous attacks on Israeli forces in the Sinai and Golan Heights, while Jordan, lacking a missile defense capability, would hang back in a defensive posture in the early stages. They did not at the time set a precise date, but agreed that they would launch their initial attack during the Yom Kippur observances in early October.⁸

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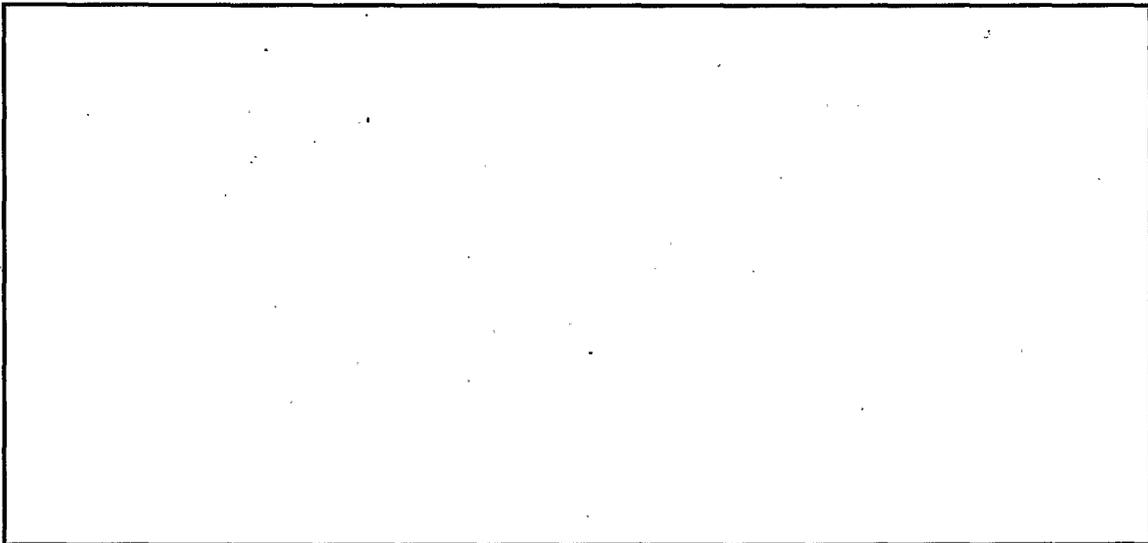


(U) Middle East in 1973



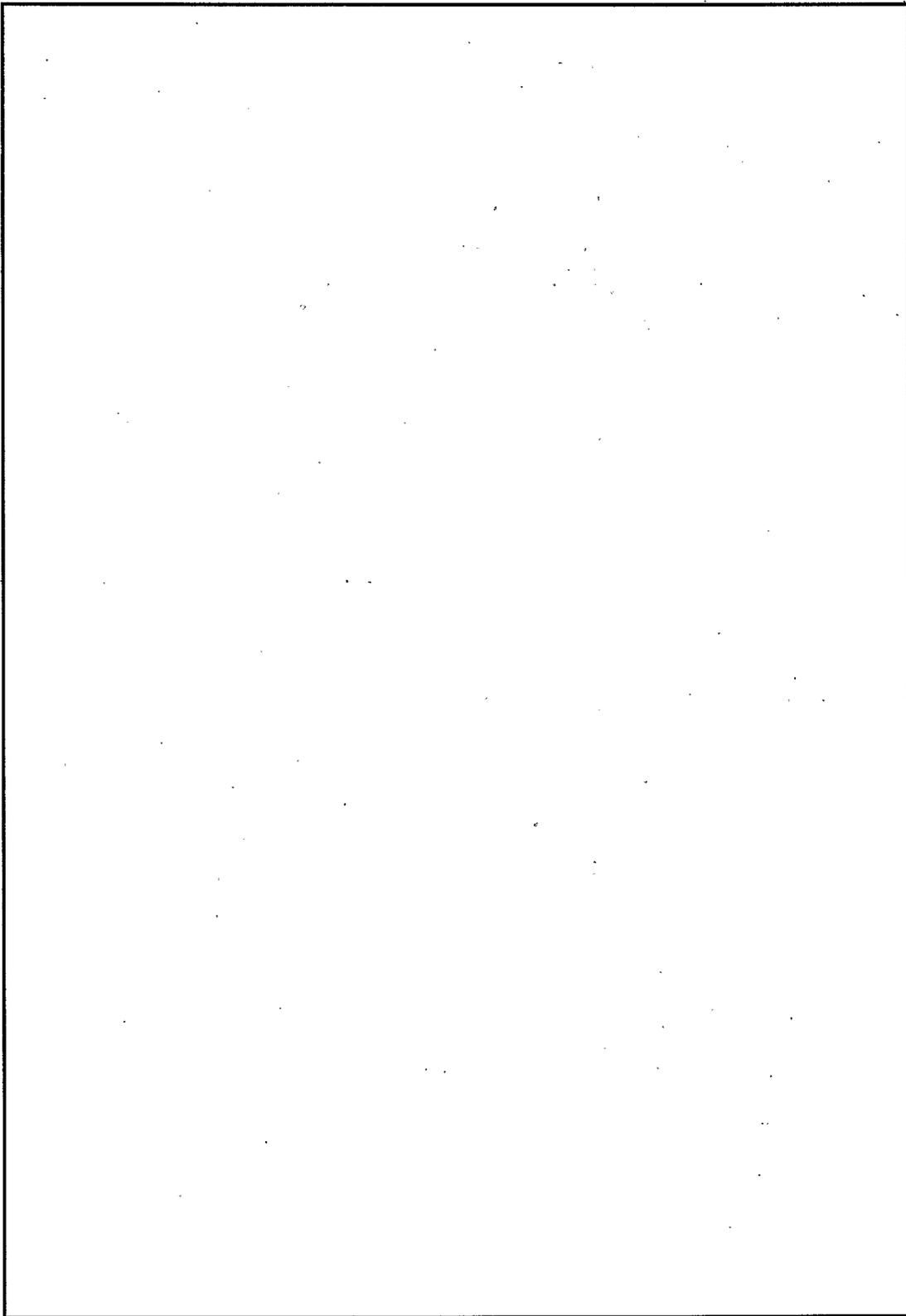


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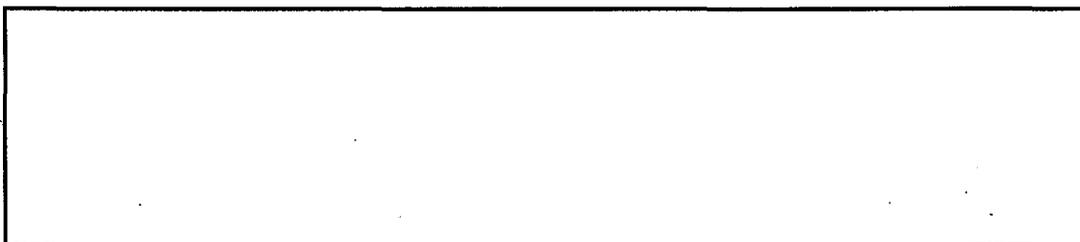
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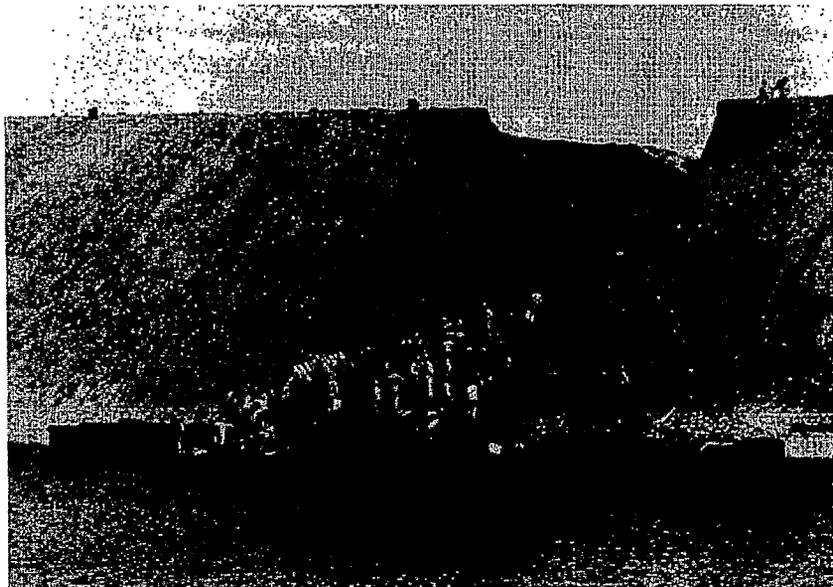


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~~TOP SECRET UMBRA~~**(U) THE ATTACK**

(U) Unlike previous offensives by Arab states, this one was well coordinated. Egyptian troops sprang against the Bar Lev Line in the Sinai, throwing back the 600 Israeli troops and sweeping into the desert beyond with two armies. They came armed with SAMs, and Israel did not enjoy its customary air superiority in the early going. Soon the Egyptians had advanced ten kilometers into the Sinai, but then they slowed, apparently not anticipating such a rapid advance. It appeared that they had made no follow-up plans for such a breakthrough. To the north, meanwhile, Syria charged the Golan Heights with tanks and threw the surprised Israelis back.¹⁸



(U) Egyptian soldiers attack through the Bar Lev Line.

(U) The Israeli mobilization had only just begun that morning, but it was made swifter by the fact that it was Yom Kippur, and everyone who was needed for defense could be found in the synagogues. Israel concentrated its initial defense on the Golan Heights, fearful of the consequences of failure so close to population and industrial centers. The northern front was soon stabilized; then Israel turned its attention to the Sinai. Intelligence located a weak point in the center of the peninsula, at the point where the two

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Egyptian armies joined, and Israel launched a thrust through the center which dominated the second week of the war. At the end of the week, Israeli troops had reached the Suez Canal and, amid heavy casualties, crossed it.

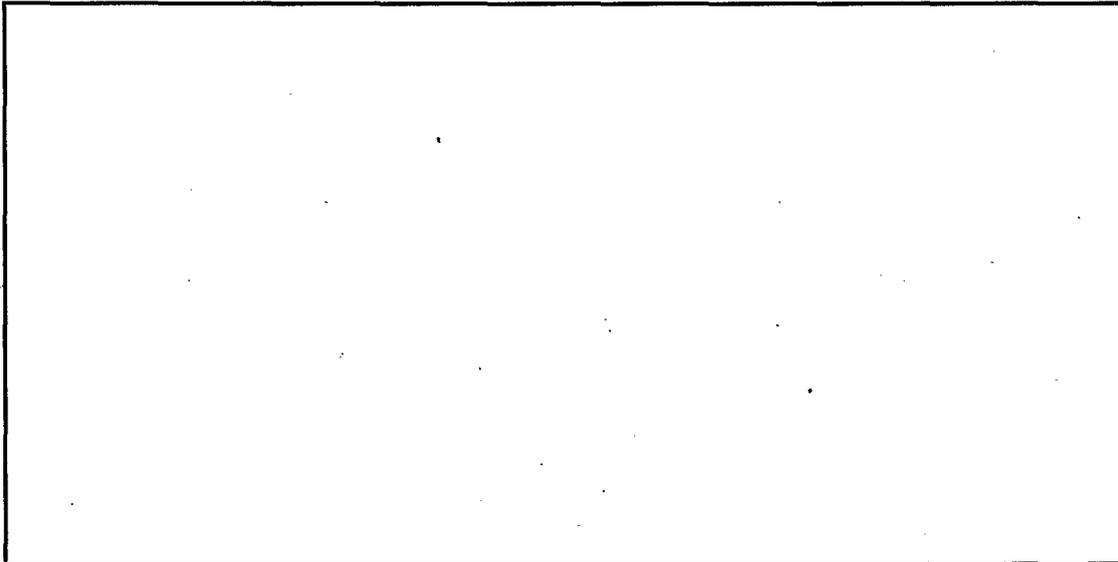
(U) At the beginning of the second week the United States, fearful of an Israeli defeat, began a huge arms resupply, flying in planeload after planeload. At the same time, the Soviet Union signaled its continued support for the Arab cause with its own resupply operation. In retaliation for the U.S. position, OPEC, at the urging of Sadat, imposed an oil embargo on the United States and any European country that appeared excessively pro-Israel. (Only the Netherlands was singled out.) The Yom Kippur War thus launched the first great oil crisis in American history.¹⁹

(U) Week three was the crunch point. Israel had exploited its penetration of Egyptian lines, and the week began with both Egyptian and Syrian forces in serious trouble. Both the U.S. and the USSR, fearing a major superpower conflict, groped desperately for a cease-fire. The Nixon administration was in complete chaos - Vice President Agnew had

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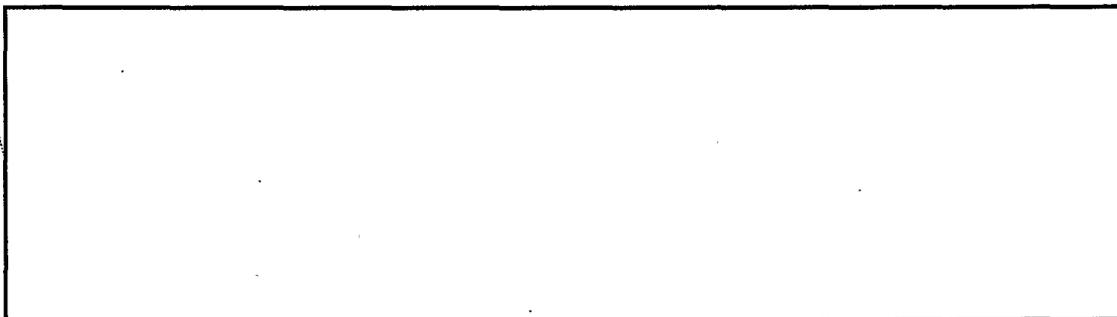
just resigned in disgrace, and Nixon had fired special Watergate prosecutor Archibald Cox, throwing the entire government into constitutional crisis. In the midst of this, National Security Advisor Henry Kissinger flew to Moscow and hammered out a temporary fix with Brezhnev, including a cease-fire in place, reaffirmation of UN Resolution 242, and immediate diplomatic negotiations among the contending parties.

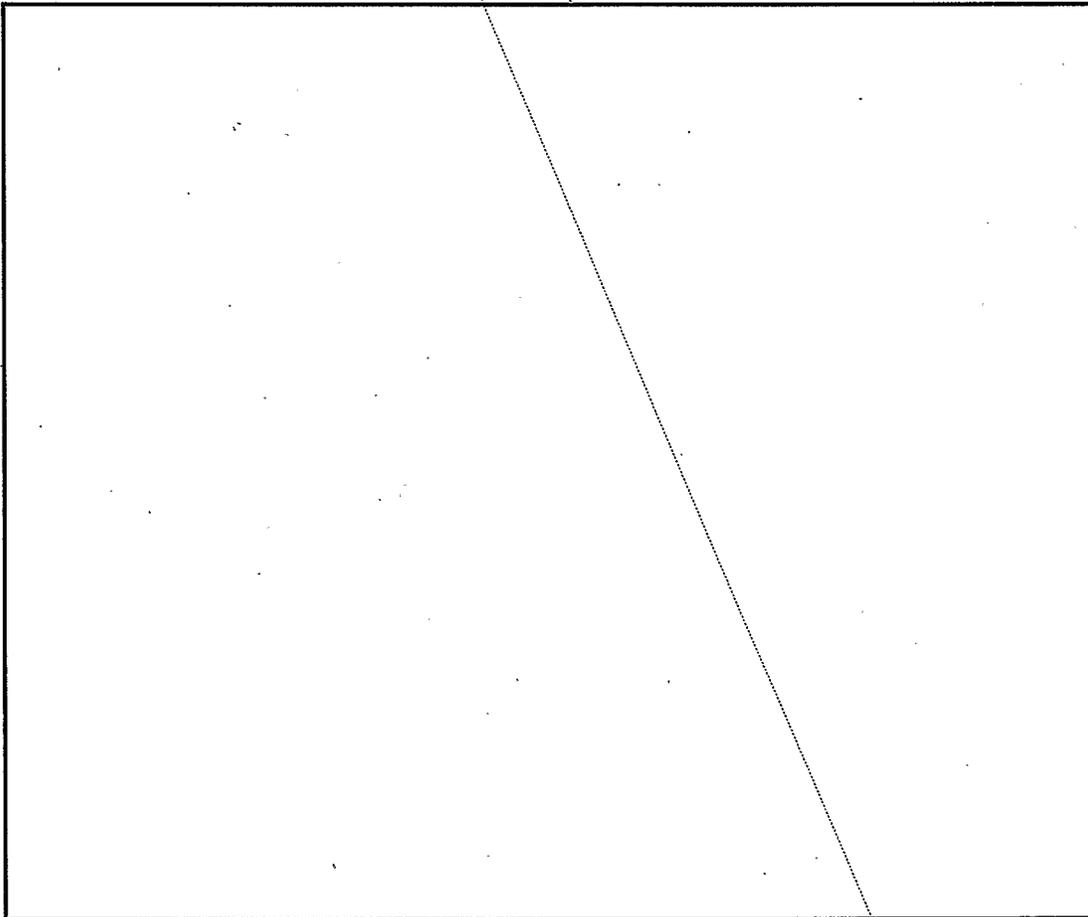


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(U) Ultimately the Egyptians got to keep some of their gains in the Sinai, the Israelis were pressured into pulling their troops from the western side of the Canal, and they also had to give up portions of Syria captured from the Assad government. Israel came out of the experience convinced that they had been jobbed, but Sadat was so pleased with it that he helped Kissinger persuade Faysal of Saudi Arabia to drop the oil embargo. The compromise outcome of the Yom Kippur War also got the peace process started at long last, and Egypt eventually won the entire Sinai through negotiation. Sadat finished the process of converting from a Soviet to an American alliance, thus completing a diplomatic revolution in the Middle East in which Washington, rather than Moscow, became Egypt's closest ally.²⁴

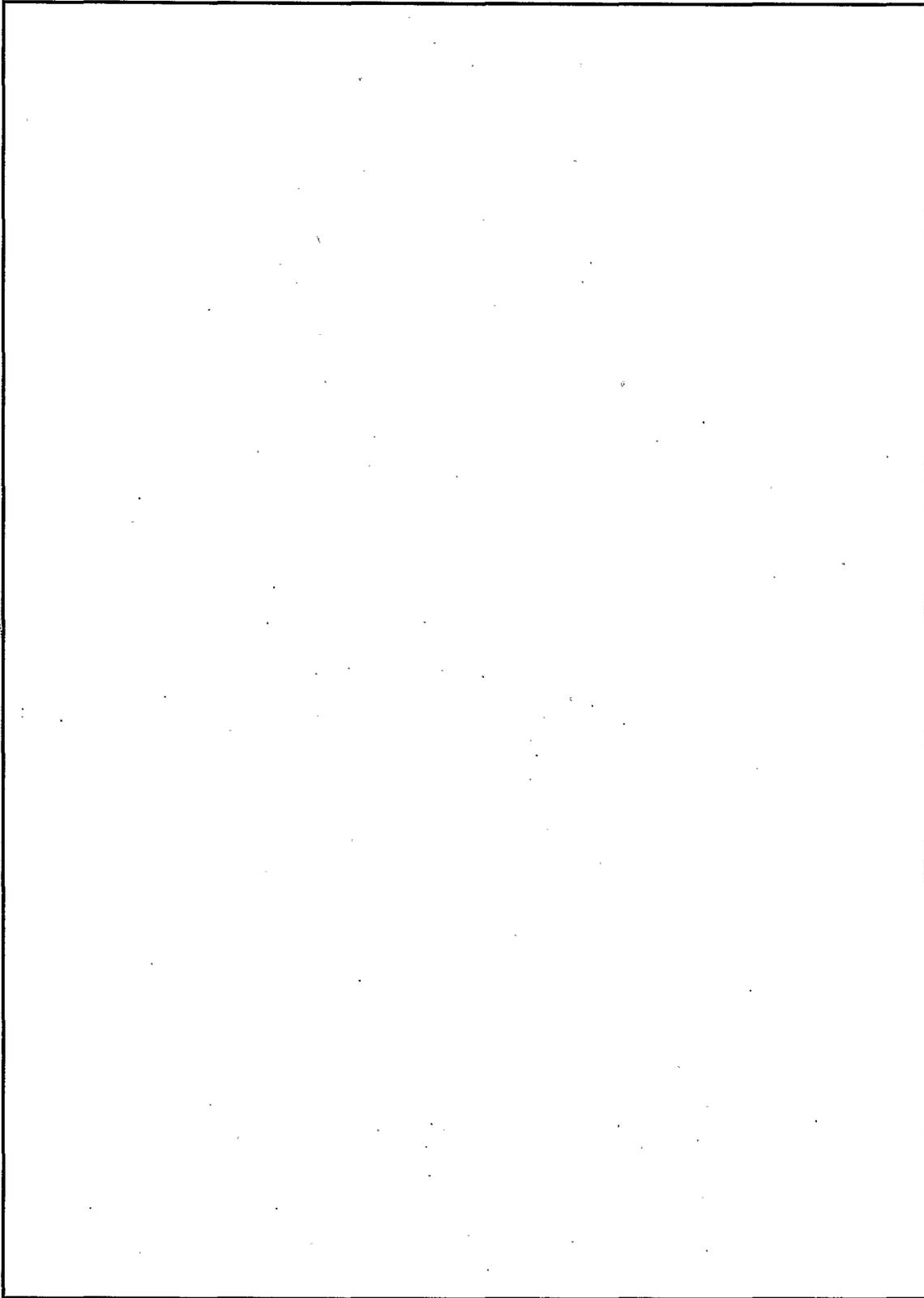
(U) THE POSTMORTEMS



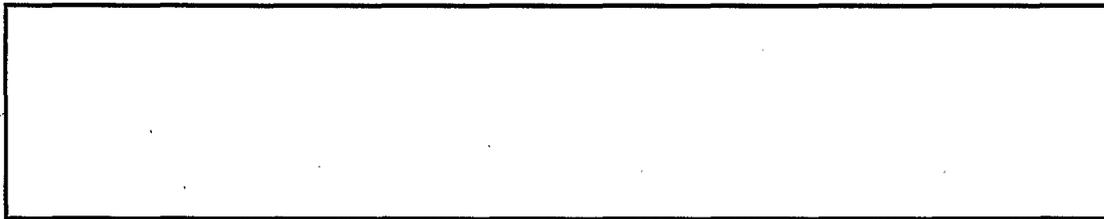
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(U) Self-delusion was a strong factor in the 1973 debacle. U.S. intelligence had concluded that Arab military armies possessed questionable prowess. "There was . . . a fairly widespread notion based largely (though perhaps not entirely) on past performances that many Arabs, as Arabs, simply weren't up to the demands of modern warfare. . . ." It was supposed that the Arabs themselves understood this and would thus never think of attacking impregnable Israeli forces. Then there was the problem of reinforced consensus. The Israelis were confident that war was not imminent. Their followers within the U.S. intelligence community, wanting to look smart, parroted the Israeli view, and as one agency after another weighed in with its conclusion that war was unlikely, those assessments themselves became the footnotes for new assessments. Moreover, each agency assembled its own microscopic piece, in the manner of assembling a Chevrolet, without stepping back to look at the whole.³⁰

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Notes

- 1. (U) Arthur Goldschmidt, *A Concise History of the Middle East* (Boulder, Colorado: Westview Press, 1979), 283.
- 2. (U) Goldschmidt, *Concise History*, 289.
- 3. (U) Steven L. Spiegel, *The Soviet-American Competition in the Middle East* (Lexington, Mass: Lexington Books, 1988), 196-203.
- 4. (U) Peter Mansfield, *A History of the Middle East* (New York: Viking, 1991), 292; Goldschmidt, *Concise History*, 292-93.
- 5. (U) Goldschmidt, *Concise History*, 293.



- 8. (U) Goldschmidt, *Concise History*, 300.



- 10. (U) Ibid.

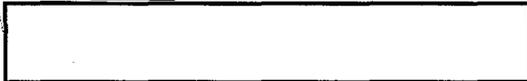
- 11. (U) Telephone interview [redacted] by Tom Johnson, 17 September 1994; Interview [redacted] by Tom Johnson, 3 October 1994, OH 44-94, NSA; Interview [redacted] by Tom Johnson, 4 October 1994, OH 50-94, NSA; Interview [redacted] by Robert L. Benson, 26 March 1976, NSA.

- 12. (U) [redacted] interview.

- 13. (U) *On Watch: Profiles from the National Security Agency's Past Forty Years* (Fort Meade: NSA, 1986), 75-79.



- 15. (U) [redacted] interview.



- 18. (U) Goldschmidt, *Concise History*, 301.

- 19. (U) Ibid., 302-03.



- 21. (U) Ibid.



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24. (U) Ibid.

[Redacted]

27. (U) Ford Library, NSF, in CCH Series XVI.H., "Mid East."

[Redacted]

CIA assessment, December 1973.

DIA intelligence summary for October 3, 1973.

CIA assessment.

31. (U) Allen interview.

[Redacted]

(U) Chapter 19

The Rebirth of Intelligence during the Carter Administration

(U) The return of the Democrats to power in 1977 had ominous implications for intelligence. After eight years lost in the wilderness, the Democratic politicians were eager to get into the White House and fix the "Watergate mess." This would include a thorough housecleaning of a supposedly out of control intelligence establishment. And indeed Jimmy Carter started down that road. But as so often happens, things did not work out that way, and the decade ended with a very different fate for the intelligence community and for NSA.

(U) THE INMAN ERA

(U) The first event that changed the fate of NSA was the appointment of a new director. General Lew Allen departed in July 1977 as a hero to those in NSA who understood what he had achieved in dealing with Congress in 1975. He was rewarded with a fourth star and command of Air Force Systems Command. He would soon become the Air Force chief of staff, the first NSA director to be so honored. His replacement was an unknown admiral named Bobby Inman.

(U) Inman came from the obscurity of an east Texas town, the son a gas station owner. He went to school at the University of Texas in Austin, majored in history, and did not quite know what to do when he graduated. He tried law school, but dropped out, then taught grammar school for a year. In the course of events he joined the Naval Reserve and during the Korean War left schoolteaching to enter the Navy as an ensign. He never returned.¹

(U) Bobby Inman was one of life's outsiders. He competed for promotions in a system that rewarded Annapolis school ties, which he did not have. He was a restricted line officer when it was well known that only seagoing line officers could gain a star. He spent his entire career in intelligence, a kiss of death at promotion time.



(U) Admiral Bobby R. Inman

~~(S-CCO)~~ His early career carried him through a variety of intelligence duties, including a three-year stint as a SIGINT analyst at NSA [redacted]

[redacted] In the early 1970s he became executive assistant to the vice chief of Naval Operations, Admiral Bruce Holloway. The vice-CNO recognized Inman's talents, and in 1974 rewarded him with his first star, as director of the Office of Naval Intelligence.²

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~~(FOUO)~~ Inman came to this position just prior to the Church and Pike Committee hearings in 1975. The poisonous atmosphere could, and did, destroy careers, but in the cases of both Allen and Inman, it enhanced their standing. Inman worked very closely with Congress and first established his close ties with the legislative branch. His exceptional performance also came to the attention of the White House and President Ford. Thus in 1976, when the Defense Department needed a new lineup at DIA, Inman was picked as vice-director. This earned him a quick promotion from rear admiral to vice admiral. The objections of the naval establishment could be heard in the halls but did not hold up against Inman's connections and his acknowledged brilliance. To Inman, though, even this extraordinary accomplishment was not quite what he wanted. He had always wanted to be director of NSA, which he regarded as the most powerful military job in the intelligence community.³

~~(FOUO)~~ As he sat "languishing" at DIA, a revolution was about to send him to the job he coveted. The 1976 changeover at DIA had sent the director, Lieutenant General Eugene Tighe, packing. (He was reduced in rank and sent to be the director of intelligence at SAC, a subordinate position that clearly indicated loss of favor.) A new administration wanted to rehabilitate Tighe. In the maneuverings that saved Tighe's career, it became necessary to put Inman somewhere else. That "somewhere else" became DIRNSA.⁴

(U) Inman brought to the job some extraordinary talents. He was known as a brilliant workaholic with a photographic memory. *Washington Post* investigative journalist Bob Woodward once said of him: "Inman's reviews are extraordinary, almost hyperbolic. Nearly everyone who knows him mentions a piercing intellect, honesty, unusual memory for details and prodigious capacity for work. In his Washington years Inman rose each day but Sunday at 4 a.m., his first hours absorbed in reading and private thoughts." Another writer, Joseph Persico, wrote that "If Inman had a hearing at nine o'clock in the morning, he'd be up at four prepping for it. He'd read the answers to maybe a hundred hypothetical questions. He'd essentially memorize the answers. Then he'd go before the committee and take whatever they threw at him, without referring to a note."⁵

(U) His brilliance enabled him to take on things that no other DIRNSA had been capable of. His staff had trouble keeping up with him, and missteps or misinformation was feared because Inman would remember the facts that his staff so laboriously collected. Being in the same room with him was an experience that no one would ever forget. He appeared perpetually calm, but in reality was about as stable as high voltage across an air gap.

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(U) Inman's management style was unique. Rather than simply representing the Agency to the outside world as previous directors (even Ralph Canine) had chosen to do, Inman got involved in the technical details of the business. He was the first and only director to become so schooled in the minutiae of cryptology.

~~(FOUO)~~ One of his first actions was to take hold of the personnel system. He understood that NSA was actually managed by a collection of powerful civilian czars under the long-serving deputy director Louis Tordella (who had been replaced by Benson Buffham in 1974, on his retirement). This smacked to Inman of a certain collegiality which reduced the real authority of the director. Being an outsider his entire career, he determined to change the system. So one of his first acts was to create a career development panel which was to identify the next generation of top NSA managers to replace the World War II generation that was still in power. The panel named for Inman a collection of GS 13-15 "fast burners" whom they expected to take the reins of senior management in the future. Inman then decreed that this group of up-and-coming leaders would be rotated from job to job. One benefit would be to give them wide experience; the other, unsaid, was to remove them from their own bases of power. If continued over a period of years, this would change the flavor of NSA and would centralize power within the directorate.⁶

~~(FOUO)~~ Inman also made the crucial decision to create a revolving deputy directorate. He felt that a long-serving deputy diluted the authority of the director, and he was determined to have no more Tordellas. Thus he sent Buffham off to SUSLO in 1978 and brought in Robert Drake. Only two years later he again changed deputies, naming Ann Caracristi the first woman deputy director. Both were acknowledged products of World War II - the postwar generation would get its chance, but not quite yet.⁷



(U) Ann Caracristi, the first woman deputy director of NSA

(U) Bobby Inman's views were strongly reinforced by a management study which he commissioned in 1978. A consulting firm, the Arthur H. Little Company, looked at NSA management from top to bottom and issued a scathing report. Calling the management style "paranoid," "untrustworthy," and "uncooperative," the company lit into the entrenched bureaucracies, each a sealed unit driven by the personality of its dominant "baron." In a cover letter to Inman, the authors wrote:

A second important concern involves the attitudinal outlook of much of the staff of the Agency. A pervasive defense mechanism seems to be a driving (as well as a cohesive) force. . . . Our concern is that the siege mentality affects not only the Agency as a whole, but also each of the subunits which must compete for visibility, resources, and control of programs and assets and even the individuals who must compete for the few promotions and for the really good jobs.

(U) The company also identified much managerial layering which it contended produced many levels of staffing, slowing decisions and diffusing responsibility. NSA also created many positions that had come to be regarded as "parking lots" for managers who no longer fit into the Agency's plans.⁸

~~(FOUO)~~ Inman also intervened in a personnel case that he regarded as one of his most difficult decisions. A young NSA linguist, who had just graduated from the Foreign Service Institute with a very high score in an exotic language, announced that he was homosexual. He also hired a lawyer, signaling that he would not go quietly despite the well-known prohibition against homosexuals at NSA. Inman's general counsel, Daniel Schwartz, advised him that they could lose the case in court and with such a loss would go much of the director's authority in personnel decisions. It was a tough call because homosexuality was often an avenue for entrapment by hostile foreign intelligence agents. The possibility of blackmail was always considered to be very high.

~~(FOUO)~~ Inman's decision was to let the young man stay on, but under stringent rules. He would have to admit his homosexuality to his entire family, personally (not in writing), so that there would be little likelihood of blackmail. He would have to avoid public lewdness and must refrain from violating state and local laws on the subject. He could not participate in public demonstrations relating to homosexuality in which he could be identified as an NSA employee. And, finally, he would have to submit to an annual polygraph. He accepted all four stipulations and was kept on.⁹

~~(S-CCO)~~ With his strong background in intelligence in general and SIGINT in particular, Inman was inclined to jump into the technical details of managing the system. As soon as he became director, he took control of the CCP, informing his program manager that he wanted to review all CCP change requests. He became personally involved in the planning mechanism that Lew Allen had set up to staff major initiatives, taking on such projects as Bauded Signals Upgrade, the remoting program, and overhead collection, among many others.¹⁰ These tasks had formerly been reserved for the deputy director; under Inman they became the province of the director himself.

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY~~

~~(FOUO)~~ The net result was a serious weakening of the upper level staff at NSA. Many senior managers chose to resign rather than compete with Inman for authority. But it was temporary - no other director could continue down that road.¹¹

~~(FOUO)~~ One more of Inman's eccentricities deserves mention - his profound distaste for human intelligence and covert actions and his discomfort with economic intelligence. He trusted technical intelligence - SIGINT and photography - and disliked the spy business, which he regarded as somehow "unclean." While director of ONI, Inman had closed a Navy HUMINT outfit called Task Force 157. While at NSA, he became involved in a dispute with Commerce Secretary Juanita Kreps over the provision of economic intelligence. The problem with this was similar to HUMINT and covert actions - the possibility of misuse.¹² Inman leaned strongly toward "clean" methods and uses of intelligence. It was an attitude that had endeared him to Congress, which also viewed these things askance.

(U) THE CARTER WHITE HOUSE

~~(S-CCO)~~ Inman's term as director overlapped almost perfectly the administration of Jimmy Carter. Carter brought to the White House an almost paranoid distrust of the intelligence establishment. DCI George Bush later commented on his transition briefings with the incoming president that "beneath his surface cool, he harbored a deep antipathy to the CIA."¹³ The consensus was summed up by intelligence historian John Ranelagh:

Carter had run against the CIA and Washington; he was an outsider, suspicious of Washington sophistication, and so he stood fast against the corrupting compromises that informed people have to make. . . . He did not understand the need for secret intelligence - a failing that contributed to the Iranian crisis. . . . He saw no real use for the CIA. He had a view of intelligence as order of battle - about detail. . . .¹⁴

His transition team peered unapprovingly at NSA, the home of vacuum cleaner collection and the suspected invader of individual privacy. They initially proposed a reorganization that would have placed the attorney general directly in NSA's chain of command. The "short leash" approach was soon abandoned, but the latent hostility remained. As a new president, Carter granted the attorney general interim authority to continue electronic surveillance of Americans who might be acting for a foreign power in the course of doing foreign intelligence work. But he also got a special coordinating committee working on draft legislation relating to NSA and the intelligence community.¹⁵

(U) Carter brought with him a new DCI, Admiral Stansfield Turner, whose suspicions of secret intelligence mirrored Carter's. They shared a proclivity toward an open society that was fundamentally antithetical to many intelligence operations and changed this view only under the press of events. But Turner was not a Carter administration insider. They had been Naval Academy classmates, but had barely known each other, and Turner

was only Carter's third choice for DCI. As events unfolded, Turner was to have less influence than might have been imagined for such a key official.¹⁶

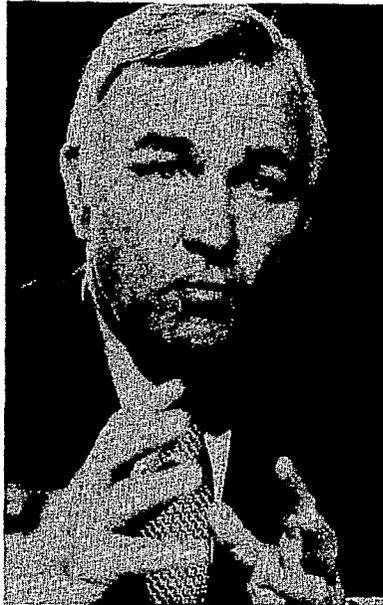
(U) The White House national security structure was dominated by Zbigniew Brzezinski, a strong national security advisor who picked up where Henry Kissinger had left off. Brzezinski proceeded to reduce Stansfield Turner's access to the president. Brzezinski would not permit a CIA briefer into the Oval Office, and when the president's Daily Brief was delivered from Langley, Brzezinski always put his own spin on the items that went to the president. As a result, Brzezinski and Turner did not enjoy a close relationship.¹⁷

(U) One thing that all three - Carter, Turner, and Brzezinski - had in common, however, was an affinity for "technical" intelligence. In his account of his own term as DCI, Turner stated that "Today, [technical intelligence] all but eclipses traditional, human methods of collecting intelligence. . . . technical systems had opened vast new opportunities for us to collect information regularly with a precision that no human spy network could ever offer. . . ." He created strident ill will within CIA by gutting the power of the DO and getting rid of 802 covert operations people. Turner's dictum was ". . . never send a spy when you can get the information you want by technical means."¹⁸



(U) President Carter and presidential adviser Hamilton Jordan

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(U) Stansfield Turner



(U) Zbigniew Brzezinski with Secretary of State Cyrus Vance

~~(TS-TK)~~ In the technical field, two systems competed for favor. SIGINT, unchallenged since the days of Lyndon Johnson for its speed and accuracy, finally got a competitor. At Carter's first National Security Council meeting on January 22, 1977, Henry Knoche, the acting DCI, brought in the first downlinked photos from the KH-11. Only hours old, the pictures spread out on the cabinet room table made a tremendous impression on this group

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of outsiders who had had no close association with intelligence. It was a very impressive performance for the new overhead photography system.¹⁹

(FOUO) NSA was well situated to compete with PHOTINT. As Carter arrived in the White House, his new Situation Room chief was [redacted] from NSA; [redacted] named [redacted] of NSA as his deputy. Although there was no formal link with NSA (each employee in the Situation Room responded to the White House rather than his or her home agency), the task of interpreting SIGINT was greatly simplified for NSA.²⁰

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(S-CCO) [redacted] commenting on his tenure in the White House, said: "I found that Carter and Brzezinski in particular were very much attuned to SIGINT. He [Brzezinski] used it and asked for it, and very much understood what he was seeing. . . ." ²¹ The Situation Room authored a separate series of intelligence reports that trickled into the Oval Office during the day. Heavily laced with SIGINT, they contributed Brzezinski's unique spin to national security topics. At times, [redacted]

[redacted] these reports were almost entirely from NSA.²²

(S-CCO) Carter responded with frequent, handwritten comments on the reports themselves. Like Inman, he was a details man, and he asked detailed questions [redacted]

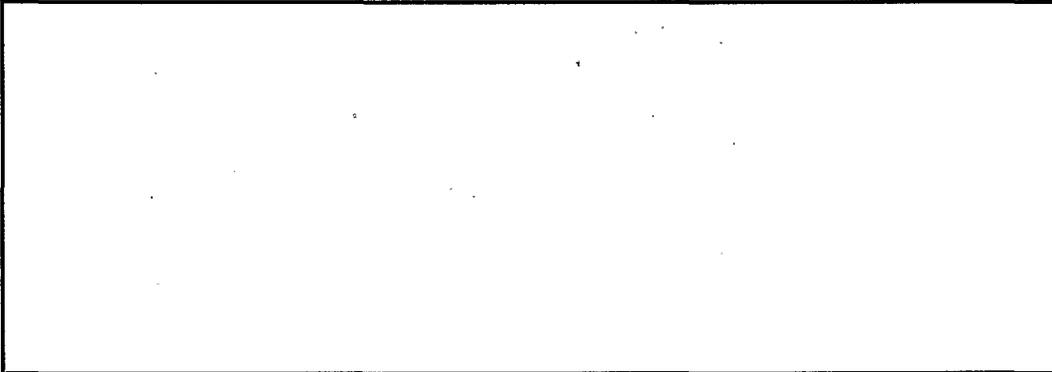
[redacted] One day the president called Inman directly to request that two names be deleted from a by-name product distribution list. He sometimes invaded the Situation Room to look at reports or just to talk. His interest in intelligence was, like Lyndon Johnson's, apparently insatiable and very much at odds with the public perception of an antiestablishment outsider determined to reduce the intelligence structure. He was definitely NSA's number one customer.²³

(U) THE WAR BETWEEN THE ADMIRALS

(FOUO) Below Carter and Brzezinski, a virtual war erupted between NSA and CIA. Turner began his tenure determined to reduce NSA's independence. One of his first actions as DCI was to ask Carter for control of NSA. The White House turned the matter over to the attorney general, Griffin Bell, for a recommendation. In the course of his investigation, Bell first encountered Bobby Inman, who gave him a disquisition on why NSA must remain in the Defense Department. According to Inman, when Turner showed up to brief Bell on why NSA should be resubordinated, Bell said, "Well, Stan, that's all very well, but Admiral Bobby Ray Inman convinced me this morning that he should work for Defense." Turner ascribed his defeat to a curious president. "Presidents want to have multiple sources of information, and the NSA is a particularly intriguing one."²⁴

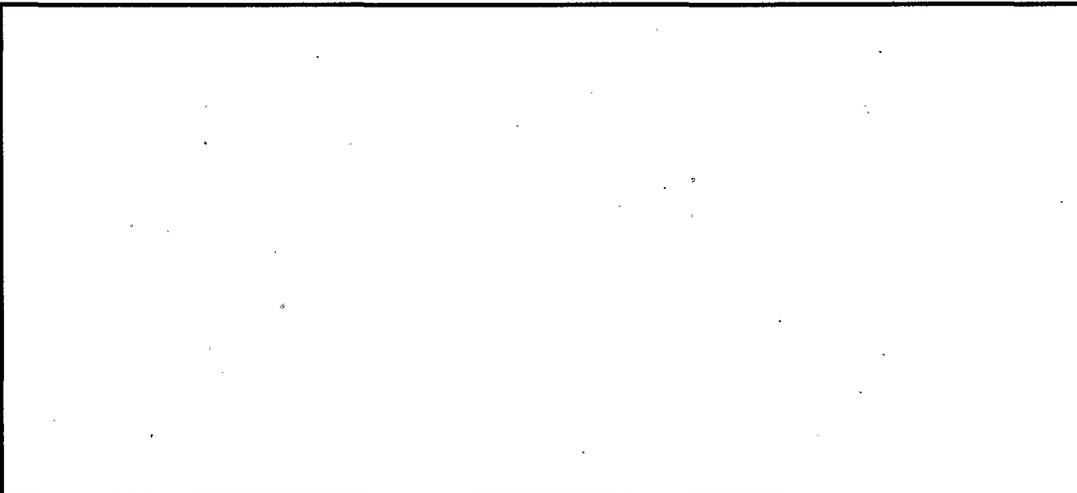
(S) "Distant" would not adequately describe the relationship between Inman and Turner. At about the same time as Turner's play to capture NSA, the two clashed about NSA's budget. The Carter administration proposed deep cuts in the intelligence budget in its first year, and Inman felt that Turner "rolled over" too easily on the issue. Subsequently, Inman dealt mostly with Turner's supporting cast, finding an especially

sunny relationship with the deputy DCI, Frank Carlucci. The Carter years also marked the peak of conflict between NSA and CIA over control of cryptologic assets, a conflict which resulted ultimately in the "Peace Treaty" of 1977 (see p. 224). The personal animus between the two admirals was exacerbated by their different Navy upbringing - Turner was an exclusive member of the "Annapolis club," while Inman, ever the outsider, owed no favors to this group of kingmakers.



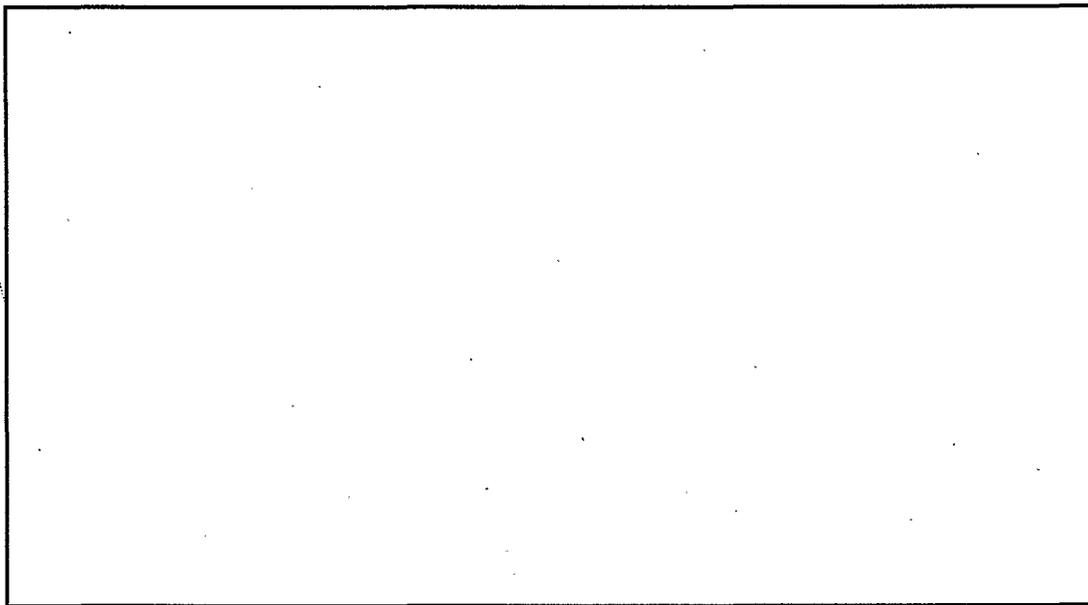
~~(FOUO)~~ President Carter was so concerned about this that he sent a delegation headed by Inman to tell the publisher of the *Times*, Arthur Sulzberger, what had happened. The upshot of this was an agreement between the Carter administration and the *Times* to have an administration point of contact on such matters whom journalists could check with if they suspected that national security issues were involved. The president named Inman as the contact man - this included all forms of intelligence, not just SIGINT.

~~(FOUO)~~ The system continued through the remainder of the Carter administration, and in general it worked well. The word got out to other publications; and soon all the leading newspapers and weekly news magazines had Inman's name and number. But news of the system also leaked to Turner, who felt that this should have been his role. It did not help the relationship between the two admirals.²⁵



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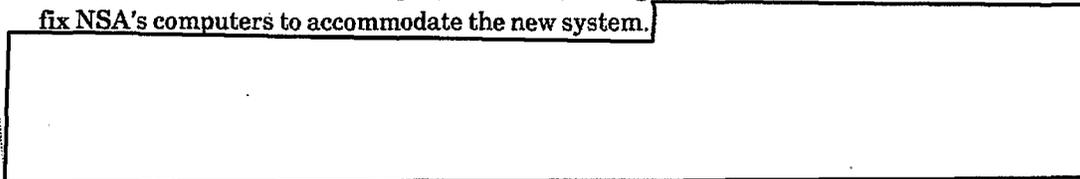


(U) APEX

(U) In 1978 a bizarre struggle arose over a Turner proposal to rationalize and simplify the various intelligence compartments. The plan, called Apex, resulted from a study group headed by John Vogt, a retired Air Force general who had not been a close friend of SIGINT. It was good in theory. All the various intelligence compartments would be subsumed under a single system, with all subcompartments controlled and managed by a central authority. The logic of the new system carried the day, and Turner got the president's concurrence, documented in a new directive, PD/NSC-22, dated January 7, 1980.²⁸

(U) Turner proposed that the DCI be the single manager, and that was where the battle lines formed. He liked that idea - it would give him more power. None of the other intelligence chiefs did, but only Inman was willing to confront Turner head-on. NSA, of course, had the most to lose. And the Inman-Turner rift was already in the open, so Inman himself would not be losing ground by confrontation.²⁹

~~(S-CCO)~~ Apex was particularly vulnerable on budgetary grounds, and there was where Inman took his stand. "... it is unrealistic to believe that supplemental resources will be provided in FY 81 for Apex," he wrote, noting that the cost would be \$26 million to fix NSA's computers to accommodate the new system.



(FOUO) Apex inched toward implementation, but time was not on its side. Turner had named January 1, 1981, as the official implementation date, but in November 1980 Carter

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lost the election to Ronald Reagan. A few days later NFIB informed Turner that Apex should be abandoned. Turner knew when he was beaten, and in his memoirs he ascribed the defeat mostly to Inman. Apex was put on hold and remained a work unfinished when Reagan became president. It was officially killed as soon as Stansfield Turner was safely out of Langley.³¹

(U) THE NEW EXECUTIVE ORDER

~~(S)~~ Carter's people got right to work on a new directive for the intelligence community. What emerged was Executive Order 12036, the successor to Ford's directive (EO 11905). The new order retained much of the mechanism set up by Ford, including centralization of collection tasking within the DCI, and retention of the Intelligence Oversight Board. USIB was renamed NFIB, but little was changed beyond the name. The DCI was given tighter control of the intelligence budget, and new mechanisms were set up to effect that control. But the tone of the executive order was more punitive, and much of its language dealt with specific restrictions on the intelligence community. Reflecting the prevailing suspicion about secrecy and overclassification, the order reduced the length of time that a document could remain classified from thirty to twenty years. (NSA managed to slip an exception into the order for "foreign government information," thus exempting material provided by the UKUSA partners. This material continued under the old thirty-year rule.)³²

~~(FOUO)~~ As for the draft legislation for the intelligence community (which included a congressional charter for NSA), Jimmy Carter's ardor soon cooled. What had looked good from Atlanta did not look so good to a sitting president. In a memo to a White House staffer, the president commented: "Be sure not to approve Charter provisions which are excessively detailed, specific or an intrusion into my duties and responsibilities. JC"³³ Congress continued to tinker with the drafts throughout the Carter years, but it had lost the sponsorship of the head of the Democratic party, and the proposed legislation ultimately went nowhere.

(U) PANAMA

~~(S-CCO)~~ Jimmy Carter arrived at the White House determined to negotiate a permanent resolution to the mess in Panama. The issue did not resonate with the intelligence community.

[REDACTED]

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But they were, fortunately, quite wrong.

(U) The Panama problem began with the terms under which the United States constructed and operated the canal, the highly one-sided Hay-Bunau-Varilla Treaty of 1903. This document granted the United States virtually unimpeded occupation of the

Panama Canal Zone in perpetuity. This was an arrangement fit for a dominant colonial power, but there was an achilles heel. The American public was well known to have a conscience, and the Panamanians played to it.³⁴

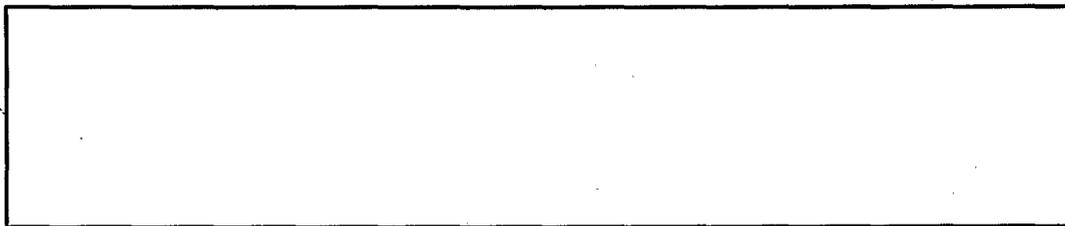
(U) Trouble began under Lyndon Johnson in the 1960s. Panamanian nationalists began agitating for a better deal, and in 1967 mobs entered the Zone and precipitated bloody riots that the U.S. had to suppress with force. Following this fiasco, the Johnson administration agreed to negotiations to change the provisions of the treaty. But Johnson was preoccupied with the war in Vietnam, and Panama lacked the power to press its case.

(U) In 1968, a messianic officer of the Guardia Nacional named Omar Torrijos overthrew the left-leaning civilian government of Arnulfo Arias. Torrijos immediately took up the struggling negotiations with the United States as a personal call, and he guided his nation through relations with four American presidents (Johnson, Nixon, Ford, and Carter). Employing secret threats, bald intimidation, and diplomatic maneuvering that would make Machiavelli blush, Torrijos had, by 1977, placed the United States in a most uncomfortable position. Carter arrived in Washington determined to rid the United States of the festering sore of Panama.



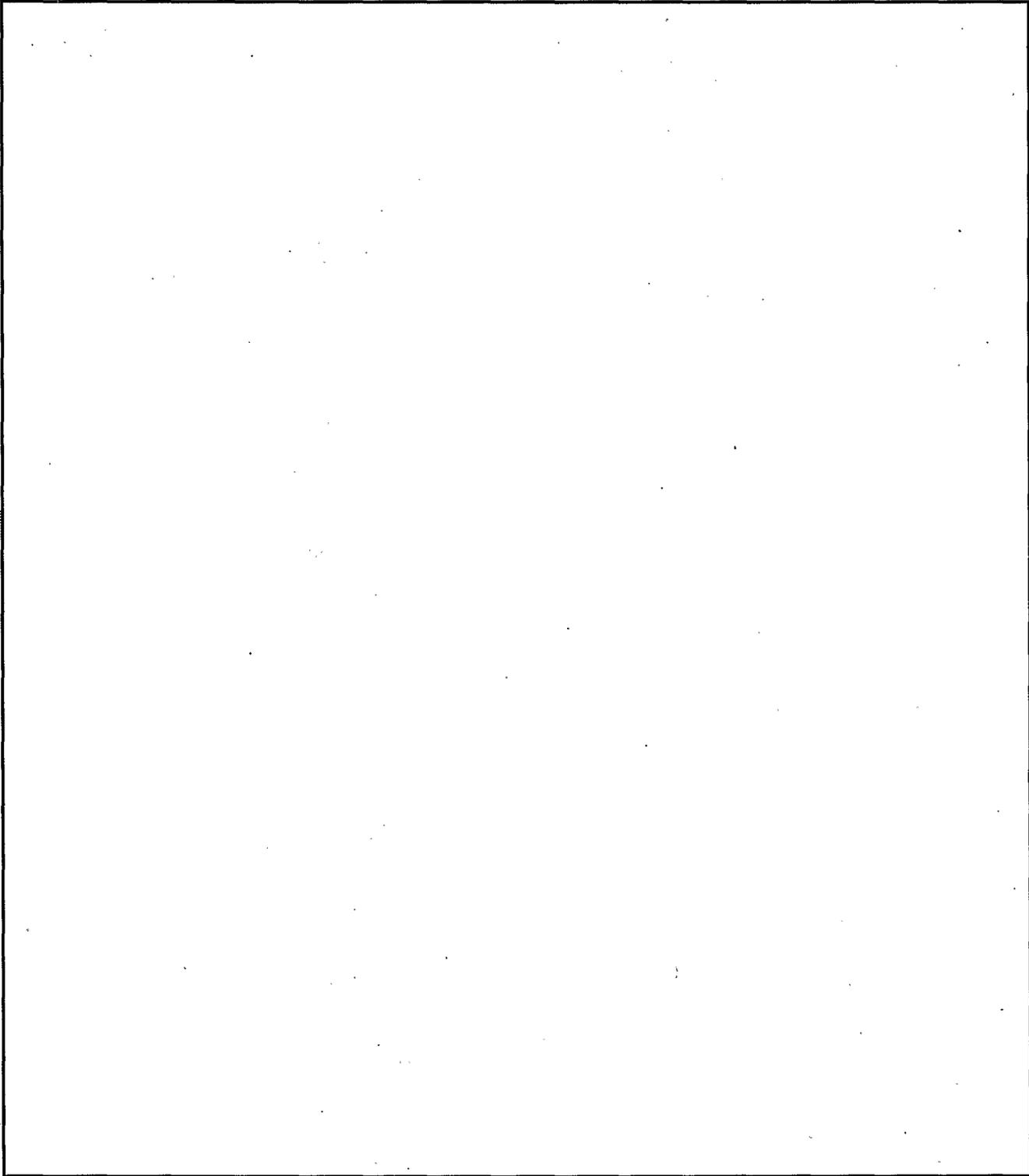
(U) President Carter and Omar Torrijos

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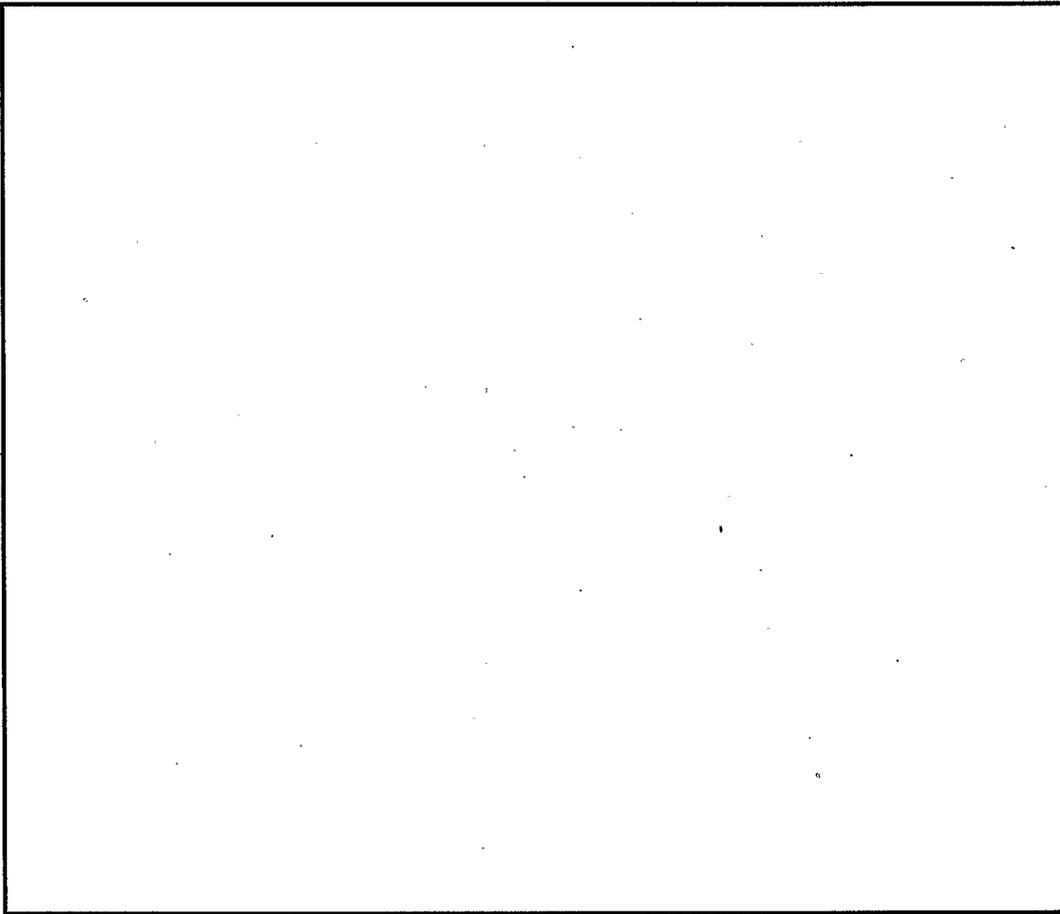
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(U) SALT II

(U) The SALT I treaty of 1971, coupled with the Vladivostok Accords of 1974, helped turn NSA's sources back onto the Soviet problem. But SALT I was just a beginning. Both sides specifically averred that a more comprehensive treaty would be negotiated.

(U) The Carter administration brought a completely new look to strategic arms negotiations. Carter placed the issue in the context of his dovish views on the arms race and human rights, and he began his administration with the declaration that he would scrap the Vladivostok Accords and go for deep cuts in overall levels. Given the charge, his negotiators fashioned a proposal that would bring the overall level of launchers from 2,400 apiece to something between 1,800 and 2,100. Rather than the 1,320 MIRVed launchers permitted by the accords, Carter would try for a limit of between 1,100 and 1,200. The original Carter proposals contained myriad details relating to strategic bombers, shorter range missiles, and mobile missile development, all of which leaned toward a smaller strategic force.³⁷

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY~~

(U) The proposals fell flat initially, owing to Carter's use of open diplomacy. When Secretary of State Cyrus Vance went to Moscow in the spring of 1977 to begin negotiations, he announced the American position in advance to the press. Given Carter's known position on strategic arms, the Soviets might not have been surprised by the position, but they viewed the new administration's propensity to conduct diplomacy through the press with incomprehension. The negotiations broke down.³⁸

(U) More progress was made later in the year, and, under the cloak of a less public negotiating system, the two sides neared agreement on a comprehensive treaty. But the process of placing limits on specific strategic arms resulted in a much more detailed draft treaty. As the two sides grew closer to agreement, they found it necessary to spell out everything, and the result was a thirty-one-page document resembling a legal agreement. It became a nightmare for the intelligence agencies expected to verify its terms.

~~(S-CCO)~~ How, for instance, would verification determine how many warheads a MIRVed missile carried? Photography could not see into the missile silo/ [redacted]

[redacted] When the Soviets began deploying unMIRVed missiles to missile fields near Derazhnya and Pervomaysk, the U.S. contended that all missiles in the field should count as MIRVs. When the Soviets countered that the MIRVed missiles could be distinguished by a unique domed antenna distinguishable from a photographic satellite, [redacted]

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~~(TSC)~~ There were similar rules defining types of missiles, depending largely on range and payload, and these depended on SIGINT for verification. Telemetry from missile tests was vital to determine both facts and, on occasion, indicated that new missile capability might exceed the limits in the draft treaty. The same pertained to defining whether a missile was a new type (prohibited in the draft treaty) or simply a modification of an older type (permitted). [redacted]

~~(S-CCO)~~ The arguments were not confined to missiles but also pervaded bombers, submarines, and cruise missiles. Would the Backfire bomber, employed in a theater role by the Soviets, be counted in the strategic mix? [redacted]

(S) Telemetry was critical to verification. The U.S. first began intercepting evidence of Soviet telemetry encryption capability as early as 1974. The USSR always employed this

selectively, encrypting telemetry on certain missile testing programs, but not others. The [redacted] for instance, was most heavily covered by telemetry encryption, and this encryption hindered SALT verification.⁴²

(C) In 1978 the Soviets first began encrypting reentry telemetry on the [redacted]. This was a direct threat to verification, and it raised the temperature. In Washington, NSA was concerned about telemetry encryption but opposed permitting the negotiators to discuss specifics on the grounds that this would reveal U.S. SIGINT capabilities. But the urgency of the [redacted] encryption problem forced American negotiators to bring this to the table, and it was eventually resolved. The two sides agreed to language that would bar "the encryption or encoding of crucial missile test information. . . ." as long as such a practice would hinder verification.⁴³

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(S-CCO) The issue of mobile missiles was a hot SALT-II topic. The U.S. pushed for a ban on them, even as the Soviets were testing their SS-X-20 mobile missile system. The first SS-20 site became operational in 1977. [redacted]

[redacted] The missile did not appear in the treaty because its range kept it out of the ICBM category. An SS-16 program, which would have converted the SS-20 into an ICBM by adding a third stage, was scrapped in 1977, thus ending a potentially contentious issue. [redacted]

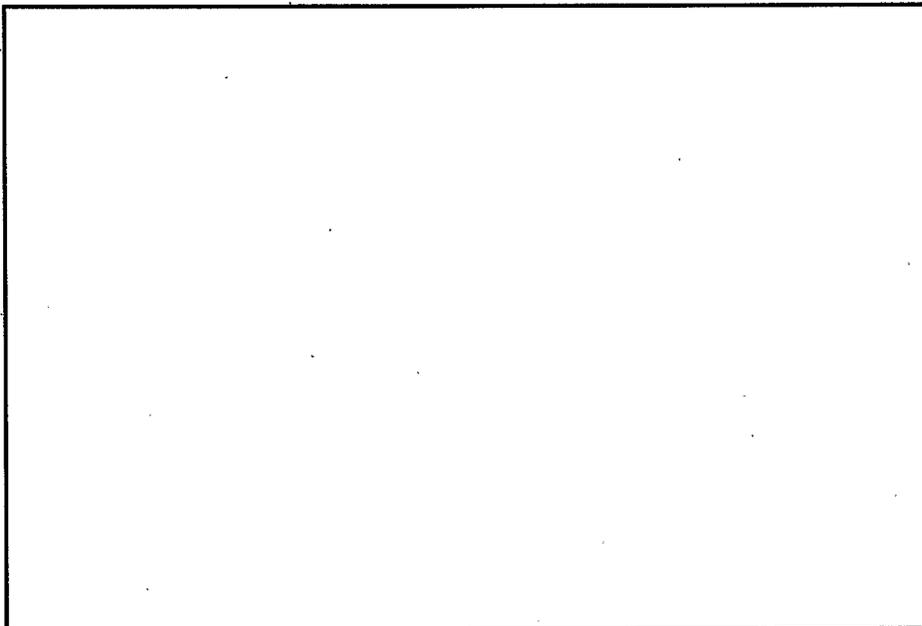
(S-CCO) SALT II was signed and ready for ratification in May 1979. It was one of the most complex treaties the U.S. ever negotiated, and many of the clauses required verification. [redacted]

[redacted]



(U) The signing of the SALT II Treaty

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(U) HF MODERNIZATION

~~(S-CCO)~~ With the increasing focus on the collection of exotic signals using high-tech means, high frequency collection was threatened with irrelevance. Every budget cycle became a time for reappraisal of the SIGINT system, and the Cassandras predicted the "demise of HF." A 1978 study articulated the perception:

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The very term 'HF' seems to carry with it a connotation of antiquity and of old age, of something not very much used anymore and not of much importance. . . . Newer systems are available, and they are used extensively

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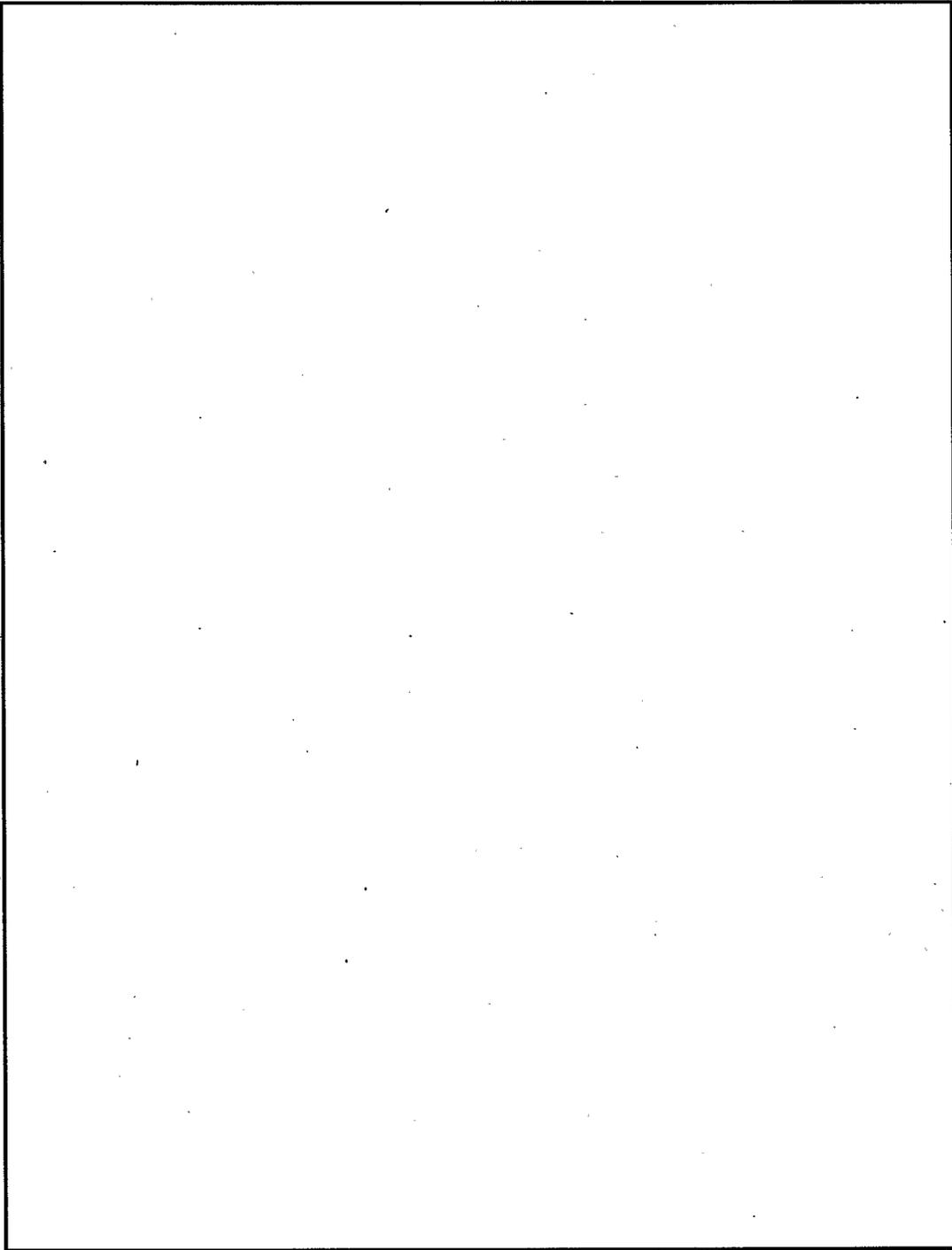
[Redacted]

(U) The HF Studies

~~(S-CCO)~~ NSA did four major studies of the HF system in the 1970s, and each came to the same conclusion.

[Redacted]

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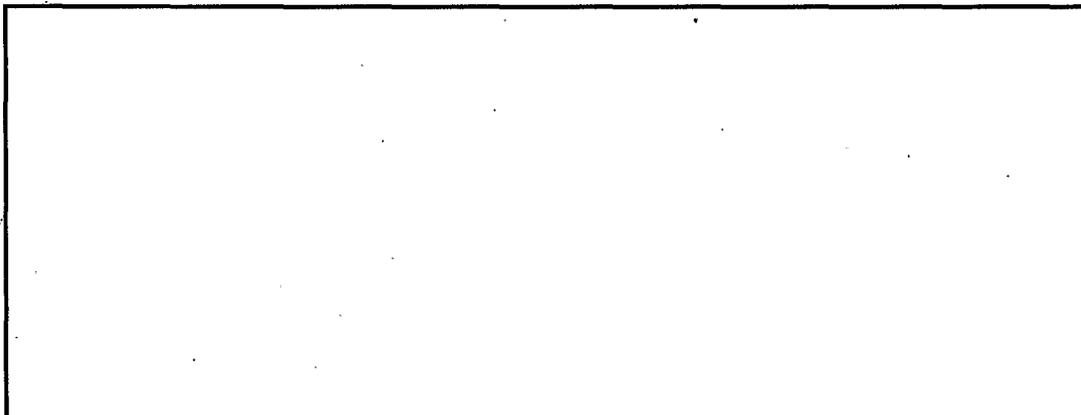


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~~(S-CCO)~~ When Inman arrived in 1977, he was confronted with a system in a state of partial change. Pushed by the Clements cuts, NSA had thrown its lot in with HF remoting as a principal solution to the money problem. But the grand system envisioned during the

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early years of Lew Allen had been contorted by events and further budget cuts till it scarcely resembled the design of its creators.



~~(S)~~ The whole problem was made worse by strict DoD accounting requirements that demanded that costs be amortized within a rigid time schedule. This meant, in practice, that the proposal had to show quick manpower reductions. Remoting was a very expensive proposition, and NSA found many options foreclosed by the need to recoup costs in a short period of time.

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(U) Inman Comes In

~~(S-CCO)~~ On arriving at NSA in July 1977, one of the new director's first actions was to get involved in HF planning. Writing to the ongoing [redacted] study group, he turned all the rules on their heads. Henceforth, the main objectives would not be to save money, but to improve timeliness and maximize target coverage. "In this regard," Inman wrote, "manpower is not our principal concern. We will not justify programs solely on people savings." In one sentence, he had revolutionized the process and redirected the committee.⁵³

~~(S-CCO)~~ Inman viewed the exercise with new eyes. He understood the planning options as a modernization of the system to improve the product. Modernization could come in many forms, remoting being only one of them (and the most expensive option in the short run). Planning would consider people factors, including the desirability of the location selected for the people who would have to staff the systems. The study group would have to consider the military and civilian mix, recruitment, career progression, cost of living, and other factors that had not before been part of the equation. Site selection and staffing would not be a function of SCA-proprietary aims.⁵⁴



(S-CCO)

[Redacted]

The authors still wrote breathlessly about constructing a single grand Central Collection Operations Facility, with major target centers, centralized systems management, and problem centers. It produced little original thinking.⁵⁵

(S-CCO) By 1978, under the influence of Inman, this had all changed. The director told the group to begin a station-by-station evaluation of options, all the way from no change through site modernization, partial remoting, or full remoting. For each station the group must develop three options: preferred, practical, and minimally acceptable. Target improvement would be the driving force, while manpower requirements would be just one of several considerations. The panel must consider support to military operations and would have to complete a ranking of site tenure based on geopolitical factors. The SCAs would be pulled into the process so that NSA would have their inputs up front.⁵⁶

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[Redacted]

(U) When the panel looked at individual sites, the obsolescence became palpable. The R-390 was still the workhorse receiver, but it had become so old (the first models went to the field in the late 1950s) that the internal parts had become worn, and it could no longer be accurately frequency calibrated. Its vacuum tubes caused heat buildup, causing instability and receiver drift (not to mention air conditioning problems in tropical climates).

(S-CCO) Operators were still using what amounted to electronic typewriters (in an IATS configuration), despite the increasing prevalence of personal computers that could reduce the workload and increase the accuracy of the copy. They were still searching for targets manually, even while automated frequency scanning and signal recognition equipment was available. Operations in an HF collection site closely resembled those of thirty years before. The committee concluded that "the operator positions are the key to the collection/field processing problem area. . . . To obtain any degree of improvement to both quality and timeliness, the operator positions must be modernized first."⁵⁷

(U) Other equipment was in a similar state. Tape recorders, though possessing new labels, were still products of post-World War II technology. Reporting was a manpower-intensive exercise with a long paper trail and little automation. Much of the equipment on the operations floors was tube technology, and even much of the semiconductor equipment had germanium transistors which were impossible to repair or replace. In the communications area, NSA was still using versions of the Teletype Corporation Model 28,

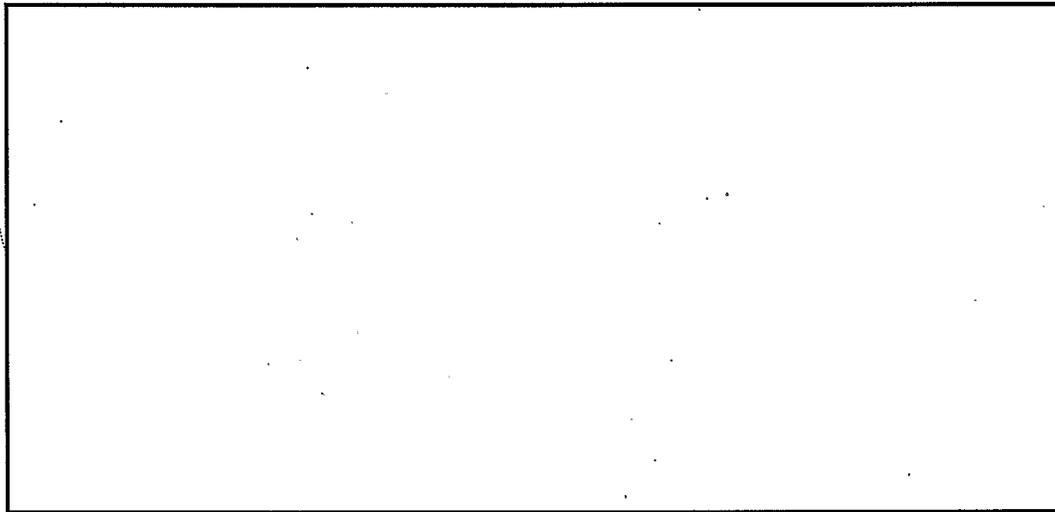
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an ancient, clattering, wheezing machine that reminded one of World War II IBM punch card equipment. Teletype had stopped producing them, and cannibalization was the only solution to repair problems.

(U) Outside the operations building, many sites were still surrounded by rhombic antenna fields. Highly accurate in their day, they had long been outmoded by CDAA technology, and the group concluded that every rhombic antenna field should be pulled down.

(C) The committee decided that the R-390 must be replaced with a solid state, digitally tuned receiver. Field sites must have automated signals acquisition systems and be upgraded with banded signals processors being planned under the BSU project. There was a need for improved reports generation and transmission systems. Collection positions must have the capability to automatically extract and log data in machine format.⁵⁸



(C)



Following Inman's guidance, the program was not justified on the basis of manpower savings, and it did not contain the complex amortization schedules of previous plans. The justification, simply, was a more effective cryptologic system.⁶⁰

(U) *Kunia*

(C) One of Inman's planning guidelines was to consider personnel factors in shaping the system. He was concerned about the prospect of moving large numbers of military people to the high-cost Washington area. His thinking may have been influenced by clamorous SCA protests over the looming centralization at Fort Meade. Only weeks before Inman became director, USAFSS had proposed that NSA consider alternative locations for

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the remote operation facility (ROF). Perhaps two locations would be better -- a primary ROF and an alternate (ALTROF), to enhance survivability (and incidentally to answer fears of a tour in the Washington area).⁶¹

~~(C)~~ The modernization panel estimated that about 3,000 people would be needed for the ROF under Alternative 2. Before they recommended a location, they surveyed both the military and civilian populations. The idea of actually assessing the reaction of the work force before acting reversed the selection process used in 1951 to decide on the Fort Meade location. Then, a virtual revolt by the civilian component doomed the original selection, Fort Knox.

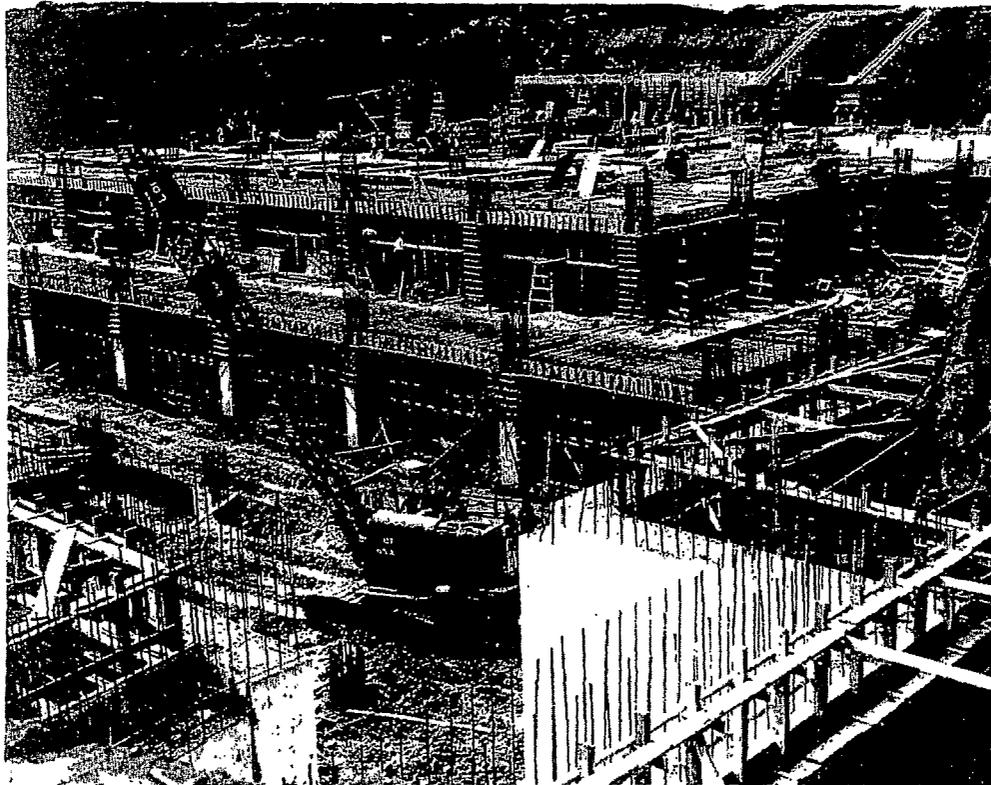
(U) Military attitudes toward duty at Fort Meade were unambiguous. They opposed it. The panel summarized in a single sentence the prevailing mood: "Many SCA enlisted members, who find job satisfaction high and Service life to their liking in the field, reflect a marked apprehension toward life at NSA/CSS." Topping the list of negatives was the cost of living, which was significant for enlisted members who would be dragged home from overseas. But this was by no means the sum of it. They objected to being submerged in a civilian-dominant organization offering lower status and fewer managerial opportunities. Many SCA officers feared that closeness to NSA would mean loss of service associations. And a tour at Fort Meade was not regarded as good for anyone's career. It was too far off the path to military advancement, and for enlisted collectors, analysts, and linguists, it represented a loss of skill proficiency. Not doing their primary job much of the time (that is, field site-peculiar jobs) would mean slipping down the proficiency ladder and, ultimately, slower promotions. The study revealed that of the 300 people certified in the collection field from 1967 to 1978, only twenty-nine had been military.⁶²

~~(FOUO)~~ As if this were not enough, a severe space crunch at Fort Meade virtually sealed the fate of NSA as the location for most of the 3,000 people who would have to be added to the population. Alternative 2 would require 161,000 more square feet, and the committee noted the reluctance of Congress to approve military construction money for the National Capital Area.⁶³

~~(FOUO)~~ The USAFSS study of the previous year had turned up an interesting proposal. When NSA had tasked USAFSS with identifying locations for an ALTROF, PACOM had suggested that NSA look at Kunia, an underground command and control facility that had fallen into disuse. The Navy proposed to get rid of it, and PACOM hoped to find a buyer. Perhaps the NSA ALTROF would be just the thing. Inman liked the idea, and requested that the panel consider establishing a major collection and analysis facility at Kunia.⁶⁴

(U) The committee considered three options for an ALTROF: Kunia; Goodfellow AFB, Texas; and Fort Monmouth, New Jersey. Of the three, Fort Monmouth was quickly discarded as a possibility. It received only about a one-third approval rating from both

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(U) Kunia under construction, 1943

civilian and military survey participants, while its negatives were commensurately high. The post was shabby, military housing and barracks would need significant upgrades to meet NSA's more exacting standards, and its civilian facilities were regarded as entirely too close to the high crime New York-New Jersey megalopolis. In cost it ranked below Fort Meade and Hawaii, but above Texas. More than \$20 million in military construction would be required.

(U) Goodfellow ranked lowest in cost of living and was well liked by the military. But civilians did not want to move to West Texas - this was almost the Fort Knox option replayed. Moreover, military construction costs would be the highest of the three options: over \$22 million.⁶⁵

~~(S-CCO)~~ Despite being in the highest cost area, Kunia proved the most popular choice by far - almost three-quarters of the survey participants wanted that option. For the military, available base housing would insulate them against financial crises, and for the civilians, the Hawaiian lifestyle was viewed as worth the cost. It had the lowest negatives in the survey - only 10 percent. For NSA, Kunia represented by far the cheapest alternative - only [] million to convert what were almost ready-made facilities. In sum, Kunia offered

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~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY~~

- International gold flow avoidance
- A U.S. rotational base
- Proximity to CINCPAC

- [REDACTED]
- [REDACTED]

(S-CCO)

[REDACTED]

This would involve a large shift of NSA civilians, as well as SCA military bodies. Kunia would be a triservice operation, with Army as host (since it was on Army land). It was a visionary restructuring of the [REDACTED] collection problem.⁶⁶

(U) Kunia was an enormous three-story bunker of 248,000 square feet, located under a thirty-four-acre pineapple field in central Oahu. It was at historic Schofield Barracks, which was a setting for James Jones's novel *From Here to Eternity*. Its construction was almost an accident of history. In the days following the Japanese attack on Pearl Harbor, the War Department, fearing a second attack, set out to build a hardened underground facility on Oahu for the construction of folded-wing fighter aircraft. The Army Corps of Engineers designed and built a large factory with four-foot-thick reinforced concrete walls and ceiling, covered with, and hidden by, the pineapple field. There were no interior walls; the ceiling was supported by load-bearing columns. But facilities such as that take time in the building, and it was not finished until 1944. By then the Japanese carrier fleet was virtually destroyed, and an air attack was no longer feared. Fighters were being built at Ford's Island, and the facility at Kunia was never used for the purpose intended.⁶⁷

(U) At the end of the war, the Army Air Corps owned the underground white elephant. Kunia was kept in reserve status until 1953, when it was turned over to the Navy, which turned it into a warehouse for the storage of ammunition and torpedoes. Finally, in the late 1950s the Navy converted it into an underground command and control facility for the Pacific Fleet. It was hardened for CBR (chemical, biological, and radiological) attack, including strengthening the already-formidable walls and constructing decontamination centers. It was during this period of Kunia's existence that the interior walls went up.

(U) In 1976 the operations center was moved to another location, and Kunia was again up for bids. The General Services Administration requested that the Navy maintain the facility while they looked for a new occupant. It had been "on the market" for only a year when NSA first expressed interest.⁶⁸

[REDACTED]

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[REDACTED]

(U) Kunia would consist of all three SCAs, each operating a completely separate field site. This would preserve service-unique command and control, and it represented a compromise in how to get the services to work together in close quarters.

~~(S-CCO)~~ Kunia also incorporated some unique operational concepts. From the beginning it was regarded as an extension of B2 [REDACTED]

[REDACTED] For the first time, a field site would have on-line access to the B [REDACTED] database through remote terminals. Kunia would also have an interlocking relationship with [REDACTED]

[REDACTED]

[REDACTED]

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~~(S-CCO)~~ Approval for a quick reaction program was announced in January 1980. An initial station would be up and running by the end of the year. In the QRC phase, the Air Force agreed to rehab the third floor for triservice use. [REDACTED]

[REDACTED] The people came partly from pipeline diversions from the now-shuttered BROF operation. Kunia was opened on schedule in December 1980.⁷²

(U) Conventional Signals Upgrade

~~(C-CCO)~~ By 1980, "HF modernization" had become "conventional signals upgrade (CSU)." R6 designed a complete field site overhaul, based on the problems that had been surfaced in the HF modernization study groups. The bedrock of the new system would be personal computers on position. According to the R6 design, "Modernization of site SIGINT systems is virtually synonymous with computerization of them." And modernization was not restricted to HF field sites - all existing conventional sites were included in the upgrades.⁷³

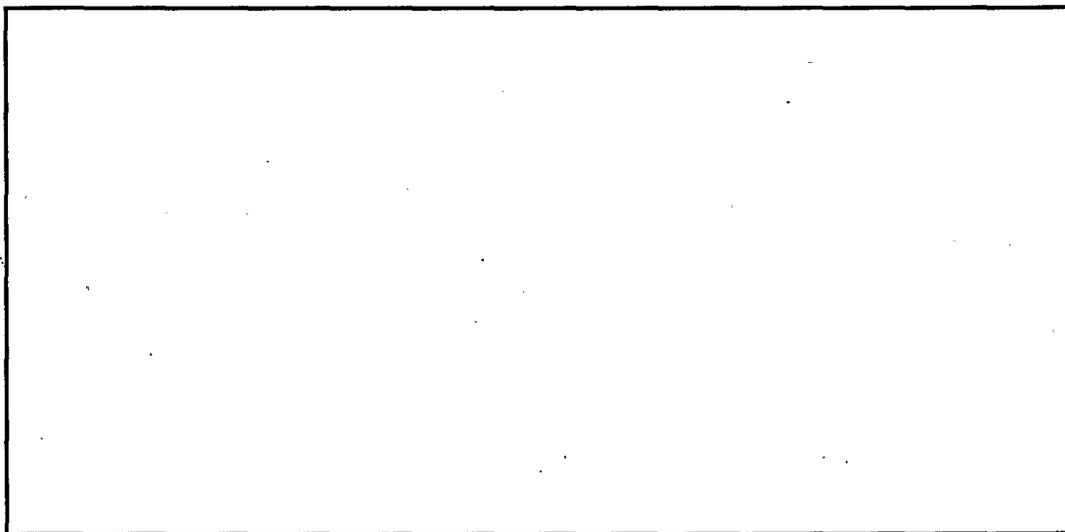
~~(FOUO)~~ The revamping would begin with the microprocessor to be integrated into each position. Recognizing that it took at least five years to field a system, but that microprocessors had a half-life of months, R6 decided, logically enough, to specify computer standards - actual system selection would take place at the time of the buy, which would be off-the-shelf commercial products.

~~(C)~~ As for HF receivers, the R-390 was out, and the Racal 6790 digital receiver was in. Automated signals acquisition equipment would be integrated into the collection systems. Everything would be modernized based on microprocessor technology - mission management, special identification techniques, signal recording, processing and reporting. As for Morse collection, NSA continued to pursue the holy grail of an automatic Morse translator, without much success.

~~(C-CCO)~~ Conventional signals upgrade quietly integrated a parallel project into its design. Bauded signals upgrade subsystems appeared as part of the new equipment mix. It was a logical marriage of the conventional signals system with a decidedly unconventional project.⁷⁴

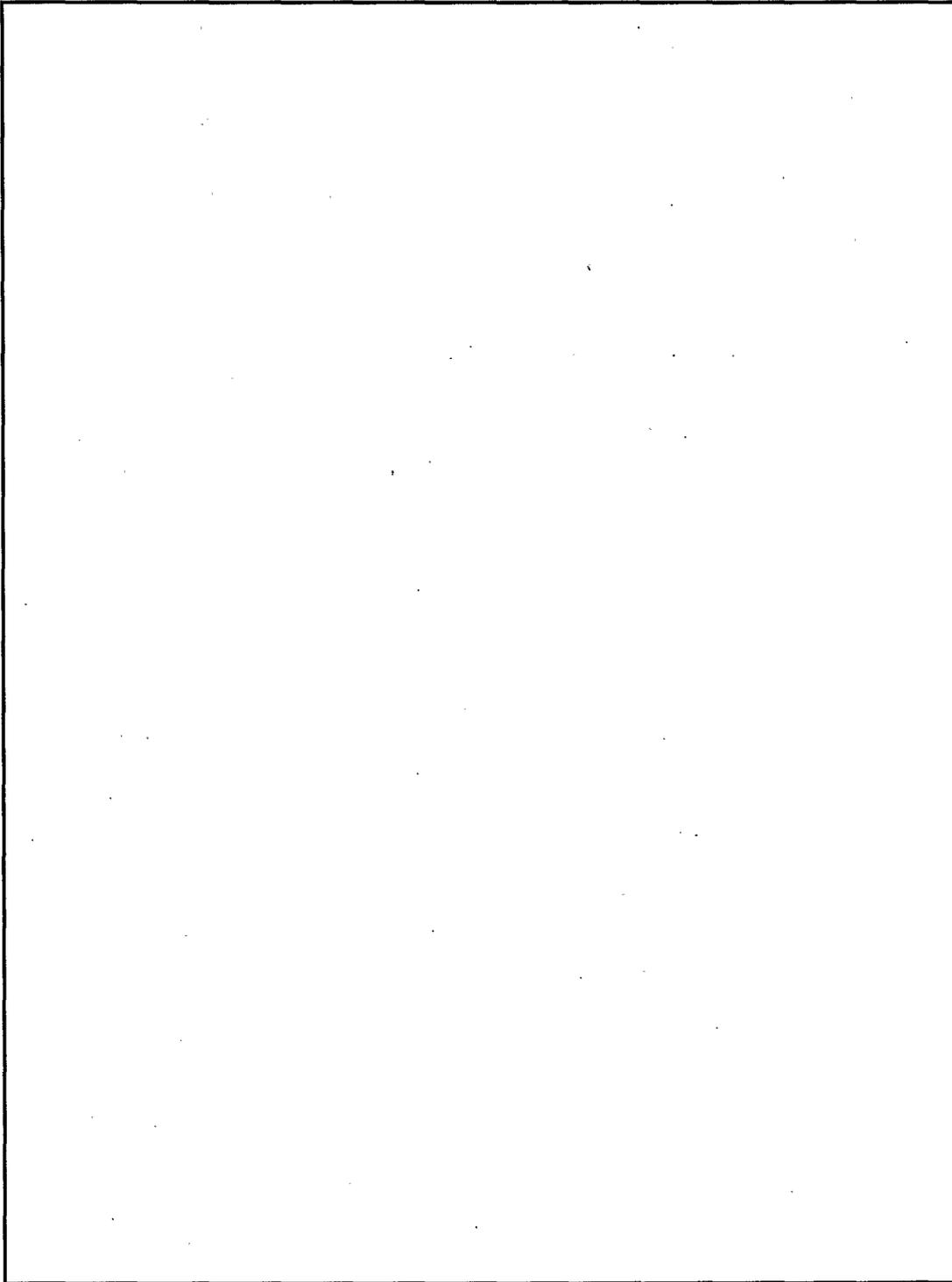
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(U) BAUDED SIGNALS UPGRADE



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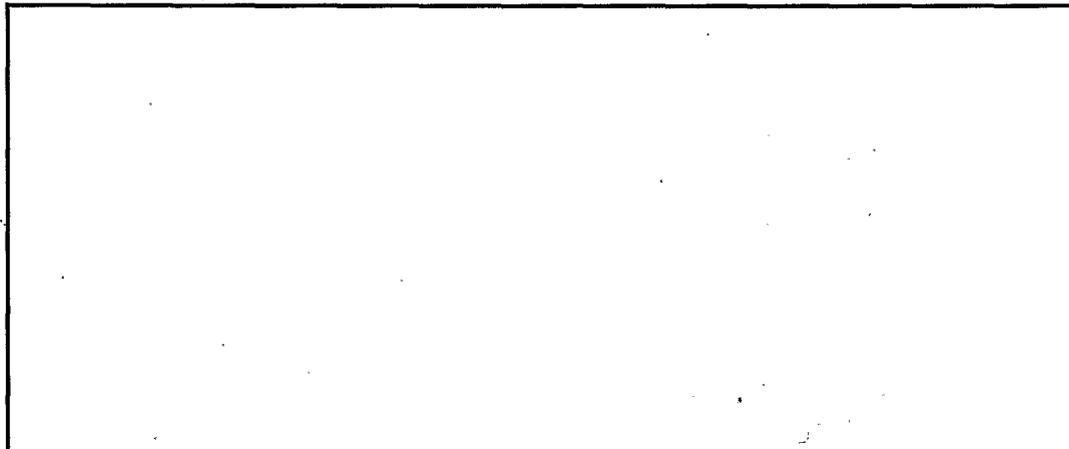


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(U) *The Perry Study*

~~(TS-CCO)~~ In 1976, NSA brought together the highest powered group ever to study the cryptanalytic process. Chaired by future Secretary of Defense Dr. William Perry, it included many of the finest minds in post-World War II cryptology (see Table 16). After a thorough assessment of the state of the art, the Perry Committee issued a report that was a shocker, even considering the prevailing optimism of the time.



(U) Dr. William Perry

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY~~

(U) Table 16
The Perry Committee ⁸⁰

Dr. William Perry, Chairman	President, ESL Incorporated
Mr. Edward L. Glaser	Systems Development Corporation
Mr. Arthur H. Hausman	President, Ampex Corporation
Mr. Oliver R. Kirby	Vice President for Operations, E Systems
Mr. Arthur J. Levenson	Retired Chief of A Group
Dr. John Martin	Acting Assistant to Secretary of the Air Force for Research and Development
Dr. Lloyd R. Welch	Department of Electrical Engineering, University of Southern California

During World War II, the U.S. and the U.K. achieved spectacular success in cryptanalysis which had a profound impact on the execution of the war. We stand today on the threshold of a cryptanalytic success of comparable magnitude. . . . No one can guarantee that we will 'break' any specific machine of the new generation, but we do not see the problem as being more difficult - relatively speaking - than the one posed [redacted] thirty-seven years ago by ENIGMA. ⁸¹

[redacted]

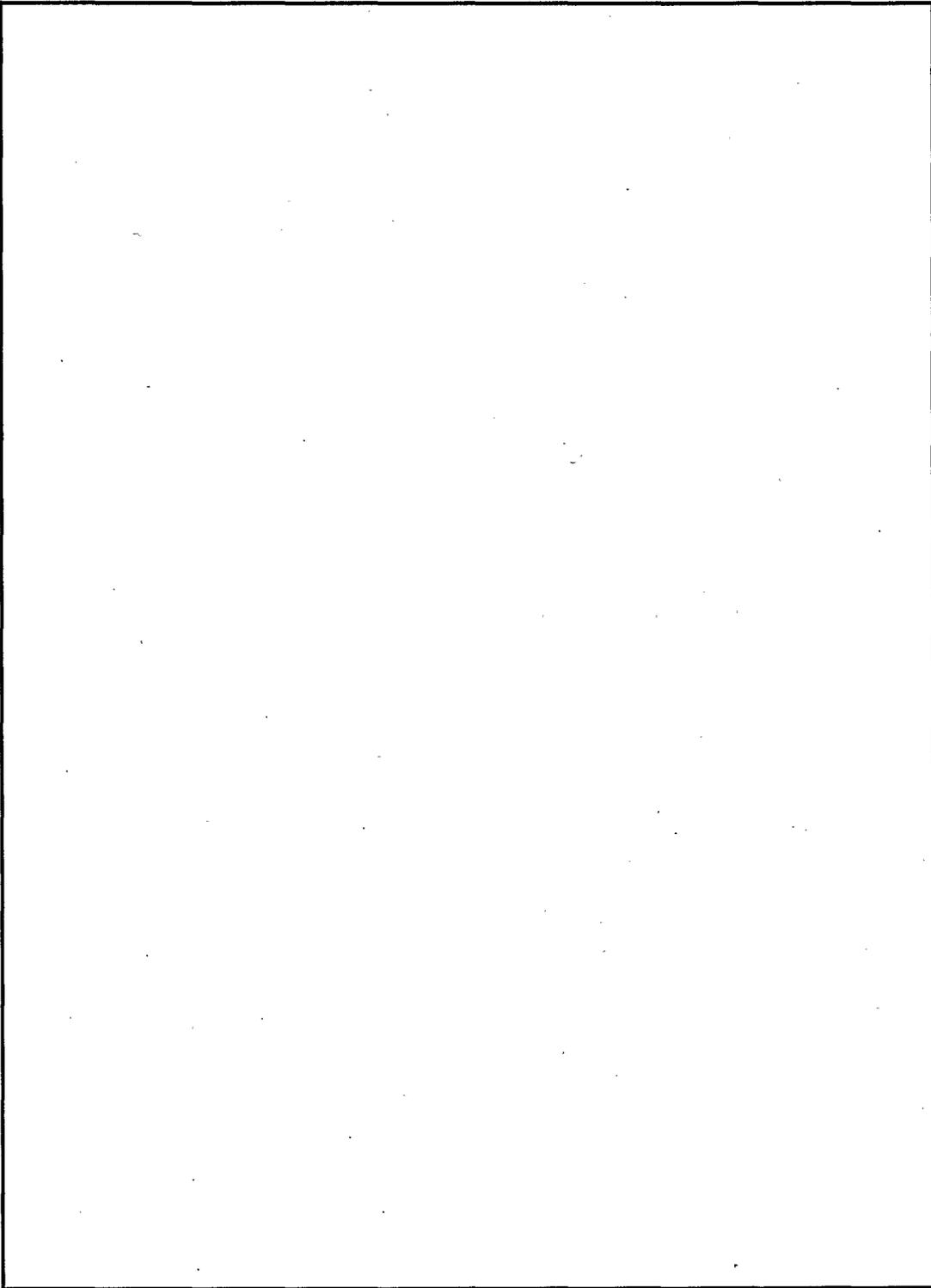
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~~(TS-CCO)~~ Cryptanalytic resources had not kept pace with these developments. [redacted]

[redacted]

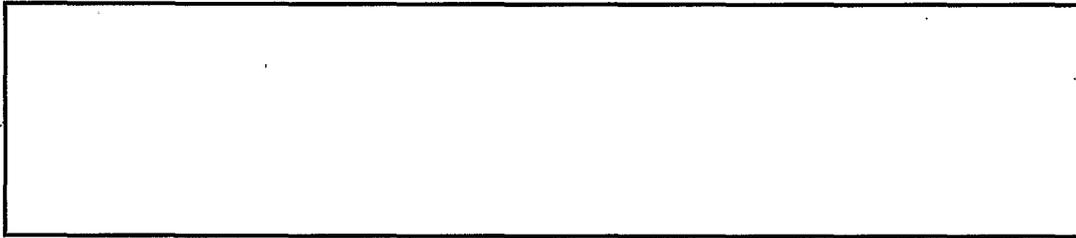
The solution, of course, was more resources. Perry recommended that NSA stoke the resource box up to the level that had preceded the Vietnam War. He also requested more collection, more computers, and the purchase of a Cray I for long-term cryptanalysis. [redacted]

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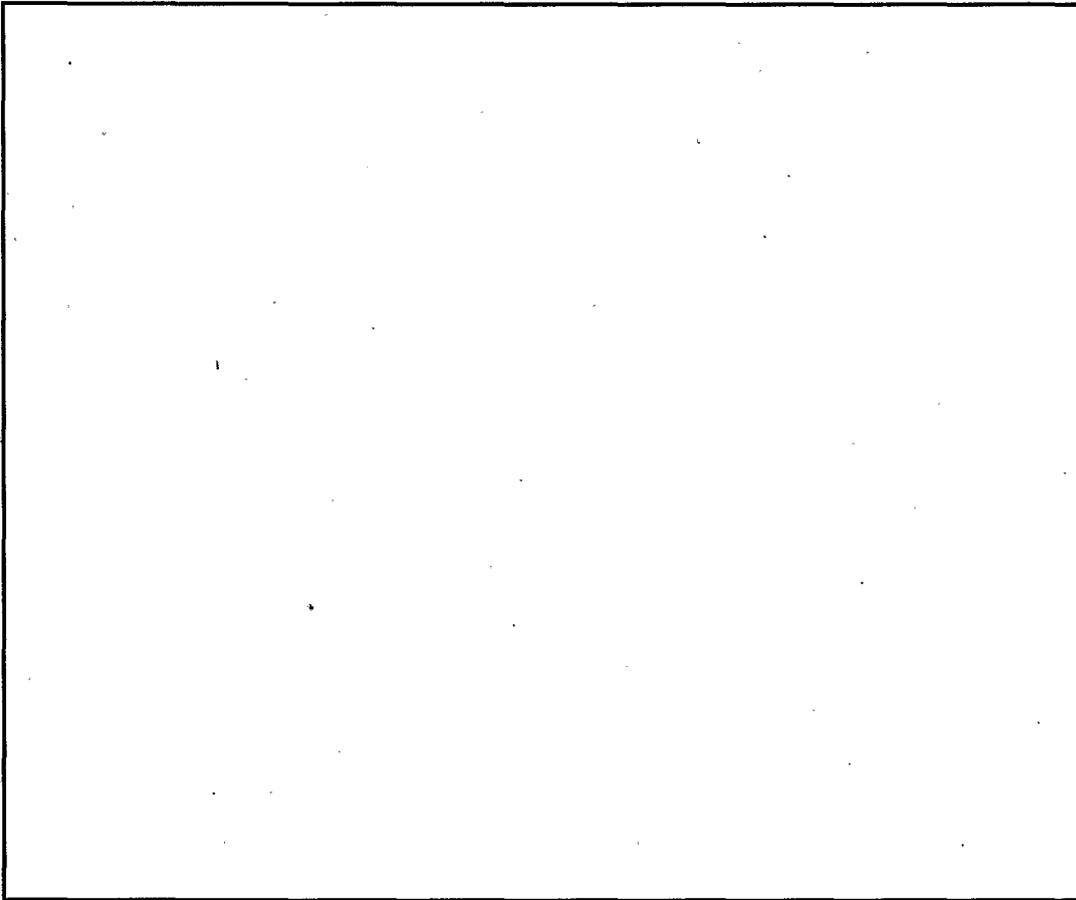
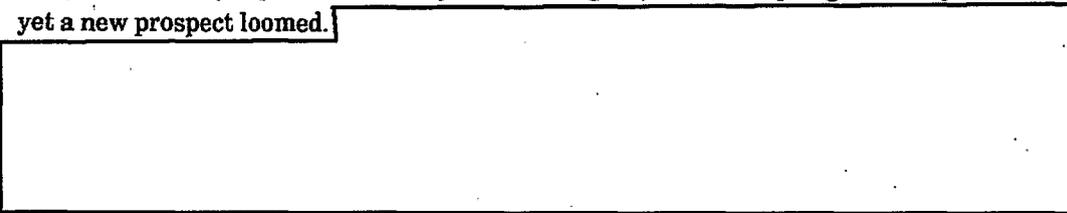
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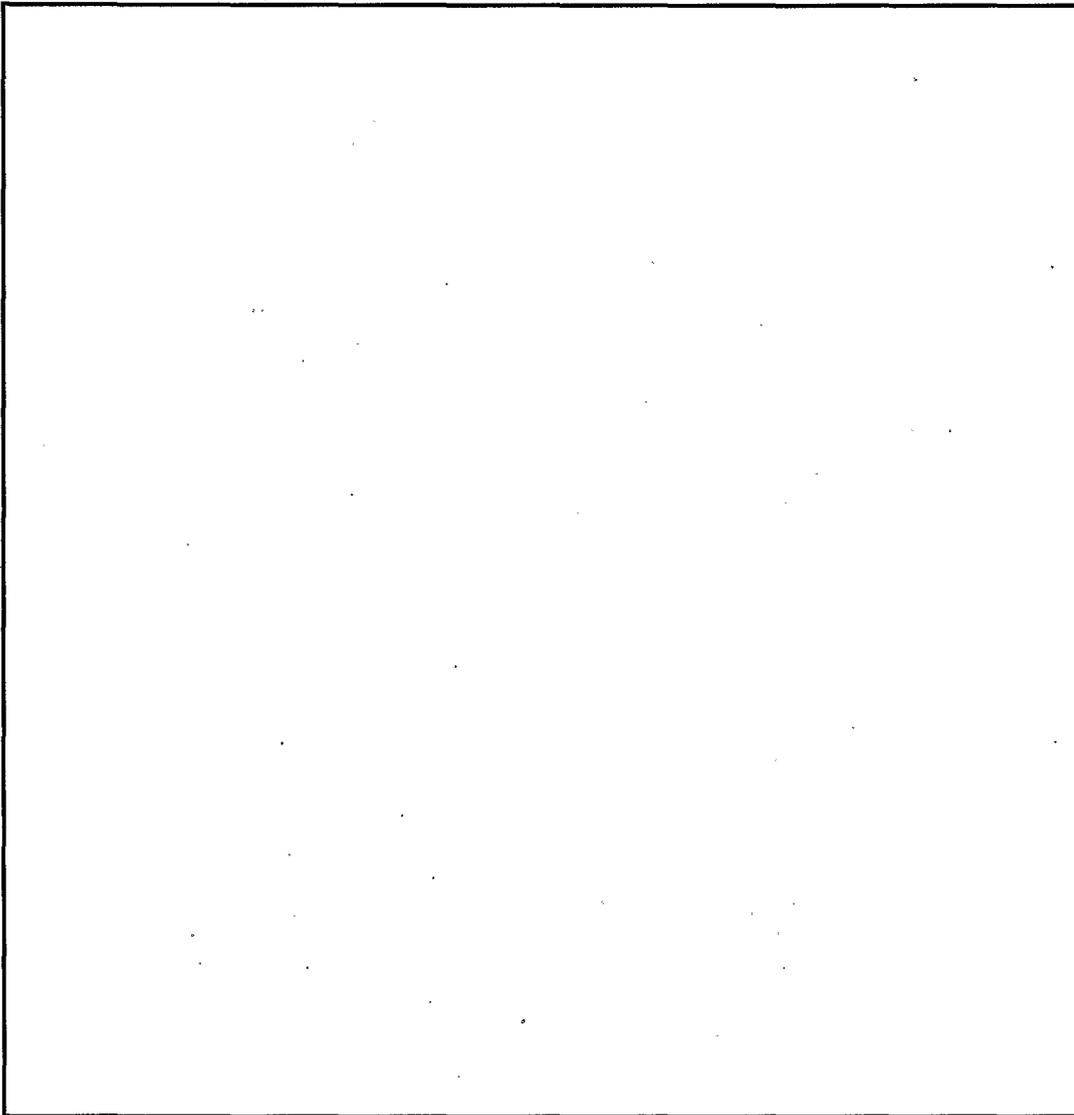
(U) The Wagner Study

~~(TS-CCO)~~ The homework on the  problem culminated in 1978 in a report issued by a panel chaired by Marlin Wagner, an R Group engineer. By this time yet a new prospect loomed. 

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(U) Bauded Signals Upgrade - the Project

~~(S-CCO)~~ The Wagner study drove NSA into a revolutionary development program, which became known simply as Bauded Signals Upgrade (BSU). The principle, as articulated by James Boone, NSA's deputy director for research, was "plan for success." Rather than await a breakthrough and then be faced with the time-consuming planning, design, and acquisition process [redacted] assume success and begin development immediately. Boone briefed the idea to Inman, who bought it.

~~(S-CCO)~~ Inman decided to place the project outside the regular chain of command, and he created a project management office. However, to retain operational security, it looked

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY~~

like just another division, R84. The new chief, John P. (Jack) Devine, did not report to the chief of R8 [redacted] - he answered to James Boone, chief of R, and, on many matters, directly to Inman.⁹¹

~~(S-CCO)~~ The new office started very small - with just three people - but it got bigger, [redacted] Devine brought in strong DDO representation - his deputy was [redacted] from the cryptanalysis world, and the next person hired was [redacted] from DDO. Devine established a close link with CSU, which was headed by [redacted] in R6. The interplay between the two was an important aspect of the entire program.

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(U) Jack Devine

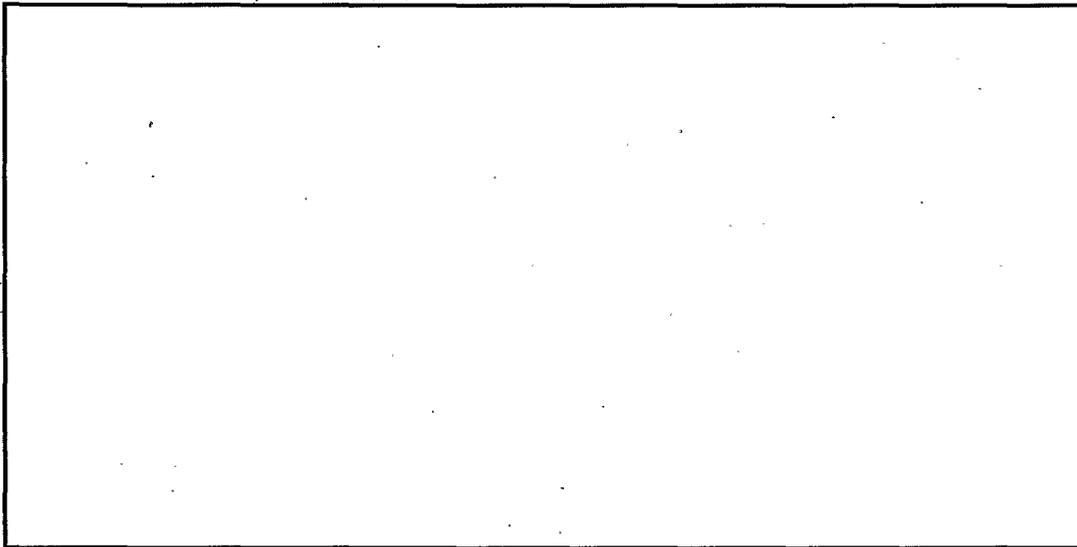
~~(S-CCO)~~ BSU had more push behind it than any program in NSA's history. Inman concluded that the project could not be funded within the existing budget - what was needed was a supplemental allocation. He secured the funding [redacted] dollars by going to see Secretary of Defense Harold Brown and explaining the potential. Brown got the money and spread it out through the DoD budget so that it did not appear in the CCP. He informed the president and the DCI.⁹²

~~(S-CCO)~~ Inman's personal involvement was critical to its success. He personally chaired the formative meetings and approved all resources requests himself. At one point he asked Devine how he would spend [redacted]

[redacted]

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY~~

~~(S-CCO)~~ Security was a nightmare for such a large project. BSU grew so big that Devine eventually had to bring some of the staff members of the two intelligence committees into the picture, [REDACTED] The SCAs needed to be brought in, and Devine suggested that each provide a representative to the PMO. (ESC and NSG did; INSCOM did not). But the SCA command structure was not told the whole story, to minimize the number of people who knew the core secret.⁹³

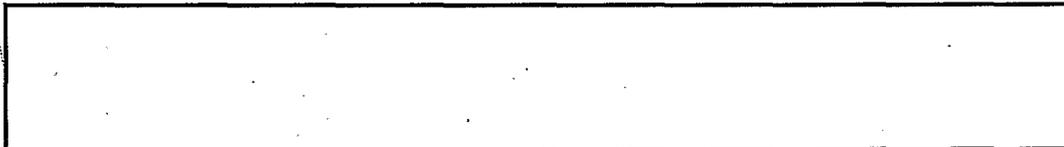


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~~(TS-CCO)~~ So was it money down the drain? Devine himself estimated that only 5 percent of the total, that which was used to purchase certain special-purpose processors, was wasted. The rest was used to modernize a system that was turned to other collection and exploitation tasks, now fully modernized to attack the most modern communications. The digitization, the remoting, the diagnostic systems, all proved a lifesaver for the cryptologic system and served it well through the end of the Cold War and beyond. As for management, most observers felt that BSU was the best-managed project in NSA's history. Still, it was technically true that, in the words of one NSA senior official, "The operation was successful, but the patient died."⁹⁶

(U) THE THIRD WORLD SITUATION

~~(TS-CCO)~~ In 1979 Inman appointed a panel to assess G Group cryptanalysis. Chaired by Arthur Hausman, president of Ampex Corporation, it contained many of the same people who had comprised the Perry Committee. Their conclusion: G Group cryptanalysis was at an all-time peak.⁹⁷



[REDACTED]

~~(TS-CCO)~~ Hausman's panel saw troubling trends that threatened this remarkable record. Overall cryptanalytic resources had declined over the years, and many important cryptanalysts had retired without effective replacement.

[REDACTED]

and an infusion of cash would be needed to move into the next decade.

[REDACTED]

Public cryptography was already producing technology that had been available only to the specialist in past decades.

[REDACTED]

NSA relied too heavily on commercial organizations for the acquisition of sensitive cryptanalytic machines.⁹⁹



(U) Arthur Hausman

~~(TS-CCO)~~ But help was on the way, in a project called [REDACTED]. The idea was to develop a special-purpose device [REDACTED]. Its application would be so wide that it would be a quasi-general-purpose machine.

[REDACTED]

(U) THE PEACE TREATY WITH CIA

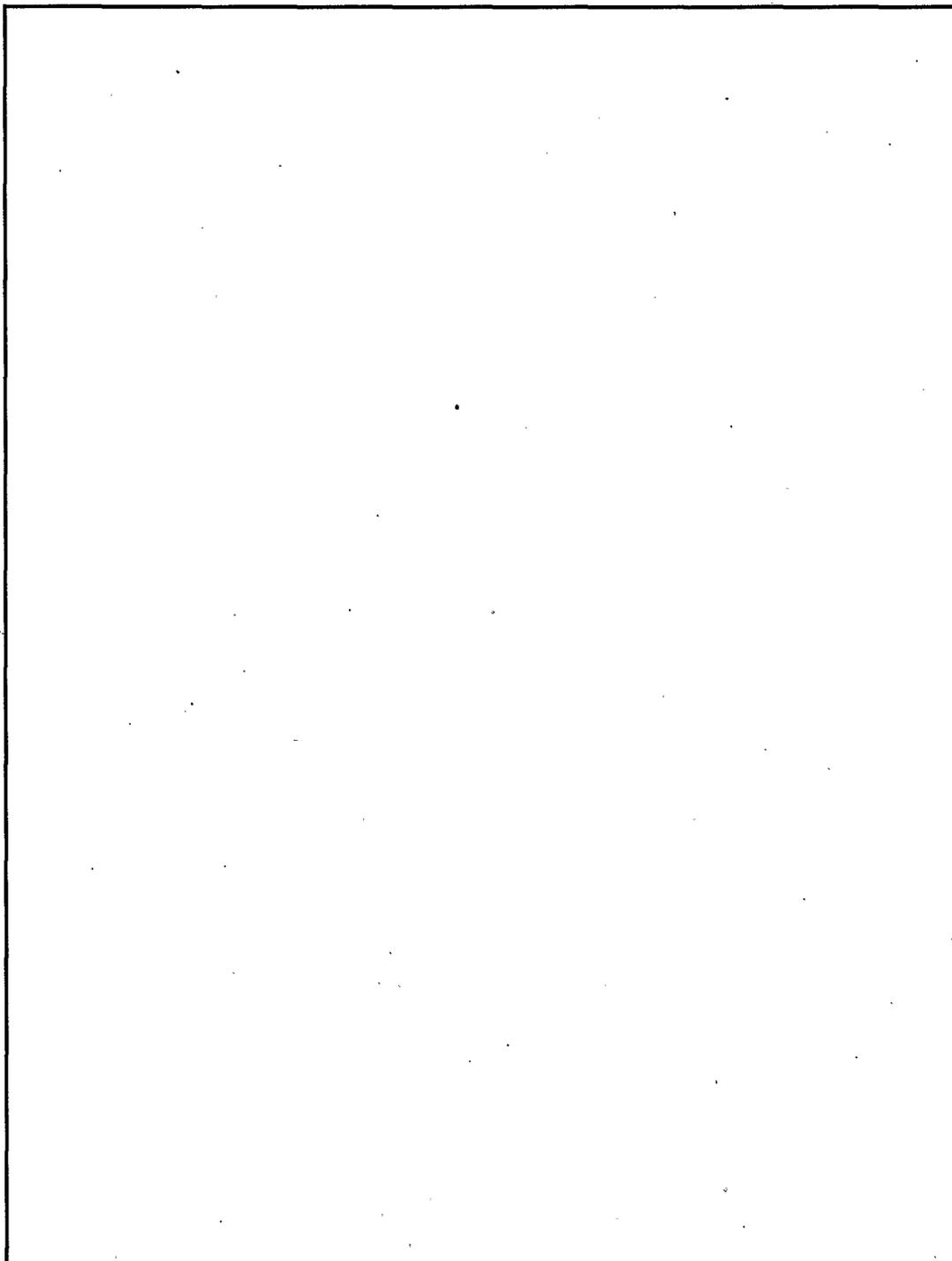
~~(TS-CCO-TK)~~ When Admiral Inman became the director in 1977, NSA and CIA had operated parallel, and in some cases rival, SIGINT systems for a quarter of a century. Jurisdictional disputes had been acrimonious at times, the most serious occurring in the late 1950s between Canine (NSA) and Dulles (CIA). After that, a period of relative peace settled in. Major disputes,

[REDACTED] were resolved by uneasy compromises and activities nosed over into partial quiescence. In large measure this "era of good feeling" was a product of the diplomatic skill of Louis Tordella, whose term as deputy director spanned the entire time (1958-1974). Veterans of battles with CIA seemed content to let the relationship stabilize, but a

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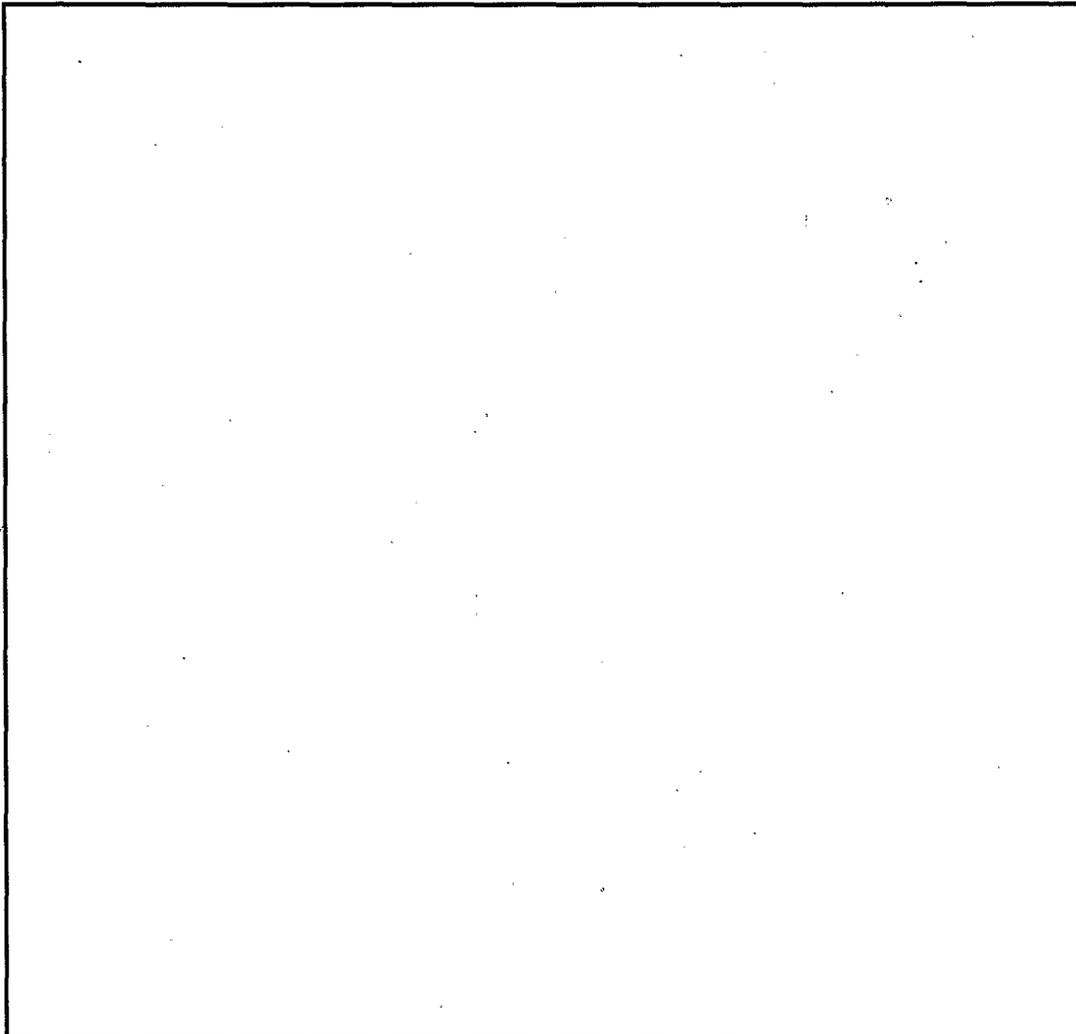
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generation of "young Turks" at NSA was determined to renew the battles and gain more ground for NSA.



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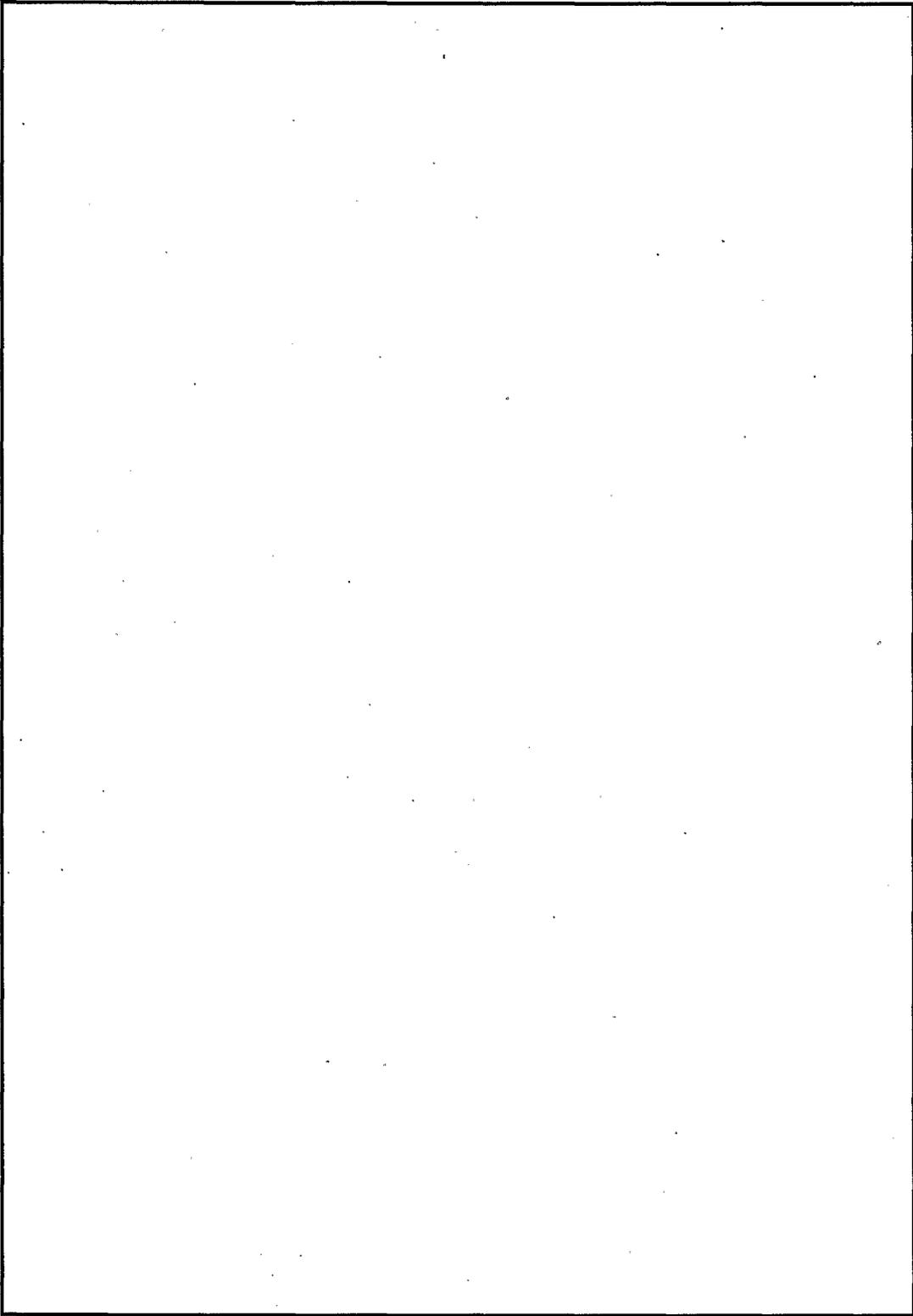


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~~(S)~~ An outsider looking at the jury-rigged SIGINT system of the federal government might have suspected insanity. Rather, it appears to have been a product of opportunity. As one CIA wag observed, it resulted from the "first agency" rule - that is, "the first agency to get there gets the mission." House Appropriations Committee investigators also noted a cultural gulf between the urbane and worldly-wise CIA and the technologically focused NSA. CIA had been established to be small and flexible and relied heavily on covert funds for which they owed no effective accounting. Thus Langley could react very quickly to developing events, moving into hot spots with covert collection and expanding intelligence relationships with the countries affected. NSA [redacted] was encumbered by restrictions laid down by Congress on all DoD activities. The cultural differences had a profound effect on the way things operated. Noted a HAC staffer in 1976, "While NSA is bureaucratic . . . , CIA is very autocratic. It has not felt a need to explain to outsiders what it is doing."¹⁰⁸ This attitude did not stand CIA in good stead when, in 1976, it had to explain why it was operating a parallel SIGINT system.

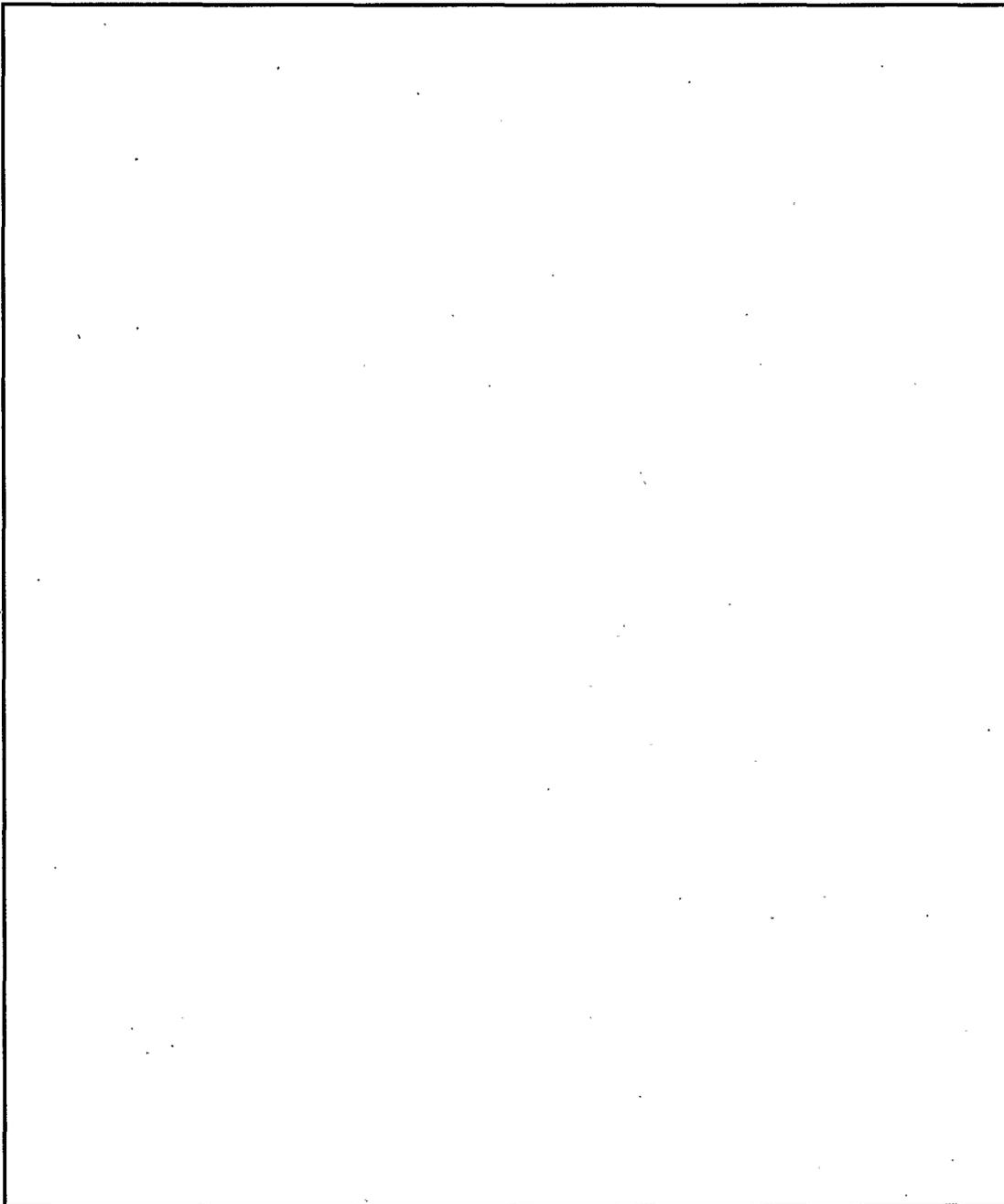
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(U) *The HAC Investigation and the Negotiation of a Peace Treaty*

(U) The matter of cryptologic integration had bumped along for years with patched together compromises – an issue here, an issue there. It appeared doomed to more of the same over a longer period of time until, in the spring of 1976, it was brought to a head and,

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY~~

in a single swift stroke, resolved in favor of NSA. This happened in the unlikely forum of the House Appropriations Committee.

(U) The HAC had been looking at the intelligence budget where, it appeared, major economies could be achieved by consolidating NSA and CIA SIGINT operations. The staff chief, Charles Snodgrass, had little experience in intelligence - his expertise was agriculture. But in 1976 he was taking great interest in intelligence, and he seemed to harbor a visceral distrust of CIA.

~~(S-CCO)~~ In the very early spring of 1976, Snodgrass interrogated both agencies and at the end of the process issued a report that was devastating to CIA interests. Contending that money could be saved by placing NSA in charge of both SIGINT organizations, he rejected every explanation and contention to the contrary that Langley advanced.

[Redacted]

"In regard to the overall question as to whether the CIA SIGINT activities should be transferred to NSA, the Investigative Staff is not impressed with the answers given by the DCI. . . ."

[Redacted]

Regarding NSA as a perceived military organization, Snodgrass pointed to [Redacted] places where NSA civilians were doing the job.

[Large Redacted Block]

~~(TS-CCO)~~ The HAC report, issued in April, demanded consolidation of SIGINT programs into a single entity within NSA's national SIGINT program. Only a few exceptions appeared to Snodgrass to be worthy of consideration.

[Redacted] The two agencies answered the report separately, implying serious disagreement. For NSA, Lew Allen was willing to accept most CIA SIGINT operations under the NSA umbrella, but he suggested that certain ones,

[Redacted] remain under Langley control (but under the national SIGINT system). On the extremely contentious [Redacted]

[Redacted] issues, he proposed leaving them under CIA supervision but increasing NSA representation and operational control.

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(S) At Langley they stalled, hoping somehow that Snodgrass would go away. George Bush was the DCI, and his instructions to his staff were vague and vacillating - clearly CIA thought that they could muddle out a compromise, as in years past. Allen's boss, Deputy Secretary of Defense Robert Ellsworth, sensed a kill, and pressed home the point. At Defense, they were not going to let the moment slip away.¹¹⁴

~~(S-CCO)~~ The result was the Knoche-Allen letter of January 17, 1977. (Henry Knoche, Bush's deputy, was effectively running CIA, as the Carter people had made it known that they regarded Bush as too political and did not intend to let him stay on.) This short, seven-page document set up the basis for a resolution. It drew CIA SIGINT assets firmly into the national SIGINT system run by NSA.

[REDACTED] Much of the funding would roll over to the CCP.

~~(S-CCO)~~ But the Knoche-Allen letter did not bring all the issues to closure.

[REDACTED] And in each instance where the two sides could not agree, the DCI would decide. The DCI was hardly passive on these issues. And that was where the matter stood when Admiral Bobby Inman became DIRNSA in July of 1977.¹¹⁵

[REDACTED]

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~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY~~

(U) The Peace Treaty

~~(S-CCO)~~ The "Peace Treaty," [redacted] was signed by the two agencies on August 26, 1977. Much of the language related to rather dull aspects of how programs were to be managed and funding to be apportioned, but the central principle was that all SIGINT assets would, with rare exceptions, be centrally managed by NSA. Third Party programs were meticulously worked out country by country [redacted]

~~(FOUO)~~ The formulation of the Peace Treaty resulted from a unique set of circumstances. But for the advent of Charles Snodgrass in the House Appropriations Committee investigative staff, it could hardly have gotten started. And even then, it could have run aground but for the timely ascension of Admiral Bobby Inman at NSA. The Peace Treaty owed much to his negotiating savvy and political connections. He cultivated Snodgrass, other key congressional figures, and contacts within the National Security Council. His connections were unassailable, and behind his negotiating strategy was always the mailed fist of White House or congressional intervention - once again, on the side of NSA.

~~(S)~~ The Peace Treaty brought an end to much of the sniping that had been going on between the two agencies since their birth. In NSA's view it was vindication; from CIA's standpoint it was surrender on the SIGINT front. A memo from two NSC staffers to Brzezinski called it a good working arrangement whose effects would be beneficial only if the two agencies cooperated on its implementation. The transition to the new arrangement was in fact painful and bumpy. [redacted]

[redacted] The working out depended on the good will of both sides, rather than on a piece of paper. As the years moved, the long-term benefits became clearer, but even in 1977 the light could be seen at the end of the tunnel.¹¹⁸

(U) PUBLIC CRYPTOGRAPHY

(U) Modern cryptography has, since its earliest days, been associated with governments. Amateurs there were, like Edgar Allan Poe, who dabbled in the art, and it has held a certain public fascination from the earliest days. But the discipline requires resources, and only governments could marshal the resources necessary to do the job seriously. By the end of World War II, American cryptology had become inextricably intertwined with the Army and Navy's codebreaking efforts at Arlington Hall and Nebraska Avenue. But this picture would begin changing soon after the war.

(U) Modern *public* cryptography originated with a Bell Laboratories scientist, Claude Shannon, whose mathematics research led him to develop a new branch of mathematics called information theory. A 1948 paper by Shannon brought the new discipline into the

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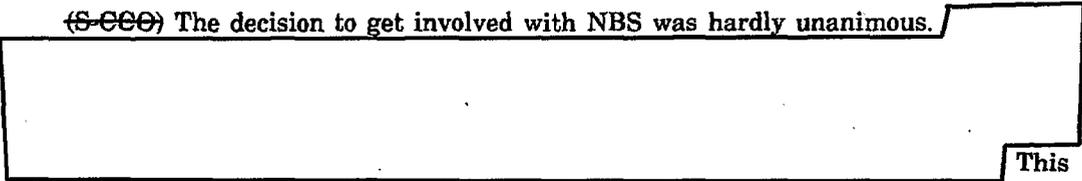
public domain, and from that time on, cryptography became a recognized academic pursuit.¹¹⁹

(U) Public cryptography had no market in those days. So when IBM researcher Horst Feistel developed a line of key generators to be embedded in IBM computers, called Lucifer, there was no immediate use for it. But in 1971 Lloyd's Bank of London contacted IBM to ask about the possibility of securing transactions from a cash dispensing terminal. Feistel sent Lucifer to Lloyd's. IBM then formed a group, headed by Walter Tuchman, to develop the idea of encrypting banking transactions.

~~(FOUO)~~ While IBM was developing a market for public cryptography, computers were becoming more common within the government. The 1965 Brooks Act gave the National Bureau of Standards (NBS) authority to establish standards for the purchase and use of computers by the federal government. Three years later, Dr. Ruth Davis at NBS began to look into the issue of encrypting government computer transactions and concluded that it was necessary to develop a government-wide encryption standard. She went to NSA for help. NBS, it was decided, would use the *Federal Register* to solicit the commercial sector for an encryption algorithm. NSA would evaluate the quality, and if nothing acceptable appeared, would devise one itself.¹²⁰

~~(FOUO)~~ In 1973 NBS solicited private industry for a data encryption standard (DES). The first offerings were disappointing, so NSA began working on its own algorithm. Then Howard Rosenblum, deputy director for research and engineering, discovered that Walter Tuchman of IBM was working on a modification to Lucifer for general use. NSA gave Tuchman a clearance and brought him in to work jointly with the Agency on his Lucifer modification.

~~(S-CCO)~~ The decision to get involved with NBS was hardly unanimous.

 This argued the opposite case - that, as Frank Rowlett had contended since World War II, in the long run it was more important to secure one's own communications than to exploit those of the enemy.¹²¹

~~(FOUO)~~ Once that decision had been made, the debate turned to the issue of minimizing the damage. Narrowing the encryption problem to a single, influential algorithm might drive out competitors, and that would reduce the field that NSA had to be concerned about.

 they compromised on a 56-bit key.¹²²

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~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY~~

(FOUO) The relationship between NSA and NBS was very close. NSA scientists working the problem crossed back and forth between the two agencies, and NSA unquestionably exercised an influential role in the algorithm. Thus, when DES became official in July 1977, a debate erupted in the academic community over the security of the standard. Scientists charged that NSA had secretly pressured NBS into adopting a nonsecure algorithm. Not only did they contend that the key length was to NSA's liking, they also alleged that the Agency had built a "trap door" into the system that would allow cryptographers at Fort Meade to read it at will. In 1976 David Kahn, the leading non-governmental authority on cryptography, lent academic support to this view. Kahn's allegations were repeated by writers and scientists worldwide. The issue became so charged that a Senate committee in 1977 looked into the allegations. The hearings resulted in a "clean bill of health" for NSA, but it hardly quieted the academic uproar.¹²³

(U) To calm the waters, NBS called a conference in August 1976. It solved nothing. Leading academic figures contended that the DES algorithm was so weak that it could be solved with fairly modest resources (on the order of \$9 million), while defenders pronounced it secure against virtually any attack feasible at the time. National Bureau of Standards ultimately promised that the DES algorithm would be reevaluated every five years.¹²⁴

(U) The problem was, in large part, one of timing. During the Church and Pike Committee hearings, NSA had been tarred with the same brush that smeared CIA and FBI, and the exculpatory conclusions of the Church Committee were lost in a sea of fine print. What the public remembered were the sensational allegations of journalist Tad Szulc [redacted] Whether NSA was an apolitical collector of foreign intelligence information or truly a governmental "Big Brother" had not yet been adjudicated in the public mind. The concern for individual privacy, largely an outgrowth of the Watergate period, exercised an important sway on the American public, and even Walter Mondale, with years of experience watching over intelligence agencies from his Senate perch, was consumed by this issue when he was Carter's vice president. Any endeavor that would make NSA out as an inspector of private American communications would play negatively. The DES controversy was one of those issues.

(U) In 1976 a related chain of events began which was to flow together with the DES controversy. In that year Martin Hellman of Stanford, one of the world's leading practitioners of the cryptographic arts, and his graduate student, Whitfield Diffie, published "New Directions in Cryptography" in the November issue of *IEEE Transactions on Information Theory*. It contained the first public exposition of what was to become known as public key cryptography. In the Hellman-Diffie scheme, it would be possible for individual communicants to have their own private key and to communicate securely with others without a preset key. All that was necessary was to possess a publicly available key and a private key which could be unlocked only with permission. This revolutionary concept freed cryptography from the burdensome periodic exchange of key with a set list of

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correspondents and permitted anyone with the same equipment to communicate with complete privacy.¹²⁵

~~(S)~~ This was the public face of the issue. But like public key cryptography itself, it contained a private story that was much more complex. Hellman, it turned out, had been one of the leading opponents of DES, for the very reason that he distrusted NSA's hand in the algorithm. He had obtained a National Science Foundation (NSF) grant to work on the project. It turned out that there was no legal prohibition against a governmental entity funding private research into cryptography, despite the possibility that such research would break the governmental monopoly on leading edge techniques. And in fact, Hellman and Diffie

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(U) In April 1977 David Boak and Cecil Corry of NSA visited Dr. John Pasta, director of NSF's division of mathematical and computer research, to discuss the issue. Since the early 1970s there had been sporadic contact between NSA and NSF, and NSF had agreed to permit a certain amount of NSA "assistance" on these types of projects, but only to examine grant proposals on their technical merits rather than to institute a formal coordination process. Pasta, believing that academic freedom was at stake, held fast to the NSF position and refused to permit NSA to exercise any sort of control over future grants.¹²⁷

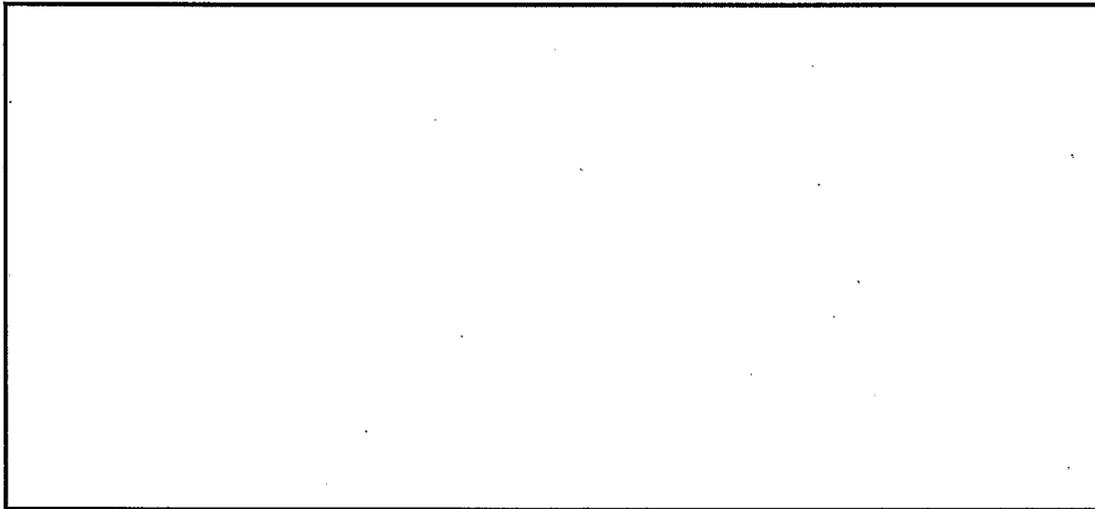
~~(FOUO)~~ The difficulties with NSF did not end with the Hellman imbroglio. In 1977 Ronald Rivest of MIT published an NSF-funded paper expanding the public key cryptography idea. He postulated a method of exchanging public and private keys, protecting the private key based on the known fact that large integers are extremely difficult to factor. The new RSA technique (named after its inventors, Rivest, Shamir, and Adleman) depended on finding very large prime numbers, upwards of 100 digits long, a technique that was later adopted for STU-III key exchange.

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Since the technique had been jointly funded by NSF and the Office of Naval Research, NSA's new director, Admiral Bobby Inman, visited the director of ONR to secure a commitment that ONR would get NSA's coordination on all such future grant proposals.¹²⁸

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~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY~~



~~(FOUO)~~ NSA hunted diligently for a way to stop cryptography from going public. One proposal was to use the International Traffic in Arms Regulation (ITAR) to put a stop to the publication of cryptographic material. ITAR, a regulation based on the 1954 Mutual Security Act, was intended to control the export of items that might affect U.S. security by establishing a Munitions List, including SIGINT and COMSEC equipment and cryptographic devices. Companies desiring to export items on the list would have to secure licenses. Within NSA the controversy centered on the academic use of cryptography, absent a specific intention to export the techniques. The legislation granted general exemptions in cases where the information was published and publicly available, but skirted First Amendment issues and focusing on commercial motivations.¹³¹

(U) This idea was pushed internally by one Joseph A. Meyer, but was just one of several techniques being considered. In July 1977, Meyer took matters into his own hands. The Institute of Electrical and Electronics Engineers would be holding a symposium on cryptography in Ithaca, New York. Concerned about the potential hemorrhage of cryptographic information, Meyer sent a letter to E. K. Gannet, staff secretary of the IEEE publications board, pointing out that cryptographic systems were covered by ITAR and contending that prior government approval would be necessary for the publication of many of the papers. The letter raised considerable commotion within IEEE, with scholars racing to secure legal opinions and wondering if the federal government might arrest them and impound the information.¹³²

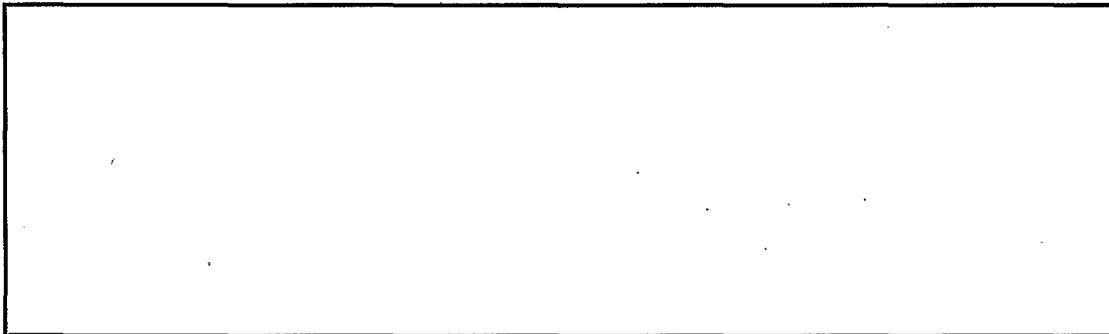
(U) The issue did not stop with IEEE. Someone notified the press, and journalist Deborah Shapley published the entire controversy in an issue of *Science* magazine. Although Meyer wrote the letter on plain bond paper, Shapley quickly discovered his association, and she claimed that NSA was harassing scientists and impeding research into public cryptography. In her view, the lack of direct traceability constituted smuggling NSA's official view covertly to academia, with plausible deniability. Congressional reaction was swift, and the Senate decided to hold hearings on the issues.¹³³

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(U) The Meyer letter was dispatched, recalled Inman ruefully, on virtually the same date that he became director. It presented him with his first public controversy, only days into his new administration.

~~(FOUO)~~ Inman began cautiously enough with that all-purpose bureaucratic solution, the study committee. That fall and winter he had two groups, NSASAB and a committee of NSA seniors, looking at public cryptography and proposing options. To this extremely complex issue the board of seniors proposed three alternatives:

- a. Do nothing. This school of thought, championed by G Group, held that any public discussion would heighten awareness of cryptographic problems and could lead to nations buying more secure crypto devices. This threat was especially acute in the Third World.
- b. Seek new legislation to impose additional government controls.
- c. Try nonlegislative means such as voluntary commercial and academic compliance.¹³⁴



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(U) Inman first chose the legislative solution. Daniel Silver, the head of NSA's legal team, circulated a draft of a new Cryptologic Information Protection Act. This proposed creating a new entity, the U.S. Cryptologic Board, which could restrict dissemination of sensitive cryptologic material for up to five years and would impose severe penalties (five years in prison, a \$10,000 fine) for violation.¹³⁵

(U) But Inman himself recognized the unlikelihood of getting Congress to act. NSA's proposed legislation would run against a strong movement in the opposite direction in both Congress and the White House, where the desire was to unshackle U.S. commerce from any sort of Pentagon-imposed restriction on trade. Even as the NSA seniors were recommending strengthening NSA's control over cryptography, President Carter was signing PD-24. This presidential directive divided cryptography in half. "National security cryptography," that which pertained to the protection of classified and unclassified information relating to national defense, would remain with NSA. But the directive also defined another sort of issue, "national interest" cryptography, which pertained to unclassified information which it was desirable to protect for other reasons (international currency exchange information, for instance). Protecting this type of

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information and dealing with the private sector on such protection (for instance, on DES), would become part of the domain of the Commerce Department. The National Telecommunications and Information Administration (NTIA), within Commerce, would be responsible for dealing with the public. NTIA moved promptly to assert its authority in the area of cryptographic export policy and to deal with academia over cryptography. NSA mounted strong opposition to both moves.

~~(FOUO)~~ Daniel Silver's draft legislation was basically dead on arrival, and there is no evidence that it was ever seriously considered. But the war between NSA and Commerce was only beginning. Congressman L. Richardson Preyer, who had taken over Bella Abzug's House Subcommittee on Government Information and Individual Rights, led a series of hearings on NSA's "interference" in academia. Preyer worked under the direction of Congressman Jack Brooks, chairman of the full House Government Operations Committee, who was the most vocal sponsor of Commerce's encroachment on NSA's COMSEC turf. Bolstered by the testimony of David Kahn and George Davida, he was predictably critical of NSA's role in public cryptography. Inman, upset with the draft subcommittee report, went to Congressman Edward Boland, who chaired the HPSCI. Boland, agreeing with Inman's complaint, told Brooks that future matters of this sort, which affected national security and intelligence operations, should be coordinated in advance with his committee. This did not end the sniping between NSA and Brooks, but did give the Agency a powerful ally.¹³⁶

~~(FOUO)~~ Within the administration it was guerrilla warfare. The Carter people came to town temperamentally allied with Brooks and Preyer. Their bent was to loosen Pentagon control of anything, especially anything that might affect individual rights and academic freedom. But Inman was a tough infighter and got the Department of Defense to line up behind NSA's position in opposition to NTIA. Through four years of Carter, the matter dogged the White House and frustrated compromise between the Commerce position and the Pentagon determination to gain back its authority. By the time Dr. Frank Press, Carter's advisor on technology policy, was ready to adjudicate the dispute, the 1980 elections were upon the administration, and the solution was deferred to the incoming Reagan people. In the meantime, Inman had succeeded in dividing Congress and securing allies in the fight.¹³⁷

(U) Inman was convinced from the start that the legislative approach, even if successful, would have to be supplemented by some sort of jawboning with academia. Early in his administration, he decided to visit Berkeley, a center of opposition to any sort of government intervention, and a hotbed of raw suspicion since the early days of the Vietnam War. He found himself in a room with antiestablishment faculty members, and "for an hour it was a dialogue of the deaf." Then the vice chancellor of the University of California, Michael Heyman, spoke up. Just suppose, he said, the admiral is telling the truth and that national security is being jeopardized. How would you address the issue? Instantly the atmosphere changed, and the two sides (Inman on one side, the entire faculty on the other) began a rational discussion of compromises. This convinced him that he was on the right track, and he pursued this opening to the public.¹³⁸

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(U) Inman followed this with a visit to Richard Atkinson, head of the National Science Foundation, to discuss the ideas that had emerged at Berkeley. The faculty had expressed a desire to get an "honest broker," one that both sides trusted, to sort through the issues and get to a compromise. Atkinson suggested that they approach the American Council on Education (ACE), and agreed that if ACE would agree to sponsor the effort, the National Science Foundation would fund it.¹³⁹

(U) This presented NSA with a historic opportunity to engage in a rational debate with the private sector, and it drove Inman to bring the issue to the attention of the American public. His forum was the annual meeting of the Armed Forces Communications Electronics Association in January 1979. It was the first public speech by an NSA director, and as Inman said at the outset, it was "a significant break with NSA tradition and policy." He then laid out the conflicting interests - academic freedom versus national security. He advocated a problem-solving dialogue, but also acknowledged that the government might on occasion have to impose restrictions on extremely sensitive technology to protect national security. "I believe that there are serious dangers to our broad national interests associated with uncontrolled dissemination of cryptologic information within the United States. It should be obvious that the National Security Agency would not continue to be in the signals intelligence business if it did not at least occasionally enjoy some cryptanalytic successes." On the other hand, the government might have to permit the free exchange of technology, taking action in only the most difficult cases. The important thing, he stressed, was to talk through these issues so that both sides understood what was at stake and could appreciate the position of the other side. And he articulated the long-range importance of the problem: "Ultimately these concerns are not those merely of a single government agency, NSA. They are of vital interest to every citizen of the United States, since they bear vitally on our national defense and the successful conduct of our foreign policy."¹⁴⁰

(U) The public opening was followed by a series of meetings, sponsored by ACE, to devise a forum to begin the dialogue. Some members (most notably George Davida) held out for a complete absence of any controls on academia, but the majority concluded that controls would be necessary when national security was involved. What emerged was a procedure for prior restraint, involving a board of five members, a minority of whom would be from NSA, to review publication proposals. Submissions would be voluntary, and the area of examination would be very limited. The proposal passed with the unlikely Yes vote of Martin Hellman, who had earlier been subjected to some private jawboning by Inman. He, along with others in academia, had come to believe that there was, indeed, a legitimate national security interest in what they were doing.¹⁴¹

(U) Prepublication review turned out to be less of a real than an imagined threat to First Amendment freedoms. The committee requested very few changes to proposals, and most of those were easily accomplished. In one case, NSA actually aided in lifting a secrecy order placed on a patent application. The submitter, Shamir of RSA fame, thanked NSA for its intervention. At the same time, NSA established its own program to fund research proposals into cryptography. Martin Hellman was one of the first applicants.¹⁴²

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(U) As for DES, the controversy quieted for a period of years. DES chips were being manufactured by several firms and had become a profitable business. In 1987, NSA proposed a more sophisticated algorithm, but the banking community, the prime user of DES, had a good deal of money invested in it and asked that no modifications be made for the time. By the early 1990s it had become the most widely used encryption algorithm in the world. Though its export was restricted, it was known to be widely used outside the United States. According to a March 1994 study, there were some 1,952 products developed and distributed in thirty-three countries.¹⁴³

Notes

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2. (U) Inman biography; Interview, Adm (USN, Ret.) Bobby R. Inman, 18 June 1997, by Tom Johnson, OH 9-97, NSA.
3. (U) Inman interview; Inman biography.
4. (U) Inman interview.
5. (U) *Washington Post*, December 17, 1991, Sec. A, 1; Persico, *Casey*, 211.
6. (U) Inman interview.
7. (U) Inman interview.
8. (U) Arthur D. Little Study, 1978, in CCH Series XII.D.
9. (U) Inman interview.
10. (U) Interview, William T. Kyetkas, by Tom Johnson, July 10 and 11, August 6, 1996, OH 25-96, NSA.
11. (U) Personal interview with Milton Zaslow, June 1997.
12. (U) Jeffrey T. Richelson, "Task Force 157: The U.S. Navy's Secret Intelligence Service, 1966-1977," *Intelligence and National Security* (January 1996), 106-45.
13. (U) Christopher Andrew, *For the President's Eyes Only: Secret Intelligence and the American Presidency from Washington to Bush* (New York: HarperCollins, 1994), 426.
14. (U) John Ranelagh, *The Agency: The Rise and Decline of the CIA* (New York: Simon and Schuster, 1986), 632.
15. (U) Carter Library, NSF, in CCH Series XVI.
16. (U) Ranelagh, *The Agency*; Andrew, *For the President's Eyes Only*, 428.
17. (U) Zbigniew Brzezinski, *Power and Principle: Memories of the National Security Advisor, 1977-1981* (New York: Farrar, Straus, Giroux, 1983); Ranelagh, *The Agency*, 643.
18. (U) Adm Stansfield Turner, *Secrecy and Democracy: The CIA in Transition* (Boston: Houghton Mifflin, 1985); Ranelagh, *The Agency*, 639.
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20. (U) Interview, [redacted] by Tom Johnson, 30 May 1997, OH 8-97, NSA.
21. (U) Interview, [redacted] by Tom Johnson, 24 January 1997, OH 2-97, NSA.
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23. (U) [redacted] interview; Inman interview; Carter Library, NSF, President's Daily Brief file.
24. (U) Inman interview; Turner, *Secrecy and Democracy*, 262-63; Interview, Michael A. Smith, by Tom Johnson and [redacted] 8 September 1997, OH 14-97, NSA.
25. (U) Inman interview.
26. (U) Ibid.
27. (U) CCH Series XIV.1; XII.H.28; Andrew, *For the President's Eyes Only*, 429.
28. (U) CCH Series VI.JJ.1.1; XII.H.14.1.
29. (U) CCH Series VI.JJ.1.1; Interview, Milton Zaslow, by Tom Johnson, 1 October 1996.
30. (U) CCH Series XII.H.14.1.
31. (U) Turner, *Secrecy and Democracy*, 254-57; ACOMP memo, 21 July 1981, in CCH Series XII.D; Bob Woodward, *Veil: The Secret Wars of the CIA 1981-1987* (New York: Simon and Schuster, 1987), 73.
32. (U) Ray S. Cline, *The CIA Under Reagan, Bush and Casey* (Washington, D.C.: Acropolis Books, 1981), 272; Interview, Meyer J. Levin, by Robert D. Farley and Tom Johnson, 14 January 1987, OH 2-87, NSA; Carter Library, NSF, in CCH Series XVI. I., "Intelligence Oversight."
33. (U) Carter Library, NSF, in CCH Series XVII.L, "Intelligence Oversight."
34. (U) The section on Panama is taken from a draft history by [redacted] in CCH files; unless otherwise cited, it is the source.
35. (U) [redacted] manuscript; Walter S. Poole, *The Joint Chiefs of Staff and National Policy, 1973-1976*, History of the JCS, Vol.11 (Washington, D.C.: Joint Staff Historical Office, 1993).
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38. (U) Talbot, *Endgame*, 69-74.
39. (U) Ibid., 109-13.
40. (U) Ford Library, NSF, in CCH Series XVI.H., "Salt."
41. (U) Talbot, *Endgame*.
42. (U) Ford Library, NSF, in CCH Series XVI.H., "Salt."
43. (U) Carter Library, NSF, in CCH Series XVII.L, "Salt Verification"; CCH Series VI.C.1.27; Talbot, *Endgame*, 194-202.
44. (U) Interview, [redacted] by Tom Johnson, 5 August 1998, OH 16-98, NSA; Talbot, *Endgame*, 134-35, 165; Chief, A2 executive files, in NSA retired records 96228, Box 2, Project Illustration.
45. (U) Interview, Richard L. Bernard, by Robert D. Farley, [redacted] 31 August 1988, OH 13-88, NSA.

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- 47. (U) HF Target Study, July 1978, in CCH Series XII.D.
- 48. (U) Ibid.
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- 50. (U) Ibid.
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- 52. (U) NSA retired records, 44959, 80-302; HF Site Modernization Study, 1977, in CCH Series XII.D.
- 53. (U) *Cryptolog*, November 1977, 7; memo from VADM Bobby R. Inman [Redacted]
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- 56. (U) HF Modernization Program: Background and Current Status," in CCH Series XII.D.
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- 59. (U) Ibid., 1-42.
- 60. (U) Ibid.
- 61. (U) TKPMO files, USAFSS Proposal 2-77, 25 April 1977.
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- 64. (U) TKPMO files: USAFSS Proposal 2-77; HF Modernization Study, 5 June 1978.
- 65. (U) Ibid.
- 66. (U) TKPMO files.
- 67. (U) TKPMO files, "Kunia Facility Briefing" (undated).
- 68. (U) Ibid.
- 69. (U) TKPMO files, I: Historical.
- 70. (U) Ibid.

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- 72. (U) TKPMO files.
- 73. (U) HF Modernization Plan, 11 April 1980, R6, in CCH Series XII.D.
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[Redacted]

- 76. (U) Ibid.

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[Redacted]

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[Redacted]

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85. (U) Ibid.

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92. (U) Carter Library, NSF, in CCH Series file XII.D.

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111. (U) Millington manuscript.
112. (U) Ibid.
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114. (U) Letter from Ellsworth to Bush, 2 November 1976, in CCH Series XII.D.
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116. (U) Millington manuscript.
117. (U) Millington manuscript; Becker interview.
118. (U) Carter Library, NSF, "NSA/CIA," in CCH Series XVI.
119. (U) DDIR files, 96026, Box 4, Drake Notebook, Proto Paper.
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125. (U) [redacted] "NSA Comes Out of the Closet," 10; [redacted] *Fifty Years of Mathematical Cryptanalysis* (Fort Meade, Md.: NSA, 1988), 80.
126. (U) [redacted] "NSA Comes Out of the Closet," 10; [redacted] *Fifty Years of Mathematical Cryptanalysis*, 78.
127. (U) [redacted] "NSA Comes Out of the Closet," 10.
128. (U) [redacted] "NSA Comes Out of the Closet," 10; [redacted] *Fifty Years of Mathematical Cryptanalysis*, 80.
129. (U) Kahn, "Cryptology Goes Public," 154-55; [redacted] "NSA Comes Out of the Closet," 16.
130. (U) Kahn, "Cryptology Goes Public," 155; [redacted] "NSA Comes Out of the Closet," 16.
131. (U) [redacted] "NSA Comes Out of the Closet," 11; DDIR files, 96026, Box 4, Drake Notebook.
132. (U) Kahn, "Cryptology Goes Public," 155-56; [redacted] "NSA Comes Out of the Closet," 13.
133. (U) [redacted] "NSA Comes Out of the Closet," 12.
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135. (U) Ibid., 25.
136. (U) Ibid., 17-18, 32-35.
137. (U) Ibid.
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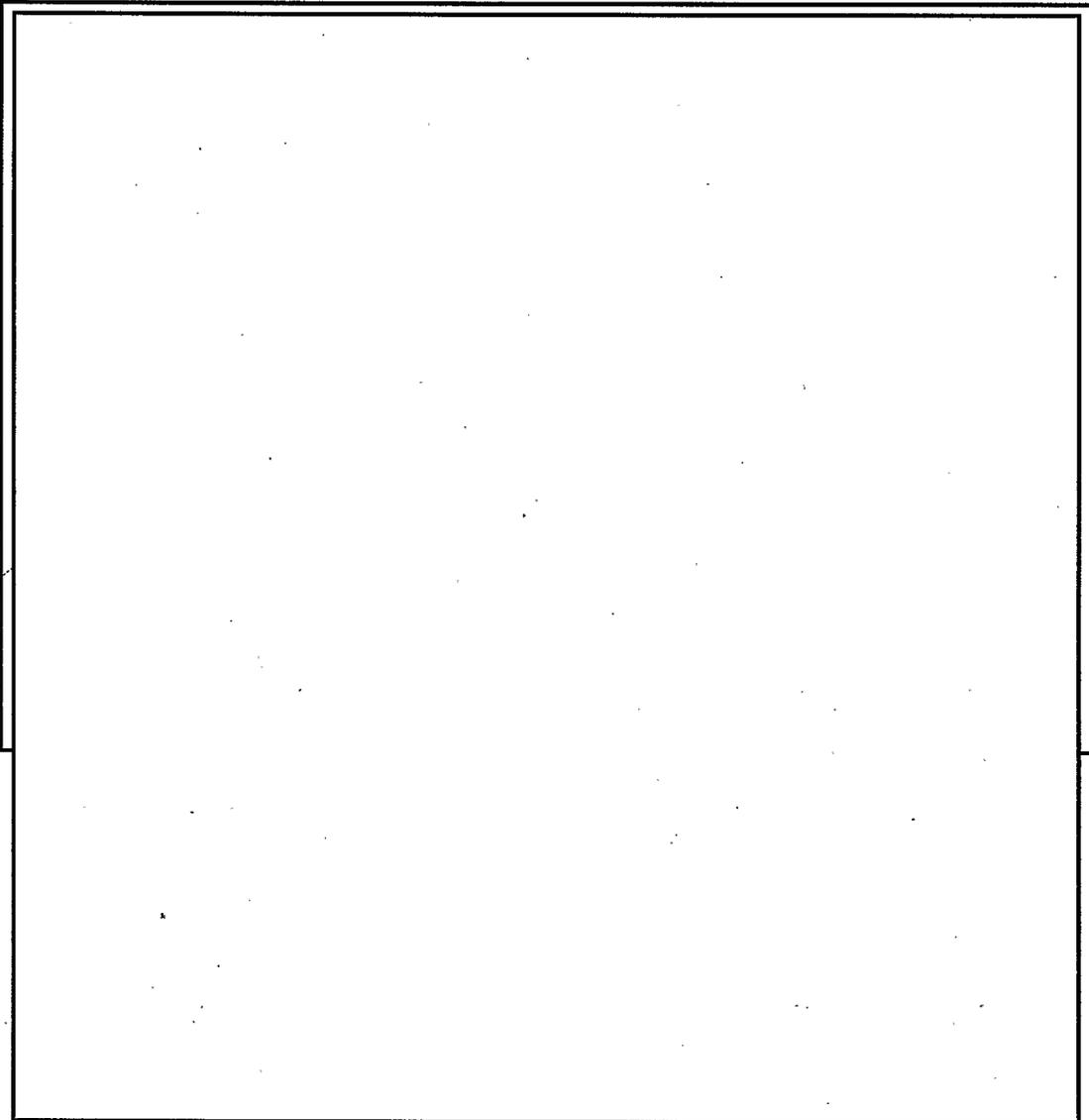
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(U) Chapter 20

The Foreign Policy Crises of the Carter Years

(U) Late in his administration, Jimmy Carter was dogged by a series of foreign policy crises that ultimately led to his defeat in 1980. In all of those crises there was a cryptologic component.

(U) THE IRANIAN REVOLUTION

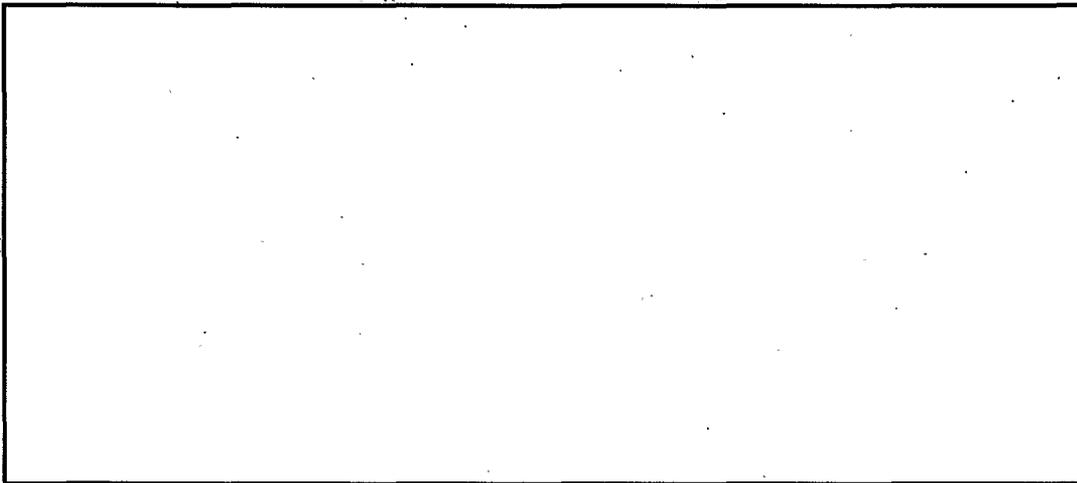


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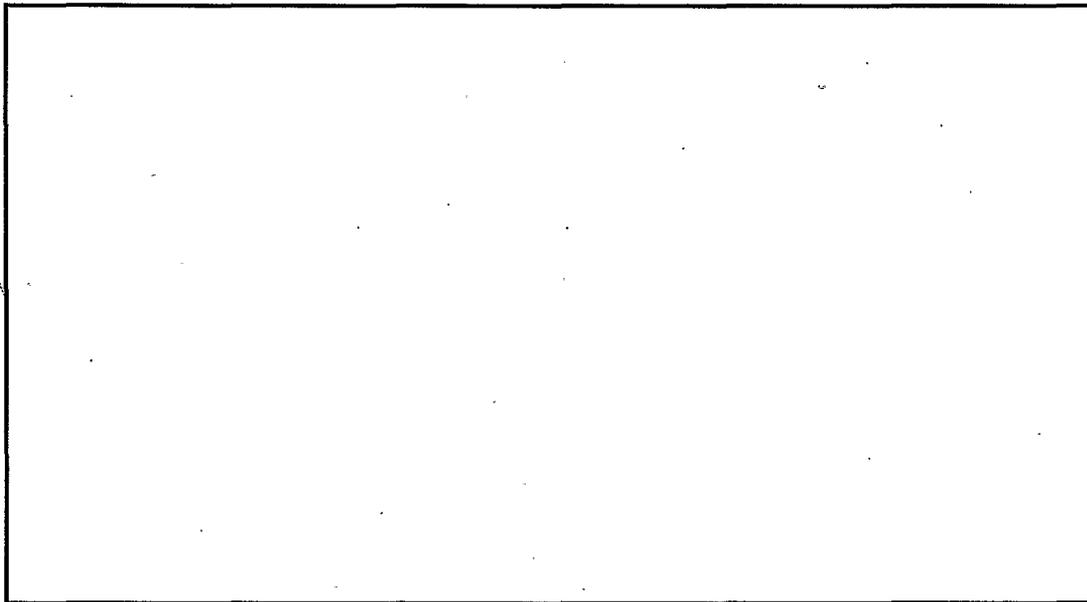
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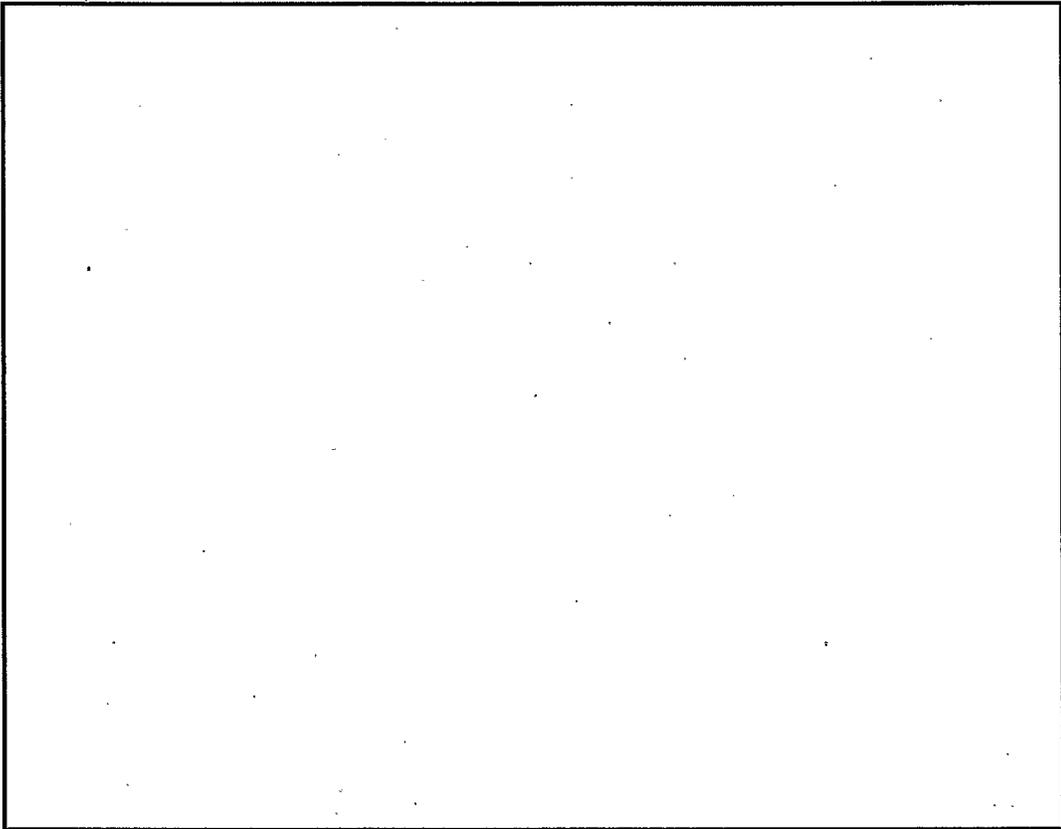
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(U) At the beginning of the Carter presidency, White House advisor Samuel Huntington predicted that Iran was the most likely trouble spot for Americans. It was a lonely prediction, because there was little direct indication that the shah was in trouble or that Iran would descend from a developing Third World country with substantial oil resources into a medieval swamp.⁶

(U) The trouble began in mid-1978 and developed with frightening speed. By November a previously obscure radical cleric named Khomeini, in exile in Iraq, seemed to hold all the cards. By then, CIA, DIA, and the State Department were pessimistic about the shah's prospects for holding onto his throne. Indeed, the shah departed in January of 1979, and Khomeini swept into power. It was a breathtaking defeat for CIA, which had invested so much stock in the shah personally and in Iran as the pedestal of American presence in the Persian Gulf region.



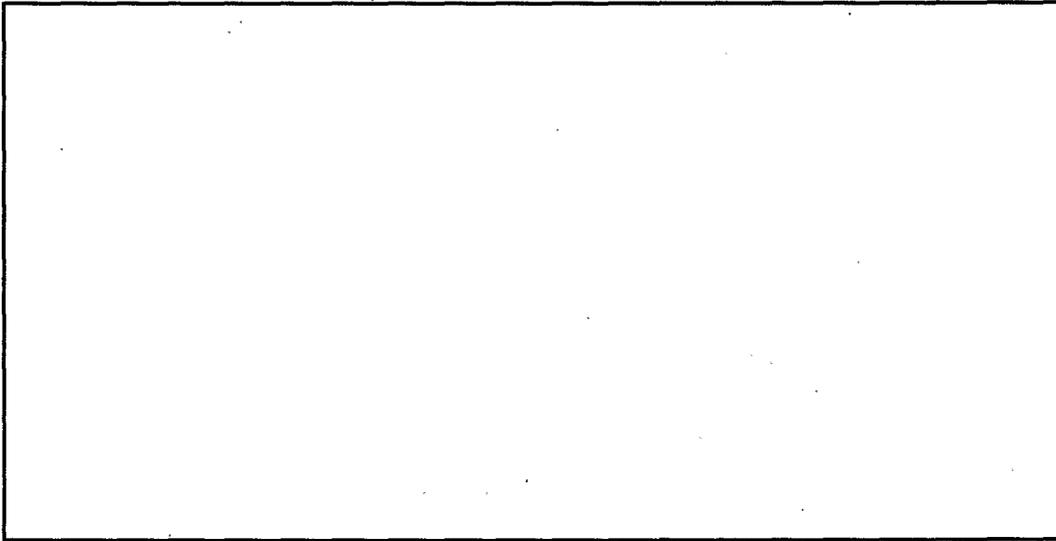
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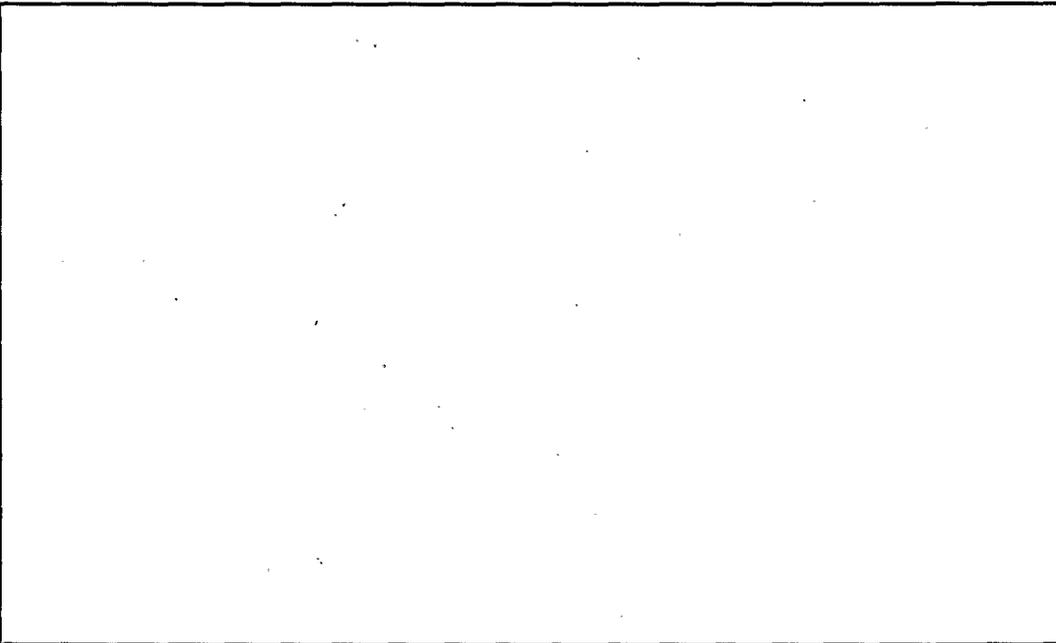
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(U) Marching a prisoner around the occupied embassy in Tehran

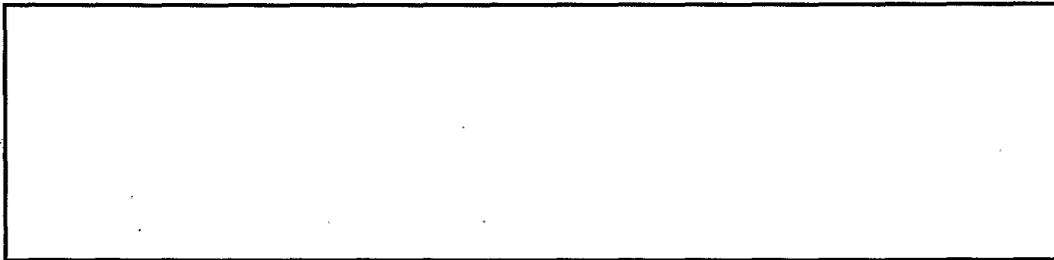


~~(S-CCO)~~ The Carter presidency became hammerlocked over the hostage crisis and remained so until the very hour that Carter turned the White House over to Ronald Reagan. Brzezinski, always a hardliner on foreign affairs, began planning for a hostage rescue attempt the day after the second embassy takeover. He received little encouragement from Carter, who didn't believe in force to settle matters, but continued to direct a Pentagon response which envisioned some sort of forcible recapture operation. The DCI, Admiral Turner, participated in the early planning, but security was very tight, and neither NSA nor DIA was informed.¹⁴



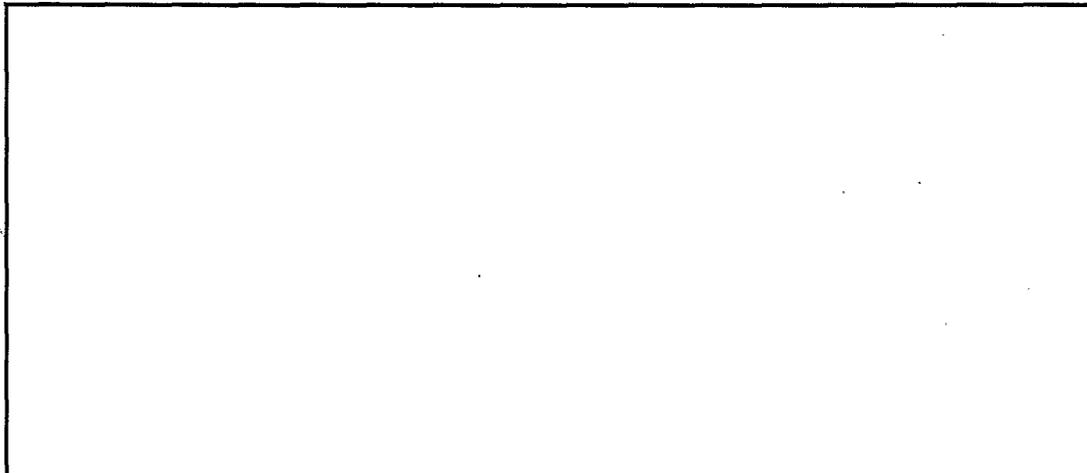
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(U) Carter remained committed to diplomatic efforts through February 1980. Through intermediaries the State Department was in touch with Iranian president Bani-Sadr, who agreed to work a face-saving compromise that would get the hostages out. This fell through when Khomeini discovered the scheme, and the president felt the last hope was gone. He turned to the Pentagon, which had been refining its scheme for three months. The JCS plan was to fly eight helicopters from the USS *Nimitz*, anchored in the Gulf of Oman, to a secret staging base in southern Iran, where they would meet six C-130 transports carrying ninety members of the rescue team plus fuel and supplies. The transports would return [redacted] while the choppers would continue on to another secret base outside Tehran. The next night trucks purchased by an American agent in Tehran would carry the team into the city. Once they got the hostages, they would all be retrieved by the helicopters, which would ferry them back to the secret base, where they would be met and placed aboard C-141 transports for the trip out of Iran.¹⁷

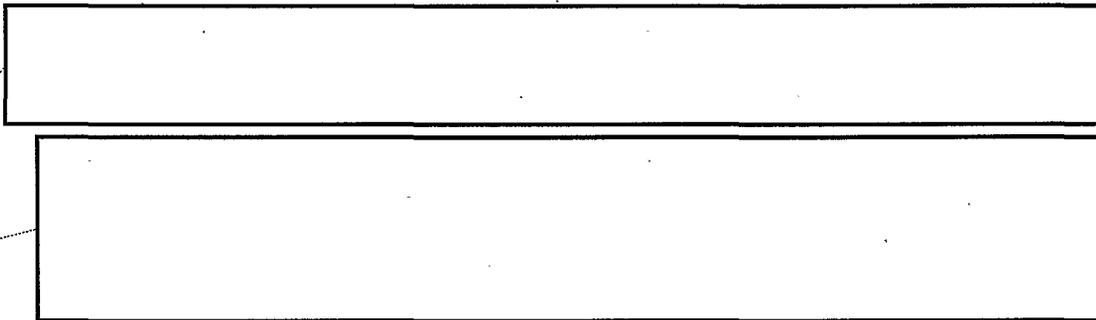
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(b) (1)



(U) Admiral Turner at CIA had set up the intelligence support to the White House, a flow which excluded NSA from direct participation. [redacted] This state of affairs produced the by-then inevitable sword play between the two admirals and contributed yet another stone to the wall being built between Turner and Inman.¹⁸



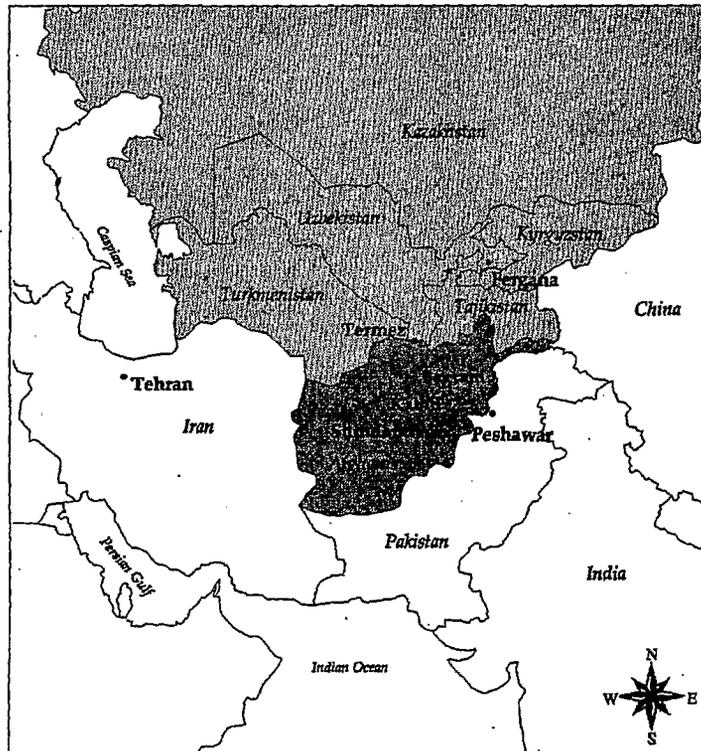
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(U) THE SOVIET INVASION OF AFGHANISTAN

(U) The takeover of the U.S. embassy in Tehran in November 1979 set the Middle East ablaze. Inspired by the radical Islamic movement in Iran, radicals stormed the Grand Mosque in Mecca, only to be put down with great violence by the conservative Saudi regime. Reacting to rumors that it was really the "wicked Americans" who were behind the troubles in Saudi Arabia, American facilities in Pakistan, including the U.S. embassy in Islamabad, were mobbed. A few weeks later, following more troubles for the United States elsewhere in the Middle East, the American embassy in Libya was attacked. For a time it seemed that the entire region would come apart.



(U) Iran and Afghanistan

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~~(TSC)~~ The Carter administration, already immobilized by the hostage drama in Tehran, feared that the destruction of the political status quo could be an opening wedge for Soviet ambitions, which seemed boundless at the time. The Persian Gulf, now lacking the stabilizing pro-American force of the shah, could succumb. This fear was heightened by a series of Soviet military exercises which had as their objective a postulated invasion of Iran and a march to the Gulf.

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(U) The president responded with a State of the Union Address in January of 1979 that did not sound like the old Jimmy Carter. "Let our position be absolutely clear. . . . An attempt by any outside force to gain control of the Persian Gulf region will be regarded as an assault on the vital interests of the United States of America, and such an assault will be repelled by any means necessary, including military force." ²¹ He followed this Carter Doctrine with a request for a 5 percent increase in military spending and a proposal that all men eighteen to twenty-six be required to register for a future draft. He began an expansion of U.S. military presence in the Gulf, and announced that the U.S. would not participate the next year in the Moscow Olympic Games.²²

(U) Afghanistan did not become important on the world stage until, in the latter half of the nineteenth century, Russian expansion into Central Asia ran into British expansion in the Indian subcontinent. Following a series of small wars in which the British were spectacularly unsuccessful, Afghanistan became a buffer between the two larger powers. The British continued to muddle unhappily in Afghanistan's affairs through World War I, when the tables turned and the independent-minded Afghans began cozying up to the new Soviet government under Lenin. Had the Soviet Union fully understood how much trouble the British had had in Afghanistan, they might not have gotten involved.²³

(U) As the United States moved into the area to try to replace British influence after World War II, the Soviet Union continued a more successful penetration from the north. In the 1960s a communist movement under Nur Mohammed Taraki and Babrak Karmal, sponsored by the Soviets, began to challenge the constitutional monarchy. In April 1978 a group of army officers carried out a well-planned, if bloody, coup in Kabul. The president, Mohammed Daoud, and his entire family were summarily executed, and Taraki became prime minister. His foreign minister, Hafizullah Amin, had played a key role in the military operation.

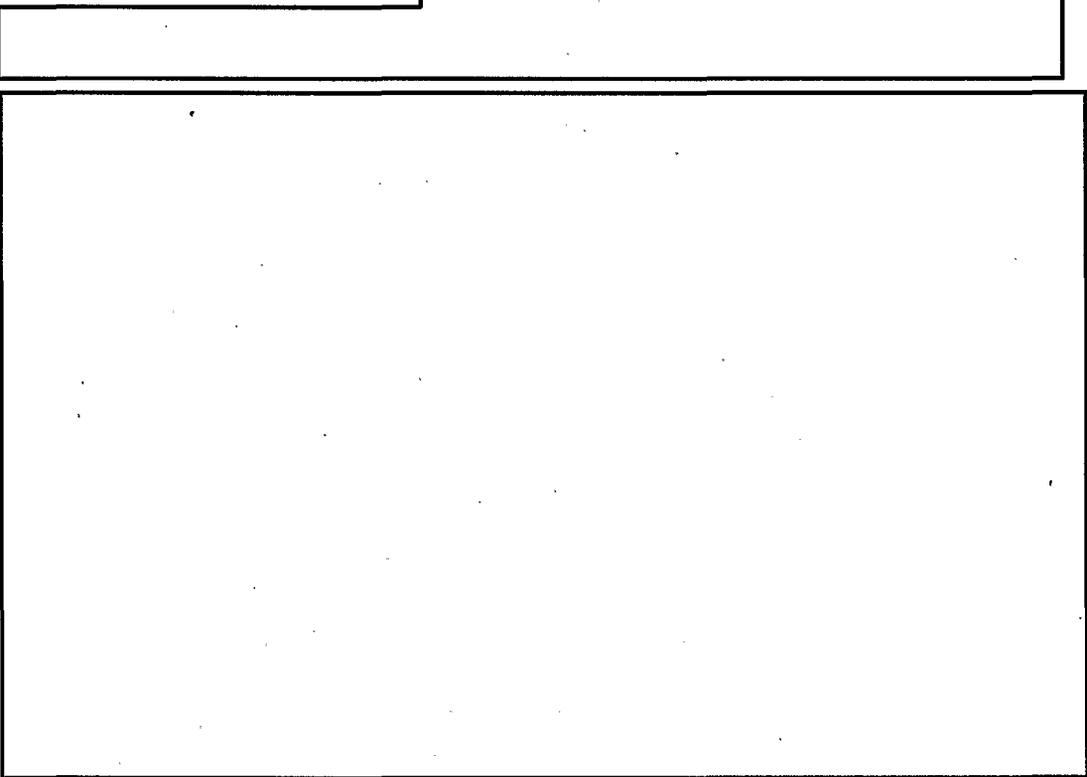
(U) With influence built up through many years of aid to the Afghan government, the Soviets were in a strong position. In May they established a military assistance group, and by mid-year 2,700 Soviet military advisors were in country. Afghan air bases at Bagram, Shindand, and Kabul came under direct Soviet supervision. The Soviet Union announced that, in the event of a crisis (even an internal crisis), they would intervene. This was not an entirely hypothetical possibility. The Afghan regime under Taraki was absolutely riven by tribal-based factions, the most important of which were the Khalqist group under

Taraki and the Parchemi faction under Babrak Karmal. Taraki had ousted Karmal, who was living in the Soviet Union and waiting for his turn. The Parchemis longed for power.²⁴

~~(S)~~ [redacted] Internecine warfare between Khalkists and Parchemis grew worse through 1978. Early in 1979 anti-Taraki forces kidnapped U.S. ambassador Adolph Dubs, and in the ensuing ill-advised rescue attempt (supervised by the Soviets) Dubs was killed. In retaliation, President Carter reduced the American diplomatic presence and halted all U.S. aid.

~~(TSC)~~ Soviet contingency planning for an invasion probably began as early as 1978, but by March 1979 the urgency of the situation pushed them into hasty preparations. Soviet exercises in the spring took on the look of an invasion scenario. Top KGB officials met with Marshal Sergey Sokolov, first deputy minister of defense, on May 25 to discuss the route of march for an invasion. [redacted]

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(U) Soviet frustration with the Taraki government was growing. His deputy, Hafizullah Amin, was becoming increasingly autocratic, and Taraki was no longer in full control of the situation. Soviet concern was tipped off in June with a press announcement that General Pavlovskij, commander in chief of the Soviet Army, would visit Afghanistan in August. His visit lasted until October: As one journalist commented, "Pavlovskij stayed on in Afghanistan far longer than he had needed eleven years earlier to plan the invasion of Czechoslovakia."²⁷

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[REDACTED]

(U) The first crisis came on September 14, while Pavlovskij was still in country. At a meeting in Kabul arranged by the Soviets, at which Taraki supporters were to have ended the Amin threat, the opposite happened. There was a shootout between Amin and Taraki supporters. Amin's people came out on top; Amin arrested Taraki, and two days later Taraki's resignation was announced "for health reasons."²⁹

~~(TSC)~~ The White House was well aware of Soviet concern over the situation. Beginning on September 10, intelligence reports to the president, [REDACTED] began to discuss the possibility that the Soviet Union might be forced to act. On September 15, the day after the shootout, CIA made its first prediction of Soviet intervention. This was, in fact, probably earlier than the Soviets themselves decided. Most probably they waited for the return of Pavlovskij to Moscow. In any case, the decision was probably made sometime in October.³⁰

~~(TSC)~~ Then the issue began to fade in Washington. The Iranian hostage crisis of early November pushed Afghanistan off center stage, and there appeared to be nothing especially dramatic happening in Kabul. But early December saw accelerated activity.

[REDACTED]

~~(TSC)~~ During the week prior to Christmas, Soviet forces continued to pour into staging bases in southern USSR, [REDACTED]

[REDACTED]

At this point CIA made a strong push at the White House for presidential attention to Afghanistan.

[REDACTED]

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[REDACTED]

[REDACTED]

~~(TSC)~~ This time there was no "intelligence failure." The postmortems, which began at the White House level only days after the invasion, were unanimous in describing it as an intelligence success. Generalized warnings had begun in September, and specific warnings preceded the operation by at least ten days. The Soviets followed their own doctrine, and intelligence followed the Soviets every step of the way. [REDACTED]

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[REDACTED] There were no pictures of the invasion as it was happening - it was dark, and satellites could not photograph in darkness.³³

~~(S-CO)~~ December of 1979 marked a high-water mark of sorts [REDACTED] [REDACTED] After years of struggle, it was now possible to predict with some clarity and speed the intentions of the major antagonist. It had been a long walk from Pearl Harbor.

(U) THE SINO-VIETNAMESE DISPUTE

(U) With the United States out of Southeast Asia, the inhabitants of that area took to internecine disputes. Every country, it seemed, had a border dispute with its neighbors. One of the most serious was between Vietnam and Cambodia. Years of low-level conflict broke out in full-scale battle in December 1977. It did not take Vietnam long to decide that the only solution was to take over Cambodia and install a puppet government, and they accomplished this by ejecting the blood-stained forces of Pol Pot from the capital and placing their own man, Hun Sen, in power.

(U) Vietnam was still supported economically and militarily by the Soviet Union, to neighboring China's great concern. The expansion of Vietnamese influence in Southeast Asia was thus a matter of considerable nervousness to the Chinese, and they openly supported Pol Pot, partly to insure a balance in the country. But there were other, peripheral, issues that went into the mix. The two countries were involved in a dispute over the ownership of some potentially oil-bearing islands in the South China Sea, and the Sino-Vietnamese border was still in dispute in places. Vietnam had a large ethnic Chinese population, whose treatment China regarded as falling within its area of concern. During

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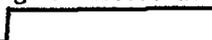
1978 Vietnam moved many Chinese out of population centers and into "new economic zones" to ease an economy in crisis, but China considered this to be discrimination.

~~(SC)~~ China opened up a diplomatic war on Vietnam in the spring of 1978, portraying Vietnam as a Soviet Cuba in Southeast Asia. But diplomacy was getting them nowhere, and in the late summer they began planning for punitive military action. The movement of troops, begun in a very small way in late spring, moved forward in earnest in October.

 Chinese ground forces began moving from their garrisons in Kunming, and were joined by other units from the central provinces of Wuhan and Chengdu, the Chinese Army's base area. By February 1979 the Chinese enjoyed a numerical superiority of more than four to one over Vietnamese forces along the Sino-Vietnamese border.³⁴

~~(SC)~~ The air defense posture, too, underwent considerable augmentation. The Chinese bolstered their tactical air strength along the border, the main increase coming after the first of the year. In all, they moved nearly 500 aircraft into the area, bringing their military aircraft total to about a four-to-one advantage. They coupled this with large-scale air exercise activity. The naval changes were slower and less dramatic, but had the same effect and, in the end, increased Chinese naval forces in the Gulf of Tonkin to record levels.³⁵

~~(SC)~~ None of this was a secret, nor was it designed to be. Unlike the Soviets, the Chinese relied on well-publicized moves as part of their negotiating posture. 

~~(TSC)~~ Just to insure that there was no mistake, Chinese premier Deng Tsao Ping, in his state visit to Washington in January 1979, told President Carter that they intended to "teach Vietnam a lesson." Carter's main concern, aside from wanting to resolve all international disputes peacefully, was about possible Soviet reactions. 

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(U) Chinese premier Deng Tsao Ping with Cyrus Vance, January 1979

~~(S)~~ The assault began early in the morning of February 17, and within a few days the Chinese had achieved their military objectives, which consisted of capturing several small border towns. But it was a much tougher fight than they had bargained for. Against the outmanned Vietnamese they took heavy casualties, and when Deng announced on March 5 that they would begin to withdraw, it was in the manner of declaring victory and going home. Their ground forces had taken a pounding, and they never even tried to match their air force against the more capable Vietnamese. [REDACTED]

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~~(S)~~ [REDACTED] And every diplomatic tiff between the two countries was accompanied by Chinese threats to teach Vietnam a "second lesson." But the lesson never came - the Chinese were apparently not anxious to display further military weakness.

(U) THE SOVIET BRIGADE IN CUBA

(U) Near the end of the Carter administration, one of the most bizarre episodes in American [REDACTED] history occurred. It related to Soviet forces in Cuba and began with the Cuban Missile Crisis of 1962.

(U) During the crisis the intelligence community believed that a Soviet ground combat unit was present near Santiago de las Vegas in Cuba. The matter came up in the context of the removal of the offensive missiles, and in early 1963 President Kennedy admitted

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publicly that some 17,000 Soviet troops were still on the island. Included in the number were four combat units totaling about 6,000 men. The Kennedy administration dropped the subject with the Soviets, and in February of 1964 CIA concluded, on the basis of photography, that most of the combat troops were gone and the bases transferred to Cubans. This seemed to end the issue.³⁹

~~(S)~~ But the issue refused to die. In the early 1970s intelligence (what type we are not informed) indicated that the Soviets still had about 2,000 troops in Cuba: 1,500 at the Lourdes SIGINT site and the rest at the MAG (military advisory group). [redacted]

~~(S)~~ In November 1978 the Cuban issue suddenly got a boost. In that month intelligence discovered new MiG-23 aircraft in Cuba with a possible ground attack role. While the Community stewed about the possible meaning of this new information, it hit the press. The Carter administration was already becoming sensitized to the Cuban issue, as Cuban soldiers began appearing in Ethiopia and Angola. Journalists and amateur fanciers of international intrigue worked the issue to a frenzy, and in the spring of the following year the White House, at the instigation of an NSC staffer, Colonel William Odom, decided to do a full-scale study of the Cuban threat.⁴¹ Odom, a Brzezinski protégé, frequently took a hard line on Soviet issues.

~~(S-CCO)~~ The intelligence community might have continued to mull the issue for months, but time ran out. On July 17 Senator Richard Stone of Florida made a public announcement referring to a Soviet combat unit in Cuba. Stone evidently had inside information. [redacted]

[redacted] Just a week later Stone sent a letter to the president stating that it appeared that "the Soviet Union was setting up a high-ranking command structure in Cuba."⁴³

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(U) The matter made the rounds of the press corps, but it was the August recess, and not much could jar Washington during the summer doldrums. But then Senator Frank Church, who was engaged in a tough (and ultimately unsuccessful) reelection campaign, was briefed on the issue by a White House aide, and asked Secretary of State Cyrus Vance if he could go public with it. Vance realized that it would come out anyway and authorized Church to go with it.⁴⁵

(U) Church's sensational press releases brought the argument to a boil in the Senate, and hardliners proclaimed that ratification of SALT II (which had been on the senatorial plate for the fall session) would be placed on hold. The administration, not wanting to seem less hardline than the Senate, bungled the issue by demanding withdrawal of the unit or a revision of its mission. Alarmed at the problems that the issue was causing for SALT ratification, Carter called a team of foreign policy experts dubbed the Wise Men.

(U) The administration had been scrambling to review the history of the unit and by mid-September had concluded that it was probably a lineal descendant of the unit that had been at Santiago since the Missile Crisis. Somehow the intelligence community had lost track of it, and when it again appeared [redacted] in 1976 it seemed to be a new thing. There was still some question concerning whether or not it had taken on a new and more aggressive-looking role, but the Wise Men advised Carter to simply ignore this and smooth the issue over. Otherwise it would jeopardize other, more important, foreign policy objectives.⁴⁶

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(U) Unfortunately, Carter could not leave well enough alone. His speech on October 1, while intended to return things to the status quo, did nothing of the kind. In it he announced that he was increasing surveillance of Cuba and strengthening American presence in the Caribbean. The disbelieving Soviets told the White House that the unit had always been there, that the issue was a phony one, and that they would make no changes.⁴⁷ So the bellicose speeches of Carter and Vance achieved nothing.

(U) A month was lost on SALT ratification, and the matter was still perking in the Senate when, on Christmas day 1979, the Soviets invaded Afghanistan. The ratification process came to an outraged halt and was never resumed. So this tempest in a teapot had real and undesirable consequences.

(U) Admiral Turner predictably blamed NSA for the fiasco. He accused the Agency of grandstanding on the issue, by coming out with a product report declaring that there was a Soviet combat brigade in Cuba without previously sharing its secret with the rest of the intelligence community. NSA, he claimed, acted on SIGINT, with a little HUMINT and IMINT thrown in, when in fact the Agency was not supposed to draw such analytical conclusions. "When readers saw the designation 'combat', they imagined a unit preparing to move out of Cuba and go to war in Central America. . . . Because intelligence had never before

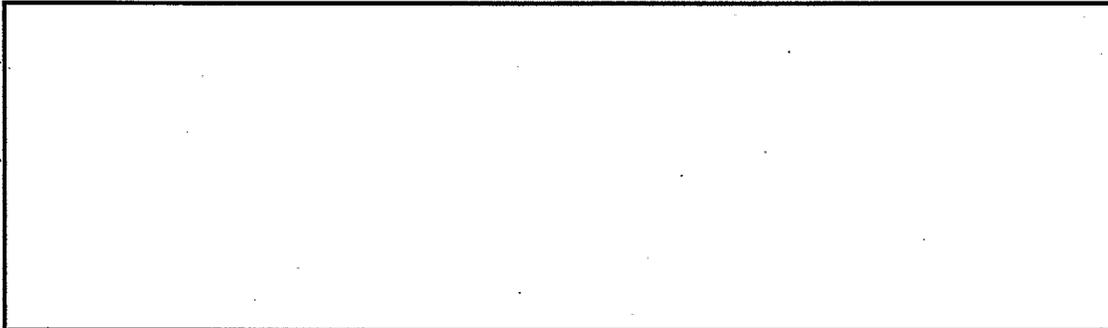
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reported a Soviet combat unit in Cuba, people assumed that the brigade had just arrived." ⁴⁸

(U) Turner's post-CIA autobiography took NSA seriously to task:

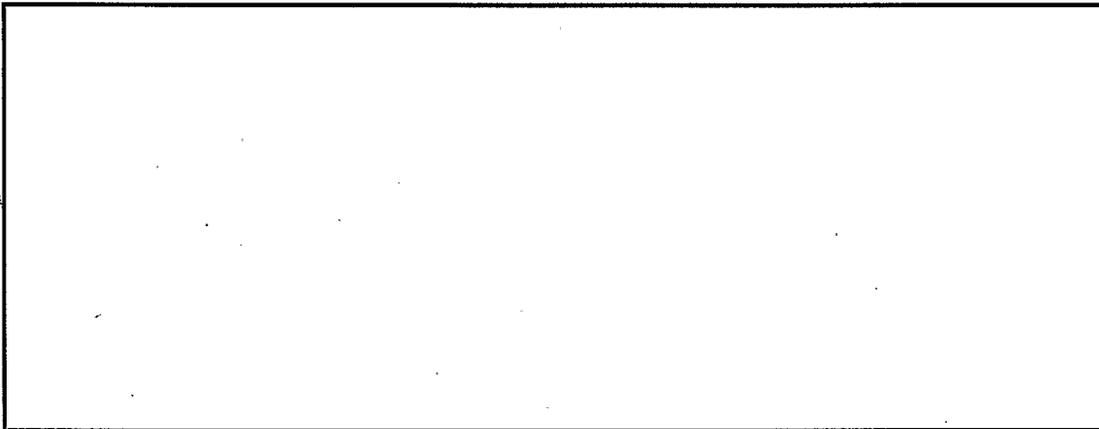
The NSA is mandated to collect intelligence, not to analyze it. . . . Processing is regularly stretched by the NSA into full-scale analysis. In this instance, the abuse of processing was flagrant. . . . The NSA's analysis is bound to be biased in the direction of what signals intercepts tell, and is less likely to take account of photographic or human intelligence. . . . A dangerous side effect of the NSA's regular transgression from processing into analysis is that it leads to deliberate withholding of raw information from the true analytic agencies. The NSA wants to get credit for the scoop. Even when the NSA does release information promptly, it is so digested that other analysts can't use it. . . . There is a fine line to be drawn here, but there is no question in my mind that the NSA regularly and deliberately draws that line to make itself look good rather than to protect secrets. ⁴⁹

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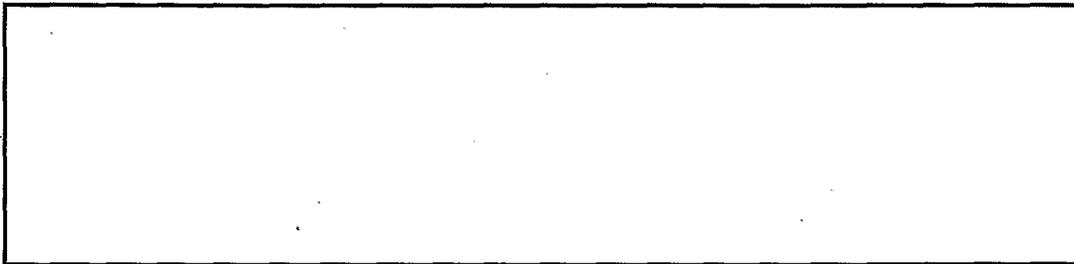


(U) The basic fault, aside from that of forgetting history, was in the political handling of an intelligence event. As with the Gulf of Tonkin crisis of 1964 and the Tet Offensive of 1968, the issue seems to have been mishandled at the top.

(U) THE FINAL DAYS



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(U) President Carter in the White House

(U) The scene in the Oval Office that morning was best described by Zbigniew Brzezinski in his autobiography:

I found in the Oval Office a large group of people. The President, sitting behind the desk with the red phone in his hand [it was actually a STU-II; see photograph] listening to direct intelligence reports pertaining to the two Algerian aircraft parked on the runways at Tehran airport, said to me, 'They have been ready to take off since 8:35'. Everybody is standing around or sitting. The Vice President on the sofa, Rosalynn coming in and out and looking concerned, [Presidential assistant Jack] Watson, Gary Sick, Muskie, Jordan, Phil Wise, Pat Caddell, Jody in and out, Cutler, Kirbo. . . . At 9:55 the President talked to the operator monitoring Tehran. No flight plan has been filed yet. Moreover, the Iranians apparently have asked the Algerians not to announce any departure until the plane is outside of Iranian airspace. . . . Until the very last minute the transfer of power and departure of the President is dominated by the Iranian affair. I went down

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to the Sit Room before leaving my office to monitor the latest developments from Iran. The plane as of 11:30 was still on the ground. It became clear that the Iranians were deliberately holding it up so that the transfer of the hostages would not occur while Jimmy Carter [was] President of the United States.⁵²

Notes

[Redacted]

2. (U) CCH Series XII.H.27; XII.19.3.
3. (U) CCH Series XII.H.19.3.
4. (U) Ibid.
5. (U) [Redacted] memo, 24 February 1976, in CCH Series XII.H.19.3.
6. (U) Interview with Brzezinski, Albright, Denend and Odom, Miller Center Interview, Carter Presidency Project, Vol XV, February 18, 1982, 38.

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[Redacted]

8. (U) NSA Archives, acc nr 27263, CBUB11.
- [Redacted]
10. (U) NSA Archives, acc nr 27263, CBUB11.
11. (U) Ibid.

[Redacted]

13. (U) Carter Library, NSF, CIA Brief, Box 22/23/24, in CCH Series XVI; [Edward Wiley] *On Watch: Profiles from the National Security Agency's Past Forty Years* (Fort Meade, Md.: NSA, 1986), 81.
14. (U) Inman interview; *Brzezinski, Power and Principle*.

[Redacted]

16. (U) [Redacted] interview.
17. (U) Burton I. Kaufman, *The Presidency of James Earl Carter, Jr.*, American Presidency Series: Donald R. McCloy, Clifford S. Griffen and Homer E. Socolofsky (eds.) (Lawrence, Kansas: University of Kansas Press, 1993), 173-75.
18. (U) Kaufman, *The Presidency of James Earl Carter*, 175.
19. (U) Inman interview.
20. (U) Carter Library, NSF, in CCH Series XVI.
21. (U) Kaufman, *The Presidency of James Earl Carter*, 164.
22. (U) Ibid.

[Redacted]

24. (U) Ibid.

25. (U) Ibid.

[Redacted]

27. (U) Ibid.

[Redacted]

30. (U) [Redacted] Inman interview.

[Redacted]

32. (U) Carter Library, NSF, in CCH Series XVI.I., "Afghanistan."

33. (U) [Redacted] Inman interview.

[Redacted]

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35. (U) Ibid.

36. (U) Inman interview [Redacted] interview.

37. (U) Brzezinski, *Power and Principle*; [Redacted]

[Redacted]

39. (U) Inman interview.

[Redacted]

41. (U) Carter Library, NSF, Brzezinski files, Cuba, boxes 1-4, in CCH Series XVI.I., "Cuba-Soviet Brigade."

42. (U) Ibid.

43. (U) Inman interview.

44. (U) Inman interview; Carter Library, NSF, in CCH Series XVI.I., "Cuba-Soviet Brigade"; Turner, *Secrecy and Democracy*, 230-36.

45. (U) Turner, *Secrecy and Democracy*, 230-36; Brzezinski, *Power and Principle*, 347.

46. (U) Carter Library, NSF, in CCH Series XVI.I., "Cuba-Soviet Brigade"; Kaufman, *The Presidency of James Earl Carter*, 155-56.

47. (U) Brzezinski, *Power and Principle*, 347.

48. (U) Turner, *Secrecy and Democracy*, 230-31.

49. (U) Ibid., 235.

[Redacted]

51. (U) Inman interview.

52. (U) Brzezinski, *Power and Principle*, 507-08.

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