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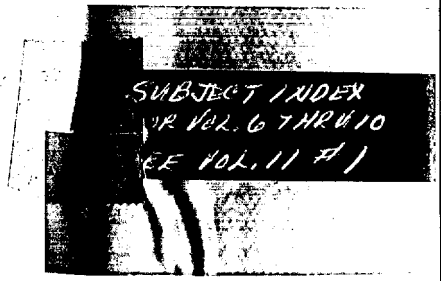

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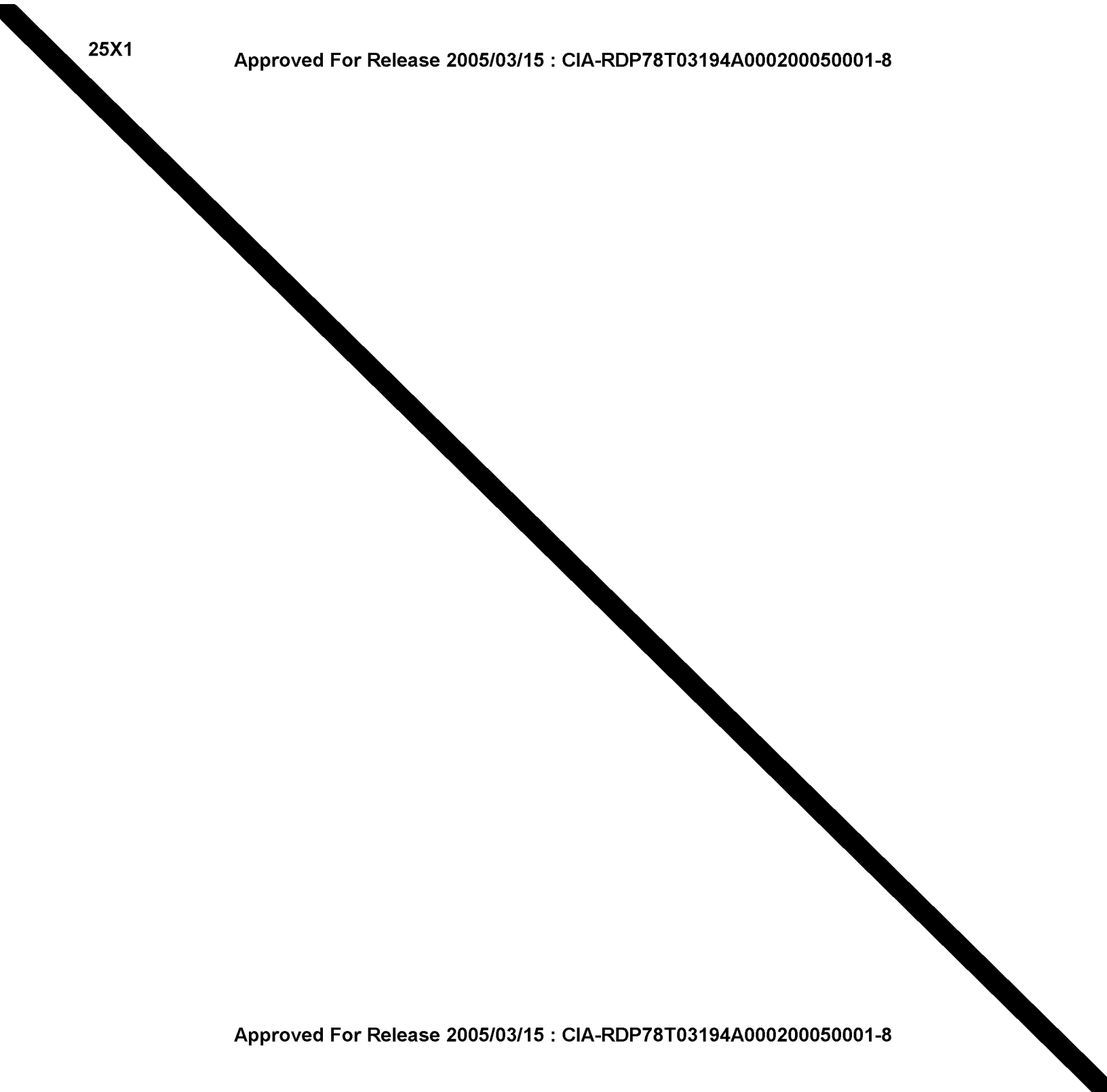

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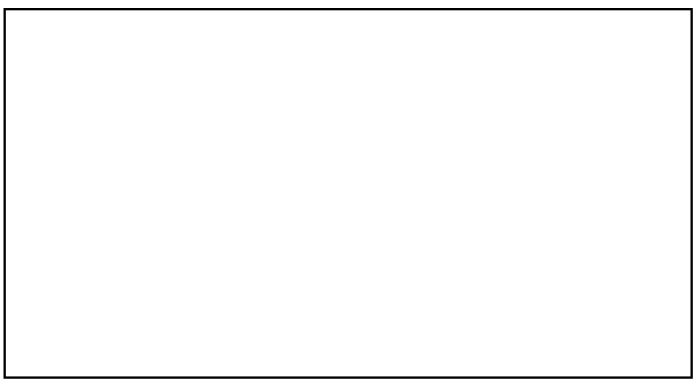

The needs of the President and his top advisers, and how these needs are met.

INTELLIGENCE FOR THE POLICY CHIEFS

James P. Hanrahan [1]

In this discussion of intelligence needs at the top national level and some specific ways in which they are filled, I shall be speaking from the perspective of CIA's Deputy Director for Intelligence. I will not attempt to speak for the other organizations of the Washington intelligence community or pretend to be presenting the whole picture.

First it will be useful to say who the people are that are served by what we call national, as opposed to departmental, intelligence. We start with the President, of course. But we must take into account certain members of his personal staff and in particular his special assistant handling national security affairs and *his* staff. Next come the heads of departments, in particular State and Defense, the military chiefs, and the heads of independent agencies dealing with foreign affairs. Then there are numerous interagency bodies established for the purpose of recommending policy; the Committee of Principals on disarmament is an example. And at the senior level are also the regional proconsuls, such as Ambassador Lodge in Vietnam and Ambassador Bunker in Santo Domingo, who have been delegated extraordinary authority.

But in the end the buck stops at the President's desk, and the advent of the nuclear age has greatly multiplied the number of things he must decide personally. He has almost become, in Richard Neustadt's words, "a decision machine." His decisions in international affairs are influenced by many people and institutions, but in particular by those just mentioned.

The requirements for intelligence at this national level are particularly fascinating because they are so kaleidoscopic. They change with the men, they change with the times, they change with the bureaucratic structure, they change with each policy decision. As a result, it is possible to generalize only most broadly on the needs of

[1] Adapted from a paper prepared for presentation at the Intelligence Methods Conference, London, September 1966.

the senior policy maker. He certainly must be provided, if possible, with what he thinks he needs to know. He sometimes should be provided with things the intelligence people think he should know. Often he must be given material which in the beginning neither he nor the intelligence officer realized would be needed—material generated by the interaction between the two as they work together.

Lines of Contact

The most direct way of finding out what the senior policy maker needs is to ask him. Fortunately, all DCIs have had regular direct access to the President and have not been reluctant to ask what he wants. Meetings in person or talks between the two by phone are more frequent than most people, including Washington political insiders, realize. Mr. McCone, for example, met every morning with President Johnson throughout the first weeks of his administration to deliver an early morning intelligence brief.

There is of course a limit on access to the President and the time he has available. But we are in frequent touch with the other senior policy makers, who not only know their own needs but have a pretty good idea of the President's. Then communication and rapport with the President's immediate staff are of great importance. These men close to him are in the best position to make his needs known. At present they usually do this by telephoning the Director or his Deputy for Intelligence.

We are constantly receiving requests for information and analysis from the White House staffers who handle national security affairs, and it is an advantage that some of our former officers have served or are serving on this staff. For example, when Mr. Komer received his special assignment to concentrate on South Vietnamese problems we asked him how, as a former member of the Office of National Estimates, he felt we could best meet his needs. He asked for a periodic summary of economic and pacification developments in South Vietnam, information that tends to get buried in the welter of military reporting, and we now have such a weekly publication tailored especially for him.

Moving from the White House to the Pentagon, the Agency has an intelligence officer serving in the office of Secretary McNamara. He is attuned to the Secretary's needs and levies many requirements on us for him. These supplement those that come directly from Mr. McNamara through his frequent meetings with the Director.

Over at State we have a new mechanism called the Senior Interdepartmental Group, chaired by the Under Secretary of State and comprising top representation from agencies concerned with foreign affairs, including the DCI. The SIG is responsible for insuring that foreign policy problems requiring interdepartmental attention receive systematic consideration. It stands at the apex of a series of Interdepartmental Regional Groups chaired by the Assistant Secretary of State for each region. Intelligence is represented on each of these groups, too. They thrash out new regional policy recommendations which then move on through the Senior Group to the Secretary. In essence, the new system attempts to apply in Washington the country-team approach of a large American embassy abroad. We expect these groups to become particularly important in the slower-moving policy problems; the big, Class-A flaps tend to bypass any set institutional framework, generating their own high-level task forces responsive directly to the President.

Outside the departments there are the several statutory or ad hoc committees with special tasks in the field of foreign affairs. Intelligence is represented on many of these bodies, for example on the Economic Defense Advisory Committee concerned with Western multilateral trade to Communist countries and on the Advisory Committee on Export Policy handling U.S. unilateral controls.[2]

Last but by no means least, to discover the needs of the policy maker there is always the "old boy" net: people we have known, gone to school with, worked with, played with, fought with, and whom we are now in contact with either on the policy level or in intelligence components. To take one good example, one of our representatives eight years ago at the first Intelligence Methods Conference, William P. Bundy, is now Assistant Secretary of State for Far Eastern Affairs. From these people, because they know us and we know them, we get a constant stream of suggestions as to the needs of the men above them, and we usually hear quickly when what we produce fails to meet those needs—so that we can try again.

Tailoring

How do the needs of the senior policy maker, these "national" requirements, differ from departmental requirements? To my mind they can be distinguished in two ways: first, if they involve more

[2] See Sherman R. Abrahamson's "Intelligence for Economic Defense" in *Studies* VIII 2, p. 33 ff.

than one department's interests and it is either difficult or plain impossible to separate out each department's responsibility; second, if they are so critical that the judgment of more than one department is desired. More simply, you might say that when any of the people or groups we have been talking about asks you something, you know it is a national requirement because they are all involved in the making of national policy. It is almost impossible today to identify a national policy matter that lies wholly within the sphere of one department.

What level of detail does the policy maker require? No clear-cut answer can be given. In the Cuban missile crisis one did not have to be clairvoyant to know the President was himself handling all the details of the naval quarantine and that he personally wanted to know the exact location of every Soviet merchant ship that might be bound for Cuba. We did not wait to be asked, we simply sent the information on as fast as we obtained it. At certain points in the Laotian crisis in the spring of 1961 also, it became obvious that, as Ambassador Winthrop Brown put it, the President was the "Laotian desk officer." And everyone knows how greedy for information an area desk can be.

There are some other maximums. Anytime the lives of a country's nationals, civilian or military, are endangered in foreign countries, the highest level wants to know about it quickly and in as much detail as possible. Communist kidnapings in Latin America, helicopter shootdowns in the Berlin area, or for that matter shootdowns anywhere—in all these cases the President wants to get the complete word. These days when he must spend a great deal of time with the Vietnamese war, we have found it wise to err on the side of giving too much in this field rather than too little.

Beyond these cases where it is obvious that you shoot the works, there are only rules of thumb. We have come, fortunately or no, a long way since the good old days of the one-page precis so favored by General Marshall. If we are specifically asked for something by a senior policy maker and no length is mentioned, we write as much as we think required to do the job, no more. Then we ask someone to review it and cut it in half for us. If this cannot be done—or even if it can—we put a summary up front.

If we have not been asked specifically but feel it desperately important to get something across to the senior policy maker, brevity is the overriding virtue. Conclusions and judgments are the nub; argumentation can come later. If his appetite is whetted, if he wants to know more, or if he violently disagrees, we expect to pick up some feedback somewhere along the line so that we can follow through with more detail as necessary.

It is here that the regularly scheduled publication, the daily or the weekly, comes into play. By and large we find that such publications prepared for senior policy makers should hit the high spots. It is not necessary for them to carry all the classified news that's fit to print. They should serve rather as an alert to any developments which might directly or indirectly affect the nation's security. In the course of preparing them every bit of information the intelligence officer can get his hands on is reviewed, but it is then put through a very fine screening. If the policy maker wants more on a given subject or if the intelligence officer thinks the policy maker needs more, a separate memorandum or paper is written.

Communication Hazards

There are always difficulties in maintaining contact with the policy maker. One difficult situation is when he is on the road—how to get to him in an emergency, how to keep up his continuity of information. We have partly solved this one through a system of briefing cables tailored specifically for the high-level traveler. They consist in the main of a synopsis from our daily publication supplemented by material in which the traveler may have a special interest because of the area he is visiting or the people he is meeting.

Sooner or later, a period seems to come when the demands on the time of the senior policy maker are so enormous as to preclude our getting through to him in any way at all. In these circumstances we can only wait for an opening and hope he may be able to take a quick look at our regularly scheduled intelligence publications. In these we note the things that he really should not miss even if he is spending 100% of his time on Vietnam or the Dominican Republic.

When Mr. Kennedy became President, he brought with him a deep interest in foreign affairs, a voracious appetite for reading, a retentive memory, and above all a different style of doing things. Our publications in January 1961 simply did not fit his needs. Our primary daily publication was the Central Intelligence Bulletin. It had been expressly asked for by President Truman. Then it was specially adapted to meet President Eisenhower's needs, and although we had tried to alter it further it did not suit President Kennedy's style and he did not read it.

We were thus without a daily link or any periodic link with which to carry out our critical alerting function. We bent every effort to restore contact. Finally we succeeded, adopting a new publication different in style, classification, format, and length but not different in fundamental concept—a medium whereby we present to the President in the tersest possible form what he should know about the play of the world for that day, particularly as it impinges on U.S. national security interests. This publication became the President's alone, leaving the Bulletin to serve readers at the next level down.

There remains one other basic problem of communication with the policy maker. That is that the desk-level intelligence analyst, the fellow at the heart of the process, is never going to have all the clues to what is making the high-level world go 'round. He does not sit in on the National Security Council sessions. The Director, who does, cannot for various reasons—the need-to-know principle, the sheer physical impossibility of spreading the correct word and feel down far enough—fully communicate it to the analyst. I submit, however, that the analyst is not thereby relieved of his responsibility to keep track of developments in national policy. The daily press and the favored columnists are excellent sources. If the President or the Secretary of State delivers a speech on foreign policy, it will be revealing and should be read. I suspect that the percentage of intelligence analysts who read such speeches is still far from 100%. You hear the argument that the less one knows about policy the more objective one's analysis is. But the counterargument that you cannot produce intelligence in a vacuum, cannot recognize threats to U.S. policy interests unless you know what those interests are, seems to me overriding.

From Need to Deed

So on the question of requirements for intelligence at the national level, we might summarize as follows: In large and complex governments, there are no simple ways to determine the full range of the policy maker's needs. They change as situations emerge, develop, and subside. Communication—free and easy contact in an atmosphere of confidence—is essential to the smooth working of the intelligence-policy relationship. Mechanisms can be established to speed the flow of intelligence up and requirements down, and these mechanisms are essential. But nothing is so valuable as an effective person-to-person relationship. In our country all policy authority and decision rest ultimately in one man. It is he that intelligence must serve.

Now we turn to how we go about filling the policy maker's needs, however expressed or divined. This is a discussion of technique, and form, and formula. Again let me stress that I am not saying, "This is the way to do it," but "This is the way we in CIA are doing it." We do it both by working in concert with other members of the intelligence community and by preparing unilateral reports.

The *scope* of the information we process is determined by the nature of the information that comes in and by the range of national security interests it impinges on. The *form* in which it is processed is determined by the requirements of the consumers, in particular the quite personal requirements and preferences of the President. From the beginning almost twenty years ago, the DCI has considered his role to be that of the President's number-one intelligence officer, responsible for seeing to it that the President is kept unexceptionably informed and directing the work of the entire intelligence community to that end.

In the Kennedy and Johnson administrations, the White House has generally preferred to deal with big problems by calling together the top policy makers, putting all the available information on the table, and then discussing possible courses of U.S. policy and action. This method of operating places a premium on rapid intelligence support. "Rapid" does not necessarily imply crash assessments, thoughts formulated on the run. It is more often a matter of reshaping or resynthesizing for the occasion the assessments we have already published in our regular production routine. I want to underscore the importance of a deep and stable base of day-to-day intelligence production. This is what enables us to respond quickly to big and little flaps, whatever the subject or area.

Regular Production

The routine production base includes three "national" intelligence publications representing the coordinated views of the intelligence community and dealing respectively with the past, present, and future. The past, so to speak, is represented by the National Intelligence Survey, an agreed-upon basic compendium of factual detail and historical development. The future is represented by the National Intelligence Estimate, containing the best thinking the community can put forward on a given problem for future U.S. policy. The present is represented by the Central Intelligence Bulletin, the daily which brings current developments to the attention of high-level readers in brief form.

The procedure for coordinating the evaluations made in the Bulletin among the agencies of the intelligence community may be of interest. Each day the items are drafted in the CIA Office of Current Intelligence, often with help from analysts in CIA's economic, scientific, and technical research components, and circulated to the community by secure communications channels. They are reviewed by the competent desks and branches within CIA, in the Defense Intelligence Agency, and in the Bureau of Intelligence and Research at the State Department, whose representatives then meet in the afternoon, bringing such changes, additions, or deletions as the desks may have suggested. An agreed version is hammered out, footnotes being used, as in national estimates, to register any sharp dissent. By six o'clock in the evening the draft Bulletin constitutes agreed national current intelligence. Before the publication reaches its readers at the opening of business the next morning, however, it has to be updated. We in CIA make the changes unilaterally, so marking them. The Bulletin's reporting on Vietnam, for example, will incorporate information received up to 4:30 in the morning; this is not an hour conducive to formal coordination.

Besides coordinating these community publications we produce others under the CIA imprint, some of which may also be coordinated with other agencies. A weekly world roundup reviews current reporting in a little deeper perspective, and one or two special annexes accompanying it usually treat some current problem in a fairly comprehensive way. Then there are regular publications for particular purposes, such as a daily Vietnam situation report, the weekly Vietnam report I mentioned, a weekly tailored to the needs and agenda of the new Senior Interdepartmental Group, and monthly compilations on shipping to North Vietnam and Cuba.

Special Publications

A problem common to these regular issuances is created by the conflicting demands of classification and dissemination. We want to serve as broadly as possible everyone in the government requiring intelligence information for the performance of his duties. On the other hand, we want to be able to publish information of the most restrictive classifications. We tightly limited the dissemination of the Central Intelligence Bulletin from its inception in order to make its content as comprehensive as possible. But new collection mechanisms with highly compartmentalized reporting systems now supply

information which cannot go even to all recipients of the Bulletin. There are valid reasons for the restrictions, but they make it impossible to serve the Director and the President adequately with normal publications.

We are therefore forced to create new and ever more tightly controlled special publications for these readers. They are prepared by a very small number of senior officers and go outside the Agency in only a very few copies. Their content is governed by the concept that there can be no piece of information so highly classified or so sensitive that it cannot be passed to the President. The main one is the President's Daily Brief. It generally follows the lines of the Bulletin, but it contains added material too sensitive for the wider audience and is written in a more spritely style, with less concern for citing the evidence underlying the judgments expressed.

Inevitably, some such publications become more widely known and get into such demand that their dissemination creeps up, no matter how hard we fight it. At this point, lest the added circulation destroy their purpose, we put sensitive information on a separate page included only in the copies of the prime recipients.

The trouble with regular publications, in addition to the classification problem, is that they tend to have fixed deadlines, format, and dissemination schedules and hence suffer in flexibility and timeliness. As a result, we have been turning increasingly to individual intelligence memoranda to meet many of our responsibilities. Then we can let the requirements of the particular case dictate the deadline, the format, and the distribution, as well as the classification.

For the CIA research components one of the most important developments in recent years has been a sharp increase in the servicing of policy makers with memoranda and longer reports devoted to particular policy issues. This reflects both a more sensitive appreciation on our part of precisely what kinds of intelligence are required and a growing awareness among policy officials that intelligence can be responsive and helpful on some of the more troublesome questions underlying their decisions. A few of the economic studies done recently in support of policy decisions have been on the effects of economic sanctions against South Africa, the logistic situation of the Communist forces in Vietnam, the effectiveness of U.S. bombing there, the consequences of certain proposed actions in the Zambia-Rhodesia

crisis, and the implications of change in U.S. economic policy toward the Communist world.

From scientific and technical research come, for example, special memoranda concerning foreign military research and development, especially in the USSR and Communist China, for consumers such as the President's Scientific Advisor and Advisory Board, the President's Foreign Intelligence Advisory Board, and the Director for Defense Research and Engineering in the Department of Defense. These officials have an important role in determining the direction U.S. military research and development must take to counter the Soviet and Chinese threat. They often require more detail than is presented in the standard National Intelligence Estimate, or they require very specific answers to equally specific technical questions. Such memoranda are often accompanied by a briefing.

The intelligence memorandum originally prepared in answer to a specific request from a senior policy maker also tends to generate additional, self-initiated memoranda either to update the first response or to insure that the recipient, in concentrating on a narrow aspect of a problem, doesn't overlook something else that is germane. Finally, in servicing such requests from the policy maker you build up over a period of time an intuitive sense of what he is going to ask, and you anticipate it.

The Operations Center

Another way we endeavor to insure that we are providing timely and useful intelligence support is to know what is going on with U.S. operational forces. We have found that our top customer regularly expects a full picture of any crisis situation, particularly where U.S. forces are involved or may become involved. To be able to marry the kinds of data wanted on U.S. operations with the customary intelligence on foreign activities and developments, the intelligence producers need regular inputs not only from the intelligence collectors but from the operators. We need immediate access to the operational people in National Military Command Center in the Pentagon. We need to know the directives State is about to send to embassies in crisis situations.

To deal with this problem, we have recently expanded our former Watch Office into an Operations Center. The Center continues to have the watch office function of filtering incoming information and alerting the proper people as necessary. Outside of normal office hours it is directed by an experienced generalist of senior rank. It has teleprinter service from the Foreign Broadcast Information Service and from the National Security Agency. It has secure teleprinter and voice communications with the White House, Pentagon, and State Department, and through these switchboards with American military and governmental outposts all over the world. The amount of information received and screened in the Center is now running in excess of a million items a year.

The Operations Center maintains up-to-date briefing information on critical situations and areas in a special situation room. When there is a major flap, a task force with representatives from all of the components involved can be pulled into the Center to operate there on a 24-hour basis if necessary. (At one period we had four task forces going—on Vietnam, the Dominican Republic, Indonesia, and Kashmir. I must say it got a little crowded in there.) During the Dominican crisis, the Director called for situation reports every hour on the hour, around the clock. To a certain degree Vietnam reporting now remains in the same category.

The point is, of course, that the policy makers have gone tactical in their concerns, and apparently this is the way it will be whenever the United States is engaged in a fast-moving potentially dangerous situation. At such times the President and his top cabinet officers become involved in day-by-day and hour-by-hour operational planning, down to the selection of targets and the deployment and commitment of troops. This is because of the world-wide political implications of tactical decisions today, and it is made possible by the capabilities of modern communications systems. The situation room in the White House is manned by seven of our experienced watch officers borrowed from the Operations Center, who are no longer completely unnerved to find the President peering over their shoulder at almost any hour.

Fund of Confidence

In summary, we might say that in a system to support the senior policy maker two ingredients are essential—a good production base and a readiness to adapt it as necessary. One must be alert to the changing needs of the policy maker, and be ready to meet them. Above all, there must be a pool of experienced intelligence officers, both generalists and specialists, with continuity in their jobs and ob-

jectivity in their outlook. Ted Sorensen wrote in *Decision-Making in the White House:*

> No President, of course, pays attention to all the information he receives, nor can he possibly remember it all. What he actually considers and retains may well be the key to what he decides, and these in turn may depend on his confidence in the source and on the manner in which the facts are presented. He is certain to regard some officials and periodicals with more respect than others. He is certain to find himself able to communicate more easily with some staff members than with others. He is certain to find that some reports or briefing books have a higher reliability than others.

We want the policy maker to be confident that in asking us for intelligence, he is getting as knowledgeable, pertinent, unbiased, and up-to-date a presentation as it is possible to provide.

Status and prospects in a command performance directed toward an integrated data system.

COMMUNITY PROGRESS IN INFORMATION HANDLING

Zane Thornton

Information handling methods occupy a pervasive position in the whole administrative framework of the U.S. intelligence community. . . . The systems problems of intelligence information access will continue to be of the most difficult type, heightening the importance of great improvements in the depth of understanding and of skills in tackling the wide variety of such problems which confront all levels of Government personnel concerned with access to the national intelligence base.

In these words addressed to the President on 15 June 1965, his Foreign Intelligence Advisory Board focused attention on a problem that has assumed alarming proportions in the past decade. The conspicuous proximate cause has been the information explosion created by new collection technology and increasingly massive use of that technology. But the volumetric burst has also been accompanied by a significant diversification in the types of data that must be digested and an increased need for interchange of information among intelligence agencies with overlapping responsibilities. During the same period the speed and power of the new weapons systems and the critical potential of each policy decision have generated requirements from outside the community, from national command authorities and policy makers, for rapid delivery of large quantities of data. These have perhaps put more strain on the community's information-handling systems than its internal requirements have.

Advances in the technology of information processing, which have great potential for curing this ill, have so far been applied in such a way as often only to increase distress. Automatic data processing is painfully superimposed on manual processing operations, a computer used to duplicate an existing system instead of to make possible a better system. In many applications the computer becomes little

more than a large, fast typewriter, its versatile capability almost unused. The analyst becomes skeptical of innovation, and the conflict between the manual and the "automated" system degrades both.

Presidential Spur

The community, though aware of its need for better information systems, has not been able to make satisfactory progress toward getting them, either community-wide or in individual agencies. The reasons for this are complex, but two deficiencies appear to stand out. One is the shortage of systems-oriented personnel skilled in information technology. Here intelligence must compete with the rest of the government and with industry for a talent whose supply is significantly less than the demand. The other is the lack of an adequate central mechanism for coordinating and managing the community's effort. The agencies have not even been able to reach agreement on what information systems are required, particularly those which cut across agency and functional lines.

In this situation the community needed an authoritative push from outside, and the PFIAB memorandum has sparked at least some preliminary coordinated study and experimentation. It contained three recommendations:

Recommendation No. 1. "That selected personnel among the departments and agencies making up the U.S. intelligence community be provided specialized training and advanced studies at a university center or centers where systems thinking and systems skills are understood and imparted, and which at the same time possess adequate background in conventional bibliography and other more classical approaches to literature and information management."

Recommendation No. 2. "That the Technical Information Processing System (TIPS) project, now under way within the National Security Agency, be expanded to include participation by other member agencies of the intelligence community in an experimental operating system constituting a first step toward interagency (and interbuilding) information handling. Since results should be sought from the experiment as promptly as feasible, the participation of other agencies should be achieved by September 1965; the capability for extensive handling of the Russian biography problem should be available in the community-wide system by the summer of 1966; and by the summer of 1967 it should be possible to exchange outputs from various mechanized sources in the fashion pioneered by the TIPS project."

Recommendation No. 3. "That there be established a Panel, under the joint sponsorship of the Special Assistant to the President for Science and Technology and the President's Foreign Intelligence Advisory Board, having responsibility for: (a) providing guidance to the intelligence community in forwarding of methods and facilities for information handling and access; (b) evaluating in technical terms the true meaning of the enormous and somewhat heterogeneous growth of the intelligence community's information pool."

The President approved all three recommendations and instructed the Director of Central Intelligence to carry out the first two. These were passed for action to the USIB Committee on Documentation, and CODIB established two ad hoc working groups to develop plans for the systems training program and the expanded TIPS experiment respectively. This paper reviews the conclusions of the two working groups and considers prospects for an integrated community information system.

It is emphasized that the plans herein described are only the product of preliminary work. The proposals for expanding TIPS have been approved by the USIB for implementation, but the indications are that the systems training plan will not be approved in present form. It is nevertheless worthy of notice for its conceptual approach to the problem.

Systems Training

The PFIAB, in recommending specialized training for community personnel in the information-handling field, suggested for the purpose "university centers" (such as the Library School of the University of Chicago) where both systems thinking and conventional library methods are understood and taught. The CODIB working group responsible for developing this recommendation read its spirit as a general call for action and did not view the specific suggestion as restrictive. Its proposal therefore goes beyond the scope of the literal recommendation and presents a broader solution to the systems training problem.

The working group recommended, in a report of 13 May 1966, the establishment of an Intelligence Systems Institute to develop the skills necessary for the building, operation, use, and management of

information systems. The Institute would be central to a comprehensive program of classroom instruction, laboratory work, field trips, individual student projects, on-the-job training, and courses in academic and commercial institutions. It would be wholly controlled by the intelligence community so that instruction in basic intelligence techniques and processes could be interwoven with the instruction in systems disciplines. Systems subjects would be taught in the context of the real-world community environment in which the information-handling systems must function.

There would be four different curricula for four kinds of trainees—builders, users, operators, and executives concerned with information systems. The builder is the one who analyzes the processing requirement and pertinent aspects of its environment, designs a system to meet the requirement, constructs the system, and subsequently modifies it in accordance with operational experience. The user is the customer, the researcher or analyst whom the system serves. Operators are those with the various skills required to run the system—indexers, microphotographers, machine operators, etc. The "executive" means any senior official whose responsibilities call for knowledge of the system.

The builder would be the principal target of the Institute, and his needs would be the chief determinant of the overall proposed program. He must master more disciplines than the user, operator, or executive to qualify as an effective member of the intelligence systems team. His course would be five months long, whereas the user's would last one month, the operator's two or four weeks, and the executive's one week.

All four types of course would have some elective and some required subjects, varying with the background, experience, and assignments of individuals. The builder's course would have five segments, as follows:

Basic Fields—mathematics and statistics.

EDP Technology—computing equipment, basic and advanced computer programming, data and storage structures, theory of formal mechanized languages and design of special programming languages, artificial intelligence, and electronic communication.

Document Reduction and Handling Technology—media, dimension considerations and standards, and automated delivery and read-out systems.

Systems Development Techniques—systems concept, system development cycle, requirements and feasibility study, analysis and design, implementation, performance evaluation, resources for development, and personnel roles in development.

Intelligence Information Systems—introduction to the intelligence community, intelligence data bases, intelligence analysis techniques and their susceptibility to automation, and intelligence and information processing systems and methods.

The courses for users, operators, and executives would be assembled from appropriate portions of the builder's course, augmented by special emphasis on problems unique to each.

The proposed Institute would not eliminate reliance on government, industry, and university training in aspects of information-handling systems. The facilities of the computer industry, for example, would still be used to train community personnel in the operation and maintenance of hardware, and systems management personnel would continue taking government or university management courses. We would still look to the universities for courses in mathematics, electronics, operations research, and other disciplines required in systems work.

The main function of the Institute would be to teach basic systems disciplines in the context of their application in the intelligence community. By carefully blending subject matter it would form a bridge between the theories of systems and their practical application to live intelligence processing problems. As an important by-product, it might foster interagency cooperation in the development of systems through the personal relationships established in its student body. Students from all agencies would graduate with a greater understanding of their counterparts' problems and a realization that unilateral action is not an adequate approach to most important community problems.

The working group recommended that the Institute be established as an independent activity having a full-time, professional director who would report to an interagency board. It would receive housekeeping and logistic support from a member agency designated by the USIB. The director would get technical advice and assistance from a group comprising representatives of CIA's Office of Training, the Defense Intelligence School, the National Cryptologic School, and other training organizations as appropriate.

As we hinted above, this concept of an Intelligence Systems Institute, however attractive, may be for the present an impractical one. The proposal raises questions like the following. Can a truly qualified information systems designer or analyst be produced in a five-month training course? Could the Institute attract and retain the caliber of systems educators needed to make it successful? Could it keep up with the high rate of change in the technology of information processing? Could it avoid conflicting with or duplicating other training programs? Is the Institute the most economical way to satisfy the community's systems training requirement?

It doesn't appear now that these questions can be answered in a way that would justify the early establishment of the Institute as proposed. The exercise of developing the proposal has nevertheless been useful. At least it will have focused community attention on the requirement for systems training, and in the process it may have moved us closer to a common understanding.

Experimental System: Design

The CODIB working group assigned the action on the PFIAB's second recommendation, for broadening NSA's TIPS into an interagency experiment, formulated the concept of a Community On-Line Intelligence System (COINS) and set forth the details of its plan in a report dated 25 May 1966. TIPS, on which it is based, is an experimental retrieval system rooted in NSA's Univac 490 remote-access system and designed to handle thirteen different formatted files containing approximately 38 million characters of information of interest only to the cryptologic community. The pilot version has as its main objective giving NSA technicians experience in developing and utilizing an on-line, near-real-time retrieval system. Follow-on development, already under way, may lead within three years to a third-generation system capable of handling approximately 500 million characters. The ultimate goal is establishment of a Sigint Command and Control Complex.

The COINS concept is not concerned with the purpose or content of TIPS but with its multiple-file, remote-access, and immediate-retrieval features. While not intended by any means to solve all interagency problems of information retrieval and exchange, the experimental system will give each participating agency a capability for remote interrogation of its own files and selected files of other participating agencies. It will operate on formatted files, as opposed to continuous text materials, but it may include formatted indices of continuous text materials, biographic dossiers, finished intelligence publications, microfilm or video images, and documents.

The COINS network will have four computer centers and one remote-enquiry station connected by communications lines and a store-and-forward switching computer operated by DIA. The equipment will be heterogeneous: NSA and NPIC will each use a Univac 494 computer system with KG-13/IIN-9 crypto devices and modulator-demodulators feeding through 2400-bit-per-second secure data links to the communications switch. CIA will use an IBM 360 Mod 50 computer system with the same crypto and terminal devices. DIA will use the IBM 1410 computer in its Intelligence Support and Indications Center and will also maintain an IBM 7740 as the communications switch for the network. State Department will use only a standard 100-word-per-minute teletype and KW-7 crypto devices to tie into the communications switch.

The selection of intelligence data to be made available in the network has been heavily influenced by PFIAB's specification of Russian biographics for the first experimentation. Following is a partial list of the data registers of various agencies to be used initially:

Soviet Personalities and Organizations
Soviet Scientific and Technical Personalities
Soviet Military Personalities
Soviet Airfields
Target Briefs
Air Order of Battle
Missile Order of Battle
Radar Order of Battle
Air Defense Order of Battle
Viet Nam Activities
Chinese Communist Location Dictionary
Chinese Communist Organizational Directory
Soviet Biographic Dossier Index
Soviet Elite Dossier
Soviet Elite Travel

In the initial phases, participants will be restricted to file-oriented interrogations, as opposed to query by subject matter. This device to relieve the urgency of some software development problems will require the using analyst to have a very thorough knowledge of the file he wants to interrogate. At a minimum, he must know its name, the names of its fields, and what data elements are in each field.

Participating agencies will thus have to exchange extensive file descriptions and give analysts training in them.

Significance of the Experiment

The real significance of COINS lies in the amount of coordinated developmental and technical work required to put the system into operation. All of the hardware must be assembled and connected through cryptographic, communications, and data terminal equipment to the central communications switch. The completed network must meet the technical criteria for handling transmissions to the Top Secret Special Intelligence level. But the hardware aspects, complex as they are, are the least of the problems.

Software development will be complicated because of the different kinds of hardware being used and the fact that there is no real commonality among the computer programs which the individual agencies already use to process their own files. The COINS software will have to compensate for both sets of dissimilarities. It will include a user's language to enable the analyst to query the system, an acceptor program analyzing incoming messages to determine whether the requester is authorized to interrogate a particular file and whether the file is currently available, translate programs to convert incoming interrogations into the right form for the computer in question, programs for store-and-forward switching, and programs to maintain chronological logs of activity at each terminal and at the communications switch.

Another series of problems turns on the files of intelligence data to be used. At least initially, a file can be accepted only if it is in machinable form, useful to an analyst, and offered by its owner for others' use. Preliminary indications are that the number of files satisfying these criteria will certainly not overload the experimental system in its early phases. Then when the files have been selected it is necessary to attempt standardizing the data elements and codes in them to make them usable without other costly conversion programs. Many difficulties and delays have been encountered in trying to establish general community-wide standards in this respect, and it may be necessary to set up special codes and standards just for the COINS experiment. Finally, there is the task of maintaining the files once they have been incorporated into COINS. So far only exploratory work is under way on this problem.

In any experiment, evaluation of the results is a crucial step. The nature of COINS will make a dual evaluation necessary—a technical critique to determine whether the network and its individual components have met specifications, and an operational review to find out how useful the system is to the analyst. The technical evaluation, in addition to appraising hardware and software performance, should judge the practicality, in the sense of economy and effectiveness, of an intelligence information-handling network made up of several dissimilar computer systems patched together with special software packages and conversion routines.

The operational evaluation will probably be more difficult to perform and will undoubtedly be more important in terms of impact on the community's future course. Although ultimately influenced by technical performance, it will focus directly on the user's appraisal of the system as a method for retrieving items from the national intelligence data base. The results of this evaluation will determine whether there should be a follow-on to the experiment and, if so, what character it should have.

COINS could be one of the most important experiments ever undertaken by the intelligence community. At its worst, it could prove that it is nonsense to talk about an integrated community whose members practice a policy of maximum exchange of information in the interests of producing the best possible national intelligence. At its best, it could help make the integrated community a reality, providing a base on which to build succeeding generations of information-handling systems to link and service that community.

The Third Recommendation

The PFIAB memorandum of 15 June 1965 is a paper of potentially even greater importance to the intelligence community than the concrete developments we have described suggest. Because the systems concept which the PFIAB has set loose in the community is (in its purest form) no respecter of arbitrary boundaries, parochial interests, preconceived solutions, or conventional wisdom, one cannot help wondering what its eventual impact will be. Will the memorandum turn out to have been a one-shot affair whose effects wore off after a minimal response to each of its recommendations? Or a thin-edge-of-the-wedge which ultimately engendered organizational and functional changes in the intelligence system?

The more specific question is this: will the community's information-handling mechanism toward which we are now taking a first step be a tightly-knit, unified system responsive to a single authority or a loose confederation of several semiautonomous systems each responsive to a different master? The PFIAB intent is ambiguous in this respect; the experiment the Board called for in Recommendation No. 2 can be viewed as one merely for developing information exchange techniques rather than the preliminary foundation of a large, truly integrated system. Perhaps such ambiguity is inevitable at this stage.

The general USIB philosophy of joint operation by consensus has precluded the establishment of a central body with the authority to set community-wide information system goals and direct their accomplishment. CODIB, viewed as a forum for the exchange of ideas and information to assist individual agencies in developing separate systems and then to encourage improved communication among these as steps in the evolution of community networks, is a useful instrument, reflecting the often assiduous part-time efforts of its members and the good will of their parent agencies. But from the viewpoint of the systems engineer, who wants early agreed decisions and vigorous follow-through in order to build effectively, economically, and in time to meet the problem, the Committee has wholly inadequate resources and authority. It must labor for months or even years to achieve only a partial solution to well-defined difficulties which all members agree should be solved by joint action. On ill-defined matters characterized by divided opinion and vested interest, progress often approximates zero.

In these circumstances the most important of the PFIAB recommendations, in this writer's opinion, may be the third, for a mechanism providing guidance and direction to the community's information-handling systems. If the Guidance and Evaluation Panel established in response to this recommendation is vigorous and competent in its probing of the community's present capabilities and future needs, and if it can see to it that its recommendations are acted on, then it may become the nucleus of a central body that will give sense and purpose to the community's development of information systems. If entrenched departmental prerogatives make a voluntary joint solution of community-wide information-handling problems too slow and inefficient, there may be no alternative but to impose the solution from outside through such an instrument of the President's Board.

The PFIAB has identified a planning and management gap in the intelligence community. It has left sufficient latitude for the community to fill that gap by voluntary joint action if it can. At the same time, it has laid a possible foundation for bridging the void externally if necessary.

A positive but undeluded view of ADP for intelligence reference services.

AUTOMATION FOR INFORMATION CONTROL

Paul A. Borel [1]

Last July the *Saturday Review*, in a special issue on the automation revolution, equated the computer with the atomic bomb as a technological development formidable enough to make a turning point in human history. Some months earlier a *Newsweek* report entitled "Good-by to Gutenberg" gave readers a glimpse of other things to come in the field of information technology: a photosensitive crystal the size of a sugar lump that is capable of containing images of 100,000 pages; a lensless photographic system which could lead to three-dimensional home television; a no-contact, no-pressure printing technique that can write on sand, print a message on a pizza, or put a trademark on a raw egg yolk. Marshall McLuhan, in *Understanding Media—the Extensions of Man*, predicts that books and newspapers will in time no longer exist, that publishing will give way to an active servicing of the human mind through research packages done to suit individual needs.

Spume and Substance

Over the last 20 years we have learned not to depend on such extravagant promises to get us out of our practical difficulties. I do not doubt that amazing developments will continue to take place. I do doubt that we can count on them for early and revolutionary solutions to our data-handling problems. The problems created by the exploding mass of intelligence information have a habit of staying well in front of innovations.

In CIA we are currently upgrading our computer facilities with third-generation hardware, infinitely superior to our initial gear. Yet the contribution of the computer to the task of producing intelligence

[1] Adapted from Section IV and Appendix C of the author's presentation to the London Intelligence Methods Conference, September 1966. The full paper, *Controlling Intelligence Information*, 51 pp., covers trends in information, their impact upon intelligence, and the controls used, including the use and promise of advanced information processing systems.

is still both specialized and very limited. We have secure telephone communications; but these are far from ideal, with few instruments and high costs. Great strides have been made in our printing establishment. Still, the lapse between preparation of copy and its availability to the reader can be measured in weeks rather than days for non-priority items. Reproduction techniques have shown major gains. But material received in such poor quality that it cannot be microfilmed runs in some categories as high as 20%. We have improved our means of instructing reporters. Yet 50% of the titles in some report series have to be rewritten to reflect the content properly.

This experience gives ground for caution against any wholesale abandonment of the workable (if less than satisfactory) old in favor of the glamorous but untried new. Nevertheless, this is a time of important new developments in practical means for information handling, and intelligence should pay more attention to what is going on in this field outside. As never before, we have opportunities to capitalize on the work and ingenuity of others to relieve some of our own problems. Much of the work done outside is solid and relevant. We ought to use it, pick-a-back, whenever we can.

Active State of the Art

Let me mention a few such outside developmental activities touching the library science field. Two programs are being carried out in the academic community at large. One, named Intrex, for "information transfer experiments," has been called a step toward a dial-a-thought world. It is setting up an experimental laboratory to test ways of giving professors and students instant access to information. Xerography, film projection, and telephone communication between computer and user are planned. Basically, the experiments will attempt, first, to automate and rationalize the functions of libraries and, second, to develop a computer-based information transfer network. Another program, under an organization called Educom, the Interuniversity Communications Council representing over 30 universities in 20 states, is evaluating the significance for higher education generally of electronic hardware (computers, light pens, graphic displays), and software (computer programs).

A number of individual university libraries have forward-looking programs, Washington State and Florida Atlantic to name only two. The latter has the distinction of being the first in the United States to have introduced data-processing methods and techniques into its operations at its very beginning. Washington State, on the other hand, is converting from traditional library methods to a totally on-line system which offers multiple remote access to a single library record. Sharing the time of the university computer (an IBM 360/67), it will be able to reduce typing substantially, eliminate duplicate manual files, and give complete control of each item's location and status in the library.

The value of these projects to us is that they are comparable in size to those which intelligence libraries may undertake. While much valuable information has been published about ways to automate the Library of Congress, the sheer size of its holdings makes many of the parameters of that undertaking inapplicable for us.

The publications of professional engineers, documentation specialists, and experts in various aspects of the information-handling industry are also increasingly solid and relevant. Some particularly useful books and articles are listed in the bibliography. These make evident my point that outside the intelligence community there is much wisdom and talent which we have neither tapped sufficiently nor used effectively because we are ill organized to do so.

CIA Applications

Certainly CIA has had in the past no organization worthy of the name to identify this outside work and relate it to our own improvement programs. This gap has now been filled with the organization of our Intelligence Sciences Laboratory, which is acquiring its own computer and associated equipment to provide an experimental environment closely approximating actual operations. Illustrative of its prospective areas of activity are on-line analytic processing, pattern recognition, language and text processing, and speech and audio manipulation. We will thus better bridge the work done outside and our own EDP-related operations.

While CIA pioneered much automatic information processing with its punched-card equipment, our experience with general-purpose computer operations is short of six years. In those years we have very considerably expanded our use of these machines. We now have a major computer center providing counterintelligence and operational support, another serving intelligence production, and a third devoted to imagery analysis. In the last three years we have reached the point where we see computer applications in almost every element of the intelligence cycle, from the management of collection requirements to the printing of finished intelligence.

Some of these applications are initiated by the analyst charged with intelligence production. Where the task data is numeric (like military-economic costing or agricultural production and soil moisture statistics) or in simple standard format and the data preparation is done by the EDP staffs, such applications, especially in the economic area, have given high-yield products which require no great investment of effort from the analyst. A wide range of other applications of this type remain to be tried, including computer control of Soviet scientific and technical literature. Work of this kind, involving primarily collaboration between an analyst and an applications expert from our central computer facility, can be characterized as special projects.

A much more ambitious application is our current attempt to change fundamentally the present method of doing business in the Agency's Office of Central Reference—our Project Chive. In one degree or another this general project will change the way hundreds of analysts are now working.

The Chive Project

The need for Chive arose from developments over the past nearly 20 years, during which we evolved a number of special reference services to support the production analyst. The multiplicity of classifications, of indexing tools used for control, and of formats employed in collection, dissemination, storage, and retrieval made it increasingly difficult to meet customer needs. The problem of heterogeneity was compounded by the increase in volume of data received and, with the passage of time, the volume in file. Moreover, the intelligence production expected of the analyst today is characterized by greater sophistication and shorter deadlines. Project Chive is designed to help him meet that challenge.

There are many unique features of the Chive approach. The project team is an integrated group drawn from production, reference, and computer components of the Agency, and it includes contract personnel as well. Experienced operators of our information systems have been given training in advanced techniques and placed in charge. The prospective user of the system is drawn in as active participant. A single important geographic area, China, has been selected for first application of the system, and even here it will be conducted as a pilot operation in parallel with the old system to permit experimentation before it carries the whole load.

From the user's point of view, the system should provide a number of advantages, most immediately:

- *All-source retrieval* from a file system covering every type of printed document, including maps and photos, at whatever classification level.
- *Single-point retrieval service* organized by geographic area, as opposed to the old multiplicity of indices and registers.
- *Literature searches* that turn up all books, documents, reports, etc., that bear on a subject in question.
- *Information searches* that turn up facts in answer to specific questions, facts concerning foreign personalities, organizations, installations, and activities.
- *Counts*, whether of Algerian students in the USSR, public appearances of the Chinese leaders, or CIA intelligence reports on Haiti, and the trend of changes in such counts.
- *Detection of redundancies and inconsistencies* in the system store.

Less matter-of-course but not at all visionary are services like the following:

- *Automatic inference-making*—manipulating the wide variety of stored facts about people, institutions, and activities to produce new hypotheses about their character and connections. The variety of problems to which such a capability might be applied would depend on the ingenuity of the intelligence analyst.
- *Machine-assisted language translation*, both machine translation of Russian documents and machine conversion of oral translations from other languages into printed documents in English.
- *Analyst referral service* from a central directory or "profile" of human sources with expert knowledge in special subjects.
- *Remote querying* which will enable users to interrogate and maintain from their own offices special-purpose files in the central system.

Half a Loaf

We see the development of this improved system as extending over ten years and many difficulties. Only because computer technology, capability, and capacity are what they are today and will be tomorrow do we dare count upon the success of the project.

Even so, there are risks. In this costly field you try to reduce the risks, but after you have done all you can they are still considerable.

We recently had a series of meetings with Dick Brandon of Brandon Applied Systems during which he reviewed with us the experience of others in using computers. He said that of 16,000 installations equipped with 27,000 systems in the United States today, 40% are unsuccessful in the use of their computers. This means that 6,500 organizations are not deriving economic benefit from them or are not achieving their objectives. In 90% of these cases, schedules and budgets have been exceeded. The main reason for this, in Mr. Brandon's view, is that the people using the machines are 'way behind the technology. They are not capable of utilizing the machines' capability.

My own rule of thumb in the application of machines to nonnumeric problems is this: expect half as much in twice the time at twice the cost. If you get it you can count yourself lucky.

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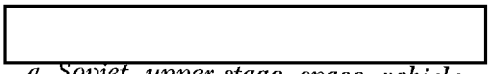

a Soviet upper-stage space vehicle.

THE KIDNAPING OF THE LUNIK

Sydney Wesley Finer

A number of years ago the Soviet Union toured several countries with an exhibition of its industrial and economic achievements. There were the standard displays of industrial machinery, soft goods, and models of power stations and nuclear equipment. Of greater interest were apparent models of the Sputnik and Lunik space vehicles. U.S. intelligence twice gained extended access to the Lunik, the second time by borrowing it overnight and returning it before the Soviets missed it. This is the story of the borrowing, which required the efforts of many people and close cooperation between covert and overt intelligence components.

On View Abroad

The Soviets had carefully prepared for this exhibition tour; most of the display material was shipped to each stop well in advance. But as their technicians were busily assembling the various items in one exhibition hall they received a call informing them that another crate had arrived. They apparently had not expected this item and had no idea what it was, because the first truck they dispatched was too small to handle the crate and they had to send a second.

The late shipment turned out to be the last-stage Lunik space vehicle, lying on its side in a cabin-like crate approximately 20 feet long and 11 feet wide with a roof about 14 feet high at the peak. It was unpacked and placed on a pedestal. It had been freshly painted, and three inspection windows cut in the nose section permitted a view of the payload instrument package with its antenna. It was presumably a mock-up made especially for the exhibition; the Soviets would not be so foolish as to expose a real production item of such advanced equipment to the prying eyes of imperialist intelligence.

Or would they? A number of analysts in the U.S. community suspected that they might, and an operation was laid on to find out. After the exhibition closed at this location, a group of intelligence officers had unrestricted access to the Lunik for some 24 hours. They

found that it was indeed a production item from which the engine and most electrical and electronic components had been removed. They examined it thoroughly from the viewpoint of probable performance, taking measurements, determining its structural characteristics and wiring format, estimating engine size, and so forth.[1]

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[redacted] A few [redacted] had been copied from the Lunik during this operation, but not with sufficient detail or precision to permit a definitive identification of the producer or determination of the [redacted] system used. It was therefore decided to try to get another access for a factory [redacted] team.

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[1] For the ultimate contribution of this information and a sketch of the Lunik see "Intelligence for the Space Race," by Albert D. Wheelon and Sidney N. Graybeal, in *Studies* V 4, p. 1 ff, in particular pp. 9-11.

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[redacted]

Plans and Problems

As the exhibition moved from one city to another, an intercepted shipping manifest showed an item called "models of astronomic apparatus" whose dimensions were approximately those of the Lunik crate. This information was sent to the CIA Station nearest the destination with a request to try to arrange secure access if the Lunik should appear. On the basis of our experience at trade fairs and other exhibitions, we in factory markings preferred access before the opening of an exhibition to the alternatives of examining it while in the exhibition hall or after it had left the grounds for another destination.

Soon the Lunik crate did arrive and was taken to the exhibition grounds. The physical situation at the grounds, however, ruled out access to it prior to the show's opening. Then during the show the Soviets provided their own 24-hour guard for the displays, so there was no possibility of making a surreptitious night visit. This left only one chance: to get to it at some point after it left the exhibition grounds.

In the meantime our four-man team of specialists from the Joint Factory Markings Center had arrived. We brought along our specialized photographic gear and basic tools. We each went out and bought a complete set of local clothes, everything from the skin out. We held a series of meetings with Station personnel over the course of a week, mutually defining capabilities and requirements, laying plans for access and escape, and determining what additional equipment we would need. The Station photographed the Lunik crate repeatedly so we would get a better idea of its construction. The photographs showed that the sides and ends were bolted together from within, the only way to get inside was through the roof. We therefore bought more tools and equipment—ladders, ropes, a nail puller, drop lights, flashlights, extension cords, a pinch bar, a set of metric wrenches, screwdrivers, hammers.

After the exhibition the displays would be carried by truck from the exhibition grounds to a railroad station and loaded onto freight cars for their next destination. For the interception we had to choose between the truck run and the rail haul. The initial preference was for the latter; it seemed the freight car carrying the Lunik might most easily be shunted onto a siding (preferably into a warehouse) for a night and resume its journey the next morning. A detailed check of our assets on the rail line, however, showed no good capability for

doing this. Careful examination of the truckage to the station, on the other hand, revealed a possibility.

Lunik on Loan

As the exhibition materials were crated and trucked to the rail yard, a Soviet checker stationed at the yard took note of each item when it arrived. He had no communications back to his colleagues at the fair grounds, however. It was arranged to make the Lunik the last truckload of the day to leave the grounds. When it left it was preceded by a Station car and followed by another; their job was to determine whether the Soviets were escorting it to the rail yard. When it was clear that there were no Soviets around, the truck was stopped at the last possible turn-off, a canvas was thrown over the crate, and a new driver took over. The original driver was escorted to a hotel room and kept there for the night.

The truck was quickly driven to a salvage yard which had been rented for the purpose. This yard was open to the sky but had a 10-foot solid wood fence around it. With some difficulty the truck was backed in from a narrow alley and the gates closed; they just cleared the front bumper. The entire vicinity was patrolled by Station cars with two-way radios maintaining contact with the yard and the Station.

Action was suspended for half an hour. Everything remained quiet in the area, and there was no indication that the Soviets suspected anything amiss. The Soviet stationed at the rail yard waited for a short time to see whether any more truckloads were coming, then packed up his papers and went to supper. After eating he proceeded to his hotel room, where he was kept under surveillance all night.

The markings team, in local clothes and without any identification, were cruising in a car some distance from the salvage yard. We were now given the all-clear to proceed to the yard and start work. We arrived about 7:30 p.m. and were let in by a two-man watch-and-communications team from the Station. They had put all our equipment and tools in the yard, and food and drink for the night.

Our first task was to remove enough of the crate's roof to get in. It was made of 2-inch tongue-and-groove planks nailed down with 5-inch spikes. Two members of the team went to work on these, perspiring and panting in the humid air. The effort not to leave traces of our forced entry was made easier by the fact that the planks had been removed and put back several times before and so were already battered.

While this was going on there was a rather unnerving incident. When we had arrived at the salvage yard it was dark; the only lights were in the salvage company's office. Now, with two men on top of the crate prying up planks, street lamps suddenly came on, flooding the place with light. We had a few anxious moments until we learned this was not an ambush but the normal lamp-lighting scheduled for this hour.

Photographers at Work

The other two of us were meanwhile assembling the photographic gear and rigging up the drop lights with extension cords. We had ladders up at each end of the crate, and when the planks were off we dropped another ladder inside each end. The Lunik in its cradle was almost touching the sides of the crate, so we couldn't walk from one end to the other inside.

Half the team now climbed into the front—nose—end with one set of photographic equipment and a drop light. They pulled the canvas back over the opening to keep the flash of the strobe units from attracting attention. They removed one of the inspection windows in the nose section, took off their shoes so as to leave no telltale scars on the metal surface, and squeezed inside. The payload orb was held in a central basket, with its main antenna probe extended more than half way to the tip of the cone. They filled one roll of film with close-ups of markings on it and sent this out via one of the patrolling cars for processing, to be sure that the camera was working properly and the results were satisfactory. The word soon came back that the negatives were fine, and they continued their work.

We on the other half of the team had tackled the tail section. Our first job was to gain access to the engine compartment by removing the Lunik's large base cap; this was attached to its flange by some 130 square-headed bolts. We removed these with a metric wrench and by using a rope sling moved the heavy cap off to one side.

Inside the compartment the engine had been removed, but its mounting brackets, as well as the fuel and oxidizer tanks, were still in place. At the front end of the compartment, protruding through the center of a baffle plate that separated the nose section from the engine, was the end of a rod which held the payload orb in place. A four-way electrical outlet acting as a nut screwed onto the end of this rod was keyed by a wire whose ends were encased in a plastic seal bearing a Soviet stamp. The only way to free the orb so as to

let the nose team into the basket in which it rested was to cut this wire and unscrew the outlet.

We checked with Station personnel and were assured they could duplicate the plastic, stamp, and wire. So we decided to go ahead and look for markings in the basket area. We cut the wire and passed it to one of the patrolling cars. The pair in the nose section photographed or hand-copied all [redacted] in the basket area while we did those in the engine compartment. The Soviets, in removing all electrical connections and gear, had overlooked two couplings in the basket; these we took back to headquarters for detailed analysis. Before we had finished, the new seal—wire, plastic, and stamp—was delivered to the yard.

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Returned in Good Condition

The exploitation of the Lunik was now complete; all that remained was to put things back together and close up the crate. The first job, re-securing the orb in its basket, proved to be the most ticklish and time-consuming part of the whole night's work. The baffle plate between the nose and engine compartments prevented visual guidance of the rod into position, and the rod was just long enough to screw the outlet on beyond the baffle plate. We spent almost an hour on this, one man in the cramped nose section trying to get the orb into precisely the right position and one in the engine compartment trying to engage the threads on the end of a rod he couldn't see. After a number of futile attempts and many anxious moments, the connection was finally made, and we all sighed with relief.

The wire was wrapped around the outlet and its ends secured in the plastic. The nose and engine compartments were double-checked to make sure no telltale materials such as matches, pencils, or scraps of paper had been left inside. The inspection window was replaced in the nose section, and with some difficulty the base cap was bolted into position. After checking the inside of the crate for evidence of our tampering, we climbed out. The ladders were pulled up, the roof planks nailed into place, and the canvas spread back over. We packed our equipment and were picked up by one of the cars at 4:00 a.m.

At 5:00 a.m. a driver came and moved the truck from the salvage yard to a prearranged point. Here the canvas cover was removed, and the original driver took over and drove to the rail yard. The Soviet who had been checking items as they arrived the previous day came to the yard at 7:00 a.m. and found the truck with the Lunik awaiting

him. He showed no surprise, checked the crate in, and watched it loaded onto a flatcar. In due course the train left. To this day there has been no indication the Soviets ever discovered that the Lunik was borrowed for a night.

The results of analysis on the data thus collected were published in a [redacted] Center Brief.[3] They included probable identification of the producer of this Lunik stage, the fact that it was the fifth one produced, identification of three electrical producers who supplied components, and revelation of the system [redacted] that was used here and conceivably for other Soviet space hardware. But perhaps more important in the long term than these positive intelligence results was the experience and example of fine cooperation on a job between covert operators and essentially overt collectors.

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[3] MCB No. 60-1, *Analysis of* [redacted] *on the Last Stage of the Soviet "Lunik" Space Vehicle,* SECRET NOFORN [redacted]

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Reconnaissance techniques developed for use against the Viet Cong's hidden bases may be of historic significance.

A NEW KIND OF AIR TARGETING

William A. Tidwell

Military events that form historical watersheds are not always as clearly discernible as the battle of Waterloo or the invasion of Normandy. For this reason it might be of service to later historians for us to venture an indiscretion and register at this point the possibility that the 13th of November 1964 marked the beginning of the decline of "wars of national liberation." On that date ten A-1H fighter-bombers belonging to the Vietnamese Air Force successfully attacked a small Viet Cong base hidden away in the forest a few miles west of Saigon. This was the first attack launched against a guerrilla base area in South Vietnam with the aid of newly developed targeting techniques which have subsequently been used with increasing effect to harass the Viet Cong in territory they previously occupied unmolested.

The Strategic Base

The Communist theory of guerrilla strategy developed by Mao Tse Tung, General Giap, and others features progressive phases pivoting on the use of secure bases. At first, small guerrilla forces base themselves in remote areas where terrain, vegetation, and the lack of communications make it difficult for conventional military forces to attack them. These base areas become sanctuaries from which the guerrillas extend their operations into more populated areas and in which, as they win support among the population, they store supplies and train new recruits. As their force increases and establishes reliable sources of weapons and ammunition, some of the guerrilla troops are developed into small regular military units with professional training.

If the guerrilla campaign continues successfully, the small regular units are gradually pulled together to form larger ones. These regular formations may be sent out from time to time to engage in combat, both for training purposes and to complement the guerrillas' harassment campaign, but in general great care is exercised to avoid committing

them in circumstances that might result in their destruction. The program of guerrilla action and concurrent accretion of regular units continues until a regular military establishment has been created of sufficient strength to emerge from the base areas and destroy the government forces.

This is the strategy the Communists have followed in South Vietnam, beginning originally with a small number of guerrillas held over from the days of the war against the French. The Viet Cong established themselves in several large remote areas, including the notorious War Zones C and D and the Do Xa region. The original force was expanded rapidly, supplied with captured materiel, and established in a large number of additional base areas of varying size. Technicians and training officers, entering from North Vietnam by sea or through the jungles of Laos, began to organize the regular "main force" Viet Cong units. In at first company and later battalion strength, these units emerged from time to time to pull off an ambush, attack a hamlet, or overrun some small government post. Such operations, usually rehearsed in great detail, provided excellent training for the troops at small risk. Later, as more regular troops were organized, military operations began to involve several battalions and fairly sophisticated staff coordination.

These main force attacks added to the disrupting effect of the guerrilla campaign. Since it was often not clear whether the attackers were guerrilla or regular forces, the effect was to increase the reputation of the guerrillas and to contribute to the belief that they would ultimately be victorious. This belief was reinforced by the earlier Chinese and North Vietnamese successes gained by similar means. In the most recent phase, of course, the Viet Cong regulars have been backed up by units of the North Vietnamese army infiltrated into similar secure base areas.

There are two glaring weaknesses in the Communist strategy, however. The first is that regular units fighting against conventional forces require crew-served weapons and consume tremendous quantities of ammunition while in combat. This means that no matter how Spartan the regular force may be in other respects, it must have a dependable source for a reasonably homogeneous family of weapons, and it must have the ammunition on hand or in a well-organized pipeline to support such combat expenditures. The second is that both guerrilla troops and the main force regulars require freedom from attack in their base areas. The recruiting, organizing, and training of troops cannot be satisfactorily carried on under constant harassment.

For the Viet Cong, the need for a sanctuary is compounded by his dependence upon his own food production. A large proportion of the time of both guerrilla and main force units is devoted to growing or collecting food. This preoccupation commits them to a particular geographic location for an extended period of time. If they are forced to move, they run the risk of losing the food in which they have already invested a considerable effort and which they must have to support their future operations.

Achilles' Heel Uncovered

These considerations led General Westmoreland in mid-1964 to order the development of a campaign of harassment directed against the Viet Cong base areas. This was easier said than done, for the Viet Cong, aware of the importance of their bases, had gone to great lengths to conceal and camouflage their activities in them. Every new military problem, however, has its solution. Just as the British learned to counter the German submarines in World War I and the U.S. cavalry learned to fight the Plains Indians in the 1870s, so it was necessary to solve this one. The solution that seems to be working was reached by combining established intelligence techniques with new methods of reconnaissance to pinpoint the location of enemy activity.

The general principle of the new method was to take the conventional black-and-white photography that provides basic coverage of an area and use it as a matrix on which to plot information from other sources suggesting the presence at a particular point of a Viet Cong unit, camp, or base that could be attacked. The main other sources were airborne radio direction finding, infrared reconnaissance, reports of aircraft hit by enemy ground fire, and reports of visual contact with Viet Cong elements. The location of the Viet Cong activity reported by such sources would be identified in the photography, which would then be reinterpreted to find the point at which an air or artillery attack would be most likely to be effective.

The method thus depended on having in hand recent high-quality photographic coverage of all areas where there might be enemy activity. Then when visual reconnaissance, say, reported probable activity at a particular location, the photo interpreter would immediately restudy the most recent coverage of that area to see if he could find new meaning in the images at that point. Even without a positive report of this kind he could compare current ad hoc recon-

naissance photography with the most recent basic coverage of the same area to see if changes in terrain, vegetation, cultural features, etc., might betray the Viet Cong at work.

Taking advantage of more sophisticated techniques, the location given by radio direction finding for an enemy transmitter would be plotted on the most recent area coverage to help the image interpreter spot signs of the unit served by the radio. Similarly, the results of infrared reconnaissance were plotted on the basic coverage so that the interpreter could discount the infrared returns for which a peaceful explanation was evident in the photography, eliminate false returns, and identify those returns which might indicate current enemy activity. In order to minimize the possibility that a target so located might move away before it could be struck, it was arranged that infrared missions would be flown in the early evening; then overnight the results were compared with existing photography, possible targets identified, and target mosaics prepared and annotated in time to use for an air strike at daylight the following morning.

The results of reconnaissance by side-looking radar, particularly the returns from a Moving Target Indicator, could likewise be plotted on the basic photography to suggest new meanings to the image interpreter. And the basic coverage was also used as a locational background for collateral information from clandestine agents, prisoner interrogation, and other human sources in order to assist the interpreter in finding signs of the enemy.

In theory it would be possible for the image interpreter to detect such probable targets, in spite of camouflage and concealment, by thoroughly scanning all area photography immediately as received. In practice, however, the volume is far in excess of what the available number of trained image interpreters could effectively handle. Superior results were obtained when other information indicating current enemy activity was used to lead the interpreter to the particular part of the photography that required intensive analysis.

Key to Victory?

This new method of selecting targets bore first fruit on 13 November 1964, and during the following months it was tried on other occasions. It proved, while not infallible, to be a great advance over the usual procedure. It came to command sufficient confidence to justify a radical expansion in the quantity of aircraft used against the Viet Cong areas. Beginning in February 1965 large numbers of U.S. aircraft were committed to augment the limited resources of the

Vietnamese Air Force. Many base areas were attacked for the first time since the beginning of the insurrection. In June 1965 the campaign was again stepped up by the use of B-52 bombers, whose heavy capability for pattern bombing is ideal against targets scattered in the jungle. With the introduction of U.S. ground forces it was also possible to increase harassment by conducting large-scale sweeps through base areas detected by these means.

As with most strategic harassment campaigns, the effects of this program are cumulative. For a while even the Viet Cong appeared unaware that something new and different was happening to them. As time went by, however, it became more and more evident that significant results were being achieved. First, Viet Cong prisoners began to confess that they had been afraid of air attack. Then they began to tell of food shortages. The number of prisoners and of defectors began to reflect the increased pressure.

In most cases it is not possible to make a ground check of the air strike results immediately because the targets are in remote areas. Often, however, stories eventually filter out through the grapevine giving the numbers of Viet Cong killed at such-and-such a place on such-and-such a date. These stories not only provide useful information concerning the effects of the campaign but also tarnish belief in the Viet Cong's ultimate victory and so increase the difficulty it has in getting support from the populace.

This strategic campaign against the Viet Cong, if it continues successful, could be in the process of completely disrupting the base system they have developed over the past six years. If this is what happens, small groups of guerrillas could probably continue to operate, but it should in the long run be impossible to keep the main force regulars intact. Thus the logical progression from guerrilla unit to regular army envisaged in the doctrine would be cut off, and what remains of the insurgency should be manageable. Such a success would shatter the myth of infallibility that invests the Mao technique and demonstrate its fatal flaw, showing that guerrilla forces cannot count on the sanctuary of invulnerable base areas.

The actual effect to date of the harassment campaign directed against the Viet Cong has been obscured by the introduction of regular North Vietnamese troops and by the continued accretion of independent Viet Cong companies and platoons to form new main force battalions. Both of these actions make the enemy ground forces appear stronger in the short term in spite of the disruption of the bases. What the net effect will be is not clear, but it is possible that both

of these actions may in the long run hasten the effects of the harassment. Both actions introduce new units designed for major combat which must be supported by the base system. In other words they increase the demands on the bases at the very time that the bases themselves are being reduced in capability.

While it would thus be premature for us to say that the new reconnaissance techniques have led to a turning-point in history, it may not be too bold of us to record the possibility for future examination.

Denouement of a deep-cover story and a soberer view of staff agent potentialities.

A STAFF AGENT'S SECOND THOUGHTS

Louis Boifeuillette

Some time ago I wrote you about my first two years in Songhai, West Africa, where I was covered as representative of a well-known American firm, the Hefner Brewing Company, promoting sales in the former French colony.[1] Originally, you recall, Hefner had planned to build a brewery there, but the Songhai government, which was to have shared in the project, backed out, largely as a result of its pro-Communist and anti-U.S. leanings. Then there had developed, at time of my last writing, a quite acute foreign exchange shortage—for which the government's stupid and anti-Western economic policies were much to blame—and this was seriously curtailing business activity. I should like you to know how this all turned out and to share with you some further ideas about staff agent projects.

Operations

After the fall of 1963 the Songhai economy continued its decline, and with it the fortunes of Société Hefner, the subsidiary I had formed to handle imports. The squeeze was really very simple: imports were controlled by licenses, and the government issued fewer and fewer of these. By early 1965 hardly any licenses were being given the importers who normally handled the bulk of the provisions trade; all beer was imported by a state-owned corporation through its central purchasing office in Paris. For several months, therefore, before November 1965, when I left for good, the business activity of my cover company was virtually nil. I announced my intention to leave a few months in advance and released the local staff in stages.

During these last two years my operational work included continued handling of a third national, aiding a Communist defector, and recruiting an African agent and another third national. My legitimately acquired affiliation with the French financial magazine had come to an end, primarily because I had not had time for the work.

[1] See "Letter from a Staff Agent," *Studies* VII 4, p. 47 ff.

but I had been given a national press cover which enabled me to stay in the press community. Through this I met quite a number of East European diplomats and press people and was able to do a lot of spotting and assessing, though no recruiting.

Such, then, were the developments in the last two years. My work for the cover company was much the same as before except that it declined in intensity and toward the end I had rather too much time on my hands. Operational activity had its dry and its fruitful spells, as it usually has. My main purpose in writing again is to offer some reflections based on these four and a half years, including some that vary appreciably from those I voiced before. My own views are in large part corroborated by the experience of another unofficial-cover man, a career agent, formerly a staffer, who was in Songhai for about three of these years; he has since resigned. We discussed our common problems on many occasions and I am sure he would agree with what I say.

Isolation

In my last letter I made much of the strain a staff agent suffers in being cut off from the mainstream of his life's work, in going from a very high exposure to intelligence personnel and activity down to the point where he rarely sees anyone in his professional field. The concomitant is that he is also cut off from the sources of intimate knowledge he formerly had about international affairs and the target country, and his capital stock of such knowledge rapidly dwindles, particularly in a place such as Songhai where the press and radio are government-controlled. He can, to be sure, listen to foreign broadcasts and read the foreign press, but a newspaper published, say, in Paris carries very little on Songhai. Locally published information on political life is ludicrously limited.

To illustrate the other side of the coin, a Soviet illegal operating in London could, by reading three or four daily newspapers, know enough of current affairs to be able to handle properly a sophisticated agent in the Foreign Office, say. Or in running a military agent, there are a number of specialized journals which would give the Soviet illegal a detailed knowledge of the subject matter. None of this is possible in a place such as Songhai.

A case illustrating this difficulty was that of the African in the Songhai foreign ministry whom I had recruited in my second year. This man was appointed ambassador to an important African country, and I turned him over to the station there to handle. It then transpired

that he regularly made quite long visits back to Songhai, during which it would be worth while to have him see a local case officer. At the time of his first visit, I believe it was, I was on leave and my chief, under official cover at the embassy, met him, using a reserve communications system. It was immediately apparent that my chief was much better able than I to make the most of the man's knowledge. During this period a lot of complicated moves were in progress in the relationship between Songhai and the other country and also in the general field of African unity. My chief read all the State and Agency traffic which I never saw at all. Our relative skills as agent handlers apart, he did a much better job than I, and he continued to handle the agent.

During the last few months I was handling two agents, an African and a third national. The African, a junior civil servant, merely brought me out passports and visa application forms, and the third national operated in a field closely associated with my import business which I had therefore thoroughly mastered. Neither of these was extremely valuable, but they were worth while. The point is that these were the kind of agents whose handling was simple enough for a man in my position to do effectively.

Preservation of Cover

I have said that toward the end of my tour I had rather too much time on my hands as my cover job petered out. Now this needs some explanation; you may well ask why, if the guy had so little to do in the Hefner office, he didn't go out and develop some agents. The answer is that by and large you cannot do much unless you have a valid reason for seeing a potential agent at his place of work, and this depends on your cover activity. You cannot simply barge into a man's office and start developing him. If you are in the embassy, your chances of manufacturing a valid reason for doing this with respect to a worth-while prospect are much better. But a beer salesman cannot just drop in on a police official, or on someone in the foreign ministry, or on an army officer. You may meet the man at a social function or at a club, but that will be after office hours.

The other factor in not having enough cover activity is the security question. It is true that other people in the beer business were aware that my volume had shrunk—as theirs had—but there was, more by good luck than good judgment, a built-in stayability element in my cover. My business card read "Area Manager—West Africa," and this meant that I covered all the countries in West Africa. I did

not visit all of them, nor did I spend much time or money on trips. But I had enough legitimate or semi-legitimate Hefner business, coupled with enough intelligence business, to visit five or six countries, making perhaps one excursion every three months. I made a point of letting people know of these trips, and as no one in Songhai had the slightest idea what I did in Mali, they merely thought another energetic American was out beating the bushes to get more business. I spell this out because what sounds a little like a gimmick became an entirely valid and efficient means of shoring up cover.

While on the subject of cover I should express my conviction that no non-American—African, Russian, French—ever suspected my intelligence affiliation. Not even when a Satellite intelligence service took an interest in me as a potential agent (a coopted trade mission member did the spotting and an intelligence officer in the Satellite embassy the assessment). My cover had excellent security. The one group who may have suspected me were the political and economic people in the U.S. embassy, and this stemmed, I believe, from my long stay in the Washington area. I had not met any of these people in Washington, and I avoided seeing too much of them in Songhai. But I feel that they had thoughts about me, especially when great amounts of publicity were given to CIA in the Songhai press as part of the Soviet-inspired world-wide campaign. On the other hand, this campaign made the atmosphere in Songhai sufficiently spooky that there was no loose talk by the Americans, and for that I am entirely grateful.

Limitations

When I wrote before, I made a considerable argument that the targeting of a staff agent in a small developing country could be overdone. I said that it would be difficult to place him in a really hot target such as the foreign ministry, the security forces, or the governing party, and that in a small capital city he could, under any cover, cultivate a wide range of valuable contacts within a year or two. This is true up to a point, but in looking over the agents I recruited, or the worth-while contacts I developed, I find that all the agents and nearly all of the contacts were persons whom I met and developed through my cover activity. I must be more specific—I met the agents through the beer business, most of the valuable contacts through my press affiliation. For instance, the African who became the ambassador had been a provisions merchant and still ran his business on the side. I first met him through a beer sale and this brought me regularly in contact with him during the development stage and later provided excellent cover for meetings after his recruitment.

I still feel that the really exceptional man who can just wow everyone in no time flat and recruit people right and left can be put in any viable cover position in a small developing country. But the majority of our case officers, including me, should be better directed toward targets and frequently reguided through as much communication as possible. The point is that the case officer needs a valid reason for seeing a potential recruit during the development. You can't do it all at cocktail parties, and transacting legitimate business or discussing business problems is an excellent way of developing a man. This, after all, is what the case officer under embassy cover does. He has a valid reason for talking to just about anyone, for all the world knows that he is supposed to inform his government on what is going on.

Because, in part, of these built-in handicaps which began to become apparent as time went by, my unofficial-cover colleague and I found ourselves turning into support agents. This is in no wise a complaint. During a dull period I was glad, for instance, to rent a house and operate it as a temporary listening post for some headquarters technicians; and there were other such jobs in connection with audio operations. At a small station the chief must make use of whatever assets he has, and there is no question of anyone being too proud to do any kind of job. But if this goes too far it means that the service is paying a high salary and high administrative (housing, travel, education, etc.) expenses for a support agent. This may be justified if the product of the activity is good, but over the long run there will very likely be a waste of skill and money.

This boils down to the fact that headquarters has to do considerably more planning in advance of dispatching an unofficial-cover agent, has to have more dialog with officers on the target scene. Otherwise, if the agent is placed much on the basis of guess-work, it will result in a higher percentage of misfires, whether it is the man or the circumstances that throw things off. But there is a real need for staff-type agents, and one man's experience may contribute a mite toward making the most of them.

The further employment of Japan's World War II spies.

WHICH WAY DID THEY GO?

Takemi Miyagi

Now that more than twenty years have passed, it is of a certain wry interest to consider what happened to the members of the organizations which made up Imperial Japanese Intelligence. When the war ended, its officers, spread rather widely about the world, came home to a land that had no further use for their services and to an immediate future in which, were they to continue to exercise their considerable professional talents, they could find employment only as mercenaries of the occupying power. After the initial period of resettlement and inevitable interrogation, many of them chose to do just that.

Chiefs and Indians

As the hot dust of combat began to settle into the frigid landscapes of the cold war, the Occupation G-2, feeling need for a better intelligence insight into areas recently occupied by the Japanese armies than he was able to command with his own resources, began to press many of the Japanese professionals back into service. Their organizations took the form of little private units, referred to by the Japanese as *kikan*. Targetted mainly against China, Korea, and the USSR, the senior intelligence officers composing them engaged mostly in attempting to recover reporting assets they had controlled during the war. Many of the oldsters were thus able to secure their own livelihood and that of immediate subordinates who still wanted to play.

The hordes of lower-level operatives who were returned to Japan lived largely by their wits or, where possible, as notably for officials of the former Home Ministry, by reverting to police activity of some sort. As the cold war moved closer towards open hostilities in the Far East, however, the opportunities for intelligence employment increased markedly until, with the outbreak of the Korean War and the reestablishment of Japanese internal security systems of a sort, it became a seller's market for professional services. During this period, in parallel with the buildup of intelligence organizations in the American government, several new such agencies began to emerge in

Japan. In their present forms these are the National Police Agency, the Public Safety Investigation Agency, the Ground Self Defense Force, the Cabinet Research Chamber, and the Foreign Office.[1] These—and burgeoning Japanese industry—were the main consumers of intelligence on the outer world.

Thus the ill Korean wind blew good to both groups, the oldsters who continued as independent contractors, operators of *kikan,* and those, often the wartime subordinates of the first, who went directly into Japanese government employment as civil servants. The *kikan* operators probably reached their greatest productivity just before and during the beginnings of the Korean War. In this breathless period they were in touch with just about everyone on the intelligence scene, both American and Japanese.

Old Pros' Decline and Rescue

As the war increased American intelligence activity and sophistication, the quality of the *kikan* product began to look considerably less attractive by comparison. The oldsters were now forced either onto strictly Japanese resources or to work, with some rare exceptions, in circumstances of reduced funds and influence for American agencies, mainly military. But there were two new developments at this time which gave the pros a continued lease on life.

Japanese industry, which owed its first postwar boom mainly to the Korean War offshore procurement program, was beginning to look abroad to its Asian market and needed a certain amount of environmental reportage. This revived the *kikan* in the form of "Research Institutes" and "Area Problem Study Centers" of one kind or another. The Japanese government security agencies, as they developed, likewise began to feel the same need, largely in order not to appear ignorant when questioned by other government agencies with interests abroad, and the wartime subordinates of the *kikan* proprietors now generally manning the security agencies turned naturally to their former seniors with requests for studies.

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[1] For a historical sketch of the development of these agencies see Adam Jourdonnais' "Intelligence in the New Japan," *Studies* VII 3, p. 1 ff.

problems, were led roundabout into supporting once again with funds and assistance the collection schemes that the *kikan* men were offering their former junior officers.

Jobs for Juniors

As indicated above, many junior members of the wartime legion had gone into civil service. Possibly more had gone into business, either for themselves as traders in the areas of their wartime interest or as employees of the geographic divisions of the large Japanese trusts, which by now were fully back in operation and in need of experienced overseas hands. Those in the government, by and large, followed predictable professional lines. The police went back to being police officers, most following the CE/CI persuasion. Quite a few of the non-commissioned military officers went into CI work with the Public Safety Investigation Agency, where they formed the backbone of its internal subversive investigative talent. (Theirs was a rather doleful lot, for they had grown up on the good times of occupied China, where even a sergeant lived pretty well, and now were forced to drink the cold tea of the motherland.) Some military specialists—especially those that had been in communications intelligence—were welcomed into the revived Army, called the Ground Self Defense Force; but some of these, with training in radio direction finding, went into the police for a continuation of their specialty. A few others found employment in the Cabinet Research Chamber, where they became great sponsors of the *kikan* operators both for the CRC itself and for the Americans. The Foreign Office also used a few and maintained some contact with other *kikan.*

The Greats

The few Japanese "greats," the Onoderas and others who racked up impressive personal records as operators during World War II, gradually withdrew from the scene, finding more profitable if less glamorous employment in other fields. It would have been little joy for them, after their former glories, to work in the pinched circumstances of Japan's postwar intelligence. Nevertheless, there must be some hereditary tendencies in the profession, for in quite a few cases a second generation of the famous names has reappeared on the stage of Japanese intelligence, bidding fair, as this year's Rising Sun casts

its light across the Eight Corners of the World, to play the masters of the future.[2]

[2] The son of Matsuba Kureizaemon, the intelligence chief of the Amur River *Butai*, which almost precipitated war between the USSR and Japan in Manchuria in the 1930's, is a rising section chief in a current Japanese agency. The third son of General Yamanouchi Kawasho, World War II Chief of Operations in the Balkans, is now a bureau chief for another agency in a provincial capital in Shikoku. And there are others.

Third chief of the Okhrana's Paris center for combatting the Russian revolutionaries abroad.

THE ILLUSTRIOUS CAREER OF ARKADIY HARTING[1]

Rita T. Kronenbitter

To the Russian revolutionaries of all colors the life of Abraham Hackelman, as he was originally named, was one of endless and utmost infamy. He was a traitor to his ethnic group, an informer, spy, provocateur, impostor, and the most ruthless bloodhound of the Tsarist regime. When his true identity was exposed in 1909 at the height of his career as Arkadiy Harting, the press of western Europe was filled with accounts of his betrayals and activities as a master spy on behalf of the political police and finally as director of its foreign service, the Paris Okhrana. Among the files of the Paris station there are preserved several thick volumes of clippings from European newspapers giving the revolutionaries' version of the life of this extraordinary and by them most hated man. Writers competed with each other in describing him in the strongest terms of dread and repugnance.

The newspapers received the bulk of their information about his sinister exploits from Vladimir Burtzev, who at that time was engaged in setting up a counterintelligence bureau for the revolutionaries. When he first broke the news that Paris Okhrana chief Harting was none other than the former agent provocateur Hackelman,[2] who 19 years before under the alias Landesen had been sentenced in absentia by a Paris tribunal to five years' imprisonment, the press wanted more of such sexy stuff. Burtzev's bureau supplied more. It began issuing special bulletins on the case, for the story constituted a windfall of favorable publicity for the revolutionaries and a damning indictment of the already discredited Paris Okhrana, Burtzev's paramount target. It also brought Burtzev in some needed money; the papers were eager

[1] Based chiefly on the collection *Zagranichnaya Okhrana* in the Hoover Institution. For earlier articles from this source see "The Okhrana's Female Agents" Parts I and II, *Studies* IX 2 p. 25 ff and IX 3 p. 59 ff, "Okhrana Agent Dolin," *Studies* X 2 p. 57 ff; and "Paris Okhrana 1885-1905," *Studies* X 3 p. 55 ff.

[2] The Russian, having no "H," transliterates the two names as Garting and Gakelman or Gekelman respectively.

to pay for releases about the scandal embarrassing the Russian and indirectly the French government.

While this frenzied publicity was based on two central items of truth—Harting's identity with Hackelman and the 1890 criminal conviction in Paris—the great bulk of it was dizzy flights of fancy, propaganda aimed at the Okhrana when the Tsarist service could not defend itself or enter into polemics with the European press. Hackelman's intelligence career could not have been known to the revolutionaries except in fragmentary incidents, and his story has never been written. The Okhrana files, containing hundreds of his reports and a few about him, however, attest to his truly fantastic rise from a lowly informer to a position dominating the Russian secret service abroad and exerting a strong influence on the services of the European countries. Then after this phenomenal ascent the sudden fall, ending his career forever and hurting seriously the organization he had built.

Petersburg and Riga

Abraham Hackelman was born 29 October 1861 in Pinsk, where his parents owned a small grocery store. It appears that he first served the political police as an informer while in secondary school there. Then, being a very promising student, he was sent to St. Petersburg in 1879 to enroll at the Gorniy Institut. Here he made a good start, devoting himself entirely to his school work. Rather shy and aware that as a Jewish student he had to do exceptionally well to satsify the professors, he avoided student company. Student politics would not only interfere with his studies but also bring a constant risk of expulsion. He was intent on becoming an engineer as soon as possible and was not interested in political agitation, particularly not in the underground cell meetings of the terroristic *Narodnaia Volia* (People's Will) which was concentrating on recruiting students at the time.

Hackelman would most likely have become an engineer if he had not been befriended by two diametrically opposite persons at about the same time. One of these was Vladimir Burtzev, a classmate and student leader, who wanted him to join his underground cell. The other, who did not visit him at school, was Colonel Sekerinsky, chief of the St. Petersburg political police. The details of both the ostensible and the true recruitment are unknown, but it can be assumed that Hackelman would never have joined the subversives except on the colonel's urging. He became a professed fellow conspirator and an informer. His studies apparently did not suffer as much as he had

feared, and his small income from the newly constituted Okhrana relieved his struggling parents of the burden of his college expenses.

Gradually Hackelman gained access to the inner circle of conspirators planning terrorist acts. He reported a series of plots and made possible a large number of arrests. Nevertheless he managed to escape suspicion. When he was once mentioned as possibly the traitor, Burtzev, in whose cell he worked, refused to believe it. He held Hackelman to be his best friend and an ideal revolutionary. Defending him in the meetings of the underground, he told the comrades how the two of them had begun together their revolutionary careers. Their careers would in fact run on together, but on opposite sides as principal protagonists in the great battle between the Okhrana and revolutionary intelligence.

Burtzev refused to believe an even more positive accusation against Hackelman. In 1882 the revolutionaries caught up with a Captain Sergei Degaev who had worked among them as an undercover agent for the Okhrana. Degaev declared in his confession that Hackelman was also an Okhrana informer. Luckily no one at the time believed in the truth of this confession.[3] Hackelman continued to be trusted, and more subversives were arrested that year, including finally Burtzev himself when he brought in from Rumania a team equipped with bombs.

To escape any suspicion for this betrayal, Hackelman promptly left St. Petersburg and enrolled in the Riga Polytechnicum. Here he resumed his extracurricular activities, participating in the student underground and reporting to the Okhrana. But when in 1884 a number of arrests were made, the Riga subversives got more on him than a mere suspicion; they uncovered his association with an Okhrana officer and sentenced him to death as a traitor to the cause.

Swiss Interlude

Hackelman escaped abroad and enrolled the same year under the name Landesen at the Polytechnicum in Zurich. He had again decided to devote himself to finishing his college work, but here too he met a group of Russian students, or exiled revolutionaries who made studying something of a sideline. Associating with them, he found

[3] Instead of sentencing Degaev to death after his confession, the terrorists ordered him as a matter of retribution to kill his case officer, a Colonel Sudeikin. After accomplishing this murder Degaev escaped abroad and eventually became a teacher of mathematics in the United States.

a whole crew engaged in the manufacture of bombs for delivery to Russia. Two of these amateurs, students of philosophy named Dembsky and Dembo, were blown to pieces by an infernal machine they had just constructed. For nearly a year "Landesen" had no contacts with the Okhrana, whose headquarters at St. Petersburg, however, followed attentively his association with the Narodnaia Volia terrorists in Zurich and Geneva.

The Okhrana had recently decided to establish a center in Paris for operations against the émigré revolutionaries in France and Switzerland. One of its high officials named Zvoliansky was sent abroad late in 1884 for the necessary talks with the French government and also to spot possible recruits for penetration agents. Landesen headed the list of prospects. Zvoliansky, who had known him in St. Petersburg, interviewed him in Zurich and proposed he continue his studies at the university and be given the status of secret agent working in the Narodnaia Volia there. Landesen was willing but asked for a salary of 1,000 francs a month. He also wanted an assignment in Paris, whereas most of the leading Russian terrorists were at that time concentrated in Switzerland. Zvoliansky reported that he had a "talent for the job . . . skillful and intelligent, he could become most useful if he were not asking for such a high salary."

When in April 1885 Peter Rachkovsky was commissioned to head the Paris Okhrana, he was instructed to contact Landesen again for possible recruitment but to negotiate for a salary of not more than 300 francs. He was given a dossier on the candidate's past services with a caveat in regard to his security-mindedness. If recruited, Landesen was to receive an extensive security briefing to preclude any repetition of the 1884 exposure in Riga.

The clandestine meetings with Landesen lasted four days. Rachkovsky, though he had headquarters' and Zvoliansky's assessments to go on and in spite of headquarters' impatience for the immediate recruitment of penetration agents, did not want to rush into hiring people. To size the man up himself, he induced him to talk for two days about his informant jobs at St. Petersburg and Riga and his contacts with the terrorists in Switzerland. His security failures in Russia had to be discussed in detail so that he could recognize his own weaknesses and learn to guard against another exposure. After Landesen's admissions and explanations fully satisfied him, Rachkovsky directed the talks to his prospective employment and assignments. In the end he persuaded him to remain in Switzerland and start at 300 francs a month plus travel expenses. Landesen would report directly to Rachkovsky, as his case officer, on the activities of the Narodnaia Volia.

Rachkovsky did not rule out the possibility of Landesen's eventual transfer to Paris, but the logical place for the time being was Switzerland, where he had already developed some contact with several rabid subversives. His acquaintances Bach, Baranikova, Sladkova, and Lavrov all had dossiers in Rachkovsky's files of dangerous terrorists. Bach, living in exile since 1880, was one of the most wanted persons; he had been ringleader in several assassinations in Russia. The contents of his dossier were carefully gone over in the course of Landesen's briefing for his first assignment; the agent memorized everything on record about Bach's background, personal character, and past conspiratorial associates.

For a start, Landesen was to rent an apartment in Zurich that would be a convenient meeting place for the subversives. He was to play the role of a student whose family were of some means—not too rich, but putting him in easier circumstances than the average Russian student in Zurich. At first he should associate with all young Russians there, regardless of political attitude, but then gradually show preference for the revolutionaries, particularly Bach and another intellectual named Lev Tikhomirov. Rachkovsky did not reveal to Landesen that the reason for his special interest in Tikhomirov was a plan to develop him into another penetration agent.[4]

Landesen soon became well known in Zurich's colony of Russian students and exiled intellectuals. His associates were often in need, and small loans led them into some dependence on him. The poorest of them all seemed to be Bach, his principal target, and it was not long before Bach agreed to save himself rent by moving into his apartment, which thus became the central meeting place for the terrorist intellectuals in Switzerland. Landesen reported on them and their movements daily. When he asked for more money, Rachkovsky would

[4] Lev Tikhomirov was a Nihilist and influential advocate of terror. Landesen's reports on his character and personal weaknesses gave Rachkovsky the background needed for his plan to convert and recruit him. To shake his revolutionary morale Rachkovsky apparently first used poison-pen letters. Then he engaged journalist Jules Hansen to publish a pamphlet in French entitled "Confessions of a Nihilist" which compromised Tikhomirov and made him the target of revolutionary attacks. He was even blamed, thanks to Landesen's machinations, for a police raid on an underground printshop in Geneva which produced tracts for the Narodnaia Volia to smuggle into Russia. In the end he did not become an agent, but Rachkovsky did persuade him to publish a book in Russian, *Why I Stopped Being a Revolutionary.*

Arkadiy Harting

comply promptly but always in moderation. The agent could not afford to risk arousing suspicion about his income. His money actually came from Russia, the Okhrana backstopping in the role of his relatives and occasionally writing to reproach him with affection for being a foolish spendthrift.

After an inspection tour in the fall of 1886, Zvoliansky submitted to headquarters a critique of Hackelman-Landesen's first work abroad. He praised both agent and case officer for their teamwork, Rachkovsky in Paris for his guidance and Landesen in Zurich for exhaustive coverage of the terrorists' activities. The Okhrana had received a steady flow of reports on all projects of the leader Bach through his conferences in Landesen's apartment with comrades living in various Swiss cities and those dispatched to or returning from Russia. It had full information on the clandestine Narodnaia Volia printshop in Geneva which produced terrorist literature for smuggling into Russia.

Rachkovsky consulted Landesen about the mounting and timing of a raid on this printshop. Landesen supplied him enough information to convince the Swiss police that they should make such a raid and arrest the subversives. The operation was successful. It terminated the Narodnaia Volia propaganda system, eliminated Switzerland as a center for the terrorist organization, and all but destroyed the organization. Landesen remained in Zurich until 1890 to continue watching Bach and his residual cell.

Provocation in Paris

Landesen's next assignment, as a penetration agent in Paris, was of short duration but in a way the most significant of his career. In this operation he was actually an agent provocateur.[5] His case officer had a very special purpose in mounting the operation; it was a studied auxiliary to a major political action project. None of his records indicate that Rachkovsky formally informed headquarters about his ruthless plan, and it is possible that no one but case officer and agent knew about it. Their teamwork in planning and carrying out this action was even closer than that which Zvoliansky had commended in Switzerland.

[5] The term "provokator" was applied by the revolutionaries to all police agents and investigators. In a strict sense, however, this operation appears to be the only one abroad on record which definitely constituted deliberate provocation. The practice was officially forbidden.

By 1890 the majority of the Russian terrorists had moved from Switzerland to Paris. It was natural for Landesen to move there to join his student friends and grateful colleagues. Paris thus became the new underground center. Landesen attended their gatherings and grew to be one of their leaders. His reports told of new plans for acts of terror to be committed in Russia and against Russian officials abroad. In Russia the information would have given ground enough for raiding the meetings or arresting the members individually.

In France, however, Rachkovsky felt helpless. He had gained the close cooperation of the Sûrcté, but the French police were handicapped in anti-revolutionary actions by an unfriendly press and public opinion. He therefore planned the next operation with the purpose of helping to sway French public favor away from the revolutionaries and their anti-Tsarist propaganda. More important still, if he could force the Sûreté to act against the terrorists it would impress the regime in St. Petersburg with the French government's ability to crack down on revolutionaries. This last aspect of the operation was probably his main concern. He had put much effort behind the scenes into promoting a Franco-Russian alliance. While the French seemed to favor it, the imperial court in Russia was lukewarm or even hostile so long as France was giving asylum and protection to Nihilists and other enemies of the Tsar.

Case officer and agent played equal roles, as they were accustomed, in planning this politically motivated master stroke. The risk of failure was considered, and the real risk of exposing the provocateur. It was decided that if Landesen were exposed he could go into hiding and then take another identity for his further career. Landesen suggested the plan of operation and Rachkovsky allotted the funds. Landesen was to propose a scheme for the assassination of Tsar Alexander III to a group of leading terrorists. Rachkovsky suggested the names of some that should be assembled for the conspiracy and Landesen added others.

Some twenty-five conspirators assembled for the first meeting and listened to Landesen's scheme. It entailed the construction of bombs in Paris. When the question was raised as to who would pay for the equipment, Landesen said he was sure he could get the necessary sum from his rich uncle. A workshop was rented in the Rainey woods near Paris. Various types of bombs were manufactured and several conspirators trained who were to go to Russia as an advance team. Landesen himself was scheduled to go with this group.

When enough bombs were on hand and the first conspirators ready to depart, Landesen set a date when the weapons were to be distributed among the conspirators, together with written instructions on the role each one was to play in the assassinations. Rachkovsky, who was kept informed of every detail, now knew just when and where to find this incriminating evidence in the possession of the individual conspirators, for Landesen was personally in charge of the distribution. Through his agent Jules Hansen, Rachkovsky passed the information to Minister of Foreign Affairs Flourence and Minister of Interior Constance. The Sûreté then rounded up all the participants with their bombs and other arms except Landesen, who had disappeared.

In the ensuing famous Paris trial of 1890, Landesen was sentenced in absentia, as the ringleader, to five years imprisonment; some twenty others were sent to prison or expelled from France. The provocation was a complete success from Rachkovsky's standpoint except for the effect on his most important agent. The court trial was useful in alerting the French public to the dangers of the Russian terrorists. The incident promoted liaison with the Sûreté Générale, which got credit for rounding up the subversives and so enhanced its reputation for good work. The Paris center was commended by headquarters. Above all, the imperial regime was now convinced that the French government could be depended upon to be firm and take action against the Nihilists. Negotiations for signing a Franco-Russian alliance began shortly after the trial.

International Honors

Landesen remained in his Paris hideout for two months after the arrests. In August 1890, settling in Belgium as a Russian nobleman, he received an award of 1,000 rubles' annual pension. This did not mean retirement. At one time he was reported active with a Baron Sternberg, an Okhrana agent sent from headquarters to work among the Belgian Anarchists. For the most part, however, he traveled on Okhrana business through various European countries, usually as a security companion to important personages. In a letter from London still preserved in the files he asked headquarters' permission to get himself baptized in the Russian Orthodox Church and to have his name legally changed to Baron Arkadiy Mikhailovich Harting. The request was granted; he became an Orthodox Christian at Wiesbaden, but the festival ceremony took place at the Embassy Church in Berlin, with Count Muraviev officiating as his godfather and the wife of Imperial Senator Mansurov as godmother. For this purpose he falsely

registered his birthplace as St. Petersburg. He did not feel comfortable in this company as a Jew from Pinsk.

In recognition for his extraordinary services Rachkovsky heaped favor after favor upon Harting, usually in the form of important assignments that could only lead to promotions and decorations of all sorts. When Crown Prince Aleksandrovich came for his betrothal to Allissa Hesse in Coburg-Gotha, Harting, in charge of security, received a present of 1,000 rubles, together with an appropriate medal. As the Tsar's bodyguard in Copenhagen he was given medals from the Emperor and from the King of Denmark; and when the Tsar went hunting in Sweden and Norway he got gold medals there. Similar assignments in Germany, Austria-Hungary, and other countries invariably brought presents, medals, or other decorations. He earned several medals in England and France. Now one of the most decorated of contemporary international dignitaries, he traded his dashing socialite bachelorhood for marriage to a young and very wealthy Belgian, Madeleine Palot.

It appears that the decorations and prestige and even the marriage to a rich socialite were all part of a design. Rachkovsky was after firm liaison arrangements with the security services of as many European countries as possible. When he had put an ace operator of the Okhrana into the position of being awarded presents and decorations from all these governments, he could reciprocate and honor their security officials with awards from the Tsar. Medals exchanged in an atmosphere of friendship and mutual recognition often paved the way to cooperation. It was in fact in this period of the 1890's, as a sequel to Harting's international assignments, that Rachkovsky succeeded in establishing liaison between the various security services and his Okhrana center. And it was in Belgium, after Harting's marriage, that the Okhrana developed the most lasting and comprehensive exchange of information. Up to the outbreak of war in 1914 the Paris center received from the Belgian Sûreté Générale a continuous transcript of its records on all Russian political subversives and other terrorists.

Rachkovsky had been trying for some time to establish a separate agentura in Berlin. The city was becoming a center for the Russian Social Democrats in exile, who used the Prussian borders with Russia's Poland as a safe and convenient infiltration gate for revolutionaries. The Prussian Sicherheit Dienst was hesitant about developing permanent liaison with the Okhrana, and it refused to discuss a separate agentura, even if the agents were to be Germans, until Rachkovsky

specified that the proposed station would be under the direction of Harting and its task limited to collecting information on Russian revolutionaries and supplying this to the Germans for purposes of cooperation. The Praesidium approved the proposal without delay upon hearing the name Harting, a man who had been decorated by their Kaiser and thanks to whom several of the Praesidium officials were wearing the Tsar's medals.

Station Berlin

Harting assumed the Berlin post in December 1900. Settling down at Friedrichstrasse No. 4, he was known as an engineer attached to the Imperial Consulate. He opened the agentura on the same pattern as the center in Paris, engaging first three and soon thereafter three more external, surveillance agents and then gradually introducing the internal, penetration agents. On the average he had to maintain three safe houses, since he and his assistant Michael Barkov had to make all their intelligence contacts outside the consulate.

The external agents were men recommended by or at least known to the German security police. Despite this advantage they never gained the access their counterparts in other countries had to police records on the revolutionaries. The reason for this, Harting explained in several dispatches, was the German system of decentralization. There was not only a separate and independent service in each state of the Reich, but within Prussia and even in Berlin each police district kept its separate file and there was no routine reporting to a central intelligence repository. To overcome this difficulty Harting hired as his secret agent Herr Wineck, a high official of the Sicherheit Dienst and former chief of its Russian section. Wineck was in a position to gather the police records on the revolutionaries from all districts, and between 1902 and 1904 he channeled over a thousand reports to Harting. He was paid for this service in the form of gifts; a regular salary did not seem appropriate.[6]

Harting maintained in Germany some half dozen penetration agents, frequently assigning them to border infiltration points. His ace man was Dr. Yakob Zhitomirsky, who as a student in Berlin had worked for the Sicherheit Dienst before he was picked up by the agentura in 1902 and insinuated into the Leninist group of revolutionaries. His exceptional achievements were culminated in 1906, after Harting had become chief of the Paris center.

Rachkovsky's concept of the Berlin agentura was as a branch of the Paris center with operations limited to Germany and the Low Countries. As long as the chief in Paris was Harting's protector and real friend the arrangement worked smoothly, but Rachkovsky fell into disfavor and was replaced by a bureaucrat named Rataev who, in Harting's estimate, lacked all the qualifications of an intelligence director.[7] Harting's agents therefore were soon found on special assignments in Switzerland, Italy, and England. The resulting friction with Paris never came to a head, although a sudden summons to St. Petersburg once made Harting wonder whether he was going to get a reprimand for projecting operations into Rataev's territory.

Japanese Targets

The call to headquarters turned out to be the beginning of a new chapter in Harting's career. Director Lopukhin had read with interest a number of Harting's agents' reports concerning the activities of a Japanese Colonel Akashi, who was conducting anti-Russian intelligence operations from Paris into several European capitals. The director wanted Harting to help set up a separate counterespionage organization aimed at Akashi's system. His job as chief in Berlin was abruptly terminated and a caretaker sent there.

Harting now became a traveling staff agent. In constant trips back and forth from St. Petersburg he repeatedly covered Paris, Stockholm, Copenhagen, Brussels, and London. His task was to spot among the diplomatic missions agents that could develop access to the Japanese embassies and consulates. He concentrated especially on the Japanese legation at Brussels, where he learned that Colonel Akashi was spending more time than at his regular post in Paris. It may have been Harting's trusted Belgian friends who got hold of the Japanese code for telegraphic messages.[8]

Returning from these many trips abroad he made until late 1904, Harting was debriefed not only by the Okhrana director but also by

[6] In the version given by V. A. Agafonov, Wineck, wrongly called Winen, is shown serving Harting with the express approval of Kaiser Wilhelm. Harting's dispatches requesting headquarters not to award a medal to Wineck because such favors might compromise him clearly disprove this story.

[7] For Rataev's administration see *Studies* X 3 p. 62 ff.

[8] The operation which exploited the code and developed a network for intercepting messages in a telegraph office in Brussels was entrusted to Okhrana official Ivan Manasevich-Manuilov, who used 16 agents in the daring and for a time most successful operation. For an earlier operation of Manasevich-Manuilov see *Studies* X 3, p. 65 f.

the general staff. Russia was at war with Japan, and the military intelligence section developing new assets gave Harting a field officer status. His rank was raised nearly every time he came back from Europe. In the end he was given the stars of a major general, assigned to the regular army, and placed in charge of a newly formed counterespionage unit for the Far East. The Okhrana files, logically, contain no record of his work on this military assignment, which was of short duration before the sudden termination of hostilities.

Revival in Paris

In August 1905 the MVD appointed Harting chief of the foreign Okhrana. His friend Rachkovsky, now back in favor, was made chief of operations at headquarters. The same teamwork the two had displayed in the past reappeared at once, now at the top level. Rachkovsky gave Harting authority to organize the service according to his best judgment. As the correspondence shows, Harting's instructions were to study the structure of the service and the productivity of operations, report his findings, suggest changes, and proceed with whatever measures he deemed necessary.

Harting proved to be a truly methodical organizer. On the way to Paris he stopped in Berlin to close the agentura there—it had practically stopped functioning in his absence—and transfer its records to Paris. The key agents in Germany, however, he left under the direction of case officer Barkov.

In Paris, Harting found that Rataev had already left for Russia in order to avoid meeting his hostile successor. The Paris establishment had all but disintegrated. The one remaining deep-cover agent, Gersh Kuryansky, was reporting direct to the Okhrana office, contrary to strict rules against such practices. Only four external agents were left, of which only two could be used for surveillance purposes; one, Fehrenbach, did nothing but collect information from liaison centers, and another, Henri Bint, had become a confidential aide and principal agent and refused to go back to routine surveillance assignments.[9]

Harting made visits to Geneva and London. In Geneva Swiss security chief Mercier was placing intercepted correspondence of the revolutionaries at the disposal of Okhrana agents Rigault and Depassel. But two other agents, police employees Boquet and Deleamon, did nothing but deliver transcripts of police records. There were no surveillance or investigation agents. In London there were only two agents—Michael Thorpe, who furnished transcripts of police records, and a certain Farce, who was engaged in surveillance tasks.

In Harting's first survey he reported to headquarters that not only the external service but also the Russian clerks in the Okhrana office were being paid through the Frenchman Bint, who in fact even kept the office accounts. Bint was paying himself up to 1,000 francs a month, and the pay of all external agents had been greatly increased—without justification, because at least during the last twelve months they had been almost inactive. The payment of these exorbitant salaries left no money to pay a newly arrived deep-cover agent, Batushansky. Harting demanded a free hand to revise the budget, establish a substantial penetration service, and run an invigorated external service. Headquarters approved, and he brought under his control the penetration agents who had been sent out by the provincial Okhrana branches and at the same time began recruiting in the field.[10]

Within a year Harting had succeeded in placing 16 productive penetration agents in the Anarchist, Socialist Revolutionary, and Social Democratic committees in France, Switzerland, Germany, and England. He developed strong liaison ties with the security services of many countries, and wherever possible he used external agents who were approved by the local services and therefore given access to their security records on Russian revolutionaries.

Arms Smuggling

One of Harting's major achievements was to completely stop gunrunning into Russia on the part of the revolutionaries. For this purpose he set up a network of special agents to find and report on anyone financing or purchasing arms, the dealers involved, the vessels carrying the cargoes, their captains and crews, etc. Seven such agents were assigned to the ports Amsterdam-Rotterdam, Antwerp, London-Birmingham, Hall, Liverpool, and Geneva. He also had paid informants in the companies engaged in arms shipping, and he developed contacts with chiefs of the secret police in Hamburg, Lübeck, and other ports.

[9] For these arrangements under Rataev see *Studies* X 3, p. 65.

[10] In an outgoing dispatch he took note, however, that agent Vinogradov (Evno Azev) had not been transferred to his control but was being paid directly from headquarters.

The smuggling problem had become acute during the Russo-Japanese War, when Colonel Akashi supplied Konni Zilliacus, the Finnish Socialist, funds to purchase guns for a shipment on the SS "John Crafton." It is not certain that Harting had a man aboard this ship, but at any rate he was able to inform headquarters of its cargo and schedule in time to prevent its docking and unloading, and the cargo was lost when the steamer later grounded in the delta of the Kem River. Thereafter his agents uncovered other attempted shipments—on the "Luma," "Flynn," "Cecile," and "Cysne," one steamer after another. All the attempts failed.

As all shipments through the Baltic were blocked, the Leninist group in Berlin under the management of Meyer Wallach (Maxim Litvinov) attempted a shipment of arms via the Black Sea. The Dutch security director was the first to inform Harting of the revolutionaries' intent to use this alternate route, sending arms overland via Passau through Austria to the coast. Agent Dr. Zhitomirsky in Berlin was alerted. He soon reported that Litvinov was traveling with eight "seamen" from Berlin to Vienna. Harting put a surveillance agent on the train, and another joined him in Vienna. They reported that Litvinov's group had split into three teams and the first was bound for Bulgaria. Harting rightly guessed that their steamer would be located at the Burgas or Varna docks. He so reported, and the craft was sunk in the Black Sea soon after leaving port.

Organization

The development of the Paris Okhrana into a service which was in operational aspects an independent establishment paralleling the organization in Russia can be attributed predominantly to Harting. Under his direction all previously autonomous assets aboard—in Berlin, the Balkans, and Galicia—were integrated with the Paris center. Within a short period of time the service reached its height of operational activity, and Harting still had only four assistants—his number-two man Boris Sushkov, Ivan Molchanov and Nikolai Chashnikov taken over from Rataev, and Ivan Melnikov. Sushkov and Molchanov often served as case officers for internal agents; Melnikov and Chashnikov worked on records and reports and as contacts with the principals of the external service.

Although Harting, himself a tireless case officer, was thus assisted by two qualified subordinates in maintaining operational contacts with agents, by 1907 the work load and security considerations called for some reorganization. A new type of case officer was introduced, a staff officer of gendarme (or army) rank assigned to the field under deep cover to take charge of penetration operatives. Like the deep-cover agents, these new case officers were never admitted to Okhrana premises, and all their contacts with Harting and his aides were clandestine. Captains Dolgov and Andreev were the first such officers, each handling a group of penetration agents. The job required much travel, since the agents might be in England, Switzerland, Italy, or wherever. Dolgov's assignments were usually in England and the Low Countries and Andreev's in France, Switzerland, and Italy, while Michael Barkov continued in Germany.

By the end of 1908 the Paris center had over forty men and women placed in Russian revolutionary organizations abroad, a number of them on some central committee and among the leaders, others at intermediate levels of a conspiratorial hierarchy. Mere membership in a revolutionary party did not qualify for agent work; at least good prospects of gaining influence were required, and of course the confidence of the leaders. The external, detective service was numerically about one-half the size of the internal.

Henri Bint served as the principal for most external agents in France and Switzerland. He also organized teams for special surveillance and investigative jobs and assembled, dispatched, and paid the agents. The constant reshuffling of teams in time made all Bint's agents acquainted with one another. Ordinarily a team under Eugene Invernizzi concentrated on revolutionaries who lived in the Italian and French Rivieras, surveilling them and intercepting their mail through access to local post offices; and similar teams were at work in Berlin and London. All of them, however, were subject to disruption when some member of the imperial family needed protection on a visit in western Europe. Quite often Bint was ordered to call together some dozen agents and organize them for coordinated operations with the police and security units of the area to be visited. On such assignments Bint or whoever was in charge in his stead would be in constant telegraphic communication with Harting, informing him hour by hour of the placement of each agent, coordination arrangements, alerts, warnings, etc.

One of Harting's major contributions to the organization of the Paris office was the introduction of a filing system and a system for recording intelligence and operational data. During his period of office, headquarters began to supply printed 3x5 cards on all revolutionaries and political suspects. Harting supplemented these with additional data and started an operational card file on all persons

mentioned in intelligence and operational reports. This reference system, as numerous notations indicate, was used for operational planning, verification of data, and background for intelligence reporting. The Paris files thus became in some respects superior to those in the central Okhrana repository in Russia.

The Fall

Of the four chiefs of the Paris Okhrana Harting seems the most impressive in both activity and personality, and he was no doubt the most universally liked by his office subordinates and secret agents. The same kind of teamwork he had achieved with Rachkovsky he extended to his agents. What endeared him to them more than the remuneration—which he always insisted on keeping at high levels wherever due—was his engaging personality and habitual human interest in their welfare and security.

The abrupt end of Harting's service came as a very serious blow to the Okhrana abroad. He himself probably expected it after Leonid Menshchikov, a former subordinate official of the Okhrana in Russia, defected to Vladimir Burtzev and the intelligence bureau he was organizing for the revolutionaries. Harting suspected rightly that Menshchikov had some information which might lead to his exposure. On the morning of 15 June 1909 the Paris newspapers broke the sensational news that Arkadiy Mikhailovich Harting, chief of the Russian secret police in Paris, famous socialite, and candidate for the French Legion of Honor, was none other than that Abraham Hackelman who, under the alias Landesen, had been sentenced in 1890 by a Paris tribunal to five years imprisonment as a terrorist provocateur. The press demanded his immediate arrest and Socialist deputy Jaurès seized on the case in parliament to attack the Clemenceau cabinet and call for the expulsion of the Russian secret service.

The government in St. Petersburg issued official denials, pointing to Harting's noble birth, high rank in the army, etc. but at the same time sent telegrams ordering him to leave Paris at once. He settled at first in Belgium under some unknown name. Burtzev sent teams to Brussels to locate and kidnap him to bring him back to France and prison. But Harting hid so well this time that he even vanished from the secret Okhrana files.

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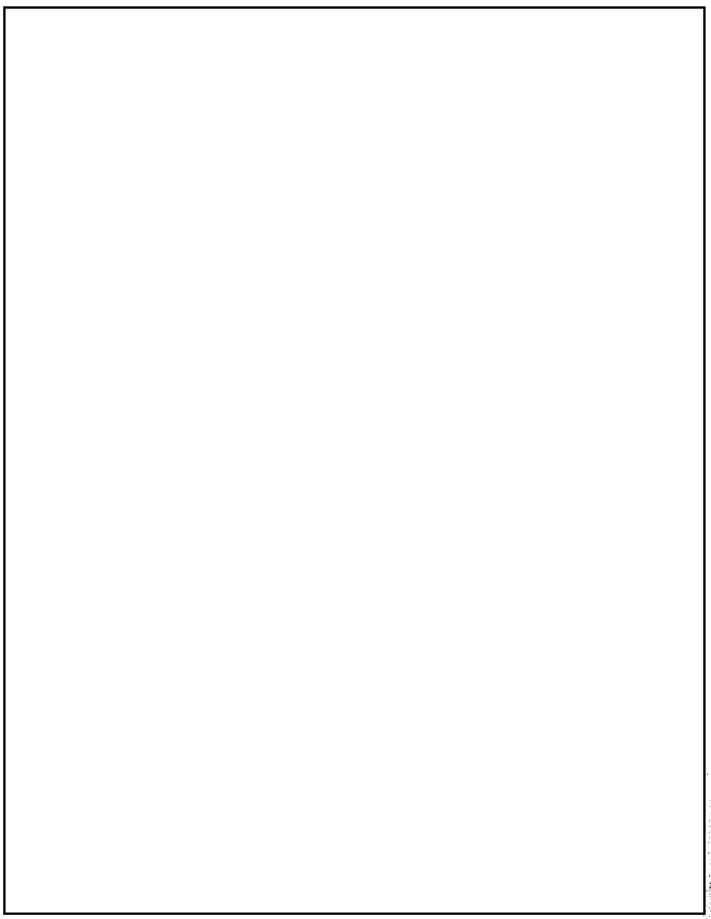

Modern intelligence has to do with the painstaking collection and analysis of fact, the exercise of judgment, and clear and quick presentation. It is not simply what serious journalists would always produce if they had time: it is something more rigorous, continuous, and above all operational—that is to say, related to something that somebody wants to do or may be forced to do.

—*The Economist* of London, commenting on the retirement of Sir Kenneth Strong (1 Oct. '66, p. 20).

INTELLIGENCE IN RECENT PUBLIC LITERATURE

The V-Weapons

THE MARE'S NEST. By *David Irving*. (Boston: Little, Brown, 1965. 320 pp. $6.95.)

THE BATTLE OF THE V-WEAPONS, 1944-1945. By *Basil Collier*. (London: Hodder and Stoughton, 1964. New York: William Morrow. 1965. 192 pp. $5.)

Confronted by a really good book and an outstandingly bad one, a reviewer has the clear duty to warn against the latter. Let me begin, therefore, by advising you that *The Battle of the V-Weapons* is to be avoided as the plague. It is a shoddy, ill-conceived, inadequately researched, badly written piece of journalistic rubbish which is as near to being a non-book as anything to be found in a cloth binding. *The Mare's Nest*, on the other hand, has everything but sex: a great plot (World War II); an unbeatable cast of characters (Churchill, Hitler, Himmler, Von Braun, et al.); human interest (Lord Cherwell's vendetta against Duncan Sandys); fascinating side trips (e.g., the aluminized explosives scandal); and, above everything, suspense (*Will British Intelligence unmask the Diabolical Schemes of German Science in time to save London?*). Best of all, it abounds in lessons for the intelligence community.

Indeed, Irving's book might have been written for use as a text on the problems of technical intelligence. It traces in painstaking detail the development and deployment of the German secret weapons and the British intelligence appreciation of that effort. (And the

interplay of developments on both sides is handled in a masterly fashion.) The British were fortunate in having in Dr. R. V. Jones—the hero, in so far as the book has one—a competent scientist who came to understand the intelligence problem. When after five years the intelligence controversy over Germany's secret weapons was finally stilled, Dr. Jones was able to step back and ruminate upon his experience.[1] Those of us who are condemned for our sins to labor in the tangled vineyards of military and technical intelligence could do worse than commit his conclusions to memory.

> Four situations can arise with any one technical development: (i) neither side makes it work; this presents no Intelligence problem; (ii) both sides succeed; this is the normal Intelligence problem . . .; (iii) our experts succeed, the Germans fail; this is an Intelligence worry, for proving the negative case is one of the most difficult of Intelligence exercises; (iv) our experts fail, or do not try; the Germans succeed. This is the most interesting Intelligence case, but it is difficult to overcome the prejudice that as *we* have not done something, it is impossible or foolish.

It was, of course, the last of these situations that British intelligence faced in the V-weapons programs. In the spring of 1939 the RAF, recognizing its ignorance of new German weapons, set up a scientific and technical intelligence section under Dr. Jones. Later in the year, after the fall of Poland, Hitler called on Britain to sue for peace, boasting that "the moment might very quickly come for us to use a weapon with which we ourselves could not be attacked." Responding to a query from the Prime Minister, Dr. Jones reported intelligence references to a number of new weapons, including pilotless aircraft and long-range guns and rockets (all then under development by the Germans) and concluded that some of these "must be considered seriously." What was the response of British intelligence to this recognition of the secret-weapons threat? By today's standards, it must be accounted almost criminally slow.

Hard on the heels of Dr. Jones' assessment came the "Oslo Report," an anonymous letter to the British naval attaché in Norway which told of several new weapons under development at Peenemünde, among them long-range rockets. Subsequent developments proved the Oslo Report to be pure gold, but British intelligence did not take the rocket (the ultimate V-2) seriously until March 1943 when one captured German general mentioned it to another in a well-bugged room. At long last, the British made German long-range rocket development the subject of a special investigation headed by Duncan Sandys, who promptly ordered a photo-recce of Peenemünde. Still the existence of the threat was not finally accepted by British intelligence, and Churchill so informed, until mid-1944, about two months before the first V-2 hit London.

In the case of the pilotless ramjet "buzz-bomb" (the V-1), performance was somewhat better. By late September 1943 Dr. Jones had concluded that "the German Air Force has been developing a pilotless aircraft for long-range bombardment," and this conclusion was communicated to Churchill by the end of the year, about six months before the first V-1 fell on English soil.

The intelligence record is worse again on a third German V-weapon, which the Allies only discovered when invading; their troops overran its firing site at Mimoyecques, France. This was the so-called "high-pressure pump," an unorthodox long-range gun which fortunately never became operational but could theoretically have put several thousand shells per month on London. The development of this weapon involved no radically new technology and, moreover, was not begun until May 1943; the intelligence lapse is therefore understandable.

But German development of the long-range rocket and the flying bomb began in the early thirties. In 1936 high-priority development of both weapons was under way at Peenemünde, probably the largest and most elaborate military research establishment in the world. How to account for such a failure on the part of the vaunted British intelligence organization?

The basic cause was that British intelligence, despite the technological surprises of World War I, was simply not geared to collect and assess scientific and technical intelligence. (The British, of course, were not alone in neglecting this vital field; all of the major participants in World War II suffered technological surprise.) With recognition of the problem came a response that was almost too late and was certainly too little. The British never made a concerted approach to scientific and technical intelligence that would have brought together all the information and expertise at the disposal of the government. Dr. Jones, working in the Air Ministry, lacked authority and frequently found himself at odds with War Ministry intelligence; Duncan Sandys, who had the necessary authority for about a year, was limited in jurisdiction to the long-range rocket threat. And organizational difficulties were compounded by the free-wheeling

[1] See *Studies* VI 3, p. 55 ff, and VI 4, p. 37 ff.

tactics of highly placed persons outside the intelligence community who nonetheless had great influence on intelligence judgments.

One of these was Lord Cherwell, the Prime Minister's personal scientific adviser, who probably deserves a paragraph for having given the book its title. "Lord Cherwell still felt," reads a Defense Committee report of October 1943, "that at the end of the war when we knew the full story, we should find that the rocket was a mare's nest." Cherwell had been led to this view, as the book makes amply clear, by his personal jealousy of Duncan Sandys. As soon as Sandys began to investigate the long-range rocket, Cherwell began to disparage it and to emphasize instead the importance of the flying bomb. It reflects no credit on him that the flying bomb proved to be the more serious threat. But even in opposing Sandys, Cherwell probably earned his keep by uncovering the fact, long known to British defense scientists, that German explosive, thanks to the simple addition of small quantities of aluminum powder, was 80 percent more powerful than the standard British variety—this in October 1943, after Bomber Command had carried some 200,000 tons of the weaker stuff to Axis targets. The fact remains, however, that for personal reasons he hindered the assessment of the long-range rocket. It cannot be argued that any form of organization can eliminate personal rivalry, but Cherwell would surely have had less success in challenging the voice of a single intelligence organization.

The chief intelligence problem posed by the German secret weapon programs was that of assessing a new, unfamiliar technology. Those of us who have worried over each new Soviet missile system for the past 10 or 12 years can feel only sympathy for the British photo interpreter confronted for the first time with a "ski site" launching ramp for the V-1 (all the more when one reflects that the ski sites were never used). Indeed, some of the arguments that raged through the British intelligence community have a strangely familiar ring, e.g., the question of solid vs. liquid propellants for the V-2. But the problem was further complicated by irrational elements in the German decision-making process. Even when most of the returns were in, the British found it difficult to believe that the Germans would undertake the development and production of such an expensive and complicated weapon as the V-2 simply to deliver a ton of explosive with indifferent accuracy.

Today, with the additional perspective of 20 years, it still seems incredible that the Germans in the face of defeat should have given first priority to untried weapons which in any event promised no decisive

result; these programs consumed precious resources—manpower, materials, and productive capacity—that could have provided jets for the Luftwaffe, *Wasserfall* missiles for air defense, and concrete and steel for the Atlantic Wall. It is too much to say, as does the author, that rockets cost Germany the war, but it cannot be doubted that the drain of the V-weapon programs shortened it considerably. In his last report on the rocket threat, Dr. Jones recalled how British intelligence had been forced to enter a German fantasy world where romance had replaced economy. This is, perhaps, not the least valuable lesson to be found in this work.

It is difficult to do a workmanlike job of demolition on Collier's book, *The Battle of the V-Weapons,* in the small space which it deserves; I shall attempt to do so by addressing only one of its more outrageous aspects. The book is padded beyond belief. It might contain enough substance for a decent magazine article, but don't read it in hopes of sorting this out from the chaff. The padding is accomplished in two ways: first, by the use of bogus scholarship and irrelevant detail, and second, by the addition of several useless sections at the end. Chapter I provides a splendid example of the first technique. Much is made of what appears to be forerunners of the pulse-jet engine (French Patents No. 374,124 and No. 412,478), so the author can conclude that "there is reason to believe that the German pulse-jet was, in fact, an independent invention, but that does not mean that its designers may not have been influenced, even without knowing it, by ideas which stemmed in the first place from Marconnet's work."

In his use of the second technique, Collier shows more imagination than anyone who has waded through the book would have thought possible. The following sections bring up the rear.

"Inquest." Labelled Chapter 11, this is a section in which the author asks himself silly questions and comes up with the expected silly answers. Question: "Was either V-1 or V-2 a new departure in the sense that it introduced a new principle of strategy?" Answer: "Pilotless winged missiles and long-range rockets are bombardment weapons, or in short, artillery. Whether a mere extension of the range of artillery can ever be said to introduce a new principle of strategy can only be a matter of opinion."

"Chronological Summary." This apparently reproduces the notes used in writing the book; they began with the French patents.

"Appendix: V-1 and V-2." This is apparently intended to be a technical description of the two weapons. The V-1 discussion again refers to the French patents.

"Bibliography and Sources." A modest list, not surprisingly; it includes Andrew Tully's well-known work on CIA and (you guessed it) the two French patents.

"Index." Quite detailed; contains five page references to the French patents.

Had enough?

Edwin R. Walker

Two German Spy Books

A-54: SPION MIT DREI GESICHTERN. By *Rudolph Ströbinger*. Translated from the orginal Czech *Stopa Vede k Renému* (Prague, 1965), by K. M. Ruda. (Munich: Paul List. 1966. 256 pp. DM 13.80.)

This is a study of some operations of the prewar and war-exiled Czechoslovak intelligence service, operations previously recounted for readers of this journal from the recollections of that service's chief, the late General Frantisek Moravec. It barely touches the story of the Heydrich assassination engineered by the service from its London exile,[1] but it tells in some detail of Moravec's escape to London with key personnel and assets,[2] his fine timing made possible by advance information on the German takeover that came from a remarkable agent of his. It focuses on the case history of that agent, a charter-member Nazi and Abwehr officer whom Moravec's account named "L,"[3] true name Paul Thümmel.

Ströbinger brings much new information. He did an evidently conscientious job of going through the archives of the Czech service (returned to Prague after the war), looking into pertinent portions of the Nazi intelligence records, and seeking out for interview all persons still living that might have something to tell about the case. These latter range from subordinates of Moravec who convey his viewpoint on its beginning to fellow-prisoners of Thümmel's at Theresienstadt who describe its end. The author sifts the evidence trying to resolve contradictions and explain mysteries, with partial success for even the central mystery of the agent's motivation. The scholarly approach is marred by a bit too much fictionalizing, especially in the early chapters, but the only hint of political bias is a complaint that Moravec forbade the resistance leaders with whom he dealt to share information with the communist resistance.

The book points up some errors in our earlier account of the case, most of them inconsequential and natural enough in an as-told-from-memory-to-writer story, like titling Moravec "General" at a time when he was lieutenant colonel and colonel or showing L out of contact from March into September 1939 but yet the source of advance information on the invasion of Poland. One larger error is puzzling, though. Mor-

[1] *Studies* IV 1, p. 1 ff, "The Assassination of Reinhard Heydrich."
[2] *Studies* VII 2, p. A1 ff, "Operation Uproot."
[3] *Studies* III 2, p. 105 ff, "The Shorthand of Experience."

avec has L stationed in Berlin from mid-1939 through 1943, then transferred to Prague and arrested there in December 1944. Actually he was stationed in Prague from the time of the German takeover in 1939, and he was arrested there in March 1942! (The *A-54* dust jacket reproduces Heydrich's memo announcing this fact to Bormann and asking him to keep it quiet.) Presumably because of his Party status—Thümmel had been an early buddy of Himmler's—his trial kept being put off (as Canaris' was for a lesser period) and he was imprisoned in Theresienstadt under a pseudonym, as a Dutchman.

One is tempted to explain Moravec's recollection of the last 21 months of the operation as the result of some kind of German deception like North Pole—A-54's very last report, in March 1942, did represent as serious new plans for the invasion of England two six-month-old directives for diversionary maneuvers—but Ströbinger should have found some further reflection of such a deception in the archives, and there would still be the discrepancy about L's duty station. The Moravec memory must simply have been very erratic indeed.

ABC DER SPIONE. By *Hendrik van Bergh.* (Pfaffenhofen: Ilmgau Verlag. 1965. 424 pp. DM 24.—.)

The main section of this book is a selected series of case histories, ranging the alphabet from Altmann to Zange, of communist espionage in the Federal Republic. Most of the cases are East German; a few were Soviet, Polish, or Czech operations. The source materials, except for interviews with two or three defectors, seem to have been exclusively the testimony offered at the agents' trials. Otherwise well told, the histories understandably suffer from awkward gaps on the counterintelligence side, leaving mysteries about how the agents were caught—or long not caught; but they give a good many-faceted view of the modus operandi of the communist services, especially their methods and devices in recruitment.[4]

This main section is preceded by ninety-odd rather tiresome pages of generalities and legal theorizing on the theme that old-fashioned national espionage died when Lenin put secret service to work for the international Marxist revolution. Even for didactic purposes—and the author's purposes are didactic—it would have been better to let the case materials speak for themselves rather than point out the moral at such length in advance. The stories, in addition to being instructive, are often amusing. Take the case of Willi Knipp.

Knipp, a messenger in the Bonn Interior Ministry, in 1956 offered his services to the East German MfS on the suggestion of another agent, Josef Paul, who later would become his courier. His offer was accepted in a brief interview in East Berlin, and he was given a Minox camera; any training was left to Paul. Knipp carried the camera to work in his pocket every day, as though an Interior Ministry messenger would naturally need one, and photographed documents whenever he got a chance. One day it fell out of his pocket and a secretary asked what it was. "Nothing for young girls," he said. But then he asked the MfS for a concealment device and got a clothes brush with a hollow handle. He now confined his photographic activity to his sorting room.

In January 1957 his courier Paul was informed by the police that he was under suspicion of treasonous relations with the Soviet Zone. Paul immediately fled to the East, but when nothing happened for a couple of weeks he came back and resumed his duties in support of Knipp. It was another four and a half years before the suspicions ripened to an arrest.

Knipp in the meantime was trying to find a way to get at classified documents, which as messenger he carried only in locked pouches; only authorized officials had keys. He took a pouch home, removed the lock, and sent it to the MfS to have a key made. They sent him one, but it didn't work. So he stole another pouch and sent *its* lock East and got another key; it likewise didn't work. He gave up on the MfS technicians and set about to steal a genuine key.

He observed what one of the authorized officials did with his key at night: He put it in the center drawer of his desk, locked the drawer, put that key in the middle drawer of the left pedestal, locked that drawer, put that key on the top shelf of the wardrobe, locked the wardrobe, and put that key under some paper clips in the pencil tray on his desk. Knipp threaded these zigzag steps in reverse, took the key home, removed head from shank on this and one of the MfS keys, exchanged them, and returned the right shank with the wrong head to its safe storage. The next day its custodian complained to the supply chief that his key suddenly no longer worked; this man was puzzled, but gave him another.

Now Knipp had no trouble photographing quantities of classified documents between pickup and delivery in his sorting room. In 1959 new pouches with different locks were introduced, but he borrowed a key in the same way, this time having a whole duplicate made. The

[4] They include some of the cases thumbnailed in "Porthole to the West," *Studies* VI 2, p. A21 ff, but many more and all much more thoroughly covered.

MfS tripled his salary and added a bonus for each classified document. He and Paul got honorary citations on the DDR's tenth anniversary.

In 1961 things were made easier for Knipp. He was transferred to a reproduction section, where he would only have to make an extra copy of documents for his other bosses. But this was a ruse to catch him in the act; on 26 July he and Paul were arrested. He got ten years.

Inquirer

Soviet Intelligence and Security

The bibliography on the following pages is a sequel to that following page 80 in *Studies* X 2.

SECOND BIBLIOGRAPHY OF SOVIET BOOKS AND ARTICLES

1. About Chekists and State Security Personnel
2. About Soviet Military Intelligence Officers
3. About Partisans and Underground Activity
4. Warning Against U.S. Intelligence

This second series of listings on the subjects above supplements and carries up to 1 September 1966 the similar compilation made the preceding February. It shows there has been no abatement in the flood of internal publicity for the USSR's intelligence and security services that followed the September 1964 breaching of a forty-year rule of silence about Soviet espionage.

1. About Chekists and State Security Personnel

Anonymous. "Chasovyye Gosudarstvennoy Granitsy" (Sentries of the State Border). Moscow, *Pravda,* 28 May 1966, p. 6.

A brief account of a meeting held by well-known frontier guard leaders in the editorial offices of *Pravda.*

Anonymous. GEROICHNYY PODVYG RADYANSKOGO NARODU (The Heroic Exploits of the Soviet People). Kiyev, Vydavnytstvo politychnoi literatury Ukrainy, 1965. 167 pp. (In Ukrainian.)

A collection of materials about Soviet partisans, Chekists, and underground workers active in the Ukraine during the Great Patriotic War (1941-45). Includes documents and a list of those who were awarded various decorations.

Anonymous. "Khronika, Fakty, Nakhodki" (Chronicle, Facts, Finds). Moscow, *Voyenno-istoricheskiy Zhurnal,* Izdatelstvo "Krasnaya Zvezda," No. 7, July 1966, p. 110.

Maj. Gen. res. M. V. Smirnov gives additional information about Andrey Ivanovich Gubin, hero of the Civil War in Russia (1918-20) who also served with Cheka troops in 1919. More about Gubin can be found in L. Degtyarev's *Shagayut Milliony* (Millions are Marching), Moscow, Voyenizdat, 1958.

Anonymous. "Neutomimyy Boyets i Truzhenik" (An Indefatigable Soldier and Toiler). Tallin, *Kommunist Estonii,* No. 5, May 1966, pp. 68-73.

Biography of Iokhannes Kyaspert, a leading Estonian Communist who served in the Cheka in 1921. He was associated with Kingisepp, who figured in the investigation of the Lockhart affair. See below under D. Rudnev and S. Tsybov.

Anonymous. "Polkovnik Abel Rasskazyvayet o Sebe" (Col. Abel Tells About Himself). Vilnyus, *Sovetskaya Litva,* 18 February 1966, pp. 3-4.

Col. Abel, who was sentenced to 30 years' imprisonment in the U.S. in 1957, talks about his 30 years in Soviet intelligence.

Various authors. DOROGI, KOTORYMI SHEL SOLDAT (The Roads a Soldier Traveled). Kishinev, Izdatelstvo "Kartya Moldovenyaske," 1966. 226 pp.

A collection of essays about the Soviet Border Guards, military intelligence, and partisans. The events described took place in Moldavia in 1941-44.

Various authors. DOROGOY BORBY I POBED (Along the Road of Struggle and Victory). Volgograd, Volgogradskoye knizhnoye izdatelstvo, 1963. 266 pp.

Reminiscences and essays about the establishment of Soviet power in Volgograd and its development into a large industrial city after the October Revolution, in which the Cheka took an active part.

Various authors. ETO BYLO NA KRAYNEM SEVERE (It Happened in the Far North). Murmansk, Murmanskoye knizhnoye izdatelstvo, 1965. 411 pp.

A collection of stories on Soviet military operations in the Far North. Some are about members of the Soviet Border Guards.

Various authors. TREVOZHNAYA SLUZHBA (Uneasy Service). Moscow, Izdatelstvo politicheskoy literatury, 1966. 461 pp.

A collection of stories about daily life at Soviet frontier posts and deeds of Soviet Border Guards in peace and war.

Various authors. "Trevozhnyye Budni Granitsy" (Uneasy Days at the Border). Moscow, *Krasnaya Zvezda,* 30 January 1966.

Frontier officers recount their daily routines at frontier posts, which include arrests of trespassers.

Various authors. V BOYAKH ZA MOLDAVIYU (1941-1945) (During the Struggles for Moldavia). Kishinev, Izdatelstvo "Kartya Moldovenyaske," 1964. 301 pp.

A collection of stories about Soviet military operations, including underground activities of Soviet patriots and partisans, which led to the liberation of Moldavia from German occupation.

Various authors. VERKHOVNOMU SUDU SSSR—40 LET (40 Years of the Supreme Court of the USSR). Moscow, Izdatelstvo "Izvestiya," 1965. 94 pp.

A collection of essays dedicated to the 40th anniversary of the Supreme Court of the USSR. Some of the authors discuss the cases of Beriya and his State Security comrades tried in 1953 and 1954.

Various authors. VSTRECHA S GRANIZEY (Meeting with the Border). Uzhgorod, Izdatelstvo "Karpaty," 1966. 238 pp.

A collection of stories about the Soviet Border Guards. Some describe operations against groups of Ukrainian nationalists.

Various authors. ZA VLAST SOVETOV (For Soviet Power). Ufa, Bashkirskoye knizhnoye izdatelstvo, 1961. 357 pp.

Old revolutionaries tell of the establishment of Soviet power in Bashkiria in 1917. Some of them served in the Cheka.

Various authors. ZHURNALISTY NA VOYNE (Journalists at War). Moscow, Voyennoye izdatelstvo ministerstva oborony SSSR, 1966. 424 pp.

Soviet journalists write about their contributions to the victory over the Germans and about people whom they met during the Great Patriotic War.

Avdeyev, A. 18 DNEY V TYLU VRAGA (18 Days Behind Enemy Lines). Moscow, *Moskovskaya Pravda,* 28 July 1966, pp. 3-4.

Chekist operations behind enemy lines in the Smolensk area in May 1942.

Belevitney, Roman Andreyevich, and Los, Andrey Filippovich. KREPOST BEZ FORTOV (A Fortress Without Forts). Moscow, Voyennoye izdatelstvo ministerstva oborony SSSR, 1966. 216 pp.

The defense of Liepaja during the first days of the Great Patriotic War and how Boris Filatovich Vasilyev, an NKVD member, interrogated a German agent.

Borisov, M. "Nakaz Ilyicha" (Ilyich's Order). Moscow, *Sovetskiy Patriot,* 10 November 1965.

Biography of Andrey Marynovich Dizhbit, a Chekist who was ordered to crush an anti-communist rebellion in the Pskov, Novgorod, Vitebsk, and Petrograd areas in 1919.

Davydov, A., Lt. Col. "Na Dozornoy Trope" (On the Patrol Path). Moscow, *Krasnaya Zvezda,* 20 April 1966, p. 4.

Episodes concerning Soviet border defense.

Dirzhinskas, A. "Slovo o Doblesti" (A Word About Courage). Vilnyus, *Sovetskaya Litva,* 11 August 1966, p. 4.

Biography of Gerasim Arkhipovich Rubtsov, commander of a Border Guard regiment, who was killed in action in 1942.

Dmitriyev, Yu., and Checketkin, V. "Krepost u Morya" (A Fortress by the Sea). Riga, *Sovetskaya Latviya,* 8 April 1966, p. 3.

More about the defense of Liepaja, in which the Soviet Border Guard unit under the command of Major Yakushev played an important part.

Dzerzhinskiy, Feliks Edmundovich. DNEVNIK ZAKLYUCHENNOGO. PISMA (Diary of a Prisoner. Letters). Moscow, Izdatelstvo Tsk Vlksm "Molodaya Gvardiya," 1966. 336 pp.

The Dzerzhinskiy diary together with letters from friends and reminiscences about the first head of the Cheka.

Firstenko, F., Maj. Gen. "Vernyye Strazhi Rodiny" (The True Guardsmen of the Motherland). Riga, *Sovetskaya Latviya,* 28 May 1966, p. 4.

An article dedicated to the 48th anniversary of the Soviet Border Guards.

Soviet State Security

Fomin, Fjodors. "Banditu Ligzdas Gals" (The End of a Bandits' Nest). Riga, *Cina*, 2 February 1966, p. 4; 3 February 1966, p. 4. (In Latvian.)

See below.

Fomin, F. "Konets Banditskoy Volnitsy" (The End of a Bandit Group). Moscow, *Nedelya*, 23-29 January 1966, pp. 20-21.

Exploits of two Chekists, Ye. G. Yevdokimov and E. Ya. Grundman, the latter a woman, who liquidated bandits in the Vinnitsa area in 1919.

Fomin, I. "Vystrely v Tayge" (Shots in the Tayga). Moscow, *Krasnaya Zvezda*, 13 July 1966, p. 4.

A group of Chekists eliminates bandits after a hot chase.

Gefters, D. "Postenis Pie Juras" (A Post by the Sea). Riga, *Zvaigzne*, No. 9, 1965, p. 8. (In Latvian.)

Describes a unit of Border Guards stationed in Latvia along the Baltic Sea. The commander, Ivan Petukhov, has been there for eleven years. Another old-timer is Ivan Malakhov, who has served with the unit since 1945. Malakhov is credited with having been the first to see a U.S. aircraft which penetrated Soviet territory in 1958.

Genkina, D. "Cinas Nevis Kugi, Bet Cilveki" (The Fighting Is Not Done by Ships But by People). Riga, *Padomju Jaunatne*, 20 March 1966, p. 3. (In Latvian.)

An article about Border Guard officer Sergey Osipov, who defended Liepaja in 1941 and 1945. He achieved the rank of admiral, was decorated Hero of the Soviet Union, and now lives in retirement.

Genkina, D. "Nekad Neaizmirsisim" (We Will Never Forget). Riga, *Zvaigzne*, No. 9, 1956, p. 8. (In Latvian.)

A Latvian communist, Olgerts Krastins, who in 1941 became a *politruk* for the 12th Border Guard Brigade with the rank of colonel, was killed in action in July of that year near Tartu, Estonia.

Hercbergs, H. "Jana Cina Iela" (Janis Cinis Street). Riga, *Padomju Jaunatne*, 20 April 1966, p. 1. (In Latvian.)

A street in Valmiera is named for Janis Cinis, who during the Spanish Civil War was a member of the International Brigade and in 1940-41 served as Vice Commissar of the Interior in Riga.

Ignatov, O. "Po Zakonam Muzhestva" (By the Law of Courage). Riga, *Sovetskaya Latviya*, 4 May 1965, p. 4.

Exploits of Martyn Martynovich Poga, a Chekist parachuted behind the German lines near Riga in October 1942.

Ivan, Vsevolod Mikhaylovich. IZ ISTORII BORBY PARTII PROTIV "LEVOGO OPPORTUNIZMA" (From the History of the Party's Struggle Against "Left Opportunism"). Leningrad, Lenizdat, 1965. 279 pp.

The Bolsheviks' struggle against the Trotskiy-Zinovyev opposition in Leningrad in 1925-27. Some of those involved are identified as members of the OGPU.

Kazitskiy, A., and Rozenberg, L. "Vzorvannyy Treugolnik" (The Exploded Triangle). Moscow, *Krasnaya Zvezda*, 15 January 1965, p. 3.

The story of Chekist partisan detachment Groznyy which operated in Belorussia in 1942-44 and its commander Lt. F. F. Ozmitel.

Khorev, A., Major. "Kto Zhizn Provel v Boyu" (He Who Spent His Life in Strife). Moscow, *Krasnaya Zvezda*, 1 July 1966, p. 4.

Biography of Vasiliy Ivanovich Kryuchkov, who in the 1920's was on special GPU assignment fighting bandits and during the Great Patriotic War commanded a special intelligence group behind German lines.

Kladt, Anatoliy Pavlovich, and Kondratyev, Vladimir Aleksandrovich. BYL O "ZOLOTOM ESHELONE" (True Story of the "Golden Train"). Moscow, Izdatelstvo politicheskoy literatury, 1966. 128 pp.

In August 1918 the White Army had occupied Kazan and captured the Russian gold reserves. Part of this gold was recaptured by partisans in 1920. Members of the Cheka were involved in the action.

Konovalov, Vladimir Grigoryevich. SKHVATKA U CHERNOGO MORYA (A Skirmish at the Black Sea). Odessa, Izdatelstvo "Mayak," 1965. 263 pp.

Story of Bolshevik underground and revolutionary activities in Odessa during the Russian Civil War (1918-20) said to be based on documents, letters, memoirs, and newspapers.

Kornilov, Leonid Viktorovich. OSTANUTSYA V PAMYATI (To Remain in Memory). Moscow, Izdatelstvo politicheskoy literatury, 1965. 126 pp.

A story based on alleged documentary evidence about a Soviet intelligence and sabotage group organized in Moscow in 1942 and then operating in Belorussia under the code name "Bestrashnyye."

Kostrov, I. "Zagovorit Li Arkhiv Shpiona" (If the Spy's Archives Should Ever Speak). Riga, *Sovetskaya Latviya*, 25 March 1966, p. 3.

Comment on an article about the Lockhart plot in the British *Sunday Times*, probably the article published March 19, 1966.

Kozakov, Mikhail Emmanuilovich. PROLETARSKIY YAKOBINETS (The Proletarian Jacobin). Moscow, Voyennoye izdatelstvo ministerstva oborony SSSR, 1966, pp. 169-252.

Reminiscences of an old Chekist about F. E. Dzerzhinskiy, head of the Cheka.

Kravchenko, V., Col. "Pod Imenem Shmidkhen" (Under the Name of Shmidkhen). Moscow, *Nedelya*, 6-12 March 1966, p. 7.

After 48 years the Chekists reveal the identity of a penetration agent through whom they uncovered the plot organized by Lockhart.

Kudinov, F., Major. "Maki Na Zastave" (Poppies at the Frontier Post). Moscow, *Izvestiya*, 27 May 1965, p. 3.

Daily life at the Kravchenko frontier post commanded by the author.

Kuliyev, O., Rakhmanov, K., and Artykov, A. ISTORIYA TURKMENSKOY SSR (History of the Turkmen SSR). Ashkhabad, Turkmenskoye izdatelstvo, 1965. 184 pp.

Contains among other historical data the names of Bolshevik revolutionaries and members of the Cheka who helped to establish Soviet power in Turkmenia.

Soviet State Security

Kurpnek, Gunar. "Krakh Odnogo Zagovora" (Failure of a Plot). Riga, *Sovetskaya Latviya,* 6 and 9-12 February 1966.

In 1918 the Cheka discovered a plot involving representatives of foreign countries—Lockhart, Reilly, Kolomatiano, Poole, Grenar, and De Vitt. Chekist Eduard Petrovich Berzin played an important part in uncovering it.

Kuznetsov, Pavel Grigoryevich. LT. GEN. MARSHAL TOLBUKHIN. Moscow, Voyennoye izdatelstvo ministerstva oborony SSSR, 1966. 276 pp.

Biography of Marshal Fedor Ivanovich Tolbukhin. One of his associates was Lt. Gen. P. I. Ivashutin, chief of State Security's Special Section on the Ukrainian front in 1944.

Liepnieks, B. "Cels no Aizputes lidz Samarai" (The Road from Aizpute to Samara). Riga, *Liesma,* June 1965, No. 6, pp. 1-2. (In Latvian.)

An interview with retired female Chekist Herta Stalberga, who was sent behind the lines to spy on Kolchak's army. She was married to two Chekists: Fricis Eisenarms and one Vorobyov.

Lozgachov-Felizarov, G. NEAIZMIRSTAMAIS (The Unforgettable). Riga, Izdatelstvo "Liesma," 1965, pp. 216-224. (In Latvian.)

Episode in this book about Lenin in which he has ten Latvian bodyguards while recuperating in Gorki from an injury. Their names are given and their personalities described.

Lukins, Aleksandrs. "Operacija 'Talais Leciens'" (Operation "Long Jump"). Riga, *Cina,* 1-7 September 1965, p. 4. (In Latvian.)

This is a condensed, serialized version of the author's book *Razvedchiki* (Intelligence Officers) published by Izdatelstvo znaniye in Moscow, 1965.

Maltsev, Mikhail Mitrofanovich, and Kurchin, Grigoriy Iosifovich. PERVYY SOVETSKIY, PERVYY BOYEVOY (The First Soviet Combat Decoration). Moscow, Voyennoye izdatelstvo ministerstva oborony SSSR, 1965. 197 pp.

The story of the Order of the Red Banner. Chekists are named among those receiving decorations.

Mandrugin, Aleksandr Andreyevich. DO POSLEDNEGO DYKHANIYA (Until the Last Breath). Moscow, Moskovskiy Rabochiy, 1965. 184 pp.

The biography of Yefim Fedorovich Kukhmisterov, an old Bolshevik and organizer of a Bolshevik underground group in Moscow. He served in the Cheka in Nikolayev in 1920.

Moskvichev, Lev Nikolayevich. YUNYYE DRUZYA POGRANICHNIKOV (Young Friends of the Border Guards). Alma-Ata, Izdatelstvo "Kazakhstan," 1965. 36 pp.

Story of a young pioneer detachment which assists the Border Guards.

Mukhamedov, A. M. SLAVNYY PUT (A Glorious Course). Ashkhabad, Izdatelstvo "Turkmenistan," 1965. 105 pp.

A study of the establishment of the Soviet militia in Turkmenia in 1917.

Nezhinskiy, Valentin Aleksandrovich. OT KAVKAZA DO BERLINA (From the Caucasus to Berlin). Stavropol, Knizhnoye izdatelstvo, 1965. 144 pp.

A collection of stories about people from the Stavropol region during the Great Patriotic War. Yevgeniy Maksimovich Ryabov is identified as chief of the Karachay-Cherkes Cheka and OGPU (1920-30) and Osman Kasayev as commander of the 121st partisan regiment in Belorussia (1941-44).

Novoplyanskiy, D. "Pervyy Kontrudar" (The First Counterblow). Moscow, *Pravda,* 19-20 June 1966.

A group of frontier officers organized a counterattack on 23 June 1941 and recaptured Peremyshl, occupied by the Germans the previous day.

Noriets, Uldis. "Viens Solis—Cita Pasaule" (One Step—Another World). Riga, *Cina,* 29 May 1966, p. 4. (In Latvian.)

An article praising the Border Guard units stationed on the docks frequented by foreign sailors. Several guards are named.

Paul, I., Col. ret. "Ne Pozvolim" (We Will Not Permit). Tallin, *Sovetskaya Estoniya,* 22 June 1966, p. 3.

Reminiscences of the first days of the Soviet-German war with special praise for Lt. Silantyev, commander of the 19th Frontier Post.

Pavlovskiy, G. "Otchizny Vernyye Syny" (True Sons of the Fatherland). Moscow, *Sovetskiy Patriot,* 1 May 1966, p. 4.

Among Soviet patriots who died in the Great Patriotic War there is listed Ivan Shcherbina, battalion commissar of the 10th NKVD division.

Petnyunas, V., Lt. "Sudba Zastavy Sorokina" (The Fate of Sorokin's Frontier Post). Vilnyus, *Sovetskaya Litva,* 26 February 1966, p. 3.

When Lt. Sorokin's frontier post in Lithuania was captured by the Germans in June 1941 he retreated and joined the Soviet troops. Some of his men joined the partisans and later became commanders of partisan units.

Petrosyan, G., and Tarasenko, K. "Sosedka Nadezhdy Durovoy" (A Neighbor of Nadezda Durova). Moscow, *Nedelya,* 24-30 April 1966, p. 11.

Biography of Antonina Tikhonovna Palshina, a member of the Cheka's secret operative section in Smolensk in 1918.

Platanovs, J. "Sodien Robezsargu Diena" (Today—Border Guards' Day). Riga, *Padomju Jaunatne,* 28 May 1966, p. 4. (In Latvian.)

An article written in connection with Border Guards' Day describes the activities of the Guards' marine units. The names of several guards are mentioned in connection with the checking of foreign ships.

Popov, O. "Chasovyye Rodnoy Zemli" (Sentries of the Native Land). Moscow, *Pravda,* 28 May 1966, p. 6.

Stories about Soviet Border Guards and people who help them in apprehending intruders.

Popov, O. "Stoyali Nasmert" (They Fought to Their Last Breath). Moscow, *Pravda,* 27 May 1966, p. 6.

Border Guard officers who lost their lives during the Great Patriotic War.

Soviet State Security

Protasov, Vyacheslav Innokentyevich. MY ZHIVEM NA DEN RANSHE (We Live a Day Ahead). Moscow, Voyennoye izdatelstvo ministerstva oborony SSSR, 1966. 104 pp.

Stories about sailors from the Pacific navy. One, entitled "Petushok" (The Cockerel), concerns the arrest of foreign agents by members of the Soviet Border Guards.

Rainesa, G. JANIS LECMANIS STRADNIEKU SKIRAS KAREIVIS (Janis Lecmanis, Soldier of the Working-Class). Riga, Izdatelstvo "Liesma." 186 pp. (In Latvian.)

A biography of Latvian communist Janis Lecmanis, who in 1919 was vice chairman of the Soviet government in Latvia and also Commissar of Interior.

Ratnieks, K. "Cinitaja Muzs" (A Fighter's Life). Riga, *Cina,* 28 August 1965, p. 2. (In Latvian.)

An article to commemorate the 75th birthday of Vilis (Vilhelm) Knorins, a communist of Latvian descent. He was an activist during the revolution, then from 1928 to 1935 engaged in illegal Comintern activities in Austria, Germany, and Poland. Later he became secretary of the Comintern's Central European section. He was killed during the purge. (See also under L. Rezanskis.)

Rezanskis, L. "Dodiet Man Laiku" (Give Me Time). Riga, *Padomju Jaunatne,* 27 August 1965, p. 2. (In Latvian.)

Another article commemorating the 75th birthday of Vilhelm Knorins. (See also under K. Ratnieks.)

Rubakin, Aleksandr Nikolayevich. NAD REKOYU VREMENI (Over the River of Time). Moscow, Izdatelstvo "Mezhdunarodnyye Otnosheniya," 1966. 525 pp.

The author was forced to leave Russia in 1907 because of his part in the revolutionary movement. He spent most of his life in France and Switzerland and made many friends among the Russian émigrés, including Lenin. After the October Revolution he served the Soviet government in various capacities. Among the people he met during his service were Chekists, diplomats, and other important Soviet personalities.

Rudnev, D., and Tsybov, S. "O.S.K." Tallin, *Sovetskaya Estoniya,* 1-25 February 1966.

A detailed account of the Special Investigative Commission led by Chekist Kingisepp which investigated the assassination of German Ambassador Mirbach by Chekist Blyumkin and a revolt by the Social Revolutionary Party in 1918.

Semichastnyy, V. "Sovetskiye Chekisty v Velikoy Otechestvennoy Voyne" (Soviet Chekists In the Great Patriotic War). Moscow, *Pravda,* 7 May 1965, p. 4.

The chief of the KGB tells of Chekist activities during World War II.

Serdyuk, Aleksandr Sevastyanovich. ETO I YEST GRANITSA (That is the Border). Moscow, Izdatelstvo dosaaf, 1964. 111 pp.

Essays and stories about daily life at Soviet frontier posts.

Sharikov, P., Lt. Col. "Nochnaya Trevoga" (Night Alarm). Moscow, *Izvestiya,* 28 May 1966, p. 3.

Describes a night alarm at a frontier post commanded by Capt. Mayevskiy.

Shchelokov, A. "Sladkaya Zhizn Svetki Kucheryavenko" (The Sweet Life of Svetka Kucheryavenko). Moscow, *Krasnaya Zvezda,* 5 February 1966, p. 4.

Svetlana Kucheryavenko, wife of a Soviet officer, was seeking an easy life. She met an engineer by the name of Artur who recruited her for intelligence work on behalf of a foreign intelligence service. Both were caught by the KGB.

Slobozhan, Inna Ivanovna. ALEKSANDR RAKOV. Leningrad, Lenizdat, 1965. 215 pp.

Biography of Aleksandr Semenovich Rakov, a leading communist and commissar of the Petrograd Special Brigade who was killed by White Guard officers in 1919.

Smeshnov, Nikolay Aleksandrovich, and Zavalishina, Viktoriya Mikhaylovna. YOGO ZVALY ZORICH (His Name was Zorich). Kiyev, Vydavnytstvo politychnoi literatury Ukrainy, 1965. 96 pp.

Documentary about Soviet Major Zorich, dispatched to Lublin, Poland, in 1944 to penetrate a German espionage center.

Smirnov, Dmitriy Mikhaylovich. ZAPISKI CHEKISTA (Notes of a Chekist). Minsk, Izdatelstvo "Belarus," 1965. 256 pp.

The author was in the service of State Security organs for forty years. He recounts Chekist battles against foreign spies and saboteurs and the struggle with kulaks and Social Revolutionaries.

Smirnov, S. S. "Desyat Geroicheskikh Dney" (Ten Heroic Days). Riga, *Sovetskaya Latviya,* 8 February 1966, p. 4.

The defense of Liepaja during the first ten days of the Great Patriotic War. Among the defenders was Major Chernikov of the Soviet Border Guards.

Steins, V. "Revolucijas Kareivis" (The Revolution's Soldier). Riga, *Padomju Jaunatne,* 27 March 1966, p. 3. (In Latvian.)

Describing a movie completed about the Lockhart affair. Similar articles appeared in the following: *Padomju Jaunatne,* 18 August 1965, p. 4; *Cina,* 18 August 1965, p. 4; *Cina,* 26 February 1966, p. 4; *Padomju Jaunatne,* 13 May 1966, p. 2.

Stolyarov, F. "Kazimir Nauyekaytis" (An Old Chekist). Vilnyus, *Sovetskaya Litva,* 25 August 1966, p. 4.

Biography of the chief of the third section of the Cheka-OGPU Counterintelligence Department in 1921-23. He was purged in 1937. Several of his coworkers and superiors are named.

Titov, I. "Razvedchik Ostayetsya Razvedchikom" (An Intelligence Officer Turned Prospector). Moscow, *Pravda,* 13 June 1966, p. 4.

Valentin Semenov distinguished himself as a partisan intelligence officer during the Great Patriotic War.

Tretyakov, F., Col. ret. "Tverzhe Granitnykh Skal" (Stronger than Granite Rocks). Moscow, *Krasnaya Zvezda,* 13 February 1966, p. 2-3.

Story of the defense of Sevastopol in 1941-42. Some of the defenders were officers of the Soviet Border Guards.

Tserkover, E., and Shliyenkov, A. "Granitsa Ne Znayet Pokoya" (The Border Knows No Rest). Moscow, *Nedelya,* 22-28 May 1966, p. 6.

An interview with Col. Gen. Zyryanov, chief of the Soviet Border Guards.

Verbitskiy, A. "Kollektsiya Pana Kobetskogo" (Collection of Mr. Kobetskiy). Moscow, *Nedelya,* 7-13 August 1966, p. 22.

German and Italian agents were active in Madrid, Barcelona, and Valencia during the Spanish Civil War (1936-39). The counterintelligence service of the Spanish Republic was not able to cope with the agents, and Chekist Stanislav Vaupshasov, alias Comrade Alfred, was asked to help. (Vaupshasov is a very well-known Chekist who served in various Soviet consulates before WW II and led an NKVD partisan detachment on special assignment in Belorussia 1942-44. See his own *Partizanskaya Khronika* (Partisan Chronicle), Moscow, 1959, 471 pages.)

Veshchezerskiy, Georgiy Aleksandrovich. U KHLADNYKH SKAL (By the Cool Rocks). Moscow, Voyennoye izdatelstvo ministerstva oborony SSSR, 1965. 152 pp.

Memoirs of Soviet military operations in arctic regions 1941-45, where Border Guard units fought the Germans alongside the regular Soviet troops.

Veveris, E. "Kommunists" (Communist). Riga, *Padomju Jaunatne,* 10 March 1965, p. 3. (In Latvian.)

This article commemorates the Soviet spy Lev Manevich, "Etjene." The author was in German concentration camps where Manevich organized the inmates and thus saved their lives.

Yakushev, V. "Soldaty Vypolnili Svoy Dolg" (Soldiers Discharged Their Duty). Riga, *Sovetskaya Latviya,* 28 May 1966, p. 4.

An article dedicated to the 48th anniversary of the Soviet Border Guards.

Zabolotnyy, Grigoriy, Maj. Gen. "Na Strazhe Sovetskikh Rubezhey" (Guarding the Soviet Borders). Vilnyus, *Sovetskaya Litva,* 28 May 1966, p. 2.

The author is Chief of Political Administration of the Soviet Border Guards.

Zaydelson, Ye. "Gody I Sudby" (Years and Fates). Tallin, *Sovetskaya Estoniya,* 27 August 1966, p. 2.

Capt. Makar Nikolayevich Starykh of the Soviet Border Guards distinguished himself during the Soviet-German war.

Zeleznikovs, Nikolajs. "Divkauja Ar Fasistisko Izlukdienestu" (Duel with the Fascist Intelligence Service). Riga, *Padomju Jaunatne,* 4 April 1965, p. 8. (In Latvian.)

The author, a Cheka general, describes how his men fought the German Abwehr in 1944. He mentions the following Chekists: N. Kuznetsov, D. Medvedev, S. Vaupshasov, K. Orlovskiy, K. Mirkovskiy, F. Ozmityel, B. Galushkin, A. Rabchevich.

Zyryanov, P. "Smelyye, Otvazhnyye" (The Bold, The Courageous). Moscow, *Krasnaya Zvezda,* 27 May 1966, p. 3.

The chief of the Soviet Border Guards commemorates Border Guard Day.

2. About Soviet Military Intelligence Officers

Various authors. *Geroi Zemli Sovetskoy* (Heroes of the Soviet Land). Petrozavodsk, Karelskoye knizhnoye izdatelstvo, 1965. 342 pp.

Short stories on individual exploits in the Soviet campaign on the Karelian front. Some are about military intelligence officers.

Akulov, P., Col. "Podvigi Geroyev Vdokhnovlyayut" (Heroic Deeds Inspired the Heroes). Moscow, *Sovetskiy Patriot,* 3 July 1966, p. 4.

Intelligence officer Galina Markova presents Komsomol membership cards to a group of young Soviet soldiers from the Belorussian military district.

Chegrinets, S., Col., and Yeremeyev, L., Lt. Col. "Boyets Nevidimogo Fronta" (Fighter on the Invisible Front). Moscow, *Krasnaya Zvezda,* 5, 7, 12 May 1965.

Petr Ivanovich Prayadko, a Soviet army officer dispatched by military intelligence to Donetsk (then Stalino) in 1942, penetrated German Abwehr group no. 102 and after completing his mission returned to the Red Army.

Gavrilov, I. "Podvig Moskvichi" (The Heroic Exploit of a Moscow Girl). Moscow, *Moskovskaya Pravda,* 13 April 1966, p. 3.

Muscovite Anna Anisimova was an intelligence agent with Major Naumovich's group active in the Mogilev area in 1943-44. She died in action on 13 September 1944.

Golikov, F. I., Marshal. "Rezervnaya Armiya Gotovitsya k Zashchite Stolitsy" (A Reserve Army Gets Ready to Defend the Capital). Moscow, *Voyenno-istoricheskiy Zhurnal,* No. 5, Izdatelstvo "Krasnaya Zvezda," May 1966, pp. 65-76.

Fragment from a book by Golikov to be published by the Nauka publishing house. Major A. G. Kolesov is identified as chief of intelligence of the Reserve Army.

Guro, Irina Romanovna. DOROGA NA RYUBETSAL (The Road to Ryubetsal). Moscow, Izdatelstvo Tsk Vlksm "Molodaya Gvardiya," 1966. 304 pp.

A novel about a group of Soviet officers behind enemy lines and a young German who joined them.

Isbakh, Aleksandr. "Mate Zalka—General Lukach." Moscow, *Krasnaya Zvezda,* 23 April 1966, p. 3.

Biography of Mate Zalka who, under the name of General Lukach, commanded the 12th International Brigade in Spain in 1936.

Karklin, E. "Net Poshchady Ubiytsam Sovetskikh Patriotov" (No Quarter for the Killers of Soviet Patriots). Riga, *Sovetskaya Latviya,* 29 May 1966, p. 4.

On 28 May 1966 a Soviet court sentenced to death two Latvian SS men who had killed six Soviet intelligence agents on 10 May 1945.

Kolychev, V. "Aleksandr Matrosov iz Ivanova" (Aleksandr Matrosov from Ivanov). Moscow, *Sovetskaya Rossiya,* 15 May 1966, p. 4.

An essay about Hero of the Soviet Union Aleksandr Matrosov. Major Chaykin is identified as chief of intelligence of the division in which Matrosov was serving.

Korenevskiy, M., Capt. 2nd Class. "S Borta Shch-211" (Over the Side of the Shch-211). Moscow, *Krasnaya Zvezda,* 8 January 1966, p. 3.

On 7 August 1941 a Soviet submarine delivered to Bulgaria 13 agents of Soviet military intelligence.

Korenevskiy, M., Capt. 2nd Class. "Srazhayus Za Rodinu" (I am Fighting for the Motherland). Moscow, *Krasnaya Zvezda,* 9 January 1965, p. 3.

Aleksandr Sazonovich Aleksentsev, former Black Sea sailor, was in charge of a Soviet underground group in Makeyevka in 1941-43. He kept in contact with the Soviet forces. In 1944 he became deputy chief of the city council, and in the same year was arrested by the Soviet security service and presumably executed for collaboration with the Germans. He was rehabilitated in 1965.

Kudryavtsev, V., and Ponizovskiy, V. "Gorod Ne Dolzhen Umeret" (The City Must Not Die). Moscow, *Komsomolskaya Pravda,* 23, 25, 26, 27, 28, 30 January and 1, 2, 4, 5, 9 February 1966.

The story of a Soviet military intelligence group active in Cracow under the name "Golos" in 1944-45. Some of the members are still alive in Poland and in the Soviet Union.

Kurella, T. "Slovo o Lyubimon Brate" (A Word About a Beloved Brother). Moscow, *Komsomolskaya Pravda,* 24 April 1966, p. 3.

Biography of Mate Zalka (Lukach). See above under Isbakh, Aleksandr.

Lelyushenko, Dmitriy Danilovich. ZARYA POBEDY (The Dawn of Victory). Moscow, Voyennoye izdatelstvo ministerstva oborony SSSR, 1966. 144 pp.

An account of Soviet military operations near Moscow in 1941 identifying several intelligence officers, agents of partisan intelligence components, and Border Guard officers.

Malkov, Dmitriy Kuzmich, Lt. Gen. res. SKVOZ DYM I PLAMYA (Through Smoke and Flame). Moscow, Voyennoye izdatelstvo ministerstva oborony SSSR, 1966. 192 pp.

The story of the 12th Guards' Pinsk Division, decorated with the Order of the Red Banner and the Order of Suvorov. It lists the names of commanding officers, including those in charge of intelligence operations.

Mar, N. "Lastochka" (The Swallow). Moscow, *Pravda,* 14 March 1966, p. 4.

Lastochka was the alias used by Lidiya Andreyevna Bazanova, an agent of Soviet military intelligence active in Belorussia in 1944. She was caught by the Germans and executed.

Panteleyev, Yuriy Aleksandrovich, Admiral. MORSKOY FRONT (The Sea Front). Moscow, Voyennoye izdatelstvo ministerstva oborony SSSR, 1965. 320 pp.

An account of Soviet naval operations in the Baltic Sea in 1941. Col. N. S. Frumkin is identified as chief of Baltic naval intelligence.

Ponizovskiy, V., and Kudryavtsev, V. "Za Chas do Aresta" (An Hour Before the Arrest). Moscow, *Komsomolskaya Pravda,* 6-7 and 9-14 August 1966.

Said to be based on documentary evidence about Soviet military intelligence agents Milka and Mikhail who operated in Plovdiv 1941-44.

Rodimtsev, Aleksandr Ilyich. NA POSLEDNEM RUBEZHE (At the Last Line of Defense). Volgograd, Nizhne-Volzhskoye knizhnoye izdatelstvo, 1964. 120 pp.

The defense of Stalingrad 1942-43. Identifies officers in charge of military intelligence operations as well as some high-ranking officers of State Security.

Selivanov, P. "Komkor R. V. Longva" (Corps Commander R. V. Longva). Moscow, Izdatelstvo "Krasnaya Zvezda," *Voyenno-istoricheskiy Zhurnal,* No. 7, July 1966, pp. 126-128.

Biography of Roman Voyetsekhovich Longva, who in 1921 was in charge of military intelligence in the Ukraine and the Crimea and a member of the Ukrainian GPU's Presidium. He died during the purge in 1938.

Soroka, B. "Osvyacheni na Vichnist" (Consecrated Forever). Kiyev, *Visti z Ukrainy,* June 1966, pp. 6-7.

Inhabitants of Kosmach village in the Ukraine gather to pay last respects to seven Soviet intelligence agents killed by Ukrainian nationalists in 1944.

Starchak, Ivan Georgiyevich. S NEBA V BOY (From the Sky into Battle). Moscow, Voyennoye izdatelstvo ministerstva oborony SSSR, 1965. 184 pp.

Story of Soviet parachutists who operated behind the German lines on various intelligence and sabotage missions.

Stegnov, V., Senior Lt. res. "Operatsiya Zhuravl" (Operation "Zhuravl"). Moscow, *Krasnaya Zvezda,* 9 May 1966, p. 3.

The story of a group of Soviet military intelligence officers sent behind the German lines to capture a six-barrel mortar. One of them, Lt. Petr Tikhonovich Yurchenko, is still on active duty.

Strelbitskiy, Ivan Semenovich, Lt. Gen. SHTURM (Assault). Moscow, Voyennoye izdatelstvo ministerstva oborony SSSR, 1965. 252 pp.

An account of Soviet military operations directed at liberation of the Donetz coal fields and the Crimea in 1943-44. One chapter concerns the work of intelligence officers.

Traskunov, M. "Komkor A. I. Gekker" (Corps Commander A. I. Gekker). Moscow, *Voyenno-istoricheskiy Zhurnal,* No. 5, Izdatelstvo "Krasnaya Zvezda," May 1966, pp. 114-117.

A short biography of A. I. Gekker, Soviet military attaché in China in 1922 and in Turkey in 1929. In 1934 he held a responsible position in the Soviet General Staff. He was purged in 1937.

Udovichenko, Ye., Lt. Col. "Otvazhnyy Razvedchik" (A Courageous Intelligence Officer). Moscow, *Krasnaya Zvezda,* 8 May 1965, p. 5.

Vladimir Nikolayevich Zarembo was in charge of intelligence activities for a regiment of the Red Army during the Great Patriotic War. He was decorated and is now a colonel in command of a tank unit.

Vasilenok, A. "Ryadom s Zorge" (By Sorge's Side). Riga, *Sovetskaya Latviya,* 15 February 1966, p. 4.

Karl Rimm was an associate of Sorge's in China in 1931. Lyubova Ivanovna Rimm, Karl's wife, was also a member of the net.

Vinokur, Leonid Abovich. 7-YA GVARDEYSKAYA IDET NA ZAPAD (The 7th Guards Are Going West). Volgograd, Nizhne-Volzhskoye knizhnoye izdatelstvo, 1964. 266 pp.

The story of 7th Guards' Korsun Brigade. V. N. Kostyushko was in charge of intelligence operations.

Voytko, F., Col. res., and Nekrasov, T. "Put v Revolyutsiyu" (The Road to Revolution). Riga, *Sovetskaya Latviya,* 21 July 1966, p. 2.

Biography of Lt. Gen. Yan Petrovich Dzenit, who was in charge of intelligence on the Soviet western front during the Civil War, 1918-20.

Yakovlev, Vasiliy Pavlovich. RAZVEDCHIKI (Intelligence Officers). Simferopol, Izdatelstvo "Krym," 1966. 195 pp.

Vasiliy Rumyantsev, an officer of Soviet military intelligence, is sent disguised as a German officer to a small southern town where the German command has concentrated its troops.

Yegorov, Filipp Ivanovich. V OBORONE I NASTUPLENII 1941-1945 (In Defense and Offense 1941-45). Petrozavodsk, Karelskoye knizhnoye izdatelstvo, 1965. 163 pp.

An account of Soviet military operations in the Leningrad area and on the Karelian front. Capt. I. F. Loginov, who spoke Finnish fluently, was in charge of intelligence activities in the area defended by the 114th Rifle Division.

Zhavoronko, Yu., and Popov, S. "Serdtse Razvedchika" (The Heart of an Intelligence Officer). Tallin, *Sovetskaya Estoniya,* 8 May 1966, p. 4.

Erikh Yuliusovich Ryatsep and Voldemar Aleksandrovich Kelder were dispatched by Soviet military intelligence to the Narva district to organize intelligence activities in February 1944.

3. About Partisans and Underground Activity

Anonymous ("by a group of comrades"). "R. S. Shmukler." Vilnyus, *Sovetskaya Litva,* 8 June 1966, p. 4.

Obituary of R. S. Shmukler, a leading Lithuanian woman communist and underground worker who died in 1966.

Anonymous ("by a group of comrades"). "Vladas Medzyukyavichyus." Vilnyus, *Sovetskaya Litva,* 29 June 1966, p. 4.

An obituary. In 1943 Medzyukyavichyus was secretary of the Alitussk regional underground party committee and a member of the Daynava partisan detachment.

Anonymous. "Izluki Kurzemes Katla" (Scouts in the Kettle of Kurzeme). Riga, *Cina,* 14 August 1965, p. 2. (In Latvian.)

Ernests Abolins was air-dropped in Kurzeme in 1943 to organize an underground movement. The names of several other underground members and partisans are mentioned.

Anonymous. "Sagadaja Galvas Sapes . . . Bet Kam?" (Created Headaches . . . But for Whom?). Riga, *Cina,* 17 March 1966. (In Latvian.)

An article in memory of Karlis Kretulis, a well-known partisan in northern Kurzeme at the beginning of the 1920's.

Anonymous. "Vernaya Doch Partii i Naroda" (A True Daughter of the Party and People). Vilnyus, *Sovetskaya Litva,* 26 April 1966, p. 3.

The story of Klaudina Krastinayte, a Lithuanian communist underground worker in the Siavliai area in the 1920's, as told by the old revolutionary underground worker Dominikas Kuchinskas.

Anonymous. "Vspominaya Gody Grozovyye" (Recalling the Storm-Clouded Years). Vilnyus, *Sovetskaya Litva,* 8 March 1966, p. 2.

A collection of letters about partisans who were active in Lithuania during 1941-44. The names of some partisans are revealed for the first time.

Various authors. APRELSKIY VETER (The April Wind). Moscow, Voyennoye izdatelstvo ministerstva oborony SSSR, 1965. 288 pp.

Short stories covering individuals in the Soviet partisan movement. The authors are Hungarian communists who served with Soviet partisans.

Various authors. OKTYABR I GRAZHDANSKAYA VOYNA V SSSR (The October Revolution and Civil War in the USSR). Moscow, Izdatelstvo "Nauka," 1966. 524 pp.

Essays published by the Soviet Academy of Sciences about the October Revolution and the Civil War in Russia. Some of them deal with partisan activity.

Various authors. PO TU STORONU FRONTA (On the Other Side of the Front). Moscow, Izdatelstvo "Fizkultura i Sport," 1966. 247 pp.

Exploits during the 1941-45 war: Soviet athletes sent behind German lines joined partisan units and carried out special assignments.

Various authors. SHAGI V BESSMERTIYE (Steps to Immortality). Moscow, Moskovskiy Rabochiy, 1965. 354 pp.

Muscovites who were decorated Hero of the Soviet Union for exploits during World War II, among them commanders of partisan units and Chekists.

Various authors. SLOVO O KOMSOMOLII LENINGRADA (A Word on the Leningrad Komsomol). Leningrad, Lenizdat, 1965. 376 pp.

Essays on the history of the Komsomol organization in Leningrad. During the war many of its members served in partisan units and were active in the underground.

Various authors. VILNYUSKOYE PODPOLYE (The Vilnius Underground). Vilnyus, 1966. 395 pp.

Reminiscences of the revolutionary underground in the Vilnius area 1920-39, written by participants.

Various authors. *Zhizn—Podvig* (Life—Heroic Deed). Novosibirsk, Zapadno-Sibirskoye knizhnoye izdatelstvo, 1965. 120 pp.

Three essays about famous people of Siberia: Artem Ivanovich Izbyshev, organizer of the partisan movement in Siberia during the Civil War (1918-20), who was killed in action; Sergey Aleksandrovich Shwarts, a leading communist who died during the 1937 purges; and General Dmitriy Mikhaylovich Karabyshev, who was captured by the Germans, imprisoned in various German concentration camps where he organized undergrounds, and executed by the Germans in Mauthausen in February 1945.

Agranovskis, Ilya. "Francu Partizanis—Padomju Rakstnieks" (French Partisan—Soviet Writer). Riga, *Padomju Jaunatne,* 2 June 1965, p. 4. (In Latvian.)

Horacijs Velle, who worked with the French Maquis under the name Granya, has written a book, *From the Tales of Grisha,* published by *Sovetskiy Pisatel* in 1965, which describes his pro-communist underground activities in Latvia before World War II. A Latvian by origin, he had to leave his country because of this revolutionary activity. From 1925 to 1949 he lived in Germany and France and then returned to the USSR. He now lives in Moscow.

Ainars, E. "Dzems Bankovics." Riga, *Padomju Jaunatne,* 10 May 1965, p. 3. (In Latvian.)

Dzems, a Riga communist, together with Maldi Skreiju and Imants Sudmalis, blew up military targets in Latvia during the German occupation. He was killed by the Gestapo in 1944.

Aizkalns, P. "Dominiks Esta—Latgales Partizanu Komandieris" (Dominiks Esta, Commander of Latgale's Partisans). Riga, *Cina,* 17 March 1966, p. 2. (In Latvian.)

Esta organized the partisans in the province of Latgale in order to create terror for the new independent Latvian government in 1918.

Aleksandrov, Nikolay Ivanovich. SEVASTOPOLSKIY BRONEPOYEZD (The Armoured Train from Sevastopol). Simferopol, Izdatelstvo "Krym," 1966. 278 pp.

A story based on documentary evidence about the Zheleznyakov armoured train in the defense of Sevastopol 1941-42. After Sevastopol had been captured by the Germans some of the members of the armoured train's crew, including the author, joined the partisans.

Dzintars, J. "Latvijas Pionieri—Neredzamas Frontes Varoni" (Latvian Pioneers—Heroes of the Invisible Front). Riga, *Draugs,* No. 1, 1966, pp. 16-19. (In Latvian.)

A description of the underground activity of Latvian pioneers, 1941-44.

Dzintars, J. "Neredzamas Frontes Cinitaji" (Fighters of the Invisible Front). Riga, *Cina,* 14 June 1966. (In Latvian.)

An article written in observation of 25 years of Soviet rule in the Latvian city of Liepaja. The names of several underground activists and partisans are mentioned.

Dzintars, J. "Ta Auga Cinitaji" (This is How the Fighters Grew Up). Riga, *Draugs,* No. 5, 1966, pp. 6-7. (In Latvian.)

Brothers Imants and Gunars Melngalvis worked in the Latvian underground during the German occupation. In 1946 they lived on a farm and were terrorized by anti-Soviet partisans.

Flaums, I. "Varonis, Varona Dels" (Hero, Hero's Son). Riga, *Padomju Latvija,* 9 May 1965, p. 4. (In Latvian.)

Karlis Ozols was a Latvian revolutionary who safeguarded Lenin in the Kremlin. He died in Krustpils in 1944. His son, Juris Ozols, was a partisan in White Russia behind the German lines. In 1942 he was captured by the Germans and shot.

Fridmans, G. "Pavels Leibes no Varonu Cilts" (Pavels Leibes of Hero Origin). Riga, *Padomju Latvija,* 18 May 1965, p. 2. (In Latvian.)

In 1937 Pavels Leibes was arrested in Latvia for communist underground activities. He was released by the Soviets when they came in 1940. After 1941, when the Germans had occupied Daugavpils, he lived there illegally under the name Stanislavs Binders and organized underground activities. In 1944 he was arrested and killed by the Gestapo in Riga.

Frolovs, G. "Meitas Ordenis" (Daughter's Medal). Riga, *Padomju Jaunatne,* 13 February 1966, p. 2. (In Latvian.)

How the Soviet partisans Vera Voloshina and Vera Kosmodemyanska were captured by the Germans and hanged in Yakshino in 1941.

Gerasimov, Georgiy Aleksandrovich. PARTIZANSKIYE KILOMETRY (Partisan's Kilometers). Petrozavodsk, Karelskoye knizhnoye izdatelstvo, 1965. 151 pp.

Reminiscences of the Vpered partisan detachment organized in the Rugozersk area in Kareliya in 1941. The members are said to have made 27 marches during which they covered about 12,000 kilometers.

Gomazkov, Viktor Georgiyevich. ESTAFETA POKOLENIY (Passed on to Posterity). Volgograd, Nizhne-Volzhskoye knizhnoye izdatelstvo, 1965. 97 pp.

Stories about the people of Volgograd during World War II and the ensuing peace. One features a partisan intelligence agent, Klavdiya Grigoryevna Panchishina, and her associates.

Hanbergs, E. "Baltijas Katjusa" (Baltic Katya). Riga, *Cina,* 7 April 1966, p. 4. (In Latvian.)

In commemorating the Soviet defense of Liepaja, the article describes the part of Yekaterina Melihova (Baltic Katya), who later became a partisan at the Leningrad front.

Ignatov, O. "Krest Partizanskiy" (The Partisan Cross). Riga, *Sovetskaya Latviya,* 26 March 1965, p. 4.

The Polish government decorated Petr Lisitsyn with the Order of the Partisan Cross in 1965. During the Great Patriotic War he was a member of a partisan-intelligence group which fought the Germans in western Belorussia.

Inchin, Anatoliy Ivanovich. SHUMYAT LESA KHINELSKIYE (The Khinelsk Forests Make Noise). Moscow, Politicheskoye upravleniye pogranichnykh voysk KGB pri sovete ministrov SSSR, 1966. 159 pp.

A collection about partisans from the Naumov partisan detachment and about underground workers in contact with the detachment operating in the Sumy area.

Ivanov, Vitaliy Alekseyevich. GEROI ZEMLI NOVGORODSKOY (Heroes from Novgorod Land). Leningrad, Lenizdat, 1966. 230 pp.

World War II heroes of the Novgorod area, including former commanders of partisan units.

Kaplanas, Kh. "Zhizn, Otdannaya Revolyutsii" (A Life Given to the Revolution). Vilnyus, *Sovetskaya Litva,* 27 February 1966, p. 2.

The biography of Karolis Pozhela, a leading Lithuanian communist and underground worker. He was arrested by the Lithuanian police and executed in December 1926.

Kaplin, L. "Stranitsy Zhizni Boytsa" (Pages from the Life of a Soldier). Moscow, *Krasnaya Zvezda,* 2 August 1966, p. 4.

Fragments from the life of Vasiliy Mitrofanovich Lisovskiy, commander of a partisan detachment which operated on the border of Latvia and Belorussia 1942-44.

Karklina, A. "Sirds Nenoveco" (The Heart Does Not Age). Riga, *Cina,* 5 November 1965, p. 2. (In Latvian.)

Zelma Pigina and Anna Ziemele were two Latvian communists sent as spies behind enemy lines during the 1917-1922 period.

Kayryalis, A., and Koyala, V. "Vnuki Partizan" (Partisans' Grandchildren). Moscow, *Komsomolskaya Pravda,* 9 June 1966, p. 4.

Former leaders of the partisan movement in Lithuania address the youth in the very area of their wartime activity.

Kesheva, Yevgeniya Tutovna, and Efendiyeva, Taisiya Petrovna. DOCHERI GORNOGO KRAYA (Daughters of a Mountain Land). Nalchik, Kabradino-Balkarskoye knizhnoye izdatelstvo, 1965. 120 pp.

Study of a women's movement in the Kabardin-Balkar ASSR and their active participation in underground partisan work.

Khiyenas, M., and Pravdin, G. "Avtomat Pod Sutanoy" (A Submachine Gu under the Soutane). Vilnyus, *Sovetskaya Litva,* 6 February 1966, pp. 2, 4

The story of Soviet partisan Lidiya Prokofyevna Antsuta, who was active i the Kaunas area 1941-44.

Khiyenas, M., Pravdin, G., and Maksimov, V. "Gody i Sudby" (Years an Fates). Vilnyus, *Sovetskaya Litva,* 2 June 1966, p. 4.

Wives of Soviet army officers imprisoned in the Vilnius concentration cam organized a secret group and established contact with the communist under ground active in the city 1941-44.

Klunnikov, B. "Sudba Yunogo Razvedchika" (The Fate of a Young Intelligenc Operative). Moscow, *Krasnaya Zvezda,* 8 March 1966, p. 4.

Lazar Burshteyn joined the partisans in 1941 when he was 11 years old. Afte the war he went to military school and now is a major in the Soviet army.

Kocens, E. "Jekabpils Partizanu Novada" (In the Jekabpils Partisan Sector) Riga, *Padomju Jaunatne,* 5 March 1965, p. 2. (In Latvian.)

The activities of a Soviet partisan group in the Jekabpils area during 194 The group was headed by Otomars Oskalns.

Koloskov, V. "Otvazhnaya Partizanka" (A Courageous Partisan). Moscow *Golos Rodiny,* April 1966, p. 2.

Fragments from the life of Lyuba Kulakova, a partisan intelligence agent activ in the Smolensk area 1941-42. She was decorated posthumously.

Koloskov, V. "Narodnyye Mstiteli" (The People's Avengers). Moscow, *Gola Rodiny,* No. 11, February 1964, p. 6.

In August 1943 the central staff of the partisan movement dispatched Roma Naumovich Machulskiy to direct partisans in the Minsk area.

Korkliss. "Cilveks, Cinitajs, Tautas Varonis" (Man, Fighter, Peoples' Hero Riga, *Padomju Jaunatne,* 4 May 1966, p. 4, and 8 May 1966, p. 2. (I Latvian.)

Articles describing the development of the communist underground organize in Liepaja, Imants Sudmalis, in commemoration of his 50th birthday. Th local hero is celebrated also in items listed below under B. Liepa, Dz. Reita, S Smirnovs, and I. Spura.

Kukleva, A. "Uzvarai Ziedota Dzive" (A Life Sacrificed for Victory). Rig *Cina,* 9 June 1965, p. 2. (In Latvian.)

Helena Kulmane, age eighteen, joined the Soviet partisans and returned t German-occupied Estonia. In January 1943 she was arrested and killed by th Gestapo.

Liepa, B. "Imantam Sudmalim 50 Gadu" (Imants Sudmalis—50 Years Old) Riga, *Liesma,* No. 3, pp. 8-9. (In Latvian.)

An article describing Sudmalis' achievements as a partisan and undergroun worker in Latvia 1941-44. See also the Korkliss article above and those by Dz Reita, S. Smirnovs, and I. Spura below.

Lobanok, V. "Shla Voyna Narodnaya" (It Was a People's War). Moscow, *Krasnaya Zvezda,* 28 April 1965, p. 3.

Reminiscences of the partisan movement in Belorussia 1941-45.

Lokhmanov, Leonic Makarovich. YESHCHE ODNA STRANITSA (One More Page). Simferopol, Izdatelstvo "Krym," 1964. 132 pp.

In 1959 a Soviet court sentenced to death a group of Soviet citizens for collaboration with the Germans against the underground workers in the Crimea, 1941-44. On the basis of court records and other information, the author makes an attempt to reconstruct the activity of the underground in the villages of Marfofka and Mariental. All of the underground workers were captured and executed by the Gestapo.

Matronov, Pavel Stepanovich. ZA ZLATU PRAGU (For Golden Prague). Moscow, Voyennoye izdatelstvo ministerstva oborony SSSR, 1965. 112 pp.

An account of the Soviet military operation to liberate Prague, said to be based on documentary evidence. The Soviet troops received assistance from Czech partisans led by Soviet officers and experienced Soviet partisan commanders.

Melnichuk, N. "Na Zemle Druzey" (In the Land of Friends). Moscow, *Krasnaya Zvezda,* 6-8 April 1965.

Nikolay Yemelyanovich Melnichuk tells the story of the Vpered partisan detachment which he commanded in Czechoslovakia in 1945.

Nedosugov, A. "Partizanskiy Komandir" (A Partisan Commander). Moscow, *Krasnaya Zvezda,* 11 December 1965, p. 4.

A narrative featuring Aleksandr Nikolayevich Saburov, commander of a partisan detachment active in the Bryansk area in 1942.

Novikov, I. "Oni Vospitali Geroinyu" (They Brought up a Heroine). Moscow, *Pravda,* 3 May 1966, p. 4.

Giving of decorations to relatives of partisans who died while carrying out orders to assassinate leading German officials in Minsk in 1943.

Ozola, B. "Nesalauzamais" (The Unbreakable). Riga, *Cina,* 24 October 1965, p. 2. (In Latvian.)

An article commemorating the 90th birthday of Latvian communist Janis Berzins-Andersons. In 1923 the Soviets sent him illegally to Latvia where he operated as an experienced underground agent. He was arrested in 1927 and remained imprisoned there until 1934, when by agreement between the governments of Latvia and the USSR he was permitted to return to Moscow, where he died the same year.

Polyanovskiy, M. "Smelyye Lyudi" (The Brave People). Moscow, *Pravda,* 11 March 1965, p. 4.

A story about the Belorussian partisan and underground worker Olga Timokhova, Hungarian soldier Senashi, and an unidentified Polish woman.

Rasa, Janis. "Vinas Neizzud no Biedru Atminas" (They do not Disappear from the Memories of their Colleagues). Riga, *Padomju Jaunatne,* 7 March 1965, p. 3. (In Latvian.)

Names of the women of the communist underground in Jelgava during the years of Latvia's independence (1918-40).

Raspevin, K. "Narodnyye Mstiteli, Geroi Podpolya" (People's Avengers, Heroes of the Underground). Moscow, *Pravda,* 10 May 1965, p. 4.

Partisans posthumously decorated on occasion of the 20th anniversary of victory over Germany.

Reita, Dz. "Rugta Maize" (Bitter Bread). Riga, *Cina,* 26 March 1966, p. 4. (In Latvian.)

During World War II Rasma Samsone, member of a partisan group that entered Latvia from White Russia, engaged in armed skirmishes with occupying German forces. She was wounded but survived and is now a teacher in Latvia.

Reita, Dz. "Komunists Dzivoja Nakotnei" (A Communist Who Lived for the Future). Riga, *Cina,* 18 March 1966, p. 1. (In Latvian.)

Details about the life of Imants Sudmalis, organizer of the Latvian underground in Liepaja. For his illegal activities there before World War II he was twice sentenced to lengthy prison terms. See also under Korkliss, B. Liepa, S. Smirnovs, and I. Spura.

Rihters, Oskars. "23 Februara Kauja" (The Battle of the 23rd of February). Riga, *Cina,* 23 January 1966, p. 3. (In Latvian.)

Description of a 1919 battle between White forces and a Red partisan group in Latvia led by Janis Zakovskis. He is identified as the organizer of an armed uprising which took place in Riga on 2 and 3 January of that year.

Saburov, A. N. "Radi Schastya Na Zemle" (For the Sake of Happiness on Earth). Moscow, *Izvestiya,* 27 February 1965, p. 5.

A former commander recollects partisan life during 1941 and 1942.

Semenov, A., Col. ret. "Vozdadim Dolzhnoye Geroyam" (Let's Render Homage to Heroes). Riga, *Sovetskaya Latviya,* 25 March 1965, p. 4.

A call to Soviet writers, producers, and composers to honor heroes of partisan warfare and the underground. The article complains that there are many heroes about whom the people know almost nothing.

Shatrov, Yevgeniy Vasilyevich. PODVIG VO TME (Exploit of a Blind Man). Moscow, Izdatelstvo politicheskoy literatury, 1966. 197 pp.

A story based on documentary evidence about a communist underground organization in Nezhim led by a blind lawyer, Yakov Petrovich Batyuk.

Smirnovs, S. "Desmit Varonigas Dienas" (Ten Heroic Days). Riga, *Cina,* 9 February 1966. (In Latvian.)

An article describing the defense of Liepaja in June 1941. After the capture of Liepaja, partisans were organized by Imants Sudmalis. See under Korkliss, B. Liepa, and Dz. Reita above and I. Spura below.

Solovyev, Kuzma Loginovich. V VERKHOVYAKH DNEPRA (On the Upper Dnieper). Moscow, Moskovskiy Rabochiy, 1966. 160 pp.

About one hundred and fifty partisan units, regiments, and brigades were operating in the Smolensk area during World War II. The Narodnyy Mstitel partisan unit operating in the Andreyevskoye district was composed mostly of inhabitants of that area and assisted by underground workers there.

Spura, I. "Imants Sudmalis 1916. 18. III—1944. 25. V." Riga, *Draugs*, No. 3, 1966, pp. 19-21. (In Latvian.)

Life of Imants Sudmalis, one of the activists in the prewar communist underground in Latvia and a partisan during the German occupation. See also under Korkliss, B. Liepa, Dz. Reita, and S. Smirnovs above.

Spura, I. "Par Liepnas Kauju Stasti Tagad Tevs" (Dad, Tell Us About the Battle At Liepna). Riga, *Draugs*, No. 2, 1966, pp. 4-7. (In Latvian.)

An article describing partisan activities at Liepna from 1941 to 1945. The names of many Latvian partisans are mentioned, with photographs of some. There are also details concerning the formation of the First Latvian Partisan Brigade in 1944.

Tabuns, B. "Godavieta Revolucionaru Ierinda" (A Place of Honor In the Ranks of Revolutionaries). Riga, *Cina*, 29 August 1965, p. 4. (In Latvian.)

An article commemorating the 80th birthday of a Latvian communist, Davids Beika. In the early 1920's he worked for the Comintern and in 1936 fought for the Republicans in Spain. From there he was sent to the United States to instruct the U.S. Communist Party. He died in 1946, place unspecified.

Tamoshyunas, M. "Vernyy Syn Partii" (True Son of the Party). Vilnyus, *Sovetskaya Litva*, 15 March 1966, p. 4.

The biography of Kasis Gedris, a leading Lithuanian communist and underground worker. He was arrested by the Lithuanian police and executed in 1926

Taradankin, Aleksandr. "Gestapo Vtrachaye Spokiy" (The Gestapo Became Restless). Kiyev, *Visti z Ukrainy*, No. 9, March 1965, pp. 6, 8.

Members of Yevgeniy Mirkovskiy's partisan detachment disguised themselves as German officers in order to assassinate German collaborators in Zhitomir in 1943.

Titov, Grigoriy, and Zlobin, Anatoliy. ". . . I Ostalsya V Zhivykh" (. . . And Stayed Alive). Moscow, *Molodaya Gvardiya*, Nos. 6 and 7, June and July 1966.

A story said to be based on documentary evidence about a Soviet sailor who escaped a German PW camp in Lithuania and joined the partisans in France.

Trushkin, Vasiliy Prokopyevich. SIBIRSKIY PARTIZAN I PISATEL (Siberian Partisan and Writer) P. P. PETROV. Irkutsk, Vostochno-Sibirskoye knizhnoye izdatelstvo, 1965. 250 pp.

Story of the Siberian partisan Petr Polikarpovich Petrov who turned writer in the 1930's. He was purged in 1939.

Verkhozin, Aleksandr Mikhaylovich. SAMOLETY LETYAT K PARTIZANAM (Planes Fly to the Partisans). Moscow, Izdatelstvo politicheskoy literatury, 1964. 207 pp.

The author, formerly chief of staff of an air regiment, describes the delivering of war supplies to Soviet partisan units.

Vidinskiy, Kiril. PODVODNIKI (Submarines). Moscow, Voyennoye izdatelstvo ministerstva oborony SSSR, 1965. 272 pp.

A group of Bulgarian communists, landed in Bulgaria from a Soviet submarine in August 1941, organized the partisan and underground movement there. Later they were reinforced by parachutists from the Soviet Union.

Yakhnevich, V. "Druzya Po Oruzhiyu" (Comrades in Arms). Moscow, *Pravda*, 4 May 1965, p. 4.

About the Zarevo partisan detachment which, organized in the USSR and led by Soviet officers, operated in Czechoslovakia 1944-45.

Yemelin, N. PRESTUPLENIYE NE SOSTOITSYA (There Will Be No Crime). Kishinev, Izdatelstvo "Kartya Moldovenske," 1966. 168 pp.

Stories of Kishinev's militia. Some of the militia officers had been partisans and partisan intelligence agents during the war.

Zarapin, D. "Partizanskiy Komissar" (The Partisan Commissar). Moscow, *Pravda*, 23 April 1965, p. 4.

The story of Aleksandra Nikiforovna Zakharova, commissar of a partisan brigade active in the Belostok area 1941-44.

Zlatopolskiy, Z., and Muzykantik, I. "Partizanskiye Tropy" (The Partisans' Paths). Riga, *Sovetskaya Latviya*, 11 March 1966, p. 4.

In January 1945 Ivan Yegorovich Kuznetsov was decorated for assisting a group of Latvian partisans. But the medal was never delivered to him, and his whereabouts is now being sought.

4. Warning Against U.S. Intelligence

Anonymous. "Amerikanskiye i Zapadnogermanskiye Agenty na Skamye Podsudimykh" (American and West German Agents in the Dock). Tallin, *Sovetskaya Estoniya,* 14 April 1966, p. 3.

Anonymous. "Dzhob-430—Shpionskiy Plan" (Job 430—Spy Plan). Moscow, *Izvestiya,* 14 May 1966, p. 2.

Anonymous. "I Snova Tsru" (CIA Again). Moscow, *Komsomolskaya Pravda,* 8 March 1966, p. 3.

Anonymous. "Kak Uznat Agenta Tsru" (How to Recognize a CIA Agent). Moscow, *Komsomolskaya Pravda,* 30 April 1966, p. 3.

Anonymous. "Kazhdyy Sam Sebe Shpion" (Anyone Can Be a Spy on His Own). Moscow, *Moskovskaya Pravda,* 29 May 1966, p. 3.

Anonymous. "Klevetniki v Efire" (Slanders Are on the Air). Moscow, *Izvestiya,* 14 April 1966.

Anonymous. "Kombinat Falshivok" (Combine of Document Forgers). Moscow, *Izvestiya,* 17 March 1966, p. 6.

Anonymous. "Na Shpionskoy Volne" (On a Wave of Spying). Moscow, *Krasnaya Zvezda,* 6 February 1965, p. 5.

Anonymous. "Nove Vykryttya Podstupnoi Vorozhoi Diyalnosti Ounivskikh Zakordonnykh Tsentriv Proty Ukrainskogo Narodu" (New Facts About Foul Deeds Perpetrated by Ukrainian Nationalists Against the Ukraine). Kiyev, *Visti z Ukrainy,* 16, 17 April 1966, pp. 4-6. (In Ukrainian.)

Anonymous. "Shpiony na Skamye Podsudimykh" (Spies in the Dock). Tallin, *Sovetskaya Estoniya,* 26 May 1966, p. 3.

Anonymous. "Ukrainskoye Natsionalisticheskoye Okhvostye na Sluzhbe Inostrannykh Razvedok" (Ukrainian Nationalist Remnants in the Service of Foreign Intelligence). Moscow, *Pravda,* 20 April 1966, p. 6.

Anonymous. "Yanki Shpionyat" (The Yankees are Spying). Moscow, *Izvestiya,* 12 May 1966, p. 56.

Anonymous. "Ya Shpionyu dlya Tsru" (I Spy for CIA). Moscow, *Izvestiya,* 16 June 1966, p. 2.

Various authors. PROTIV RASIZMA (Against Racism). Moscow, Izdatelstvo "Nauka," 1966. 345 pp.

Various authors. NEO-COLONIALISM—THE BITTEREST ENEMY OF THE YOUNG COUNTRIES. Moscow, Novosti Press Agency Publishing House, 1966. 172 pp. (In English.)

Various authors. "Verbuyut Provokatorov" (They Are Recruiting Provocateurs). Moscow, *Komsomolskaya Pravda,* 30 April 1966, p. 3.

Aleksandrov, Georgiy Nikolayevich, and Fin, Emil Aleksandrovich. SUDEBNYYE RECHI SOVETSKIKH OBVINITELEY (Forensic Orations of Soviet Prosecutors). Moscow, Izdatelstvo "Yuridicheskaya Literatura," 1965. 266 pp.

Bagrin, V. "Spiega Krokodila Asaras" (A Spy's Crocodile Tears). Riga, *Cina,* 27 April 1966, p. 3. (In Latvian.)

Belashchenko, Tom Kirillovich, and Rzhevskiy, Oleg Aleksandrovich. ARMIYA SSHA KAK ONA YEST (The US Army As It Is). Moscow, Voyennoye izdatelstvo ministerstva oborony SSSR, 1965. 144 pp.

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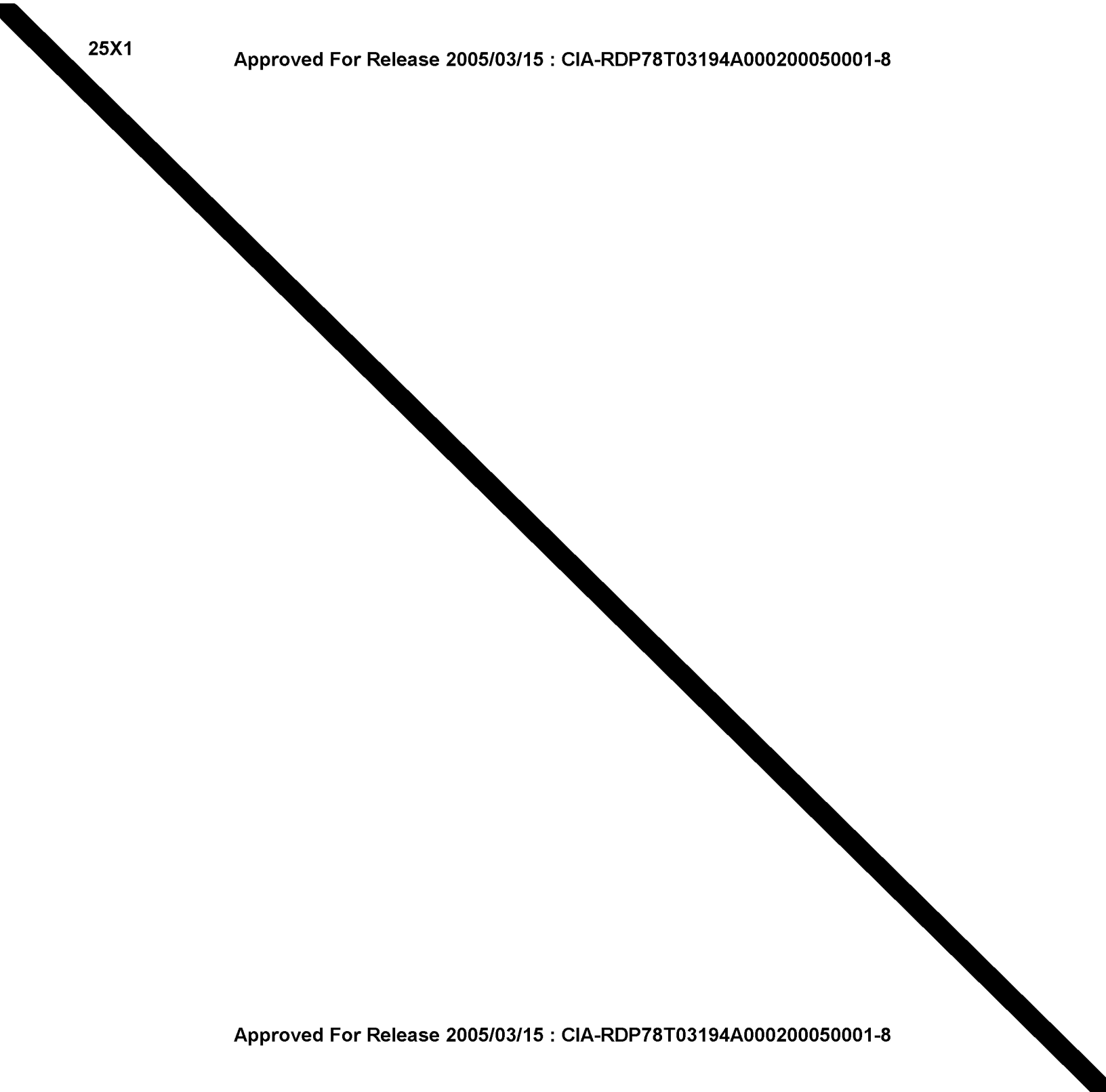

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A case study in political research: reconstruction of the 1964 revolution.

ZANZIBAR REVISITED

Helen-Louise Hunter

A reconstruction of the events of the Zanzibar revolution of January 1964 shows particularly well the usefulness of going back for an unhurried reexamination of a crisis after all the returns are in: it reaches conclusions about both events and causes quite different from what was generally believed at the time.[1]

Because the Zanzibar revolution was so unexpected and so quickly over, there was confusion and uncertainty about the most basic questions, even about who started it and why. The need for an immediate assessment on which to base U.S. policy toward the new regime, however, required that conclusions be drawn on the basis of the information then available, though this was recognized to be inadequate. With the passage of time, therefore, and the accumulation of a great mass of retrospective reporting on the coup, a second look at the evidence seemed called for. As it turns out, the new evidence justifies a new verdict.

Contemporary Reporting

Needless to say, Zanzibar had not been a major target of our intelligence effort. Moreover, scholars on the outside had not studied the politics of the island and so compensated for our lack of background information. Intelligence reporting before the coup had concentrated on the Arab political minority from which the party in power was drawn, not on the African majority. This reporting indicated that active plotting for the overthrow of the government was being done in the Umma Party by followers of the radical Arab leader Abdulrahman Mohammed Babu. There were no reports of such plotting centered on the Afro-Shirazi Party, the chief spokesman of the African majority. Thus we did not know then what has since

[1] In this article the author summarizes the results of a detailed study she made as a member of the CIA/DDI Research Staff, *Zanzibar: The Hundred Days' Revolution*, 21 Feb. 66.

been established from good sources—that in the Afro-Shirazi Party a radical group of African trade union leaders led by Abdulla Kassim Hanga was also making plans, independent of those of the Arab Babu and his Umma Party group, for a revolution. As early as the middle of 1963 a group of ASP leaders including Hanga had gone to Tanganyika to ask President Nyerere for money and arms in support of their projected uprising.

In any crisis such as the Zanzibar revolution, there are bound to be inadequacies in the information available on events of the moment. In this case, however, we were all but cut off from *any* word about what was going on, because the new leaders promptly sent all but a few select foreigners on the island back to the mainland. For days the main news out of Zanzibar came from a remarkable series of radio broadcasts to the people by one John Okello, a hitherto unknown who thus suddenly emerged as chief spokesman for the regime. The only thing known for certain about Okello was that he was an African. In his first broadcast, he announced that he had been the strong man behind the revolution and that the government was now "run by us, the army."

> We, the army, have the strength of 99 million, 99 thousand . . . Should anyone be stubborn and disobey orders, then I will take very strong measures, 88 times stronger than at present.
>
> I was a very high ranking person in Kenya in the Mau Mau army which knows how to make weapons. I can easily make not less than 500 guns per day. Undoubtedly, I can make a bomb that can destroy an area of 3 square miles. I can make about 100 grenades in an hour.

As the days passed, Okello's boasts about his role in the revolution and his power grew ever more fantastic. On one occasion he declared, "I am above the government and cannot die." It was these broadcasts, more than anything else, that seemed at the time to establish the revolution and the new government as extremist and unstable—if not irrational. This was a fundamental misconception.

Contemporary Appraisal

The emergence of Okello to a position of prominence was the most curious and most confusing aspect of the situation. There is a natural tendency to assume some logical ordering behind events even in a revolution, in this case to assume that Okello must be playing some pre-arranged role. It is not surprising that we were therefore at a loss to explain his rise to power, since actually, as we shall see later, Okello was the personification of spontaneity; his role in the coup was the most unplanned and unanticipated aspect of the whole unplanned affair.

In the midst of a crisis the hard-pressed analyst has no time to do research into the situation or check the assumptions of the reporting. At the time of the Zanzibar revolution, there were reports that revolutionary President Karume, Babu, Hanga, and other Zanzibari nationalists (sometimes Okello was included) had all worked together "without regard to nominal party affiliation" in planning the revolt. It was only later that one could see the mistake in lumping the pro-Communist elements in the ASP with Babu and the radical Arabs. There could be little basis for a close working relationship between men like the pro-Soviet African Hanga, who had strong anti-Arab feelings, and the pro-Chinese Arab Babu. At the time, however, the misleading assumptions of the reporting were not seriously challenged but carried over into the early analyses of the situation.

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The conclusions of the [redacted] American intelligence communities on the basis of the information then available were the following:

> The revolution was the work of the Umma Party led by Babu and aided by Okello.
>
> —British Weekly Summary, 22 January 1964.
>
> The prime movers of the revolution were Babu's followers. However, they do not represent the majority of Africans.
>
> —Dept. of State memo, "The Communist Spectre Looms in Zanzibar," 13 January 1964.
>
> The Umma Party has been plotting a revolt, and the spark which set it off was probably a raid in early January by the Zanzibar police on Umma headquarters. The man most responsible for the revolution was Babu.
>
> —CIA memo, 5 February 1964.

The Western press must have left this same impression with the general public. Typical of its analyses were the following:

> Who engineered the coup? The most likely answer is Babu, leader of the Umma Party, which has no seats in Parliament but has close connection with the trade unions.
>
> —Keith Kyle, "Letter From Zanzibar," *New Leader*, 17 February 1964.
>
> It is unlikely that the Afro-Shirazi Party, even in the explosive situation in Zanzibar, would have taken a revolutionary initiative. It was waiting for the 1966 elections. But in the meantime, Mohammed Babu, with the prestige of 15 months in prison for sedition . . . had formed his own Umma Party. He and his associate in the ASP, Hanga, appear to have been the leading political figures behind the revolution.
>
> —*New Statesman*, 17 January 1964.

The conclusion that Babu was prime mover in the coup was consistent with what was known about him. The leading Zanzibar nationalist, he was the most outspoken critic of the West on the island. He had been known for several years to have Chinese Communist contacts and he had just returned in mid-December from China, where he was suspected of having attended a course in the military tactics of revolution. When his Umma Party headquarters were searched in early January, the police had seized large quantities of documents, including a diary written in Peking with a full description of methods for overthrowing a government by violence. Further, it was reported that the Umma Party had brought a supply of arms and ammunition into Zanzibar over a three-month period at the end of the previous year.

It was also a reasonable conclusion, at the time, that Okello must have played some role in Babu's plan and that he must then be speaking with the authority and approval of Babu and the other leaders.

The Facts Reexamined

For about a year after the revolution we continued to receive good new retrospective reporting which contributed to our understanding of what had happened. At the end of this time the main facts could be reasonably well established, and it was possible to proceed with a reconstruction of what lay behind them.

The first step was to sort out fact from conjecture in the mass of conflicting reports on the revolution. This was something that most observers at the time hadn't done. Perhaps the most spectacular example of their failure to discriminate was the widely publicized report that Cuban nationals had fought on the side of the rebels. Journalists to whom U.S. and British refugees reported they had seen Spanish-speaking soldiers wearing Cuban-type uniforms jumped to the conclusion that a number of Cubans were involved in the coup, and from then on the Cubans' presence on Zanzibar was reported as fact. It was necessary to track down the source of the refugee report and find out what basis there had been for it.

It was first established that the refugees had talked merely of Spanish-speaking soldiers. Now we knew that a group of about 25 Zanzibaris, all Arabs, had received military training in Cuba in 1962, and our initial supposition was that these had during the course of the fighting spouted Spanish slogans they had learned in Cuba. Then from a very reliable source who had been in Zanzibar at the time of the revolution and was closely questioned on this point later, it was finally learned that one individual, a Pakistani, had been wandering around the island during the revolution in a Cuban outfit, sporting a Castro-type beard; he and no one else. His behavior, and that alone, had been responsible for the rumor that Cubans were involved in the coup.

Such interviews with persons who had been there at the time or had other first-hand information were of fundamental importance in establishing the main facts. We questioned most, if not all, of the U.S. officials who had served in Zanzibar before, during, and just after the revolution, as well as those familiar with the Zanzibar scene through a tour of duty in Dar-es-Salaam on the mainland. This kind of investigating can be done from Washington only some time after the event, when most of those to be questioned have returned here in the course of reassignment or at least for debriefing sessions.

Perhaps the main reason why such a reconstruction as this is not done more often is that it takes a lot of time—time to collect all the reports, sift through, screen, and correlate them, and follow up the questions they raise in personal interviews. Time is one great advantage the researcher has over the harassed current intelligence analyst. The other advantage is a greater variety of sources. After a crisis a great deal of retrospective reporting is available from new as well as the old sources. In the case of Zanzibar, the enrichment in sources brought a great improvement over pre-revolutionary coverage. For one thing, it provided new information on the pre-revolutionary activities of the radical group in the ASP, establishing the crucial fact that not just Babu's Umma Party group but at least one if not two others were independently planning for a revolution.

New Hypothesis

The second phase in the process of reconstructing the Zanzibar revolution consisted of developing tentative hypotheses and testing them against the facts. At this stage the theory of Babu's responsibility for the coup—the generally accepted interpretation—fell to pieces. Lengthy examination turned up no credible evidence that he had played any significant part at all. He was not in Zanzibar when the fighting started in the early hours of 12 January, but returned to the island only that evening. The testimony of Israeli businessman Mishah Feinsilber, who owned and operated the boat which brought him back, is crucial here: it was Feinsilber's strong impression at

the time that Babu was completely uninformed about the events of that day in Zanzibar. A Zanzibari attorney who knew Babu well was also convinced that Babu had no previous knowledge of the coup. During the course of the day's fighting some of Babu's followers eventually joined the ranks of the rebels, but they do not seem to have played any part in the initial attacks. Most significant of all is the fact that the supplies of arms and ammunition which the Umma Party had brought in and concealed in different spots on the island were not used.

Other hypotheses were tested in the same manner. The contention in several reports that Okello had actually planned the revolution himself was unconvincing in the absence of any evidence to that effect, and Okello's own performance as a national leader afterward raised doubts that he was capable of planning anything at all. It was much more reasonable to suppose that the reports reflected deliberate attempts by Okello and his followers to enhance his role in the revolution; these men were definitely known to have distorted other facts to fit their exalted picture of him as the savior of his country.

The possibility that the revolution was the result of the secret planning by Hanga and other members of the extreme left wing of the ASP proved to be the best working hypothesis. It was consistent with the most obvious and the most important fact about the Zanzibar revolution—that it was a movement by Africans, not Arabs, to put Africans in control of the government. The violence of the revolt and the bloodletting that followed the overthrow of the Arab Sultan was manifestly racial violence by Africans against Arabs.

New Accounting

There were still a few facts that were not consistent with this broad hypothesis. The third and last phase in the reconstruction process consisted of refining it to square with these. For one thing, Hanga's plan apparently called for a coup in March or April, rather than January; as of a few days before the revolution the planners were still proceeding on the basis of a D day in the spring. Several of the key planners actually expressed surprise that the revolution occurred so soon, not according to their plan. Apparently something had precipitated events ahead of time.

A great majority of the reports trace the course of the revolution from the same starting point—an African fete held at ASP headquarters on the night of Saturday, 11 January. Gradually it became clear that the revolt must have grown out of spontaneous action by the Africans at this affair. It seems to have been triggered by a rumor that the government planned mass arrests of ASP leaders the next day. A number of disgruntled ex-members of the Zanzibar police force who knew where the police arms were stored and how to get access to them are known to have been at the fete; they appear to have urged the crowd to follow them—right then—in an attack on the government's strongholds. It is fairly well established that Hanga, Karume, and other ASP leaders did address the crowd that night at the Seamen's Union Club, whither it had moved from Party headquarters. Apparently, sensing the excited state of the Africans, they decided then and there to seize the opportunity to overthrow the government. The revolution that materialized on the morning of 12 January was thus actually not the one planned by either Babu and his Umma Party or Hanga and his ASP group. It was more nearly a spontaneous action.

Okello was a creature of this spontaneity. It is possible that he was at the African fete and somehow contributed to touching off the attack with wild talk of revolution, but not one report mentions him by name as having played any role in inciting the crowd. He does not appear on the scene that night until he emerges several hours later as the hero of the attack on the Ziwani police armory and is immediately accepted by the rebels as their new leader. It is now quite clear that Hanga, Karume, Babu, and the other leaders had had only chance contacts with him before the revolution; they had certainly not foreseen that he would come out of it with a large popular following and claim a share equal to their own in running the government. Afterward, as soon as they conveniently could, they rid themselves of him.

Only such an explanation of the Zanzibar revolution fits all the major known facts about it. It is recognized that the researcher has an unfair advantage over the current analyst in being able to test a number of hypotheses slowly and carefully against all the information that has gradually come to light over a period of time and only then commit himself to an interpretation. On the other hand, because of this advantage, he has a responsibility to get the answer right.

A Soviet deception operation fails, and U.S. intelligence relapses into departmentalism.

MARCH CRISIS 1948, ACT II

William R. Harris

While U.S. intelligence agencies hammered out unanimous no-deliberate-war estimates on March 15 and 16, 1948, thus laying to rest the scare raised by General Clay's "blockbuster" cable of March 5 and closing down the first act of the "crisis," the Soviets were nearing the operational stage of a deception plan on which they had been working since at least December 1947. Not many facts are known but some inferences can be made about this planning for what became the crisis' second act.[1]

The Preparation

It is known that since at least April 1947 the Soviets had been toying with the idea of ousting the Western powers from Berlin. After the breakdown of the London Conference of Foreign Ministers in December 1947, if not before, they made the definite decision. The ouster was evidently planned to follow the coup in Czechoslovakia that was duly effected in late February and more immediately the one in Finland that aborted prematurely in mid-March, and it was to precede and exert influence on the Italian elections in April which Togliatti hoped to win. Detailed planning was presumably done in a series of conferences in Moscow to which some key figures were recalled in January: Valerian A. Zorin from Prague, at about this time appointed Deputy Foreign Minister and Deputy Chairman, subsequently Chairman, of that experiment in intelligence organization called the Komitet Informatsii; Minister Aleksandr N. Abramov, on the pretext of illness, from Helsinki; and Marshal Sokolovskiy from Berlin. Major General P. M. Malkov, deputy to the commander, Lt. Gen. L. A. Malinin, of the MVD (Interior Ministry) security forces in Germany, had already been recalled, late in December; when

[1] For Act I and reference to sources, see *Studies* X 4, p. 1 ff.

he returned to Berlin in March it would be with operational orders for his troops.

The Soviets expected to drive the Western powers out by a staged show of arms—troop maneuvers and redeployments, coupled with alarming indications for the benefit of Western intelligence—to create a war scare and demonstrate their readiness to enforce crippling restrictions on access to Berlin. In January they tested their ability to halt Allied surface transportation to the city, demanding inspection of a U.S. military freight train entering their zone on the 6th and then forcing the removal of German passengers aboard a British military train on the 24th. Also in January, General Zhukov arrived, presumably to oversee the military preparations. He would stay in Germany, except for quick visits to Moscow, until the troops began to move at the end of March.

By early February the Soviets had centralized their intelligence organization in Germany under the control of Colonel General B. Z. Kobulov, former head of the MGB (State Security) Foreign Intelligence Directorate. While MVD and Red Army troops, assisted by German police forces, would execute the field operations planned for March, it was probably Kobulov who was in charge of deceptive indications, alarming reports, and false confirmations for Allied intelligence. It is possible that one of the brains behind the Soviet deception plan was an MGB colonel in his late 30's, a tall and lanky Armenian named Ivan Ivanovich Agayants who in more recent years has built an entire *dezinformatsiya* department in the KGB; but no definite evidence of his involvement has turned up. Topside coordination may be seen in the visits made to Berlin in March by Zorin, hiding the flush of his Czech triumph under the cover name "Witte," and by Beriya himself.

In the aftermath of Prague, the March curtain-raiser, the Finnish coup, failed. On the 9th "flying squads" of communists canvassed Helsinki newspaper offices warning them not to print anti-Soviet remarks, in a variation on the flying-squad tactics so successful in Prague the month before. The coup may have been planned for the time when many of the more prominent non-communist Finns would be in Moscow signing a "Friendship Treaty," March 22 or shortly thereafter. But on March 19 the patriotic communist Yrjo Leino, Minister of the Interior, disclosed the plot to General Sihvo, Chief of the General Staff, who placed the Finnish Army on alert and brought reliable troops into Helsinki. The failure, for which Central Committee Secretary A. A. Zhdanov and his subordinate A. A. Kuznetsov would in good time be publicly blamed, thus came one day before the first sign of a new crisis in Germany.

The Berlin operation was going to have to be a poor man's deception—no expensive movement of new troops and materiel into Germany. It had to simulate preparations for an assault on Western Europe during a period which long-range plans had designated for an over-all reduction in Red Army strength on the order of 4%, 100,000 men. Although figures on order of battle at the time are far from certain, they suggest that the contradiction was solved as follows. The Army forces in Europe suffered their share of the cut in February, from about 503,000 to about 483,000 men; but the distribution was uneven. Possibly more than 40% of the troops in Eastern Europe, excluding frontal Germany-Austria-Czechoslovakia, transferred back to the Soviet Union for demobilization or awaited assignment to the frontal areas. Over 20% of the Air Force complement left the European theater, but none of it from Germany, Poland, or Austria until after March. And nearly 20% of the Navy personnel left Eastern Europe, some returning to the USSR and others shifting to Austria.

Meanwhile, perhaps 20,000 Army troops, including selected Mongols, Kalmucks, Tartars, and Siberians, were readied for transfer to the well-observed frontal areas. In addition, some 12,000 MVD troops were shifted from the USSR to Germany, so as to increase border security and obstruct the work of Allied intelligence. In short, while the Soviet armed forces in Eastern Europe declined by more than 50,000 men, those in the frontal areas increased by over 30,000. Thus net Soviet strength in Europe was reduced by about 20,000 men in a manner suggesting mobilization for war.

First Action

On March 18, immediately after Sokolovskiy returned from Moscow, along with Generals V. M. Sharov and P. M. Malkov, deployment orders were issued to German police, Red Army, and MVD troops. The directive to all commissars of the German police in the Soviet Zone read as follows:

> Until 30 April 1948, the entire police force, especially in the border area, will be reinforced to a regular police combat force which will be able to strike out in case of any emergency, no matter what power will attempt to oppose it.

> The assignment of new personnel to individual stations will be ordered and carried out by the SMA [Soviet Military Administration in Germany]. . . .
>
> All police personnel are subject to the command of the Soviet Occupation Forces effective the day of this announcement . . . The assignment of all new personnel to individual stations will be carried out by the Soviet Armed Forces up to 28 March 1948. . . .
>
> /s/ Marshal Vasiliy D. Sokolovskiy

The MVD and Army deployments were also designed to reach full strength on March 28.

These orders were of course not known at the time to the Western powers, but two days later, March 20, the figurative first shot was fired, when Sokolovskiy and the entire Soviet delegation walked out of the Allied Control Council. Western officials were not completely surprised, having been tipped off before the session that the Russians had prepared no post-meeting snack, a three-year caviar and vodka tradition. Later U.S. intelligence learned that the disruption of the Council had been decided on by March 10 and that after the break Soviet Commandant Major General A. G. Kotikov remarked, "The battle for Berlin has begun."

On March 22, it was later learned, several of the more trusted members of the German party's Central Secretariat were briefed at the private residence of Wilhelm Pieck by Pieck and Ulbricht, who in turn had been briefed, apparently too reassuringly, by Zhdanov. Pieck said the Soviet Union "would carefully avoid being frightened into war by the aggressive policies of the U.S."; Ulbricht deprecated the Soviet war of nerves as "childish" and ineffectual—"petty diplomatic chicanery."

On March 24, under authority of Marshal Sokolovskiy's order of the 18th, Red Army, MVD, and German troops commenced the field exercises and border activities planned. German policemen of experience and known political reliability were placed on Alert Status III, the highest stage of readiness, and sent to border regions, while less trusted recruits replaced them in their villages and towns. General Malkov of the MVD declared that the entire border would be tightly closed as of April 1, 4,000 new combat troops having joined his men already on duty on the zonal boundaries. The Soviet troops established guard posts at 100-yard intervals all along the U.S. and U.K. zone frontiers. The German border police were now placed under newly-arrived Soviet officers; all were armed. At the Austrian zonal border Soviet reinforcements restricted international transit, and along the border between Czechoslovakia and the U.S. zone of Germany there was "a heavy increase" in the number of border patrols, "in many cases armed, for the first time, with automatic weapons." Travel by Germans within the Soviet zone had been curtailed by new regulations on March 10; these and new restrictions now imposed on General Hess and his officers at the U.S. Military Mission in Potsdam reduced the flow of dependable intelligence about Soviet military activities.

Dezinformatsiya

Besides trying to reduce the flow of independent Allied intelligence, the Soviets utilized their knowledge of Allied intelligence practices to feed deceptive information into the system. It was hardly a secret, for example, that the Gehlen Organization headquartered in Pullach kept a careful watch on military activities in the Soviet zone, and it was generally known that in times of trouble the U.S. Army's CIC increased the frequency and vigilance of border patrols. Among the more ostentatious border activities arranged for the benefit of such intelligence collectors during the two weeks after March 26 were the following:

- A thorough survey of troop billeting facilities within five miles of the bizone borders, including all schools, hotels, and dance halls in the border region.
- Warnings to local Germans that Soviet troops should be expected to require particular buildings; 500 troops would have to be accommodated in each border village, it was reported at Mannsbach, for example.
- Systematic daily kidnapping of German civilians from up to 100 yards within the U.S. zone for intensive interrogation on U.S. troop strength, personnel, and disposition, followed by release at the zonal border.
- An increase in the number of intelligence agents sent illegally into the U.S. and British zones, bringing various planted reports.
- Encouragement of war rumors among the German civilians and wholesale flights to the Western zones inconsistent with the intensified Soviet border security, so that the number of refugees known to have entered the U.S. zone during March rose to 22,078, more than twice the average for the preceding year and exceeding the February count by some 42% and that for April by 81%.
- The issue of weapons to all border personnel; issues of full field equipment, blankets, and several days' supply or rations.

Much later, a Eucom intelligence review recalled the situation

> . . . during the latter part of March and the first of April. Much publicity and ballyhoo was given to the requisitioning of private homes and public buildings throughout the Zone . . . with particular emphasis on the border area of Saxony and Thuringia. A review of the areas . . . has failed to indicate any substantial increase in troop strength. In some instances, . . . billets which were requisitioned during this period . . . were eventually returned . . . without having been occupied. The utter disregard for security, the advance notification of the expected arrival of troops, and the publicity given to this wholesale requisitioning of billets [caused] . . . some apprehension on the part of Allied intelligence agencies, when rumors spread quickly of imminent war between East and West.

The alarming manifestations in the border regions commenced on March 26 and continued through the first week in April; troop movements increased in magnitude from the 26th through April 1 and were probably held at peak capacity through April 4. The main targets of the deception were thus the Allied military intelligence systems, whose standard patterns of operation would be especially transparent in the German situation, where either side could procure large numbers of local agents at low cost—in money, cigarettes, or coffee. The border activities would have been designed mostly for collection by CIC and the British intelligence patrols, and troop movements through Berlin and Potsdam mostly for the regular G-2 system, General Hess's Military Mission at Potsdam, and the clandestine networks operated by General Gehlen. Although the British were subjected to some of the provocative border displays, it would appear that most of these were concentrated against the United States, which formed the backbone of the Allies' stand in Germany.

The Soviets' stimulation of alarming reports was more successful than their effort to choke the normal flow of Allied intelligence by trebling the number of border troops. Herein lay a fatal weakness in the deception operation, for the alarming material was inconsistent with order-of-battle, logistic, and other intelligence which continued to filter through the Soviet security system. Many of the alarming reports, to be sure, concerned future events—that dependents vacationing in the Soviet Union, including children whose school had closed on Good Friday, the 26th, would not return to Austria or Germany, that reinforcements were due from the USSR, or from Poland, or from Czechoslovakia, that new aircraft were coming from the USSR, that requisitioned houses, hotels, dance halls, and schools would soon be occupied by newly-arrived troops, that civilian traffic had been ordered off arterial highways in Eastern Europe to make

way for military convoys about to move to the west. But most of these future events should have had current antecedents, antecedents inconsistent with reports that the situation in Poland remained static with 125,000 men in the Soviet forces there, that movements of materiel westward through Poland were actually declining, that some of the forces in Eastern Europe were being demobilized, that port activities in the Baltic remained at normal levels, that no troop movements from Czechoslovakia to Germany could be confirmed, that no major training programs were under way in the Soviet home or Far East commands.

In addition to planting these reports that reinforcements were due from the east, the Soviets utilized what forces they did have in Central Europe so as to create the impression that they were more numerous than they actually were, and they grouped them in as threatening a manner as possible. In these efforts they were at least partially successful. During the middle weeks of March Marshal Zhukov traveled along the frontal areas of the Soviet zone accompanied by his headquarters staff. After concentrating his inspection near Eisenach, where any rail or autobahn convoys from the U.S. zone would pass, he moved on to Magdeburg, through which any from the British zone would pass. About the 25th of March he was seen replacing a captain with a colonel at the border town of Wartha and was scheduled for a northward inspection trip to Schwerin, near the U.K. zonal border in Mecklenberg. On March 26 or 27, as Soviet troops moved into the border staging areas, he flew back to Moscow, possibly accompanied by Beriya.

Between March 24 and April 1, in conjunction with the movement to staging and maneuver areas close to the zonal borders, the Soviets moved many of their troops past the Allied intelligence vantage points in Berlin and Potsdam. They apparently even used the old trick, according to some G-2 officials, of recircling troops to march past known observers in slightly altered formations. Eucom's transportation intelligence officer had a flurry of reports of westbound troop trains; he sensed something peculiar about them at the time, but it was not until he made a detailed analysis a month later that he came to the only explanation consistent with traffic patterns and rolling stock supplies: the trains were being circled too. G-2 was at least temporarily convinced that the Soviets had moved some 35,000 troops into their zone of Germany when in fact they had moved only 5,000 or 5,500. All 24 of their divisions in Germany were on alert status, some deployed to forward areas where they maneuvered to-

gether as divisions in, according to G-2, "a marked departure from the usual small-unit training phase prescribed for the winter months."

By Easter Sunday, March 28, Soviet intelligence undoubtedly had feedback on the mounting alarm in the West; the U.S. Air Force and some of the Scandinavian armed forces had been put on alert. On Monday the 29th a high Soviet official—rumored to have been Foreign Minister Molotov—arrived in Berlin with new instructions for Marshal Sokolovskiy. The next evening Sokolovskiy's deputy, General Dratvin, sent his Western counterparts a notification that all Allied traffic through the Soviet zone would be required, effective at midnight on March 31, to submit to Soviet inspection. This was the climax to a month of mounting tension in Moscow's *nervenkrieg*.

Disquiet in the West

Meanwhile in Washington, the agreed estimates of March 16, in SE-27 and IM-21, that Moscow was not about to launch a new war had not dispelled all nervousness.

On that day Secretary of Defense Forrestal recorded in his diary:

> Papers this morning full of rumors and portents of war. . . . The fact is that this country and its government are desperately anxious to avoid war. It is simply a question of how best to do it. If all Europe lies flat while the Russian mob tramps over it, we will then be faced with a war under difficult circumstances, and with a very good chance of losing it.
>
> It is inconceivable that even the gang who run Russia would be willing to take on war, but one always has to remember that there seemed to be no reason in 1939 for Hitler to start war, and yet he did, and he started it with a world practically unprepared. Our effort now is to try to make the Russians see the folly of continuing an aggression which will lead to war, or, if it is impossible to restore them to sanity, that we at least have a start which will enable us to prevent being caught flat-footed as we were in 1941.

Army Director of Intelligence General Chamberlin continued to emphasize the estimate's "nevertheless" clause allowing for an accidental conflagration. On the 16th he sent all Army commands the weekly G-2 survey of the international situation:

> Heightened tension in world capitals past week probably results [from] cumulative reaction to Communist seizure of Czechoslovakia and Soviet demands on Finland. . . . overt manifestations of fear and distrust between East and West continue to increase. Possibility therefore enhanced that mischance or miscalculation might provoke hostilities.

Secretary of the Army Royall suggested to President Truman and Secretary of State Marshall that the agreed turnover of the German occupation to the State Department on July 1 next should be postponed indefinitely; this suggestion was later adopted, on March 22.

In Germany, General Clay continued to advocate stout nerves. In a telecon with Washington on March 17 he said:

> Received your subject notice, re flow of dependents. From strictly military viewpoint, stoppage of flow and gradual reduction here is logical and can not be argued against.
>
> Nevertheless now that dependents are here believe stoppage and reduction would be politically disastrous . . .
>
> For instance, withdrawal of dependents from Berlin would create hysteria accompanied by rush of Germans to communism for safety. Withdrawal from zone first would create panic in dependents in Berlin.
>
> This condition would spread in Europe and would increase communist political strength everywhere and particularly Italy unless as we withdraw dependents, we concurrently brought in new military strength . . .

There was little in the way of military indications, but

> General Hess does report large concentration near Eisenach which commands approach to Dresden-Frankfurt autobahn and what may have some significance first report of heavy pontoon bridge train south-east of Berlin.

Also on March 17, the Foreign Ministers of the United Kingdom, France, and the Benelux countries gathered in Brussels for the signing of the fifty-year mutual defense treaty known as the Brussels Pact. According to Sir Ivone Kirkpatrick, who accompanied Foreign Secretary Bevin to the conference, "One of the [Foreign] Ministers said that the Russians would be in Paris by August, an opinion in which the French Chief of Staff [General Revers] concurred."

President Truman, addressing a joint session of Congress that day, was more reassuring. Although he reported "a critical situation in Europe today" and advocated rearmament, UMT, and selective service, he declared that war was avoidable.

Two days after the Soviet delegation disrupted the Allied Control Council, General Chamberlin, on March 22, sent a crypto-destruct alert throughout his military attaché system:

> As normal precautionary measure desire you verify availability destructive means and proper instruction of using personnel to insure prompt destruction all cryptographic material your possession in case emergency. Acknowledge receipt.

The alert was not a matter of routine, but sending it did not mean that General Chamberlin now disagreed with the no-deliberate-war estimate in which he had concurred eight days before. As he explained

March Crisis II
SECRET

in the weekly summary of the international situation he sent to all military attachés and army commands the next day,

> Russians walked out Allied Control Council meeting and have since refused attend Coordinating Committee and Directorate meetings. Eventual significance this premediated action not clear but may be another move in attempt oust other powers Berlin. Doubted Soviets prepared terminate four power rule Germany at this time.

CIA's last estimate on the Berlin situation, SE-23 of the preceding December 22, had predicted the Soviets would try to oust the Allies from Berlin—"will probably use every means short of armed force to compel these powers to leave the city." This view was still current within CIA's Office of Reports and Estimates, and within its Berlin station.

A State Department intelligence officer in the Office of the Political Adviser in Berlin, Brewster H. Morris, writing on March 22 a memo on "The Soviet-Communist Campaign for Berlin," noted that the campaign "has entered a new phase of intensity" and continued:

> . . . Some local observers believe such an ultimatum [demanding Western withdrawal] may be forthcoming in the next few weeks, to be followed, if the Western Powers reject it, by direct interference with their lines of communications between Berlin and the Western Zones. Following the March 20th meeting of the Control Council, it seems probable that this will in fact be the course of events, except that no actual ultimatum may be given. What is obvious is that the Soviets have now cleared the decks for further action by their statement that the Control Council is "no longer the supreme organ of Government in Germany."

On the policy-making side, a telecon was held on March 23 by Secretary Royall, General Bradley, and civil affairs chief General Noce with General Clay in Berlin:

> [Secretary Royall:] . . . There have been many changes in the international situation the last sixty days. . . . I hope, and General Bradley joins me in this hope, that you will stay on the job at least through the present calendar year. You are urgently needed there.
>
> [General Clay:] I had made a partial commitment. . . . However, I am an army officer as long as the Department feels I am needed. I do want to retire as soon as I can and the Army agrees. I owe too much to the Army not to remain with it if it feels I am needed. . . .

In summary, it was the consensus among intelligence officials that war was unlikely but that we could expect trouble in Germany and an effort to oust the Allies from Berlin. It was the consensus among policy-making officials in Washington that, expecting trouble, we had best keep General Clay, with his experience and judgment, in charge.

Western Reaction to Border Moves

When the unusual Soviet border activities began on March 24, the CIC initiated an around-the-clock border alert which would last into April. In Wiesbaden, some of the Air Force intelligence officers feared that the Soviets were planning either trouble in Scandinavia or an attack on Western Europe. In Scandinavia itself, rumors of the attempted coup in Finland and reports of Soviet troop movements in Mecklenburg, just south of the Danish border, led Danish Minister of Justice Niels Busch-Jensen to alert security forces against a possible coup, and thereafter all military leaves in Copenhagen were cancelled. By mid-March selected Army units were alerted in Finland, and immediately after Leino's warning on the evening of March 19, the Finnish Chief of Staff alerted additional military units. Following Soviet political pressure and alarming reports from Finland, some Norwegian forces were alerted by March 25. The status of forces in Sweden is not known.

On the morning of the 25th General Clay held a news conference following his monthly Eucom staff meeting at Frankfurt. When asked whether he anticipated Soviet interference with U.S. or British supply routes to Berlin, he replied that he did not, and when asked whether he thought war likely, he said, "I am not expecting any conflagration to break out tomorrow or the next day, by any means."

In Washington that same day, Secretary of the Army Royall told the Senate Armed Services Committee in his testimony on UMT:

> I would not—and do not—suggest that war is imminent. I have an abiding faith that in some honorable way we can avoid it. On the other hand, under present world conditions we cannot risk the entire safety of our country—or fix our military requirements—either on the assumption that war will not come at all or that it will be deferred for any particular number of years.
>
> . . . My judgment is that war is not imminent, but there is enough possibility that we must provide for that contingency.

Considering the pessimism of the French Chief of Staff on the 17th and rumors of war that emanated from Paris in late March, one might suppose that elements of the French armed forces were alerted at some time in the last week of March, but no confirmatory documents are available. It is known that a special, restricted-attendance session of the French cabinet took place on Good Friday, March 26, the subject being "the German situation."

On that Good Friday General Carl S. ("Tooey") Spaatz decided that key elements of the U.S. Air Force should be placed on an immediate alert. At 2:37 p.m. Air Force officers in the Pentagon held a telecon with the Alaskan Air Command, for example:

> 1. It is the decision of the Chief of Staff that your aircraft control and warning system operate twenty-four hours a day continuously, commencing at once. Although there is no evidence to indicate that an air attack against Alaska or the United States will occur in the near future, such a possibility repeat possibility does exist and will continue to exist for at least the next sixty days.
>
> 2. General Spaatz desires immediate and vigorous action to provide the best radar warning screen on a continuously operating basis by 4 April 1948.
>
> 3. This item should be read by General Twining and General Atkinson. Please acknowledge receipt and full understanding of this item.

G-2 in Washington that day received an unruffled assessment from Colonel Robert A. Schow at Eucom Intelligence:

> This office continues to receive reports of movement of Soviet dependents from Germany . . .
>
> A review of Soviet military strength along the US-USSR Zonal boundary in Thuringia indicates the possibility of a small increase . . . Observers . . . who have had personal contact with the Soviet troops report that their attitude is suspicious and unfriendly, but not aggressive. . . . Total Soviet military strength in Germany remains at 332,500.

On the 26th and 27th Red Army reconnaissance units along the Werra river attracted the attention of Allied intelligence with a rather ostentatious performance—photographing the construction and testing the load capacity of bridges on east-west roads and wading about in the river at possible fording points. Mongolian troops were observed near the interzonal border, and there were reports of possible reinforcements from the east.

On Easter Sunday, the 28th, Secretary of State Marshall talked at the Shoreham hotel with Bernard M. Baruch, down from New York for this purpose a day before his UMT testimony on the Hill. Asked for his advice, Baruch said he thought the Soviets still unprepared for war, he considered it unwise for the United States to be scared into an atomic war, and he believed that with calm and patience war might well be avoided. As Marshall left Washington that evening for four weeks at the inter-American conference in Bogota, he probably shared Baruch's view that war was unlikely.

On the 29th, Eucom Intelligence published its bimonthly "Intelligence Summary":

> War rumors flooding the United States Zone are considered to be too numerous and in some cases too fantastic to be included within the scope of this summary. . . .

ORE 22-48: The First Round

As the tension mounted, DeForrest Van Slyck of CIA and a small interdepartmental team of analysts were drafting an estimate on the "possibility of direct Soviet military action during 1948." This paper, like its predecessors SE-27 and IM-21 of March 16, had its origins in that extraordinary "meeting of the IAC Directors" called by General Chamberlin on March 12 to discuss General Clay's March 5 "war warning," followed by President Truman's three clipped questions to Admiral Hillenkoetter about the likelihood of war. The two questions covering Soviet intentions over the next sixty days had been answered in SE-27 and IM-21, but the third, "Will the Soviets deliberately provoke war in 1948?" remained before Van Slyck's working committee. Their pace on this longer-range estimate had been slow, in part because there was less urgent pressure for it and in part because the machinery for channeling information to the committee was new.

By now it had become apparent to Van Slyck that the answer to this question too would be "no," but it was also apparent that there would be considerable difficulty in producing another joint estimate. Colonel Riley F. Ennis of G-2 and Colonel James H. Walsh of A-2 were rather frank in objecting that a flat "no" might be misconstrued as implying that neither UMT nor a supplemental military appropriation for FY 1949 was really necessary. Van Slyck, William Ballis of State, and ONI's Lawrence Healey, on the other hand, believed that an intelligence estimate unencumbered by other considerations was essential.

During the last week in March each of the intelligence services represented on the ad hoc committee submitted its own draft estimate of Soviet intentions and capabilities for 1948. Colonel Ennis reiterated General Chamberlin's desire that the joint estimate make some mention of UMT; Colonel Walsh spoke for General MacDonald in favor of a paragraph emphasizing that a Soviet surprise attack in 1948 was distinctly possible. The Van Slyck, Ballis, and Healey drafts all declared that war was unlikely in 1948 except through miscalculation or accident.

A session of the committee to reconcile these differences and produce, if possible, a joint estimate was held on Tuesday, March 30. Van Slyck presented a second draft which served as a basis for the text that emerged from the meeting, the final joint draft. Van Slyck, Ballis, and Healey agreed to specify that a "possibility" of war existed; Colonel Ennis agreed to drop the UMT matter; Colonel Walsh thought that the mention of the possibility of war would satisfy his chief's requirement. Thus while Soviet troops maneuvered at the division level in Germany and reconnaissance units were creating alarm along the East-West border, the working committee unanimously approved ORE 22-48, dated March 30.

POSSIBILITY OF DIRECT SOVIET MILITARY ACTION DURING 1948

Report by a Joint Ad Hoc Committee

. . .

CONCLUSIONS

The preponderance of available evidence and of considerations derived from the "logic of the situation" supports the conclusion that the USSR will not resort to direct military action during 1948.

However, in view of the combat readiness and disposition of the Soviet armed forces and the strategic advantage which the USSR might impute to the occupation of Western Europe and the Near East, the possibility must be recognized that the USSR might resort to direct military action in 1948, particularly if the Kremlin should interpret some US move, or series of moves, as indicating an intention to attack the USSR or its satellites.

. . .

DISCUSSION

1. The Soviet military forces are estimated to have the current capability of overrunning all of Western Europe and the Near East to Cairo within a short period of time.

2. Soviet military forces along the frontiers of Western Europe and the Near East are estimated to be combat ready and generally so disposed that they could launch an immediate offensive.

. . .

6. The determination at this time of whether or not Soviet leaders intend to employ their military capability rests, in the last analysis, essentially upon logic rather than upon evidence. We have no access to the thinking or decisions of the Kremlin and little contact with lower echelons of Soviet officialdom. . . . Since the Czechoslovakian coup there have been some reports suggesting that Soviet leaders may intend shortly to resort to military action but these have been from unevaluated sources and can logically be interpreted as attempts by Soviet or anti-Soviet elements to exploit for their own purposes the fear psychosis prevalent throughout Europe as a result of the timing and rapidity of the Czech coup. . . .

That evening General Chamberlin sent out a consonant assessment in his weekly survey of the international situation, to 28 major Army commands:

> Soviet actions past week present no clear pattern . . . some evidence Soviets tightening border security opposite US Zone Germany. . . . No conclusive evidence impending Soviet military action on any front. . . .

ORE 22-48 represented so far only the views of the working group which had prepared it. It was not until Friday, April 2, that final concurrences could be obtained from the intelligence services and the estimate be formally distributed to policy makers. During the three intervening days Washington passed through the peak of the March crisis, and a series of key decisions involving the possibility of war with the Soviet Union were made.

March 31, 1948

About 4 a.m. Washington time on March 31, Secretary of the Army Kenneth C. Royall awakened to the persistent ringing of his telephone. Standing in his pajamas by the telephone in his Mayflower hotel suite, he looked out at the street lights still burning along Connecticut avenue while the G-2 duty officer apologized for interrupting his sleep and advised him of indications just reported from Germany that hostilities might be imminent in central Europe. General Bradley had already been informed. Royall notified the White House, dressed and went out to the Pentagon for a full briefing, then paid an early morning visit to the President. The President consulted Hillenkoetter about the likelihood of war and was reassured by him, according to reports in the press.

Curiously, it has not been possible to establish the precise cause for this alarm. The climactic Dratvin letter announcing restrictions on access to Berlin had been delivered to the Western deputy commanders the previous evening; but the U.S. copy was all morning in translation, and Washington, as we shall see, did not learn of it until about five hours after the G-2 call to Secretary Royall. Probably G-2 was reporting some particularly threatening development in the Soviet troop maneuvers. It is General Bradley's recollection that "We were afraid," as alerted Soviet divisions headed for the interzonal border, "that they wouldn't 'blow the recall.'" There were also some mistakenly alarming reports generated by the tenseness in Germany: Gehlen's Berlin network, for example, reported a trainload of oil heading from Berlin to Magdeburg as though in support of a

westward pushoff; later in the day it was revealed the train had arrived, but with only a few cars of oil for the normal supply of the Magdeburg region.

Also, General Clay's G-2, Major General Robert Walsh, presumably having some advance knowledge of the Dratvin letter while it was being translated, was apprehensive. According to General Clay's deputy in Berlin, Lt. Gen. George P. Hays, General Walsh suggested, as the tension mounted during the last days of March, that the Russians "would do something to make us start war"; he may have concluded from the letter that they had hit upon a means of causing us to fire the first shot, and soon. He is still convinced that we then came "within a hair's breadth of war" but "Stalin changed his mind." He recalls having communicated directly with G-2 in Washington but does not recall any specific message on the morning of the 31st.

Although General Walsh thought for a while that war was imminent, his OMGUS intelligence staff, housed in separate quarters and under Colonel Peter P. Rodes, recalls having viewed the Russian troop movements as "bluff, pure and simple" or as defensive: "They were afraid of an attack from the West." Eucom Intelligence retrospectively considered the possibility of deliberate Soviet scare tactics:

> . . . Coupled with these troop movements were reports of the arrival of reinforcements from the USSR which were associated (*coincidentally or otherwise*) with the critical international situation and gave rise to rumors of immediate conflict between the East and West . . .

and later:

> The coincidence of extensive maneuvers with the recent Berlin 'crisis' has had the effect of providing a flood of reports and rumors, many of which have suggested a considerable military build-up in the Soviet Zone and some of which have described even more active preparations for an offensive against the Western Powers. *It is not known whether this timing was by accident or design,* but the fact that troops have moved to maneuver areas prior to and during a period of extreme local political tension has undoubtedly had the result of giving rise to many of the exaggerated reports which have been received.

CIA's Berlin station housed divergent views also, but the consensus was that the Russians were seeking political rather than military objectives. Some of the Naval Intelligence agents in Berlin, natives of eastern Germany, thought that the moment might have come to regain their homelands, but there is no sign that such thinking affected the generally calm judgment of ONI officials in Washington.

General Chamberlin remembers the Washington G-2 attitude as follows:

> . . . I recall frequent "war of nerves" shows the Russians put on; just when these occurred are hazy. I felt generally that before a war was started that large movements of both men and supply would move westward from the interior of Russia. Since all routes west had to traverse Poland, I thought we would learn something of that location. Merely to move about in the front areas without large movements behind did not seem too important. We had a large and skilled Military Attaché unit in Poland and it was not too much restricted in movement. There was no news of importance—certainly not of heavy movements of men & supply from that locality. I do not recall that I was extremely uneasy around March 31. I have no recollection of ever being in communication with Mr. Royall at night.

In the hours before it had the Dratvin letter, official Washington seems to have reached a state of wait-and-see. Except for the special units already alerted, U.S. armed forces continued their normal pace of activity.

The Dratvin Letter

When General Dratvin's letter arrived at General Hays' office on Tuesday evening, Hays was in Frankfurt, at Eucom headquarters, and the letter was referred to General Clay. Its translation was somehow delayed until late Wednesday morning. On reading it, General Clay was actually relieved. Although it left him just over half a day before its midnight deadline to counter the Soviet inspection demands, Clay now knew that he faced a challenge to the Allied presence in Berlin rather than the threat of war which he had feared earlier in the month.

General Hays also, when he learned, in Frankfurt, of the Soviet inspection demands, considered them a confirmation of his view that the Soviets would use only means short of war to oust the Allies from Berlin. He proposed to Clay by return cable that he himself command a special armored train run forthwith from Frankfurt via Helmstedt to Berlin to force the Soviets to rescind their inspection orders. In anticipation of approval he gave orders for mounting machine guns on both sides of a special railroad car and making a diesel engine ready for the run. General Clay's initial reaction was unenthusiastic; he thought the Russians would switch the armored train to a siding, electrically, without having to fire a shot. He told his deputy to hold off until 6 p.m. and await orders. Although he agreed that the Russians were only bluffing and a test train would be a quick way

to call the bluff, he thought this move would be merely a prelude to the real test—an armored convoy along the autobahn.

While his staff worked on a reply to the Dratvin letter, General Clay, who was to have a routinely scheduled telecon with Washington at 3 p.m., prepared a cable for General Bradley to permit prior discussion of this new development in Washington. Because Clay's cable was top secret, however, transmitted through General Walsh and ASA in "our deepest code," it took over two hours to reach General Chamberlin in the Pentagon, arriving at 9:13 a.m. Washington time, 12 minutes after the telecon began. When it was delivered to him, General Bradley interrupted the telecon, saying, "Recent message from you just brought in. Collins, Wedemeyer, and Chamberlain [sic] have joined me. Please wait."

General Bradley and the group around him read Clay's cable:

> General Clay requests immediate delivery and immediate acknowledgement of following message:
>
> 1. Eyes Only and Personal for Bradley
>
> Have received a peremptory letter from Soviet deputy commander requiring on 24 hours notice that our military and civilian employees proceeding thru Soviet zone to Berlin will submit individual documentation and also will submit their personal belongings for Soviet inspection.
>
> 2. Likewise a permit is required from Soviet commander for all freight brought into Berlin by military trains for the use of our occupation forces.
>
> 3. Obviously these conditions would make impossible travel between Berlin and our zone by American personnel except by air. Moreover it is undoubtedly the first in a series of restrictive measures designed to drive us from Berlin.
>
> 4. I propose to have Soviet deputy commander advised today that we are prepared for our train commandant on arrival at entry points to furnish to the Soviet representatives a list of passengers together with their official orders, and that likewise we are prepared to present a manifest covering freight shipments in our trains when they arrive at entry points. However the right of free entry into Berlin over the established corridors was a condition precedent to our evacuation of Saxony and Thuringia, and we do not intend to give up this right of free entry. I propose further to advise Quatvin rpt Sratvin [sic: Dratvin] that the military guards on our passenger and railway freight trains have been advised accordingly.
>
> 5. I am having telecon with Noce at 311400 Z [3 p.m. Berlin/9 a.m. Washington] today. I hope that if there are any doubts in the minds of anyone in Washington as to this course of action you can advise me at 1400 Z as it will be necessary for me to take action today. I regard this as a serious matter because it is my intent to instruct our guards to open fire if Soviet soldiers attempt to enter our trains. Obviously the full consequences of this action must be understood. Unless we take a strong stand now, our life in Berlin will become impossible. A retreat from Berlin at this moment would, in my opinion, have serious if not disastrous political consequenc in Europe. I do not believe that the Soviets mean war now. However, they do, it seems to me that we might as well find out now as later. V cannot afford to be bluffed.

General Clay continued the teleconference: "Soviet threatene action becomes effective tomorrow and our train leaves Frankfu in three hours," and General Bradley told him "Reply to your messag must be taken up with JCS and others. Delay train until you hea from me. . . ."

General Clay's description of the Dratvin letter caused man officials to suppose that the letter was more blunt and truculent thai it was; as a result, there were lingering doubts that it might herald war rather than merely trouble in Berlin. Top mobilization experts and Air Force planners hoping to ready the Strategic Air Command held meetings with President Truman in the White House.

At 11:40 a.m. a committee of principals gathered in Secretary Forrestal's office: the Secretary of Defense; Secretary of the Army Royall; Secretary of the Air Force Symington; Acting Secretary of State Lovett; Mr. Clark M. Clifford of the White House staff; the JCS, Admirals Leahy and Denfeld, Generals Bradley and Spaatz; Generals Wedemeyer and Norstad, the Army and Air Force "DepOps"; General Gruenther of the Joint Staff; General Eisenhower, former Chief of Staff; and others. There was general agreement that the Dratvin note was part of an effort to oust the Allies from Berlin, but it was not yet clear that it might not also be a prelude to war. Preliminary discussion ended in time for the Army contingent to assemble at the telecon room for a 1 p.m. session with General Clay:

. . .

> Royall: . . . What does statement mean that British will not permit search. Will they resist by shooting? Will they run trains?
>
> Clay: . . . British reply means at moment they will run trains. I think their decision relative to shooting will depend almost entirely on our own. I doubt if they will shoot although [British Military Governor] Robertson has agreed to do as we do.

. . .

> Clay: . . . We could supply ourselves and meet passenger needs by airlift for a while but not Germans in city. Moreover, this action would be most damaging to our prestige and would be met by new acts. I believe this a bluff but do not wish to bluff back as British may be doing unless we mean it.
>
> Royall: . . . Realizing that any incident involving shooting or other heavy violence might precipitate war, some consideration has been given here to the President sending an immediate note to Stalin informing him that require-

ments of Berlin Commander is [sic] violation of existing agreements and stating that traffic will continue to move. . . . Another suggestion is that traffic trains move but that in no event shall there be shooting. What do you think of this? . . .

Clay: . . . Any weakness on our part will lose us prestige important now. If Soviets mean war, we will only defer the next provocation for a few days. For that reason, I do not think either [a protest note to Stalin] or [continuing trains "but in no event shall there be shooting"] realistic. I do not believe that this means war but failure to meet this squarely will cause great trouble. I realize [how] our train resistance would be taken. I am convinced it is only possible course of action.

. . .

Royall: . . . If you had to choose between [these two] courses which would you prefer?

Clay: . . . I would prefer to evacuate Berlin and I had rather go to Siberia than to do that. However, [protest to Stalin] would be better of two but I think it should await our own test. If Soviets do open fire, perhaps U.S. and U.K. governments could close certain world trade routes under our control until normal condition restored here.

. . .

Clay: . . . Koenig and Robertson awaiting me at home for dinner. Will break away and return for telecon [at 4 p.m. Washington/10 p.m. Berlin]. I am sure that a strong stand here now is essential and will win issue. Please believe this my sincere conviction.

Meanwhile, Acting Secretary Lovett held a luncheon consultation with some of his assistants in the State Department. After lunch he returned to the Pentagon, bringing along Jacob Beam and Llewellyn Thompson, chiefs of his Central European and Eastern European offices, for the reconvening of the discussion broken off for the telecon with Berlin. At 2:10 the meeting resumed.

As noted in Secretary Forrestal's diary,

The following suggestions were considered:

1. That the President send a message to Stalin pointing out that implementation of the Russian proposal might create an incident which might be provocative of war.

2. That he call into conference the majority and minority leaders of the House and Senate.

3. That instructions be sent to Clay indorsing his proposed action, with a qualification that he be told that his guards would not use their weapons except in self-defense.

4. It was also suggested that immediate communications be had with the British to see whether they had taken action identical to ours and given similar instructions to their train guards.

While the phrasing of a protest note to Stalin was being discussed the Air Force Chief of Staff, General Spaatz, scrawled his version o a scrap of paper and passed it first to Symington, then to Lovett "Stalin, you crazy S.O.B., what do you think you're doing?" Mr Lovett retorted, Mr. Symington recalls, "General, you should know better than to call the head of a sovereign state crazy."

In a more serious vein, it was Lovett who quashed this whole pro posal. According to Mr. Forrestal's note,

At Mr. Lovett's suggestion the proposal to have the President addres a communication to Marshal Stalin was discarded because it would add dis proportionate emphasis on this incident and might convince the Russian that they had secured precisely the effect they were after.

It was now generally agreed among the key policy-making official assembled in Secretary Forrestal's office that the Soviets did not war war but did wish to augment the war scare, and that the Allie response should be conceived with this in mind. There was a tactica difference of opinion: Symington, Spaatz, and others wished to giv our soldiers some discretion to use their weapons should attempts b made to board U.S. military trains; the majority favored orders allow ing them to shoot only if shot at.

After the meeting adjourned, Messrs. Forrestal, Lovett, Clifford Royall, and others drove to the White House for consultation with President Truman.

Intelligence and Policy

General Clay, reflecting on his March 5 cable, the intelligence esti mates of mid-March, and Washington's rejection of his propose forcible convoy, first on the railroad and later on the autobahn, ha observed that although intelligence analysts gauged Soviet intention correctly, policy makers in Washington failed to act on the basis o these estimates when they refused to approve convoys in March April, June, and July 1948. Rightly or not, both Clay and his then Political Adviser, Robert Murphy, believe that Washington's failur to support their riskier proposals in March and April encouraged th full Soviet blockade in June and that the failure to take similar risk in June 1948 and the months thereafter encouraged Stalin on the course leading to the Korean war.

Two questions arise: First, was there really a gap between the intelligence analysts' assessment of Soviet intentions and the corre

sponding policy makers' assessments? Second, if there was no significant gap, why were General Clay's proposals rejected or deferred?

In answering the first question, it is necessary to distinguish Soviet intentions irrespective of Allied countermoves from Soviet intentions—and possibly inadvertent incidents—in case of Allied convoy movements to Berlin. There appears to have been no significant gap between the intelligence consensus and policy makers' consensus about premeditated Soviet military attack in the spring of 1948. The consensus in both groups was that the Soviets would not take this course. As for probable Soviet responses to forcible convoys, it should be noted that the SE-27, IM-21, and ORE 22-48 estimates were not directed to this contingency. There was a gap here in formal intelligence advice; there was no "consequences paper" on the matter. Nonetheless, General Chamberlin (G-2), Mr. Armstrong (INR), General Cabell (A-2), and most of the members of the ad hoc estimating group chaired by Van Slyck held the personal view that armored convoys to Berlin might precipitate Soviet actions resulting in war. None of these men considered it proper to offer such views unless asked, and only a few policy makers asked, informally, for such opinions prior to decision making. Most policy makers who did so ask, most of those who did not, and most of the intelligence officials shared a belief that armored convoys would probably reach Berlin but that reliance on such convoys would increase the likelihood of war. In Berlin, both General Clay and Ambassador Murphy held this same view. In conclusion, there appear to have been shades of difference but no significant gap between intelligence analysts' and policy makers' assessments of Soviet intentions, including no significant gap in assessing the consequences of armored convoys.

Why then were General Clay's proposals rejected or deferred? The decisions of policy makers in Washington, with responsibilities far broader than those of their intelligence advisers, may have reflected consideration of many factors outside the competence of intelligence officials. But differing policy views by responsible officials in Berlin on the one hand and in Washington on the other appear more consequential than whatever shades of difference there were between intelligence advisers and policy makers. For example, both General Clay and Ambassador Murphy seem to have attached greater importance to the impact of a quick, firm stance in Berlin than officials in Washington did. Moreover, the images of World War III as later conveyed by both Clay and Murphy were of an experience somewhat less painful, somewhat more successful than most such images later constructed by high Washington officials. These, and many other assessments within the scope of policy decision-making may help to explain decisions reached on the basis of far broader considerations than those derived from intelligence channels.

When, therefore, President Truman reviewed the afternoon deliberations of March 31, he acted on the counsel of Cabinet members and trusted personal advisers who, though influenced by intelligence advice, also provided independent considerations for decision. The President agreed with Mr. Lovett's recommendation against a protest note to Stalin, and he decided against any act in Washington that might exacerbate the war scare. According to Mr. Forrestal's notes,

> The President on his own initiative decided against calling in Congressional leaders because:
>
> 1. It would become immediately known, and
>
> 2. It would add unnecessarily to the creation of a war hysteria.

He approved the decision to send trains into Berlin, ordering our troops to fire only if fired upon.

The British Response

On the basis of fragmentary documentation and occasional interviews, it is possible to present a rough sketch of developing attitudes in London.

Appreciation papers of 1948 estimated that the Soviets were unready to launch a war, but noted that European economic recovery and the beginnings of joint European defense planning made the next few years relatively more dangerous than the distant future. Viewed through Eurocentric eyes, the Soviet actions in March appeared to be a reminder of Soviet land power to the countries that had negotiated the Brussels Pact between March 4 and 12 and signed it on the 17th. This interpretation on the part of British defense intelligence officers, however natural it seemed, now appears to have been erroneous, for we have shown that the March activities were in active preparation as far back as the CFM breakdown in December 1947.

Unlike some of their American opposites, almost all top British intelligence officials sought to explain the troubles in Berlin and troop movements in Germany as politically rather than militarily inspired.

An appreciation paper produced after the tension subsided related the March activities both to the pressure on Finland and to the forthcoming elections in Italy. Sir Francis Pakenham (now Lord Longford), then Chancellor of the Duchy and the Foreign Office official responsible for German and Austrian affairs, recalls the troop movements as "just part of a political squeeze in Germany."

Air Marshal Sir John Slessor, speaking before the U.S. Air War College on April 12, reflected on the recent crisis:

> I wonder if I am wrong in feeling that we are in some danger of drifting into a condition of near-panic which is not really justified by the facts and which may even, if we are not careful, land us in the thing we are all—including Russia—most frightened of, i.e., war.
>
> . . . I do not myself believe the Russians would allow this [Berlin] issue to come to open war; they will no doubt put on their war paint (they are now digging trenches on the autobahn) and utter blood-curdling war cries and threats, like the savages they are. But I can't see them marching into Bizonia on this issue. If they do—well, the assumption is that our governments have decided that Berlin is vital to us and we must therefore face up to war now; if we don't, if we give way here without a fight, then it only makes total war more certain sooner or later.

When the ultimatum was delivered to General Brownjohn's office on the 30th, top British officials in Berlin expected local difficulties rather than war. General (now Lord) Robertson agreed with General Clay that the trains should continue and that Soviet inspection demands should be resisted, but he saw no reason for his guards to open fire unless fired upon. Nor did the British cabinet.

After President Truman's decisions at the White House, the ticker from London announced that the British did not propose to stop their trains and that they would maintain armed guards aboard them.

Armed Forces Alerts

Another decision undertaken in London by perhaps 9 p.m. (4 p.m. in Washington) on the 31st was the alerting of British armed forces units. Buried on the fourth page of the *Times'* morning edition on April 2, possibly the casualty of a D-Notice, was an Air Ministry announcement of an RAF Bomber Command alert, Mosquito night fighter patrols, and Army anti-aircraft operations which lasted four hours in the course of "an air defense exercise over the southern half of England."

That morning in Washington, General Bradley left the meeting in Secretary Forrestal's office knowing that government policy required a firm stand in Berlin, even though the issue of instructions to train guards about shooting remained unsettled. About noon, the Chief of Staff asked General Timberman of the Plans and Operations Division to coordinate an alert with the Intelligence Division, the Air Force, and the Navy. Not until White House clearance of the Berlin decisions and transmittal of instructions to General Clay were the coordinated alerts dispatched.

At 7:17 p.m. Washington time, as military trains began their runs into the Soviet zone of Germany, General Spaatz alerted the Alaskan Air Command:

> . . . the concern of the Chief of Staff stems from belief that next 60 to 90 days are critical period. The Italian elections, their aftermath, the Finnish situation and our present weak military position, particularly in air defense, are the principle [sic] points on which this view is based. Since the Air Force has clear responsibility for air defense, he is giving you the best air defense means available . . . it is his desire that the Air Force do the best it can . . . to prevent being caught by surprise in the event of another Pearl Harbor . . .

An Army alert over General Wedemeyer's signature but in General Chamberlin's handwriting informed all major commands of the stance in Berlin at 8:26 p.m.

> The Soviet authorities in Eucom have introduced restrictions pertaining to travel of Americans through Soviet occupied zone to and from Berlin. Our government is taking firm stand and incident could result. This information is disseminated with a view to insuring that field commanders themselves are alert to situation that might develop. Inform appropriate Navy and Air Commanders. Navy and Air concur.

At 9:14 p.m. General Chamberlin alerted his G-2 network in Eastern Europe, the military attachés at Helsinki, Warsaw, Prague, Bucharest, Budapest, Sofia, Belgrade, and also Rome:

> Personal for Military Attaché from Chamberlin
> Soviet authorities in Eucom have introduced restrictions pertaining to travel of Americans through Soviet occupied zone and to and from Berlin. Our government is taking firm stand and incident could result. This information is given to insure that you may be alert to possible developments.

As originally composed, the last sentence read, ". . . to insure that you may be on the alert to possible developments," but the G-2 did not wish to create undue alarm, and deleted the prepositional phrase.

End of the Crisis

Late on the evening of the 31st, the first Allied military train, under U.S. command, left Wannsee station in Berlin for Frankfurt with the MP guard doubled—thirty men armed with carbines and machine guns. Within earshot of the press, the commander remarked to his men, "There will be no shooting tonight." The train reached the Marienborn checkpoint on the western border of the Soviet zone after midnight, but no Soviet guards demanded on-board inspection; it crossed over to Helmstedt and went on to Frankfurt.

Then a British military train under Wing Commander Galloway took the same route from Charlottenburg station in the British sector. It met no trouble upon entering the Soviet zone, but when it reached Marienborn the signals were red and the track switched open. On the platform a group of Soviet officers waited with 30 or 40 German policemen. One of the officers politely asked to come aboard for inspection, and Commander Galloway offered to show papers through the carriage windows or on the platform. The Russian said that on-board inspection was essential, and the British officer replied that it was contrary to his orders. The train was switched to a siding and later returned to Berlin.

A British passenger train and then two U.S. passenger trains eastbound to Berlin were also halted at Marienborn and returned to their stations of origin. An eastbound French military train waited for instructions in Helmstedt. Paris finally told its commander to allow the on-board inspection, breaking ranks with the British and Americans; but on the following day, when it was clear that the Soviets did not intend war, Paris reversed its position and joined the other Western powers in halting the trains rather than submit to boarding.

On April 1 Generals Clay and Robertson initiated a small military airlift, and General Clay asked Washington to consider an armored convoy along the autobahn. These events were prelude to the blockade in June when even civilian trains were halted and the Allies organized their spectacular airlift to supply the population. But by April 1 it was clear to almost everyone that the Soviets had no intention of initiating war. As CIA's *Review of the World Situation* would observe a week later:

> . . . recent Soviet conduct in Germany is fundamentally the consequence of decisions taken months ago, although its timing is related to recent events. The general purpose of simultaneous threats in Germany and toward Scandinavia, Greece, and Iran is evidently to develop and exploit the panicky apprehension of further Soviet aggression. . . .
>
> Effective resistance to direct Soviet political aggression inevitably involves risk of a collision the accidental consequences of which might be war. It is still improbable that the USSR has any present intention of provoking war. Its most provocative conduct, that in Germany, is actually evidence that war is not intended. If early military aggression in Europe were planned, devious efforts to compel Western withdrawal from Berlin would be pointless.

ORE 22-48: Estimating for the Record

At a meeting of the IAC on April 2, the estimate which the interdepartmental working group had agreed on on March 30 received unanimous endorsement. With the tensions in Europe subsiding, all of the IAC Directors considered the compromise satisfactory, and ORE 22-48 went to the printer on Friday afternoon. But that same day, General Chamberlin and General McDonald collaborated on a joint C-2/A-2 estimate of the Berlin situation and disseminated it to their networks. It had a different tone:

> . . . There is no change in the Soviet capability of initiating operations practically without warning and overrunning Western Europe and important portions of the Middle East. It is believed that the Soviet economy is not yet adequate to support a protracted general war. However, the Soviets may resort to war, whether ready for a protracted general war or not, when they themselves decide that Western rearmament and resistance are a threat to their security, which latter may, in their minds, include thwarting the attainment of their short-range objectives.
>
> If pursued, the latest Soviet action in Berlin will unquestionably cause some counteraction on our part. . . . Any action taken by us henceforth which is adequate to stop the Soviet advance by their present methods may cause the Soviets to resort to war.

Then over the weekend some of the top A-2 officers took another look at the joint estimate in which they had concurred on Friday, especially its key prediction ". . . that the USSR will not resort to direct military action during 1948." On Monday the A-2 telephoned Theodore Babbitt of ORE to say that the Air Force wished to dissent from the April 2 estimate. Upon learning that A-2 wished to reopen ORE 22-48, ONI officers decided to articulate their own dissatisfaction, in the opposite sense, with it.

So a two-page ditto prepared on the 5th accompanied the printed and bound ORE 22-48 estimate:

> The Director of Intelligence, USAF, does not concur in the conclusion that the USSR will not resort to military action before the end of 1948. Although . . . occidental logic militates against war, it is not agreed that a preponderance of factual evidence exists to support such a conclusion. . . . Lack of reliable evidence precludes the formation of any sound conclusion at this time regarding Soviet intentions to resort to direct military action beyond the forthcoming sixty days.

General Cabell, the Deputy A-2, later recalled that top Air Force staff officers thought that ORE 22-48, as published on April 2, might be misinterpreted, thereby harming Air Force chances for a supplemental appropriation. A-2 had supported the no-war estimate when it was needed to defeat Soviet political pressures in Europe; now with the March tension ended, domestic concerns required closer attention.

ONI's dissatisfaction concerned the introductory wording to the possibility-of-war provision: "However, in view of the combat readiness and disposition of the Soviet armed forces and the strategic advantages which the USSR might impute to the occupation of Western Europe and the Near East . . . ." The DNI believed this gave the incorrect impression that the Soviets were poised to invade Europe and capable of sustaining a war to occupy Europe and the Near East. He recorded his preference that the phrase about the combat readiness, disposition, and possible USSR strategic advantages be deleted so that the Conclusions should read:

> The preponderance of available evidence and of considerations derived from the "logic of the situation" supports the conclusion that the USSR will not resort to direct military action during 1948.
>
> However, the possibility must be recognized that the USSR might resort to direct military action in 1948 if the Kremlin should interpret some US move, or series of moves, as indicating an intention to attack the USSR or its satellites.

These estimates for the record terminated in a formal sense the crisis which had ended in fact by April 1. Elaborate Soviet plans for political conquests in Scandinavia and Germany had failed. And while the first round in the battle for Berlin had ended in a draw, there was no panic among the Allies to dishearten their partisans in the Italian elections several weeks later. Internally, the intelligence community had created a mechanism for combined estimates that worked while there was critical need for it; externally, it had helped guide policy makers through a difficult time.

How the photo interpreter helps locate and appraise key contributors to Mao-land industrial output.

CHINESE INDUSTRY FROM THE AIR

Wm. B. Tomlinson

When the Great Leap Forward collapsed in 1961 a "cone of silence" descended over China. Mainland newspapers and magazines ceased to contain meaningful statistics on industrial activity in the country, radio broadcasts were emptied of all but propaganda, and travel by foreigners was largely restricted to tours of First Class Commune No. 1 and the Great Flood Control Dam of the Mangu. Even on purchases of plants and equipment from abroad there was often a costly forfeiture of associated guarantees because foreign technicians were not permitted to install them and the supplying countries were not even informed of their location. This almost complete blackout of information would have left the economic-industrial intelligence officer quite desperate had it not been for the arrival on the scene of daring Chinese Nationalist pilots flying used U-2 aircraft now withdrawn from their former duty over the steppes of the industrial giant to the north.

High-altitude photography of course brings important information to others in the community besides the economist, notably to military intelligence officers, but in this article we are concerned only with the service it performs for the disciples of Samuelson and Galbraith. Taken alone, its information on industrial activity in Communist China gives only a minimal foundation for intelligence estimates. When correlated with pre-blackout data and the limited current information that comes in from other sources, however, it enables us to draw many valuable conclusions about the Chinese economy today. Though its usefulness with respect to different industries varies from high to negligible, over-all it is comparable in significance for China to the annual statistical yearbook for Soviet industry.

Pre-Blackout Data

The basic store of information on Chinese industry goes back to before the Communist takeover in 1949; much of the mainland in-

dustrial base was established by then. The huge iron and steel complex at Anshan and many of the varied industrial activities at Shanghai annd Wuhan and in other widespread areas were developed by the Japanese during their occupation. Then many plants damaged in the war were restored or reactivated, some with U.S. assistance, between 1945 and 1949, so that much information is available on these from Chinese Nationalist, Japanese, and U.S. sources.

During the first 10 years of the Mao regime, when there was a great deal of industrial expansion and modernization, the Communists reported openly about the progress they were making. This information was by and large reliable; the achievements of the Communists in this period, compared with the Nationalists' record, were impressive enough to need no embellishment. A considerable amount of accurate information thus came out of China up to 1959.

When in 1959 the Communists attempted to make it in one great leap to the forefront of the industrial nations of the world, they not only established completely unattainable goals but also reported incredible progress towards them. Almost all of the information they issued at this time was impossibly warped or exaggerated. Even so, placed against the previous reporting, it gave some insight into actual accomplishments. When the great silence enveloped the country in 1961, therefore, a good basic reservoir of data on the industrial establishment was available to the economic intelligence officer.

Aerial Photography: Spotting and Typing

Aerial photography's most obvious and most frequent contribution to the production of economic-industrial intelligence is in locating industrial facilities and discovering what they are for. In a somewhat less precise way it can help in determining a plant's operational status and in a few cases even in estimating its current rate of production. It can also follow the progress of new construction from the initial clearing of ground to the completion of an installation.

It must be kept in mind, however, that for the production of intelligence a good deal of information must be available from other sources than aerial photography, and studies in depth are required to create from it a useful product. The economic-industrial intelligence officer must weave together the photo interpretation of an installation with information from ground observation of it, reports on equipment housed in it, etc., and apply to all this his knowledge of the industry in question and the particular practices of the country.

Some industries are readily identified in aerial photos because of characteristic peculiarities either in the plant itself or in ancillary facilities. An excellent example of distinctive industrial configuration is presented by an integrated iron and steel plant, with its easily recognizable features such as blast furnaces, coke batteries, coke by-product plant, open-hearth furnace buildings, and rolling mills. Another easily spotted industrial facility is the petroleum plant: the tank farm jumps out at the PI on his very first scan. The large potroom buildings of a modern aluminum plant with their associated rectifiers and transformer stations are also easily distinguished even by the novice PI.

There are other industrial plants, however, that a trained PI can identify only by a careful scanning of the photograph. Falling into this category are copper refineries, fertilizer and most chemical plants, and cement (unless marked by horizontal rotary kilns) and lime plants.

Finally, some industrial activities cannot be identified from aerial photography at all. A striking example of these is the manufacture of titanium: in the United States two of the leading titanium plants are currently housed in old steel works, without any alteration of their outward appearance. An identification of these from aerial photography alone would be likely to be a false one, as steel mills of some sort.

The correct identification of an installation may depend on getting accurate measurements of its features. If it is co-located with others, relative size is often enough of a clue, but otherwise real measurements are necessary. A good clear U-2 picture will yield measurements of well-defined lines such as the clean sides of buildings to within 5 feet and of clearly discernible heights to within 10 feet.

Operational Status; New Construction

In many industries the most telltale sign that a plant is in active operation is the presence of smoke, steam, or dust. At an iron and steel plant, for example, the quenching of coke creates a heavy cloud

of steam, and the open-hearth and bessemer converter furnaces (for making steel from iron) and soaking pits (for equalizing temperatures in an ingot) emit smoke. Thermal power plants are usually heavy smokers. Cement plants in operation feature large quantities of smoke and dust. Many other industrial activities emit enough smoke or steam to be detected in the photography. Sometimes, as in power plants, the quantity of smoke may vary with the level of operation, but in most cases smoke only shows a facility to be active.

A better indicator of level of operation at many industrial plants is the extent of associated railroad activity. Many plants require a constant influx of raw materials and have a constant outflow of finished product by rail. The number of railroad cars at or near a plant is thus often significant. A stockpile of raw materials—coal, ores, etc.—can give a clue to the operational status of a plant, but this indicator is unreliable and often misleading. Often the size of the stock of raw materials is inversely related to the operational level of the plant, and sometimes it is static regardless of plant operation.

An important variable in determining operational status is the frequency of photographic coverage needed. In a number of industries, fortunately, particularly those that use large furnaces, frequent shutdown is not practical. Once temperatures are raised to operating levels, operation is continued for a long time before shutdown for maintenance or other reasons. Thus one can forego aerial coverage for fairly long periods with reasonable confidence that if a plant of this kind was operating before and after, it was probably operating during the interval as well. The length of the period will vary among industries; the PI, as he progresses in the mastery of his profession, will use his judgment in respect to it.

At new construction in progress, aerial photography offers a ringside seat. Starts can be identified early if they involve clearing or grading the site, and the entire construction cycle can then be followed, including the laying of access roads or railroad spurs, the erection of security fences, and the completion of administration buildings. The enlargement of an existing plant can be watched in the same way. For the internal modification of existing facilities there are clues such as the presence of building materials or equipment, but the insight they offer is obviously quite limited.

An Iron and Steel Plant

The Wuhan iron and steel plant will serve as a good example from this industry, showing how well it lends itself to identification. As can be seen from the aerial photograph in Figure 1 and the drawings in Figure 2, the basic features are readily identifiable. The three large blast furnaces that reduce the ore are easy to discern. Although their unique configuration precludes close measurement of their size, there is collateral information on the precise volume of almost all blast furnaces in China today; no new ones have been built for the past six or seven years. Of these, No. 1 has a volume of 1,386 cubic meters, No. 2 of 1,436 cubic meters, and No. 3 of 1,513 cubic meters.

The open-hearth building with six tall smokestacks also stands out. The smoke coming from the top of the building indicates that the shop was probably operating when this photo was taken even though no smoke can be seen coming from the stacks. Collateral intelligence puts six furnaces in this building, five large ones of 500 tons and one of half that capacity. One furnace to a stack is a common practice, although a number of plants have two on each. The open-hearth building is large enough to accommodate these six.

The soaking pit area, although its identification would be difficult for an amateur, can be seen by the trained PI. The same is true for the coke ovens, some of which steam shows to have been operating when the picture was made. The number of ovens per battery is very difficult to tell from aerial photographs, but for this again there is collateral information, much of it pre-Communist, on this and other iron and steel plants in China.

The rolling mill area, where the steel is worked beyond the ingot stage, can be delineated easily, but aerial photography provides the least useful information about this part of the plant. Collateral sources are unfortunately also the least informative on this subject, so that the weakest estimates about today's Chinese iron and steel industry are on its ability to turn crude steel into finished products. Overall, our best conclusion is that China does not have the rolling facilities to process all its crude steel. The number of rolling mills at Wuhan, however, indicates that this plant can roll all the crude steel it produces into some kind of finished or semifinished product. What the mix might be cannot be ascertained.

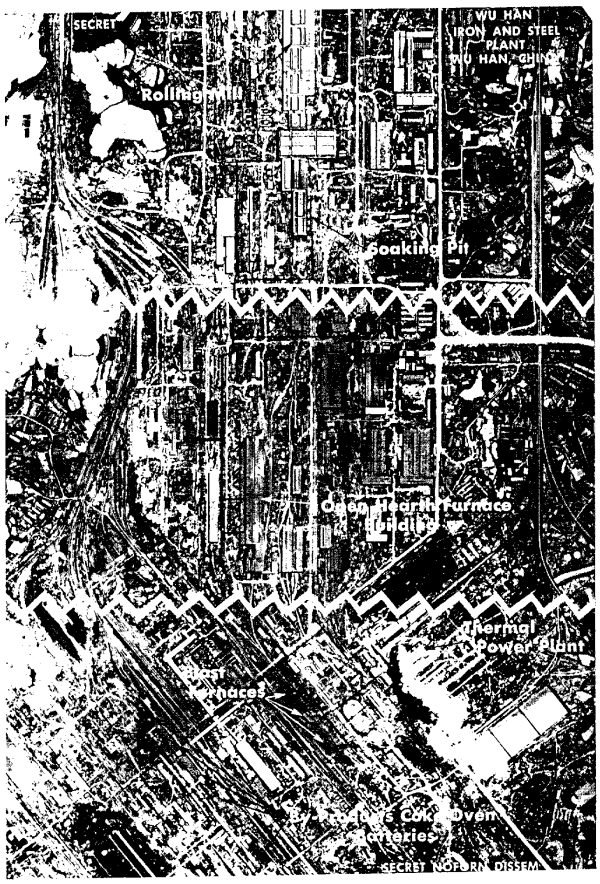
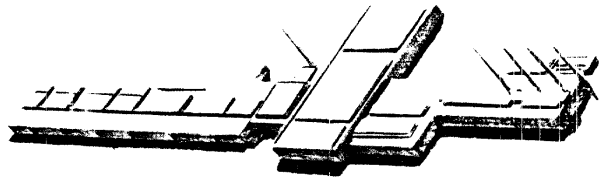
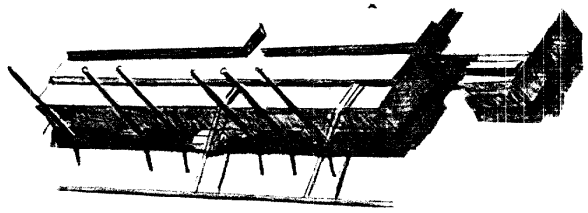


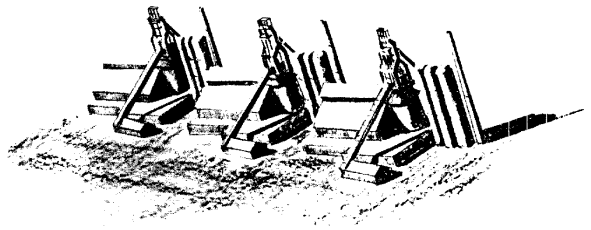
FIGURE 1



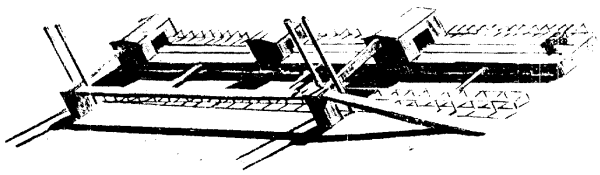
Rolling Mill, with Soaking Pit on Right



Open Hearth Building



Blast Furnaces



By-Products Coke Ovens

FIGURE 2

In sum, the following estimates can be made on the Wuhan plant by evaluating the combined information from all sources:

Pig iron capacity is about 2.5 million tons per year with all three blast furnaces operating full time, according to collateral information. Aerial photography permits the conclusion that the plant was probably operating at a high rate throughout 1966, and a reasonable estimate of its pig iron production in 1966 would therefore be about 2 million tons.

A crude steel capacity of about 1.5 million tons is derived from collateral reporting. Aerial photography leads to the conclusion that the open-hearth shop was probably operating near capacity all through 1966, so well over 1 million tons of crude steel was probably produced. The excess pig iron is sent to Shanghai for processing.

Finished steel capacity is not given in collateral reporting, but the number of rolling mill buildings visible lends confidence to an estimate that all the crude steel produced here is probably rolled into some finished or semifinished form. Applying the usual rule of thumb that finished steel amounts to about 75 percent of the crude, we get somewhat near 1 million tons as Wuhan's finished product in 1966.

Aluminum

Probably the second most easily identifiable industrial facility is the modern aluminum plant. Because it recovers the metal by electrolysis, it must have an easily spotted transformer station and rectifier buildings, along with distinctive potroom buildings (the individual electrolytic cells are "pots"). As can be seen in Figure 3, showing the Fushun aluminum plant, the unique configuration of the potroom buildings is easily singled out by the PI. Their outside measurements (usually from 75′ to 175′ wide and from 450′ to more than 1,000′ long) are easy to determine, and there is a good rule of thumb for deriving plant capacity from area—1 ton of aluminum metal per year for every square yard of gross potroom floor space. At the Fushun plant gross potroom area is about 80,000 square yards. The indicated capacity of about 80,000 tons per year roughly confirms earlier collateral information that a capacity of 100,000 tons was planned. Aerial photography shows the plant is operating, probably close to capacity.

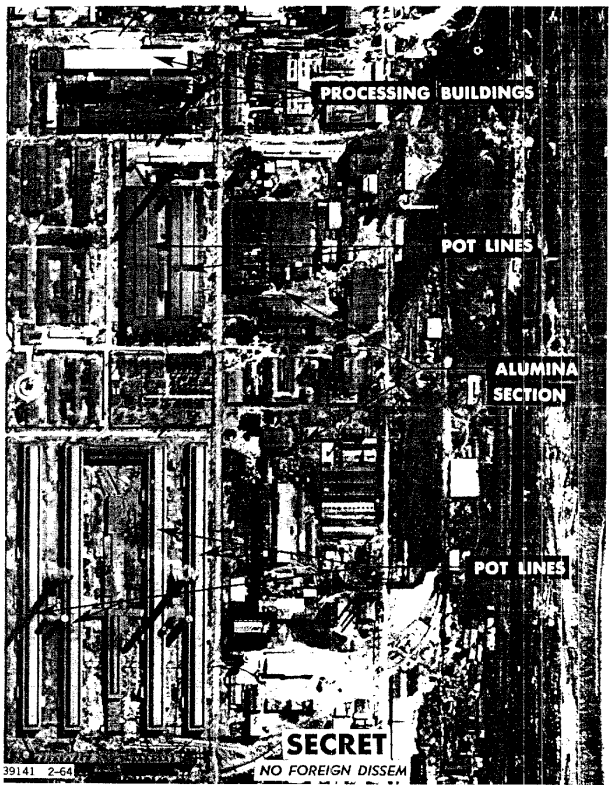


FIGURE 3

There are two other completed aluminum plants in China, but photography showed only one, that at Pao-tou, to be operating in 1966. It has a potroom floor space of 22,000 square yards, so the whole industry could probably have produced a maximum of about 100,000 tons of aluminum in 1966. There are also four aluminum plants under construction in China, and their progress towards completion is currently being monitored from the air.

Cement

Although the cement industry is a decentralized one, spread out across China, photography is available on most of the major plants. When they are operating, large quantities of smoke and dust are emitted from the stacks, and this telltale evidence is clearly visible. With high-quality photography the number of kilns operating, out of the total number, can be determined, to give the percentage of plant capacity being utilized. Figure 4 shows a typical Chinese cement plant.

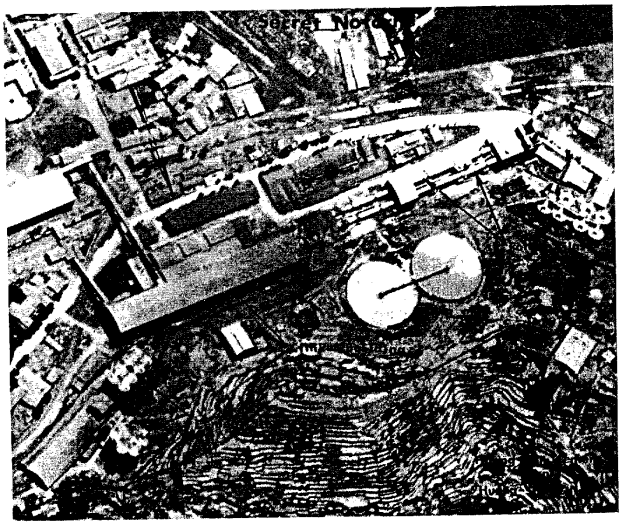


FIGURE 4

Although cement is not itself an exotic commodity, an increase in its production is highly suggestive of industrial expansion. This was one of the early indicators of industrial revival in China after the collapse of the Great Leap. There is one reservation about cement output estimates made from aerial photography. The higher the quality of the cement a plant turns out in a given period of time, the lower the tonnage. The photography gives no insight into quality, and so collateral information is required for fully reliable production estimates.

Electric Power

High altitude photography is of great value in determining the existence and location of power plants, and it gives reasonably accurate means for estimating their capacity. Successive photographs of the same plant show any additions to its capacity. Estimates of actual output, however, involve a great deal of subjectivity in interpreting the photographs. Estimates of the level of operation at time of photography are less than sure, and extrapolation from these to an annual output depends on the validity of a number of technical judgments and assumptions. Estimates of output derived from this source must therefore be regarded as indicating only a possible general order of magnitude.

With respect to capacity, the most accurate estimates can be made on the new Soviet-built plants in China, in which the turbogenerators are placed lengthwise in the generator hall. In these there are standard relationships between the layout and dimensions of the boiler house and generator hall on the one hand and the capacity and number of generating units installed on the other. The number of units and the capacity mix can be further pinned down by observing the wire leads from the generator hall and the boiler connections to the smokestacks. The standard relationships do not hold for other Chinese plants, in which the generator units are frequently placed crosswise in the hall. Here aerial photography provides only general indications of capacity such as the size and number of cooling towers, and collateral information is essential for the number and capacity of the generators.

For hydroelectric power plants, which are not standardized in China, aerial photography sometimes reveals the number of generator

units installed, but often it can only assist in verifying or revising estimates of capacity based on collateral information.

Estimating the level of operation is extremely difficult. The main key from aerial photography is smoke, but this is an ambiguous indicator; the amount of smoke emitted from a stack depends on several factors, including the efficiency of the boiler, the type of coal used, and whether the boiler has just started operation. In the United States very efficient units with smoke-control apparatus may give off little observable smoke. It is believed that in China, however, with poor smoke-control measures and the use of poor-grade, high-volatility coal, more smoke coming from a plant means a higher intensity of operation. In a few cases the amount of steam visible has been used to estimate the level of activity at a power plant. Figure 5 shows the Kunming power plant emitting heavy smoke from its stacks. It is supposed to have been operating at a rather high rate when the photograph was taken.

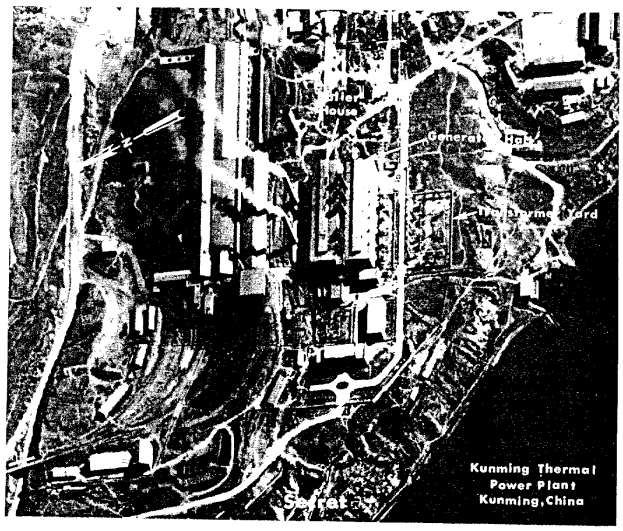


FIGURE 5

Copper

Most of the Chinese copper production is concentrated at four large combination plants at mine sites. These plants process the ore, smelt it into blister copper, and then refine this electrolytically into commercially pure metal. The ore-dressing facilities, usually located on a hillside, can be distinguished by the steep roof-lines of the crusher and concentrator buildings. Dewatering tanks and tailing dumps are often also seen. The smelter usually has one or more tall smokestacks, anywhere from 300 to 600 feet high, from which comes a cloud of dense white smoke when the smelter is operating.

The refinery proper has no outstanding peculiarities which will invariably distinguish it from other types of industrial plants, but a number of features taken together suggest its purpose. The refining buildings include those with characteristic furnace stacks where the electrolytic anodes and commercial shapes are cast and the electrolytic tank house. A large power house or substation will be associated with the tank house and the casting building.

No reliable floor-space-to-output formulas have yet been developed for a copper refinery, but rough comparisons in size between the Chinese plants and those in the USSR where production rates are known give at least an order of magnitude for Chinese production. The analogy is more than assumed: the four major Chinese plants were built with Soviet aid and are of basic Soviet design. Although the Soviets withdrew before all of them were completed, most of the equipment had already been supplied. All four were operating in 1966 at what appeared under aerial surveillance to be good rates.

Railroads and Other Uses

Aerial photography is of little use in determining the production of railroad rolling stock, but it is a direct and accurate means of following the development of the railroad network of a country. It has been especially useful in application to the more remote areas of Communist China. From the initial preparation of the roadbed through the construction of tunnels and bridges to the final laying and aligning of track, the whole construction process can be watched. Good-quality photographs even show trains in transit on the completed lines. The determination of traffic density over a particular line, however, is a very difficult problem, and here the results from aerial

photography, although some rather sophisticated methodologies have been tried, still leave much to be desired.

Some insight into capacities or operational levels of other sectors of the Chinese industrial base can be gained from aerial photography, and the purpose of new construction can often be determined if it is associated with a known installation. Plants pointed out by other sources can be watched and in some cases their operational status defined.

The over-all level of industrial activity in China can be surmised by projecting the activity in the key industries discussed above, particularly the iron and steel industry. Sometimes referred to as the "bellwether" of an economy, certainly steel output signals the general trend of economic activity in China, even though its correlation with GNP, national income, and the index of industrial activity is not perfect. The more skillful we can become in evaluating high-level photography on the most photogenic industries the better we will be able to assess the general economic situation in China.

The use of scientific literature in estimating an operational date for the first Soviet nuclear submarine.

RED NAUTILUS UNDER WAY

John A. Lundin

Published information can be a prime source of intelligence even in military-technical matters like the application of nuclear technology to weapons. The analyst must recognize research described in the open literature as paralleling the development of a secret military project and extrapolate from the one to the other as judiciously as possible. Collateral information from other sources is required in the process; it provides the ties or clues which permit the correlation of seemingly unrelated items. Yet some of this information may be erroneous or misleading, and it is the analyst's job to sift out the false and reveal the true picture. A case in which the approach from the scientific literature was particularly successful was in estimating when the first Soviet nuclear submarine could be expected to begin regular operation.

Rumors, Reports, Announcements, 1954-57

After the U.S. launching of the *Nautilus*, in January 1954, a number of indications began to appear that the Soviets were also embarked on a nuclear submarine program. Some reports even had them launching their first submarine in 1955. In December 1955 the announcement that a nuclear icebreaker would be built lent plausibility to the prospect of a nuclear submarine.

In April 1956 Marshal Zhukov, then Minister of Defense, declared in a secret speech, "Our Navy . . . in the near future will be equipped with atomic engines." This was authoritative word that a naval nuclear propulsion program had been started but operational status had not been achieved. A year later the situation had apparently not changed: on 4 July 1957 Admiral S. G. Gorshkov, Commander in Chief of the Soviet Navy, said that it had no atomic submarine at that time but would in the future.

In the meantime, however, there were numerous clandestine reports that in 1954 modifications were begun at Shipyard 402 at Severodvinsk to permit construction of nuclear submarines and that in 1956 hundreds of new workers arrived at the plant. Among the welter of other conflicting reports, many implied that nuclear submarines were already in existence as early as 1956. The problem for intelligence was thus to get firm information on the Soviet program and determine when the first unit had become or would become operational.

The Atomic Energy Program to 1954

Up until the time of their first nuclear test, 29 August 1949, the Soviets had bent all their efforts toward obtaining a nuclear weapon. In 1950 they reorganized the atomic energy program and expanded it to include development of a nuclear power station as well as continued work on weapons. This expansion necessitated the training of new scientific personnel, the construction of new research facilities, and the development of a supporting nuclear industry.

In June 1954 the program bore fruit when the world's first nuclear electric power station began operation at Obninsk with a generating capacity of 5 megawatts. This achievement, which demonstrated the practicality of obtaining power from nuclear energy, had required concentrated research in an experimental reactor. The production of high-pressure steam to drive the turbogenerators of a power plant called for fuel elements which could operate at temperatures considerably higher than those in the reactors the Soviets had built for plutonium production. To develop this new type of fuel element, a research "Reactor Physical Technical" (RPT) was constructed at I. V. Kurchatov's Laboratory of Precise Measurements, now called the Institute of Atomic Energy.

The RPT began operation in April 1952 and was brought up to full power in December, when the first experimental loop, or test channel, was ready to test fuel elements for power reactors cooled and moderated by water under high pressure. Later on, about mid-1953, two additional loops were put into service, one to test structural elements for water-cooled reactors and the other to test fuel elements cooled by liquid metal. Still later, early 1954, two more loops were put into operation testing fuel elements for power reactors with air and water cooling. During this period RPT had to be shut down several times, not only to install the new loops and replace experimental fuel elements, but also to repair breakdowns of the reactor itself.

Until early 1954 research reactor facilities were thus fully tied up in work on the Obninsk power reactor fuel elements. Research on a nuclear propulsion plant, especially the reactor portion, had to be confined to theoretical considerations such as calculations in reactor physics to select the best kind of reactor for this purpose. Such theoretical studies on reactors cooled and moderated by water were conducted in 1952 and 1953 by A. P. Aleksandrov at Kurchatov's Laboratory. After the Obninsk reactor proved successful, experimental attention could turn to propulsion plant development, for the ice-breaker *Lenin* and presumably the submarine.

Fellow Scientists Confer

By 1956 this history of Soviet research was known in the West from scientific papers and publications. It was known, too, that the propulsion plant being developed for the *Lenin* was to be based on a pressurized-water reactor. In April of that year a presentation by Kurchatov at Harwell showed that the Soviets had selected uranium dioxide as the fuel for this type of reactor and were well into a development program.

The next important new insights into the Soviet program came from the World Power Conference held in Belgrade in June 1957. At this conference S. A. Skvortsov presented a paper on a new pressurized-water power reactor to be constructed at Novovoronezh. His presentation showed that its over-all design parameters were already fixed. Its uranium dioxide fuel was to be enriched to a 1.5-percent content of the U-235 isotope. In a new development, zirconium was to be used as the sheath or cladding to protect the fuel from the water; the Obninsk reactor had used stainless steel.

The extent and complexity of the data indicated that the Soviets had largely completed their basic research and were now in the engineering phase of development. The Novovoronezh reactor was to be a large version of the type one would expect to see used in ship propulsion plants. This information, extrapolated over to the submarine program, meant that the major features of the propulsion plant had been developed and it was probably under construction. Yet there was nothing onto which one could hang a timetable.

Finally, at the Second International Conference on the Peaceful Uses of Atomic Energy, held September 1958 in Geneva, the Soviets presented a large number of papers on the technology of the pressurized-water reactor, and these contained the key to the time factor in their development and construction of the nuclear submarine. The controlling factor was the development and testing of the fuel element.

Fuel Element R&D

First of all, the neutron spectrum (the distribution of neutron speeds) for the water-cooled and -moderated system had to be worked out. A paper by V. I. Mostovoi *et al* of the Institute of Atomic Energy reviewed the study of neutron spectra in such systems; it had been started in 1956. From these studies the optimum spacing of the core lattice was determined, so that the fuel assembly could be designed accordingly.

A paper by S. M. Feinberg *et al* described the mathematical procedures used for determining how the geometry of the uranium-water lattice, the initial content of fissionable isotopes, and the size of the core affect the quantity of power released per unit weight of fuel (the degree of fuel burnup achieved). The neutron cross sections (giving probability of interaction, for which neutron speed is critical) that he used were those worked out in early 1956. These calculations established the basic parameters for the core of a pressurized-water reactor using uranium dioxide as the fuel and zirconium as the cladding.

A paper by R. S. Ambartsumyan *et al* recounted Soviet efforts to find a commercial zirconium alloy suitable for continuous operation in water and steam at high temperatures. Specimens were tested for as long as 10,000 hours (13.5 months), but the critical results had been obtained at about 6000 hours (about 8 months). In the course of these tests continual reference was made to a paper presented by D. E. Thomas at the First International Conference on the Peaceful Uses of Atomic Energy held in September 1955. This meant that the Soviets probably began testing alloy samples in late 1955. When the decisive results were available, in mid-1956, they could then select the best alloy for the cladding and proceed with the next phase of the test program, namely in-pile tests of fuel element prototypes.

This phase was discussed in a second paper by Ambartsumyan *et al*, which completed the timetable key. It disclosed how the Soviets tested a fuel element under the conditions of the proposed *Lenin* reactor. After the first 3000 hours the test element was taken out and inspected, and the state of the jackets was very good. After 7464 hours in this loop it was shifted to a second test channel closer to the axis of the reactor, where test conditions were similar to those planned for the Novovoronezh electric power reactor. As of 1 February 1958, the prototype fuel element had been in the second loop for 3653 hours, making a total test time as of 1 February 1958 of more than 463 days.

The Time-Table

The testing of the prototype element therefore began no later than 25 October 1956. When the 3000-hour inspection in late February 1957 found it to be in good condition, the Soviets knew they had a fuel element of satisfactory reliability. About March 1957, then, they could fix its design and start manufacturing. Using U.S. experience as a guide, it was estimated that nine months would probably be required to produce the first core. January 1958 was then the earliest the core could be loaded into the submarine reactor. Another three to six months would be required before dockside trials could take place. The submarine could have begun sea trials at the earliest in late spring 1958.

Such a schedule would count on a normal rate of construction, allowing for no unexpected delays. With a newly designed submarine, however, it was supposed that problems might crop up and take time being worked out, leaving a period of uncertainty in the estimated schedule perhaps as long as a year. In that case, the first Soviet nuclear submarine would become operational by mid-1959. The chronology is summarized in the table on page 56.

Controversy and Confirmation

This conclusion, reached in the fall of 1958, was supported by information from a U.S. military editor who had visited the USSR in September. He reported rumors that the first Soviet nuclear submarine was launched in July 1958 and that it was to be commissioned—this precedes fitting out and the shakedown cruise—near the end of the year. On the other hand, a clandestine service report shortly thereafter stated flatly that the nuclear submarines were in series production in Leningrad, not Severodvinsk, and that as of January 1959 twelve were "on the way."

CHRONOLOGY

Pressurized-Water Power Reactor	Icebreaker Lenin Reactor	Postulated Submarine Reactor
1954:	Draft of propulsion program	
First atomic power station in operation.		
Expansion of atomic energy program.		
1955:	Announcement of planned nuclear icebreaker.	
1956:		
Neutron spectrum study.		
Calculations on Zr-UO_2 lattice.		
Corrosion tests end; Core design begins.	Keel laid; core design begins.	Core designs begins.
In-pile tests begin under *Lenin* conditions.	Motors under construction.	
1957:	3000-hr. inspection of in-pile test for *Lenin*.	
Design released at Belgrade Power Conference.	7464-hr. *Lenin* test ends.	Core construction could begin.
In-pile tests for power reactor begin.	*Lenin* launched, Dec 1957.	Possible launching.
1958:		
In-pile tests end.	Core loading begins.	Core loading.
		Sea trials (sometime between spring 1958 and mid-1959).
1959:	Dockside trials.	
	Sea trials.	
Operational.	Operational.	Operational.

Red Nautilus

This last report found a number of partisans in the intelligence community, and there was great controversy for a time over the validity of reasoning from open scientific literature, of deriving production rate from shipyard capacity, of depending on rumors, etc. The report could possibly be interpreted to mean only that twelve nuclear submarines were planned and construction had started, but the Leningrad location could not be reconciled. (In the end, much later, it was learned that this information was deception material fed to the source by the KGB.)

In the fall of 1959 a Soviet sailor who had been stationed at the Severodvinsk Shipyard 402 reported that the first nuclear submarine was launched in spring 1958; he had seen it in June. Other information of his concerning the shipyard and naval activities was well substantiated. He implied that the submarine began operation late that year.

At about this same time a report came in of the sighting and sketching of a new submarine, Pendant No. 251, in September 1959. Records showed that this number had first been noted in July. This, right on schedule, was the nuclear submarine, now called N-class; but it took several years to confirm the fact. In 1963 the Soviets finally published an article describing the voyage of the nuclear *Leninsky Komsomol* to the North Pole, and an accompanying photograph showed an N-class submarine, No. 270, with the same features as had been seen in No. 251.

This case history illustrates that in countries that have limited resources and manpower devoted to R&D in a given technology, the scientific literature in that field reflects the progress being made in both unclassified and secret projects. We have seen a situation in which clandestine reporting informed us of the existence of a nuclear submarine program, but it was scientific discussion of developments in pressurized-water reactors that permitted a correct estimate of the initial date of operation.

The monitoring of Soviet radars by way of the lunar surface.

MOON BOUNCE ELINT

Frank Eliot

The capability of enemy anti-aircraft and anti-ballistic-missile systems, naturally a matter of intense interest to us, depends in part on the capability of a number of sub-systems, one of the most important of which is the radars used for target acquisition and tracking. We need to know the parameters of these radars as accurately as possible in order to plan penetration strategy and design the most effective equipment for electronic countermeasures. A considerable amount of such information on a radar's capability can be derived from observations of the signals it transmits. This is the classical Elint problem, to deduce the configuration and characteristics of an unknown system from the measured characteristics of its signals.

Except for a very few specialized over-the-horizon devices, however, all radars operate on wave lengths which are too short to be reflected back to earth by the ionosphere but pass through and are generally lost in outer space. Under ordinary conditions, therefore, we are unable to observe them from ground collection sites when they are more than a few hundred miles inside the denied area of the Soviet Union.

So how to make such Elint observations? Manned overflights of the Soviet Union are no longer permitted. Even if they were, the complicated equipment needed to measure the details of radar signals could not easily be carried in an airplane. If the characteristics of a particular emitter or class of emitters are known and we want only to find out whether such an emitter is in operation nearby, then the collection equipment can generally be fitted into a quite small, unattended package. But if the basic signal parameters are not known, or if precision measurements are needed, then it becomes very difficult to design small, automatic intercept equipment.

New Reflector

The possibility of solving this intercept problem with an entirely new technique emerged in 1946, when scientists detected for the first

time a man-made signal reflected from the moon. The next few years saw many experiments (generally known as Moon Bounce tests) proving that radar signals so reflected could be reliably detected. The early experiments were monostatic; i.e., the transmitter and receiver were at the same location. Then bistatic experiments were performed, showing that transmitter and receiver could be separated by hundreds of miles on the earth's surface, the only requirement being that the moon be simultaneously in view of both. It now became clear that there was a good possibility of intercepting signals from radar transmitters located deep within the Soviet Union.

The dominant characteristic of signals reflected from the moon is extreme weakness. A typical signal received via Moon Bounce is more than a million billion times weaker than if it were received in an airplane ten miles from the transmitter. Very large receiving antennas are necessary to capture enough energy from this weak signal to hear it and distinguish it from other signals. Most of the very large steerable antennas in the Western world have been put to work on Moon Bounce intercepts. These include the ones at the Grand Bahama tracking station, the 150-foot dishes at the Naval Research Laboratory's Chesapeake Bay Annex and at Stanford University, and the large dish at Sugar Grove, West Virginia. The 600-foot dish that was planned for the Navy's Sugar Grove facility but never built would have been so used extensively. A 150-foot dish is about the minimum size usable on radars of normal power, so very few are available for our purpose.

The radar-reflective characteristics of the moon have been studied extensively over the past decade or so in the attempt to gather information on the lunar surface. (Radar was a principal source for such information until the recent spacecraft orbitings and landings.) When the moon was first proposed as a passive reflector, scientists predicted that it would "look" like a rough sphere at radio frequencies, that is, one that would scatter a good deal of energy in random directions instead of reflecting it at the angle it struck each point on the sphere. If so, a short burst of radio energy from the earth would be reflected back to earth first from the point on the sphere nearest the earth, then from a widening ring around this point, and finally from the rim. The elapsed time between the moment when the reflection from the near point returned to the earth and that when the reflection from the rim returned would be about .0116 second. Since radar pulses are on the order of .00001 second long, a rough moon would cause intolerable smearing of the pulses; every reflected pulse would be about .0116 second long, regardless of its initial length when transmitted, and very little information about the transmitter could be derived from the signal.

Fortunately for us, the moon appears only slightly rough to radio waves; most of the reflected energy comes back from an area at the near point just a few miles in diameter. The bulk of the energy striking farther around on the side is reflected out into space and never returns to earth. The moon reflection we get appears to come from a few large humps, not a uniformly rough surface. Depending upon their relative positions, these individual facets may give reflections that add or subtract from one another, creating a larger signal back on earth or making it even disappear. The effect is shown in Figure 1. Each oscillograph trace represents one pulse of a consecutive series received after a round trip to the moon. The variations in their amplitude (strength) and length (duration) are evident. Although thus distorted in the course of being reflected, the signal still contains much useful information.

Time and Geometry

Two conditions must be satisfied before we can receive an enemy's radar signals via Moon Bounce. First, the signals must strike the moon, at least momentarily. Second, the moon must be simultaneously visible at our receiving site. Since these conditions are so dependent on the position of the moon, they create very serious limitations.

Long-range search radars (early warning or anti-ballistic-missile) generally sweep over a sector of azimuth keeping very close to the horizon. Consequently, to give us a successful intercept, the moon must be passing through the radar's search sector, be within a few degrees of the radar's horizon, and be visible to us. How often all these conditions are simultaneously met is a complicated function of many variables. Take for example the research radar we call "Hen House" at the Sary Shagan missile test range in the south-central part of the Soviet Union. If this radar were operating continuously and covering a 360-degree azimuth, we could observe its signal via Moon Bounce for about 38 hours a month in Palo Alto, California, or for somewhat longer than that at the Navy's Chesapeake Bay facility. That is the total of periods in which we would see flashes of signal when the rotating beam struck the moon each time around. If the

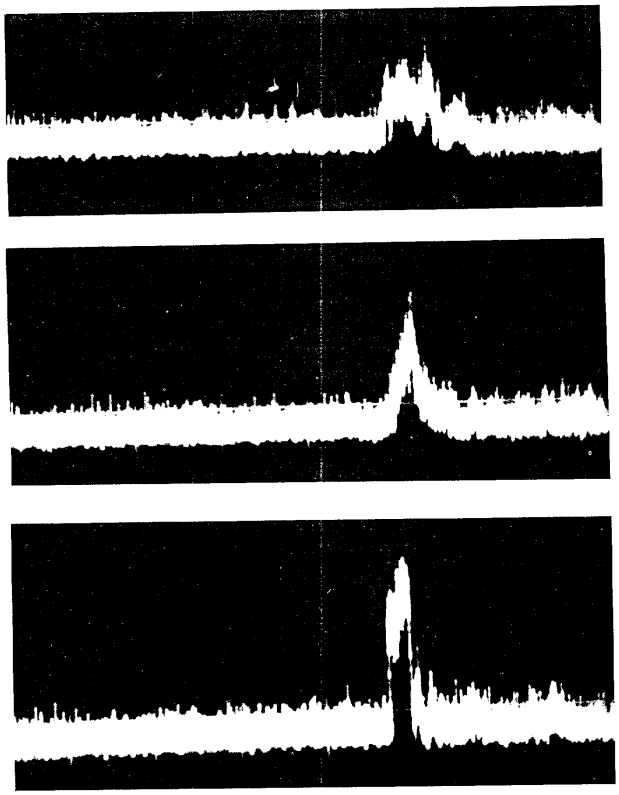


FIGURE 1. Oscillograph traces of three consecutive pulses spaced 20 seconds apart. Each transmitted pulse was 800 microseconds long. The top trace shows considerable lengthening of the trailing edge. The middle one shows degradation of the rise time. The bottom trace most closely resembles the shape of the original transmitted pulse.

radar were looking only westward from Sary Shagan, the intercept time at Palo Alto would be reduced to about 20 hours. Actually, it sweeps in azimuth sector of only 31.9 degrees, limiting our possible intercept time there to 18 hours.

In practice, we unfortunately have somewhat less time than that to look at this radar; it may not be operating during those brief periods when we look for it. Being a research device, it can be expected to be "down" a large portion of the time. The Soviets might even avoid letting its beam hit the moon, in order to prevent our intercept of the signals. Research radars are the most important to intercept, since they give hints about what may be operational in the future.

At first it might be thought that California would be the worst possible location from which to intercept the nearly antipodal Sary Shagan. But using a receiving site closer to Sary Shagan like the Navy's on Chesapeake Bay, which has the effect of making the moon visible to both places when higher in the sky, doesn't yield much more intercept time because the radar beam sweeps so close to the horizon, with very little energy transmitted above 20 degrees or so. And what advantage the eastern location has in intercept time is offset by the advantage of the Palo Alto location in being able to see eastward-looking Soviet radars which are nearly hidden from the eastern United States.

Hen House Observation

During its last Soviet operations in 1960, the U-2 photographic collection system had noted a very large antenna structure near the Sary Shagan missile test range. We believed that it was the antenna of a new radar system, but since the location was deep within a denied area we were not able to detect signals from it. Its signals were first heard by Western observers in 1962, not via Moon Bounce but by reflection from the ionized cloud of a Soviet atomic test explosion. Since analysis of this brief, crude intercept showed that the Soviets had a new radar system of advanced capability, the intelligence community immediately attempted to intercept the signal by other means.

The first searching via Moon Bounce was done by the Navy using its 150-foot dish on the Chesapeake. The faint signal could not be found, however, until some specific information on its frequency reached us from other sources. Navy made the first successful intercept

in January 1964 and in subsequent monitoring defined roughly the parameters for the Hen House frequency and scan.

Stanford's 150-foot dish at Palo Alto, because of its potential with respect to eastward-looking Soviet radars, was chosen for CIA's Moon Bounce collection project. Quite sophisticated collection equipment, including two unique receivers, was built especially for this purpose and installed there. In August 1965 the Palo Alto project made its first intercept of the Hen House radar, which remains its most important target.

CIA has undertaken a continuing analysis effort to define carefully the exact parameters of the Hen House system, using data from the Department of Defense intercepts and more recently from Palo Alto. Three major discoveries have been made about the signal. First, using special receiving equipment, it was determined that the signal has a "spread-spectrum" mode. This means that the spectrum (frequency spread) of the signal can be intentionally broadened to increase either the radar's range or its range-rate resolution, that is its accuracy in reading its target's speed.

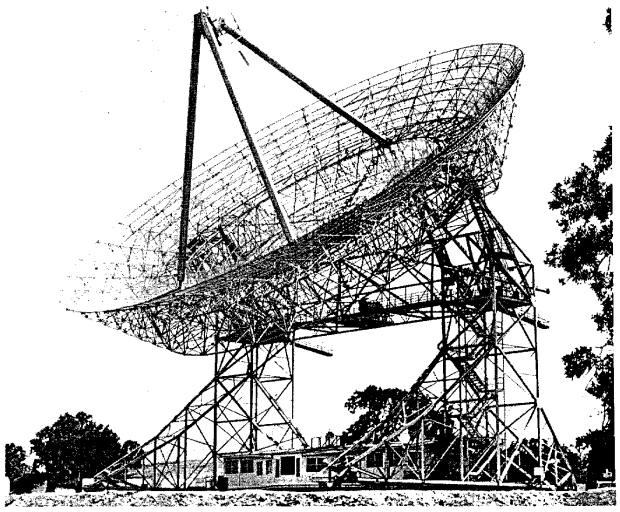


FIGURE 2. The 150-foot receiving antenna at Palo Alto, California.

The second discovery was that the Hen House uses a rather advanced scanning system. We expected to see a regular scanning, or "search" mode, and a tracking mode, where the beam follows a target. Both of these have been observed. In the latter, the Soviets, apparently just for practice, have set the radar to track the moon for as much as half an hour. This makes the intercept job much easier, as we then see the signal continuously rather than in short bursts as the beam swings by the moon. But in addition to the standard scanning and tracking modes we have observed the system in a combination mode wherein it is basically scanning but will dwell for a short time on any target it sees. Apparently it is set to look at a target just long enough to identify it and measure its parameters before moving on. We imagine the radar can keep track of several targets at once. Since the scan and dwell times are quite short, it must operate under computer control.

The most recent significant observation is that the transmitter's peak power is about 25 megawatts. This, if correct, makes it one of the highest-powered radars in the world.

All of these observations lead us to believe that the Hen House is a new, sophisticated ABM radar. Knowledge of Soviet ABM capability has become of increasingly critical importance to the United States. By accurately defining the parameters of the new radar, we can now start the design of countermeasures and tactics to reduce its effectiveness.

The Moon Bounce effort is one of those intelligence collection techniques which seemed at first "far out" but has in the event more than paid for itself.

Introducing a shy sister.

THE NSA JOURNAL

Probably few readers of the *Studies* except those in Fort Meade and its outposts are aware that we have an almost-twin sister in the community—the *NSA Technical Journal,* now in its twelfth year, publishing quarterly issues devoted to intelligence methodology (with emphasis, to be sure, on cryptologic and linguistic subjects) and similar matters. There are two main reasons for this comparative obscurity. Almost all issues of the *Journal* are marked with one or more of those code-words that designate "special" intelligence confined to compartmented channels. And even within the compartments potential readers may suppose that all the *Journal's* articles are recondite brain-twisters or what its first editor, Dr. Sydney Fairbanks,[1] used to call "hippopotamus" pieces—with no sex appeal unless you're another hippopotamus.

Neither of these reasons is really valid, even for those of us who live on the free side of the code-word barrier. Most issues of the quarterly carry two or three articles of more than cryptologic interest, without code words, often unclassified; and we are informed that NSA would undertake to furnish separate copies of such articles on request. Those behind the barrier will find a number of code-word articles, also, that are not hippos, for example in last summer's issue (XI 3) Brigadier John H. Tiltman's reminiscences of his work on Japanese ciphers during the war, J. L. Taggart's true detective story of the solution of a missile intelligence problem, and Constance Clarke's introduction to the multiple mysteries of African languages.

Of the unclassified articles published in 1966, Russian linguists—professional or dilettante—will be particularly interested in Jacob Gurin's story of how he and his father translated *Anna Karenina* (XI 2), in an essay by A. J. Salemme on tricks of the trade in translating Russian (XI 4), and in a translation from the German (this one is classified Confidential because of copyright) of a Fessenko article on recent changes in Russian usage (XI 2). The other 1966

[1] Whose graceful editorials are collected in an unclassified issue of December 1966.

articles especially recommended address themselves to far-out but fascinating problems of communication:

In the winter issue (XI 1) L. D. Callimahos traces the history of experimental efforts to communicate with intelligent beings in other solar systems and other galaxies, especially with respect to the "inverse cryptography" problem of creating a code in which we could make ourselves understood, offers a sample transmission we might receive from outer space, explains its construction, and challenges the reader to translate it. H. H. Campaigne follows this challenge up with another in the next issue (XI 2). And in the fall issue (XI 4) J. F. Rettger treats an artificial international language he calls Metalin, which, unlike Esperanto and other such inventions, is logically rigorous enough to avoid the serious difficulties that still beset the machine translation of natural languages. In the 26 pages of this presentation he develops its syntax complete and tells us that he has so far assigned meanings to some 2500 word roots, forming the basis for tens of thousands of unambiguous compounds and derivatives.

The *Journal's* editorial office can be reached on code 188, extension 6364.

Historical review of the problem and some remedial proposals.

THE PROTECTION OF INTELLIGENCE DATA

John D. Morrison, Jr.

The unauthorized exposure of classified information is a chronic problem for governments and intelligence agencies. Defense against the conscious agent of a foreign power is different from, and in some ways less difficult than, deterring revelations due to carelessness, malice, or greed on the part of government employees. The problem is particularly acute in a democratic society whose laws and courts must provide broad protection to criminal defendants. The deterrence provided by the espionage laws and related statutes is weakened by the difficulty of prosecution under them. This is especially true in cases involving disaffected or careless employees of intelligence agencies; the defenses usually include strong equitable pleas which may excite a sympathetic public response.

No legislation or administrative procedure can offer perfect protection. It is submitted, however, that both our laws and our administrative procedures could be improved so as to provide more effective deterrence. Some particular avenues that might be taken will emerge from the following discussion.

The Espionage Laws: An Incomplete Structure

A review of American legislation in the field of criminal espionage shows that historically there has been limited legislative effort directed to the protection of intelligence data. As a result there is a startling lack of protection for a governmental function of growing importance and sensitivity. Perhaps the need for laws protecting intelligence data has reached significant proportions only in the relatively recent past.

The changes, technological and other, in the manner in which nations deal with each other have caused some improvements in legislation dealing with the protection of state secrets. Diplomatic communications have traditionally been protected. As early as 1807, the Supreme Court suggested that the legislature recognize and provide against crimes affecting the national security which "have

not ripened into treason."[1] It was not until 1911, however, that Congress passed the first important statute dealing with the broad problem of espionage. In 1917 the language of the 1911 act was amended to read much as it does today. More recently congressional attention has been focused—and appropriate legislation enacted—on the problems involved in protecting atomic energy data[2] and communications intelligence.[3] The Internal Security Act of 1950[4] made it unlawful for a government employee merely to communicate classified information to a known representative of a foreign government.[5]

However, the espionage laws[6] are still the basic statutory protection against unauthorized disclosure of intelligence materials and information. No legislation has yet been enacted to cover the new problems arising out of the chronic "cold war" status of international relations and the consequent need for a sophisticated, professional intelligence apparatus as an arm of the executive. The wartime concept of the military secret is inadequate to cover information about the personnel, activities, and products of such an apparatus, information whose extreme sensitivity is often not readily apparent even though its exposure may have a most damaging effect on the national security.

These shortcomings point to the need for new legislation establishing a category "Intelligence Data" and providing that anything so designated by an authorized official shall be judicially recognized as such solely on the basis of that designation. This would solve a vexatious and recurring problem for which there is no known cure in existing laws. That problem is the immunity enjoyed by an exposer of sensitive information when the information itself cannot for practical reasons be brought into the open for the purpose of prosecution.

The Official Secrets Acts

It has often been suggested that, if legislation is needed in this area, the British Official Secrets Acts with their broader protection offer a good example to be followed. It is not commonly understood

[1] Ex parte Bollman and Ex parte Swartwout, 4 Cranch 75, 127, 2 L. Ed. 554, 571 (1807).

[2] 42 U.S.C. §2271 et seq.

[3] 18 U.S.C. §798.

[4] 50 U.S.C. §783(b).

[5] See *Scarbeck v. U.S.*, 317 F. 2d 546, cert. denied, 83 S. Ct. 1897 (1963).

[6] 18 U.S.C. §§791-798.

that the British acts are based on a different legal theory from that underlying our espionage acts. Under our system the information divulged must be shown to be related to national defense and security either by its very nature or as coming within statutory definitions such as those for communications intelligence and atomic energy data. The British acts are based on the theory of privilege, according to which all official information, whether or not related to the national defense and security, is the property of the crown. It is therefore privileged, and those who receive it officially may not divulge it without the crown's authority.

In a British prosecution for unauthorized disclosure several consequences flow from the privilege theory. Portions of the trial can be held *in camera* if the court agrees. Under our constitution, while certain procedural aspects can be considered *in camera*, no part of the actual trial could be heard privately. In Britain certain presumptions may apply. For instance, if the defendant is known to have possession of privileged information and to have been in the company of a known foreign espionage agent, there is a presumption that he passed the information. The presumption is rebuttable; but our Supreme Court opinions indicate that such a presumption would not be permissible here. Most important, in the English system it is not necessary to prove that any item of information relates to the national defense and security.

A good example is the so-called Isis case in which two Oxford students published in their college magazine, *Isis*, the story of their experiences in the Navy, including technical intelligence operations in the Baltic. The prosecution merely testified that the article contained information which they had acquired in their official service and was, therefore, privileged. After the verdict of guilty, the prosecution approached the court alone, without presence of defendants or defense counsel, and briefed the court, solely for purposes of sentencing, on the significance of each item of information to the government. Such a briefing, we believe, would be held error under our system.[7]

In another case, that of an RAF officer named Wraight who defected to Russia and then returned, a government witness who had inter-

[7] *Jencks v. U.S.*, 353 U.S. 657, 668 (1957). But see post Jencks Statute 18 U.S.C. §3500(c) permitting *in camera* examination for relevancy and editing of pre-trial reports of government witnesses.

viewed the defendant for the security services was allowed to testify without publicly identifying himself. His name was handed in writing to the court. Possibly this could be done here if the defense agreed to it, but it seems clear it could not be done over the defense's objection.

In short, the Official Secrets Acts would seem to be in important respects unconstitutional in this country and therefore cannot be relied on as examples of means by which we could protect intelligence data. In addition, despite the technical advantages which the British laws provide for the prosecution, experience has shown that these do not by any means give complete protection; they are only to some degree more effective than our system.

Intelligence Sources and Methods

The statutory authorities and responsibilities of the Director of Central Intelligence include the responsibility for "protecting intelligence sources and methods from unauthorized disclosure." [8] The Congress's use of the term "intelligence sources and methods" indicates its recognition of the existence of a special kind of data encompassing a great deal more than what is usually termed "classified intelligence information." The espionage laws and the statutes designed to protect communications and atomic secrets, though they specify in detail the kinds of information they seek to protect, nevertheless do not cover everything that might be defined as intelligence data whose exposure could be detrimental to the national interests. For example, knowing the identities of U.S. covert intelligence officers or the fact that U.S. intelligence is making a study of certain published unclassified materials might be of great value to a foreign intelligence agency, but there is some question whether such information would be considered by a court to be included among the things protected by existing statutes.

The Congress has also recognized the need for protecting intelligence sources and methods by enacting for CIA a number of special authorities and exemptions from legal requirements otherwise in general force throughout the government. The Agency is exempted from the "provisions of any . . . law which require the publication

[8] National Security Act of 1947, §102(d), 61 Stat. 495 50 U.S.C. §403.

or disclosure of the organization, functions, names, official titles salaries, or numbers of personnel employed by the Agency." [9] Similarly, the Agency is authorized to expend the funds made available to it for objects of a confidential, extraordinary, or emergency nature such expenditures to be accounted for solely on the certificate of the Director. It is exempted from statutory requirements regarding exchanges of funds and the performance rating of employees and from laws and executive orders governing appeals from adverse personnel actions.

Thus Congress has charged the Director of Central Intelligence with protecting intelligence sources and methods from unauthorized disclosure, has recognized that the term "intelligence sources and methods" encompasses an area not entirely covered in other statutes, and has affirmed the need for such protection by providing statutory authority for that purpose. The void in the statutory structure protecting intelligence sources and methods is the absence of sanctions against unauthorized disclosure which can be invoked without disclosing the very sources and methods whose protection is sought.

The Judicial View of Intelligence

The courts have long recognized that the secret intelligence activities of the executive branch, though indispensable to the government, are by their nature matters whose disclosure would be injurious to the public. In the Totten case [10] compensation was sought under a secret contract with President Lincoln for espionage activities behind Confederate lines. The opinion of the Supreme Court stated:

> If upon contracts of such a nature an action against the government could be maintained in the Court of Claims, whenever an agent should deem himself entitled to greater or different compensation than that awarded to him, the whole service in any case, and the manner of its discharge, with the details of the dealings with individuals and officers, might be exposed, to the serious detriment of the public. A secret service, with liability to publicity in this way would be impossible; and, as such services are sometimes indispensable to the Government, its agents in those services must look for their compensation to the contingent fund of the department employing them, and to such allowance from it as those who dispense that fund may award. The secrecy which such contracts impose precludes any action for their enforce-

[9] Central Intelligence Agency Act of 1949, as amended, §6, 63 Stat. 208, 50 U.S.C. §403g.

[10] *Totten v. U.S.*, 92 U.S. 105 (1876).

ment. The publicity produced by an action would itself be a breach of a contract of that kind, and thus defeat a recovery.

It may be stated as a general principle, that public policy forbids the maintenance of any suit in a court of justice, the trial of which would inevitably lead to the disclosure of matters which the law itself regards as confidential, and respecting which it will not let the confidence be violated. On this principle, suits cannot be maintained which would require a disclosure of the confidences of the confessional, or those between husband or wife, or of communications by a client to his counsel for professional advice, or of a patient to his physician for a similar purpose. *Much greater reason exists for the application of the principle to cases of contract for secret services with the Government, as the existence of a contract of that kind is itself a fact not to be disclosed.* [Emphasis supplied.]

The Totten case marks the beginning of the juridical idea—and judicial cognizance of it—that there is a kind of relationship to the state which is confidential, beyond judicial inquiry, and involving a trust of such nature that the courts cannot aid a breach of it, even in their solemn duty of administering justice.[11] A secret agent is almost impotent in his own cause; he literally cannot maintain an action in the courts where his secret activities are germane to the case.[12]

Judicial Access to Sensitive Data

Present espionage laws dealing with unlawful transmission or obtaining of information related to the national defense[13] have been interpreted as requiring proof of certain questions of fact; evidence on these questions must be submitted to the jury for consideration of its weight and sufficiency. For instance, the information betrayed must in fact be related to the national defense and must not have been generally available.[14] The courts have held that a jury cannot find on these facts unless it has access to the information allegedly related to the national defense and hears testimony regarding its use, importance, exclusiveness, and value to a foreign government or

[11] *See Firth Sterling Steel Co. v. Bethlehem Steel Co.*, 199 Fed. 353 (1912), in which the court struck documents from the record on the ground that it was against public policy to disclose military secrets. See cases cited in note 18.

[12] *De Arnaud v. U.S.*, 29 Ct. 555, 151 U.S. 483 (1894); *Allen v. U.S.*, 27 Ct. Cl. 89 (1892); *Tucker* v. *U.S.*, 118 F. Supp. 371 (1954).

[13] 18 U.S.C. §§793, 794, and 798.

[14] *U.S. v. Heine*, 151 F.2d 813, 816 (1945), citing *Gorin v. U.S.*, 312 U.S. 19, 28, 61 S.Ct. 429, 85 L.Ed. 488 (1941).

potential injury to the United States.[15] The defendant in a criminal proceeding must likewise have access to it, since the information itself may tend to exculpate him with respect to dealings in it.[16] As Judge Learned Hand said in *U.S. v. Andolschek*, "The Government must choose; either it must leave the transactions in the obscurity from which a trial will draw them, or it must expose them fully."[17]

These rulings have left the government in the position of having to reveal in court the very information it is trying to keep secret or else not prosecute those who steal information and use it to the injury of the nation. To invoke the law's protection of the secret, the secret must be told.

Judicial experience with the privilege which protects military and state secrets has been limited in this country.[18] British experience, though more extensive, is still slight compared to that with other evidentiary privileges.[19] Nevertheless, it is clear at least from the civil precedents that the court itself must determine whether the circumstances are appropriate for the claim of privilege[20] and yet do so without forcing a disclosure of the very thing the privilege is designed to protect.[21] The latter requirement is the real difficulty. In dealing with it, courts have found it helpful to draw upon judicial experience

[15] *Gorin v. U.S.*, 312 U.S. 19, 30-31, supra note 14.

[16] *U.S. v. Reynolds*, 345 U.S. 1, 73 S.Ct. 538 (1953); *Jencks v. U.S.*, supra note 7.

[17] 142 F.2d 503, 506 (1944).

[18] See *Totten v. U.S.*, 93 U.S. 105, 23 L.Ed. 605 (1876); *Firth Sterling Steel Co. v. Bethlehem Steel Co.*, 199 Fed. 353 (1912); *Pollen v. Ford Instrument Co.*, 26 F. Supp. 583 (1939); *Cresmer v. U.S.*, 9 F.R.D. 203 (1949). See also *Bank Line v. U.S.*, 68 F. Supp. 587, 163 F.2d 133 (1947). 8 Wigmore on Evidence (3d Ed.) sec. 2212(a), p. 161, and sec. 2378(g)(5), pp. 785 et seq.; 1 Greenleaf on Evidence (16th Ed.) secs. 250-251; Sanford, Evidentiary Privileges Against the Production of Data Within the Control of Executive Departments, 3 Vanderbilt Law Review 73-75 (1949). See also *Ticon v. Emerson*, 134 N.Y.S. 2d 716, 206 Misc. 727 (1954).

[19] Most of the English precedents are reviewed in *Duncan v. Cammel, Laird & Co., Ltd.*, A.C. 624 (1942). For a thorough study of the history and application of the Official Secrets Acts see David Williams' *Not in the Public Interest* (London, 1965), reviewed in *Studies* X 3, p. 97.

[20] Id. at 642.

[21] *U.S. v. Reynolds*, supra note 16, at 8, citing *Duncan v. Cammel, Laird & Co., Ltd.*, supra note 19, and *Hoffman v. U.S.*, 341 U.S. 479 (1951).

in dealing with an analogous privilege, that against self-incrimination. The Supreme Court said in *U.S. v. Reynolds:* [22]

> The privilege against self-incrimination presented the courts with a similar sort of problem. Too much judicial inquiry into the claim of privilege would force disclosure of the thing the privilege was meant to protect, while a complete abandonment of judicial control would lead to intolerable abuses. Indeed, in the earlier stages of judicial experience with the problem, both extremes were advocated, some saying that the bare assertion by the witness must be taken as conclusive, and others saying that the witness should be required to reveal the matter behind his claim of privilege to the judge for verification. Neither extreme prevailed, and a sound formula of compromise was developed. . . .
>
> Regardless of how it is articulated, some like formula of compromise must be applied here. Judicial control over the evidence in a case cannot be abdicated to the caprice of executive officers. Yet we will not go so far as to say that the court may automatically require a complete disclosure to the judge before the claim of privilege will be accepted in any case. It may be possible to satisfy the court, from all the circumstances of the case, that there is a reasonable danger that compulsion of the evidence will expose military matters which, in the interest of national security, should not be divulged. When this is the case, the occasion for the privilege is appropriate, and the court should not jeopardize the security which the privilege is meant to protect by insisting upon an examination of the evidence, even by the judge alone, in chambers.[23]

Of course Reynolds was a civil case, but the evidentiary difficulty in criminal cases is quite comparable. Thus, citing Reynolds, the Supreme Court stated in *Jencks v. U.S.:* [24]

> It is unquestionably true that the protection of vital national interests may militate against public disclosure of documents in the Government's possession. This has been recognized in decisions of this Court in civil causes where the Court has considered the statutory authority conferred upon the departments of government to adopt regulations not inconsistent with law for . . . use . . . of the records, papers, appertaining to his department. The Attorney General has adopted regulations pursuant to this authority declaring all Justice Department records confidential and that no disclosure, including disclosure in response to subpoena, may be made without his permission.
>
> But this Court has noticed, in *U.S. v. Reynolds*, the holdings of the Court of Appeals for Second Circuit that, in criminal causes ". . . the Government can invoke its evidentiary privileges only at the price of letting the defendant go free. The rationale of the criminal cases is that, since the Government which prosecutes an accused also has the duty to see that justice is done, it is unconscionable to allow it to undertake prosecution and then invoke its governmental privileges to deprive the accused of anything which might be material to his defense. . . ." [25]

The loophole afforded by this evidentiary difficulty has not been overlooked by the thief who limits his trade to information too sensitive to be revealed. Nor is it ignored by the more imaginative among those accused of other crimes when they claim that their offenses were committed at the behest of an intelligence agency which uses its statutory shield to protect itself at the expense of its agent.

Judicial Evaluation of Sensitive Data

It must be emphasized that undesired disclosure is only one difficulty in the submission of intelligence data to a jury. There is another great problem, the capability of the jury to evaluate such data, often complex and technical and often meaningful only in the context of other sensitive information not otherwise bearing on the case.[26] It can of course be argued that juries often have to grapple with technical facts and that the law provides for assistance in such instances in the form of expert witnesses. But in a case dealing with secret information, resort to these legal devices merely increases the amount of sensitive data which must be shorn of its usefulness by disclosure, increasing the government's reluctance to prosecute and thwarting the protective congressional intent expressed in legislation.

Some Avenues for Action

The courts have recognized that intelligence activities are confidential *per se* and not subject to judicial inquiry. Congress, in the National Security Act, has charged the Director of Central Intelligence with the protection of intelligence sources and methods and has given

[22] Supra note 16, at 8-10.

[23] In *Kaiser Aluminum & Chemical Corp. v. U.S.*, 157 F. Supp. 939 (1958), the Court of Claims held that judicial examination of a document for which executive privilege has been asserted should not be ordered without a definite showing by plaintiff of facts indicating reasonable cause for requiring such a submission. Otherwise, said the Court, at 949, the executive determination would be merely preliminary and "the officer and agency most aware of the needs of government and most cognizant with [sic] the circumstances surrounding the legal claim will have to yield determination to another officer (the Court) less well equipped."

[24] Supra note 7, at 670.

[25] The quoted material from the Reynolds case appears at 345 U.S. 12.

[26] Compare the holding in the Kaiser case, supra note 23, on the competence of the court to evaluate the contents of a document for which there has been a claim of executive privilege.

him certain statutory authority and exemptions to assist him in meeting this obligation. Yet the espionage laws and related statutes enacted for the same or a similar purpose can often not be put to work just when the offense represents the greatest potential threat to the public welfare.

There are three steps which would go far toward solving the problems which still exist in this area. Two of them would seem to require new legislation; the third might be accomplished, at least with respect to CIA, by regulation under the DCI's existing authority. First would be a criminal statute defining what is to be protected and providing punishment for exposure. Second, this statute should also confer injunctive authority, because prevention of exposure is more to the point than punishment for violation and in many cases an injunction might offer greater deterrence than the penal provisions for violation. In addition, the act might provide that persons convicted under it would forfeit retirement benefits; precedent for this exists in 5 U.S.C. §8312, the so-called "Hiss Act."

The third step would be a requirement by the Director that all employees, agents, consultants, and others who enter into a relationship with CIA giving them privity to intelligence data agree in writing to assign as of that time to the Agency all rights in anything intended by them for publication based on information received in the course of their official duties. Perhaps a similar step could be taken by other intelligence agencies. Such agreements, along with appropriate regulations governing the dissemination of intelligence data, could in themselves serve as a basis for injunctive relief, apart from or as an alternative to the statutory provision for injunctions against the criminal act of exposure.

Some such steps are necessary if we are to overcome the shortcomings in laws protecting intelligence information which limit prosecution to cases where intent is clear and where divulging information in open court is not detrimental.

The development of a forthright outdoor collection methodology.

WITH ROD & REEL IN AFGHANISTAN

Lester M. Viniar

"Why don't you go fishing?" suggested the U.S. Army Attaché in Kabul. We considered his proposal, decided that it was a good one, and proceeded to take his advice.

We were the four-man Singapore [redacted] Team on a yearly trip to Afghanistan. Previous trips had acquired data on [redacted] from the Pakistani border west to Kabul, along the road through the Khyber Pass, Jalalabad, and the Sarobi Gorge. We were now looking for other opportunities, and we found them to the north of Kabul, in a new Soviet road project to run from the capital over the Hindu Kush to the Soviet border. The particular section under construction at the time ran from Charikar, some 40 miles north of Kabul, through the Salang Pass to Doshi, 50 miles farther as the crow flies. When completed it would eliminate 100 miles of marginal road then being used, or misused, to bring goods (including heavy equipment) down from the north.[1]

Inquiries at the Embassy turned up the only American who had been through the Salang Pass Project. He had gone through with a hunting party of officials from the Afghan Ministry of Public Works but had been unable to fill many of the U.S. information requirements respecting it. His standing with the Ministry would be helpful in getting from it a permit for us to travel and fish in the area.

First Hurdles

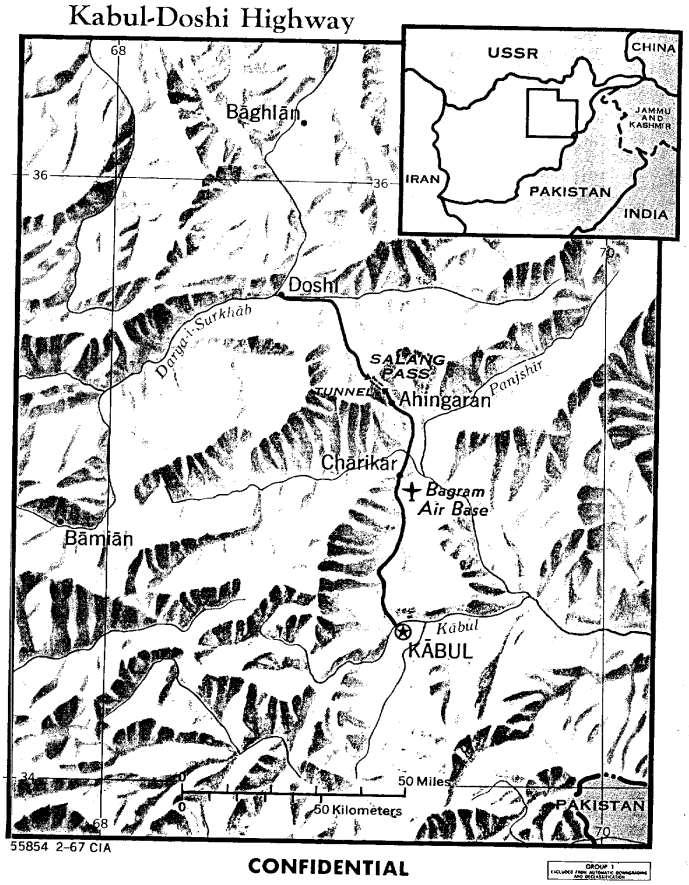
While waiting for the arrival of the permit we borrowed a Willys Jeepster from the Army Attaché, along with all the necessary camping

[1] *Izvestiya* later (13 November 1966) poetically described it thus:

"After bursting out of the suburbs of Kabul, the road rushed north. It races across a valley, climbs into the mountains like a gigantic spiral and, after piercing the majestic Hindu-Kush, it again makes a smooth descent from the clouds."

CONFIDENTIAL

AFGHANISTAN
Kabul-Doshi Highway



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equipment—tent, stove, water cans, gasoline cans, clothing, and last but not least fishing rods. When the permit finally arrived, it merely stated that we had the right to travel and fish outside of Kabul as far north as Baghlan and as far west as Bamian. That gave us plenty of territory but not necessarily access to the Salang Pass, which was off limits, with all requests by Western embassies to visit it refused. Since the permit did not specifically exempt the Pass, however, we set out the next morning just before dawn.

The road north to Charikar is a paved two-lane highway, in good condition. After crossing a ridge on the outskirts of Kabul it runs the entire 40 miles through a broad, shallow valley, past fertile orchards and fields of grain, as well as the Bagram Air Base.

At Charikar we entered the Salang Pass Project. Several kilometers up the road we encountered our first checkpoint—a guard hut and a bar across the road. The guard, like all the road workers, was a member of the Afghan Labor Corps. His ragged uniform, originally blue-grey, was now earth-colored from years of accumulated grime. He motioned to us to turn around and go back. Racing the engine, we flourished our pass under his nose. He looked at it with interest, but it was obvious that he couldn't read. Shaking his head from side to side in a puzzled manner, he looked up at last and said, "Engineers?" "Yes, yes," we agreed, "engineers."

The road into the Pass followed the river upward past the ancient caravanserai at Ahingaran and on through a high arid valley in a last straight stretch before beginning its hairpin turns over the Hindu Kush. While its course was in general that of the old north-south caravan trail, modern equipment and construction methods had turned it into an all-weather road. It tended to ride along the flank of the mountains high enough to avoid the spring torrents released by melting snows but low enough to be sheltered from the high winds that sweep the exposed ridges.

At 10,000 feet, after making a number of steep curves and grinding in low gear around a rock spur, we came to another barrier across the road. We had arrived at the main construction camp. Two rather scruffy hillmen appeared from a sentry hut and pointed extremely long turn-of-the-century Mausers at us. We blew the horn and waved our travel permit vigorously. The rifle barrels didn't waver. Finally one of the guards jerked his gun in the direction of a group of low stone buildings, and two of us got out of the jeep and walked toward

them. No longer covering us with their rifles but still holding them ready, the guards led us into an office.

Fish and Tea

The room was furnished with a faded burlap rug, two or three crudely made armchairs, and a desk and chair that seemed serviceable in spite of having been fashioned from random boards. The inevitable single bulb hung from a wire in the center of the room. Plaster was breaking away from the stone walls, graced by one unidentified framed photograph. A single small window set in the wall just under the roof line did not add materially to the poor lighting. A small cast-iron stove with its pipe through the roof completed the scene.

We sat down in the chairs, and in a few minutes one of the camp functionaries arrived through a door leading into the room from behind the desk. He was Russian, about 5′ 10″, well set up, with black curly hair and generally alert-looking Slavic features. He also had a pleasant manner which I immediately attempted to capitalize on. Even as he was entering the room, in fact, I rose and said, "Dobriy vecher," and stuck out my hand. He took it with a friendly smile.

"Ah," he exclaimed, "You are visitors! Are you from Kabul?" This was getting to be too much for my Russian, but my companion attempted to reply in his Polish-Russian (which I privately suspect is only Polish spoken with a Russian accent). Here we bogged down, and the man seemed to be cooling off a bit. We could understand most of what he said but apparently could not get through to him. I tried French to no avail, but then German made contact, and we began communicating again.

I explained that we had been given a travel permit and proceeded to show it to him. It was obvious that he could not read the Pashto. I then began an animated description of the roadbed over which we had traveled so far. He interrupted and asked, "But why are you here?" This was cue for our cover story: we had heard from Afghan friends in Kabul that the fishing in the north was unbelievably good, and we had prevailed upon them to get us a travel permit so that we could try out some of the streams.

His face lit up with a broad smile. We had found a Russian fisherman. He called for refreshments, brought his chair around from behind the desk, and opened up on the wonders of Afghan fishing.

The tea arrived in glasses, and as we sipped and chatted the atmosphere thawed completely and the guards were dismissed. For me, though, the conversation was very trying. I had not been fishing for over 20 years, and to be relaxed and expansive in a language not my own about a subject of which I knew nothing took on the aspect of a nightmare. After a few minutes, however, I noticed that he was repeating phrases I used and not introducing any himself. I then realized that his German was less fluent than mine and that I was leading the conversation.

When at last we finished the tea, I stood up and said we had to be on our way, since we wanted to get over the pass before nightfall. We shook hands again, and he accompanied us part of the way back to the jeep. He said we should have telephoned from Kabul before coming; since it was Friday, the Moslem sabbath, the engineer in charge and most of his associates had gone to Kabul. In parting, he offered to telephone ahead so we would not have trouble with the other checkpoints. This he undoubtedly did, for thereafter the barriers swung open with welcome regularity as we approached.

Over the Top

Always climbing, we proceeded through the construction camp along a road that was for the most part cut into the side of the mountain. Because of avalanches and rockfalls in the area, thousands of feet of reinforced concrete snowsheds had been constructed. They had slanted roofs that followed the slope of the mountain, very similar to those found in the high passes of the European Alps.

At 12,000 feet we came suddenly to a tunnel mouth. The old caravan trail continued on to the summit 2,000 feet above, but the slope here was so steep and the possibilities for building a successful road so few that it had been decided to tunnel under, assuring an all-season road through the pass.[2] The tunnel was being driven from both sides simultaneously, but the two shafts had not yet met. An armed and resolute guard prevented us from entering the tunnel, so we backtracked and found the caravan trail. Shifting the jeepster into four-wheel drive, low range, we began the precipitous ascent to the summit.

It was apparent that jeeps, undoubtedly Soviet GA269's, were the only vehicles that had ever traversed the trail. A trip that would have

[2] *Izvestiya* called it a "subway in the clouds."

taken perhaps 10 minutes on a reasonable road, even at that altitude, took us almost two hours. The passengers got out and climbed afoot. The road was so narrow that at each corner it was necessary to back and fill to get around. The rear end of the Jeepster hung over the edge, the nose pointed higher than 40 degrees, and the engine stalled regularly at each turn because of the altitude. All the while we were continually blinded by swirling clouds and buffeted by freezing winds, snow, and sleet.

At last we reached a relatively straight stretch of trail, and we who had been climbing alongside the Jeepster got back into it and rode the last 100 feet to the summit. There giant rocks on either side formed pillars, leaving just enough room to squeeze the Jeepster between them. The wind and supersaturated fog and clouds whistling through this cleft left a thick deposit of hoar-frost over the area, a venturi effect on a grand scale. The wind, shrieking up and down the frequency range, rocked our vehicle. It was impossible to face into it. We tried to get some pictures, then clambered aboard and headed north to Doshi through essentially the same kind of terrain that lay behind us.

During the next two days we photographed the road in various stages of construction, important air-interdictable points along it, its bridges and culverts, and the condition of the roadbed. We also shot panoramas of open range, the approaches to villages and towns, their main streets, and any natural or artificial features that might be

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useful as reference points.

for this we developed a practical modus operandi to use in Afghanistan, one that was to prove successful in later trips through other parts of the country.

Inspectors from Kabul

We found that the best time to work was during lunch break or siesta hour; and if the target was more sensitive than usual the midday hours on Friday, the sabbath, gave the most promise of success. We learned to become actors, and we used the Stanislavsky method of immersing ourselves in the role to the point where we were shocked

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and angry if anyone questioned our right This technique was effective through the impression made by voice and manner, authoritative bearing, and decisiveness upon the illiterate (but not stupid) tribesmen with whom we were for the most part dealing.

At worst, the play so acted made the man

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cautious about taking action against us. He had received no orders concerning us, and perhaps we were indeed visiting dignitaries.

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he opened his eyes and looked at us from six to ten feet away. Our reaction to this the first time was an instinctive one—to freeze and gaze into the distance. Thereafter we deliberately practiced this behavior in such confrontations, for, although we can present no explanation except that perhaps the siesta-taker does not fully awaken, he always closed his eyes again and went back to sleep.

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If an operator was awake, we would draw up with a screech of brakes, jump out, wave at him, and approach confidently with a large smile. We would grab his hand and shake it, put an arm around his shoulders, and proceed to talk to him in a mixture of Russian, Polish, and English. If he looked bewildered, and most of the time he did, we would lace our conversation liberally with the magic word "engineer"—a title fraught with learning and position which seems to be the one acceptable reason for a foreigner to be in the most remote areas under the most bizarre circumstances. We would proceed and then pose with the operator for a picture—a moment of pride for him. With a final clap on the back and handshake we departed, leaving him delighted that he had passed the engineers' inspection and ourselves gratified A fair exchange.

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Engineers on Holiday

Occasionally, when we came upon a larger enclave of construction workers we would first check to see if the living quarters were only tents: a wooden shed indicated that Soviet engineers were present, and we felt it best to avoid them if possible. We also avoided open approaches to any group of tents that had a telephone line leading to it, for the simple reason that a higher echelon should be notified that "visiting engineers" were inspecting

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If the open approach seemed called for, the Jeepster was driven close to the tents, and two of us, exuding rank, fishing rods at the ready, met the occupants. Through sign language we asked if the stream had been fished (in this area there are usually rivers in the mountain valleys, roads are constructed alongside, and of course the camps are placed close to the streams), and sometimes we would be invited to have a glass of tea. We, in turn, would pass around cigarettes and candy. After observing these amenities—and getting across the term "engineers"—we would stroll down to the stream, cast our lines and, indeed, try to catch fish. Most of the people in the camp would come with us, out of their natural curiosity about strangers and wonder at our gear, such as most of them had never seen before.

Meanwhile, back at the Jeepster, our two "underlings" could go quietly about their business [redacted] If people were still there watching they could be diverted by one of the pair taking pictures and generally entertaining them while the other gradually moved away until he was out of sight and could go to work.

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Challenge

Only once did a Soviet construction worker evince a certain amount of ill will toward us. We came upon an [redacted] repair yard during the siesta period on a Friday afternoon. Seeing no one in the area, [redacted] We were about half way through when we noticed a watchman keeping us under surveillance from the window of what was obviously an office and toolroom. We further noticed a telephone wire leading away from the wooden shack. We had inadvertently, through overconfidence or because the heat and the sabbath had lulled our suspicions, violated two of our important ground rules—stay away from all permanent structures and stay away from telephones. [redacted] Looking at the situation in retrospect, we should have left immediately.

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We had only just finished when a truck drew up and ten Afghans and a real Soviet engineer got out. The engineer, a short, slight person with Mongoloid features, clearly a Kazakh, harangued the watchman, then approached us. We were sitting in the Jeepster enjoying a can of beer from our icebox. The group, glowering fiercely, gathered around the Jeepster. We tried to look bland and mildly surprised.

The Kazakh engineer remonstrated with us for a while in Afghan, Pashto. When we looked puzzled he asked, "Do you understand Parsi?" We shook our heads no. I then asked—and the Afghans around the engineer hung onto every word, though they understood none of it—"Sprechen Sie deutsch?" The engineer shook his head. "Habla Vd. español?" The engineer shook his head. "Parlato italiano?" The engineer shook his head. "Do you speak English?" The engineer shook his head. With an exaggerated look of "Aha! Now I have it," I asked, "Govorite po russki?" The engineer slowly—and it seemed regretfully, but perhaps my mauling of the Russian pronunciation confused him—shook his head.

Turning to the surrounding Afghans, I gave the classic mime for "What shall I do now?"—shrugged shoulders, questioning look, arms thrown wide. The Afghans roared with laughter. The engineer stamped away in a rage to the shack, a rage against his own men, I think, because they had witnessed his losing the initiative and consequent humiliation. We engaged the clutch, the Afghans moved aside still laughing, and we rode off, waving to them as they disappeared around a curve in the road. We did take the precaution of returning the way we had come—away from the telephone lines. We stopped a few miles down the road, had a meal, and later in the day continued back past the repair yard and the main encampment without incident.

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[redacted]

It was also determined that each Soviet project in Afghanistan began with brand-new equipment and there was no organized shifting

of equipment from one project to another. It became apparent that a central planning group had estimated the manpower and equipment each project would require in order to operate autonomously and allocated it these for its exclusive use.

INTELLIGENCE IN RECENT PUBLIC LITERATURE

Peacemaking

THE SECRET SURRENDER. By *Allen W. Dulles*. (New York: Harper and Row. 1966. 268 pp. $5.95.)

This is Mr. Dulles's story of the surrender of the German forces in Italy in World War II and the role which he played in the business. It is carefully and fully told, and a thoroughly gratifying substitute for the bob-tailed version which Forrest Davis published in *The Saturday Evening Post* in 1945. It is better even than the accumulation of remembered fragments which many of us have heard Mr. Dulles recount orally.

One wonders if the uniqueness of this particular publishing event is appreciated. How many readers are going to realize that for perhaps the first time in their lives they are reading a true and serious account of a secret operation of very great importance, conducted at a very high level of government, by a highly placed secret intelligence operative? How many will really appreciate that they are reading the story as told by none other than the operative himself?

The first paragraphs of the short bibliographical note, plus a number of asides in the text itself, underline the admirable sourcing of the book and make quite clear another facet of its historiographical rarity. For here is an instance of an author who has crossed a careful after-the-fact historical reconstruction with his own authentic contemporary memoir. Within three weeks of the end of the "Sunrise" operation, Mr. Dulles with Gero von Gaevernitz (his principal lieutenant in the enterprise), both with fresh memories and access to the documentation, wrote up a long, detailed, and circumstantial report which Mr. Dulles notes "served us as a guide in writing this book." Subsequently they obtained from many of the principal characters on the German side "their own views of the events in which they each played important roles." As is obvious, this was not Mr. Dulles's stopping place. The twenty years which passed between the time that he and Gaevernitz were gathering additional testimony from living primary sources and the publication of the book was a time span from which Mr. Dulles garnered the familiar benefits of the historian: perspective plus the availability of an historical record which had

been amplified by the published commentary and memoirs of other witnesses. In short, the constellation of circumstances is such as to make possible a remarkable history of an important part of World War II.

For readers who have relied principally upon spy fiction for their knowledge of the intelligence business, the book affords some authentic insights into tradecraft which will be highly edifying. For example, no writer of thrillers could possibly make clearer the need for secrecy in this kind of operation; nor how much imagination and planning are essential to achieving it; nor how much the outcome of such an operation swings around the matter of luck—both bad and good. No such writer could possibly demonstrate more dramatically the importance of things like cover, compartmentalization, the safe house, false credentials, and, of course above all, secure communications.

Though there is little in the book that is likely to be rejected and rewritten by future historians, there is one thread that runs through it which will stir discussion, if not controversy, for some time to come. This is the matter of the "Sunrise" operation's contribution to bad blood between ourselves and the British on one side and the Soviets on the other. To be sure, its secret meetings and going and comings took place in the last two months of the Third Reich—a time when half a dozen of the leading Nazis were clandestinely shopping for a separate peace in the Western alliance and when Russian intelligence was almost certainly aware of what was cooking. One has no difficulty in imagining the disturbing kind of messages it must have been sending to Moscow nor the kind of reception which the conspiratorial communist leaders were all but certain to be giving them.

Time and again, Mr. Dulles shows his acute awareness of the matter (see especially pp. 147-151). Implicit in his writing is, however, nothing resembling a bad conscience. Nor should there be. From his account and from the historical record in general, it is pretty hard to demonstrate that the way in which the Western governments dealt with the Soviets through March and April 1945 (the "Sunrise" months) was anything but rigorously correct. That it was sufficiently incorrect to have "set in motion the first important hostilities of the Cold War" is preposterous.

Yet just these are the words and this is the thesis of the review which Gar Alperovitz published in the *New York Review of Books* (8 Sept 1966). The matter would scarcely be worthy of mention if the *Review* had not subsequently published a comment by Arthur Schlesinger, Jr., along with Mr. Alperovitz's comment on the comment (20 October 1966). Mr. Schlesinger's main point is that the beginning of the end of the alliance came "well before Allen Dulles began to negotiate for the surrender of the German armies in Italy . . ." It came in the context of the general failure of German arms subsequent to the particular failure of the Ardennes counteroffensive, soon after Yalta, "when the Soviet Union . . . began the post-war political battle for Europe . . ." Naturally I cannot agree wholly with Mr. Schlesinger—though Mr. Alperovitz, in his thoroughly disingenuous rejoinder, would like you to think he did. He goes back to, and quotes from, his original review where, quite contrary to its thesis, he had unaccountably written, "*The Secret Surrender* reminds us that the Cold War cannot be understood simply as an American response to a Soviet challenge, but rather as the insidious interaction of mutual suspicions, blame for which must be shared by all." This is more like it. *The Secret Surrender* does in fact document the business of mutual suspicion and in the correct context—namely a fact of international relations of the post-August-1939 period, if not the post-November-1917.

Sherman Kent

THE PEACEMAKERS: The Great Powers and American Independence. By *Richard B. Morris.* (New York: Harper & Row. 1965. 572 pp. $3.95.)

From the point of view of what Richard B. Morris calls "the espionage of the peacemaking," this excellent volume invites comparison with *The Diplomacy of the American Revolution,* written thirty years ago by the eminent American diplomatic historian Samuel Flagg Bemis.

That classic account of the diplomatic activity which began in 1775 when France perceived an interest in the colonial rebellion and culminated in the Peace of Versailles in 1783 was prefaced with a characterization of the contemporary international scene as "cynical and brutal." Bemis spoke in general terms of the trickery, the corruption, dissimulation, and deception that were hallmarks of 18th-century European statecraft. He cited by way of example the British minister who received "a gentle reprimand and a reward of £1000 cash" for

superintending "the theft and rifling of [an American's] despatch box"; but for the most part he provided few specifics of this kind to enliven the history. He described the European capitals as "full of international spies," but except for brief mention of such ones as the notorious Dr. Bancroft and the Irish priest Thomas Hussey, he gave us few names.

Not so Richard B. Morris, professor at Columbia University and an authority on the Revolutionary period. Morris has done here an amazing job of research on the last half of the period covered by Bemis, that is on the actual negotiation of the peace treaty. He too speaks of traditional diplomacy characterized by "finesse, duplicity, and concealment." But he has also recreated for us in lively, human fashion that "encounter between innocence and guile" which began when "plain dealing" Americans like John Jay, John Adams, and even "the sage of Passy," Benjamin Franklin, met such European diplomats as that "master of finesse and duplicity," Spanish foreign minister Conde de Floridablanca, and the "seasoned diplomat [who] ran a curiously informal and unsystematic intelligence operation," French foreign minister Comte de Vergennes. Morris, writing not of diplomacy but of diplomats, their superiors, and their agents, ushers us into a rich array—unprecedented in the literature on this subject—of "operations in back-alleys, . . . corrupters, secret agents and flamboyant adventurers who were the special trademarks of Great Power diplomacy."

There are the Irish priest and the British playwright, Fr. Thomas Hussey and Richard Cumberland, the one a paid member of a Spanish spy ring who was also regularly paid by the British, and the other the confidant of Lord George Germain, the British secretary for American affairs. The two, whose well-known story is retold here with a clarity made possible by exhaustive research, were engaged for over a year in secret negotiations aimed at effecting an Anglo-Spanish reconciliation to the detriment of the United States and its French ally. Though unsuccessful in their ultimate objective, the Hussey-Cumberland negotiations served British interests by holding up Spanish aid to America and jeopardizing the Bourbon compact, the Franco-Spanish alliance.

Next is a self-described escapee from the Tower of London, "Montague Fox," a forger and double-dealer, whose true identity has not yet been established. Fox showed up at the Spanish and French embassies in The Hague with a number of intriguing propositions; the boldest of them involved a request for 4000 guns with which to instigate an anti-British uprising among the miners in Cornwall. He claimed to be in contact with not-so-loyal leaders of His Majesty's Opposition who would facilitate a Franco-Spanish invasion of Britain. He delivered some British naval secrets, some documents on the Hussey-Cumberland negotiations—whetting Vergennes' appetite for more—and some highly incriminating, because treasonous, documents allegedly signed by the Opposition. Collecting his pay and shuttling about the continent, Fox managed to lead the French and Spanish a merry chase until at the appropriate time—from his point of view—he disappeared, along with 4000 florins. The best conclusion seems to be that the affair was a "diabolically clever plot" on the part of the Lord North government to compromise such Opposition leaders as Lord Shelburne.

Then there is the trio in effect charged by Vergennes with penetrating not only the Hussey-Cumberland activity but also another set of negotiations that threatened both the Franco-Spanish alliance and Vergennes' domination of the Paris government. These were being carried on by the Comte's rival, Director-General of the Treasury Jacques Necker. The three agents were the Frenchman James Baxon (or Belsson), the Englishman William Wardlaw (alias "George Smith") and another Frenchman, as flamboyant a character as ever appeared on the scene, Louis-Valentin Goëzmann de Thurne, who had been embroiled, with Caron de Beaumarchais, the covert supplier of French arms to the American rebels, in the most celebrated litigation of the period. Their activities as detailed by Morris defy encapsulation. Like Fox, they promised the delivery of documents, and much bargaining correspondence—now amusing to read—centered on the sale of a "pair of horses" which had to be of the "required quality" but which the seller finally admitted might have tails that were "rather short." It all came to naught.

Still others could be mentioned—the spy David Tyrie who ran for Parliament in order to gain access to the then secret debates, or the unfortunate Francis La Motte, who dropped some papers and was consequently hanged, disemboweled, decapitated and quartered. But it is more to the point here to ask, what did it all mean?

The "espionage of the peacemaking" basically revolved around the usually secret attempts of one or another Great Power—Britain,

France, or Spain—to terminate the War of the American Revolution on terms most advantageous to itself. It centered especially on the efforts of Britain to divide France, Spain, and the colonists, and on Vergennes' efforts to maintain their unity. Meanwhile, the Americans, beneficiaries of "a liberal education in diplomacy," were daily surprised to learn how ready their allies were, once their own interests were satisfied, to make peace with Britain, however disadvantageously to the colonists.

This espionage became less significant as the Great Powers publicly moved into negotiations, where Jay, Adams, and Franklin engaged, especially with their British counterparts, in involved give-and-take on numerous complex issues—the postwar status of the colonies, the Mississippi, Canada, and Florida boundaries, the Newfoundland fisheries, Tory compensation. These negotiations constitute the bulk of Morris' book, and his disentangling of them, a truly scholarly job, will probably prove difficult reading for most.

It will, however, be rewarding. There is a wealth of detail in the text and in the footnotes which the student of intelligence services, techniques, and personnel can take as grist for his mill. The student of conflict resolution will find the whole work an impressive demonstration of how difficult it can be to make peace. The layman, with Vietnam in mind, is likely to find his mind shifting back and forth from 1783 to 1967. The educated man who appreciates professionalism will take off his hat to the author.

Thomas F. Troy

Two Soviet Greats

THE CASE OF RICHARD SORGE. By *F. W. Deakin* and *G. R. Storrey*. (New York: Harper and Row. 1966. 373 pp. $6.)

Although it is difficult to rank the merit of professionals whose work is done in deepest shadow, Richard Sorge was perhaps the greatest of Soviet intelligence agents. Certainly he is the greatest one known to the Western world. His double achievement in reporting the date of the planned German attack on the USSR and the Japanese decision not to strike from the opposite side is enough to place him among the all-time greats of espionage. The fact that Stalin seems to have ignored the first of these reports does not in the least detract from Sorge's feat. Every intelligence officer knows that the rare morsel of information he offers may be rejected for any or no reason by policy makers. That is one of the hazards of our business. Sorge was fortunate in not knowing before he died that this prize product of his daring had been spurned.

Professors Deakin and Storrey give us here the best study of the Sorge case yet published. The quality of their work lies not so much in their additional revelations, since these relate chiefly to his earlier career in Germany, but in their careful examination of all the evidence. The book is scholarly without being pedantic, researched in detail but eminently readable, and it comes equipped with bibliography and index. The authors have not said the last word on Sorge and his network, of course, but they have made the most complete statement up to the present. The case history will be reinterpreted in future, but until more evidence becomes available it will be difficult to improve on the work of these two Oxford dons.

Almost imperceptibly the story of Richard Sorge has taken a strong hold on the Western imagination. It was first brought to our attention by a book that was designed to show the involvement of Americans in Soviet espionage.[1] Although the author, MacArthur's G-2 General Willoughby, did not—perhaps unfortunately—achieve this aim, his presentation of Sorge as a master spy was highly successful. Hans Otto Meissner, a former associate of Sorge in the German embassy in

[1] Major General Charles Willoughby, *Shanghai Conspiracy: The Sorge Spy Ring* (New York, 1952).

Tokyo, next wrote a semi-fictional account of the case.[2] A third significant work was devoted principally to Ozaki Hotsumi, Sorge's number-two man; it undertook to show that Ozaki was a patriotic Japanese citizen after his fashion.[3] Somewhat surprisingly, David Dallin scarcely mentioned the case in his book on Soviet espionage.[4]

For reasons of policy that can only be guessed, the Soviet government in 1964 at last surfaced the Sorge story in the USSR. The result has been an assortment of newspaper articles and booklets, largely episodic, which throw little if any light on Sorge's character, personality, or motivation; he is shown in the wooden pose of a Soviet hero who can do no evil. Soviet writers are at particular pains to deny that he was an alcoholic and womanizer.[5] In 1965 a postage stamp (4 kopecks) was issued in his honor, a measure of esteem paralleling Nathan Hale's (one-half cent, U.S.). Spies, it seems, come philatelically in low denominations.

The Western writings on Sorge, it appears, have now come full circle. Gordon W. Prange, a former associate of General Willoughby in Japan, has just written still another book on the case which is going to appear under the title *Master Spy*. An abridgement published in *Reader's Digest* for January 1967 offers one bit of information not mentioned by Deakin and Storrey: it says, without citing the evidence, that German suspicions of Sorge had developed in early 1941 to a point where an investigation was made, with "ambiguous results," but the query had been sidetracked because of the value of the intelligence reports he submitted. Perhaps the book when published will reveal the source of this information. If one may judge from the *Reader's Digest* excerpts, however, it will give little competition to the Deakin-Storrey work.

Olivia Halebian

DER FALL (The Case of) RUDOLF ROESSLER. By *Wilhelm Ritter von Schramm*. (Hamburg: Supplement to the weekly *Das Parlament*, 12 October 1966. Pp. 3-22.)

The author, contemporary historian specializing in the German resistance under the Nazis, here calls for further scholarly research into the still mysterious Rössler story and presents some hypotheses of his own. How did Rössler, in Lucerne, come by the immediate and authoritative information on German military plans and dispositions that Alexander Foote, in transmitting it to Moscow, attributed to "Lucy"? The new inquiry is occasioned by the fictionalized account of the case recently put together by Pierre Accoce and Pierre Quet,[6] which Von Schramm regards as of importance only in having reawakened public interest. A & Q's "identification"—by rank and initial—of ten German military officers as Lucy's sources he calls a legend floated long since to disguise the true source.

Studying those portions of the Foote-Moscow traffic which the Germans managed to intercept and decode and Wilhelm F. Flicke later made public,[7] Von Schramm sees three distinct phases in the case—an initial period in which the information in the messages could have come from any well-placed source in one of the German war ministries, a brief interlude in the late summer of 1942 when the chief subject was money for Foote's network, and a final year during which the source could only have been in Hitler's headquarters. He notes that the mid-1942 phase coincided with the Germans' rolling up of the Rote Kapelle net headed by Schulze-Boysen, with Moscow's substitution of the code-name "Lucy" for the previous "Louise," and with Hitler's appointment of a staff responsible for writing the official history of the war, whose chief regularly attended Hitler's daily situation briefings. He also analyzes a paper published earlier in Lucerne over

[2] Hans Otto Meissner, *The Man with Three Faces* (New York, 1955).

[3] Chalmers Johnson, *An Instance of Treason* (Stanford, California, 1964). For a review of this book, along with a characterization of the two previous ones, see *Studies* VIII 4, p. 99.

[4] David J. Dallin, *Soviet Espionage* (New Haven, 1955).

[5] The first publication was an article by Viktor Mayevskiy, "Tovarisch Zorge" (Comrade Sorge), in *Pravda*, 4 September 1964. Others quickly followed, including: Ya. Gorev, "Ya Znal Zorge" (I Knew Sorge) in *Komsomolskaya Pravda*, 8 October 1964-1 November 1964; V. Kudryavtsev, "Vstrechi c Rikhardom Zorge" (Meeting with Richard Sorge) in *Nedelya*, 1-7 November 1964, p. 14; and Sergey Golyakov and Vladimir Ponosovskiy, "Zorge, Dokumentalnaya Povest" (Sorge, a Documented Story), *Ogonek*, 28 February-17 April 1965. This last series was later issued as a paperback. For a fuller listing and discussion see "New Light on Old Spies," *Studies* IX 4, p. 77 ff, and "Bibliography of Recent Soviet Books and Articles about . . . Sorge," *Studies* X 2, pp. ix-xi.

[6] *La Guerre a Eté Gagnée en Suisse* (Paris, 1966), with German-language edition entitled *Moskau Wusste Alles* (Zürich, 1966) and a later British one, *The Lucy Ring* (London, 1967). Reviewed in *Studies* X 3, p. 102 ff.

[7] In *Agenten Funken nach Moskau* (Kreuzlingen, 1954).

the pen name R. A. Hermes which is usually attributed to Rössler and finds that it must have been written by a professional economist of some savvy in military matters and of Communist ideological persuasion, presumably Rössler's source.

Von Schramm's hypothesis, in brief, is that Schultze-Boysen, in the Air Ministry, who had these economic, military, and ideological qualifications, was the original source—his net was largely drawn from theater circles, to which Rössler also belonged—who had forged the link to Switzerland, that he foresightedly provided for his own succession before his arrest, that this successor, in Hitler's headquarters, was not ideologically motivated but in it for what he could get out of it and knew how much his information would be worth to Moscow, that this was the reason for Foote's financial crisis in late summer 1942, and that the new source was the adjutant and in effect deputy on Hitler's war history staff, a Lt. Dr. S., who after the war and until his death in 1954 amply proved himself a self-seeking no-gooder.

There Von Schramm leaves us hanging. But in *Die Zeit* for 15 November 1966 an article by Karl-Heinz Janssen defending Dr. S. from unscrupulous historians reveals in the process that the Lt. Dr.'s name was Wilhelm Scheidt, that after the war he was perhaps overeager in offering his services to the prosecutors at the Nürnberg trials, that in 1952 he lost his job over a scandal involving a couple of defections to the East, and that defector Otto John later called him a CIC spy. Then in the 29 November *Zeit* a page of sharp letters pro and con add more opinions and information about the man, including a recollection of General Alfred Jodl's widow that she saw Scheidt at Berchtesgaden going through the files of documents as the Third Reich was collapsing and he exclaimed, "We could make a fortune with these!"

In the London *Observer* for 8 January 1967, Malcolm Muggeridge, apparently unaware of these German writings, reviews the Accoce-Quet book unbelievingly and suggests in his breezy way that Lucy's source may have been the British code-breakers, that British intelligence was reading the German high command's traffic and taking this means to pass information to the Russians without revealing the source. What may have motivated London to do this in the first months of 1941 with respect, say, to German operations in the Balkans is a detail to which Muggeridge does not address himself.

Finally, *Der Spiegel* for 17 January has a careful 14-page review of the case entitled "Zehn Kleine Negerlein" which reflects some of the new research that Von Schramm urged. It reaches a number of unorthodox but persuasive conclusions, for example that Rössler had no agent radio and knew neither Morse nor cipher, that his information was always at least three days old, and that his order-of-battle facts were often wrong and so recognized in Moscow. It knocks down both the French authors' ten nominees for his sources—its title is borrowed from a statement by Hans Bernd Gisevius to the effect that no one can take those "ten little nigger boys" seriously—and Von Schramm's Scheidt, who, according to a former colleague on the war history staff, did not have access to such information until it was really history. Yet, though *Spiegel* digs into some of the minor sources that Swiss intelligence shared with the Russian net, it has no new candidate for the one or ones that put "Lucy" among the biggest names in the history of espionage.

Inquirer

The Nurture of Resistance

SOE IN FRANCE. By *M. R. D. Foot.* (London: Her Majesty's Stationery Office. 1966. 550 pp. 45/-.)

INSIDE SOE. By *E. H. Cookridge.* (London: Arthur Barker Ltd. 1966. 640 pp. 50/-.)

These books both deal with the role of the British Special Operations Executive in resistance activities against the German occupation during World War II.

SOE in France is written by a professional historian, on the initiative of the British government, and can be accepted as an official version of the events described. As the title implies, it is concerned only with France. *Inside SOE,* covering Scandinavia and the Low Countries as well as France, is a popularized account of some underground operations in occupied Europe associated in one way or another with SOE. The author has written other books purporting to recount the achievements of the British secret service, and British officials have denied that he had access to official material in preparing these. It is probable that this book also is based largely on press cuttings.

SOE in France contains an interesting and authentic (as opposed to *Inside SOE*'s rather garbled) description of the origins of SOE, its establishment as a separate agency of the British government under the Minister of Economic Warfare, and its relations with the Prime Minister [1] and the military chiefs of staff. Both books include commentary on the rollicking do-it-yourself atmosphere which to a certain degree characterized SOE's early development. *Inside SOE,* although generally given to tabloidese, conveys perhaps more colorfully than the official version an appreciation of the ingenuity, persistence, and determination with which the motley assortment of lawyers, bankers, merchants, advertising men, and professional soldiers who made up the SOE establishment set about, while England itself was threatened with invasion from across the Channel, to develop armed resistance to the Germans amidst the wreckage of conquered Europe. Both books make clear that the German onslaught in the West had not only destroyed all opposing military forces but effectively neutralized most British intelligence networks and clandestine resources. As far as Western Europe was concerned, SOE started from scratch.

Cookridge devotes approximately one-third of his 600 pages to events outside of France. He describes in considerable detail the North Pole episode, in which the Germans monitored and controlled substantially the entire British and Dutch underground organization in Holland for some two years. He offers no hitherto unpublished material, however, as far as this reviewer knows, with perhaps the exception of some rather vague allusions to possible Soviet involvement in this fantastic affair. His book also summarizes, in Sunday-supplement fashion, the exploits of a number of Norwegian and Danish agents, saboteurs, and underground organizers. Here again, these sometimes heroic achievements, deserving as they are of recognition, are fairly well known. Nor is Cookridge's compendium by any means complete.

To the extent that the books are concerned with events in France, the official version is incomparably superior. Although both suffer from the difficulty of presenting with any coherence a running account of the labyrinthine activities of the multifarious and overlapping groups and subgroups which were simultaneously organizing and operating throughout France from 1940 until the liberation, *Inside SOE* is particularly repetitious and confusing. Moreover, it deals with only one aspect of SOE's French operations, those of the purely British-controlled "F" Section headed by Colonel Maurice Buckmaster, whose enigmatic personality, part schoolmaster, part salesman, has been the subject of much controversial and often acrimonious literature. Except for a rather superficial account of Free French relations with the Anglo-Saxons and the intrigues of De Gaulle, *Inside SOE* explicitly abstains from any attempt to record the history of the "RF" Section, which was established by SOE to supply, support, and provide communications with Free French networks. It therefore omits any serious reference to some of the most exciting episodes of the French Resistance—the adventures and sufferings of Squadron Leader Yeo-Thomas; the efforts of Jean Moulin, a towering and attractive per-

[1] One of this reviewer's personal recollections of World War II in Europe is his arrival at Baker Street one morning to find the entire SOE headquarters in a paroxysm of frenzied activity. Inquiring the cause for all this busy anxiety, he was told of a communication concerning SOE just received by Lord Selwyn, then Minister of Economic Warfare, from the Prime Minister, which read in its entirety: "Pray let me know what you have done; what you are doing; and what you propose to do. W. C."

Recent Books: Resistance

sonality, to organize the Gaullist Council of Resistance until his capture and death by torture at the hands of the Germans; or the exploits of the Armada group, cited as the most effective sabotage team ever to have operated in France.

The official book covers both F and RF Section activities and also those of other sections having compartmented responsibilities in France, including escape routes and relations with a Polish underground. Both books, while paying tribute to many instances of high courage and some of professional skill, describe at length the many appalling security lapses and operational fiascos which took place, differing only in magnitude from the North Pole case in Holland. Illustrative of these was the unhappy experience of an F Section W/T agent who had been apprehended by the Germans. Forced to continue transmitting under German control, he took care to omit his prescribed security check from his first outgoing message in order to alert his people that something was wrong. Back from SOE headquarters, however, came the question, "Why have you forgotten security check? Hereafter please include." The agent apparently wondered why he had too and thereafter, understandably, complied, much to the satisfaction of the Abwehr.

An American reading these books will inevitably ask, where were the Yanks? Neither book makes this clear, although the official version includes some acknowledgements of American participation in SOE operations which are reasonably accurate if not complete. Statements in both books reveal a degree of bias which gives pause for thought. The official version, for example, at one point suggests the question whether "the best brains in the American Armed Forces were available for Europe at all." And Cookridge refers to the moment when *Field Marshall Montgomery* accepted the unconditional surrender of Germany, ignoring at this point the existence of an American named Eisenhower. Elsewhere, however, he refers to Eisenhower's letter commending *SOE* as responsible for the support rendered to military operations by the French Resistance. In fact, Eisenhower's letter is addressed not to SOE but to a joint British-American organization known as Special Force Headquarters. The communication itself reads in part as follows:

> Before the combined staff of Special Force Headquarters disperses I wish to express my appreciation of its high achievements . . . The combination of certain sections of your two organizations, first established as Special Force Headquarters under the joint command of Brigadier Mockler-Ferryman and Colonel Haskell (USA), was the means by which these resistance forces were so ably organized, supplied and directed.

Both books note the merger of appropriate elements of SOE and OSS for the purpose of supporting French resistance. Neither book appears to recognize, however, that this involved some considerable self-abnegation on the part of the Americans. If the British assumed and deserved credit for initial development and leadership in what was to become a joint enterprise, the Americans also deserve credit for loyally supporting and abiding by this arrangement, in spite of considerable incitement to occasional mutiny and their widespread dissatisfaction with what they came generally to regard as a British yoke. They had to remind themselves that a joint effort by an integrated headquarters was necessary to insure against the chaos and catastrophe which would have resulted from underground activity in Europe conducted independently by OSS and SOE.

If the Americans were often inadequate in senior positions of responsibility in the joint headquarters, the British, as often, were unresponsive, devious, or parochial. Brigadier Mockler-Ferryman, a professional soldier and head of the London Group of SOE, a man of perfect integrity and unusual charm and competence, treated his American colleagues and subordinates with unfailing courtesy and total cooperation. So did his immediate staff. At the country section level, however, the attitude towards Americans was impatient and not friendly, despite the demonstrable contribution of individual Americans such, for example, as Major William Grell, USMCR, who rendered invaluable service in connection with the briefing and dispatch of large numbers of agents. Moreover, it was clearly British policy to restrict American access to and influence over French and Scandinavian resistance groups to as little as possible.

SOE in France, the official book, characterizes the American contribution to the joint effort as follows:

> In practice . . . fusion meant that American officers were introduced into many sections of SOE; their intelligence, enthusiasm, and originality made up for their lack of equipment, training, or experience. They kept what remained an essentially British organization lively; but on strictly French subjects—as opposed to French North African ones—their influence on policy was small till the summer of 1944. Dual control and equal responsibility were the principles; but in practice the British kept in the lead. The United States air forces made a decisive contribution in 1944 to SOE's effort in France, but none before . . . [pages 31-32].

This is not unfair; in certain respects it is in fact generous. As the reader of either book, however, is likely to get an inadequate impression of the scale of the American contribution to the support of resistance in Europe, it seems worth reciting a few facts. The first American agent, Lt. Floege, was parachuted into France on 13 June 1943. Lt. Victor Soscice, on a sabotage operation (later executed by the Germans) and Lt. Dennis Johnson, a W/T operator, were dispatched in August and October of 1943 respectively. American personnel were recruited throughout 1943 and assigned to staff positions throughout all echelons of the joint headquarters as well as to field operations. A group of American B-24 aircraft were assigned to the effort; large stocks of American weapons and equipment were procured (over strong British opposition) and a station to pack equipment for air delivery was established.

During 1944, 524 Americans served in France behind the enemy lines. Of these, 85 were agents and organizers and the balance Jedburghs and members of Operational Groups.[2] For what significance it may have, 26 DSC's, 38 Silver Stars, and 2 Navy Crosses were awarded to American citizens serving in an operational capacity with OSS in the European theater. American aircraft assigned to OSS operations flew 2,717 sorties between 1 January and 1 October 1944. During the winter and spring of 1943-44 the burden of flights into the heavily defended areas of Northern France and the Pas de Calais was carried primarily by American Liberators. In addition, U.S. air force personnel at the disposal of OSS carried out a substantial number of landing operations behind enemy lines. In the first nine months of 1944 some 5,000 tons of American-packed equipment were dispatched to the field. During this period American packing stations actually packed twice as many containers for air delivery as their British counterparts. Flights during the summer to supply the resistance in Norway were thought too dangerous because of the long daylight hours until Col. Bernt Balchen of the American Air Forces undertook them on a regular basis in 1944 with a detachment of six Liberators.

[2] The Jedburghs were mixed U.S.-British-French teams of two officers and one radio operator each, sent in to help the Maquis with planning, supply, and communication. The OGs, all American, were organized in 15-man sections for paramilitary operations.

Further elaboration of the extent of the American contribution is not necessary. The point is that the effort was in fact joint. Parenthetically it should be noted that the record and both books are in total agreement concerning one American contribution, and that was the intrepid personality and conduct and outstanding performance of Virginia Hall.

As to whether the over-all effort was effective, both books conclude that it was. Both examine in considerable detail the specific contribution of French resistance to the German military defeat. Both assess the damage to the German war economy attributable to such sabotage operations as the destruction of the Peugeot tank turret and Dunlop tire factories. Both make it clear that General Eisenhower's appreciation, referred to above, of the military value of resistance activities was based on tangible achievements. These included: almost complete paralysis of the French railroad system for appreciable periods (950 out of 1050 planned railroad cuts were accomplished on 5 June 1944); imposition of delays of as much as three weeks on the movement of important German units to the Normandy beachhead; widespread diversion and demoralization of German forces; and the transmission to Allied military authorities of very significant amounts of tactical intelligence.

SOE in France suggests, rather tentatively, that resistance activities, synchronized as they were with military plans and operations, shortened the war by six months. It also credits SOE with a perhaps even more interesting, if unprovable, achievement—that of providing the French the trained and experienced cadres necessary to resist Communist encroachments and a possible takeover in the postwar years. Finally, the book claims what to some will appear a very mixed blessing bequeathed to posterity by SOE. "It was also thanks—*inter alia*—to much past help from SOE," says the author, "that this modern Cincinnatus [Charles de Gaulle] was waiting in the wings at Colombey-les-Deux-Eglises to take over in 1958."

SOE in France makes interesting, if occasionally confusing and provocative, reading, and it will be a very useful reference for those concerned with World War II in Europe or with the problems and potentialities of organizing armed resistance in areas occupied by hostile forces. *Inside SOE* provides little of interest or use to anybody.

John A. Bross

SECRET AIR MISSIONS. By *Monro MacCloskey.* (New York: Richard Posler. 1966. 159 pp. $3.78.)

This is a story of secret missions flown by an American air support squadron into occupied France and Italy during World War II, written by the squadron commander. It may have some appeal for former or prospective overflight pilots, and parts are of interest to the general reader; but it has little or nothing to offer today's intelligence officer. The supply drops it describes, into areas under the control of the resistance groups being supplied, were only half secret and quite different in concept from those in which not only the supply mission but the very existence of the operation supplied must not be suspected. The book's "secret" missions featured, for example:

Continued use of the same drop zones;

Timed half-hour lighting of drop zones;

Near-miss drops which came out all right but would have blown clandestine operations;

Precedence of support problems over operational security;

Failure to apply the need-to-know principle among support personnel.

Donald Teymourtache

Britons in World War II

BRITISH AGENT. By *John Whitwell.* (London: Kimber. 1966. 224 pp. 30/-.)

This book, written under pseudonym by a former senior officer of the service—MI-6—that officially does not exist, has an introduction by Malcolm Muggeridge, who writes that "the business of spying on behalf of H.M.'s Government" is nowadays regrettably like everything else—mechanized, modernized, and automated, no longer, as in John Whitwell's time, a matter of "pitting Our Man's wits against Their Man's." If this observation is even partly true, it is just as well that Mr. Whitwell is retired. He could never have adjusted to present circumstances, for if his book is at all faithful to his career, his was a light-hearted amateur's approach to intelligence, with heavy emphasis on "fun." It is possible, of course, that his intelligence performance was more effective than this inconsequential reminiscence would suggest, but in any case his literary performance yields at most a book better borrowed than bought.

British Agent, though it tells something of Whitwell's work in and out of wartime London, is devoted mostly to his two main prewar assignments, as "secret agent" in Prague and Riga. We are not told what his cover was; presumably it was non-official. Yet he had wide contacts in diplomatic circles and was well known to his country's official representatives. The numerous receptions and parties he describes make one wonder how much time he had for business. We are not told what his targets were (he, indeed, was not even sure at first what he was to do in Prague except look into a new Czech explosive that in the end did not materialize). How he communicated with London is vague, except for a fanciful tale of establishing a radio transmitter in Riga after his normal practice had been to use local post office cables; how or from whom he received instructions is unclear. He refers to "agents"—apparently drawn for the most part in both Czechoslovakia and Latvia from journalistic circles—but recruitment, control, and direction are concepts he scarcely touches on. ("My best agent was known as 'Alex' though Alex was not a single person and I never knew the majority of the persons of whom Alex consisted.") Nevertheless, we are assured that he did procure, somehow, certain useful political intelligence and some important German order of battle.

Aside from substance, or lack thereof, the adult reader may find it hard to stomach Whitwell's style. Of a reconnoitering assignment: "I was going to spy out the land as we had no agents in that area." Of fabrication: "Europe abounded with unscrupulous people with fertile imaginations always on the lookout for a chance to turn a dishonest penny." Of the chief of the Latvian political police: Whitwell visited him in his "lair," noted his hooded eyes had a "wicked gleam." And so on.

On second thought, it might be better not even to borrow the book.

John P. Vaillancourt

THE REAL EDDIE CHAPMAN STORY. By *Edward Arnold Chapman* (London: Library 33 Ltd. 1966. 254 pp. 10/6.)

In 1953 a book called "The Eddie Chapman Story," by Frank Owen, presented the adventures of Eddie Chapman as a spy for the Germans against Great Britain during World War II. It closed, however, with a confession that under the Official Secrets Act only half the story could be told, intimating that Chapman may have been a Briton to be proud of all the while. Now, the official secret apparently having been declassified, Chapman himself reissues the book with added passages which show him in reality a British agent working against the Germans.

According to his story, Chapman, a burglar, was serving a prison sentence on Jersey when that Channel island was seized by the Germans. They took him to Paris, trained him in communications and sabotage, and parachuted him into England. He revealed himself to the British authorities, and they simulated a big sabotage operation to fool the Germans. He returned to Germany, was decorated, transmitted information to the British from Norway for over a year, and was again parachuted into England, this time on an espionage mission. The British furnished him deception material which he transmitted to the Germans for a number of months until they terminated the operation.

The story is easy light reading of a James Bond kind, probably a jazzed-up version of a true case history as seen by the agent. It offers no new insights for the professional intelligence officer.

A. K. Kuschnereit

A DON AT WAR. By Sir *David Hunt*. (London: William Kimber. 1966. 282 pp. 50/-.)

An Oxford professor, called to the colours, is assigned as intelligence officer with General Alexander. As the latter says in a foreword, Hunt tells his story "with great lucidity and even humour." For the first third or so of it, the reader may have the impression that this is another O-what-a-wonderful-war book; considerable space is devoted to the creature comforts or discomforts at the several installations to which the author was posted. The war buff's perseverance will eventually be rewarded as details of the North African and Italian campaigns are developed, but the intelligence buff will find slim pickings: the author passes rather lightly over matters in the field of his supposed specialty.

Eva M. Pope

Miscellaneous

THE SPY WHO WASN'T CAUGHT. By *Ronald Seth.* (London: Robert Hale. 1966. 189 pp. 18/-.)

This is the story of Julius Silber, a German agent in the first world war who with a bit of modern communications could have been one of the truly great spies of this century. He worked as a senior officer in the Censorship Department of the British War Office from October 1914 to June 1919. His exploits first came to public view in 1931 when he published his memoirs in Germany. The English translation [1] "brought a blush of embarrassment to MI-5's cheeks" the following year.

If Silber's story is true, here was a man who had some of the great intelligence and counterintelligence scoops of modern times. He was instrumental in enabling Telefunken of Germany to acquire the patent for the de Vries "heterodyne valve" which greatly improved wireless telegraphy; he reported (unheeded) to Berlin on the development of the military tank months before it went into battle at Thiepval; he contributed greatly to German knowledge of the Allied "Q Boats," used so effectively against Germany's U-boats; he reported (too late, thanks to slow communications) the presence of a large British squadron in the South Atlantic—information which, if known in time, could have saved German Admiral Graf von Spee from the debacle at the Falkland Islands; and between the signing of the Armistice and the Peace he kept Berlin informed in detail of the negotiations among the Allies.

For this new telling of the story Ronald Seth uses the original memoirs but draws also on his own brief intelligence experience and extensive background readings to frame a sympathetic picture of the man who without formal training and on his own initiative undertook the lonely job of espionage. "In his role as a German agent," Seth writes, "Silber had the advantage over all his other colleagues that he was not the victim of professional German espionage training. He had to act according to his own, and only his own, appreciation of the situation exactly as the British agent is expected to do; and I have little hesitation in suggesting that he owed his survival to this fact more than to any other except his intelligence and common sense."

[1] J. C. Silber, *The Invisible Weapons.* (London: Hutchinson, 1932.)

One can hardly argue on the point of Silber's intelligence and common sense, but one can wonder how much more valuable his information might have been if he had only had a fast and reliable means of getting it to the men in Germany who could best use it, and how great a part good training might have played in such communications.

Seth's description of the organization of British censorship and the vital contribution it made to the ultimate Allied victory is well worth reading for its own sake, aside from the way Silber used his censor position to maintain contact with Berlin.

This, by the last count, is Seth's 21st book. He writes simply and reads easily. It is not a deep book and not a study in detail; but for the last hour or two before the lights are turned out, it gives a worthwhile glimpse of the "spy who wasn't caught" and the world in which he worked.

R. L. Yankowski

DIPLOMACIA E INTELIGENCIA ESTRATEGICA. By *Jose Alberto Vidal Diaz.* (Buenos Aires: Ediciones Esnaola. 1965. 207 pp. $1.95.)

This pocket-size paperback has the virtue of being a Spanish primer on the conventional organization and mission of an intelligence service, including a description of the types of information sought and the evaluative and distributive processes. The author, a retired lieutenant colonel, studied strategic intelligence in the United States and devoted most of his military career to this field; now a professor of the School of Diplomacy at the University of Salvador in Argentina, he obviously feels a need to convince his government that decisions without intelligence are "often wrong and inappropriate." It is for the working diplomat, more than for the policy maker, that Vidal regards intelligence as indispensable. Apparently practical enough not to urge the creation of a large independent service but only one doubled out of foreign service officers, he speaks of the diplomat as not only a principal user but a collector as well.

The work is a compilation of published data; rarely does the author make an independent or personal observation. This is particularly disappointing in chapters like the one on revolutionary war, including guerrilla warfare, where he says very little about the operations of

Latin American revolutionaries and the Spanish propensity for this type of warfare. His book is of marginal interest to the professional; it could be used to give an introductory, birds-eye view of intelligence organization to a Spanish-speaking trainee.

V. B. Warsinske

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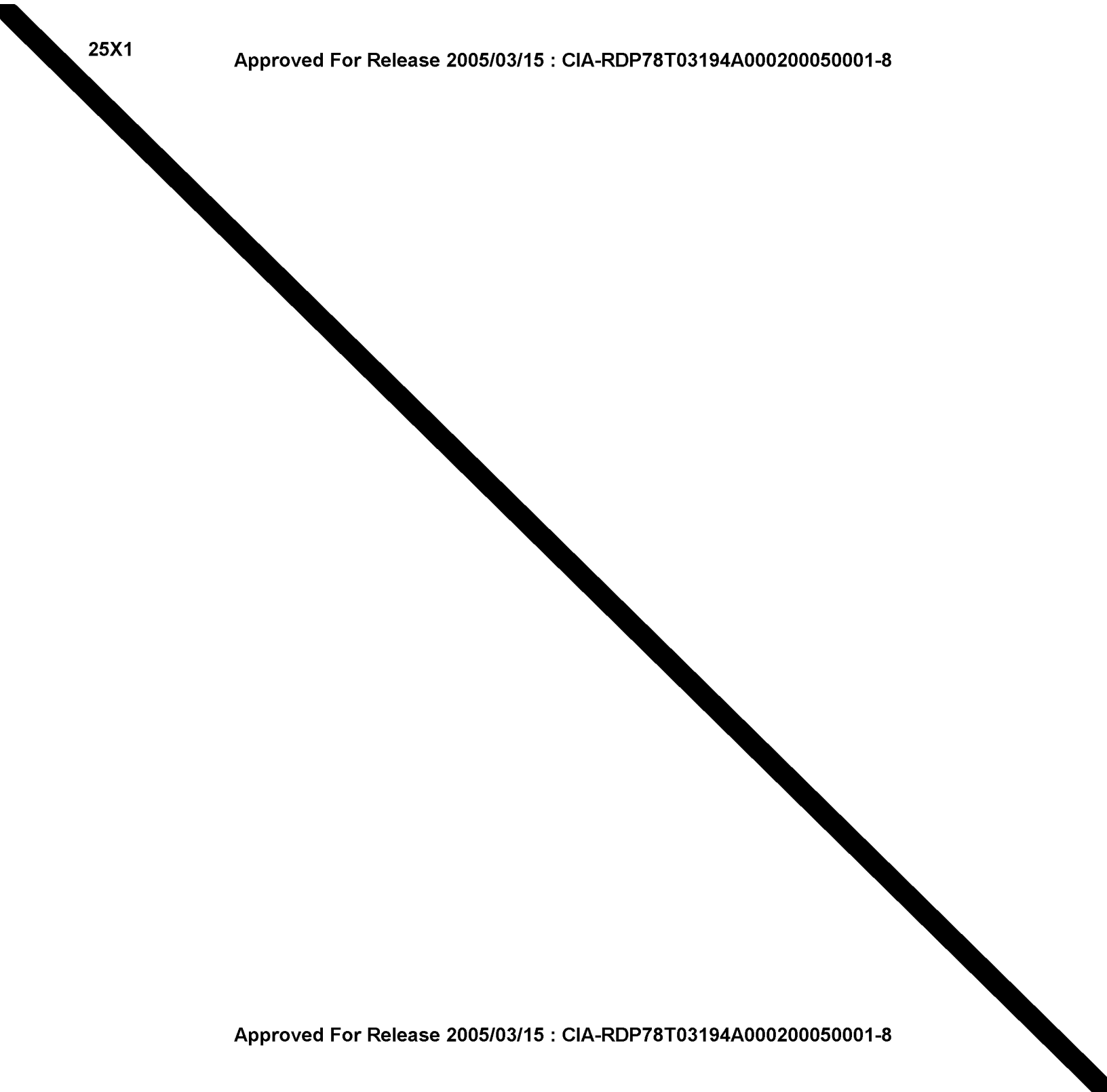

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The DCI speaks to the central problem of secret services in this democracy.

INTELLIGENCE IN AMERICAN SOCIETY

Richard Helms [1]

The essence of what I have to say here lies in the extraordinary fact that a nation's director of intelligence is pleased to discuss his problems with a group of interested private citizens. In few other societies, present or past, would leading citizens have your sort of concern about national intelligence activities. In no other society would an intelligence officer recognize that private citizens have a legitimate interest in such things. For American intelligence today has responsibilities and problems that no other intelligence system has ever faced.

Its responsibilities grow from this nation's emergence as a superpower at the end of World War II; its problems grow from its efforts to meet those responsibilities in a nation technically at peace and belligerently free. Our intelligence system is in truth an expression of our society, with all its vigor and ingenuity, with all its complexity and some of its contradictions, as that society gropes for answers to challenges its founding fathers could never have conceived.

In particular, three great challenges of the postwar world have forced American intelligence to grow beyond its traditional and parochial realm of espionage into a much closer—and more uncomfortable—relationship with our society: First, the nuclear-tipped ICBM and its impact on war. Second, electronic communications and their impact on the orderly conduct of government. Third, the "ideological imperialism" of the Soviet Union and its impact on American influence abroad.

Weapons

The ICBM is shorthand for the complex world of modern weaponry. This country is challenged by a Soviet Union almost its equal in technology and in the weight of resources channeled to the military arts. In the next decade it will be challenged by a China still far behind but able all the same to build nuclear weapons. To meet these chal-

[1] Adapted from a talk given before the Council on Foreign Relations on 17 April 1967.

lenges we must have intricate and incredibly expensive systems for defense and attack.

Moreover, we and the Soviets have a wide variety of choices we may take in what systems to develop, and these choices interact. The key is knowledge, knowledge of what accuracy and reliability the Soviets are building into their ICBMs, knowledge of Soviet progress with advanced radars, knowledge of Soviet knowledge of our own progress. Without this knowledge there can be no rational planning of our own prodigiously costly defense effort.

This is a difficult year in Washington, for we are in for another of those political-military-economic struggles over weaponry which try men's patience, integrity, and souls. In the thirties there was the carrier-versus-battleship fight, a few years later bomber-versus-carrier, then missile-versus-bomber, and now the biggest of them all: missile versus anti-missile. Or more exactly, whether to spend many billions on building a defense system against the ICBM.

We have learned, and Secretary McNamara has publicly stated, that the Soviets are building two defensive missile systems. One, which is being deployed only around Moscow, is clearly intended to defend against incoming ICBMs. The other, which is being deployed widely across the USSR, is *probably* designed for use against aircraft.

Blood has been shed on that "probably." That we still cannot be sure is, bluntly, an intelligence failure, and I don't want to gloss it over. We must find the evidence which will, one way or another, eliminate any uncertainty.

Beyond this there are other issues almost as important. How good is the Moscow system? If a chance remains that the wider system is designed or could be modified to defend against missiles, how good would it be? Are the Soviets investing in the massive civilian shelter program which should logically be part of an ABM system? What changes are they concurrently making in their ICBM force? Our answers to these questions, as best we can give them, have set the stage for this year's fight. If our findings are believed, we will at the least have narrowed down the range of budgetary choices. In so doing, we will have saved the taxpayer many times what was spent on the intelligence effort.

Thus our findings have great weight in shaping the national military budget. Tens of billions are spent or saved on our assurances, and the national economy in turn feels the impact of these decisions. Small wonder then that modern intelligence is very big business indeed.

This nation, or any other, could not survive the weapons race without a powerful and sophisticated intelligence system.

Warning

There is another edge to the weaponry challenge. The ICBM and the thermonuclear warhead have made the early detection of an enemy threat overwhelmingly important. At the same time they have made it brutally difficult. So a sizable chunk of our budget goes to what we call the "warning" problem. We would hope the money is wasted, but October 1962 strengthened our conviction that it is not.

For the Cuban missile crisis was really an intelligence crisis. The threat appeared only through intelligence sources. Only those sources confirmed that the threat had gone away. I would like to go into this matter of how the threat was detected, principally to show you that intelligence work—like all serious inquiry—is a complex and arduous process.

Many thousands of Cubans fled their country in the early sixties. Many of them brought with them valuable information; others brought misinformation they thought was valuable; some knowingly brought misinformation in hopes of inducing the United States to strike down Castro; a few were Castro's own agents planted to mislead us. The refugees would talk to anyone who would listen—intelligence officers, Congressmen, reporters.

To bring order into the flood of data, and to sort the good from the bad, the intelligence agencies set up in Florida a joint collection center, staffed with a hundred-odd trained linguists. To help in the sorting, we ordered that every report of weapons in Cuba which was checkable against U-2 photography should be so checked. By the summer of 1962, the center was handling most of the refugees and passing to Washington thousands of reports.

To Washington also came thousands of other reports—from agents in Cuba, from friendly diplomatic services, from our naval attachés watching Soviet shipping outbound for Cuba through the Bosporus and the Kattegat, from the U-2s over Cuba. By mid-August, we were sure that a massive increase in Soviet military assistance to Cuba was under way. By September we knew that this program included a surface-to-air missile defense system for the island.

In fact, by September we had hundreds of reports of missiles in Cuba—legitimate sightings of surface-to-air missile convoys on the roads, mistaken sightings of industrial pipe, fabricated scare stories of ICBMs. Against this background noise, the Soviet long-range

surface-to-surface missile units began to arrive. And against this background their presence was exceedingly hard to detect. Our sources on the ground were not cool and highly trained observers, they were frightened men, mostly without military background. A Soviet surface-to-air defensive missile is 35 feet long; the 700-mile surface-to-surface ballistic missile which we nickname the SS-4 is about 60 feet long without its nose cone. To most of our sources the two were equally awesome and not to be distinguished from each other.

Nevertheless they reported what they saw, and their reports began before the end of September to reach Washington. This process took some days: the refugees had to get out of Cuba, and the agents usually had to report through the mails in secret writing.

Our analysts in Washington did their job too. After the crisis we went back to see in hindsight whether they had missed anything, and concluded that they could not have reacted more rapidly than they did. Out of the swirl of paper they had picked the crucial items as they came in: a refugee from a port west of Havana claimed he had seen what from his description could have been an SS-4; a day or two later and many miles farther west another refugee had seen a convoy of round canvas-covered objects he thought were 60 or 70 feet long; an agent had earlier reported that an area farther west yet on the same road had been closed to the public. These reports built up a pattern, but because of its importance and because of all the earlier false alarms it had to be checked against photography. A "target card" was prepared for the U-2s, calling for a search of the closed area for evidence of the SS-4. When the weather opened up and we could fly again, that area was the first target. The rest of the story you know.

The crisis is long over, but the job goes on—interminably. Even today, every wild story that strategic missiles are still in Cuba is laboriously checked out and—so far—invariably disproved. The circumstances are tediously familiar: the sincere Cuban who cannot tell an air defense missile from a strategic one, or the liar with an axe to grind.

The point here is that we are doing our job, not by a flashy triumph of espionage, but by an enormous amount of painstaking work. All kinds of sources come into play, all kinds of people, good management, and a professional organization. This is the kind of work that we know pays off. The occasional Colonel Penkovsky is a windfall—a pure golden apple, but a windfall nonetheless.

Words

The second great challenge to intelligence in the postwar world is that of modern communications. Some call this the "information explosion." So it is, but it is also the all too human truth that people who have information feel compelled to share it with others. Modern communications provide them the means to do so, and make the conduct of foreign policy a nightmare.

A little over a century ago an ambassador in a foreign capital was very much on his own. His communications moved by sailing ship, and he could not seek new instructions when faced with the unexpected. If there was a rebellion he had to decide, for instance, whether to recognize the new government. Two weeks later, when the dust settled, he could write a dispatch to his foreign office elegantly summarizing what had happened and what he had done about it. By the time his foreign minister could answer, another six weeks had gone by. The revolution was then history rather than foreign policy.

Today is another story. The ambassador can and does report each rifle shot as he hears it, and sends home almost verbatim accounts of every conversation. Each of his required decisions is debated in a dozen cable exchanges, and Washington groans under a surfeit of words.

Note, however, that the pressure for full and instantaneous reporting is not just a device to fuel the bureaucratic machine. In today's nuclear world it is often risky to leave what seems to be a local matter wholly in the hands of the man on the spot, however wise. In Berlin in the summer of 1961 Soviet and American tanks, muzzle to muzzle on opposite sides of the Wall, were controlled minute by minute from the White House, and apparently from the Kremlin, even down to the individual tank commander.

Nor is technology through with us yet. One shield against the paper hurricane has always been the need for trained personnel to turn words into electrical impulses—to punch a key or a keyboard. Even that shield has now been pierced. Xerox Corporation has built a high-speed facsimile transmitter and we have learned how to encipher its signal. Now an untrained operator can take a document and automatically encipher and transmit it—at 6-plus pages a minute. The entire Encyclopedia Britannica could be sent from our Headquarters to the State Department in a little over 60 hours.

No man can read a tenth of the high-priority paper that flows into Washington. Elaborate mechanisms must be built for screening and

distilling. And here lies another role which the intelligence system has come to play in government. For lack of any other central mechanism, we have been charged with this vital filtering function.

The London Economist describes it thus:

> Modern intelligence has to do with the painstaking collection and analysis of fact, the exercise of judgment, and clear and quick presentation. It is not simply what serious journalists would always produce if they had time: it is something more rigorous, continuous, and above all operational—that is to say, related to something that somebody wants to do or may be forced to do.

We read everything that comes into Washington—State traffic, Defense traffic, our own traffic, the American and foreign press. From it we distill a brief, accurate account of events abroad, placed in context, related to one another, and presented in concise nonbureaucratic English. This we supply to the President, the Secretaries of State and Defense, and his other senior national security advisors.

Last fall, when the President was in Bangkok, the first word he received that Chancellor Erhard was in real political trouble was an intelligence cable. Last spring we filed in all about 5,000 words a day to the President in Punta del Este. He, his cabinet, and his staff have come to expect such service every day, around the clock, wherever they may be.

Note the problem: each of the top policy officers has a priority on our services. We cannot refuse a request from one because our resources are fully engaged in a task for another. What is more, each is entitled to have his particular interests satisfied, and satisfied in the form and at the time and place most convenient to him. In a sense we are the reverse of a newspaper. The paper uses a relatively few collectors to serve a mass audience; we use a mass of collectors to hand-craft for a very few.

The Subtle War

Now the third of our great challenges, that which I earlier called Soviet ideological imperialism. This is not a challenge CIA has sought. It has rather come to us as the sure consequence of U.S. national emergence as one of *the* two superpowers after 1945. With superpower came super-responsibility, and with both came that struggle with the Soviet Union which some call the Cold War.

"Cold War" has been the catch phrase for twenty years and, like all catch phrases, is going out of fashion. But to say, as many are now doing, that the Cold War is over is to confuse the words with the reality. Perhaps a new phrase should be coined. Why not call it the "Smiling War"?

What has happened is that the nuclear stalemate has brought a difference in style to our struggle with the Soviet Union. The boorish application of shoe heels to desk tops is out; the patient application of national power is in. The Soviet diplomat no longer pretends proletarian brotherhood with the venal African tribal chief; but he still sees in Egypt a "progressive force," and his military and economic support to it is greater than ever. The Smiling War is less military, less shrill, more cautious, and more subtle. There are occasional issues in which Soviet interests and our interests coincide. The struggle has perhaps become less obvious as its main arena has shifted from Europe to the developing nations. But it is no less real and no less savage for all this. Much as I would like to, I cannot see it ending in our lifetime.

I say this bluntly because it needs to be said before the American people decide—as they did in the thirties and again in the war years and again in the late fifties—that the Russians have suddenly become good neighbors. They have not.

The hostility between the United States and the Soviets is based on what they would call "the objective situation." Essentially this means that we, as the other superpower, are the only real obstacle to their national imperatives, and vice versa. Furthermore, their national imperatives are formed by Marxism-Leninism. They are taught, and believe, that the world is engaged in a colossal and protracted struggle between what they call socialism and capitalism. They believe that in this struggle capitalist nations will gradually be weakened and, eventually and inevitably, destroyed from within by their own people. They believe that the United States, as the greatest capitalist power, is the main enemy. Finally, they believe that the proper strategy is to weaken the United States by destroying her influence in the world, to leave her alone in a sea of hostility. If you compare the world today with the world of fifteen years ago, you will see that they have not done too badly.

Those who say the Cold War is over usually point to Europe, where indeed Soviet diplomacy has become exceedingly polite, Soviet propaganda has been muted, and the local Communist parties have taken what the Chinese would call the bourgeois path. But I say to you: look at Europe from Moscow. Relaxation of the cruder pressures of Stalin and Khrushchev is encouraging petty national rivalries to re-

emerge. Lenin taught that these rivalries are characteristic of capitalist states and that they will lead to a series of wars, each more destructive than the last, until Communism alone remains undestroyed. Europe is today far from a third war, but economic problems are eroding British power, the French have taken an independent course, and Germany too is shaking off the psychological shackles of the postwar period.

There are also those who say that the dispute between Moscow and Peking has somehow ended the Cold War by reducing once monolithic Communism to a group of quarreling nation-states. The dispute is indeed real and bitter, but I say again: look at it from Moscow. China is still a socialist state, led astray momentarily by megalomaniac leaders, but socialist nonetheless. Mao is not immortal, and his passing should open the door to a return to the fold. But whether he lives or dies, it is not Chinese power that bars the Russian path, it is American power.

The View Ahead

To say that the Smiling War continues is not to say that it will never end. The Soviet leaders believe they can and must push it to victory. I believe they are wrong. They probably underestimate even now the basic unity and strength of Europe. They probably underestimate the extent to which Communist nations are subordinating their Communism to their nationhood. They probably underestimate the extent to which national prosperity will alter the goals of the Soviet state. They certainly underestimate the long-term incompatibility of Marxism-Leninism and the human soul.

We learned this yet again from Svetlana Stalin. When she passed through the embassy in Delhi she left behind a touching account of why she broke with her father's successors. Here are a few excerpts, written in her own English style.

"Since my childhood I have been taught Communism, and I did believe in it, as we all did, my generation. . . . I was brought up in the family where there was never any talk about God. But when I has become a grownup person I've found that it is impossible to exist without God in one's heart. I've come to that myself without anyone's help and preaching. But that was a great change to me, because since that moment the main dogmas of Communism have lost their significance for me. . . . There are no capitalists and Communists for me—there are good people, or bad people, honest or dishonest, and in whatever country they live—people are the same everywhere, and their best expectations and moral ideals are the same. . . . My children are in Moscow and I do understand now that I might not see them for years. But I know, they will understand me. They also belong to the new generation in our country, which does not want to be fooled with old ideas. They also want to make their own conclusions about life. . . . Let the God help them."

This simple eloquence, and the ideas which underlie it, give good reason for hope that the leaders who will come from her "new generation" will indeed understand. But that time has not yet come. My point is simply this: no matter that *we* now see all these things adding up to an end to the Cold War, *they* still see the Cold War as a national imperative, and they are still waging it with every resource they can bring to bear.

They have come, at least, to realize that the struggle will be long, whereas two decades ago they thought it would be short. Containment has achieved that much; it has also unleashed the forces which we think will bring the Soviets to change their world outlook.

Taken all in all, we seem to be holding our own against the Soviets, but only because of our willingness to meet them head-on. In response to their challenge, we have fought with all our resources to "take the high ground." What do I mean by the high ground? The U.S. Government believes its national interest abroad is best served through orderly progress by stable governments. But stability is not enough for progress in most poor countries; their government must be reformist as well. Hence we see the world's best chance not in the rightist regime interested only in its own survival, but in governments toward the center or beyond the center which believe in changing things for the common good. We can work with King Feisal where we could not work with King Saud. We do not seek the blind old order but creative evolution away from it. This is the high ground.

The Communists, locked into a nineteenth-century ideology, see revolution as an end in itself. To them the greatest threat is precisely the reformist government which offers the poor and the fearful hope without chaos. Destroy this, and there is created the fateful polarization between embattled proletariat and repressive right which their ideology teaches them is the last stage before revolution. This is why in the thirties the German party made common cause with Hitler to destroy the German Socialists. This is why Castro is trying to destroy the Venezuelan government today.

The unending struggle for the political high ground of course requires all the means available to a modern great power—diplomacy,

propaganda, foreign aid, the threat of force, and clandestine action. I put clandestine action last, because for the United States it is not a standard political technique; it is the last resort.

A Case History

This is not true for the Soviet Union. Its leaders came to power through conspiracy. They think in terms of conspiracy. They believe clandestine action as important to the achievement of national goals as the diplomatic démarche or the ICBM. They devote a commensurate share of their resources to it, and they are good at it.

Ghana gained its independence under Kwame Nkrumah in 1957. The Soviet clandestine apparatus quickly recognized in Nkrumah's vanity and instability a vulnerable target. What happened in the next few years is a textbook example of how to build a wooden horse and capture a continent.

Using conventional diplomacy and propaganda, the Soviets inflated Nkrumah as a world figure, the great leader of Africa. Flattery coupled with lavish servings of cash and arms won his confidence. Playing on this confidence, the Soviets went straight for the keys of power.

They secured Nkrumah's invitation to come in and reorganize his intelligence and security services. In so doing they saw to it that there was a profusion of overlapping security organizations which opened the whole apparatus to Soviet manipulation. Twenty-two Russian intelligence officers turned up in key Ghanaian intelligence jobs. The Soviets also awarded Ghanaian intelligence officers "intelligence scholarships" in the USSR.

With this kind of leverage they were in a position to pursue their wider objective—one which went far beyond the borders of Ghana. What they were really shooting for was the establishment of strong Soviet influence in a number of African states under the appealing cover of Ghana's radical African nationalism. All this and more we have learned from the regime which has run Ghana since Nkrumah's happy fall from office last February.

The Soviets were not the only Communists meddling in Ghana. The new government threw out three Chinese intelligence officers and 13 Chinese guerrilla warfare instructors. The latter were responsible for training Africans of various nationalities at secret camps, a program begun by the Russians. The Russians had not been a success, however; they drank too much and one of them got the camp cook plastered in order to seduce his wife. So the Chinese were called in.

The Chinese did much better. Quoting inexorably from Chairman Mao, they trained several hundred "freedom fighters" from such countries as Nigeria and the Ivory Coast. They taught them how to make crude explosives and fuses under field conditions, how to set an ambush, how to handle small arms, communications, and—inevitably—how to "raise the ideological level," Chinese for political indoctrination.

Then there were the East Germans; they apparently concentrated on espionage training. Two skilled intelligence officers were sent to Ghana to train Ghanaian agents targeted against neighboring African states. Their students became very proficient, but somehow they seemed to be doing more work against the West German embassy than against the African ones.

All in all, the new government expelled 1,100 Russians, 430 Chinese, and smaller numbers from the East European countries. Had their activities been permitted to go on much longer, Nkrumah's position would have been impregnable. He would not, however, have been the man in charge, no matter what he himself believed. And Ghanaian diplomacy, propaganda, and subversion would have carried the Soviet and Chinese intelligence services piggy-back across Africa.

The Defense

This is why there exists in the Central Intelligence Agency something called the Clandestine Services. The United States is a major power. We cannot abdicate this role, but we cannot play it successfully if our rival recruits a claque and we do not. Faced with a powerful and ruthless enemy, the United States has no choice but to defend itself in kind. As a deliberate act of national policy, it decided to create a clandestine intelligence service which could meet the Soviet service, or any other, on even terms.

To do this Congress passed the National Security Act of 1947, which established CIA. The act specified that CIA, in addition to producing intelligence, would perform "other functions and duties" directed by the National Security Council. Congress deliberately left this wording vague, for it was intended to authorize the conduct of clandestine operations abroad, including espionage and political and paramilitary action. The *primary* function was and remains the collection of foreign intelligence; the action functions were and remain secondary. The tail does not wag the dog.

This national decision created something new in American political life, an action arm of government operating in secrecy. The appropriation for a new weapons system is fully debated in the Congress and the press; the appropriation for the National Students Association was not. Our critics have argued that the Association should have been publicly funded; our defenders have replied that it could not have been. Both are probably right. Certainly today such activities both should and could be openly supported by government and quasi-government funds. We, and the government as a whole, and the Congress, and the nation itself, can be faulted for not recognizing the need for open support and doing something about it sooner.

Nonetheless there remain many situations in which open American aid would defeat its own purposes. Political activity in many nations outside Europe and North America is cynically manipulated by domestic or foreign interests. Yet the accusation of foreign interference is a potent political weapon. It is ironic that many of the most admirable reformist politicians who, by holding the high ground, are working in the United States' interest could not survive the taint of accepting U.S. support. It is hardly astonishing that their opponents are heavily financed and supported by the Soviet intelligence services. It is a taste of bitter medicine that some of these men will go down unless they are sustained from outside. Faced with these dismal facts of life, our national authorities have decided that naive lip service to a spurious democracy is not enough; they have decided that the genuine democratic process must be given a fighting chance by evening up the odds.

Under the circumstances it is perhaps inevitable that CIA should become world-wide the symbol of evil machination and power exerted behind the scenes; certainly our Soviet opposite numbers do everything they can to assist this inevitability. At home we are portrayed as chilly-minded zealots pursuing a sterile anti-Communism. We *are* powerful and we do work behind the scenes. But I know we are not evil and we are not zealots, and I hope that the students' affair will demonstrate that our cast of mind is far from sterile. Nor are we anti anything; we are *for* something. We are a supple instrument of the American people. We are for them and for their national interests.

Secrecy and Freedom

Indeed, we are sober holders of the public trust. Heavy responsibilities have been placed on the American intelligence officer. And these responsibilities have forced upon him an importance in government which no intelligence officer ever had. Never has he been so influential—or so conspicuous. Never has he had to conduct clandestine operations or figure the esoteric equations of national strength with the press and the public thus peeping over his shoulder—irritated that they are unwelcome. For, despite our image as a set of coldly efficient plotters—and I rather prefer that image to the one that has us a set of bumbling incompetents—the area of intelligence over which we can maintain the traditional secrecy has been steadily reduced.

An important reason for this breakdown is the conflict built into the conduct of secret operations in a free society. We recognize that the word intelligence brings up a number of images abhorrent to the Western mind: government conducted in secrecy; torture and blackmail; the exploitation of human frailty. Only 38 years ago Henry Stimson demolished the nation's code-breaking organization because "Gentlemen do not read each other's mail." A gentleman in that tradition is indeed scarce in the savage international politics of the sixties.

I do not propose to give you an easy answer to the objections raised by those today who, like Mr. Stimson, consider intelligence work incompatible with principle. I cannot, because I do not have one. The nation must to a degree take it on faith that we too are honorable men devoted to her service. I can assure you that we are, but I cannot prove it. The nation must in fact compromise, as we must, between the needs of a democratic society and the needs of the inhospitable world in which it must survive. We do compromise, as evidenced by my speaking to you here this way.

In a broader sense our dilemma is also yours, and the nation's. In a column some time ago Walter Lippman said:

> The challenge to democratic government arises from the fact that it comes down to us from the 18th and 19th centuries, from the age before the great technological revolution of this century. . . . To preserve the moral and spiritual values of democratic institutions and at the same time to be able to govern this new technological society effectively is a problem which will haunt us for a long time to come. Nobody has as yet found a solution to it.

I have described to you some of the ways in which 20th-century technology—and ideology too—have forced our intelligence system to grow in size and importance. The problems this growth creates for our society are just one symptom of the larger problem Mr. Lippman identifies. When that is solved, perhaps ours will be too. Failing

that, I do not believe American intelligence can become much less controversial and conspicuous than it is today.

Policy Decisions

There is another problem which troubles many thoughtful people—the relationship of intelligence to policy. American intelligence does not make policy, but its studies and reports surely influence the policy maker. This is only right. As the government's senior intelligence officer, I am responsible for advising the President not just on intelligence but on the policy inferences to be drawn from it. The United States Intelligence Board is often asked to prepare what we call "contingency estimates"—what would the Soviets, the Chinese, the North Vietnamese, the rest of the world, do if the United States did "X"? If the answers to such a question did not influence policy, the country would be in a sorry state indeed.

Another example. Should we decide the bloody and primeval dictatorship in Haiti is fraying at the edges, it would be our duty to issue a warning. How we chose to word that warning could be ticklish indeed. The Dominican Republic is right next door, and its travail is fresh in the minds of our readers. If we were to talk gently in such terms as "erosion of Duvalier's authority" we might not stir a preoccupied Washington. On the other hand, if we used scare words—"imminent collapse"—official Washington would be set to shuddering.

However dicey these activities are in practice, they are legitimate functions of an intelligence system. They are what you, the taxpayer, are buying. The rub comes when the intelligence apparatus is chosen by national authority to be the instrument for carrying out a national policy and the apparatus has itself produced the intelligence on which that policy is based.

There is unquestionably a possibility that we might shape the intelligence to justify what we already wanted to do. Mistakes will be made so long as intelligence is run by human beings. Nevertheless, there are three reasons why I believe we can limit our errors.

The first is simply that we grow older and wiser.

The second is that there are safeguards in the system; the operators who are to carry out a policy are organizationally isolated from the analysts who make the intelligence judgments. The analysts use some information furnished by the operators, but they do not rely on this information alone. There are many sources of information besides our own Clandestine Services, and all of these are brought to bear. Our substantive experts in Washington are fiercely objective and proud of it. If anything, since organizational rivalries are not unknown in the bureaucracy, they tend to be a little hostile to any proposal for clandestine action.

One of my functions is to see that the two chains, operative and analytic, stay independent of one another, that out of this rivalry grows a healthy dialogue. I need to be confident that proposals for action are sound. The requirement to commit the Clandestine Services may originate in the White House, the Department of State or of Defense, or with an ambassador or commander in the field, but the Director of Central Intelligence must defend the project and—as you may have noticed—absorb the "fall-out" when something goes wrong.

This is the third reason for my confidence. The President's committee which approves these operations consists of some of the toughest-minded men in government; they have the power to make a "no" stick, and they say "no" often. We are alleged to be out of control and irresponsible in action. We are neither. For intelligence is the servant of the U.S. Government, not its master. We will undertake to do what the authorities ask us to do, no more and we hope no less.

Official Integrity

Given this, it is sometimes difficult for us to understand the intensity of our public critics. Criticism of our efficiency is one thing, criticism of our responsibility quite another. I believe that we are, as an important arm of government, a legitimate object of public concern. I believe we should be supervised by Congress, and I believe it is the right of Congress to decide how that supervision shall be exercised. I find it most painful, however, when public debate lessens our usefulness to the nation by casting doubt on our integrity and objectivity. If we are not believed, we have no purpose.

Responsibility, objectivity, independence: these are the legs of our stool. I have said a good deal about responsibility and objectivity; I should not overlook independence. For the Central Intelligence Agency, despite its role in clandestine operations, is the only national security agency not primarily devoted to policy and action. Our primary end products are information and judgment. We can be independent of the general who wants to justify a billion for a new weapons system, or of the ambassador who has been beguiled by a head of state. Secretary McNamara knows this, and he knows that any government department committed to conducting a war cannot be totally objective about it. So he turns to us for an independent

measure of events in Vietnam. We try to give him the unvarnished truth, good or bad.

Responsibility, objectivity, independence. For twenty years we have been trying to burn these ideas into our people. And I think we have succeeded in creating a deep-seated professional integrity, unshaken by inward emotion or outward pressure.

One final point. The same objectivity which makes our people so valuable to their country makes them uncomfortably aware of their ambiguous place in it. They understand as well as anyone the difficulties and contradictions of conducting intelligence operations in a free society. They are prepared to overcome the difficulties and live with the contradictions because they believe in a free society. Because they believe in their country, they do not want to see their work distort its values. They want to adapt intelligence to American society, not vice versa. And because we all want to see that society grow on in a fearsome world, we must all work to that end.

Theory, practice, and interim exhibits from a still developing new technique.

INFRARED IMAGERY IN OVERHEAD RECONNAISSANCE

R. E. Lawrence
and
Harry W. Woo

Infrared imaging systems have been under development for more than a decade, with a steady evolution toward better resolutions, with respect both to distinguishing objects (spatial resolution) and to discriminating degrees of temperature (thermal resolution). Until recently the overwhelming majority of the improvements were directed toward low-altitude reconnaissance applications, partly because of the limited spatial resolution attainable under the then current state of the art. Taken from altitudes of 500 to 4,000 feet, infrared imagery has reportedly proven useful for tactical reconnaissance in Viet Nam, where it provides flareless night photography and, more importantly, its thermal resolution is particularly useful in spotting human activity; small cooking fires, for example, which would be unnoticeable in conventional photography stand out conspicuously in IR.

High-altitude infrared imaging was first attempted in early 1963 as part of the Air Force's "Smokey Joe" project directed from Wright Field. A 3-milliradian IR scanner (one with a resolution of about 10 minutes of arc) flown in a U-2 proved that atmospheric attenuation does not preclude imagery from altitudes of 60,000 to 70,000 feet, or through 90% of the atmospheric mass. Shortly thereafter, the CIA inaugurated its infrared program, and it now appears that IR imagery will remain permanently one of the tools available to the intelligence community.

From Camera to Scanner

There is more than one kind of infrared imagery. The older is infrared photography, which, by using film sensitive to near-infrared radiation, produces IR photographs in conventional cameras in very much the same way as with ordinary film. Photographic infrared is probably best known to the layman by the beautiful pictorial photo-

graphs it can produce, characteristically featuring light foliage against very dark skies. Camouflage-detection film also has an emulsion sensitive to near infrared.

The newer infrared imagery of interest here utilizes radiation of wavelengths for which no photosensitive film has been found. To be specific, the human eye and ordinary films are sensitive to light of wavelengths 0.4 to 0.7 microns; the various infrared films have sensitivities from 0.7 to 1.2 microns; and the new IR imaging systems generally record radiation of 8 to 14 microns, about 20 times the wavelengths of visible light. These new systems at present all depend upon an optico-mechanical scanning process in which a rotating mirror or prism directs radiation from the ground through a lens onto one or more infrared-sensitive photodetectors, whose output signals are electronically amplified to produce fluctuations in one or more light sources; these modulated light sources then record the image on a film. It is inherent in this process that the IR image is a composite of closely spaced scan lines.

Fundamentals of Radiation

Every object emits infrared radiation. The amount of the radiation and its spectral character are functions of both the temperature and a surface property called emissivity. The emissivity of a surface for a given wavelength is the ratio of its emitted radiant power at that wavelength to that from an ideal blackbody, or perfect radiator, at the same temperature. (Total blackbody radiation varies with the fourth power of the absolute temperature.) At infrared wavelengths blackbody emissivity is approached by water and smooth ice, at about 0.97. Ordinary soils run 0.90 to 0.96, most building materials 0.80 to 0.96. Bare metals may go down to 0.20 and less.

Figure 1 traces the spectral magnitudes, normalized to unity at their maxima, of blackbody radiation at three different temperatures. The colored overlay from 8 to 14 microns indicates the region in which the majority of the new infrared imaging systems are sensitive; they are nicely suited to capture the peak radiation emitted by most terrestrial backgrounds (and mostly exclude sunlight).[1] When thus plotted on a log-log scale, all blackbody curves have the same shape: the same curve takes different positions on the chart, shifting to shorter

[1] The response shown in Figure 1 is strictly achieved only by systems using filters in front of their photodetectors; these exclude sunlight quite effectively. Many present systems having no filters retain some sensitivity down to 2 microns or less; these may respond noticeably to sunlight.

wavelengths at higher temperatures. (A comparable shift in spectral character with temperature is very apparent in the visual region: as an iron bar, for example, is heated to incandescence, it first glows a dull red, then a brighter orange, etc.)

Figure 2, where the maxima are not normalized, shows how, as the temperature increases, the wavelength of peak radiation not only becomes shorter but the radiated power increases at all wavelengths. Thus, although the IR systems are designed for maximum efficiency in imaging objects at ambient temperatures, they successfully record hotter objects as well because these emit so much more radiation they compensate for the shift in its spectral character. The dotted line in Figure 2 indicates the positions for the peak of the curve at

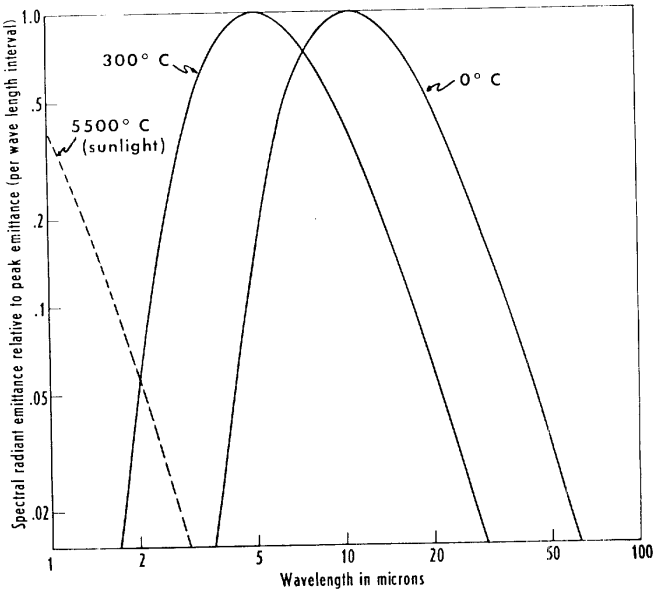

FIGURE 1. Blackbody spectral emittance vs. wavelength, at three temperatures, normalized to unity at the wavelength of peak emittance.

several temperatures. For changes in temperature of only a few degrees the increase or decrease in total emission is much more significant in forming an infrared image than the slight shift in spectral character.

Since the amount of power radiated is a function of the two variables, it is in principle indeterminate whether an object radiates differently than its surroundings because it is at a different temperature or because it has a different emissivity. Actually, however, the uncertainty does not exist in many special cases: since water, for example, always has the same emissivity, one area of water emitting more radiation than another must therefore be hotter; and since the emissivity of soils also is always close to the maximum, any marked increase in radiation from terrain must be due to a temperature increase. In practice, the uncertainty in separating emissivity and temperature influences most frequently applies to objects which are radiating less than their surroundings. Beginners in interpreting infrared images have mistaken hot metallic-painted steam pipes for refrigerant pipes: these appeared colder than their surroundings because the low emissivity of the metal more than compensated for the higher surface temperature.

The IR Image

The relative shadings in an IR image thus show the variations in combined temperature and emissivity of the various objects pictured rather than conventional photography's pattern of incident sunlight and reflectivity differences. At these longer wavelengths the amount of reflected solar radiation is insignificant compared to the radiation emitted by ordinary surfaces, so that IR images can be formed about as well at night as by day. This does not mean, however, that an infrared image made at midnight looks exactly like one made at midday. One characteristic distinction is that the day image, because of greater temperature differences, generally has greater contrasts than the night image. Shadows often show in day images, not because reflected sunlight silhouettes the dark area but because the area in the shadow is significantly colder than its surroundings.

IR systems have two criteria by which they are evaluated: spatial resolution and thermal resolution. The first is normally expressed as the angular size (usually in milliradians) of the smallest object that can be properly recorded on the image. For example, a one-milliradian system will record objects as small as 1 ft. from a viewing distance of 1000 ft.; smaller objects, if they have sufficient temperature

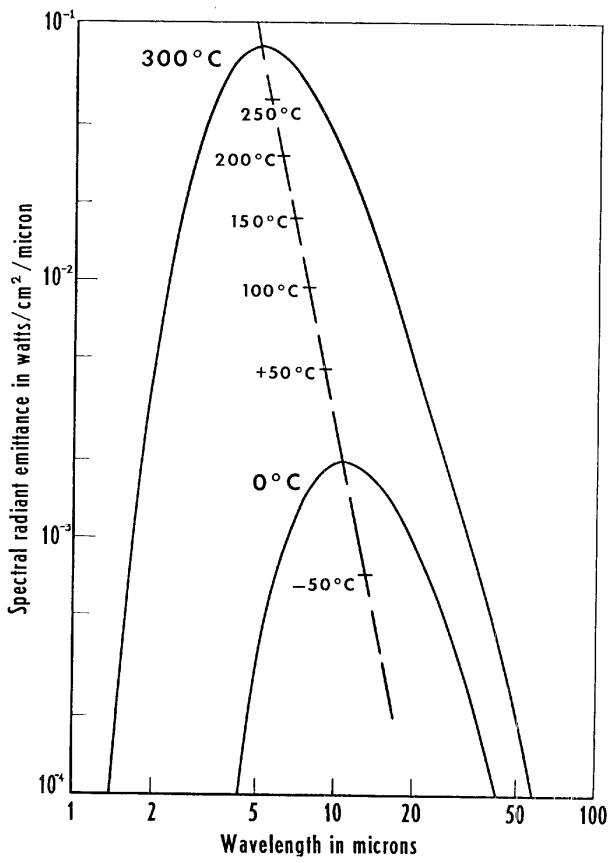

FIGURE 2. Blackbody spectral emittance vs. wavelength, at two temperatures. The dotted line is the locus of maxima for such curves.

difference, will be recorded as of about this same limiting size. A pair of small objects closer together than one foot will be recorded in this system as a single blob.

Thermal resolution is similarly a measure of the minimum temperature difference detectable by a system. The thermal resolution of a system is almost invariably measured under laboratory conditions, so that the actual sensitivity of an instrument during field usage is generally unknown. Typical systems have thermal resolutions from 0.1° to 1°C: under proper conditions temperature differences in this range can produce gray-scale differences in the image as recorded on film. Experimental infrared systems have been designed for extreme thermal resolutions—on the order of 0.001°C—for antisubmarine-warfare applications.

Unfortunately, the designer is forced to compromise when he seeks both thermal and spatial resolution because the two reciprocally oppose each other. An approximate relationship is that thermal resolution varies inversely as the square of the spatial resolution if other features of the system are held constant. Thus as the one is improved (made smaller) the other is degraded (made larger), and those few systems which have had extremely good thermal resolutions have had poor spatial resolutions.

The thermal resolution that can be attained in an infrared system is affected by a number of variables in addition to spatial resolution. These include the basic sensitivity of the infrared photodetectors and the collecting area and relative aperture (f/number) of the optical system. With these factors all held constant the thermal resolution varies as the square root of the area imaged per unit time. Since the area imaged per unit time is directly proportional to v/h (the velocity divided by height at which the system is operated—an important number even in conventional airborne photography), slow-flying planes or high-flying planes offer intrinsic advantages over low-altitude high-speed aircraft in terms of achievable thermal resolution. Generally speaking, IR systems for high v/h must be more complicated than ones for low v/h in order to achieve an acceptable thermal resolution.

Exhibition

The illustrations which follow are a small exhibition of infrared images. With the exception of Fig. 7, they were obtained during the testing of various IR systems produced under CIA sponsorship. Some detail has unfortunately been lost in the printing of the images.

The IR system that produced each image and its spatial resolution are indicated in the captions. The laboratory-measured thermal resolution of all systems was on the order of 1°C except that for Fig. 8, which was 0.05°C.

Figures 3 and 4, picturing New York and Los Angeles, were among the first images produced by the world's first IR scanner specifically designed for high-altitude use. The major road networks and airports in these reproductions may be identified readily; in the original negatives it is also possible to identify the power plants (for example, along the East River in the Long Island image) and oil refineries (in the Los Angeles image). It was this same IR scanner, incidentally, which was used in 1965 to prove that the suspected uranium gaseous diffusion plant at Lan Chou, China, was in operation.

Figure 5, a chemical plant on the Florida coast, illustrates how even in the daytime infrared imagery responds to heat rather than solar reflection. The plant's light-colored (therefore warmer) effluent, which is not visible in ordinary photographs, can be traced from the bay back through the meandering canal to its origin.

The thermal wakes produced by a submarine are illustrated in Figure 6. Straight mixing of the surface layers by the propellers is sufficient to account for the wake of surface vessels, but there is no universally accepted explanation for the surface manifestation of the deeply submerged vessel. Previous IR antisubmarine-warfare experiments have concentrated on IR sensors with good thermal resolution; the results illustrated here were achieved with mediocre thermal resolution but very good spatial resolution. The submarine-tracking abilities of IR should not be overrated, but conditions occasionally favor this use for it.

Figure 7, of a Naval Shipyard, again illustrates features available in infrared imagery which would not be seen in any sort of conventional photography. Here the power plant (upper right corner) and its effluent are most conspicuous, and there is little difficulty in following the Navy's underground steam distribution network through the yard.

Figure 8 is a far from good image of the San Diego docks, but it illustrates another advantage of IR imagery which cannot be matched by any sort of conventional photography: penetration through light clouds. At the time this image was made, both ground and airborne observers reported the intervening low stratus clouds to be completely impenetrable to the eye. Even with a haze partially transparent to visual light, any use of airborne flash (the alternative to infrared for

FIGURE 3. Night infrared image of Long Island and Manhattan, 8:50 p.m., 8 Sept 64, from 65,000 ft. (D-2 ½ milliradian scanner.)

FIGURE 4. Night infrared image of Los Angeles, 8:54 p.m., 6 Oct 64, from 70,000 ft. (D-2 ½ mrad scanner.)

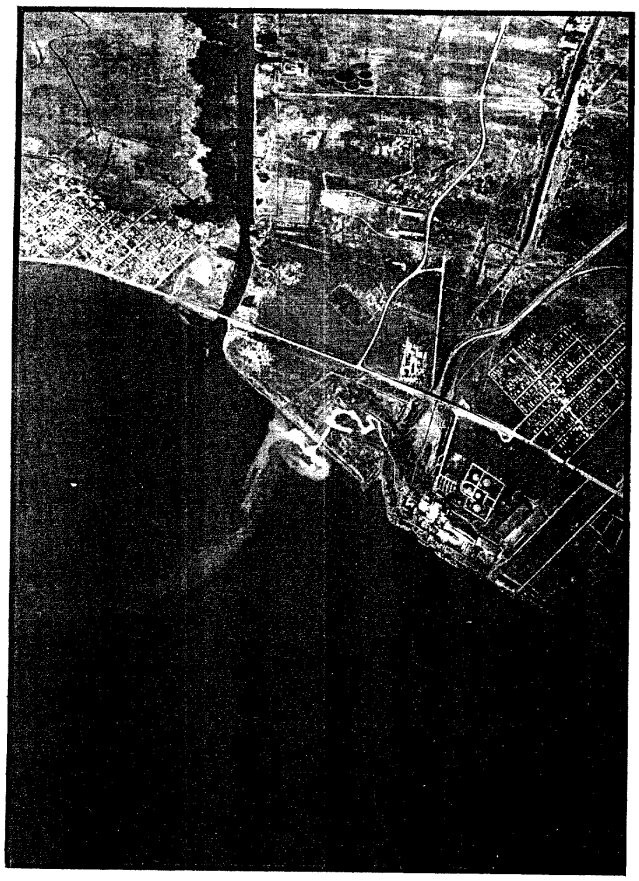

FIGURE 5. Day infrared image of petrochemical plant, Port St. Joe, Florida. 3:40 p.m., 24 Mar 66, from 7,000 ft. (D-3 ½ mrad scanner.)

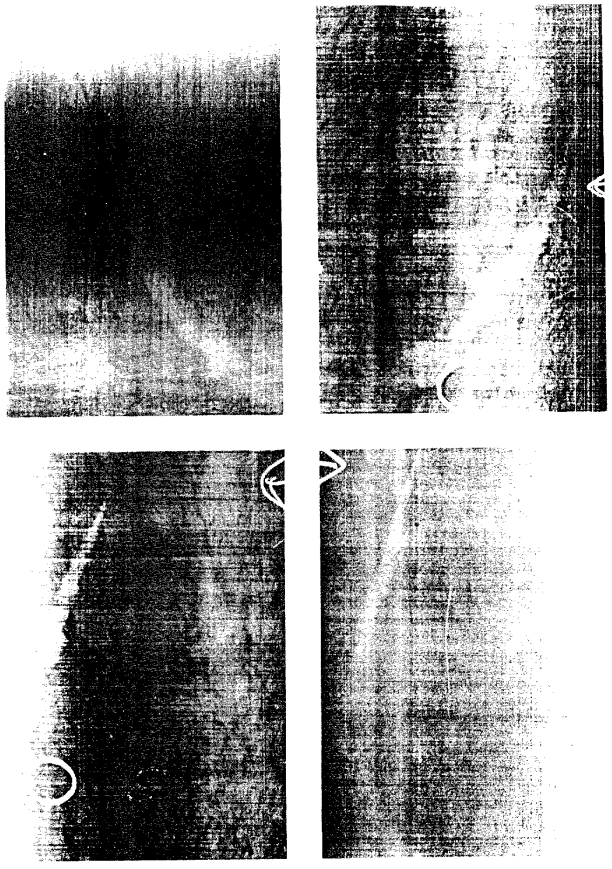

FIGURE 6. Submarine detection by infrared imagery, 200 nm east of Norfolk. 8 Nov 66 from 700 ft. (D-5 ½ mrad scanner.) The circled spots in two frames are smoke pots released from the aircraft to aid in tracking the sub.
Upper left: 1:10 a.m., beginning dive
Upper right: 1:25 a.m., running at 50 ft. depth
Below left: 1:35 a.m., running at 100 ft.
Below right: 1:55 a.m., running at 300 ft., then rising (after turn) to 200 ft.

FIGURE 7. Night infrared image of Bay Area Naval Shipyard (Hunters Point, San Francisco). c. Midnight, 16 Jan 67, from 2,000 ft. (D-5 ½ mrad scanner.)

FIGURE 8. Night infrared image through light clouds, San Diego Naval Station. 1:20 a.m., 27 Jun 64, from 1,500 ft. (RS-7 2 mrad scanner.) A total cover of low stratus clouds (base of clouds 800 ft., thickness 500 ft. variable) completely obscured the ground from visual observation.

FIGURE 9. Night infrared images of Love Field, Dallas, 11:00 p.m., 20 Mar 66, from 5,000 ft. (D-10 1/10 mrad scanner.) The two images were made a few seconds apart. Note the motion of the baggage train between images.

FIGURE 10. Night infrared image of Southern Methodist University, Dallas, c. 8:00 p.m., 28 Nov 66, from 17,000 ft. (D-20, breadboard, 1/20 mrad scanner.)

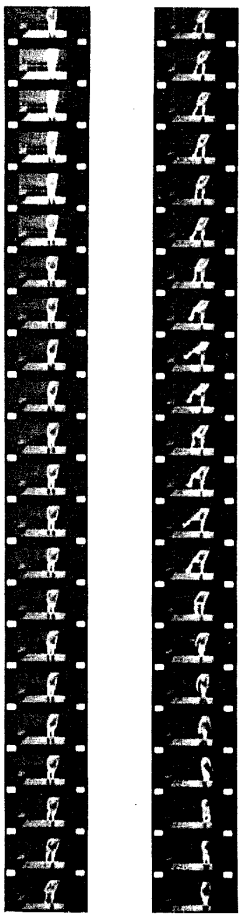

FIGURE 11. Movies made during the ground test of a FLIR, Aug 66 (time unknown). (TI-FLIR III, 2 mrad system.) The action was provided by an engineer doing callisthenics in front of a stationary background. The FLIR operated at 30 frames per second, but the camera photographed only alternate frames. The total elapsed time for these images is thus about 3 seconds.

FIGURE 12. Night infrared image of Grand Canyon. 1:45 a.m., 18 Jan 67, from approx. 4,500 ft. above rim. (D-5 ½ mrad scanner.)

night imagery) produces so much back-scatter as to degrade the contrast excessively. It is important not to overrate the ability of IR to penetrate haze and fog, but conditions do infrequently exist, as in this case, where IR will produce images that could not be obtained by any other method.

Figures 9 and 10, Dallas and vicinity, were obtained with the prototypes of a new family of scanners leading to better spatial resolution. The scanner used over the airfield in Figure 9 was the first instrument designed to make two images of the same area from successive positions in the flight line. The objective was to achieve redundancy in the imagery, which improves the "signal-to-noise" ratio for image interpretation. Secondary benefits are that stereoscopic information is made available and moving targets stand out because of their displacement between frames. In Figure 9 note especially the motion of the short baggage train in the few seconds elapsed between the two frames.

Figure 9 is also a good example of the interrelationship between the emissivity and temperature effects in IR imagery: The bare metal of the planes and the hand rails of the passenger ramps appear colder than the concrete, even though they are probably at about the same temperature, because of the low emissivity of the metal. The steps of the passenger ramps do not contrast with the background because they are carpeted with a material of about the same emissivity as the concrete. Areas along the leading wing edges of some of these planes are probably warmer than the remainder of the plane because fuel somewhat warmer than the winter temperature is contained inside. Painted markings on the aircraft usually show up as warm because the emissivity of paint is higher than that of bare metal.

Figure 10 is included as an example of the detail available from the latest infrared equipment. From three miles up the numerous parked cars can be distinguished, and the hot exhaust vents of a bakery shine as six bright dots on the right side of the freeway to the left of the stadium.

Figure 11 is a number of frames of moving picture made from the display of a Forward Looking Infra-Red system. The FLIR was developed as a night viewing aid for tactical military use. Essentially, a FLIR is an infrared system that produces in real time a rapid sequence of images of the view ahead for the pilot or observers on a plane. FLIR systems are of interest to intelligence primarily in connection with paramilitary activities. The first practical FLIR was developed under Air Force sponsorship in 1965, but now there are a number of others either already in existence or under development; FLIR technology is advancing with great rapidity under the impetus of Viet Nam requirements. The predominant present practice is to display the signals from the IR detectors on a cathode-ray tube. As with television, which FLIR resembles, the images are presented at a rate fast enough to eliminate flicker, on the order of 30 frames per second. Normally the FLIR images are not recorded; other types of IR systems are more efficient when a permanent record is desired.

A variation on the FLIR not illustrated here is the "moving window display." If the display is not needed instantaneously, it is possible to take any of the conventional IR systems and produce, either by electronic means or by rapidly processing the film, a slowly moving copy of the progressive image it is making. The moving window display is like looking with infrared eyes through a window in the bottom of the airplane except that the image may be anywhere from a few seconds to a few minutes late. A moving window display might be useful to the pilot on a night reconnaissance flight, in that it makes terrain features visible for the establishment of navigation check points, for example, that could otherwise not be seen.

Since man-made features predominate in the other illustrations, Figure 12 is included here to show what can be obtained over uninhabited areas—in this case the Grand Canyon. The depths of the canyon and the river are warmer than the plateau surfaces, as might be expected in winter. There is no ready explanation why the various exposed strata and shelves display the alternating temperatures. As a general rule, IR images display sufficient contrast related to topography that it is possible to match them with topographical maps and thus identify the areas covered.

Future Developments

In the recent past, as we have said, infrared imaging systems have steadily evolved toward better resolutions. The dotted line in Figure 13 indicates the general rate of progress achieved in spatial resolution since 1962. Looking at the future, we expect to see a leveling-off for spatial resolution in the next few years at the $\frac{1}{50}$ to $\frac{1}{100}$ milliradian level: the optical systems required for better resolution would be too large to carry in any available overhead reconnaissance platform. The problem is lens size: a $\frac{1}{50}$ mrad system requires a lens aperture on the order of 50 inches.

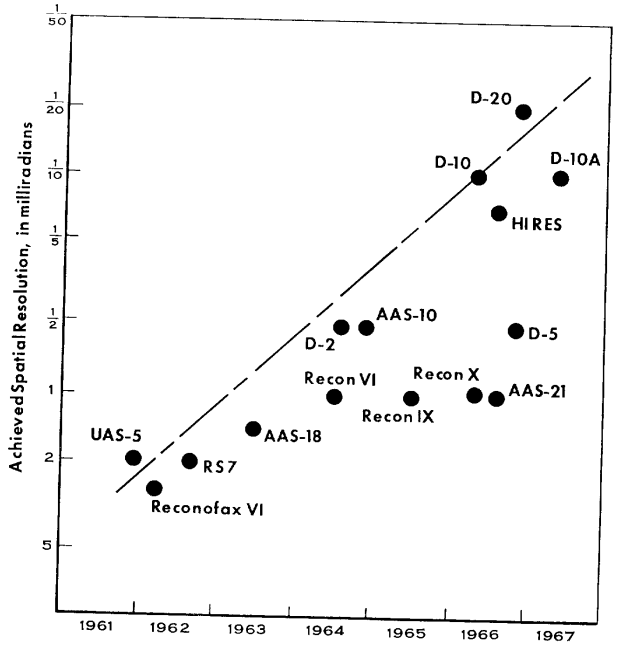

FIGURE 13. The achieved spatial resolution vs. date of initial successful test flight, for representative 8-14 micron imaging systems in recent years. Although spatial resolution is not the only factor by which IR systems are evaluated (thermal resolution, weight, size, v/h capability, and cost are among other considerations), the 40-fold improvement in spatial resolution between 1962 and 1967 is the greatest single factor making infrared a tool attractive to the intelligence community.

The information content and the interpretability of IR images will continue to improve substantially even after the spatial resolution has reached a limit. This will be accomplished by several techniques:

The thermal resolution will be improved so that smaller temperature differentials can be detected.

For special applications, multiple-color images representing multiple IR wavelength bands will be available.

Scan lines will be suppressed from the images.

The dynamic range of the imagery will be extended so that more distinct temperature levels can be simultaneously recorded.

Temperature calibration will be available in some specialized systems.

One of the keys to several of these steps, notably the first three, is simply to use more detectors. Less than three years ago the most advanced IR systems were using only one detector.[2] Both the Army and the Air Force, for purposes of low-altitude tactical use, initially sponsored development of multiple-channel systems. There has been a steady increase in the number of detectors used in IR systems since then. The systems from which Figures 3, 4, 5, and 8 were obtained, for example, used only one detector, those for Figures 6, 7 and 12 used five, that for Figure 9 used ten, and Figure 10 is from a system designed—although only eight detectors were in use in this model—for 50. By the time this article is published, a 100-detector film-recording system will have become available.

One of the advanced FLIR systems currently under contract for the Air Force and Army will use 350 detectors. Large detector arrays can be assembled in various arrangements to achieve almost any desired number of detector elements in future systems. Concurrent advances in electronics, especially the techniques of circuit miniaturization, are making it feasible to use such large numbers of detectors. In 1967 the cost of each detector channel is still several hundred dollars, however, so the system designer doesn't add them indiscriminately.

When multiple detectors are used, the area to be scanned can be divided up among them, so the thermal resolution (which as we have seen varies with the square root of the area scanned per unit time) will be improved accordingly. A system achieving a thermal resolution of 1°C with 100 detectors, for example, could theoretically achieve a resolution of .1°C (10 times better) with 10,000 (10^2 times as many) detectors.

The multiple color can be achieved by making images simultaneously in two or more spectral bands, most simply by using two or more

[2] This statement refers to the longer-wavelength IR systems. Systems using on the order of 100 detectors had been developed several years earlier, but the resolutions were relatively crude then and the technique was dropped for a time. More recently multiple detectors were used in various shorter-wavelength systems before it became practical to use them in the 10-micron region.

detector arrays with different IR filters over them. The images, which may be formed initially either on color film or on black and white color-separation negatives as in color printing, are presented to the image-interpreter in composite form. Multiple-color IR has been available for several years in various experimental systems. It is especially useful in the troublesome separation of temperature from emissivity.

The scan lines in the IR image, which presently plague the image-interpreter when working at high magnification, can be suppressed with systems designed for overlapping scans. Residual scan lines can be further suppressed in subsequent processing of the image; surprisingly little loss of content is entailed in some of the scan-line suppression methods, as illustrated in Figure 14.

Future uses for infrared cannot be predicted as well as the technological improvements. One principle that will probably always remain true is that for a comparable effort (i.e., cost), conventional photography will provide better resolution than IR images—when, of course, photography is possible and applicable. Thus from a cost-effectiveness standpoint, IR imagery should continue to be saved, as at present, largely for applications where it is needed to supplement visual photography. It may be used on an occasional search mission just to help spot man-made anomalies which may have been overlooked in the routine photography. It will certainly be used to help clarify the analysts' suspicions about specific targets.

As the resolution improves and the equipment becomes more generally available, we expect to find many more applications for IR in the field of night photography. There will be places and occasions in which cloudy days and clear nights make conventional photography impossible and infrared imagery, despite its higher cost and inferior resolution, practical and desirable. Occasionally events will be taking place under cover of darkness which we may want to keep covertly under surveillance by night IR imagery.[3] Then there are the Arctic regions, where darkness prevents conventional photographic surveillance for half a year at a time. There has been talk that with some reconnaissance platforms it may be more cost-effective in the future to have a single high-resolution IR system for day-and-night, year-around use than to outfit separate platforms, one for photographic

[3] ". . . many of these [Cuba-bound] ships unfortunately transited the straits at night or in bad weather, making photography impossible . . ."—*Studies in Intelligence*, Fall '64, p. 5.

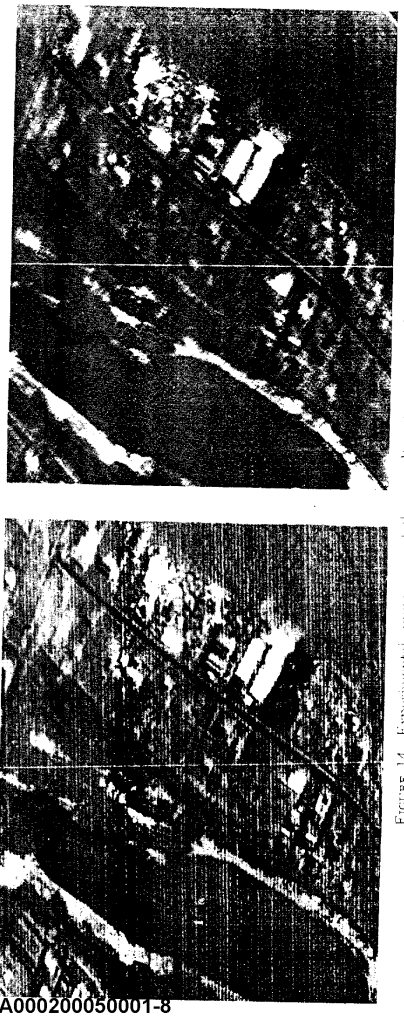

FIGURE 14. Experimental suppression of the scan lines in an infrared image. For better illustration of this effect, these pictures are printed at greater magnification than the others in this article.
Left: image as made by conventional printing techniques.
Right: print made with the spatial frequency of the scan lines filtered out by physical-optics techniques.

daytime and the other for infrared nighttime use. The possibility of using IR for keeping track of the world-wide movements of aggressor submarines seems extremely remote at this time; yet the implications of any such possibility in a world with a finely balanced capability for nuclear retaliation cannot be overlooked

In sum, the future uses for IR imagery cannot be predicted with precision, but it is evident that infrared reconnaissance will be one of the important tools available for intelligence collection.

Puzzling out the power supply to Urals atom plants.

THE DECRYPTION OF A PICTURE

Henry S. Lowenhaupt

One day in August 1958 Charles V. Reeves showed me a picture of the Sverdlovsk Central Despatching Office of the Urals Electric Power System which he had found in the July issue of *Ogonëk*, the Soviet equivalent of *Look* magazine. He remarked that at the Boston Edison Company he had controlled electric power generation and flow in the Boston metropolitan area from just such a despatching station.

Charlie had been recommended to us in CIA's Nuclear Energy Division by the President of the New England Electric Power Company (and Chairman of the DCI's Panel on Nuclear Energy) because of his professional experience and linguistic ability. His task was to assemble data on generating stations and transmission lines in the neighborhood of known or suspected Soviet atomic energy sites as a basis for determining the electric power consumption at those sites. (The output of fissionable materials from a plant is directly proportional to the amount of power it consumes.) This work was to complement that being done by the Electric Power Branch of the CIA economic research organization, which was attempting to estimate power generation and ordinary consumption in atomic industry areas in order, *inter alia,* to arrive at the consumption of the atomic facilities by subtraction. Symbolically Charlie worked in megawatts or power flow; the economic analysts worked in kilowatt hours or energy produced and consumed, the method appropriate to the varying loads of most normal industry. There was considerable doubt at the management level whether either method, or both combined, would ever yield reliable estimates on the power consumption of atomic industry.

The Urals of course constituted a most important atomic energy region. Kyshtym, between Sverdlovsk and Chelyabinsk, was the site of the Soviets' major plutonium-producing complex. North of Sverdlovsk, at Verkh Neyvinsk, was a gaseous diffusion plant producing U-235. Still farther north, near Nizhnyaya Tura, was an unidentified atomic complex in a firmly closed area. The nub of Charlie's problem was to pin down the power flow to these three facilities.

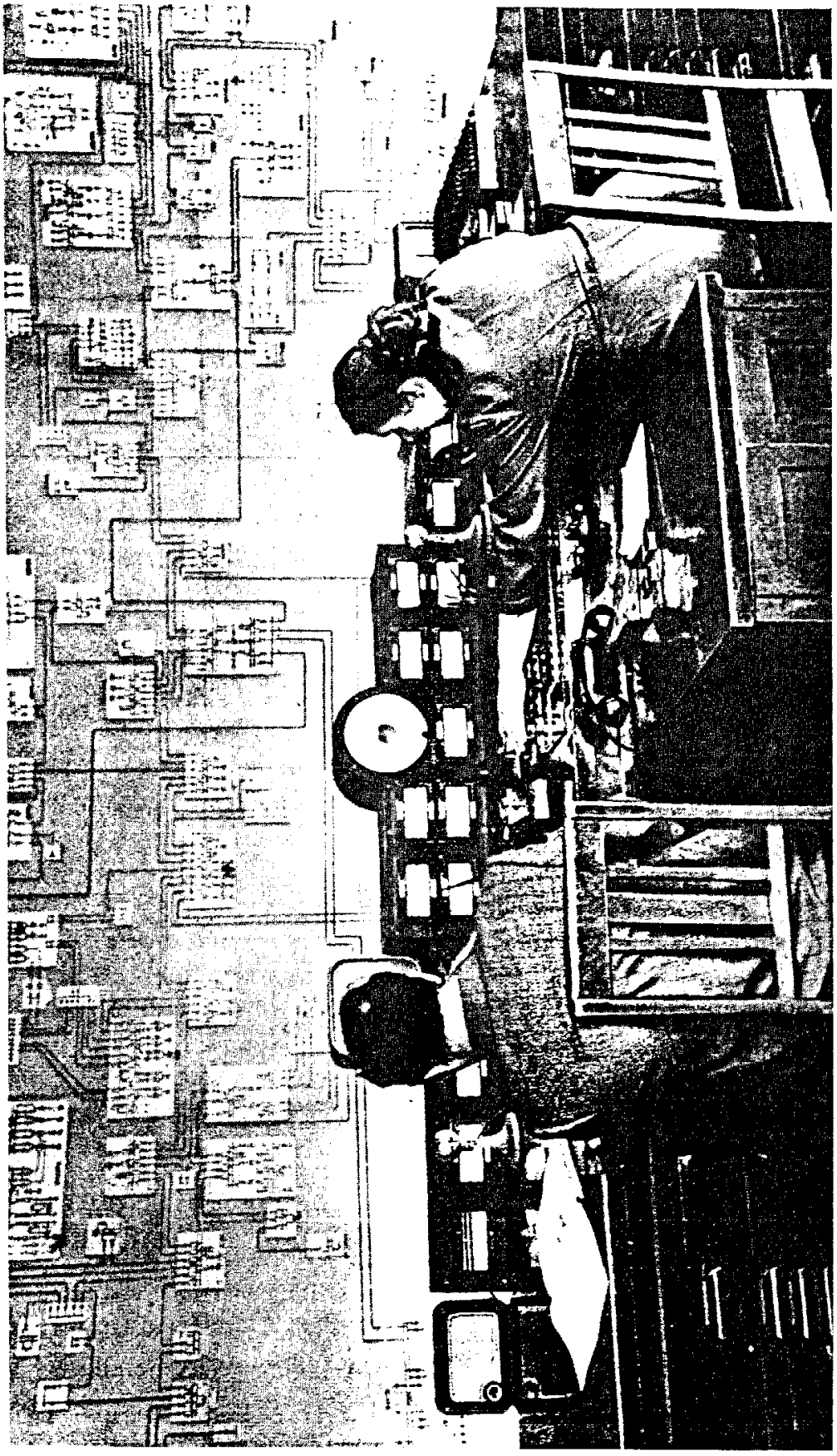

FIGURE 1. The Central Despatching Office in Sverdlovsk

The Soviets considered electric power generation, transmission, and usage in the Urals a classified subject. All published articles were censored, and the censor knew his business. Travel in the area except to and through Perm (then Molotov), Sverdlovsk, and Chelyabinsk was severely restricted. The only available serious discussions of the Urals power network as a whole were two intelligence reports produced in 1944 for the German general staff.

A Riddle to Read

The board on the wall in *Ogonëk's* picture looked like a schematic diagram of major power plants, with their transmission lines and the users' substations—all the information necessary for pushbutton and telephonic control of the whole Urals electric system. Charlie teasingly suggested that the very thing we were looking for, the disposition of electric power feeds to the atomic sites, was actually laid before us in this photograph. Naturally, I rose to the bait and proposed that "we" read it out. Charlie smiled gently and pointed to the taped-over names and meters, showing the usual careful censorship. Charlie is very tolerant of the foibles of the young; one would never guess that he had worked his way through MIT as a heavyweight boxer.

Yet I couldn't put it down. In vain Charlie pointed out that the photograph did not cover the whole board; it had been clipped. The censorship had probably been even more thorough than it appeared. He had never seen a Russian despatching station. He did not know the meaning of the indistinct symbols on the board, nor did he know of anyone else in America or Britain who did.

I continued to badger him. I suggested this, I suggested that. The discussion went on intermittently for days. Never have I lost so many arguments in a good cause.

The problem gradually shook down into a number of distinct questions. Was this just the Sverdlovsk area, or did it represent a substantial portion of the total Urals network? If the latter, did it include electric power producers in Perm, Sverdlovsk, Chelyabinsk, Kurgan, and Chkalov (Orenburg) oblasts, along with Bashkir and Udmurt ASSRs, or only the Uralenergo-operated stations in Sverdlovsk and Chelyabinsk oblasts? Charlie had citations to prove that the Russian terminology was ambiguous on this point.

Did the board depict only the big 220 kilovolt and 110 kilovolt transmission lines, or did it include perhaps 35 KV, 10 KV, and even lower-voltage lines? The main Urals transmission network runs generally

north and south: were north and south left and right in the picture—or was it really as scrambled as it looked?

What was represented by the indistinct symbols on the individual rectangular boards? Did these indicate just the switches, which might be expected to be under centralized control, or did they include transformers and generators as well? Since each generator puts out three alternating currents of differing phase, each transmission line contains three separate conductors and each switch is really three switches: were these shown separately?

Inspection showed at least two kinds of boards, one containing many different types of symbols, the other fewer types. Could the one represent the complicated generating stations and the other the simpler main substations? If the simpler boards were substations, did the dots on them mean switches, or transformers? If the latter, one could estimate within narrow limits the amount of power flowing through the large main substations. If they were switches, one could not use the substation boards for estimating power flow but would have to calculate it on the basis of network theory from the number of transmission lines and the output of the generating plants connected to them.

If the more complicated boards represented generating stations, the dots on them on the side opposite the transmission lines might represent turbogenerators. The number of such dots on a board might then identify it with a plant known to have that number of generators. Here Charlie had a few straws in the vast sea of ignorance. In 1957 a British power delegation had visited the Mid-Urals GRES (regional power plant) north of Sverdlovsk and the South Urals GRES outside Chelyabinsk. These definitely had 5 and 8 turbogenerators respectively. Beyond that it was mostly conjecture. He had a single press reference to the eleventh and twelfth boilers in the power plant at Nizhnyaya Tura near the northern mystery complex, but no way to relate the number of boilers to the number of turbogenerators. He had found brief references to 6 or 7 turbines at Verkhniy Tagil GRES near Kirovgrad, at least 5 turbines at Serov in the far north. He knew that Argayash TETS (steam-heat-and-power plant), presumably serving Kyshtym, had reached "full capacity" in 1957, but had no idea of the number of turbines or their sizes. He knew of the existence of a "large" generating station east southeast of Sverdlovsk, at Kamensk Ural'sk, mainly supplying the aluminum plant there, and of two power

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plants supplying the town and local industry at Nizhniy Tagil, back to the north. He had references to dozens of smaller plants.

Thus "we" were faced with a series of multiple choices which had to be clearly understood before any solution was possible. The purpose of these preliminary (though lengthy) discussions between Charlie and me was so to structure the problem that the choices became clear and improbable solutions were discarded. Once this was thoroughly accomplished, the type of evidence needed to select between alternatives could be rationally discussed and ferreted out.

Frame of Reference

One day light dawned. Charlie recognized the big board in the lower left corner of the picture as Kama Hydroelectric Station near Perm. The station was unusual, having 24 small hydroelectric generators. When I objected that the meter in front of the board obscured the number of generators on it, Charlie only shrugged. The board was so long that it had to have a lot of generators on it; but what he had recognized, from a diagram in a Soviet trade journal, was the hookup of its transmission lines!

From there he went on: The Soviets had published the information that in 1955-57 two 220 KV lines had been built from Kama Hydroelectric Station to South Substation serving Sverdlovsk. There they met a 220 KV line coming in from the east, from Kamensk, but originating at the South Urals GRES and running north by way of Shagol Substation in Chelyabinsk. This made the Sverdlovsk South Substation the large vertical board in the middle of the picture, Kamensk the small one above its right edge (the transmission line apparently passed by there without connecting), the South Urals GRES the large horizontal one at the far right, and the Shagol Substation the one to the left above its top edge.

If he was reading the symbols for turbogenerators correctly, the South Urals GRES board showed 8 of them, in agreement with both the 1957 observations of the British power delegation and a schematic diagram of turbines and boilers at this station appearing on the back cover of the June 1957 issue of *Teploenergetika*. As for the Mid-Urals GRES north of Sverdlovsk, the horizontal rectangle second to the left from South Substation seemed to have symbols indicating 5 turbogenerators, as noted by the British power delegation.

Identifying these stations, in a preliminary fashion at least, he could also conclude that by and large only 220 KV and 110 KV transmission lines were depicted and that the board probably covered all of the Urals and adjacent oblasts, oriented roughly with south to the right, east toward the top, and north to the left. The original 110 KV line running the length of the Urals in the early 1940's therefore corresponded to the more or less horizontal line structure running all the way across the board about half way up. Thus, as one does in assembling a puzzle, he had found some pieces to start framing in the picture and an interesting grouping in the middle.

Filling In

It took Charlie another three months before he was sure of his understanding of all the detail in the picture, and two more months after that before he had worked out all the implications. He said later that he had used 103 references from Soviet newpapers and technical journals, 4 reports of delegation visits, 11 POW returnee reports, and perhaps 25 local photographs. While this estimate may be low in the sense that he probably recalled only the more important items of information, it does illustrate the tremendous amount of detail he had to assemble in order to accomplish his purpose.

He was aided by several strokes of good fortune. First, he had found in *Elektricheskiye Stantsii* No. 12, 1948, a short report on a three-day conference in Moscow which laid out a major plan for power expansion in the Urals. He followed this religiously as being a published blueprint of intended expansion mostly for atomic energy purposes, and he turned out to be right. Secondly, the Soviets published in late 1958 a book celebrating the 40th anniversary of electric power in the Urals, *Energetika Urala za 40 Let*, which contained much useful information, not the least of it an authoritative diagram of the Urals power network in 1945. (See Figure 2.) Thirdly, two photographic balloons were recovered belatedly with photographs that showed power line traces south and west of Sverdlovsk and in the Nizhniy Tagil area. Finally, he found a copy of the July 1958 Ogonëk picture that had been cropped just a bit higher up. This enabled him to infer the existence of a 220 KV substation at Verkh Neyvinsk, presumably for the U-235 gaseous diffusion plant, that had not been indicated in the original copy.

Even after Charlie had firmly established what the visible portion of board in the picture generally comprised (for the completed layout see the overlay in Figure 3), he had several major problems. It was easy to suggest the positions of the three atomic energy complexes—Kyshtym at right middle, Verkh Neyvinsk at left center top and

Urals Power
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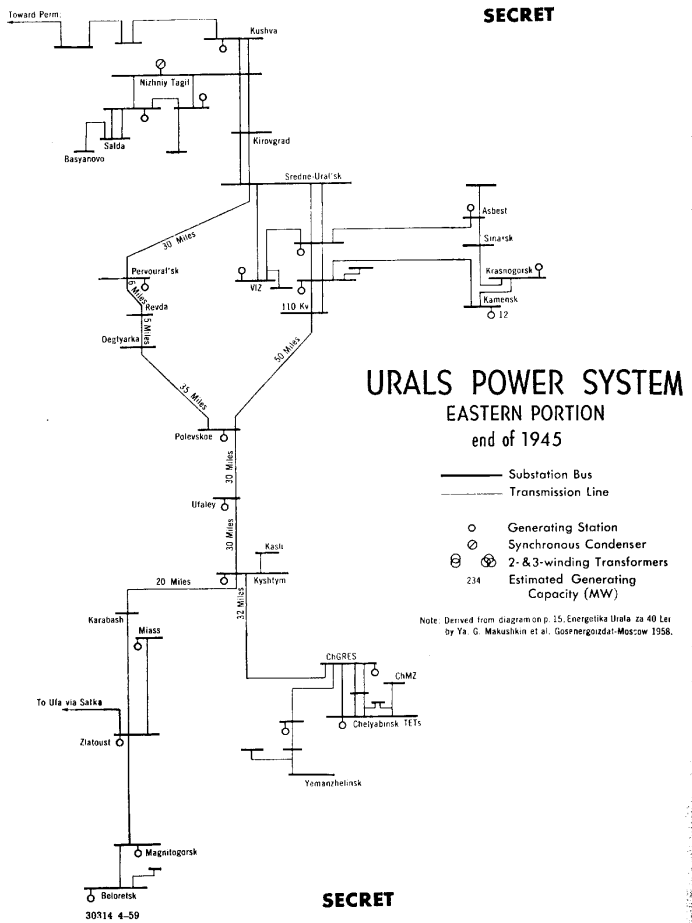

FIGURE 2

Nizhnyaya Tura probably at left edge—for they were represented by large substations not needed to serve cities. Then, assuming that the large power station in the far north at Serov was not included on the visible part of the board, he could infer that the big rectangle at upper left was Nizhnyaya Tura GRES; but until late 1958 he could not be sure because none of the seven references he had to the plant indicated the total number of generators. The fortieth anniversary volume finally confirmed his deductions by mentioning turbogenerator No. 9, which agreed with the nine dots in the photo.

Trouble began with the fact that the lines between Kama Hydroelectric Station and Nizhnyaya Tura GRES were cropped by the left edge of the picture, so that it was impossible to decrypt this section of the network by counting known substations. Charlie would have to start in Sverdlovsk or Chelyabinsk (with their complex generation and usage patterns) and work outwards. But even his understanding of the Sverdlovsk area was impeded, oddly, by the fact that the transmission lines out of the Nizhnyaya Tura GRES, more than 100 miles to the north, were cropped from the top of picture: the technical press had recorded the construction of two 220 KV transmission lines from there to Sverdlovsk, but the picture showed only one line leading to the Sverdlovsk South Substation from the north.

Charlie went at the problem logically, step by step. First he assembled every POW report and ground photograph of transmission lines in the general Sverdlovsk area. (Most of these had come in as a result of general requirements he had circulated two years earlier.) He plotted each reference on a large-scale map, comparing results with what he expected. That he did not know within 20 miles the location of South Substation was a considerable disadvantage; it was the one Sverdlovsk substation he had surely identified on the board. In the absence of any attaché or POW reporting that identified a north-south 220 KV line passing through Sverdlovsk, he had to consider the possibility that South Substation was really a cover name for the one serving the gaseous diffusion plant at Verkh Neyvinsk to the north.

His plotting of all the collateral information did enable him to establish a 110 KV loop from Sverdlovsk east through Kamensk, north via Krasnogorsk, Sinarsk, and Asbest, then back to Sverdlovsk. He also had bits and pieces of what looked like a loop from the Mid-Urals GRES north of Sverdlovsk westward to Pervoural'sk, then south to Revda and Degtyarka, and then perhaps east either to Sverdlovsk again

or more southerly to Polevskoy. Most of this loop had been hidden by foreground in the Ogonëk picture.

Then, checking the photographic record of all balloon flights in the Urals area, he discovered west of Sverdlovsk the trace of the 220 KV lines from Kama Hydroelectric Station to South Substation at a point far south of its expected route. This proved that South Substation was well south of Sverdlovsk and south of any other unknown substation likely to serve Sverdlovsk. The 85 miles of 220 KV line that had been reported built between South Substation and Kamensk on the east (connecting with the southerly leg from Shagol/Chelyabinsk) measured out accurately on the map.

Inspection of another balloon photograph proved that there was no 220 KV line between South Substation and Polevskoy. At the same time it located the path of the 110 KV lines between these two locations and established from the width of the trace through the trees that this section of the Urals power network consisted of probably two 110 KV lines. On the despatchers' board this made Polevskoy the rectangle just to the right of South Substation, and the terminus of the 110 KV loop via Pervoural'sk and Degtyarka as well.

Solution

It was the fortieth anniversary volume on Urals power that found the missing 220 KV line from Nizhnyaya Tura "to Sverdlovsk." It stated that the 102 miles of the first such line went into service in August 1951. Charlie methodically measured off 102 miles from Nizhnyaya Tura along the railroad and found he had reached Verkh Neyvinsk, not Sverdlovsk. He measured off several more transmission line distances and checked these against all the press references in his files to numbers of miles of transmission line built each quarter or year. All these figures were explainable. Thus, even though the 220 KV lines from Nizhnyaya Tura to Verkh Neyvinsk were cropped off the Ogonëk picture, he was able to prove the existence of two such lines and show that only one went on at that time from Verkh Neyvinsk to South Substation.

Eventually a photographic balloon was recovered in Iceland from a watery resting place. This proved that the 220 KV right of way bypassed Nizhniy Tagil, so that the whole purpose of Nizhnyaya Tura GRES was to supply the unknown atomic industry at Nizhnyaya Tura and the U-235 plant in Verkh Neyvinsk.

Once this was all worked out, the rest of the north Urals fell into place rapidly. Verkhniy Tagil GRES was identified below the right edge

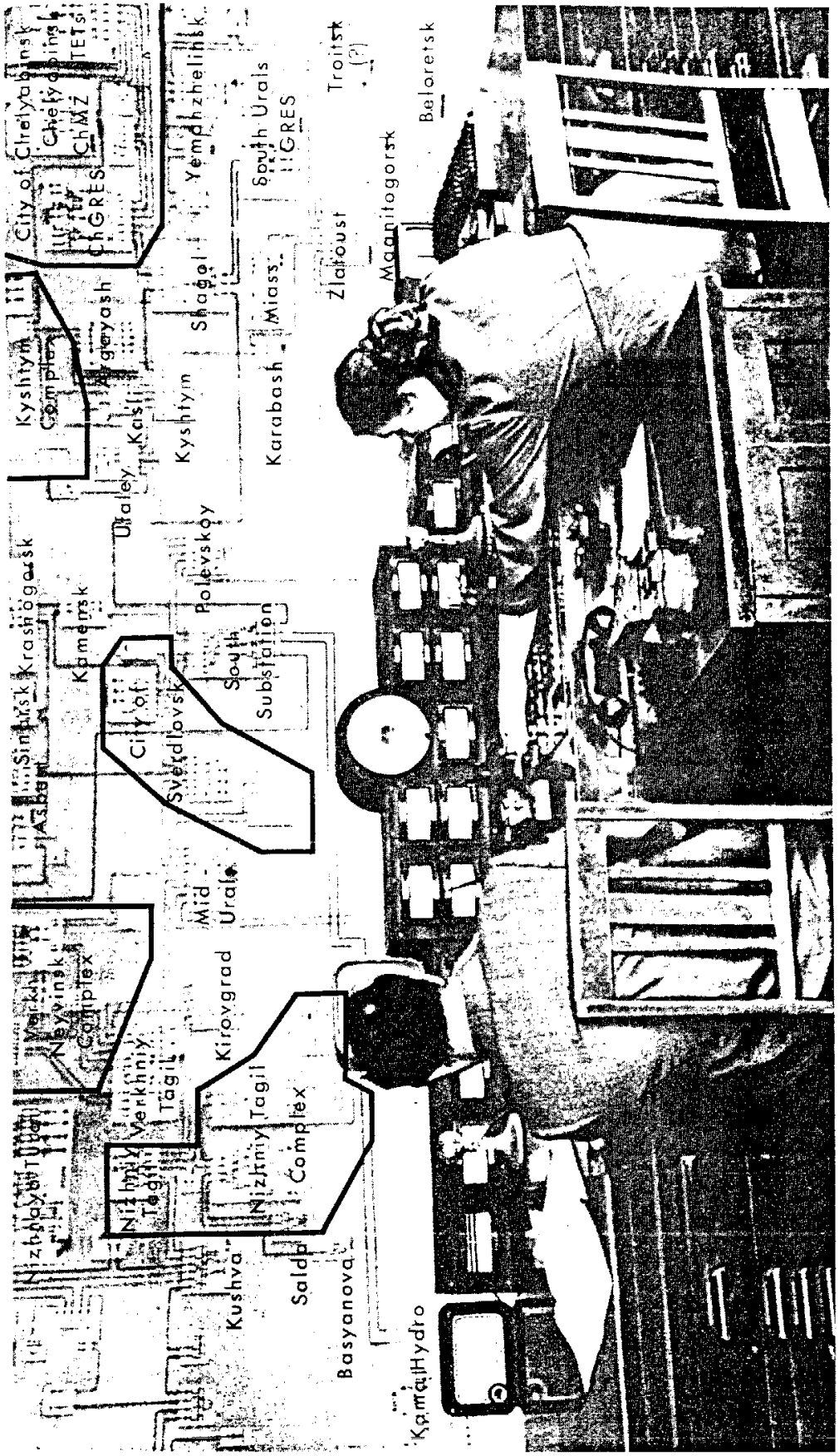

FIGURE 3

of Nizhnyaya Tura GRES and seen to have 5, rather than "6 or 7" generators on stream at the time of the photograph (and the date of the photograph thus established as between mid-1957 and July 1958). The power supply to the Verkh Neyvinsk complex could be estimated with assurance to be carried over seven 110 KV lines and three 220 KV lines.

When the location of Polevskoy on the board was definitely established, the south and east Urals transmission network likewise soon became clear. Argayash TETS was identified as the big board above and to the left of Shagol Substation and could be seen to have seven turbines. The electric power (and steam) supply to the Kyshtym reactor site proved to be mainly from Argayash TETS, with backup from all nearby stations north, south, and west.

Thus in April 1959 Charlie was able, on the basis of network theory, to state confidently that the electric power supply to the U-235 production plant at Verkh Neyvinsk was 1,000 megawatts plus or minus 15 percent, about one-half of that consumed by the Oak Ridge installation in the United States. He judged the power consumption of the plutonium reactor at Kyshtym to be 150 megawatts plus or minus 30 percent. Up to 100 megawatts was apparently consumed by the unidentified complex near Nizhnyaya Tura in the north. His final diagram of the Urals power network is given in Figure 4. A complete history and carefully devised estimate of electric power supply to atomic sites in the Urals from 1947 through 1957 lay in the future—a year's hard, detailed work in conjunction with the economic analysts, reference by reference and report by report.

Charlie was to get confirmation of his theories and deductions within the year, an event that happens all too seldom in the intelligence business—except when catastrophe strikes. In July 1959 a U-2 photographed both Nizhnyaya Tura and Verkh Neyvinsk, Kyshtym being cloud-covered. Charlie was right on the substation array at the Nizhnyaya Tura complex, which turned out to be a nuclear weapons fabrication and stockpile site. The Verkh Neyvinsk gaseous diffusion plant had substations much like Charlie had deduced, though one had been cropped from the Ogonëk picture. His view that the dots nearest the transmission lines represented switches rather than transformers proved correct, and his decision to estimate power usage from lines and generating stations rather than from substations was vindicated. Detailed examination of the U-2 photography showed that his estimate on power usage at Verkh Neyvinsk was only about 10 percent high, a truly remarkable achievement from a censored photograph.

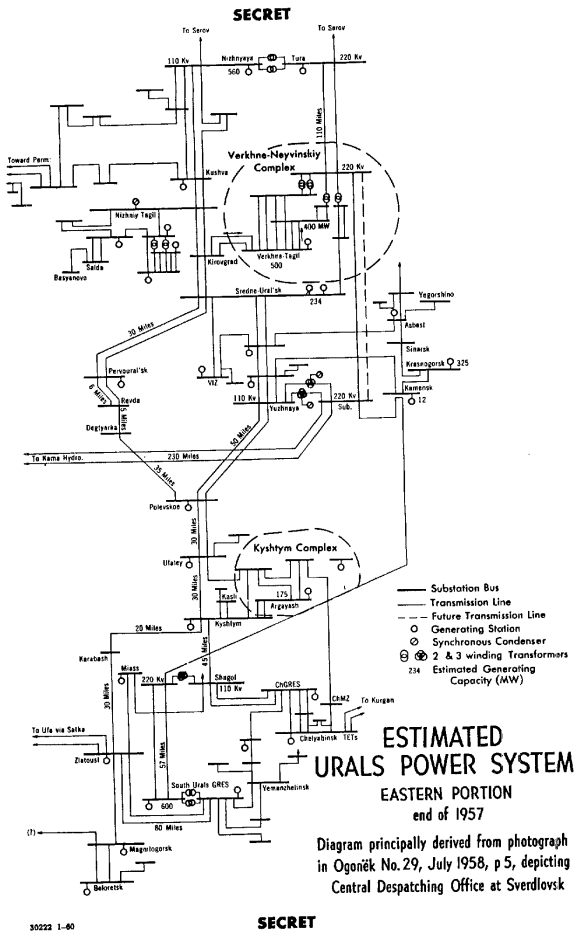

FIGURE 4

The evolution of some techniques in the national estimating system.

NOTES ON ESTIMATING

Keith Clark

Since NIE 1 appeared in 1950, more than a thousand National Estimates have been considered and approved by the United States Intelligence Board or its predecessor, the Intelligence Advisory Committee. This large number of very solemn documents, the collective progeny of the intelligence community at large, have been delivered through the midwifery of the Board of National Estimates and its Staff. Both the process and the product have undergone certain changes in the course of seventeen years, and there ought to be some lessons in a review of this evolution, not only for the midwives in ONE but for all who participate in the process of conception, gestation and delivery.

My purpose is to identify, primarily from the ONE viewpoint, some recurrent dilemmas and common pitfalls in producing estimates, to note different ways of coping with these, and to suggest some main sources of strength or weakness, as well as some avoidable wastes of time and effort. No two estimators would identify all the same problems as being important or perennial enough to rank as matters of continuing professional concern, but I offer my observations under two headings: (1) Style and Scope: the treatise versus the short answer. (2) Methods and Discipline: predictive estimating and prophecy.

Having drafted, chaired, or otherwise participated in many of the National Estimates, I disqualify myself from engaging in much praise or condemnation, but some subjective judgments seep through. I hasten to add that the judgments which follow, the arguments which support them, and the idiosyncracies which pervade them are my own; they do not necessarily reflect the opinions of any colleagues on the Board or on the Staff, though I am indebted to members of both and to other professionals for some of the ideas.

Studies and Short Answers

These tags denote two sets of values, or schools of thought, each valid by its own lights, which often collide when estimates are written,

debated, and coordinated. It is not a question of mere prose style. Everyone agrees that for our purposes good writing calls for economy in words. It is a question of scope and approach. Some look on estimates as vehicles for educating the reader in all he ought to know about the problem posed. They reason justly that an informed policy-maker, like an informed electorate, is a good thing, and the more informed the better. Acknowledging that NIE's are not encyclopedias and do have severe limits on length of discussion and depth of detail, adherents of this approach nonetheless strive to incorporate as much information as possible into the document, and don't like it when something they consider information or insight of cardinal importance is defined by someone else as superfluous detail.

At the other extreme are the short-answer men. They are imbued with a perfectly correct conviction that most high-level policy-makers have too much to read as it is, and that if the intelligence community sins in its publications, it is in the direction of too much rather than too little. In common mercy, as well as in the interests of getting the essential message across, they conclude that estimates should be sheared of all that is not strictly necessary to making the main judgments, and that the latter should be supplied as crisply and quickly as possible.

It is a rare estimate that does not give rise to some clash of opinion along these lines, and since it is a very subjective matter, prevailing doctrine or fashion shifts from time to time and from person to person; in fact, individuals feel differently on different occasions, depending on whom they are writing for, their own depth of knowledge and interest in the subject, their patience or lack of it, and many other variables. Speaking only of ONE, I once thought it generally correct to say that the Board favored short answers and the Staff liked informative detail. This is probably more often true than not, but there are so many instances of the Board's demanding the addition of information and detail to staff drafts that the generalization is not very valid.

The National Estimates show fluctuating trends in this respect over the years. Insofar as general patterns can be discerned and briefly described, we leaned in the earlier years toward spareness. This reflected the strong military influence on early estimative methods, an influence which made for short answers to short and crisp questions. It also reflected the kind of problems which preoccupied estimators in those days almost exclusively—direct Communist threats to the United States and its allies and interests. The problems were relatively clear-cut or were made to appear so, and could be sharply defined. Thus NIE 1, of 3 November 1950, was on "Prospects for Communist Armed Action in the Philippines During November."

We then entered a kind of baroque period (mid-fifties to early sixties) in which estimates became more informative, full of subtleties, refinements, and detail, aimed at describing and assessing foreign societies and governments in a more complex way. This evolution was helped along by the participation of more civilians in the process, with their academic skills and habits of work. It was also partly due to a growth in the amount of intelligence available (e.g., photography of the USSR). And it was probably most of all the result of requirements for estimates on more complex subjects. For example, the nationalist revolution in the undeveloped world then in full flower gave rise to important policy problems for the United States and consequently to the need for estimates on a subject that was new and complex. It required conceptualization and even some new vocabulary; short answers to short questions would not do.

Choosing Between Them

In recent years, we have followed an eclectic approach—using both methods and often mixing them, with the choice being made by the predilections of those involved after more or less considered judgment about the requirements and preferences of the consumer. I shall not argue for one approach over the other. In the present state of the art, and in light of varying consumer needs, we probably do best to be eclectic. But I offer a few observations about some pitfalls in the choice.

One observation chiefly concerns "country" or "area" estimates. These are not done as frequently as they once were, but the art form is far from dead. What is dead—or ought to be, I think—is the classic 60 or 70 paragraphs that methodically discussed almost every subject under the sun relating to a country or region in a kind of mechanical way, under the headings Introduction, Political, Foreign Policy, Economic, and Military. Experience has persuaded most of us that this approach involves much waste motion, and that country or area estimates can most usefully emphasize a few main points, sometimes a single main theme with variations. It seldom requires more than 20 paragraphs or so to render these judgments for any country, with all the supporting detail necessary.

And to do it in shorter scope increases the chances of attaining several desirable ends: one is that the estimate will be read and

remembered by officials at high levels; a second is that the truly important judgments will shine forth clearly, and not be hidden or dulled by clouds of detail; a third is that the estimate will not become obsolete or obsolescent quite so fast when day-to-day developments put one detail or another out of date; and a fourth, rather bureaucratic one, is that short papers take less time to do, at least in the stages of coordination and consideration by the USIB. (It is a true, if lamentable, fact that time spent in discussing and coordinating papers often varies more nearly with the quantity of words to be gone through than it does with the importance and complexity of the problem at hand; we sometimes devote so much effort to not being wrong about secondary and even trivial matters, or to group discussions of literary idiosyncracies, that we lack the energy and perspective to make sure that we are right about the big questions.)

The foregoing amounts to a rather more dogmatic argument for short papers than I really want to make. Let me note two or three exceptions to the main proposition. One is the kind of estimate occasionally requested (or in some cases annually expected) by high-level consumers who are already broadly familiar with the problems about which they ask. Certain levels of brevity and simplification which might be just right for many kinds of estimates would tell these particular consumers nothing they don't already know. In these cases a considerable degree of informative detail becomes mandatory if the estimate is to have any value. Certain annual Soviet and Chinese papers fall into this category, since generalized assessments of the Russian and Chinese military threats are of negligible use to anyone. Another exception is formed by some special estimates on, say, reactions to given U.S. courses of action. No one needs to be told that Communist and neutralist reactions to some forward military move by the United States would be adverse; they need to know how adverse, and in what ways—particularly the difference between verbal responses and retaliatory actions on the part of the governments in question. Sometimes we cannot make these distinctions clearly, but we ought to try.

Another occasional exception is the "how to think about" estimate—most often addressed to some fairly new and unfamiliar foreign policy problem, or some particular aspect of an area or country which intelligence feels it would be useful to conceptualize in a nonconventional way. The purpose may be more to structure the problem than to forecast the outcome. In such papers, it is probably best to get

more leisurely, to give more information, detail, flavor, and atmospherics than are otherwise called for. In sum, there are problems which cannot be treated shortly if the estimate is to do the job it should. But we can at least try when we start these jobs to be clear in our own minds what the job is.

Prediction and Prophecy

One of the most persistent half-truths held in the intelligence profession and among our customers is that estimates are predictions of things to come, prophecies of the future. This is dogma and it is also largely true, but when couched in these terms it frequently leads us down some unfortunate paths and stultifies our thinking. Prediction is indeed the heart of the matter, but there is a world of difference between predictive estimating and mere prophecy. Lest I appear to make a case by pejoratives, let me define my terms.

I use the term predictive estimating to suggest a process which takes due account of its own limitations and uncertainties. It begins with awareness of *present* unknowns, the slippery ground we start on because of the things we don't know, or can't be sure we know, about the past or present. It goes on to the future to predict what can be predicted—by induction from some kinds of evidence, deduction from other kinds, testing hypotheses against all evidence available, and the rest of the familiar intellectual disciplines hopefully instilled in us all. But as it moves along these tried and true paths, predictive estimating differs from mere prophecy in its continuing awareness of its limitations in the face of the extraordinarily complex array of matters which will in fact determine future developments.

More specifically, it distinguishes between constants and variables, and shows awareness of interaction between them; it defines critical points—crossroads or crunches—and suggests alternative lines of development leading from these; it admits ignorance and uncertainty when it reaches the outer limits of evidence, analysis, and logical speculation; without yielding to the crudities of "worst case" estimating, it also avoids the pretentious and useless fallacy of the "single best guess"; it distinguishes—sometimes explicitly, always implicitly—the model of a fairly tidy and rational world delineated for purposes of analysis and comprehensible exposition versus the messier world of flesh and blood and emotion; it keeps in mind the fact that foreign governments—even apparently monolithic dictatorships—are as often as not inwardly subject to conflicting pressures, ambivalences, and contradictory impulses, even though usage often compels us to talk

as though "the Soviets," "Peiping," or "Israel" were each of one mind—whole, coherent, and consistent.[1]

Prophecy, as I use the term, implies that the future is already there, deep within the crystal ball, to be discerned by those who are wise and lucky enough to do so. It invites a great leap from A to Z, aided by intuition and hope. Predictive estimating does not reject these aids altogether, but it is based essentially on a concept of the future as too complicated and chancy to permit easy leaps from where you are to where you want to be. It is, in short, both more responsible and humbler than prophecy. It is also typically less dramatic, more cautious and tentative in its conclusions, and perhaps less exciting to read. Sometimes it is possible to startle or intrigue by statements of boldly impressive foresight, but this is legitimate only if a laborious and disciplined intellectual process has been gone through first.

All this may sound like pretentious counsels of perfection, and in any case inconsistent with earlier remarks on the desirability of short papers. Certainly a published estimate which self-consciously spelled out its own scrupulous observance of all the rules suggested above would be an infinitely elaborate and tedious document, too much like a Ph.D. thesis in one of the fields of social science where concentration on methodology crowds out content. But I am talking here as much about an intellectual process as about the visible product delivered to the printer. We all use various forms of verbal shorthand in getting our message across; without them, analysis and estimating could not be communicated. But there is a difference between short cuts in getting the message across and short cuts in thinking about what the message should be. The latter can be indulged in only at the risk of sacrificing quality and, eventually, credibility. Like icebergs, estimates must have a lot of substance below the visible surface if they are to hold together and stand up.

Guessing Games

The record of National Estimates over the years in these respects is a mixed one. One practice occurs often enough in various guises to warrant some criticism. It is the temptation or compulsion to estimate with apparent confidence about any question that anyone in authority wants to know about. The potent old blandishment, that if the estimators don't supply answers someone less qualified will, can sometimes be resisted only by appearing mutinous.

But the plain fact is that estimates on some questions are of negligible worth, no matter how sophisticated the thinking behind them, and we ought honestly to say so. We may be paid to estimate, but we are not paid to do the impossible, and certainly not to pretend to do the impossible when we can't. A confession of ignorance or uncertainty may annoy someone who wants practical answers to practical problems, but in the long run it is better to annoy than to con him. This is not an argument for refusing to do difficult tasks, or even to try what may look like impossible ones; it *is* an argument for being clear, to ourselves and to our readers, just how safe it is to skate on the ice in certain areas and just where the ice, for all we know or might wish otherwise, may be water.

One case in point is the amount of time devoted to predicting the survivability of governments. Using again the "country paper" as a whipping horse, these are too often conceived of as vehicles for quoting odds on whether an incumbent regime will be in place when "the period of this estimate" draws to a close. The trouble is that when it is possible to say yes or no with a really high degree of assurance, the answer is usually so obvious that no literate policy-maker really needs to be told it; and in cases where the forecast is much more uncertain—often, for example, in unstable and volatile countries of the underdeveloped world—no prudent policy-maker is going to place many chips on that particular prognostication.

I am not arguing for total abolition of this kind of estimate. It probably has to be made, the odds have to be quoted, the conclusion may even be informative and helpful at the time it is published. But as a continuing guide to planning and action in the real world it has severe limitations, and we ought to avoid exaggerating its importance. Among other defects, it becomes obsolescent quickly, since in these matters one wants the latest information, whether it changes a conclusion reached earlier or not; even the best estimate as of a given date cannot allow for all the accidents, whimsicalities, and other variables likely to affect the outcome in close questions of this sort; very often what the United States does or does not do will help determine the results (we normally leave this factor aside); and many

[1] To illustrate an effect of this approach: a number of National Estimates in recent years have employed the device of presenting the most likely judgment on the central question, and then, in immediately following paragraphs introduced by the sensible admission that this reasoning might be in error, of going on to suggest the implications of alternative hypotheses—even if the odds don't appear to favor them. I cannot escape the belief that on close questions of particularly crucial importance this practice adds enormously to the usefulness of the document.

of these situations are quite literally tossups, touch-and-go matters, in which rational planning must be kept flexible and contingent, with shadings rather than sharp choices in between alternatives.

We have too often focused on this kind of question as though a "probably yes" or "probably no" were the single most important answer we could give, one on which our reputations as estimators will stand or fall. I suspect that this particular kind of forecast is often read by our policy-making friend with a healthier skepticism about its real value than we ourselves show; and then the whole thing is forgotten unless and until something happens in the benighted country, in which case the estimate is dragged from the files and the prediction is either pointed to with pride or viewed with chagrin by those who made it. This review of the record, though interesting to professional estimators, is not very important in a broader sense, and certainly should not be made the touchstone of estimative reputations or a very serious criterion of quality. Success or failure in this kind of spot forecasting is too much a matter of luck and chance. It often comes closer to what I have defined above as prophecy than to predictive estimating, and is consequently not very useful as a responsible help to planning and action. We may have to indulge in it, but we should not confuse ourselves about its usefulness.

Cards on the Table

One way in which estimates have grown more sophisticated deserves special mention, strong endorsement, and even more attention in the future: that is the laudable practice of leveling more with the reader on questions of methodology and our own confidence in certain estimates. I am not talking about the *words* we use for expressing degrees of probability, whether we conclude that something is "probable," "unlikely," or "almost certain." These terms are essential tools of the trade, available to all in a well-defined glossary, accepted and used by most writers and readers, and already the subject of several scholarly articles in this journal. To gain common agreement on the meaning of these terms has been no easy achievement, but it has now largely been done.

What I am applauding here is rather the practice of saying more about sources and methods, what can be expected of the evidence, and—more importantly—what cannot. To do so is to tread on delicate ground. There are many who feel that intelligence loses potency if it hints at the mysteries behind its findings, and the subject is apt to be particularly touchy in National Estimates, since any comment on the strengths and limitations of sources or methods tends to be translated into favorable or adverse reflections on some particular contributing agency's present and potential importance. Anyone who has participated in an estimate on strategic warning or concealment and deception will recognize the symptoms, but they are not confined to these subjects. Obviously there *are* distinct limits on how far one ought to go in telling all. Security and the "need to know" principle obviously impose distinct limitations. In many cases the whole story about sources and methods would also be tedious to the reader, and it is often unnecessary to an honest and useful paper. But it is also often quite relevant to giving the reader a sophisticated understanding of what he can rightly expect and what he would be foolish to count on.

We were probably pushed or pulled into being more forthcoming on this score than we might have volunteered on our own. Ten or fifteen years ago intelligence did go about its business—including estimating—with a propensity for the mysteries of the priesthood which has since diminished. The collective "we believe," as it appeared in the earlier estimates, had an aloof and oracular tone which has undergone subtle changes in recent years. I have a feeling that the propositions which it introduced were put forward in the fifties with less fear of contradiction or challenge than in the period since.

Perhaps the chief reason for the change was the new style of foreign and defense policy-making introduced by the Kennedy administration and still carried on. Broadly speaking, two things happened simultaneously: intelligence was taken more seriously than ever before as a continuing and responsible contributor to decision making; and it had to come down from the mountain and engage more vigorously in asserting and defending its judgments in strenuous debates before some very tough-minded audiences. The process was marked by much closer communication between intelligence producers and users, each became more familiar with the other's needs and assets, and estimates were geared more closely to practical problems in their scheduling and subject matter. All very fine, flattering, and generally beneficial—but it cost something.

The price was that intelligence lost something of its former mystery, autonomy, and immunity. Oracular assertions were out, argumentation which marshalled data was in. More and more technical experts lined the walls at meetings on increasingly complicated questions—and we would have been lost without them. Formal, published NIE's were preceded, accompanied, and followed up by a great deal of less formal

paper and a lot of informal talk. Judgments could no longer be made, published, and filed away until next year; they came under constant scrutiny and had constantly to be defended or modified in the light of an increasing flow of intelligence. Information about U.S. policy plans was made available to intelligence to a degree previously unheard of, and estimates took cognizance of this in various ways. In the prevailing atmosphere, a few extreme heretics were heard to challenge the first premise of all—that policy-making and intelligence were, or should be, separate and distinguishable functions. The translation of some former intelligence officers into high policy positions seemed to add force to the radical new winds of opinion.

I suspect that some of the more drastic efforts to remodel the whole system in the early sixties will, in time, be seen as excessive reaction to some previous rigidities and excessive compartmentation. Intelligence and policy-making are likely to remain distinctly separate functions—with accompanying differences in perspective and a certain amount of intellectual and bureaucratic tension between them, some of it wasteful, some of it creative. But our particular professional world will never be quite the same as it was before. Having experienced the joys and sorrows of a more direct and responsible role, of seeing the product sold to sophisticated customers in a competitive market, few members of the profession would willingly return to the mysteries and immunities of an overcompartmentalized Olympus, even if they had the option. And they don't.

Aspects of geographic intelligence in action.

LANDSCAPE ANALYSIS

Arthur R. Hall

In the highlands of North Vietnam the road south to Mu Gia Pass threads its way upstream along a narrow, steep-sided valley. To the left rise dog-toothed limestone peaks, to the right is a flat-topped plateau. Dense tropical rain forest covers the entire area, almost frustrating aerial observation. The road is carved out of the steep hillside, for in most places there is not enough room for both road and stream in the constricted bottom of the ravine. At the pass itself there is (or was) a North Vietnamese army barracks. Beyond the crest of the pass the road descends into Laos and branches eventually into several alternate roads that run southward through the Laos panhandle, where tracks and trails lead back east into Vietnam.

This complex of roads, part of the so-called Ho Chi Minh Trail, has been a principal supply route for the Communist forces in South Vietnam. In early 1966 its most vulnerable section was the stretch of single road through this narrow valley, for at that time there was no feasible alternative nearby. Bombs dropped accurately in the defile could create landslides, blocking the road. Bombs had been dumped on the road network south of the pass but had not impeded the traffic to any significant extent. In February 1966 a geographic intelligence officer wrote a report on the vulnerability of the valley road to Mu Gia, and a month later, during the briefing of a policy officer, he pointed it out again. Soon thereafter the road was bombed and the Communists were forced to divert considerable manpower to reopen it. The bombing may or may not have been the result of this particular intelligence tip, but the sequence does illustrate the work of the intelligence geographer.

Problems and Products

Geographic intelligence, as practiced in CIA, is concerned with analyzing the distribution of things on the earth's surface as they relate to the formulation and execution of U.S. policy. The surface in question, the landscape, is in reality a zone extending upward from

the actual land or water surface far enough to include the factors of weather and climate that influence man's activities and extending also below the surface as far as man's activities extend. The objects of interest in the landscape may be physical, biological, or cultural, but intelligence analysis of the landscape would be pointless if man himself were not the most important object. The landscape elements chosen for analysis in any particular case are those bearing on the intelligence problem at hand. Our Vietnam specialist knew about the physical landscape along the western border and he knew about the cultural features, the roads and the truck traffic passing over them. Of more importance, he analyzed them in the light of the operational problem: "Here to the north of Mu Gia Pass is the best choke point for interrupting the traffic."

The end product of the geographic analysis is normally a written text, perhaps accompanied by maps that illustrate or elaborate upon the text. Or the map may itself be the end product—a landscape description in representational form, wherein the analyst's skill is reflected in the selection of things to be represented, the proper location of these things, and the relative emphasis given each element within the whole. When foreign maps are used as sources of information the analyst may have to acquire some special knowledge of the mathematical and cartographic techniques used in preparing them; thus geodesy, gravimetry, and mapping as practiced in foreign countries fall within the purview of geographic intelligence. Since the landscape in one region of the earth varies from that in others, most intelligence geographers sooner or later become regional specialists.

The problems presented to the intelligence geographer fall into three broad categories. The first is characterized by questions of what one can do or see in a given landscape: problems of penetrating into, living in, or retreating from the region; and the identification of intelligence targets. The second category embraces political issues in a landscape setting: questions of national sovereignty and international boundaries; national or tribal loyalties of populations; identification, control, or use of natural resources; the potential of a region as related to political choices; and the intended use of a region by some particular group. The intelligence geographer's work in the first category constitutes, in general, a service to operations and in the second, in general, a service to policy formulation, although this distinction is not always clear-cut. The third category is that of cartographic problems: the correct identification, classification, and location of objects

and the preparation of maps as end products; and these maps may serve either operational or policy support purposes.

Operational Support: By Region

Support for operations may take the form of general descriptive studies for entire countries or large regions, or it may consist of detailed studies of small areas or selected landscape elements. Perhaps the best-known general descriptive studies covering entire countries are the geographic sections of the National Intelligence Surveys. The purpose of these is to evaluate the landscape from the standpoint of conventional military operations. Several other series of country or regional studies evaluate it for purposes of unconventional warfare, paramilitary operations, and clandestine operations.

During a quarter-century of war, cold war, and counterinsurgency it has been necessary to view the landscape of a fair portion of the world from the standpoint of the downed airman or the covert agent. These men need to know how to travel cross-country on foot in unfriendly territory, living out-of-doors if necessary, and avoiding or limiting any contact with the population. They need to know the answers to such questions as:

> What is the best route on foot through the mountains? Where are the lowlands too boggy to travel? What plant and animal life will furnish subsistence? What plants are poisonous, what animals dangerous? How deep is the snow, and how long does it cover the ground? What populated places should be avoided? What population groups are likely to be friendly to the illegal traveller? How can a man dress and act to be inconspicuous in a crowd? What isolated hill areas or deep forests should be chosen for hiding out? How efficient are the security forces in the area?

A series of country or regional Evasion Geographies was produced by CIA geographers in the 1950's to provide basic information of this type for air crews. This early series has been updated or supplemented in recent years by a new series of Escape and Survival reports designed for pre-mission briefing of either air crews or surface infiltrators.

Another series of country studies in which geographers have been heavily involved, Handbooks for Special Operations, treat elements of the landscape and related factors to be considered in planning and

appraising the feasibility of counterinsurgency, civic action, and similar operations, primarily in the underdeveloped countries. A joint product of several CIA components, each study treats in considerable detail the following subjects: physical geography; population, including ethnic and tribal groups; sociological factors such as housing, education, and health; politics and government; economy; transportation and telecommunications; possible operational targets; security forces; and survival factors.

Close-Ups

In contrast to the broad, sweeping view of the landscape in these studies is the close-up picture of selected areas often required in support of clandestine operations. Those planning the infiltration or exfiltration of agents have needed studies of routes for covert cross-country movement to a coast or to a selected point on a border. In the earlier years of the Iron Curtain, border-crossing studies were prepared that described the fences, watchtowers, and border security forces as well as the terrain, land use, and settlement patterns in boundary areas of East European countries. Support to paramilitary operations has included the description of transportation or industrial targets vulnerable to sabotage and the selection of drop zones, hide-out areas, and routes by which a team could reach the targets.

The intelligence geographer is often required to provide an area description in support of an intelligence collection effort against a particular target. Typically the target is a military/industrial complex in an urban area. An analysis must be made of the urban area as a whole, its size and function as a trade, transportation, and industrial center, as well as of the target complex proper—its product or function, its over-all importance in the urban scene, its physical location, and the names of the streets leading to it. Information on travel by bus, train, or taxi—route numbers, times of arrival and departure, stopping points, and fares—is given. Observation points from which the target installation may be viewed are usually designated. Security measures around the target are indicated. Quite often the study also includes an inventory of other points of operational interest in the city or surrounding countryside—police stations, army barracks, railroad stations, government or party headquarters, hotels, cafés, public monuments, and tourist attractions. In short, the study constitutes a Michelin guide for the gatherer of intelligence. If the gatherer is an electronic device instead of a man, its case officer will need information on the environment in which it is to operate, including such factors as climate, ocean currents, high points and depressions on the land surface, and the rock structure of the site.

Identifying Targets

The geographic intelligence officer is often called upon for assistance in determining the identity or location of intelligence targets. Sometimes it may be a question of predicting the location of an installation in advance of its construction, as it was with the Soviet and Chinese Communist missile test sites. When the Soviet Union embarked on its ICBM and IRBM development programs in the mid-1950's, the need to locate the test sites and ranges became urgent. By applying assumed criteria for site selection the positions of future sites were predicted with reasonable accuracy.

In 1955, when Kapustin Yar was the only identified missile test site, a preliminary geographic report suggested three other potential sites and ranges. A more elaborate study was prepared in 1957, using criteria for selection laid down by the Guided Missile Intelligence Committee. GMIC[1] specified that: ICBM test ranges would have to be 3,000 to 5,500 nautical miles in length and IBRM ranges from 800 to 1,600 miles; the hazard to population would be high within a radius of 25 miles of the launch site and within 125 miles of the impact area; terrain flat enough for an airfield and monitoring instruments at each end of the range would be necessary; the range head must be near a railroad and accessible to shipments of missiles, component parts, and fuel supplies; to avoid foreign detection the sites would probably have to be 500 miles (later changed to 400 miles) from unfriendly territory; a water supply sufficient for 2,000 to 10,000 persons employed at the range head would be necessary; and severe climatic extremes would have to be avoided. Using these criteria, the analysts selected four possible ICBM launch areas in addition to Kapustin Yar, two of which proved to be reasonably close to locations later identified as ICBM test grounds. They also suggested the possibility of an IRBM range extending southeast from Kapustin Yar to the vicinity of the Chinese border; this had the orientation ultimately confirmed in the somewhat shorter Kapustin Yar—Sary Shagan ranges.

In selecting possible missile test sites in China, in 1958, it was assumed that the Chinese Communists would not be capable of producing an ICBM in the near future and would concentrate on missiles in the short-, medium-, and intermediate-range categories.

[1] Later, with the inclusion of "astronautics" in its charter, to become GMAIC.

Otherwise the criteria for selection were much the same as in the USSR. The China report limited the area of probable missile development to the arid, sparsely populated zone south of the Mongolia-China border, extending from the eastern edge of Inner Mongolia westward to the USSR-China border. Within this zone 15 possible test sites and ranges were selected, six of which were judged suitable only for missiles of no more than 400-mile range. The Chinese Communist missile program is still in the early stages of development, but the location of the one test site thus far identified—at Shuang-ch'eng-tzu—was predicted with almost pinpoint accuracy in the 1958 report.

Target identification and location of a different type was required during the Cuban missile crisis in 1962. Once the Soviet missiles in Cuba had been identified by air photography and collateral information, the prospect arose that missiles and other hardware might be hidden from observation in some of the island's numerous caves. CIA geographers identified and inventoried about 500 caves of such potential use and distributed a file of data cards on them to the intelligence community.

Policy Support: Peoples and Boundaries

The subject matter of landscape analyses done in support of policy formulation is almost as varied as the problems requiring U.S. policy decisions. Some of the most long-standing and recurrent themes are those concerning boundaries and national loyalties. U.S. government interest in these matters dates from the foundation of the republic. Our early concern with determining the boundaries of our own country was followed by interest in helping solve Latin American boundary disputes. During World War I the group of scholars known as the Inquiry studied ethnic and nationality distributions in Europe preparatory to fixing new boundaries in the postwar settlements.[2] Similar studies were made by geographers and others in the State Department for the treaties following World War II. In the postwar period the United States has of necessity been concerned with some of the boundary disputes inherited by newly independent states and with the tribal, linguistic, and religious diversities that cause internal strains in the underdeveloped countries. Even in Eastern Europe, where boundary disputes are quiescent, resurgent nationalism has again brought the problem of minorities to the fore.

The intelligence geographer's contribution to the illumination of ethnic problems is illustrated by the case of Cyprus, where Greeks and Turks until recent years lived intermingled in a fairly uniform three-to-one proportion over most parts of the island. When the tension between the two ethnic groups erupted in bloodshed in late 1963 and U.S. mediators were trying to bring about a settlement, intelligence geographers were asked to evaluate several proposals. Alternate partition schemes were considered from the standpoint of how much of the population would have to be relocated, the amount and quality of agricultural land that would have to be exchanged, and the possibility of an equitable distribution of mineral and water resources. Proposals that Greece annex Cyprus and cede to Turkey portions of Western Thrace or some of the Aegean Islands were also evaluated. The still unsettled conflict has brought about a higher concentration of the Turkish Cypriots in several places on the island.

The need for information on the high, rugged border area in dispute between India and Communist China was the occasion for a series of analytical reports in 1954, 1959, and 1962. This is one of the few remaining border regions of the world where over extended areas no boundary acceptable to both parties concerned has ever been defined by treaty and demarcated on the ground. The geographic reports described the physical character of the area, the inhabitants, transportation, military dispositions, and the overlapping claims of the two contestants. They pointed up the lack of a clear-cut case for either party in most of the disputes.

U.S. success in working with the Meo tribes of Laos in counter-insurgency operations a few years ago stimulated interest in the possibility of making similar use of minority groups elsewhere. A requirement was laid on the geographers for a survey of those parts of the world where tribes with paramilitary potential might be found. After a general survey, studies on various tribal groups in Southeast Asia and Iran were undertaken in greater depth. Information was supplied on the culture and economy of each tribe, the terrain of its home base and areas of migration, its power structure and the relations among its subgroups, its relations with the central government, and its potential as an ally or enemy.

A somewhat different type of study of a local population, undertaken to help determine the advisability of a special intelligence collection

[2] Set up in late 1917 on the initiative of Colonel Edward M. House, this group worked until the end of 1918 at the American Geographical Society in New York. AGS President Isaiah Bowman, who later became president of the Johns Hopkins University, was its Executive Secretary. Its principal members went on to serve as advisors to the U.S. delegation at the Paris peace conference.

activity, was a collation of data on guerrilla activity and Communist zones of influence in Colombia. These zones are generally in the wilder, more inaccessible parts of the country, where the population is poverty-stricken and dependent on a subsistence agriculture. The report detailed conditions and current guerrilla activities in the different areas.

Intelligence geographers have on a few occasions been asked to evaluate areas proposed for relocation of refugees. After the flight of anti-Castro Cubans to Florida there was a proposal that some of them be resettled in the Bahama Islands. The requested geographic feasibility study painted a gloomy picture of the possibilities: the Bahamian economy could not absorb a significant number of refugees, the cultural differences between Cubans and Bahamians would make integration difficult, Bahamian labor unions would object to the competition, the existing racial differences in the Bahamas would be exacerbated. The resettlement idea was soon dropped.

International rivalry over utilization of a natural resource is occasionally the subject of analysis of policy purposes. One such report reviewed the conflicting plans of Israel, Jordan, and Syria for using the waters of the Jordan River.

An Eye on the Soviets

The developing Antarctic landscape has been watched continuously for over a decade because of uncertainty about the ultimate intentions of the Soviet Union in the region. U.S. and other Western officials interested in Antarctica were concerned in the 1950's lest the USSR advance a claim to sovereignty on the continent and establish a military presence there. In February 1957 an intelligence geographer, reviewing the establishment of Soviet stations in Antarctica and Soviet plans to participate in the International Geophysical Year, came to the conclusion that the USSR's immediate intentions were more scientific than military, although the scientific findings could eventually improve Soviet military capabilities in Antarctica, and that the Soviets would probably exploit their activities to demand a voice in any settlement of territorial claims. He correctly forecast that they would continue and expand their efforts after the termination of the IGY in 1958, and he advocated an exchange of U.S. and Soviet scientific observers at their respective stations on the continent to forestall any attempts by the USSR to conceal its activities or findings.

This idea of mutual inspection was embodied in the twelve-nation Antarctic Treaty of 1959, which placed the question of territorial claims in abeyance and emphasized scientific endeavor. It provided for the exchange of observers among the stations of all the participating countries. Since the treaty came into force, geographic analysis has continued to follow Soviet activities as revealed by the U.S. observers and other sources and to suggest further objectives of the U.S. inspection program. Continued monitoring of the Soviet scientific program in Antarctica should shed light on Soviet future intentions, especially on the sensitive question of mineral exploitation, and provide a yardstick for measuring the USSR's compliance with its treaty obligation to share its findings with the world scientific community.

Soviet compliance with treaty obligations comes into question, of course, in regard to other treaties or proposed treaties, for example the proposed ban on underground nuclear testing. If a treaty prohibiting such testing is ever concluded, or even in the absence of such a treaty, it becomes of importance to inquire which parts of the USSR might be used for clandestine underground tests. To assist this inquiry an analysis was made of the geographic conditions affecting underground testing. It was pointed out that along the mountain rim bordering the country on the southwest and south there are salt deposits, caves, and deep mines in a zone of high seismic activity. Large underground cavities are therefore located or could be constructed here for nuclear explosions that could be passed off as natural seismic disturbances.

Another problem, that of air access to West Berlin, became acute in 1962 when Soviet planes began to harass Berlin-bound Western aircraft. It appeared that the Russians were attempting to whittle away Western rights in the air corridors over East Germany and were laying the groundwork for giving the East Germans control of the traffic. A geographic memorandum produced at the request of the interagency Berlin Task Force reviewed the legal and historical basis for Western rights to air access and discussed the means available to the Soviets and East Germans to interfere with the traffic. A later memorandum presented the same type of information for rail, highway, and canal access routes.

The Intelligence Map

For areas as thoroughly closed to Western intelligence as the interior of the USSR and Communist China, the analyst of the landscape makes a major contribution by simply giving the correct identity of objects and their location in relation to other objects. This is the purpose of the map program producing the Special Intelligence Graphic (AMS Map Series 1505). Undertaken jointly by CIA and the Defense De-

partment, the program is designed to produce up-to-date detailed maps that summarize available information on objects of military and intelligence significance. The sheets of the overall series are at the scale 1:250,000, but larger-scale sheets are produced for areas of special interest. Over 20 percent of the USSR is covered at present, along with small portions of China. Complete coverage of the two countries by 1971 is planned. The intelligence targets covered in the Soviet Union to date include ICBM facilities, space probe activities, surface-to-air missile launch complexes, urban-industrial complexes, naval facilities, nuclear energy complexes, and biological-chemical warfare test areas.

Source Problems

Anyone who undertakes to write about a landscape should ideally have had some on-the-spot experience with it, but this ideal is not always attainable. Large areas of the world, including countries that are of prime U.S. intelligence interest, are closed to the intelligence geographer. It would be as much a rarity for a U.S. geographic intelligence analyst to visit Kapustin Yar or Magadan as for a U.S. current intelligence analyst to interview Premier Kosygin. If his country of prime interest is not a denied area, the intelligence geographer may have lived or travelled in it before joining the intelligence fraternity, or he may make short area familiarization trips on the job, or he may spend some time in areas analogous to denied areas (the tundra of the Canadian Northwest bears a family resemblance to the tundra of Siberia). These experiences are of course quite useful. One intelligence geographer, for instance, travelled along the back roads of the southern Sudan near the Congo border during an area familiarization trip, taking many pictures and making detailed notes. Later, when arms were being supplied to warring factions in the Congo by way of the Sudan, the information he had acquired became highly pertinent for finished intelligence production. By and large, however, the intelligence geographer's job has to be done at a desk some thousands of miles from the area about which he presumes to be an expert.

The indirect sources of information available to him are nevertheless increasing in volume and to some extent improving in quality. In addition to classified raw intelligence reports, unclassified printed material is growing in quantity even for the closed areas. Aerial photography, which serves to a degree as a substitute for and an extension of on-the-ground observation, has always been relied upon heavily. In the near future a new group of techniques for remote sensing of the environment may become important for geographic intelligence. Airborne infrared imagery is already proving its worth as a supplement to aerial photography, enabling the analyst to detect nighttime, and some invisible daytime, phenomena on the surface.[a] Devices for measuring radiation in yet other portions of the spectrum, as in the ultraviolet and the radar bands, are also being developed. Although of increasing value for the earth sciences, including geography, these techniques need further testing and critical examination before their value for intelligence is assessed.

The increasing mass of data becoming available through old and new techniques may turn out to be a curse rather than a blessing unless it can be properly manipulated and analyzed. The problem of orderly storage and retrieval of the incoming information has yet to be solved. For the increasingly refined photography and for the products of remote sensing, moreover, correct models of "ground truth" will have to be devised before interpretations can be made with confidence. Sophisticated techniques and source materials may aid in interpretation, but in the future, as in the past, the chief reliance will have to be placed on the talent, training, experience, and even intuition of the individual geographic intelligence officer for a correct understanding of the landscape.

From the foregoing it should be evident that the analyst of the landscape does not deal with a set of intelligence problems exclusively his own. He looks at many of the same problems that confront the case officer, the analyst of current events, the economic analyst, the national estimator, or the scientific/technical analyst, but he looks at them from a different viewpoint. If any essential elements of the problem relate to the distribution of things on the earth, here is grist for the intelligence geographer although other analysts may be dealing with other aspects of the problem. He relies heavily on graphic materials, but a particular set of tools or a particular set of techniques is not his hallmark. The earth-related view is his unique contribution to intelligence analysis.

[a] See the second article in this issue.

Simulation of assumed enemy effort to plot Minuteman silo positions.

SPY MISSION TO MONTANA

Walter W. Romig

As the flight out of Salt Lake City headed northward toward Butte and Great Falls, the three of us viewed the desolate salt wastes and changing surface patterns below with due geomorphological respect but also with some apprehension. Our mission during the next ten days would take us into the equally strange and sparsely settled terrain east of the Rockies in Montana where a Minuteman missile complex was being installed. We were about to undertake a ground survey of Minuteman sites, making hurried observations with small geodetic instruments such as a covert agent might use to ascertain more or less precisely their locations.

The time was late in July of 1962, shortly before the first missile was placed in its silo east of Great Falls. The world had already heard the USSR's trumpeting of the "pin-point accuracy" of its ICBMs "anywhere in the world." In fact, it was important then, as now, for the Soviet as well as the U.S. missilemen to identify, assess, and if feasible reduce the many sources of error and uncertainty that make it quite impossible to achieve "pin-point accuracy." One uncertainty that can be responsible for an appreciable part of a missile's miss distance concerns the precise position of the target on its local geodetic datum.

The locations of topographic and cultural features in any area of interest can ordinarily be obtained from existing large-scale maps, say the standard U.S. topographic map series at scales 1:62,500 and 1:24,000. Missile launch sites, however, are purposely excluded from these. The Soviets, consequently, though they presumably have in hand the best large-scale maps and geodetic data covering the United States, can obtain the coordinates of missile sites only by determining, through photography or direct observation, their positions with ref-

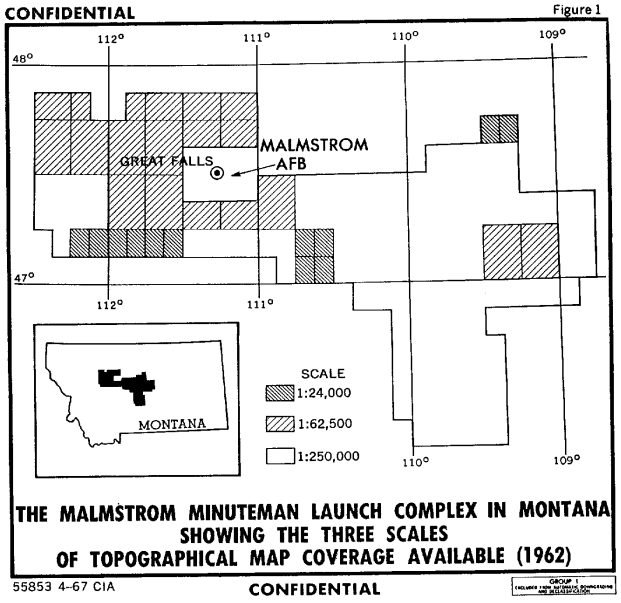

FIGURE 1

erence to neighboring features that are shown on the maps.[1] Our simulation of possible clandestine field observations was intended to reveal how well the USSR could by such means place the sites on U.S. maps and so determine their coordinates on the North American Datum of 1927.

[1] They could also get the boundaries of the sites by searching county title records and then locate the silos within these boundaries by observation or by obtaining the engineering drawings for the installations (marked merely Official Use Only). Experimentation with this method yielded results within about the same range of accuracy as the field observations herein described. But it seemed a method less likely to be used in view of the risk of agent exposure, since such a search of land records would be reported by the county to the Air Force and the searcher subjected to investigation.

Official Help

The survey by our three-man team, two from CIA and one from Army Map Service, had been laid on by agreement between CIA and the Strategic Air Command and 341st Strategic Missile Wing at Malmstrom Air Force Base near Great Falls. On arrival at Malmstrom we reported to the Deputy Commander of the Site Activation Task Force and discussed with him and a few other officers of the command our planned procedures. Only a few at Malmstrom were witting of our mission, and the simultation of covert activity called for us to avoid recognition and to rent a car in Butte to use during the survey.

The Boeing company, the prime contractor for construction of the complex, was still mainly responsible for security; none of the sites had been officially turned over to the Air Force. We were briefed on the security measures in effect. It seemed quite probable that our unscheduled and furtive use of surveying instruments in the vicinity of the sites might arouse someone's suspicion to the point of challenge. Just what the security response might be was both of special interest to the Air Force and of personal concern to the three of us. At least we were given badges authorizing our presence around the complex that we could use in the event of detention by local police or Boeing security patrols.

The Malmstrom Minuteman complex embraces an area of more than 6,000 square miles in central Montana, from 60 miles west to 120 miles east of Great Falls (see Figure 1). The land surface within the area is generally rolling and unforested, with scrub-covered buttes on the horizon in the west. The complex was planned to accommodate the deployment of 150 missiles in hardened silos; these were grouped into 15 flights, each having 10 missile sites situated around a control center. Individual sites were spaced five to eight miles apart and connected by underground communications lines to their control centers.

We were offered a preliminary reconnaissance by helicopter over portions of the complex where we planned to make observations. We accepted on the grounds that this would give us no real advantage over a Soviet agent, who could use the commercial flights in and out of Great Falls which traverse the launch complex at fairly low level. The air reconnaissance proved very helpful in showing us some

standard characteristics of the sites and enabling us to anticipate some problems we would encounter in making observations from roadsides in various types of terrain.

Some characteristics stemmed from criteria used in the original selection of the sites—proximity to well-surfaced existing roads, remoteness from populated places, and suitability of soil and terrain for deep construction. They were often on low hills below the crest, for drainage and perhaps some blast protection. They were generally 100 to 200 feet from existing roads in order to minimize new road construction, but in several instances the access roads were more than 500 feet long. The curves in these had to be of large radius to accommodate the missile delivery van.

The sites were all two to three acres in area, rectangular with the longer dimension running north and south, and fenced against human or animal intrusion. The arrangement of the concrete emplacements within the sites was uniform at all, with the silo to the south and west of center. A conspicuous feature was two commercial power poles, one carrying a large transformer, at the edge of each enclosure (see Fig. 2).

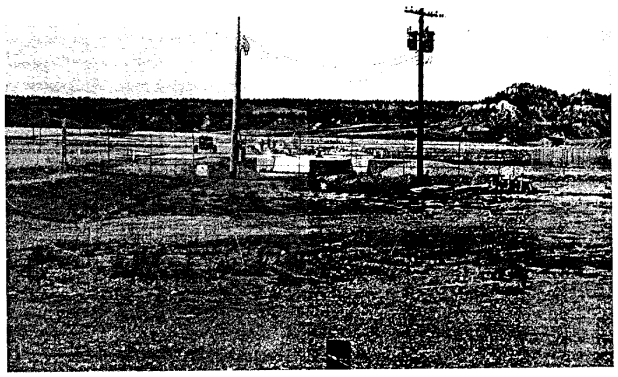

FIGURE 2. A typical Minuteman site, uncompleted, as viewed from the roadside. The transformer pole is often discernible from several miles away.

The Survey: Planetable

We began our field survey on the day after the helicopter flight. In the course of eight days we traveled about 1,500 miles in our rented car and made observations at more than 50 sites, concentrating on those that were farthest along in construction. We estimated that a sample of this size would be large enough to determine the error characteristic of different methods of observation and different scales of map. Small portions of the area had been mapped at 1:24,000 and perhaps a third of it at 1:62,500 (one inch to the mile), but the largest scale available for the remaining two-thirds was 1:250,000. Our two independent methods of observation were, first, using a telescopic alidade and planetable to draw lines of position, and second, measuring bearing angles with a Brunton compass from observation points referenced by readings from the car odometer. Two of us worked with the instruments while the third man drove the car, made odometer readings, took photographs of the sites, and kept watch for approaching cars.

The telescopic alidade is essentially a small telescope mounted on a parallel straight-edge, by which the line from observer to sighted target can be marked on a map on the planetable. We decided to make it a consistent practice to sight upon the transformer pole whether at short or long range, since other features of the site were often hidden by intervening terrain. The car was slowed down as we approached a site to give us time to select favorable observation points. These had to be identifiable on maps—preferably road intersections, stream or rail crossings of the road, or junctures between a section line and a road, but sometimes points fixed by odometer readings from such junctions. At a typical observation stop the planetable was quickly set up by the roadside, leveled, and aligned with the road so that the map on it was correctly oriented. After a careful sighting upon the transformer pole, a line of position was drawn on the map through the observation point.

At least two such lines of position were of course required, from different observation points; generally three or four were obtained for each site unless intervening terrain cut off further possibilities. The fix determined by the intersection of the lines of position was always plotted in the field before leaving a site. When there were only two such lines, odometer readings and a visual estimate of the distance from the country road to the site helped in plotting the fix.

The alidade method worked satisfactorily with maps on the plane-table at scale 1 inch to a mile or larger. The observer always found it frustrating when the best available map was at scale 1:250,000.

We took reasonable precautions to avoid suspicion. We did not refrain from making observations in front of a site just because men were at work there on the surface, but we tried to limit our time at any observation point to ten minutes, and we always waited for an approaching vehicle to pass us before getting apparatus out of the car. Local inhabitants were curious at times about what we were doing there, possibly more because of how it might affect them and their land than in suspicion of subversive activity.

The Brunton Compass

This instrument is a pocket-sized transit equipped with a compass needle and a circular scale for reading horizontal angles, that is the bearing of any object on which it is sighted. Our observations with it entailed much the same procedures as with the telescopic alidade except that the raw data—angle measurements and position determinants—taken in the field were not reduced until weeks later after our return to Washington. The Brunton was attached to a collapsible tripod and carried assembled in the car. At identifiable roadside stops it would be set up and leveled and then usually sighted successively upon the transformer pole and a remote segment of the road. The angular difference between the road and pole bearings, later laid out from the road on a map, would give a line of position for the pole. Usually more lines of position were obtained by this method than with the telescopic alidade. The Brunton was used at all stops and was particularly suited for close-in observations from points on either side of the access road. At distances greater than a mile the sighting was too uncertain to be reliable.

Although most of the Brunton measurements were thus of angle differences independent of magnetic declination, some, for instance when road bearing was equivocal, were based upon compass direction at the point of observation. The magnetic declination in the area could be read from maps, and the value applicable at any point could be obtained by interpolation. This value, moreover, was regularly checked along long straight stretches of road.

Angles were measured on the Brunton to the nearest half degree. Setting up the instrument, sighting it, and recording the angles required between five and ten minutes. Because it was most effective at close range, this method required more odometer readings than the telescopic alidade. Odometer readings, interpolated to the nearest fifty feet, were taken at all road intersections in the vicinity of a site, at stream crossings, and at the point in the county road directly in front of a site. The odometer had been checked for accuracy between roads of known one-mile separation.

Evaluation

At stops for food and lodging in the course of the eight-day survey we ran several times into members of the Air Force's 1381st Geodetic Survey Squadron. (Not wishing to be queried regarding our activities, we refrained from conversation with them.) They were engaged in making a precise geodetic determination of missile site locations relative to the North American Datum of 1927. Geodetic control had previously been extended to the general vicinity of the sites from existing triangulation points by the U.S. Coast and Geodetic Survey. As the sites neared completion the 1381st GSS was extending the horizontal control from the nearest C&GS triangulation points to the axes of the silos.

The official determination of the geodetic coordinates of the silos was thus made by the 1381st GSS, and it was with their results that we would compare our own in order to ascertain the errors in our hasty observations. This comparison could not be made until months after our return to Washington, when we had completed our plotting of fixes for the Brunton observations and the 1381st GSS had completed its data reduction for the sites we visited.

Inherent errors in the maps contributed a substantial portion of the error in our fixing of site locations. All maps, regardless of scale, contain cartographic errors. Symbols are exaggerated to achieve legibility; the crowding of symbols in congested areas necessitates some shift from true position; and every measured distance is affected by draftsman's skill, by paper shrinkage, and by alignment of the printing registry. Cartographic error runs to about 300 feet on well-made maps at scale 1:250,000 and to 75 feet on those at 1:62,500. Of other major sources of error, we calculated inaccuracy in plotting fixes, also dependent on map scale, at about two-thirds again as large as cartographic error, 125 feet at scale 1:62,500. Observational errors probably ran another 125 feet regardless of map scale.

The deviation in the geodetic positions of the silos as determined by our survey from those determined by the 1381st GSS was as follows for areas mapped at the two principal scales (this total error is not

the sum of contributions from the various sources but the square root of the sum of their squares):

	Map Scale 1:62,500	1:250,000
	Error in feet	
50 percent assurance (half of all fixes within this range of error)	200	600
90 percent assurance (nine-tenths of all within this range)	365	1,100

The observational component of these ranges of error could without doubt have been considerably reduced by repeating observations many times and averaging.

The Brunton compass method gave slightly better results than the telescopic alidade. Certainly the Brunton seemed, because of its compactness, ease of operation, and easy concealment, more like the kind of instrument that a covert agent would employ.

In estimating Soviet capability to position U.S. launch sites by such methods, there are other considerations that have to be taken into account. We found that many new roads had been constructed in the area, not shown on the latest printings of U.S. topographic maps. The covert agent would have to have some knowledge of geodesy and mapmaking to assimilate such recent changes. By and large, however, a Soviet clandestine surface operation, by making repeated observations, should be able to locate the sites within approximately the magnitudes of error indicated above.

Our field trip ended without mishap. Although we thought on several occasions that our car was being followed, no one ever stopped us for questioning. The fact that the contractor still had responsibility for security in the area, with the primary concern of protecting his materials from theft, probably accounted for our being unmolested. As our plane headed eastward from Great Falls at the end of the survey, a fellow passenger, an employee on the construction project, remarked that several people down there at the sites had been shot, presumably because the local inhabitants sometimes resented intrusions on their property. This information vindicated, as the last missile site dwindled from our view, the premonitory sense of danger with which we had approached the ten-day Montana venture and left us relieved that our survey was over.

Conclusions from the case of Miao Chen-pai.

A CHINESE DEFECTS

Fred A. Markvart

On 26 July 1966 Miao Chen-pai, a 30-year-old assistant in the commercial office of the Chinese embassy in Damascus, was busy with a caller at lunch time. The fact is, he had purposely timed an appointment with a Lebanese merchant so that he would still be tied up when his colleagues in the commercial attaché's office left for lunch at the embassy building. They would bring him back a snack, as they usually did in such circumstances. Miao had found a loophole in the tight Chinese personnel security system.

After saying good-by to the merchant, Miao went to his room in the same building, unlocked his closet, and took out a small suitcase in which he had packed most of his clothes and personal effects. Donning his suit coat, he went outside, carefully locked the door of the commercial office, and began the 7-minute walk to the American embassy. There he presented himself to the receptionist, saying in English, "I have something very important which I wish to discuss with the American political counselor. I am from the Chinese embassy." Within two minutes he was making his plea for asylum to two officers of the political section.

Motivation

Miao's decision to defect was sparked by no climactic event or personal problem. He was in no sexual or financial trouble, had three years yet to serve in Damascus, got on smoothly with his coworkers and supervisors, and enjoyed a faultless reputation in his mission. He was a former navy officer and a ten-year party member. He was bright, reliable, and efficient in his work. He was well regarded by his boss the commercial attaché, and he was something of a pet of the ambassador, who frequently used him as interpreter because of his near-flawless Arabic. With his party membership, class background, and professional expertise he could look forward confidently to a successful if modest career with the Ministry of Foreign Trade, in which alternate overseas and home tours might

eventually lead to a section chief position in the Ministry. He was making a good living, in Chinese terms, enjoyed a position of respect and trust, and because of his rather ascetic personal tastes had no hankering for the material advantages of the West.

His initial disillusionment with Chinese communism stemmed from the period of the Great Leap Forward. An intelligent man, he concluded soon after the movement began that it was a catastrophic mistake. Not the mistake, but the leadership's failure to indulge in any self-criticism after its de facto abandonment of the Leap led him to conclude that there was a dual standard of communist virtue, one for the leadership and another for the led. The party's hypocrisy—the gap between theory and practice—was, then, what started his progressive disaffection.

What carried it on was the thought supression and constant political indoctrination of the system; he gagged on the pabulum that was supposed to nurture his political growth. He was still a reasonably reliable party member with no idea of defecting when he left China on his first overseas tour in August 1965. But further exercise of thought control within the Damascus mission and the suggestive opportunities provided by service abroad gradually had their effect. As embassy "study sessions" mounted to over 25 hours per week with the advent of the "cultural revolution" in May 1966, he began weighing seriously the pros and cons of defection. By early July he had made up his mind and started his detailed preparations to escape.

Earmarks?

How could we have spotted Miao as a potential defector? He is confident that we couldn't have. He gave no hint of his plans to anyone, continued diligent in his work and in study sessions, and was careful in his final letters to his mother and girl friend in China to betray no sign of his intentions. The system had taught him to keep close-mouthed and rely entirely on his own resources. Had he received a defection-inducement letter even in his last week, he says, he would unhesitatingly have reported it to his superiors. Had he been approached by anyone—Chinese, American, or Arab—without the most convincing bona fides, he would similarly have reported this. Yet during the same week he was taking advantage of the free time in embassy discussion sessions after he had delivered his own speeches to think out the precise steps of his defection!

Miao might be considered a psychological rather than ideological defector. He did not reject communism as a political system for China

or as a way of life for others, only for himself. He does not think his dissatisfaction with the communist system a rarity among cadres overseas, but he adds significantly, "Personality has a great deal to do with what one does about it." He regards himself as independent-minded and willing to take considerable risks to preserve his right of intellectual privacy. He recognizes that his desire for privacy and distaste for the enforced group activity of a collectivist society are unusually strong: in the Foreign Trade Institute he would try to discourage classmates who insisted on joining him when he had planned a solitary walk, and if he was unable to talk them out of it he would give up the plan and return to his room alone. "I'm no monk," he explains, "but there is a part of everyone's life that has to be lived privately." He does not think, however, that this individualistic tendency would be evident to an outsider, earmarking the potential defector.

He did agree that our most likely Chinese defector candidates would come from among the lower-ranking, junior cadre who had less personal stake in their present careers and whose better education would give them greater confidence in their ability to make their way in the West. He also recognized that a lack of strong ties to family members left in China would facilitate a decision to defect.

He himself, like most previous defectors to us, had no strong family ties. He had left home at the age of 13; his father was dead, his mother retired from school teaching. While in Damascus he had written once a month to his mother and to a girl with whom he had a vague understanding about future marriage. He had written an older brother, the only other member of his family, only twice in all. The looseness of these ties probably accounts for his rationalizing that his defection will not adversely affect his family. He recognizes that it would not be a good idea to write to them now, but he feels that the regime will take no drastic action against them.

Choosing a Haven

Miao was unequivocal in his reasons for selecting the United States as his preferred safehaven. First, it was an enormously strong country where his safety would be guaranteed. (This same thought has been uppermost in the minds of all Chinese defectors who have walked into U.S. installations.) Second, although he had only the haziest notion of the American political system, its ideology had been presented to him as the polar opposite of communist China's; since

he found China's totally incompatible with his needs, therefore, it seemed logical to try the opposite.

He had an early and dim favorable impression of Americans received second-hand through his father, a secondary-school English teacher who had been acquainted with some American missionaries, but this vague impression was of no consequence. The regime's anti-American propaganda had worked effectively on him, he declares, and he had a generally bad stereotype of the United States and of Americans when he walked into our embassy. His reception there, the official treatment he has had since, and his limited contacts with ordinary aspects of American life have all come as pleasant shocks to him.

He deprecates the material attractions of American life for him. "My living was not so bad," he says, "and I've never wanted to be a millionaire."

He knew that there were Chinese nationals in the United States but had no idea of the size, composition, or location of these overseas Chinese communities. The question of finding a wife among Chinese girls here had not concerned him; once established, he says, he would be willing to select a compatible mate of any race.

Planning the Break

Miao studied different possible ways of defecting for three to four months before his actual break. His planning was rational and fairly well conceived. As he examined his situation, he saw three possible methods of escaping from the mission in Syria:

The first was to go to the U.S. embassy in Damascus and request political asylum. There was no question in his mind but that the Americans would be *able* to exfiltrate him successfully; he hoped they would put him in a diplomatic car and spirit him over the border into Lebanon right away, before the Chinese mission had time to report his disappearance to the Syrian authorities. (It did not occur to him that the United States would report his defection to the Syrian government and request its acquiescence in his removal.) His only doubt concerned U.S. *willingness* to accept the prospect of a further deterioration in the already cool U.S.-Syrian relations over a rather low-ranking Chinese defector. He reasoned, however, that "they accepted Tung Chi-p'ing in Burundi"[1] and decided that they would probably accept him.

[1] For a sketch of this case see *Studies* IX 4, p. 22 ff.

If he were turned away from the American embassy, he decided, he would next apply at the Italian embassy. It was nearly next door, and Syrian-Italian relations were so nominal that there was unlikely to be any popular outcry if the Italians exfiltrated him. He did not seriously consider the British embassy; it was too far away, and the British diplomatic tie with China might be an obstacle to accepting Chinese defectors. In retrospect, however, he feels that he would probably have approached the British if turned down at the American and Italian embassies. He had determined, if denied asylum in the West, to try first the Yugoslav and then the Soviet embassy; he believed on the basis of study-session propaganda that the "revisionist" missions would probably accept him, and while he could not hope to get to the United States through their doors, asylum in any country was better than returning to China in disgrace. Life in Yugoslavia or the USSR was not an attractive prospect for him; he doubted that they were "revisionist enough" to satisfy his hopes for personal freedom.

The second plan he considered was getting one of the Arab merchants he had met in the course of official business to help smuggle him over the Lebanese border. He focused particularly on an expatriate UAR national who, after his business in Egypt had been nationalized, had fled with some capital to Lebanon and now, established as a trader in Beirut, had major business interests in Western Europe. Miao thought of sounding him out cautiously on Syrian-Lebanese border-crossing and document procedures and, if the answers indicated that there would be little risk for the merchant in the attempt, then asking to be taken along in his car. He finally rejected this plan on the ground that no merchant could be expected to heed a plea based on humanitarianism or friendship; merchants were interested only in money, and Miao's total available cash amounted to the equivalent of U.S. $37.50.

His third alternative entailed waiting out the anticipated three-year remainder of his tour in Damascus in order to make a break from the mission the night before his departure, when he would have for the first time both his service passport and a valid Lebanese transit visa in his possession. Having fled the mission, he would flag a taxi for the 2-hour ride to Lebanon, fast enough, he hoped, to be ahead of any border guard alert for him. The drawbacks in this plan were the need for a 3-year wait, uncertainty that his air route home would necessarily involve transit through Lebanon and therefore the Lebanese visa, and worst, the absolute necessity of effecting his break from

the embassy on one critical night; he could not be sure of outwitting the embassy's routine personnel security measures on any given night. He did not seriously consider trying to make a break at the Beirut airport on the way home; he could be sure of neither the attitude of the Lebanese police nor his ability to escape from his escorts.

Knowledge of Prior Defections

Miao had learned through various means of several previous actual or attempted Chinese defections:

(1) Tung Chi-p'ing (Burundi). He had read of Tung's defection in the *People's Daily* and had been told by Ministry of Foreign Trade personnel returning from Burundi in April 1965 that Tung was then in the United States. These MFT people made no pretense that Tung had been kidnapped.

(2) Unidentified officer (USSR). During a May 1966 embassy study session, one of Miao's colleagues mentioned hearing that a member of the Chinese Warsaw embassy had defected with his wife in the Soviet Union while en route by train to Peking. No names, dates, or other details were given, but Miao concluded from the fact that the officer's wife had been stationed in Warsaw with him that he must have been of senior rank.

(3) Fu Tsung (London). While in China he had read a brief item on this pianist's defection to the United Kingdom in "Reference News," a restricted-circulation summary of items from the foreign press produced by NCNA.

(4) Unidentified (Cairo). During the May 1966 study session referred to above an embassy colleague who had previously served in Cairo told how a 19-year-old in the embassy there had fled in about 1961. Speaking only Chinese and unable to make himself understood, he had been jailed by the Cairo police. After two weeks Chinese inquiries led to his identification and turnover to the embassy.

(5) Unidentified (Cairo). The same colleague on the same occasion also mentioned the escape of an "accountant" from the Chinese embassy in Cairo. It was unclear whether this man was ever found again.

(6) NCNA man (Prague). At the same study session another colleague, who had previously served in Switzerland, mentioned a Czech attempt to induce the defection of an NCNA reporter stationed in Switzerland but transferred for hospitalization to Prague. The Czechs were said to have sent him a woman, with whom he fell in love, and to have tried twice to convince him to stay in Czechoslovakia. Although he refused, he continued to correspond with the woman after his recovery and return to Switzerland. The embassy, discovering this correspondence, had him recalled to Peking in 1959. On the way he tried to jump in Prague but was physically restrained by his escorts. He was kept under guard in the Chinese mission in Prague for a month until secure arrangements were made for taking him on to Peking.

(7) Chang Ch'ien-yu (Bombay). Miao read the Chinese version of this trade officer's defection and quick redefection in 1959 in a lengthy *People's Daily* article. Its line was that Chang had gone to the American consulate merely to inquire about a visa for a relative and that once there he had been threatened by the guns of Marine guards and interrogated in an attempt to make an agent of him. Miao thought the visa story a bit fishy, and later he heard from colleagues in the Ministry of Foreign Trade that Chang had actually tried to defect and later changed his mind; he was now undergoing labor reform in China, they said.

(8) Chou Hung-ching (Tokyo). Miao's only knowledge of this case (of the interpreter with a Chinese delegation in Tokyo who climbed the Soviet embassy wall, was turned over to the Japanese, asked first to go to Taiwan, then decided to remain in Japan, and finally chose to return to China) came from a long article in *People's Daily* in 1963.

(9) Hsu Tzu-ts'ai (The Hague). Miao had heard of the attempted defection and subsequent death of Hsu (delegate to a welding conference in The Hague in 1966) from BBC, VOA, Radio Peking, and Jordan radio broadcasts.

In all, Miao thus had some knowledge of about one-third of previous Chinese defection cases, and the bulk of his information came from Chinese sources. He says that while it would be bad form for ordinary members of his mission to take the initiative in raising the subject of defections or to ask questions about them, when the party organization in the embassy set up study sessions on this subject one's personal knowledge of past defectors could be mentioned during the discussions. In May 1966 party members of the Damascus embassy had read to them a speech that Ch'en I had made in February to an

ambassador-level conference in Peking touching on the subject of defection:

> Some would-be defectors have been caught, but some, through defects in our security system, got away. The people who escaped were not always the sons of landlords or capitalists, and we should remember that correct class origin isn't everything; we have to examine more closely the actual political understanding of our personnel. We must put politics in command, increase political study, and master Chairman Mao's thought.

Ch'en also mentioned that not only the imperialists but some revisionist countries as well were actively trying to induce defections among Chinese personnel overseas.

In Miao's case there is thus the double irony that most of his knowledge about the procedures past defectors had used came from discussions designed to discourage defection and that the official remedy for ideological wavering, more study of Mao's thought, was a major factor in alienating him.

Miao says that party discussions of the defection problem emphasize the need for unshakable ideological purity in order to foil the activities of outside "special agents" using money, women, threats, and materialistic lures. Besides the general reading of Mao's works to combat bourgeois thinking, he classifies types of anti-defection effort under three headings:

> Tight physical security controls on mission members,
>
> Frequent emphasis in study sessions on the defects of capitalism and the social rottenness underlying its surface glitter, and
>
> Use of the cases of Chou Hung-ching in Tokyo and Chang Ch'ien-yu in Bombay to dramatize the hostile reception and cynical exploitation any Chinese defector must expect in the West. Miao believes that this line of Chinese propaganda is effective in heightening the already existing fear of the unknown that any potential defector feels. In his words, "The party tells us that Chang was threatened by armed Marine guards in an effort to coerce him into being a spy and that Chou was asked to make propaganda, go to Taiwan, and parachute back into China. Chinese cadres do not want to have guns pointed at them, to be spies, to drop out of airplanes, or to go to Taiwan."

The death of Hsu Tzu-ts'ai in The Hague underlined for Miao the inherent dangers in trying to break away from communist control and the need for careful planning if his own project was to succeed. His knowledge that Tung Chi-p'ing was "living the life of an ordinary man" in the United States was for him the most effective rebuttal to his fears about treatment by the Americans and a very important factor in making up his mind to defect. That this was the only successful Chinese defection to the United States he knew about and that he never heard of it through the Western press or radio broadcasts suggests our inadequacy in publicizing successful defections.

In American Hands

Some of Miao's reflections about his approach to the American embassy and his reception there include the following:

Several times, while passing the embassy by car, he had a chance to case it quickly. The presence of a Syrian policeman outside the chancery gate disturbed him a bit. Did the policeman challenge or register visitors to the embassy? He considered walking into the military annex where the gate was unguarded, but decided not to out of uncertainty whether anyone there would have the authority to deal with him.

He took the Syrian receptionist in the embassy lobby for a uniformed American; he would not have announced his own embassy affiliation had he realized the man was a Syrian. The removal of the policeman and this Syrian receptionist were the only steps he could recommend to improve the embassy's defector procedures.

He was surprised and pleased by his reception. He was taken in quickly, did not have to wait in a room full of curious visitors. The officers receiving him gave an impression of courtesy and competence. He was relieved when an asylum request form in Chinese was quickly produced, for he regarded this as reassuring evidence that we were prepared. With the allegations that defectors are impressed as spies in mind, he asked just one question before signing the request, "Will I be permitted to go to the United States and live as an ordinary citizen?" Assured that he could, he signed unhesitatingly; he had not anticipated that things would go so smoothy.

He was not alarmed when told that the United States was requesting the Syrian government's acquiescence in his removal. He was not sure that his idea of exfiltration was best. Getting him out safely was now the Americans' responsibility and he was confident they could manage it.

He listed three reasons why he had not brought any documents from his mission when defecting. First, he just wanted freedom, not

to hurt the communists. Second, the documents to which he had immediate access, though classified, all dealt with specific commercial transactions between Syria and the national trade corporations he represented, and he thought they would be of little interest to us. Third, he was not certain that the Americans would accept him, and his having taken documents would have compromised him further if he had had to go back.

The Quid pro Quo

The single most useful point brought out in Miao's debriefing about his reception is that he came "prepared to bargain"; he was therefore a potential turn-around for penetration of his mission. What is important here is not that we may have missed an opportunity in this case, but rather that Miao's attitude confirms our belief that traditional Chinese concepts of mutual obligations and mutual benefits are still very much alive and can be exploited to turn defectors around. This vulnerability was probably what made Miao reluctant to admit that he had considered what we might demand in return for exfiltrating him; you don't show a hand not called.

In planning his approach, Miao reasoned that even if the initial reaction to his request for asylum were no, he could discuss with the embassy officers the conditions under which they might say yes. With the limited means at his disposal, he had researched the legal aspects of defection fairly thoroughly. He consulted a book on international law in his mission's library and found that the granting of asylum meant that the granting government undertook to guarantee the petitioner's safety and livelihood. He thought these substantial benefits must entail some corresponding obligations, and these he could discuss with the embassy to reach a mutual understanding.

Since Chinese propaganda stressed that the Americans would try to turn would-be defectors into spies, he thought "Well, what about being a spy?" and turned for reference to a Chinese reprint in his mission library of the Soviet Information Bureau book on CIA, *Caught in the Act*.[2] Here he read that the CIA pressed refugees and defectors into working as translators, propagandists, radio announcers, refugee relief office employees, spies, and parachutists. This gave him to reflect that the U.S. government was a large and varied organization with many different jobs for people of different talents, and that reasonable men could be made to see that returning a man like him to China was both impossible and useless. Implicitly, he was prepared to discuss anything short of that.

The idea, however, that he might have been asked to return to his mission quickly, cover his absence as best he could, and work out his passage to America with a year's service there he says simply never occurred to him: the Soviet book said that CIA always seizes its prey first and only afterwards forces the victims to its uses. What if this proposition had been put to him? "The first thing I'd have done was look at my watch; if I had time to get back, I would have considered it. But I would have argued that I had locked the door to the commercial office, and though I might have explained being locked out to my colleagues, there were the really serious problems of my clothes and my suitcase. How could I explain to my colleagues that I had taken, quite unusually, my suitcoat? And if I left the incriminating suitcase at the American embassy, how could I later explain its loss and the loss of my other two suits?" What other arguments would he have used? "I would have stressed the danger and difficulty of finding a later chance to break away, doubt about my ability to endure another year under communist control, and the limited value of any information I could furnish."

To Turn or Not to Turn

Every officer faced with the decision of whether to try to turn around a defecting Chinese official will be faced with arguments similar to these. Routine Chinese personnel security practices virtually guarantee that every Chinese walk-in will arrive at a U.S. installation agitated over his safety, full of single-minded concern for getting away to a safehaven, and with very little if any time left in which his absence will not be noted or can be plausibly explained. This situation, plus the probability that the walk-in would be aware of previous free acceptance of defectors, would probably necessitate taking a fairly hard line to convince him that he really had to earn his passage. To take such a line risks losing a walk-in who cannot or will not return to his installation on our behalf. And given the effective Chinese use of the Chou Hung-ching and Chang Ch'ien-yu cases in indoctrinating their personnel overseas, we can be sure that the story of an unsuccessful effort to turn a walk-in would be given rapid circulation in Chinese missions abroad (though it might not be believed by those who knew about the acceptance of such as Tung Chi-p'ing or Miao Chen-pai).

[2] Described in *Studies* VI 1, p. 40 et passim seq.

Nevertheless, the importance of effecting penetrations of Chinese missions and the example of Miao's sense of "mutual obligations" argue for adopting selectively a less passive attitude toward Chinese defectors than we have in the past. It is true that time will usually be too short to wrap up the turn-around process neatly. The 20 minutes one can usually hope for at best will simply not accommodate the laying of probably unfounded fears of provocation, the filling out of questionnaires and asylum requests, and a sympathetic listening to the walk-in's pitch, let alone protracted negotiations about returning to his mission and the patching together of improvised communications arrangements.

The essence of what needs to be done, however, is to identify quickly which walk-ins can safely return to their missions, turn these without alienating them, and furnish them with basic recontact instructions. There is no universally applicable formula which will guarantee against a walk-in's rejection of our proposition or the loss of him as a defector; we must be prepared to take these risks. The professional case officer, aware of the limited time he has to work in, will take these necessary steps:

- Immediately after establishing the walk-in's identity and purpose, explore whether the way he made his break would permit his return to his mission. (This basic information must be obtained early, as it will affect the whole course of subsequent handling. If the circumstances rule out a return either unobserved or explainable, there is no point in pushing the walk-in to desperation by trying to turn him; if they do not, every effort should be bent to do so, even if this risks losing him as a defector.)
- Assure him in unequivocal terms of the American government's ability and willingness to guarantee his future safety and livelihood. (This assurance will both relieve his major anxiety and increase his respect for the handling officer's stature, since only an official of authority could give such a guarantee.)
- Without apologies or equivocation, make this offer contingent on the walk-in's returning to his mission for a fixed period of service for us. (No Chinese walk-in will be pleased by this turn of events, and it may be helpful to point out that arrangements for his safe exfiltration will take time in any event and to hint that previous Chinese defectors to us have similarly earned their passage. The basic point, however, is that the Chinese walk-in probably expects a deal, not a gift; his cultural conditioning predisposes him to see the equity of a bargain advantageous to both sides, especially if it is presented sympathetically but authoritatively and with evidence of professional planning to minimize his personal risks therein.)
- Have communications arrangements ready in advance, so that the officer can quickly and confidently (and in written Chinese text if necessary) set forth the mechanics of basic two-way communication between himself and his new agent.

Successful action under this proposal will require planning and thoughtful preparation. Prior consideration of effective arguments for the immediate return of the defector to his office is essential. Chinese-language texts of these arguments and instructions should be prepared for use with walk-ins whose knowledge of foreign languages is inadequate. A suitable accommodation address must be ready. A safehouse address should be ready for the rare walk-in whose duties will enable him to cover brief unescorted absences from his mission for personal meetings. Drop sites or brush contact plans to permit the passing of instructions will be needed in most other cases; and these will require some prior investigation of where Chinese mission members normally stroll on Sunday afternoons, get their hair cut, have their film developed, and so forth.

Guarantees to a walk-in that if he works for us he cannot be forcibly returned to China under escort should often help convince him to turn. These could be credibly given only in countries friendly to the United States. Host-country relations with the United States are carefully followed in Chinese missions, and it is unlikely that a walk-in could be hoodwinked by unjustified claims in this regard. Miao's own listing of countries in which he felt defection would be no problem was nearly 100-percent accurate; only an estimate of his that France would probably accept a Chinese defector for itself but not for the Americans was questionable.

Communications Prospects

Miao affirms that he would have had no trouble hiding secret writing supplies or a miniature camera among his personal effects. He kept his suitcases in a locked closet in his room, and staffers' personal effects were never searched or disturbed. Many members of the embassy owned 35-mm cameras of their own.

Mailing letters to an accommodation address would have posed no problem to any member of Miao's commercial office. Outgoing letters were thrown into a common wire basket, and any member of the office could at any time call the embassy driver and take the accumulated mail to the central post office. The driver stayed with the car on these occasions, so the commercial officer would have had no difficulty posting a letter of his own unobserved along with the office mail. Miao was uncertain whether other sections of the embassy used the same mailing system.

Obtaining privacy to do the secret writing would have posed a greater problem. Although Miao had a number of free hours every Saturday evening and Sunday, he could never have been sure of complete privacy in the room which he shared with another officer, and which other staffers frequently visited. He believed, however, that by pretending to be writing personal letters or taking notes while studying Mao's works he could have covered, albeit with interruptions, the composition of operational letters.

Getting messages in to Miao would have been a more difficult matter, but even here some prior surveillance of the pattern of embassy staffers' activities would probably have enabled us to lay on secure initial communication. For example, the staffers normally strolled on Sunday through the local market on the Street of Congress, providing an opportunity for using a dead-drop or brush contact. Although they sent for nearly all their personal needs to a communist store in Hong Kong, most of them would buy fruit, for example, from the Ismael Fruit Store near the embassy. They had their hair cut at a nearby barber shop, developed their films at one of two local photo stores, and patronized a Syrian doctor. Recruitment of a support agent in any of these establishments would have made it possible to pass written instructions, and the doctor would have provided cover for occasional meetings.

Miao was also one of the few people in his embassy who were allowed contacts with foreigners. (The others were the ambassador, the political counselor, the diplomatic secretaries, the NCNA representative, and the representatives of other Chinese national corporations.) Miao received Syrian and Lebanese merchants in his office and often talked to them alone at some length. He was also permitted to visit their offices, and though he was always accompanied by another mission staffer, this man would often stay in the car or have his own business to transact with others in the office, leaving Miao free for private conversation with the merchant. Recruitment of one of these Arab merchants would therefore have been a means to pass both verbal and written instructions to him.

Defection Inducement

Asked for his suggestions on encouraging dissatisfied Chinese officials to defect, Miao could offer no dramatically new insights or proposals, but his views are worth summarizing.

While he does not completely exclude the possibility that a dissatisfied Chinese might betray some hint of his feelings, he believes this is most unlikely. The system puts a premium on keeping one's true thoughts to oneself and in maintaining at all times the mask of doctrinaire conformity. Thus even audio access to group discussions and private conversations in an embassy would not necessarily lead, in his view, to the identification of the staffer most likely to defect; he may appear orthodox and dedicated even to his colleagues. Miao takes little stock, therefore, in the spotting aspects of defection inducement.

Nor does he think we should spend much time in propaganda attempting to convince targets that communism is bad for China. Such a message is futile for the true believer and unneeded by the doubters, who know more about the shortcomings of Chinese communism than we can ever tell them.

He considers our two main obstacles in defection inducement to be the tight personnel controls on the overseas staff and the inner fears that any Chinese waverer will have about the unknowns he will face in defecting. He believes that the message we should try to get across is simply the assurance of a friendly reception and of a free, stable livelihood in the safehaven of the United States for those who make the decision to break away. Recognizing the importance of his own knowledge of Tung Chi-p'ing's defection in overcoming his fears, Miao has been quite willing to have his defection publicized and has skillfully emphasized in several press interviews his satisfaction with his life here "as a means of overcoming the anxieties of my former colleagues." Portions of a letter he drafted at our request addressed to his former colleagues in Damascus illustrate this theme:

> You are surely anxious about my fate. When I made this decision, I also had a good many anxieties. I was afraid of the American Government utilizing me and threatening me. I was afraid that I wouldn't be able to get a stable life . . . But I can joyously tell you that the facts are completely contrary to my expectations. As soon as I reached the American Embassy,

> I discovered that they are prepared at any time to help any person get freedom. . . . All the Americans I have met are extraordinarily polite, extraordinarily friendly. . . . They have sincerely and earnestly helped me acquire personal freedom and have helped me arrange my personal life and career. It has been a period of only a short three months, but I am in Washington going to Georgetown University where I have been formally studying English for more than a month. As for my private life, I already have my own apartment and everything is very convenient. The American government is in the midst of helping me find a job. All I have to do is learn English and then I can be settled down to work. . . . The American government has never demanded that I go where I don't want to go or do what I don't want to do. I am an ordinary person, and they are also ordinary people. Although our language is not the same, it is very easy to understand one another.

How can this message be got to Chinese officials abroad? Miao's preference is through the press and radio broadcasts. He points out that listening to foreign-language (even VOA) broadcasts is encouraged as a way of attaining linguistic competence, yet he never heard of a successful defection to the West in any foreign broadcast. His embassy subscribed to eight Arabic Syrian papers, to the English-language *Daily Star* and *Arabic World* and the French *Orient* and *Le Jour* from Lebanon, and to the Paris *Le Monde*, the airmail edition of the *New York Times*, and the *Hsing Tao Jih Pao* and *Ta Kung Pao* of Hong Kong. These papers were distributed to individual embassy officers who were responsible for briefing their colleagues every morning on the important foreign news of the day. Miao believes that even if a discreet officer decided against reporting an item on a Chinese defector at the daily briefing he would be likely to mention it to at least the immediate members of his office.

While Miao is sure that any prudent cadre would immediately report receipt of a defection letter, he sees some use for this more direct means of getting our message to personnel abroad. The commercial, administrative, and cultural offices of an embassy, as well as the NCNA office, receive a fair volume of correspondence from foreigners, most of it addressed simply to the offices but some to personnel by name. This mail is normally screened by the receptionist or security officer, but in the Damascus embassy there were only five officers, all in different sections, who could read Arabic, and defection letters in Arabic addressed either to them personally or to their sections would probably go right to them. Syrian government censorship of such letters could be avoided by placing them directly in the mail box at the main gate of the embassy, where the mission received most of its newspapers and some of its mail.

Miao also sees some limited role for foreign agents with access to embassy staffers. While he recognizes the great difficulty of establishing any sort of meaningful personal relationship in this way and the bona fides problem in using such an access agent to deliver a pitch, he agrees that there are useful lines which such an agent could innocently introduce to strengthen a potential defector's belief in his ability to cope with life in the West. Thus praise of his foreign language ability or of his business acumen might be helpful; Miao himself was subjected to this sort of flattery by several Arab traders, some of whom even jokingly offered him jobs in their firms.

Lastly, he even grants a place to the cold approach, if its limitations are kept in mind. He realizes that only fleeting private contacts are possible in places like cable offices, airports, and post offices, and that there are very real problems of shock and bona fides here. He recommends using a Caucasian, rather than an ethnic Chinese, for cold approaches, so that bona fides is suggested at least by face and mannerisms; all Chinese officials abroad, he says, are extremely wary of unidentified Chinese, fearing Taiwan special agents or provocateurs. He believes that we must expect an initial turn-down rate of nearly 100 percent in cold approaches, since our targets live in a milieu that places a premium on wariness and suspicion of outsiders. But the official who turns quickly away or curses the approacher may well be stimulated by the encounter and use the knowledge he gains from it to plan a defection in his own way at his own time. The cold approach can therefore be justified, in Miao's view, as a direct means to insure, when necessary, that a target has the "welcome" message he should preferably receive more indirectly.

COMMUNICATION TO THE EDITORS

Interrogation Simplified

Dear Sirs

You asked me to comment on the article by F. M. Berger, "Control of the Mind," published in the *American Journal of Pharmacy* (March-April 1966) and reprinted in the *American Scientist* (55 1, 1967), whose principal thesis is that the success of communist "brain-washing" and hostile interrogation leading to free confessions is made possible solely by inducing a clinical "state of anxiety" in the subject. Berger cites studies carried out by Raymond Cattell at the University of Illinois to define and analyze the state of anxiety.

First I consulted Ludwig D. Phillips, chief instructor of an operational interrogation course which deals in the use of pragmatic expedients to secure admissions and information from people. Mr. Phillips has had years of interrogation experience, including the use of the polygraph, and his course is an outstanding success. He believes, and I feel sure most experienced interrogators would agree with him, that this article, coming from an author whose experience with interrogation seems to have been largely vicarious, is far too brief and superficial to have any present meaning for the practice of the art. He concedes that it might be interesting and eventually profitable to go deeper and explore this anxiety idea with relation to interrogation and resistance to it thoroughly; but he warns that whoever undertakes that research had better have plenty of money and time, because what you approach in all interrogation studies that go beyond the pragmatic is understanding the nature of man, a thing man will probably not achieve in time to apply to current political problems. Mr. Phillips believes in teaching the practical, tested interrogation expedients and countermeasures without indulging much in speculation as to ultimate whys and wherefores; he rates energetic application ten to one over theorizing about causes in the matter of getting results.

I share Mr. Phillips' opinions except that I think it well worth while for behavioral scientists to continue exploring the higher, more complex pragmatisms related to interrogation and seeking to determine ultimate causes and principles. From my own observations of the interrogation and conversion process and some additive of introspection,

I feel that the explanation of much that mystifies Berger and others about what happened to the victims of the Moscow Trials and those in Koestler's *Darkness at Noon* is the simple fact that the best of men are pretty weak and subject to illusions, delusions, confusion, and moral pressures. There are endless examples. Hitler drove a whole nation into acute paranoia. There has been much talk about that phenomenon's being peculiarly German, but I fear it can occur anywhere and to any nation and is well likely to recur elsewhere in the world from time to time.

One of the delusions men cling to is that they are free of, or can free themselves of, delusions. Berger's last paragraph, in which he suggests that man can free his mind from the effects of anxiety by knowing there is such a thing and then go on to free it from one of its most basic drives, will to power, is in my opinion a reflection of the illusion most of us cherish that we are masters of our fate and in control of our minds.

It is evident that the average person is very strongly influenced by his surroundings and by the norms and mores of those who control his destinies. Consider how men who surely believe they are governed by high principle will evade, back water, and commit intellectual dishonesties merely to please an employer or a colleague, let alone a murderous tyrant who has them in his power. In a prison, furthermore, the environment is strongly suggestive of the idea that the prisoner has done something wrong. The interrogators have strong convictions in the same direction, and these will convey themselves to the prisoner. In addition, the poor diet will diminish his blood sugar supply and have profoundly disabling effects. (See Abrahamson's famous book, *Body, Mind, and Sugar,* on this.) Add to that the strong drive to self-destruction lurking in us, and what is surprising is not that most men readily collapse under even moderate pressure in jail but that so many manage to resist either jail pressures or mass suggestion so long.

People without experience in some of the rawer aspects of life are the ones most likely to be surprised when they see others fold up. I would say Berger is right that there is really no super-mystery about it, but I am doubtful about any all-in-one explanation called "anxiety state." Presumably the people Stalin put on the stand to confess in the Moscow Trials were from the outset not the most stable or intransigent of those he had to choose from. It is not necessary to suppose they suffered "mental disintegration" from an induced sense of guilt and unknown danger. They knew that Stalin would do anything to them that suited him; the threats were realities. They were under enormous moral and mass suggestion pressures. Men with families and friends to consider would agree to play Stalin's game in exchange for the lives and liberty of their loved ones. I believe nearly all of them realized they were confessing falsely—except insofar as they were all in the grip of the mass delusion which is communism—and many must have preferred a suicidal public appearance before the tribunal, hoping the world would understand, to being shot secretly in a cellar.

Berger reassures us that the Papuans of the Waghi valley of central New Guinea have more ulcers and anxiety than civilized man. No wonder. They have deficient diets and a hell of a life, crowded not only with plenty of real horrors but imaginary ones as well. But this doesn't add much to what we know of human weaknesses.

The article leaves moral force out of account. It seems to me that this highly unfashionable factor of zeal and fanaticism has to be considered very seriously in connection with all communist successes, not the least those in the field of interrogation and resistance to it. George Orwell once said that the "secret of power is to believe in your own infallibility and learn from your mistakes." Others have observed that a man's strength in battle is multiplied many times if he is fanatically certain of his cause.

To be certain of any abstraction, however, is to take a long step in the direction of delusion, and Western intellectual man justly fears delusion. Ergo, in the battle with fanatical interrogators, the intellectual is at a great disadvantage. So is a man bereft of convictions. Naturally the poor fellow who has the same convictions as the interrogator (which would include most of those in the Moscow Trials) would be even worse off than the man with none.

In a sense the record of Western intellectuals meekly falling for the most obvious communist tricks and gimmicks thrust forward with fanatic zeal is merely an extension of the phenomenon witnessed so many times among persons under communist control in prisons. Yet certain people, such as Jehovah's witnesses, who are supported by a faith, have proved a tough nut for even communists to crack. The early Christian martyrs likewise bore up steadfastly under the anxiety-producing efforts of Nero & Co. If whatever enables the communist

and disables his opponent in prison is actually the same factor which operates in his favor against the Western intellectual and others in the larger world arena, the interrogation resistance problem and the larger communist problem are not solvable by resolving the clinical "anxiety state"—unless you assume that everyone in the world being suckered by the communists is in such a state of anxiety.

C. N. Geschwind

A wartime photo interpreter/interrogator closes a credibility gap.

THE SELECTIVELY RELUCTANT INFORMANT

A. R. Northridge

Let us begin with the moral of this anecdote. In debriefing an informant, no matter how good his credentials or how high the quality of the information he has provided, one must always take care lest he prove unreliable on some one point, possibly of little significance, for some obscure reason.

During World War II the British had a small military mission in Kunming, China. One of its functions was to serve as operational headquarters for a group of native Thai and Chinese agents, dispatching them on missions into Japanese-semioccupied Thailand and debriefing them on return. Because aerial photographs were helpful in these debriefings and all aerial photography of Thailand was done by the 14th USAAF, the British having none of their own, they often invited 14th Air Force to send a representative with photographs to participate in the questioning. I usually managed to serve as the 14th's representative myself: I enjoyed the hospitality of the British, whose supply of alcohol, locally made, was unlimited and superior in quality to any we could find.

(Also, though it is irrelevant to this story, I spoke Chinese. The British interrogators were generally on very bad terms with their agents. They debriefed in Thai, and since most of the agents spoke Chinese I conversed and commiserated with them in that language, learning much that they claimed not to have told their masters. I never passed any of this information, of value for targeting, on to our allies; we had the only weapons—aircraft—able to attack Thai targets. From the character of the questions the British asked one could only suppose them to have the delusion that one day Lord Mountbatten would stage a triumphal entry into Bangkok, a highly unlikely proposition.)

Prime Source

One day, about a year before the war ended, I received a phone call from the British mission asking me to drop by that afternoon with our large-scale aerial mosaic of Bangkok. The call came from

an RAAF officer, one who had confided to me in private that he was the only gentleman in the mission; he had run a gambling house in Bangkok in civilian life. I inferred from his hints that he had in hand a source privy to much information that the Japanese considered highly classified.

On arrival I found that I had assessed his hints correctly. This was no ordinary agent he had, but a ranking officer of the Thai Air Force who had served as an ally of the Japanese. The colonel had left Bangkok a few weeks earlier, when he concluded that the Japanese had lost the war and he would do well to ingratiate himself with the winners. He had been practically hand-carried to Kunming by a British agent. He was a cultivated gentleman and spoke fluent English, so we had no language problem; as I recall he had taken at least a part of his advanced military training in Britain. By asking him to identify features on the Bangkok mosaic that we already knew about, I was able to test his veracity and knowledge of the military installations in and around the city. He was not accustomed to reading aerial photography, but he was a first-class source; after several years of wholehearted cooperation with the Japanese military he knew nearly as much about their Bangkok installations as they did.

I may as well admit at this point that the 14th Air Force never had any success against Bangkok targets. We could reach it only with our B-24s. We rarely had enough gasoline to send a group mission that distance, and when we did we preferred to use it against targets of a higher priority. Moreover, when we did attack Bangkok, it seemed the gremlins inevitably intervened and we sprayed bombs all over the city without hitting any military targets. This debriefing of mine was therefore on the futile side, but I did it conscientiously, with professional thoroughness. It went as well as it could possibly have until, methodically covering the mosaic, we came to the southern suburbs and to a petroleum refinery there. When I asked the Thai its capacity and present output, he assured me that it was not in use and had never been occupied by the Japanese.

Blind Spot

These assertions, made in the blandest tone and with no change in the manner of his discourse, were belied by the photographs before us, which showed the plant's chimneys smoking, railway cars on its siding, and what looked to be a tanker at a buoy on the river nearby. It was obvious to the least skilled photo interpreter that our informant was prevaricating, and it seemed important to find out why. I refrained from comment on his statement and moved to another part of the mosaic, and then to another. After a bit, I asked him where the warehouses were that the Japanese used to store the industrial alcohol they collected up-country and moved thru Bangkok in quantities, mainly to power their motor vehicles. His response was quick and detailed, and he volunteered that these warehouses would make excellent targets for the 14th, the first such suggestion he had offered. So his fib about the refinery on the other side of town could not be laid to general pyrophobia.

When I had finished with my questions, I paused for a moment and then observed that I had never seen Bangkok from the ground. It looked to be a beautiful city. I intended to visit it as a tourist when the war was over. The colonel's response was what I had hoped—a hearty and sincere invitation to stay with him any time I came to the Thai capital. I thanked him deeply; and then, as casually as I could manage, I asked him what part of the city he lived in.

A slim, brown finger came forward and a well-polished nail touched the mosaic for a moment and slowly withdrew. I looked where it had rested. There was a park-like estate with extensive lawn and gardens and a large mansion partially hidden in a grove of trees. It was so situated that the overs from any proper bomb run on the refinery would fall in his front garden if not on his front steps or the roof of his home.

INTELLIGENCE IN RECENT PUBLIC LITERATURE

FACING THE BRINK. By *Edward Weintal* and *Charles Bartlett.* (New York: Scribner. 1967. 248 pp. $5.95.)

The first chapter of this book states a thesis which the authors promise to develop in subsequent pages. It is the tired old cliché about how U.S. foreign policy is opportunist, reactive; how the other fellow always has the initiative, how even in the matter of the Berlin, the Cuban, and some of the Southeast Asian crises the planning was "hasty, pragmatic, operational"—more "in the nature of a fire-fighting exercise than a long-range campaign of fire prevention." Then follow ten chapters, some of which support the thesis, some of which shade it, and some of which seem to deny it. But the thrust of the book is, on balance, that effective planning is the rarity, not the rule, in foreign policy matters.

This generalization is designed to serve, perhaps for the Kennedy administration, certainly for the Johnson. The authors purport to illustrate it by specific reference to critical moments in the Cyprus, Yemen, Cuban, and Vietnam situations and in our relations with De Gaulle, and passingly by reference to half a dozen other moments of tension in our foreign relations since 1961.

That the time span which envelops this slap-dash selection of excursions to the brink coincides exactly with Mr. Rusk's tenure at State and largely with President Johnson's at the White House is no accident. One of the leitmotifs which threads through the book and even dominates two of its chapters is the derogation of the way in which this Secretary and President have conducted the nation's foreign policy. They are the baddies whose ineptitudes are glaring and whose example may set the stage for the final miscalculation—the bumble and stumble into nuclear holocaust. Incidentally, there is no evidence, in the book at least, that either granted the authors an interview.

But our country is not wholly lost; there are some men of talent in the executive branch who also work the foreign affairs account. No question but they are the goodies; if we do not go up in the mushroom cloud it will be because of them. One cannot escape the feeling that some of the goodies were also the confidential witnesses and that the award of the merit badge was not altogether unconnected with a person's willingness to testify.

As to any other evidence of solid and systematic study of U.S. foreign policy, there isn't any. No thoughtful reader will get very far into this book before he recognizes it for what it is. The purely adventitious nature of its content, the sloppiness in the use of source material, the outcroppings of obvious hearsay, and the gratuitous and highly subjective judgments combine to make the book a record-breaking two-hundred-page Washington gossip column.

Why should such a book be reviewed in this publication? There are two reasons and one of them lies in the subtitle, *An Intimate Study of Crisis Diplomacy*. The reader is entitled to a quick guess that any "intimate study of diplomacy" might touch upon the contribution which intelligence is known to make to foreign policy—in both its formative and its operative phases. Many readers of this note have an intimate knowledge of the importance of intelligence in the crises here discussed and scores of others not discussed. It is with a mixed emotion that I now inform them that, except for the chapter on the Cuban missile crisis, there is scarcely a casual reference to intelligence as one of the components of policy and its accompanying diplomacy. As to the role of intelligence in the missile crisis, this has all been set forth by Elie Abel, who could have been the authors' single source for their chapter. No, the "intimacies" of this book are not those of the intelligence business.

But other intimacies there are; and they add up to an appalling revelation of security practice at high reaches of the national government. The old saw about how the USS *Ship of State* is the only floating vehicle that will one day founder because of leaks on its bridge could not possibly be better illustrated—nor more ostentatiously. In fact, as one stands away from this hit-or-miss selection from the log of the ship, one senses not much more than the boastful cry of a couple of Washington journalists who wish to tell the world how clever they are at penetrating the nominal secrets of state. In this elevating exegesis there is a great deal of name dropping and a good deal of allegedly verbatim quotation from documents which were, and perhaps still are, highly classified and laden with sensitive stuff. Presumably these documents are authentic and presumably they were passed. Most startling is the verbatim rendering of some documents from the presidential mail (see the appendix, for example, or the Eisenhower letter to De Gaulle, pp. 101-2). It would be interesting to know who passed them, and much more interesting to know upon whose authority.

This takes me to my second reason. We of the brotherhood come out of this gossip marathon with our anonymity intact. Among the suspected leakers one cannot identify a single intelligence officer.

Sherman Kent

ANATOMY OF THE STATE DEPARTMENT. By *Smith Simpson*. (Boston: Houghton Mifflin. 1967. 285 pp. $5.95.)

This round indictment of the State Department concerns us here only to the extent of its scattered references to intelligence and one chapter devoted to secret operations. But if these are a fair sample of the whole, the author is too fond of his flowing prose, too sure of his quick judgments, and too cavalier with facts. Here is his curious version of the birth of peacetime central intelligence:

> State went through the motions of carrying out the President's directive [to "take the lead" in developing an interdepartmental intelligence program]. A special assistant to the Secretary was appointed . . . An interdepartmental group was created . . . Space was found for some 1,600 persons, including a large number of former OSS staffers. Then the effort tapered off. State could not muster the imagination to use its new resources properly. It could not even provide a hospitable environment. . . .
>
> One by one OSS staff members dropped away. Dissatisfaction spread in the government's intelligence community. The President stepped in, reversed his earlier order and established an Intelligence Authority independent of State [whose] operating arm . . . was a newly-formed Central Intelligence Group . . .
>
> So CIA at its birth was . . . an agency whose very existence attested to the incompetence of the diplomatic establishment.
>
> CIA now got its own intelligence gatherers—i.e., spies—into each of our missions abroad. . . . They reported to their headquarters in Washington in their own code, as a foreign government would do. They played their cards close to their vest. Their diplomatic colleagues in the missions . . . rarely knew what information they were ferreting out. Even the ambassador seldom knew. . . . Since State had made life miserable for the intelligence officers inherited from OSS, the latter, when transferred to CIA . . ., rejoiced in the opportunity of thumbing their noses at their erstwhile colleagues.

When he gets to the 1962 Cuban missile crisis, Mr. Simpson nevertheless divides the intelligence alerting function between State and the Congress, disregarding both Defense and CIA:

> Congressmen . . . find themselves getting clues, hints, information . . . from people who would not venture to share their latest buzz with the Olympian gods of State. As a consequence, a Congressman can sometimes be way ahead of State, as was the Senator who, in August 1962, first alerted

> the country to the existence of missiles in Cuba. State can pride itself on having more information at its disposal than any single individual . . . but it is not the amount of information that counts. It is the quality of the information and . . . what is done with information . . .

This author worries about controls over covert action operations in much the same terms as Wise & Ross did, but he is less careful with the facts than they and less astute in his guesses. He finds the legislative authority for such operations in the "services of common concern" provision of the National Security Act. He twice dates in 1953 Mr. Truman's 1963 proposal that CIA be confined to "its original assignments as the intelligence arm of the President" (though he, or his research assistant, got it right in the source notes). And he has a remarkable explanation for the disavowal:

> It may be that Mr. Truman as President was not fully aware, when he signed the order [sic] establishing the CIA, that he was subscribing to language which carried CIA beyond the intelligence area. He may not have been aware that a Plans Division, to conduct CIA's special operations, was established in 1951 under his Presidency. He may not have known that Allen Dulles came to Washington to be the first director of that division during Mr. Truman's occupancy of the White House. Presidents are busy officials. They cannot keep up with everything.

Anthony Quibble

DEUXIEME BUREAU CONTRE ABWEHR. By *Jacques Abtey* and *Fritz Unterberg Gibhardt*. (Paris: Table Ronde. 1967. 221 pp. 12.50 fr.)

The gimmick for this paperback is an exchange of reminiscences between the two authors—the first a French counterintelligence officer who had caught a young ensign named Aubert as he was beginning to pass the French naval cipher code to the Germans in 1938, and the second the ensign's German handler. Actually, Gibhardt turns out only to have signed the agent on after he walked into the German embassy in Paris, then given him to someone else to handle. The Aubert story is hardly worth more than a page or two in *Parade* anyway, so each author branches out to other cases. Even here Gibhardt doesn't seem to know any of his own; he rehashes the familiar accounts of the Armand net, the Rote Kapelle, the ambivalent behavior and the execution of Admiral Canaris.

Abtey's cases are original, genuine, and told factually, without sensationalizing; but they are mostly run-of-the-mill and not very interesting. Two are a little better: a review of the apparently much-debated 1934 trial and conviction—in spite of strenuous defense argument by Jean-Charles Legrand—of a Captain Frogé for passing classified material to the Germans; and the author's repeated encounters, before and during the war, with the fantastic and adroit adventurer Hans Friedrich Mussig, alias Thomas Lieven, who kept getting into espionage in order to get out of other scrapes. Except for incidental allusions in this latter connection, there is nothing on Second Bureau's doubly clandestine activity after the French defeat.[1]

More striking than the case histories is the magnitude of Second Bureau's prewar counterintelligence effort: headquarters counterintelligence section Germany, in which Abtey was deputy, was headed by a captain, commanding two other young officers and two civilians.

Inquirer

[1] See Philip John Stead's *Second Bureau* (London, 1959), reviewed in *Studies* III 4, p. 95.

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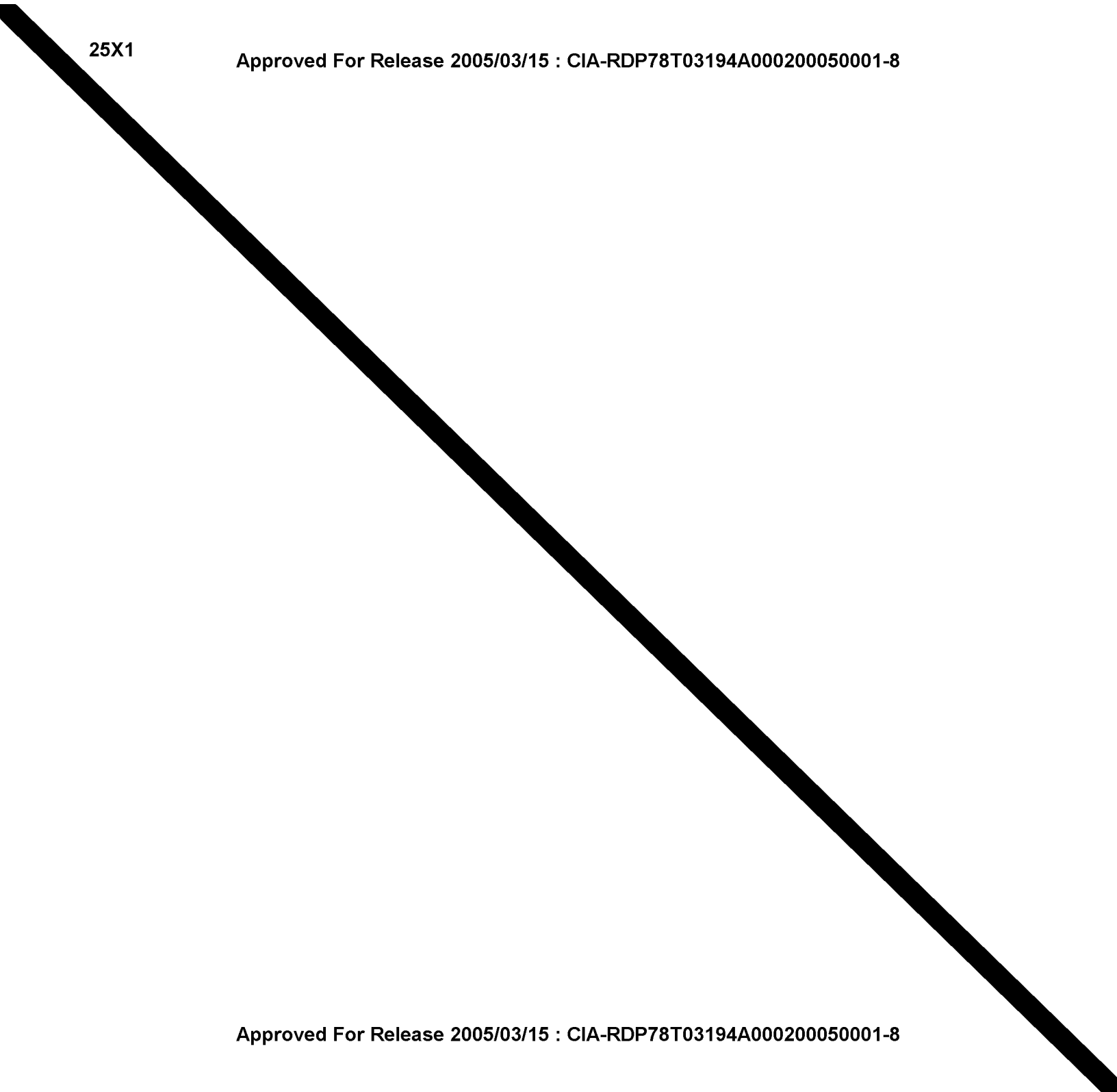

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Experimental application of probability mathematics to predictive intelligence estimates reveals a disciplinary potential.

A THEOREM FOR PREDICTION

Jack Zlotnick

Philosophy, wrote critic and educator Mortimer Adler, is the process of entertaining any idea as merely possible. This act of tentative acceptance is the good beginning in intelligence analysis. The desirable end is a correct evaluation of the several hypotheses' comparative merits.

Seldom is the evidence so determinative as to clinch the case for a single hypothesis. Usually, as it accumulates, it only changes the position of one hypothesis or another on the probability scale. Surprise attack is more likely or less likely today than it was a week ago; a Sino-Soviet break in diplomatic relations is more probable or less probable now than before; it is becoming more doubtful or less doubtful that the Labor government's position against pound devaluation can withstand the next speculative run on sterling.

Since intelligence judgments are so often probabilistic, does it follow that the mathematical theory of probability offers intelligence valid pointers on logical method? Promising research with relevance to this question, some of it government-financed, has been done by psychology faculties in university laboratories. The main aim of the psychologists has been to compare intuitive judgments about hypotheses with the results that would be given by a mathematical model based on probability theory. Borrowing from these experiments, CIA's Office of Current Intelligence in the summer of 1967 designed a mathematical simulation of predictive intelligence analysis in crisis situations of recent history.

The mathematical model derives from an equation, familiar to students of probability theory, named after Reverend Thomas Bayes, who first formulated it in the eighteenth century. The following exposition of Bayes' Theorem does not require mathematical sophistication of the reader; it assumes only that his learning blockages do not include an ingrained antipathy to any kind of numerative idea.

Bayes' Theorem

A good entry point for the discussion is the concept of probability as it is used in mathematics. In the absence of certainty, the probability that an event will occur (or has occurred, if past occurrence is the matter at issue) has a decimal or fractional value between zero and one. Thus the probability is .7 that a red poker chip will be picked in a random drawing from a box containing ten chips, seven red and three blue. A rational gambler would give no more than $7 for a raffle ticket that paid $10 upon the random drawing of a red chip from the box.

In the idiom of wagers, the term odds is often used instead of probability. The odds favoring the random selection of a red chip over the random selection of a blue one set the probability of the first event against the probability of the second. The odds of seven to three in this case are represented mathematically as the fraction obtained by dividing the .7 probability of drawing a red poker chip by the .3 probability of drawing a blue one.

New evidence affects a gambler's estimate of probabilities or odds. Suppose there are two large boxes filled with red and blue poker chips. In one the ratio of red chips to blue is 60 to 40; in the other it is 40 to 60. One of the boxes is set before a gambler, but he is not told which. He can therefore give no better than even money that its color mix is predominantly red or blue. Allow him to draw some of the chips, however, and he will then make a more confident choice between the two color-mix possibilities. The more chips he draws, the better the odds he will offer in favor of this choice.

This is precisely the setting of recent laboratory experiments at the University of Michigan and other centers. College students, serving as the test subjects, were required to give their gambler's judgments of the odds after successive drawings of poker chips, and these judgments were compared with the odds obtained by using Bayes' Theorem.

In more simplified notation than is commonly used in the textbooks, the equation of Bayes' Theorem can be written:

$$R = PL$$

R, standing for revised odds, represents the odds favoring one hypothesis over another after consideration of the latest evidence (in this case, the color of the poker chip most recently drawn). P stands for the prior odds, those prevailing before this evidence turned up. L, the weight of the evidence that changes the odds, stands for likelihood ratio (referred to sometimes in the literature as Bayes' Factor).

The likelihood ratio compares the probabilities of the occurrence of an event under alternative hypotheses. Suppose the evidence in the poker chip experiment is the selection of a red chip on the first drawing. There is a .6 probability of this happening under the hypothesis that 60 percent of the chips in the box are red. There is only a .4 probability of its happening under the hypothesis that the drawing is from the other box, where only 40 percent of the chips are red. So the likelihood ratio for the occurrence of this red drawing is .6 divided by .4, or $\frac{3}{2}$.

The prior odds, P—here $\frac{1}{1}$ for even money—are multiplied by this L to get the revised odds after the first drawing. The revised odds then become the prior odds on the second drawing, and so on. Suppose the gambler draws 12 red and 8 blue poker chips in the first 20 drawings, replacing the chip in the box after each drawing. Calculation will show that he could give better than 5 to 1 odds in favor of the hypothesis that he has been drawing from the box with the 60-40 red-blue color mix. If the first hundred drawings are 56 red and 44 blue he could give well over 100 to 1 odds in favor of this hypothesis.

Significance for Intelligence

He could and he would if he reasoned like a mathematician and had the capital to finance many wagers of this sort. Otherwise he would probably shrink from the degree of certainty implied by such high odds. The students in the University of Michigan experiments did give more confident odds the more drawings they had to go on. They did not, however, move as far from their original one to one odds as Bayes' Theorem would have justified. They did not, in other words, make the most of their inconclusive data. Like intelligence estimators in some parallel situations, they hesitated to move very far very fast from prior norms.

Similar overly conservative estimates were obtained in University of Michigan experiments simulating intelligence analysis. A set of six hypotheses was set before the test subjects—five of different imminent war situations and a sixth of peace. A scenario of events provided successive increments of evidence bearing on these hypotheses. For each increment the test subject gave five likelihood ratios expressing his opinion of how much more likely the event would be under each of the war hypotheses than under the peace hypothesis.

The test subjects of course differed among themselves in their judgment of the proper likelihood ratios. But the most noteworthy feature of the experiment was that their conclusions were not consistent with their own readings of the evidence. Like the subjects in the poker chip experiments, those working with intelligence scenarios were very conservative in their final estimates. When their likelihood ratios implied, according to Bayes' Theorem, odds of 19 to 1 in favor of a war hypothesis, their own blend of intuition and reasoning resulted typically in odds of 2 to 1. When the scenario was changed and mathematical calculations would have given 19 to 1 odds favoring peace, they came up with odds in the neighborhood of 6 to 1.

What Bayes' Theorem thus does for intelligence is to offer a mathematical test for internally consistent analysis. The rigor of mathematical logic is no indispensable aid when analysis is largely deductive, proceeding from such general propositions as "The USSR appreciates how dangerously provocative would be its shipment of strategic missiles to Cuba." The instructed intellect's naked eye, so to speak, is keen enough to follow the thread of deductive thought and to detect the more tenuous strands of the argument.

The case for mathematical assistance is stronger when analysis is more a process of inductive inference, proceeding not from a few general propositions but from many particulars. Mere verbal exposition is then less likely to ensure against fallacy and non-sequitur. Intelligence on such occasions is well advised by Francis Bacon's injunction that "the mind itself be from the very outset not left to take its own course but guided at every step; and the business be done as if by machinery." Bayes' Theorem is the kind of mechanistic aid to the intellect that Bacon here idealized.

Using this aid, the intelligence analyst does not address himself directly to the merits of hypotheses. His procedures for estimation require him to postulate, not debate, the truth of opposing hypotheses. Bayes' Theorem thus helps him get around one of his most troublesome pitfalls—his human tendency to hold fast to his prior estimate when uncommitted opinion would go along with a change. And it helps spare the estimator the labor of fighting other biases besides his own.

The Reliability Problem

In the university experiments the test subjects were in no doubt about the color of each chip they drew; nor did they have to question the evidence set before them in the intelligence scenarios. The CIA experiment, however, incorporated a probability element to reflect the frequent uncertainties in the workaday intelligence world about the accuracy of reports from the field. The result was a modification of the Bayesian equation.

The modified equation was worked out by analogizing from the poker chip experiments. Suppose that the test subject, instead of drawing poker chips out of the box himself, turns his back and gets his information, sometimes accurate and sometimes not, from an assistant. Suppose also that he has some reasonable basis for estimating the probability of correct reporting, perhaps the assistant's past record.

Call this probability of correct reporting the reliability rating. A 30 percent reliability rating would mean that 30 percent of the reports with such a rating are true, in the rater's opinion, and the other 70 percent are false.

False reports are of two kinds. One is bereft of any corresponding fact, the utter fabrication for example. Such a report would be the assistant's announcement of a red poker chip when he had actually picked nothing at all out of the box. If the report has a probability of being false in this sense, the required modification of the equation is only to make the reliability rating (r) an exponent of the likelihood ratio:

$$R=PL^r$$

The second kind of false report is one which deliberately or innocently confuses one event with another, for example the assistant's announcement of a red chip when it was in fact blue. For reports estimated to have a probability of being false in this sense, the required modification of the equation becomes perhaps too involved to explain in a non-mathematical journal, but the mathematics is not really difficult.

The problem of the reliability rating does not enter into all appraisals of evidence. Reliability ratings are unimportant for much of the evidence received through technical collection. Nor are they necessary in intelligence appraisals of propaganda evidence, provided the analysis turns on the reasons why statements were made rather than on their truth or falsity. But the problem may well loom large in the event of garbles from technical collection and in the evaluation of reports received from human sources; and so the analyst must be at special pains to understand the very restricted meaning of the

rating. It is in no way affected by the content of a report but represents only an appraisal of source reliability, insofar as one can be made on the basis of such considerations as the amount of cloud cover in photography or the past record of clandestine human reporters. The pitfall to skirt with utmost care is the reliability rating that is nothing better than the analyst's prejudgment about the hypotheses. If his P or his R, in other words, affects his r, the analyst can find himself in a circular rut from which no mathematics can rescue him.

In real-life intelligence analysis perhaps no analyst can altogether separate his biases about the hypotheses from his appraisals of source reliability. When the credibility of some item of evidence is crucial for final conclusions, therefore, the analyst had best take a detour around the reliability issue. A case in point is the Cuban refugee report that alleges the sighting of strategic missiles near Havana. The intelligence estimator examining the hypothesis of imminent strategic missile shipments from the USSR to Cuba can hardly assign a reliability rating to this report. If he did, he would probably be putting into his analysis a judgment about credibility that is precisely the answer he wants to get out of his analysis.

To exclude altogether this refugee report and others like it from his body of evidence, however, would put the estimator into the untenable position of giving no more weight to a hundred such reports than one. His recourse is to appraise such reports much as he appraises propaganda evidence, eschewing judgment about truth or falsity. His likelihood ratio then represents only his opinion of how much more likely it is that unsubstantiated evidence of this sort would appear under the hypothesis of strategic missile shipments than under another hypothesis. This way out of the difficulty is admittedly not the most elegant of solutions, and possibilities of other methodological options are being explored.

The Cuban Missile Estimate

One test of the CIA mathematical model, a simulation of analysis just before the Cuban missile crisis, has been completed. Two intelligence exercises were simulated. One is an estimative study in mid-September 1962, when a National Intelligence Estimate on Cuba was in fact published. The other is an estimative review as of three weeks later.

The analysis sets up two mutually exclusive hypotheses. Hypothesis one is that the USSR will soon ship strategic missiles (MRBM, IRBM, or ICBM) to Cuba. Hypothesis two is that the USSR will not go so far as to ship strategic missiles, despite the sharp upsurge of military aid to Havana in the summer of 1962. The task calls for estimation of the odds favoring hypothesis one over hypothesis two.

The background of the missile crisis reaches back at least to February 1960, when a visit to Cuba by Soviet First Deputy Premier Mikoyan ended the year of Soviet reserve that followed Castro's seizure of power. In the wake of Mikoyan's visit, several economic assistance agreements were signed and Soviet deliveries of armaments commenced, giving the Cubans armored, artillery, anti-aircraft, and anti-tank capabilities appropriate for defensive and internal security purposes. The Soviets withheld the obsolescent IL-28 jet light bombers and more advanced weapons that it was supplying to other countries.

Up to 1962 more than 200 agent and refugee reports alleged the presence of missiles in Cuba. Aerial photography failed to confirm any of these reports. The Soviet Union to this point had not shipped strategic missiles to any foreign country, Communist or non-Communist.

This background information is useful only for establishing reasonable starting odds. As of January 1962, one to ten odds are postulated in favor of hypothesis one (in everyday parlance, ten to one against it). The mathematical analysis then proceeds to determine and apply likelihood ratios and reliability ratings for the evidence appearing from January 1962 on. This process, carried out in 1967 with the 1962 evidence, produces three to one odds as of mid-September 1962 against Soviet emplacement of strategic missiles in Cuba.

The mathematical calculations of 1967 thus support the estimate published in 1962. They also show, however, that the odds are shifting rapidly in favor of the strategic missile hypothesis. The fall in odds against the hypothesis accelerates, and by the end of the first week in October enough new evidence is in hand to make strategic missile emplacements an even money bet.

The Shape of Evidence

A pioneering experiment is often as interesting for the problems encountered as for the results achieved. The principal technical problem encountered in this test trial with Bayesian method was the

identification of units of evidence. In a poker chip experiment there is no doubt about the unit of evidence; it is the drawing of a poker chip of a particular color. The intelligence analyst, however, receives many reports of events. Can he make each report rather than each event his unit of evidence?

The answer is no; at least it is negative for the mathematical model used in the Cuba test. Other models may be developed, but this particular one can tell only the significance that events, not reports, have for hypotheses. To take reports as units of evidence would overweight events on which volume of reporting is high and underweight possibly more significant events on which it is low.

Several reports about the same event are therefore treated in effect as one, and volume of reporting is reflected only in the analyst's reliability ratings. These ratings represent the probability in the analyst's mind, in the light of all the reports available to him, that his evidence is accurate.

But an event, like an atom, is made up of smaller particles, and the analyst needs to have a working rule of reason to guide him in his segmentation of the evidence. The rule is to combine items of evidence so clearly associated in content that separate appraisals would virtually be double counting. Successive photography showing progress in the construction of a surface-to-air missile site can be taken as a single unit of evidence on the operational status of the site. Broadcasts on the same propaganda theme can logically be counted as one unit of evidence rather than entered broadcast by broadcast into the mathematical processing. The following two extracts from the simulated Cuba analysis illustrate the burden on the analyst to combine his evidence fairly. The italicized head names a unit of evidence; the relevant reports are then described; the unit is appraised and given a likelihood ratio, an estimate of how much more (or less) likely it is that the unit would appear if hypothesis one (strategic missiles) is true than if hypothesis two (no strategic missiles), is right.

Cuban-Soviet Frictions: On 26 March, veteran Cuban Communist Anibal Escalante was ousted from party leadership. Soviet press commentary in April endorsed the removal of Escalante but also called for an end to divisions among Cuban revolutionaries. The commentary emphasized the virtues of collective leadership. The intimation of the commentary was that the USSR was disturbed by the setback suffered by its protégés in Havana.

A June report from clandestine services, originating with a usually reliable Paris source, has Castro saying privately that he wanted to stay independent of the "men of Moscow." Castro reportedly said he felt surrounded by orthodox Communists who would resort to anything to obtain control in Cuba, "even a temporary arrangement with Washington."

Fidel Castro's brother Raul, deputy premier and minister of armed forces, arrived in Moscow on 2 July. He was met at the airport by Marshal Malinovsky, the Soviet defense minister. Raul departed on 17 July without fanfare or final communique. This lack of red-carpet farewell suggested he did not get what he wanted out of the Soviets.

. . .

Simulated Mid-September 1962 Appraisal: These indications of frictions hardly put Cuba in the character of the most reliable of Soviet allies. The frictions are evaluated as unlikely, given the assumption that the Soviets are about to ship strategic missiles to Cuba. On the other hand, the frictions seem little more likely under an alternative hypothesis that assumed sharply expanded military aid of any other sort. The evidence, therefore, carries only slight diagnostic value for contradicting the hypothesis of imminent strategic missile shipments to Cuba.

Likelihood Ratio: 1 to 1.2

Reliability Rating: .8

Hints of New Cuban Capabilities: A clandestine services report in July, sourced to a fairly reliable Cuban businessman with good contacts among Castro adherents, described Cuban naval officers as pessimistic about Cuban capabilities to resist a new invasion. Cuban army officers were said to agree but to feel that the principal danger would be over by September.

In another report, a knowledgeable Cuban was quoted as saying that the US was afraid to interfere with Soviet-flag vessels but "in September the Americans will also respect the Cuban flag."

At one point, the Cuban (Che Guevara according to one account) referred to the NATO nations as a belt of bases surrounding the Soviet Union. He was reportedly "livid" as he added that "in September Cuba is going to be the buckle in this belt."

. . .

Simulated Mid-September 1962 Appraisal: The allusion to NATO bases suggests a development consistent with the assumption of strategic missile installations in Cuba. The allusion could also have been expressed, although less probably, given the assumption of expanded military aid to Cuba that stopped short of strategic missile emplacements.

The accuracy of the reports is open to question.

Likelihood Ratio: 1.5 to 1

Reliability Rating: .5

As these two extracts indicate, the telescoping of reports sharply reduces the number of units of evidence available for mathematical processing. The reduction gravely complicates the analyst's task. The reason is that Bayesian analysis takes off from starting odds which

may be more intuitive than grounded in evidence. If many units of evidence are available, these should in time outweigh the influence of the starting odds. The rub comes when there are not many units of evidence. The prospect is then that starting odds rather than evidence will constitute the predominating influence on the final odds.

The Cuba test suggests that this problem will bedevil intelligence more often than not. Intelligence collection during the Cuban military buildup was massive, but the evidence touched on comparatively few subjects. The opportunities to increase or reduce the starting odds of ten to one against the strategic missile hypothesis did not, therefore, come thick and fast, and an analyst would want to offer his choice of hypothesis with considerable reserve. Perhaps the best he could do would be to say how much the evidence had shifted the odds since the starting date of his analysis. While this interpretation might not justify confident predictions, it could alert policymakers to the implications of recent developments.

Critique

Working with the Bayesian model, intelligence is not a blend of deduction, insight, and inference from the body of evidence as a whole. It is a sequence of explicit judgments on discrete units of evidence. Bayesian analysis can carry conviction only if the evidence itself persuades. The analysis cannot apply the additional dialectic leverage of well-reasoned generalization cast in finely finished phrase.

This necessity to work with a hard base of evidence limits the prospective usefulness of Bayesian method. Current evidence in many situations carries little weight for longer-term estimation. Even for short-term prediction, the base of available evidence may be too small a foundation to support by itself the estimative structure that intelligence must often put together for the high councils of government. A forecast of foreign reaction to a postulated course of U.S. action probably has some evidence to go on but not much, at least not until the United States gets nearer the decision to take the postulated action.

Would it be worth while, then, for estimates of the future to include such an interpretive tabulation of all units of evidence as in the Cuban simulation? There is much to be said for requiring such a tabulation in all cases. Bayesian method is helpful not only for its rules to assure valid induction but also for its duress on the analyst to separate fact from opinion. Even if the analyst does not follow through with mathematical processing, his analysis should be the better for his labor in poring over details of evidence and for the resulting higher level of explicitness in his working materials. Should the tabulation of relevant evidence be embarrassingly short, both analyst and reader are alerted to the weakness of the evidential base and to the pivotal position of a priori judgment in the estimate.

To argue for evidence, however, is to knock on an open door. Everyone would like to appeal to the verdict of evidence. The deep skepticisms are not about the virtues of evidence but about the practicality of representing evidence with mathematical precision. It is one thing to work with probabilities of drawing a red poker chip from a box with a given color mix of chips. Is it not quite another thing to work with likelihood ratios and reliability ratings that are personal opinions about the probabilities? The underlying data in the one case are numerical counts, and all the experts are agreed on the rules for assigning probability values to such data. In the other case, the probabilities are subjective judgments and tentative besides. If the intelligence analyst says that an event is twice as likely to happen if one hypothesis is true than if another hypothesis is true, does he really want that figure to be taken literally? And if he says the chances are only four out of ten that a source is reporting accurately, does he want precisely this opinion about the source and no other to count in the basis of his final conclusions?

The question is almost its own answer. The likelihood ratios and reliability ratings do no more than suggest roughly how the analyst is weighing evidence in his own mind. Mathematical processing in real-life intelligence analysis ought not, therefore, to restrict itself to one set of likelihood ratios and reliability ratings. It should rather involve several passes over the evidence with different sets of figures.

The processing would thus show the sensitivity of final conclusions to variation in appraisals of the evidence. Suppose one or two mixes of likelihood ratios and reliability ratings led to a conclusion that contradicted those given by the other passes over the evidence or that contradicted the intelligence consensus reached by conventional analysis. It should then be incumbent on the analysts to determine the reason for this contradictory conclusion. They might decide in the end to rule against it on the ground that it was based on unreasonable weighting of the evidence. But if they felt the weighting was not beyond the bounds of reason, they might decide to rethink the whole subject.

Mathematical processing will not become an alternative to present methods of intelligence analysis. It will become a reliability check on present methods. It will help show the plausibility of conclusions which the intelligence analyst would not otherwise recognize as compatible with the evidence and his own inner logic. It will tell the analyst: if you interpret the evidence in this way, then here is the conclusion you should probably reach. Often the mathematics will be persuasive.

Traces of the borrowed German scientists combine with other scraps of information to throw light on the USSR's early atomic program.

ON THE SOVIET NUCLEAR SCENT

Henry S. Lowenhaupt

As World War II in Europe ended, the German nuclear scientists, handicapped by insufficient coordination and paltry official backing, were nevertheless only just short of achieving a self-sustaining chain reaction in a heavy-water-moderated pile. They had elaborated most aspects of reactor theory; they knew the best arrangement for the lattice of fuel elements; they had gained experience in the production and casting of metallic uranium. They had prepared detailed designs for two pilot plants for the industrial production of heavy water. They had also experimented with several methods of isotope separation for concentrating the fissile U-235, especially the gas centrifuge method, though none of these had by any means reached the production stage. In short, they had a body of know-how, experimental machines, and basic materials unique outside the United States and Britain.

U.S. and UK forces moved aggressively to prevent the proliferation of this nucleus of nuclear capability. They promptly seized the scientists and materials in their own zones of occupation and snatched some from the agreed zones of France and the USSR ahead of their advancing armies. They even destroyed by air attack the Auer Company plant, in the prospective Soviet zone, that had produced the uranium metal for the German program. They interned near London the ten ranking scientists, led by Professors Otto Hahn and Werner Heisenberg, most directly concerned with the program, and only after Hiroshima did they release them under such conditions that they would not want to go to the USSR.[1]

Scientists Eastbound

Yet the sweep could not be clean. In June 1945 British intelligence reported that Dr. Nicolaus Riehl of the Auer Company had left Ger-

[1] The story of the German effort and its denouement is well told in David Irving's *The Virus Home* (London, 1967), reviewed on page 103 of this issue.

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many for the USSR along with six others who had worked with him on the manufacture of uranium metal. Then four days after Hiroshima word came from London that Professor Gustav Hertz had flown to Moscow four weeks previously and Professor Adolf Thiessen was in a Soviet camp with eighteen fellow workers awaiting transportation to Russia. Both Hertz and Thiessen, though not immediately involved in the German atomic program, were prominent and technically competent scientists who could command the loyalty of other scientists. Hertz, a Nobel Prize winner in atomic physics, had been chief of the famous Siemens-Halske Laboratories since 1934 and had discovered the gaseous diffusion method of separating isotopes. Thiessen had directed the Kaiser Wilhelm Institute for Physical Chemistry and had published an impressive string of important research papers.

From this point U.S. and UK intelligence had the task of trying to follow the incipient Soviet atomic effort, and it was largely the early results of this pursuit, as decribed below, that encouraged the U.S. Air Force to mount a watch for the first Soviet test explosion two years before it was expected.[2] G-2, OSS, and their British counterparts, under the direction of the two nations' atomic authorities,[3] began with a vigorous campaign to discover which Germans had been recruited for this effort and which Russians were doing the recruiting. The

[2] See Northrup and Rock, "The Detection of Joe 1," *Studies* X 4, p. 23 ff.

[3] The intelligence analysis and the general direction of the collection effort in the nuclear field were vested, on the U.S. side, in General Groves' "Manhattan Engineering District" until its dissolution in January 1947, when these functions passed to CIA. In Britain they were performed through 1952 by a section of the Ministry of Supply and, after its formation, the British Atomic Energy Authority. The Supply section was staffed in part by Secret Intelligence Service officers under the leadership of Lt. Comdr. Eric Welsh. See *The Virus House*, cited in footnote 1 above, for Welsh's role in atomic intelligence to the end of 1945.

task was complicated by the fact that the Russians were recruiting German and Austrian scientists and technicians for all sorts of programs; the numbers ran to many hundreds. By the end of the year, however, it was clear that for atomic work well over a hundred technicians were being grouped around a few rather good scientists as leaders.

In addition to Riehl, Hertz, and Thiessen, the group leaders included: Baron Manfred von Ardenne, Germany's foremost cyclotron constructor; Professor Max Vollmer, an outstanding physical chemist; and Dr. Hans Born of the Kaiser-Wilhelm Institute for Brain Research, who had been working on the biophysics of radiation. As for the Russian recruiters: at Leipzig there was a General "Katchkatchian" aided by a Major "Krassin"; a Colonel "K. K." Kikoin at Karlshorst had persuaded Hertz to go; and a Lt. Colonel "Kargin" had handled negotiations with Vollmer. A General "Ivanov," who had had to do with recruitment in Vienna, turned out to be none other than General Meshik, Lavrentiy Beriya's right-hand man.[4]

Many of the German scientists were well enough known that their specialties and skill could be assessed. The intelligence reporting also tended to sort them into groups under the respective leaders. But this did not tell us what each group was to work on in the USSR and where they were to do the work; and that was what we needed to know.

Russian security was initially well below its subsequent standards. By February 1946 the Strategic Services Unit, successor to OSS, was able to report from an agent in the East Zone of Germany that Baron von Ardenne's presumably cyclotron-centered group went to the Crimea in the summer of 1945 and then in October was established in one of the small communities between Anaklia and Poti on the east shore of the Black Sea, about 120 kilometers north of the Turkish border. Another agent reported that Thiessen, Hertz, and Vollmer, as well as Von Ardenne, were on this stretch of the Black Sea coast between Sukhumi and Poti—in ancient Colchis, where the Argonauts found the Golden Fleece. They had reportedly not done any work up to the beginning of November 1945, as housing and laboratories were still under construction. The biophysicists under Born, as well as Riehl's Auer Company group, were left unaccounted for.

[4] P. Ya. Meshik was executed on 23 December 1953. As Minister of Internal Affairs of the Ukrainian SSR, he was charged with being an active participant in the coup attempted by Beriya.

The Russians rounded out their atomic recruitment early in 1946 by assembling a group of German scientists under Dr. Heinz Pose, who had worked on nuclear reactor physics at Ronneburg under the German Bureau of Standards. This particular group had been considered inferior by their more renowned fellows, but in fact they had shown Heisenberg an error in his calculations and thus put the program on the right track towards a working reactor. We had no information on where the Russians stationed these reactor specialists.

Letters and Defectors

At about this time U.S. and UK intelligence stumbled onto the interception of letters from the expatriated scientists as a source of information about their locations and activities which in the end proved far more fruitful than the alternative of penetrating institutes in East Germany. An intercepted letter dated 18 March 1946 from Hertz to his son disclosed the identity of the Russian go-between in Germany as Lt. Colonel "Cedenko," 46 Wassersportallee, Berlin-Gruenau. Then in August and September there was a change in Russian personnel and their address, for Lt. Colonel "Yelan" and Lt. Petrochenko at Buntzelstrasse 11, Gruenau, were handling the mail.

In October Riehl wrote from Elektrostal—a small town about 60 kilometers east of Moscow. Later his location there was confirmed by a March 1947 letter postmarked Moscow from Mrs. Blobel, his secretary, which indicated that biophysicists Born and Karl Zimmer, as well as the Auer Company people, were living 60 kilometers from Moscow. The implication was that the processing of uranium ore and the study of biological effects were being organized in or near Elektrostal while theoretical and experimental work was going on down by the Black Sea.

The Russians had always maintained a security wall between themselves and the East Germans; but after four German atomic scientists who had been to the USSR for job interviews returned to East Germany and defected to the West in early 1947 the rules were tightened up. From then on no East German was ever told anything about German atomic scientists in Russia. All letters from the scientists were strictly censored and bore without exception the return address Post Box 1037P Main Post Office, Moscow.

The Russian assessment was correct: these defectors did possess information of value to us. For instance, Dr. Adolf Krebs had first had interviews in Germany with Colonel Professor "Alexandrow" and a Professor Leipunski. The former was clearly Professor Simon Peter Alexandrov, who represented the USSR at the Bikini "Crossroads" tests in 1946 and in UN discussions on atomic energy in 1947; the latter presumably was A. I. Leipunski, a well-known Russian nuclear physicist. When Krebs was then flown to Moscow (without his consent) he learned that the German groups worked as an independent organization under the supervision of General "Sawiniaki," whose staff of several generals included a General "Krawtschenko." Ungarbled, the boss must be Colonel General Avram Pavlovich Zavenyagin, the builder of Magnitogorsk in the Urals and the Norilsk Nickel Combine in far northern Siberia; he was reportedly head of the secret Ninth Chief Directorate of the MVD and had a General Kravchenko as assistant. Thus the MVD continued into 1947 to play a significant role in the Soviet atomic energy program, even though this had been reorganized in late 1945 as the First Chief Directorate attached to the Council of Ministers under Colonel General Boris Lvovich Vannikov, who had managed Russia's munitions production during the war.

A. P. Zavenyagin

Krebs also reported: that the Hertz group was working on isotope separation problems at Sukhumi; that the Von Ardenne and Thiessen groups were also there, as we had thought; that Dr. Vollmer and several assistants were working at Sukhumi on heavy water production methods, that Dr. Riehl and his group at Elektrostal were turning out uranium metal on a production scale; and that Dr. Patzschke, a former director of the Joachimsthal uranium mine in Czechoslovakia, was head of a group prospecting for uranium ore near Tashkent in Central Asia. The Pose group was presumably somewhere east of the Urals, since in May and June of 1945 this territory had been surveyed, Krebs had heard, as to its suitability for their reactor work.

The news that the Vollmer group was working on heavy water came as a surprise: by this time it was known that a group of Germans under Dr. P. Herold from the former I. G. Farben Leuna plant at

Merseberg in East Germany were continuing their wartime research on methods for the industrial production of heavy water at the Karpov Institute in Moscow. But the Leuna group was administered quite separately from the Post Box 1037P groups, presumably because the Karpov Institute was a research and design facility of the Ministry of Chemical Industry, while the 1037P scientists were administratively under the MVD.

Uranium Production; Isotopes

The year 1947 brought the first real confirmation of the thin information we had about the manufacture of uranium. The UK had managed to learn in 1946 that one ten-ton freight car of uranium ore was being consigned from the Jachymov (Joachimsthal) area of Czechoslovakia to Elektrostal every ten days. The UK had also learned that the Russians were requiring the former Bitterfeld plant of I. G. Farben to set up the production of highly pure metallic calcium at 30 tons per month, enough for the manufacture (by oxide reduction) of 60 tons of uranium metal. Penetration sources had furnished the specifications on the amounts of impurities allowable in the calcium; these conclusively indicated that it was for atomic use somewhere.

It remained for the covert collection arm of CIA to acquire a bill of lading for three freight-car loads of calcium from Bitterfeld consigned to Post Box 3 Elektrostal, Moscow Oblast. This proved beyond question that at Elektrostal there was a uranium factory making the metal in quantity, using methods worked out at least in part by the Auer group under Riehl. Indeed it also forced the conclusion that the Russians were at least attempting to build somewhere a large reactor to produce plutonium for nuclear weapons.

Shadowing the German scientists in Russia, largely through mail intercept, had thus produced information which could form the basis for detailed debriefing when one of them came to the West, while penetration attempts had run squarely into Russian security. It was decided to make thorough preparations, mainly by mail analysis, for the day when the nuclear scientists might return to an area from which they could be defected, even though that day might be years away. Later, in 1951, this concept was extended to all German scientists in the USSR under a program called Operation Dragon. The work settled into a routine in which the (U.S.) Army Security Agency intercepted most of the letters while the detailed collation of the data was performed by UK analysts.

Meanwhile atomic collection proceeded on a broad front. In 1948 former prisoners of war began to return from the USSR to West Germany, and it was soon learned that a number of them had helped construct two institutes in the Sukhumi area, one under Professor Hertz near the village of Agudzeri, the other near that of Sinop, namesake of the Turkish city. The year 1949, if it surprised us with the Soviets' first atomic test, showing that their plutonium production was much farther along than we had suspected, also brought the first of two *Russian* defections which helped the analytical picture immensely.

The first defector was a scientist nicknamed "Gong" who had worked in 1947 at the Institute of General and Inorganic Chemistry under a Professor Dmitriy A. Petrov on a way to make porous metal membranes for the separation of uranium isotopes by gaseous diffusion. A prize of 100,000 rubles had been promised for the correct solution of this problem. In the course of his work Gong had that summer visited Special Laboratory No. 3, located in west Moscow. Here he had spoken to Professor Isaac Konstantinovich Kikoin, Deputy Director of the Laboratory and a corresponding member of the Academy of Sciences. Gong was positive that Special Laboratory No. 3 worked on the separation of isotopes by the diffusion method and on other physical-chemical processes. He had also heard of a Special Laboratory No. 1, location not known to him, and of Special Laboratory No. 2, under the direction of Academician Alikhanov in Moscow. All three Special Laboratories were intimately tied to the First Chief Directorate with respect to work priorities, supplies, security, etc.

Thus it became clear that the Colonel "K. K." Kikoin who in 1945 had recruited Hertz for work on isotope separation methods was the person responsible in Moscow for gaseous diffusion research for the Soviet atomic energy program.

Research papers had been published by Gong's boss, Professor Petrov, in 1947 [5] and 1948 on the subject of "skeleton catalysts." The method of preparing these catalysts was just that reported by Gong for barrier membranes. Interestingly enough, moreover, the pores in the "catalysts" were of a size reasonably correct for a membrane to separate out U-235 by gaseous diffusion.

[5] "Investigation of the Structure of the Copper Skeleton Catalyst," with L. U. Kefeli and S. L. Lel'chuk; Dok. An. 57, No. 6, 1947.

Procurement Abroad

In 1950 the second Russian defector, "Icarus," proved of even more value. As a Colonel of the MVD concerned with supplies, first in the Moscow office of the First Chief Directorate and later at Wismut AG in Saxony,[6] he knew personally many of the Russians involved in the atomic energy program in Moscow and in Berlin. He was aware that General Meshik was in charge of personnel and security for the whole program. He knew that Lt. Colonel (fnu) Sidenko (the "Cedenko" who handled the letters intercepted in early 1946) had been the representative of the Ninth Directorate of the MVD in Berlin in 1945 and that he had been replaced (by August 1946, our intercepts had shown) by Lt. Colonel Elyan (not Yelan, as we had it), who eventually had returned to Moscow to work for the First Chief Directorate under one Dorofeyev, chief of its Supply Directorate. Icarus also reported that a man named Panin ran a warehouse under Dorofeyev known as Post Box 200, Moscow.

Now that we had the correct Russian spelling of the names of the atomic representatives in Berlin, as well as their addresses, it seemed useful to investigate their activities in depth. It soon developed that the Berlin atomic office was always in two sections at separate locations: one handled mail, packages, etc., for the German scientists; the other was concerned with special procurement for the Soviet program. Both sections changed personnel and location approximately every year and a half. Through some rather clever intelligence work against these offices, CIA covert collection was to show in 1952-1953 that they expedited the procurement of several million square feet of very fine nickel wire mesh per year and that at least one shipment of this mesh was flown from Tewa/Neustadt to Panin's warehouse at Post Box 200, Moscow. This clearly established by administrative procedures that the ultimate user was the Soviet atomic program. The technical specifications and amounts of the mesh suggested porous barrier for U-235 separation as the only possible use in an atomic program.

An attempt to learn whether the Bitterfeld plant shipped other atomic materials than the calcium revealed that all shipments now bore only the Moscow address of the main offices of GUSIMZ, the Chief Directorate of Soviet Property Abroad of the Ministry of Foreign Trade. All carried nine- and twelve-digit order numbers and five-digit transport numbers. Surely numbers as complicated as these should have character in the cryptographic sense.

For background purposes, we studied documentation on equipment ordered by the Soviet commercial mission, Amtorg, in New York. Unfortunately, by about the time we understood the ordering system the Russians decided to tighten it up, so that this work was nullified. However, the reporting on Amtorg (by the CIA domestic collection organization) showed that a P. M. Sidenko had had a tour of duty with the mission between December 1946 and June 1948. This man, presumably the same Lt. Colonel Sidenko who was at the Berlin atomic office in 1945 and through July 1946, arrived in the United States during the same month that brought the departure of Anatoli Yakovlev, head of the atomic espionage chain involving Harry Gold and Klaus Fuchs.

Others working with Sidenko on procurement were soon identified: Nikolai L. Artemiev, who visited a plant making geiger counters in November 1946 and who tried in June 1947 to purchase helium leak-detectors used in U.S. U-235 plants; Nikolai S. Sventitsky, co-author of an article on spectroscopy, Artemiev's replacement; and N. N. Izvekov, who was interested in all sorts of manufactures, from heavy construction machinery to fine-woven wire mesh "for electronic equipment." Some three million dollars worth of goods purchased by the Sidenko group was identified as apparently for the Soviet atomic program; it included the machinery for a complete plant for extracting radium from uranium ore wastes. Sventitsky joined Artemiev in London in January 1948 when Sidenko returned to Russia.

Into the Fifties

With respect to the German atomic scientists in Russia the early 1950's was a period of continued information collection and analytical consolidation. Letter intercepts by the hundreds were collected and results collated. Not only the main groupings but interrelationships within groups were studied, with a view to the eventual recruitment of adequate representatives of each group when they were allowed to return to Germany. In trying to determine who was in the Von Ardenne group at Sukhumi, for instance, it was noted that letters (all severely censored and postmarked Post Box 1037P Moscow) mentioning the accidental death of a small child, from playing with matches, came from Becker, Felicitas Jahn, D. Lehmann, Gerhard Mueller,

[6] Wismut AG (Bismuth Inc.) was the cover name for the vast Soviet-run uranium mining operation in East Germany.

Liselotte Steenbeck, Frau Wittstadt, and Dr. Froelich; that an outbreak of scarlet fever was referred to by Felicitas Jahn, Liselotte Steenbeck and Frau Schrottke; that "on Saturday the Bernhardts visited the Schrottkes and on Sunday the Schrottkes visited the Bernhardts"; that the "bull in a china shop" complained about by Bergengruen was identified by Felicitas Jahn as Helmut Hepp.

Such studies had resulted in the identification of the seven distinct groups. The Hertz group was still located in the Sukhumi area, by the town of Agudzeri. The Von Ardenne and Thiessen groups were together at Sinop in the same area. Vollmer's group, no longer with Hertz's, had moved to Moscow, and a POW returnee who had been used in the electronics program confirmed that it was working on heavy water production processes. The Riehl uranium specialists continued at Elektrostal, and Riehl had been awarded a Stalin Prize and made a Hero of the Soviet Union after the success of the test explosion he had helped make possible in August 1949. The location of Pose's reactor group posed a problem; likewise that of the biophysicists under Dr. Born, for they had left Elektrostal in 1948.

Some rather clever analysis by the Directorate of Scientific Intelligence in the UK in 1951 succeeded in narrowing down the location of the Born group to within 20 miles of the town of Kyshtym in the southern Urals. The Kyshtym area was the site of the nuclear reactor which had made the plutonium for the first Soviet atomic device, and the placing of a biophysics group near a reactor site made good sense. The British detection was done as follows.

Born Found

The letters from the Born group described topography, scenery, weather, and temperatures strongly suggesting the hilly country of the Urals. In fact, the heavily censored letters spent so much time on the weather that it was decided to see what could be done with this information. So the weather as described by known members of the group on a given day was compared with weather charts of the USSR for that day, and the irregular portions of the USSR having such weather were highlighted. Once some dozen of these weather overlays had been compiled, it was clear that only one area was common to them all. This was a stretch of the Urals some 100 to 200 miles north and south of Sverdlovsk, with a very slight balance of probability toward the north.

Now an analysis was made of a train trip from Sukhumi to the Born group which a man named Rintelen reported in an intercepted letter: "After the first long train journey, we had an opportunity on the 10th of December from morning till evening to buy warm clothes, travel by underground and bus and to sit in good cafes. . . . In the evening we traveled on again and arrived on the 12th of December in the next large town from here [i.e. from the location of the Born group]. The following evening we traveled a further five hours by train and on the 14th of December we arrived here after a two-hour bus journey . . ."

Rintelen's pleasant stop on the 10th of December must have been in Moscow, for it alone of Soviet cities possessed an underground railroad at that time. There were three trains leaving Moscow on the evening of the 10th for Perm (then Molotov), a likely "large town" on the Moscow side of the Urals. Two were scheduled to arrive early in the morning and one in the evening of the 12th. Why would Rintelen lay over a day in Perm? An evening train heading for the north Urals left there at 1620 on the 12th, arriving at Kizel the five prescribed hours later, so if Kizel had been his destination he should have taken it. Similarly he would not have had to lay over had he been going to the eastern side of the Urals north of Sverdlovsk, say to the Nizhniy Tagil area, for he would have taken from Moscow one of the two trains that get to Perm in the morning so as to catch the 1150 for Nizhniy Tagil and arrive there near midnight on the same day, the 12th. Thus the north Urals did not appear a likely destination, and the "large town" of the layover must therefore be Sverdlovsk (Chelyabinsk lying outside the area defined by the weather information).

The three trains leaving Moscow on the evening of the 10th were scheduled to reach Sverdlovsk on the evening of the 12th (at 1520, 1609, and 1702 respectively). Five trains left Sverdlovsk for various destinations after 1800, so all these appeared unlikely to have been Rintelen's. The two trains per day to Kamyshlov, five hours away, left Sverdlovsk at 1300 and 1525 and so would probably have required a layover, but Kamyshlov, well east of even the foothills of the Urals, was quite unlikely on geographic grounds. One last midafternoon train, however, left Sverdlovsk southbound at 1420 and five hours later arrived at Kyshtym. Rintelen would have had to stay in Sverdlovsk overnight to catch this, and in midwinter at latitude 56°N, the ride from 2:30 to 7:30 p.m. might well have seemed to be

an evening one. Thus by elimination his destination, and the position of the Born group, lay some 20-30 miles (the two-hour bus ride) from Kyshtym in the south-central Urals.

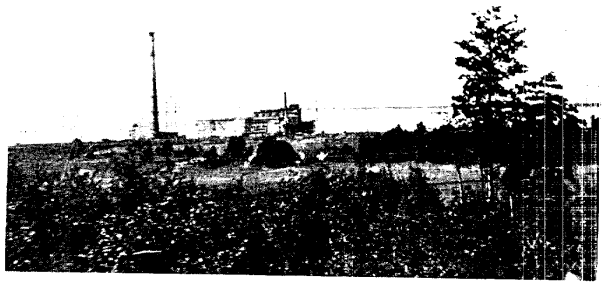
The Reactor Specialists

The Pose group was located in a similar manner. Evidence from intercepted letters had put it a three-hour bus ride from Moscow. Thus it was not now in the Urals, as Krebs had guessed in 1947. Several U.S. analysts, studying the intercepted mail, gleaned the additional information that it was two and a half hours by train from Moscow, that the members had good swimming in a river, and that there was a great deal of building activity in new suburbs around them. After a study of maps and railroad timetables the Maloyaroslavets area southwest of the capital was suggested as a possibility.

UK analysts, spurred by this hypothesis, surveyed their much larger volume of intercept and were able to add that (a) the return trains from Moscow did not "fit well," (b) there was a local market-town a half-hour bus ride away, and (c) the "nearest big hospital was 15 km. away."

Railroad timetables showed that Obnino station, 15 km. northeast of Maloyaroslavets, was 2 hours and 30 minutes by train from Moscow. That was also where the road and the railroad crossed the Protva river on the way to Maloyaroslavets. The train took 16 minutes to get from Obnino station to this good-sized town; a bus would probably take half an hour. The only morning train from Obnino to Moscow left at 0750. The possible return trains left Moscow at 1300, 1440, and 1630, giving scarcely more time there than the round trip consumed and so not "fitting well." Some ten other localities were two and a half hours by train from Moscow, but few were near rivers which might have good swimming. Of those that were, several, like Mozhaysk, were large towns in themselves; others had excellent evening train service. Obnino station thus remained the only likely place.

In August 1953 attaché photographs from the railroad looking northwest from the bridge over the Provta river showed several large buildings under construction and a completed large stack with blower house such as is usually required for a nuclear reactor. Photointerpretive measurement done by comparison of these with wartime German aerial photography showed that the stack was almost 210 feet high. Obnino was thus the location of a probable nuclear establishment containing a reactor. The Pose group moved to Sukhumi in 1952.



First Western Picture of Obninsk Plant

In 1954 the Russians publicized the initial operation of the first atomic power station in the world at Obninsk (the variant name used for the town served by Obnino station).

The Special Labs

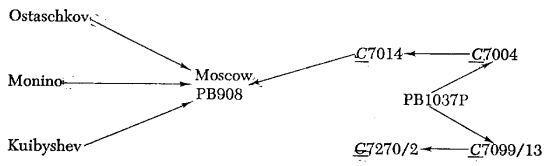
Meanwhile a 1952 report from the UK settled the destination of a high-voltage accelerator for nuclear research built by Koch and Sterzel of Dresden in the East Zone. By checking the interrogation of a bordercrosser who had taken the accelerator to Laboratory No. 3 in Moscow against reports from several returned POW's, the British had concluded that Laboratory No. 3 was in Cheremushki, a suburb of south Moscow. Evidently "Gong" had been mixed up about the numbers of Special Laboratories 2 and 3 when he identified Kikoin and his work in west Moscow on isotope separation with Laboratory No. 3. That one must be No. 2, and the laboratory of the famous nuclear physicist A. I. Alikanyan in south Moscow No. 3.

The question of Special Laboratory No. 2 was solved completely through the efforts of the Biographic Register when it undertook the monumental task of rearranging the 1951 Moscow telephone book by telephone number and by street address. For a west Moscow address given in a 1944 newspaper clipping as that of "Laboratory No. 2 of

the Academy of Sciences" there were three telephone numbers, and against these were listed several hundred persons, many of them renowned nuclear physicists such as I. V. Kurchatov and G. N. Flerov, known to have been involved in the uranium problem as early as 1941. I. K. Kikoin was there too. So Laboratory No. 2 of the Academy of Sciences was the same as Special Laboratory No. 2 (not 3) of the First Chief Directorate attached to the Council of Ministers, and it must conduct research on reactors as well as that on U-235 separation under Deputy Director Kikoin.

The Pow's Return

At this time Operation Dragon was girding itself for the expeditious procurement of POW's who had worked with German scientists in the USSR on many projects, including the atomic ones. By 1951 these POW's had been redeployed to "cooling-off camps" in European Russia where they worked at unclassified tasks in industrial plants. There were many hundreds of them. Some used POW camp addresses, other Moscow Post Boxes. Some idea of the complexity of keeping track of them can be gleaned from the following redeployment chart tracing the movement toward only one of the new Moscow addresses. *C* stands for POW camp:



Most of the civilian members of Moscow Post Box 1037P, the scientists, had by 1952-3 also started their cooling-off period and were using Sukhumi Post Box 3122. For a time there was a question whether they were actually at Sukhumi, for we had only the letter postmarks to vouch for it. This question was settled neatly when a Miss Verena Weber wrote her aunt that on 30 June 1954 they had seen an eclipse of the sun reaching 97 percent totality which started at half past four and ended at half past six. A check with the Naval Observatory established that in the locale of Sukhumi the eclipse reached slightly more than 97 percent totality and that it started at approximately 1623 local time and ended at approximately 1835. This agreement, along with information in the intercepts on climate, flora, and physical surroundings, confirmed the location as in the general area of Sukhumi.

The POW's from 1037P who had cooled off since 1951 began to return in mid-1954, practically the last of those who had helped German scientists in the USSR. Though many knew little except their own particular tasks, their information tended to round out the deductions which had previously been made about the work of each of the main groups of atomic scientists. The Born group really had been located at Singul, near Kyshtym, and had worked on the biophysics of radioactive substances. The Pose group really had been at Obninsk and had worked on the design of nuclear reactors.

Of most interest at the time was the report of one Von Maydell, which established clearly that the Thiessen group was the one which had developed the nickel-wire-mesh-backed barrier of sintered nickel powder used after 1950 in the Soviet gaseous diffusion process for separating U-235. He knew technical details. The plant that put it into practice must have operated under considerably different conditions from those of its U.S. counterpart.

We were still ignorant of the location of that plant, although it had produced as early as 1951 the U-235 for the Soviet Union's third atomic test. By now our guesses were largely limited to what were known to be atomic facilities at Nizhnyaya Tura and Verkh Neyvinsk in the north Urals. Nizhnyaya Tura seemed most likely, for a large electric power plant had been built there in the postwar period. But then the function of Verkh Neyvinsk lay in question. Were the Soviets pursuing more than one kind of U-235 separation process?

Several POW's knew that German scientists from Sukhumi had visited the U-235 plant using the barrier, and we looked to them to help locate it. Imagine our consternation when it developed that they had heard the place spoken of only as "Kefirstadt," so dubbed because the favorite soft drink there was kefir, the fermented milk of the Caucasus.

Scientists Tell All

Finally, in April 1955, the German scientists returned from Sukhumi to the East Zone of Germany, the last of them except for some groups engaged in missile research. The defection plans went into action. Hertz, Von Ardenne, Vollmer, Steenbeck, Pose, and several others would not respond, but many of those working for them did. Despite the three-year cooling-off period, skillful and exhaustive interrogation

in depth revealed technical details, individual names, etc., in a richness unbelievable to one who has never witnessed this procedure.

Nikolaus Riehl defected as soon as he learned that he could not keep the proceeds from his Stalin Prize. He and others detailed the uranium processes at Elektrostal exhaustively.

Patzschke's uranium prospecting effort near Tashkent was reportedly a failure. His fate was not, and still is not, known.

Members of the Born group discussed their radiobiological research at Singul. Without knowledge of the reactor site near Kyshtym, they reported they had gotten their radioactive "soup" from Teche. Teche was listed in the file as one of the villages east of Kyshtym which had disappeared in the 1950 Deleniya, the MVD's biennial listing of administrative centers in the USSR; it was within the area of the Kyshtym reactor site as delineated by earlier POW interrogations.

Members of the Pose group discussed their abortive attempts at Obninsk to design and construct a beryllium-oxide-moderated reactor. Because graphite-moderated reactor research at Laboratory 2 and heavy-water-moderated reactor research at Laboratory 3 had both been quite successful, the decision had been taken in 1950 to build up around the German nucleus at the Obninsk site and under the direction of Academician A. I. Leipunski a third Russian center for reactor research working on power reactors and other advanced types.

The research of the Vollmer group on heavy water production turned out to be in connection with a heavy water facility built at Norilsk, where Zavenyagin's Nickel Combine was already located, in the far north of Siberia. The wartime work of the Leuna group had been used by the Karpov Institute in connection with two other heavy water production processes, according to a member of that group. Presumably he was referring to those used by the heavy water plants at Aleksin, Chirchik, Kirovakan, Dneprodzerzhinsk, Gorlovka, and Bereznikí, which had been uncovered by returned POW interrogations and attaché photography.

The work at Sukhumi prior to 1952 had been mostly devoted to isotope separation, as we had supposed. The Von Ardenne group worked on the electromagnetic method and the Steenbeck group on the gas centrifugal method. Several Germans had been concerned with the thermal diffusion method. Hertz himself had worked on a variation of gaseous diffusion termed mass diffusion in the United States. None of these were actually put into practice for U-235 separation.

Thiessen's group, with calculational help from the Hertz group, worked on mesh-backed gaseous diffusion barrier (as Von Maydell had reported) and on plant design. Some of the Germans had even helped set up a barrier factory at Elektrostal and knew the cutting and loss factors required to turn square footage of nickel wire mesh into completed barrier. The German mathematical theory on gaseous diffusion was strangely easy to understand; with minor exceptions the symbols and formulae somehow seemed familiar. Then someone had the bright idea of looking up several of Klaus Fuchs' wartime papers on gaseous diffusion: that was where the Germans got it.

"Kefirstadt" turned out to be Verkh Neyvinsk in the Urals, leaving the function of Nizhnyaya Tura and its associated large power plant an enigma. Presumably power was sent by transmission line to Verkh Neyvinsk, there being mention in the technical press of transmission line construction from Nizhnyaya Tura southward.[7]

In retrospect, following the trail of Gustav Hertz and his associates proved to have been a wise course of action. Despite Russian efforts at security compartmentation the Germans had valuable information which complemented that from other sources. Indeed it would not have been possible to achieve an understanding of the later U-2 photography of Soviet U-235 facilities and uranium metal plants without the information obtained from the Germans.

[7] For the subsequent solution of this mystery and further description of the Urals atomic complex see the author's "The Decryption of a Picture" in *Studies* XI 3, p. 41 ff.

The potential application of overhead reconnaissance techniques to crop estimation.

AERIAL PHOTOGRAPHY FOR AGRICULTURE

William R. Gasser

Aerial photography has been used in the United States for several decades to obtain useful information on agricultural resources, and in recent years intelligence analysts have taken increasing advantage of it for help in estimating crops and identifying trouble spots in the agricultural sector of Communist countries. As a source of intelligence on the agriculture of a foreign power it is still in its infancy, but it shows promise of becoming a valuable aid.

Stagnation in Communist Agriculture

Communist leaders have revealed an increasing awareness that the provision of an adequate supply of food is one of their most critical problems. In nearly all Communist countries stagnation in agriculture has seriously damped economic growth. Because of this stagnation in the face of continued increases in population, they have had to spend an average of more than $1 billion annually during recent years to purchase grain from the West, while by way of contrast the United States earns about $2 billion annually from sales of grain abroad. These purchases of grain have placed a severe strain on Communist reserves of gold and foreign exchange. For the USSR and particularly China, grain imports have meant a sacrifice in the acquisition of badly needed machinery and equipment.

The Communist leaders now realize that agriculture must be accorded a higher priority than in the past, even though this may require some diversion of investment funds from defense and heavy industry, the traditional priority sectors. Emphasis is being given to agricultural intensification—getting higher yields per acre. Increased supplies of mineral fertilizers, pesticides, and improved seeds have been promised, along with expanded irrigation and higher incentives for farm workers and managers. The USSR's record crops in 1966 reflect in part this greater priority. But to what extent the Communist effort can mitigate the serious agricultural problems that stem

largely from the nature of the system remains a critical question before the economic intelligence analyst.

Crop Estimation Procedures

The analyst attempting to evaluate the current agricultural situation in the Communist countries has a very difficult task. Inadequate sources of information make the estimating process much less refined than he would like. He is envious of the U.S. Department of Agriculture's Statistical Reporting Service, which in estimating U.S. crop production has available the periodic returns from more than 850,000 volunteer crop and livestock reporters scattered throughout the country. He himself has to build up his estimate of the early summer condition or the final harvest of a Communist crop from scattered bits and pieces of evidence.

In trying to determine, say, the actual amount of grain harvested in the Soviet Union in a given year he begins with an estimate of sown acreage by region and by kind of grain. Yields per sown acre by crop are estimated from widely variant sources—detailed weather information provided by the U.S. Air Force, reports from the press and Western travelers describing the condition of the crop at various times during the season, the reported progress in seeding and harvesting, data on grain procurement in various administrative subdivisions, general statements made by Soviet officials, data on inputs such as machinery, fertilizer, and seed. These estimated yields per acre are checked against the figures obtained for earlier years when crop and weather conditions were similar in the respective regions. Then they are multiplied by the estimated sown acreage to give the production of each kind of grain and the total grain harvest.

In the past few years aerial photography has become an important new source in this process, primarily, thus far, as applied to China and North Vietnam. Here its supporting role has been considerable because of the paucity of data on these countries. In the early 1960's U-2 photography over China partially filled the almost complete vacuum of information on agricultural production. During the spring of 1963, for example, weather information and Chinese press and radio reports indicated the possibility of a rather severe drought in south China. Chance availability of U-2 photography over south and central China at various times from January to June provided confirmation in the form of dried-up river beds and reservoirs as far north as Hunan province. Similarly, in the late summer and autumn of 1963 the Chinese press and travelers reported severe flooding in the north China plain. Weather data also showed above-average rainfall for the period March-July, followed by very heavy rains over large areas in the first ten days of August—up to 18 inches in the area of maximum precipitation. U-2 photography in September and October 1963 revealed that large areas of the plain were still covered by water.

More basically than in this verification of moisture conditions affecting crop production, the photography of North Vietnam and China has been valuable for purposes of familiarization with agricultural processes and projects in the two countries. From reconnaissance photography over North Vietnam the photointerpreters have been able to tell what state of preparation fields are in for rice culture and then the crop's stage of maturity—from seedlings to fully mature rice being harvested. A number of farming operations such as plowing, transplanting, and harvesting were readily identified. It has also been possible to spot certain conditions that, depending on severity and time of occurrence, could significantly affect crop yields, such as lodging (grain flattened by wind or rain) and flooding. Photography of China has been particularly helpful in evaluating the success of programs to reclaim land and develop irrigation. Large areas of reclaimed land in northern Heilungkiang province appeared to have been abandoned. In other areas, particularly in the north, many canals dug during the Leap Forward were subsequently refilled and the land returned to cultivation.

Potential Refinement

Experts in the development of remote-sensing devices believe that satellite-mounted remote sensors have great potential as an aid to estimating crop production worldwide. Wernher von Braun, asked about the possibility of directing some of the "technological spin-off" from our moon program toward solving the world's hunger problem, replied:

> It has been demonstrated with airplane flights, using some sophisticated photographic equipment and remote sensors, that from high altitudes you can distinguish very clearly rye from barley, soybeans from oats. Moreover, you can distinguish healthy crops from sick ones. You can, for example, distinguish corn afflicted by black stain rust from healthy corn. You can also find out whether the proper fertilizer has been applied, whether there is too much salinity in the soil.

Crop Yields by Photo
SECRET

> By continuously surveying and re-surveying the tilled areas of the world—by keeping track of each patch of land as it develops from the planting season in the spring to the harvesting season in the autumn—you can predict very well the crop expectations on a global scale. When drought hits an area, you will find a local setback. If some crop has been damaged or destroyed by hail, your satellite-mounted remote sensors will find it.
>
> As you get closer to the harvesting period you can, by feeding all that information into a computer, predict just how much of a crop to expect, and what kind, and when and where.
>
> Of course, you would need plenty of correlation data before the data produced by such a satellite system would be reliable. You get this correlation simply by comparing the "ground truth," or the facts determined by a man walking through a field, with what the satellite equipment sees in that same field.[1]

Well in advance of this suggestion from Von Braun, CIA's research and development organization had begun intensive investigations of the feasibility of determining yields of rice, wheat, and sugar cane from high-altitude photography, and the preliminary results were affirmative.[2] Flights were made with cameras of such focal lengths as to simulate from several conventional altitudes the corresponding high-altitude scales. A few flights were made at U-2 altitudes for purposes of correlation. Photography was also taken from a 150-foot tower to permit large-scale sequential photography of test crops planted adjacent to the tower. Various filters were tried in combination with black-and-white, color, and infrared film. Ektachrome infrared seemed best for rapid monitoring of a crop's health, but once yield-reducing factors were suspected the black-and-white was better able to discriminate among these factors.

In these investigations a preliminary photointerpretation to establish parameters was conducted during the early stages of each crop, and then its further growth was followed by photointerpretation at various stages. The procedure used in estimating yield was to estimate degradation from a theoretical maximum potential yield. It was assumed that, given seed typical of the variety grown with success in the study area and a suitable plot of ground, a perfect crop of known yield would result except for the action of yield-limiting factors which may become operative from the day the seed is sown. These degrading factors may be classified as physical, that is the absence of crop-producing plants in any part of the field or less than ideal plant density, or physiological—pests, disease, drought, or other operants against the vigor and hence the yield of the plants. These factors may affect yield in decidedly different ways depending upon the severity of their manifestation and the stage of growth at which they appear.

Statistical analyses were performed on the results of the photointerpretation as the yield estimates so reached were correlated with ground-truth yields obtained after harvest. Sources of error were evaluated with respect to each of the photographic scales, film-filter combinations, and photo dates. It was found that a number of the yield-reducing factors—disease, insects, weeds, drought, flood, winterkill, mineral deficiencies, toxicities—can be assessed on aerial photography. For an accurate assessment of the degree to which these will affect yields, however, the photography must be taken according to specifications tailored to each factor so as to detect the extent and severity of its manifestations. It must be taken in the spectral bands that give the best tone values for the factor in question. It must also be taken at the right times during the growing season.

The contractor who carried out this investigation is testing the technique on a larger scale during the 1967 growing season by undertaking to estimate the yield per acre and total production of wheat for the state of North Dakota.[3] North Dakota, the leading U.S. spring-wheat-producing state, is in many ways climatically analogous to the new lands area of the USSR. A five-mission schedule with U-2 aircraft was carried out during the June-September period, each mission making three north-south flights across the state. The photography, taken by multispectral filtration, is still undergoing analysis at time of writing.

One of the difficulties in analyzing the output of photographic reconnaissance is the tremendous volume of imagery that must be scanned. The problem becomes particularly acute when the target is agricultural production, with scattered fields of different types of crops covering hundreds of square miles. Its solution may lie in sophisticated sampling procedures, or in a high degree of automation in the interpretation of the photography, or in a combination of both. An ultimate goal is the development of remote sensing systems that require little or no human participation to reduce their raw data to the

[1] *U.S. News and World Report*, 12 Dec. 66, p. 66.

[2] "Investigation on the Feasibility of Determining Yield of Rice, Wheat and Sugar Cane by Means of High Altitude Aerial Photography," Vols. I, II, and III, Final Report ORD #2265-66.

[3] "Technical Proposal for 1967 Chitter Program." ORD #570-67.

desired end information. One system now under investigation records the relative amplitude of spectral components of the radiation emanating from a source and applies automatic pattern recognition techniques to identify designated characteristics so revealed. This research, now under way at Purdue University under U.S. Department of Agriculture and NASA contracts, assumes that various crops can be differentiated on the basis of multispectral response "signatures" at various times during the growing season and that for any particular crop it will be possible to determine what variations in the response signatures are caused by yield-influencing factors and so distinguish these. In initial tests the computer output provided a good reproduction of a strip of Indiana farmland one mile wide and five miles long, plotting the major vegetative patterns on it. The operational stage of automated scanning and data reduction is unlikely to be "just around the corner," however.

Outlook

The results of developmental research to date in aerial photo estimation of crop yields make it seem likely that this technique will become an increasingly important tool for the intelligence analyst estimating Communist agricultural production. For the foreseeable future, however, it will probably supplement rather than replace present methods. And pending further development and refinement of techniques for computerized estimation from photographic patterns, the intelligence community will continue to rely on the skills of specialists in photointerpretation for qualitative evaluation of agricultural conditions in problem areas where photo coverage is available.

A new technique for screening suspected guerrilla fighters.

THE METAL TRACES TEST

William J. Maximov
and
Edward Scrutchings

To the many new techniques we have had to develop in adapting to the peculiarities of counterinsurgent action there has now been added a sophisticated yet simple procedure that can help pick out the active guerrilla from the general population into which he melts. In a more or less homogeneous population the activist insurgents, the apathetic, and the loyal all appear as alike as peas in a pod and usually cannot be distinguished without their perpetration of some overt act. The ubiquity of the guerrilla, his discipline and adherence to the principles of secrecy, and his coercive tactics, as well as his chameleon-like adaptation to his environment, add to the difficulty of identifying him. In past so-called search-and-clear operations into guerrilla areas the process of sorting and screening large numbers of the rural population to detect activists has been less than effective. Definitive biographical information is usually lacking, and frequently a lack of staying power in the area limits the time available for interrogations.

Pondering this problem, the CIA Vietnamese Affairs Staff, although it recognized that there is no substitute for the time-proven investigative methods that depend on interrogation and collateral biographic data, nevertheless thought that it might be possible to find some new technique to supplement these and provide material assistance at the operational level. It looked to the armed guerrilla, the man with a gun, as both the most dangerous and potentially the most easily distinguishable. It issued a requirement for a review of all personnel discrimination systems used by police and law-enforcement agencies in the hope that one or more of these might be modified for use in an operational environment as in Vietnam.

First Explorations

Among the techniques examined in this review was a paraffin test for nitrite residue left on the skin from the discharge of a firearm. It seemed that a modification of this test for nitrites might identify a guerrilla who had fired a weapon. After some testing of the method in the United States, a small team was dispatched to Vietnam in September 1965 to test it in the practical environment. The test was administered to unwitting Vietnamese subjects under the light cover of a medical examination. The overseas results, however, showed an exceedingly low percentage of test positives among subjects known to have fired weapons, and it was soon evident that this approach would have to be abandoned.

Meanwhile a portion of the cover medical examination had by chance turned up a technique which seemed to have greater promise than the modified paraffin test. During the course of this examination a medical officer examined with an otoscope the ears of weapon-firing subjects, and in his opinion some of them showed evidence of disturbed or dislocated cerumen (ear wax). This officer, however, had had considerable training in examining children's ears beyond that usually obtained in general medical practice and was therefore much more sensitive to such changes than a medical technician or corpsman would be. It was decided the technique should not be pursued because it called for skills not readily available.

When the test team returned from the field with these negative results, it was resolved to make a new and more systematic start. A physician was put in charge of the project; he insisted, rightly, that no technique, however promising, would be used operationally until all environmental and preliminary testing had been finished and the results showed an unquestionable high percentage of accuracy.

A considerable variety of possible techniques were picked for an initial trial and elimination contest in order to separate out the avenues most promising for further study from those clearly nonproductive. The list included, among others: chemical examination of auditory canal debris and of wipings from the forward quarter-inch of each nostril; chemical tests for metallic ions on palmar surfaces; tests for the presence of antimony, barium, lead, and potassium; visual examination of the tympanic membranes for variations in appearance before and after firing; blood tests for detectable levels of carbon monoxide present from the usual 50% CO gas in the discharge; and, finally, measurement of shoulder tissue temperatures before and after firing. The testing of these methods, undertaken at a domestic field training center, was completed by mid-October 1965.

Metal Traces Emerge

On the basis of data obtained in this trial heat, most of the techniques were discarded as not worthy of additional development; but a surprisingly gratifying result was obtained from the test for metal traces on the hands of weapon-handlers. This approach was especially attractive for its potential in ultimate application because it did not require that the weapon be fired, merely handled. The initial results indicated that the deposit of metal traces from handling metal objects could be detected in 80% or more cases.

Additional testing was authorized, and a test program was designed to refine and amplify these initial results and establish base data for further exploratory, control, and environmental testing. The first step toward establishing this method as a useful technique was to determine just where on a person's body or clothing, as well as palms, metallic ions were likely to be transferred while firing or handling a weapon. To answer this question visually, the metallic portions of typical insurgent weapons were coated with lampblack and the weapons were fired and handled for various periods of time under simulated field conditions. The handlers, on whom the areas of contact were clearly apparent, were then photographed and the data recorded. This photographic record became the base line for further testing.

With these weapon "fingerprints" in lampblack the test team was able to determine in what patterns and where on the hands and body metallic traces should be detectable under what conditions. The patterns formed by different weapons in the test indicated that differentiation among weapon types might also be possible. This was a bonus effect which, if it proved reliable, could lead to more definitive investigation and segregation of subjects. Contact with non-weapon metal items common in the insurgent environment could also, it seemed, be sorted out to make the personnel screening more valid and indicative.

The coating tests were repeated, substituting for the lampblack an invisible marking material which became visible in the presence of ultraviolet light; the results corroborated those with lampblack. Then testing was done to determine whether the metallic traces themselves formed patterns similar to those of the preceding exercises. In order

to make the traces visible a chelating reagent—which captures metal ions in the way that hemoglobin captures oxygen—was suspended in alcohol and sprayed on the hands and clothing of the subject from an aerosol bottle. After the solution dried, the hands and clothing were viewed under ultraviolet lamps in reduced visible light. The results were strikingly similar to those produced by the previous coating tests.

At this time the tests were still designed to compare patterns from known weapons. All of the subjects handled weapons and the results were compared with the patterns recorded by photography. Although their consistency was encouraging, there was still a question what would happen when the investigators were pitted against subjects who had handled weapons interspersed among others who had not. The next series of tests answered this question: their ability to distinguish readily between handlers and nonhandlers became evident. This was then the turning point in the development of the technique. The next step to advance its development was suitable environmental testing.

Development and Refinement

The new technique, however well vindicated by these tests, had to be proven in atmospheric and geographic conditions similar to those in a tropical insurgency environment. Panama was selected as an ideal such environment. Heat, humidity, and foliage conditions in that area, along with a U.S. military population in the form of the 8th Special Forces Group, simulated well the Vietnam theater. Arrangements were made for the use of facilities in Panama and of members of the 8th Special Forces Group as subjects. The six-member test team arrived in Panama at the beginning of February 1966 and established itself at Fort Sherman in the Canal Zone.

It was agreed that our subjects would be put through a tactical exercise in conjunction with the testing, furthering their Special Forces training as well as the interests of the test team. It was arranged that some participants would not be armed; the rest would have a wide range of weapons standard to the Special Forces and also common among Southeast Asian insurgents. Half the group was instructed to wear heavy cotton work gloves. The test team was not told which ones were the weapon handlers or the glove wearers.

When the subjects returned from the 24-hour field exercise they were divested of their weapons and gloves before being seen by the examiners. At the test site their hands were sprayed with the alcohol suspension of chelating reagent and examined under the ultraviolet light. Examinations were conducted independently by two members of the team. In selected cases clothing was also sprayed and examined, as well as the gloves of unidentified subjects.

During this examination the Special Forces commanding officer, an extremely skeptical man by nature, thought he had found a way to beat the test. Approaching with an aide, he asked that his own hands be tested. The examiner, after spraying both him and his aide, was able to tell him he had handled two weapons—his own sidearms and his aide's M-3. He was sufficiently impressed that he asked the test team to report any difficulties they might have directly to him rather than go through channels.

After all the results had been gathered and tabulated they were compared with the control data kept by the military project officer. The test team had identified 136 out of 160 weapon handlers and 92 out of 124 nonhandlers, a total of 228 correct identifications in 284. In several cases it was able to determine the type of weapon carried. (In one case, when 60-mm mortar traces showed up on a man who had not carried one, he remembered later that he had momentarily picked one up when his buddy, carrying it, had fallen down.) Even when gloves had been worn, enough metal particles had usually been transferred through them by sweat and contact onto the hands.

Now it was time to engineer a field kit, devise an operational procedure, and produce a techniques manual. A heavily illustrated manual was decided on in order to reduce text requirements and cut to a minimum the time required to teach an operator how to use the kit. Exemplars of U.S., Soviet, and French weapons were assembled for a final series of tests at the domestic training center, in the course of which a comprehensive photographic sequence of weapon trace patterns could be established for the manual.

In these tests the subjects handled different weapons over varying periods of time, to create a photographic record of graduations in the density of hand patterns with increasing periods of contact. Other subjects were given a variety of metallic implements common in the operational environment, and the patterns made by these proved readily distinguishable, both in shape and intensity, from those of weapons. Also recorded was the intensification of the findings by perspiration—with some discomfort to the subjects, being exercised

with weapons in a gymnasium where both temperature and humidity had been raised by steam to nearly 90 when it was about 20° outside—by weight or circumference of the weapon, and by alloys in the metal.

In Field Operation

As the manual was being finished the CIA stations concerned were informed and elements of the Joint Chiefs of Staff were briefed. The Chairman of the Joint Chiefs decided on the spot that the process should be introduced in the Military Assistance Command Vietnam. A MACV officer was assigned to work with the project officer of the CIA Saigon Station. In preparation for training field operators, various instructional materials were reduced to 35 mm. slides and Vugraphs. The Trace Metal Detection Kit Manuals, fresh from the printer, were pouched to the Saigon Station. Separately, 106 short-wavelength ultraviolet mineral lights, extra batteries, and battery chargers were shipped, and 3,000 eight-ounce plastic spray bottles of the chelating chemical in alcohol suspension. Each refillable bottle, costing but 18¢, contains enough fluid to treat liberally the hands of twenty to twenty-five subjects. The whole kit costs about $85.

A team of three, with medical, technical, and Vietnam specialties respectively, were sent to Saigon in late April 1966 to introduce the kits and the technique. First they demonstrated the kits and gave briefings to the principal Station officers and numerous MACV J-2 branch and division chiefs. Then they began briefing CIA operating personnel whenever and wherever they could be reached, issuing kits at the same time: after his briefing a field case officer would return kit in hand to his provincial location.

Nineteen kits were left with U.S. military field elements for tests and evaluation, the results of which would determine MACV requirements for additional units. In order to insure proper use of these in the field, the three-man team traveled extensively to field locations to brief U.S. military units on site. In one case, during Operation Birmingham, the Big Red One commander, reconnoitering in his helicopter, had spotted two men working in a rice field and picked them up as his personal prisoners. He brought them in to his command post just after a Prisoner Exploitation Team had been briefed there and asked that they be tested. The spraying so scared one of them that he wet his pants and confessed even before the examination confirmed his guilt. In another case three women who had been seen walking along a road that was frequently mined were brought in and tested. When they themselves saw that the hands of one looked different in the ultraviolet light, the other two turned on her and accused her.

Results

After this introduction the CIA Station asked for 100 more kits and the U.S. military for 442. Requested to report the results of their use for a limited time, Saigon furnished the following figures for the period 5 May to 1 August 1966: 1,186 persons tested by short-order trainees; of these, 628 positive; of these, 223 proven Viet Cong, many by confession.

The application of the Trace Metal Detection Kit is not limited to counterinsurgency. Law enforcement agencies, including several major metropolitan police departments, are interested in it as a crime lab tool. It can be so used to advantage even though its results cannot serve as legal evidence in court until it has been qualified by a large body of unclassified evidential data.

Documentary history of an Alpine tragedy during the last convulsions of World War II.

RODERICK "STEVE" HALL

Anthony Quibble

The Steve Hall story was twice told publicly during General Donovan's drive in 1945 to build support for continuing the OSS in peacetime,[1] but in both tellings the form was summary, the information was incomplete and in part mistaken, and the drama was lost among the many other grim and heroic war's-end tales. Besides, the documents in the OSS archives tell it best by themselves, without the intrusion of an outsider. That is what follows.

* * *

On the train returing
to Camp Adair, Oregon
September 14, 1943

Dear Mr. Stebbins,

. . .

It seems to me, who knows nothing about your organization [OSS], that finding an agent with the necessary personal accouterments to go to Cortina [on the southeast approaches to the Brenner pass] and carry out missions of sabotage, political organization, reconnaissance, or whatever is desired would be difficult. Even if he was a European, he would encounter official questioning at every turn now, with danger of exposure each time. And traveling by land, how could he carry sufficient explosive and tools to effect sabotage himself, if all other plans failed?

These obstacles could, of course, be overcome one way or another; but here is my suggestion, based on the premise that the sabotage is more important in the near future than political organization:

Drop a man by parachute on the open country between Pocol and the Falzarego Pass and drop enough Army "Mountain Rations" and

[1] In *Sub Rosa*, by Stewart Alsop and Thomas Braden (New York, 1945), and more briefly in "Some Affairs of Honor," by William L. White, *Readers' Digest*, December 1945.

personal equipment to sustain him indefinitely in the peaks, if necessary. Drop TNT and a tool kit. I believe one could get away with it, if the jump was made in the early dawn when mist rises profusely over the terrain, or through a snow fall.

This man, if he was a good rock and snow climber, and skier, would have no trouble in moving about the valley unnoticed even in the daytime. The matter of tracks in the snow is of no consequence; paths and brooks could cover his movements, and he could always take to the mountain rock.

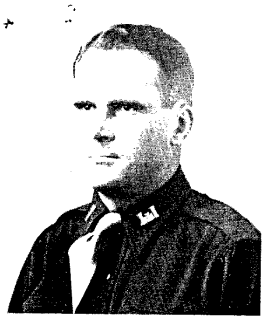
Operating even under adverse conditions, this man, I believe, could block the Ampezzo highway and railroad beyond use during the winter, anyway, within 3 days after he landed. It should be possible for him to blow out the Drava River roads within another 10 days. Thereafter he could work on whatever opportunities presented themselves.

I feel sure he would not have to search out anti-Nazi elements for laying the plans for continued sabotage: they would come to him. Of course, the problem of how he would get out and save his own skin is all a matter of chance and circumstance. Perhaps he would have to perch on the peak of Antelao nibbling concentrated chocolate until German capitulation.

I would be willing to do the job—and I think I could. Here are my qualifications:

Trained in military demolitions.

Trained in mapping, reconnaissance, communications, and similar subjects (am battalion S-2).



Familiar with the Val Ampezzo, particularly the little-known paths and minor terrain features, from walks and skiing.

Skilled in rock and snow climbing, with 15 years experience on the cliffs and snow of N.E., in Wyoming (Grand Tetons), and Cortina. . . .

Expert rifle and pistol shot since 1930—Nat'l Rifle Association and Army.

Physically: somewhat above average endurance; accustomed to living in the open under all conditions; no major operations, illnesses or frailties; 28 years of age.

Education: . . . Am no linguist, but . . . picked up enough Italian in 5 days at Cortina to get about conveniently . . .

Personal situation: unmarried, . . . ready to go anytime under any circumstances that augur success.

. . .

Cordially yours,
R.S.G. Hall
2nd Lt. 270 Engr. (c) Bn.
Camp Adair, Oregon

* * *

AIR RESUPPLY
2677TH REGIMENT PROV
A.P.O. 534
[OSS Hq. in Florence, Italy]

31 July 1944

Dear Captain Suhling,

Our operation against that certain supply route is all ready to shove off, and in fact we may be gone by the time you read this. I'm sure you will never regret the interest and "push" you gave it. The scheme has expanded quite a bit since its first conception, owing to the favorable Partisan conditions in the area, and we have high hopes of accomplishing things on a large scale. The principal aims now are: tactical and supply liaison with a very large and well-organized Partisan military group in the area; complete blocking of the critical supply routes, both R.R. and highway, destruction of locomotives, trucks, and fuel stocks; establishment of a courier route into Austria, gathering, through a net to be set up, as much military intelligence as possible, with special attention to the following items: troop and supply movement and/or disposition; location of German command headquarters; German plans for using gas (this has appeared in reports of our agents very recently); results of air bombing. I imagine we may also have the opportunity to gather info on the political situation and on persons suitable to take over local government in event of troop occupation or German capitulation.

. . .

The personnel for the operation are: Capt. Lloyd G. Smith, in command; 1st Lt. Joseph Lukitsch; myself; radio operator Stanley Sbeig (Navy specialist); and T-3 Victor Malaspino. . . . We're going in with several thousand pounds of equipment for the Partisan group, and expect to re-order by radio quite a bit more. Food is not included, as we shall live off the land.

Well, I guess that's all there is to tell about it. It has certainly been a great pleasure knowing you, sir, and I hope we see each other again before long.

Best wishes,
Steve

. . .

P.S. If you don't mind a suggestion, sir, I believe that all-around promotion of our enlisted men would prevent a heap of disciplinary troubles: some of these boys are getting pretty desperate, and Lord knows most of them have done a very faithful job. . . .

* * *

Hallowe'en
Oct. 31, 1944
Andrich,
Province of Cadore,
Italy.

Dear Mother and Family,

Your last letters, all written in July and August, arrived in a bunch—by parachute! The heavy cases of arms and explosives and supplies came floating down silently through the night; and among them was a package (with its own 'chute) which carried all the news from home. . . . For security reasons I had to burn all the mail, much as I hated to, keeping only the birthday cards, which I have carried with me ever since.

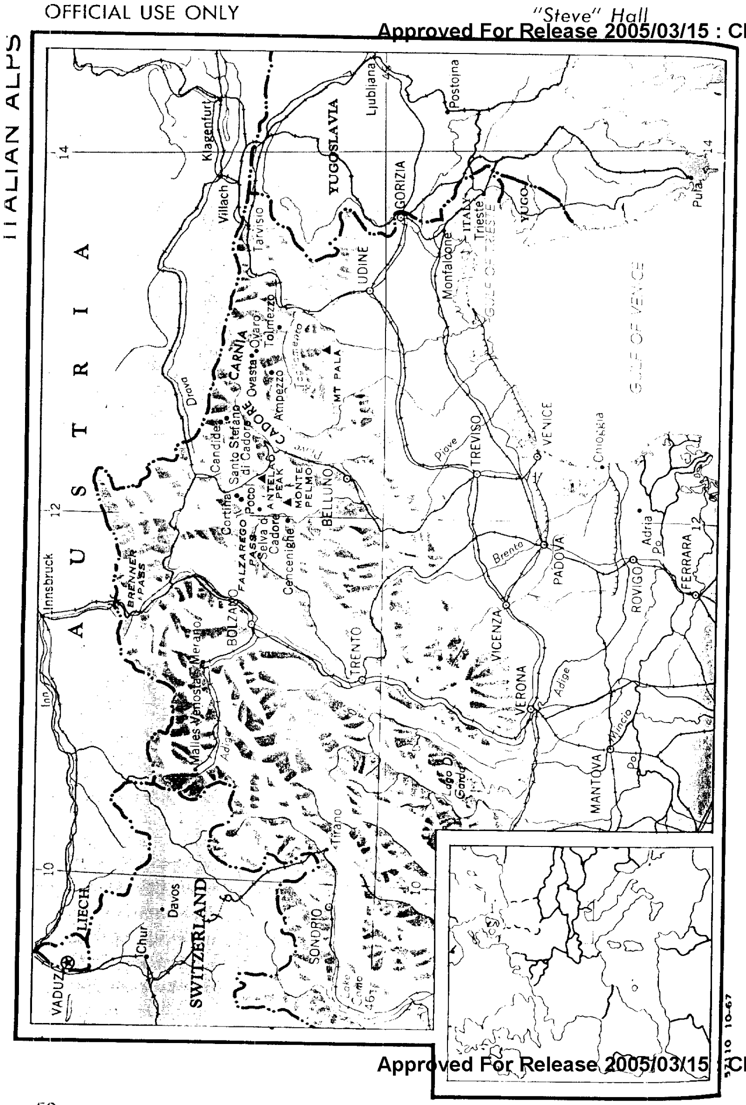
You see, we were some 250 miles behind the front in Italy and actually right up against the border of Germany itself—in the Italian Alps where, as you know, I'd always wanted to fight my tiny part of this war, anyway. The letters appeared out of the dark over a wide place in the bed of the Tagliamento River near a village called Enemonzo, about 10 miles east of Ampezzo and the same distance west of Tolmezzo. At Tolmezzo were 11,000 Nazi troops and Mongoloids from Turkestan, picked up in the German retreat from the Caspian and now serving as mercenaries.

We used the river flats for over 12 supply drops, although our flaming signal fires were in full sight of Tolmezzo, on the nights when we got the signal over the regular commercial program from London to expect a planeload. To get to the dropping zone we rode in a huge truck (captured from the Nazis) which roared down thru the winding gorges of the Tagliamento at terrific speed from Ovasta. We went so fast because it was a race to a certain road park. We had to make it before the Germans did, if they should ever get it into their thick skulls to investigate what was going on. I believe they knew, but psychology was on our side: they imagined our Partisan bands of Italian patriots so strong that any attack by them would be suicidal. Actually we had less than 1,000 men in our command, and the Nazi waited 'til he had the garrison in Tolmezzo built up to 14,000 men before he struck. But that happened much later.

At Ovasta, a medieval hamlet lodged on a shelf overlooking the river and ringed round by the gigantic spears and flakes of the Carnic Alps, we had our "Base" Headquarters. We had a powerful short wave set with which to communicate with Army Hq. way to the south; and a room or two; and a tobacco supply composed of old butts and cornsilk. I was at the Base very little, spending my time in long swings—by trail, or motorcycle, or bicycle, or climbing rope—deep into zones crawling with Germans but where unarmed groups of patriots waited for help. So my returns to Base were always occasions for mutual celebration; it was good to get back to a bed and hot food, after sleeping in hay barns or caves and eating mushrooms and cold cornmeal, with an occasional squirrel thrown in.

The days went very fast then. At Base there was corn on the cob and American radio programs, and "Smitty" (Major Lloyd G. Smith, State College, Pa.) had arranged a deal with a pre-war ice cream freezer in Ovara, so we had ice cream now and then—all we had to do was climb down 1,500′ to the valley floor and then climb up again. . . . The peaks are plated with ice now, there are drifts in the passes and snow powderings in the valleys. [But] August, everything was green and warm—we took our showers in waterfalls, went roaring up and down the village streets singing Yankee songs to the delighted

ITALIAN ALPS



Approved For Release 2005/03/15 : CIA-RDP78T03194A000200050001-8

grins of the war-weary people, who were fed to the cars with the grim and cruel Nazi soldiers.

You know how long I'd worked on this Alps thing—well, I finally sold it to GHQ (that's what all the flying around Italy was about). We put together a team of five. . . . Smitty was to organize and direct Partisans in Carnia; and I was to do same in Cadore, having also the mission of closing the Cortina road. Once inside German-occupied territory, we were entirely on our own, as autonomous as soldiers-of-fortune in a Chinese war or banana republic revolution. But I guess Gen. Devers, and then Gen. Alexander, had faith in us because they okayed the deal, 100%, one afternoon on the shores of Lake Bolsena, where I'd gone to explain the project one afternoon. Of course it wasn't as easy as that. The project had to be drafted as carefully as a case before the Supreme Court, and the preparations were as detailed as an expedition in Everest: maps, sleeping bags, foreign money, climbing gear, radio cyphers, medicine, and just about a thousand damn things—all weighed and triple-checked.

Finally, the night of August 1st, we gathered under the wing of a big 4-motored Lancaster at Brindisi airport. We had on "strip-tease" suits, against the cold at 10,000 feet, and looked like Eskimos. We sweated rivers—and froze later over Udine. The ride was painful, for we were cramped in amongst the containers of our supplies, and the roar of the engines was overwhelming—also, naturally, the prospect of a parachute jump into enemy territory at night, or any other time is none too comforting.

I realize this sounds like a story, but it's about the way it happened (leaving out the gaudier details); and I know you've been wondering why you haven't heard from me for the last 3 months. Naturally we couldn't tell anyone what was up.

Before embarking at Brindisi we did not know just where we'd drop. A couple of places I'd been counting on were ruled out in the last 2 days because of Nazi troop movements. We climbed up thru the small hole in the bottom of the plane and found we were bound for Mt. Pala in the foothills of the Alps of Carnia; bad news for me, as it was some 85 miles from the Cortina area. Smitty and I squabbled for the privilege of being first out on the jump, but he outranked me.

We nearly did not make it, as the pilot could not find the right pattern of ground fires in the right place. Jerry was, aside from shooting at us with flak, apparently lighting a few signals to decoy us. Finally, the word came back over the intercom that the right fires

had been spotted, but in the wrong place. One of the crew opened the hatch, and after a dying run by the plane, Smitty, Vic, and Stan disappeared thru the hole—just like that. Joe Lukitsch and I swung our legs into the hole and looked down. With a full moon the tumbled hills far below looked eerie; the fires looked small and distant. They were, about 2,500 feet. Suddenly the green light blazed and the bell rang on the wall of the ship, and I dropped thru, Joe right after me. The 'chute opened with a crack, but I had a bad spin and the shroud lines were twisting rapidly—if they twist enough, the 'chute collapses. I fought for about 1,000 feet before the twists came out. . . .

Below, there was nothing but hill, woods, and rocks. It looked like a trap. I was sure it was when I landed—between two wicked spikes of limestone, doing a couple of back somersaults down a gully into some saplings. There wasn't a person around, just complete silence. I cut my way out of the 'chute and got out my automatic. For 20 minutes there wasn't a sound. Then I made for a low, bare hillock nearby and in a little while the others came up. It was 2 a.m. The fires were phoney all right—Smitty had landed near them and seen a man running away.

About 700 yards away a fire shone on the side of Mt. Pala, but we couldn't find the path; which was lucky as the fire came from a house the Germans were burning, we found out later. They were too drunk to pay any attention to the drop.

We hid in a deep swale until dawn, and then I went to a farmhouse to ask questions. By noon we had made contact with some local Partisans and later were on our way back into the mountains. We felt that we had been granted a miracle. The whole operation was in full sight of Nazi observation towers in the plain below; and the lack of reception and the hideous rock pile we landed on should have made us all casualties and easy prisoners. Aside from cuts and bruises we were O.K. It took the Nazis a week to start chasing us.

On August 12th I started out alone for the Cadore, about 30 miles from Ovasta, crossing Lavardet Pass; made contact with the Partisans around San Stefano, and started work. The Cadore was tough, because there were Nazi garrisons in all the towns, and the area was much more populated and desirable to Jerry than desolate Carnia. Cortina alone had 1,000 picked troops to guard the 5,000 wounded Nazis in the hotels and hospitals there.

The Air Corps would not drop to me in Cadore—mountains too high—altho I spent 18 days at a dropping zone on the Austrian border (the Val Visdende), watching the German Army build its "Alpine Line". Whatever you've heard about that in the papers is direct intelligence I gathered. Finally we rigged a system for back-packing arms and explosives across the ranges from Carnia. I travelled back and forth and round about all over the area, always in uniform, often 500 yards from Nazi garrisons, or walking past their front doors at night, and earned a pair of legs like cast iron. So, by the end of September, I had been able to get an organization of 500 men on its feet, dispatch reams of important intelligence to GHQ, blow out the standard gauge R.R. from Venice and the electric R.R. through Cortina to Austria, and eleven highway bridges, effectively blocking all routes through the Alps north of Venice. Mr. Nazi was proportionately furious, the more so when we attacked 3 garrisons, taking around 187 prisoners.

But by the end of September there was snow on the highest peaks, and the campaign in Italy had changed to a holding action, designed to keep as many Nazi troops there as possible so they wouldn't reinforce the other fronts. Our time schedule was badly upset. We got the terrific news, too, that Jerry planned to turn over Carnia to the savages from Turkestan, who would massacre all the Italians and take the farms for themselves, thus giving future Germany an area deep into Italy populated by a solid block of pro-Nazi Mongols. Smitty worked himself green, getting in arms for the poor Italians and begging to have Tolmezzo bombed—but GHQ wouldn't bomb, for some unknown reason. All things taken together, we felt we had to stay until the front had advanced considerably, so as to help the Army as much as possible in cutting the supply lines.

In spite of the shadow that hung over Carnia, everything was going very well in the upper Piave River valley in Cadore. At the end of Sept. I heard about a large group of Italian patriots—all ex-Alpini soldiers—on the *other* side of Cortina, over near Selva-di-Cadore. They needed help. So I made up my pack and started out, contouring the peaks just at the line where the bare rock jumps from the steep scrub slopes. It took 3 days to make the 55 miles and involved 32,000 feet of climbing. But from August 12th 'til now (3 months or a little less) I'd been living and working at 7,000 feet and often going to 9,000 on reconnaissance, so it wasn't too tough. I lost some time skirting the Marmarole range and Mt. Antelao, as I had to slip

through patrols of 500 Nazi Alpenjaeger who were out hunting Partisans. And the last day was in a snowstorm and a foot of new snow over the flank of Mt. Pelmo.

This group was all I'd heard, being all ex-officers and non-coms of the Alpini troops who knew every trail and crag of all the Dolomites. Their Hq was only 4 hours by foot from Cortina, just over the range I had skied in 1937-38. I got a message back to Base requesting a drop. The plane came, 2 wks. later, in the middle of a Nazi drive on Partisans around Cortina, so we didn't get the drop, being unable to light signal fires. We climbed up in the rock of the precipices for 5 straight days and watched the Nazis hunting for us in the forests below. Each evening they fired cannon and machine guns up into the rock gullies, just in case; and we watched the tracers smack on the rock all around us. We couldn't do anything, having no guns. But they never really saw us, and finally went away.

Then I got crushing news. The 14,000 troops at Tolmezzo had overrun Carnia from the south, while 3,000 Nazis brought in from Austria attacked from the north. Smitty and the rest were caught between the 2 forces, and I haven't heard a whisper about them since—over 3 weeks. I feel sure he must have got through and escaped toward Yugoslavia, that being one of our exit plans before we started. [They had.]

But for 3 weeks now I've been the only Allied officer in the whole Alps—and without a radio. Just waiting for some break and trying to keep up the Partisan's courage. Not that the time has been wasted. I managed to get contact with certain people in Bolzano and perfected a plan for blowing out one of the tunnels on the R.R. through the Brenner; sent the explosive off to them disguised as crates of *jam* last week! Then, too, I managed to sign up a couple of electrical engineers and we worked out a scheme for crippling the entire telephone and telegraph net in the Alps here—important, because of the Alpine Line fortifications Jerry is working so feverishly on. And of course there's been a wad of intelligence coming in; for example, by a stroke of pure luck, I got the map of the Nazi troop dispositions as planned for the defense of the Brenner—stuff like that; another case, the Hq of the Japanese secret service (Hotel Corona, Cortina).

It has snowed every day for 3 weeks, and is still at it, so movement is out of the question, as Jerry can track you too easily in the snow. However, recently I made contact with an officer (Captain Joe Benucci) down in the Venetian plain below Belluno; so things are looking up. He has a radio.

At present I'm in the tiny hamlet of Andrich, part of the community of Vallada, 3 miles west of Ceuccnighe, whiling away the hours reading "Ivanhoe" and some 1939 copies of "Colliers" someone dug up! The fine Italian family here with whom I'm staying will mail this after the war.

The position is really good, as it's plunk in the middle of the Alpine Line the Nazis are building. They're laboring over some beautiful targets for us to blow up when and if we get a drop. But you don't need to worry; we're getting to be old hands at the art of running in under the Nazi's nose and blowing the shoestrings out of his boots before he knows what's happened. If he ever catches up with me, all he'll find is another Yank who parachuted from a crashing plane—of which there are many hiding away in the Alps—and waiting for the end of the war.

How I'll get out, I don't know, although I wish I could give you some assurance. The possibility of crossing the Swiss frontier is out of the picture now because of the snow (it came a whole month early this year). Carnia is solid Nazi, now, so a dash to Yugoslovia—150 miles—is none too good. So it looks like north or south. North—to fall back with the Nazis when they retreat from Italy and take up this line; south—to try to filter through and meet the Allies when they advance. Either possibility isn't bad. But the best one is, of course, the end of the war before the Nazis move back here in force. That's what I'm hoping for.

No matter what, it may be some time after the armistice before I get out to wire you—having to hide and linger around awhile before showing myself. So that's why I'm writing this—the family here will mail it with the armistice.

The mission (called Mercury Eagle) has already paid for itself and been a success. We got a lot more accomplished than anyone thought possible; luck has been with us all the way, it looks like. If Smitty is O.K. everything is all right; and I have high hopes for the future. Luck has really played a big part, with countless hair-breadth escapes from Mr. Hitler's animals, and universal success in whatever we undertook. It's only regretted that we did not get even more support from Rome, for opportunities were boundless in August and September.

"Steve" Hall

It would be a lie for me to say this has been an adventure or good time for me. True, at times there have been light moments, a few; and at other times the work has been long and exhausting. I've seen more gorgeous scenery than three men will in a lifetime—sunrises and sunsets among the peaks, moonlight glimmering on glaciers, storms swirling around tremendous pillars of rock, cataracts, forest glades, ancient villages. But full enjoyment is not truly there when you are on eternal guard against guns appearing behind every rock and shadow. The "threat" never leaves you, asleep or awake; and I have not lain down yet to sleep without a cocked pistol at my right hand. In a land where you regularly have to hike and climb 11 miles to reach a point only 3 miles away by road, there's usually more to occupy the mind than breathless vistas of beauty. . . .

It has not been sport, but rather a deadly business—an unending struggle to plan each tiny detail for days ahead, when you really don't know what's going to happen in the next 15 minutes. If you make the slightest error, someone dies; I found that out quickly. It seems as tho life and death has been in my hands since this started, for as the only representative of law and order wherever I've gone, I have had to sit as judge at trials of criminals and spies; to determine the fate of prisoners taken; to issue orders for the general good that yet meant violence to someone along the line before they were consummated. It was the one feature of this job I did not foresee, and would have avoided with all my heart. I have saved many, many lives that would otherwise have been lost—Nazi prisoners, circumstantial cases, petty cases—for the law of the partisans before I arrived was death for anything or anyone shady. . . .

Militarily, I've thought of it as a game of chess, with the whole Alps as a board, whereon you try to outguess the enemy and move always into a square where he won't come. The feeling of being hunted is something that can never leave you; it's very tiring, and requires fierce self-control when you have so much else that requires the best sense and judgment you can exert. This village of Andrich happens to be a square where Mr. Nazi won't think of looking for a while.

If there has been any recompense for us, it has come, not from the scenery, but from the reactions of the people—persecuted, starved, and enslaved by the Nazis. We've been able to bring them medicines, a few of the comforts of life (cigarettes, coffee, sugar), a little money, but mostly hope. There's nothing anyone will ever be able to say or show that will make me think there's anything good about a German.

The atrocities are true; I've seen them; and they're universal. Villages burned, children hung, men tortured, old people turned out in the snow, civilians shot for sport—I've seen those things with my own eyes. These hideous acts yield a crop of man whose fury knows no bounds—they make up the Partisan bands I've helped organize; they're the sword of God, if there ever has been one in history.

If any of you ever travel to these parts in the future, don't be afraid to mention my name. It's known from one end of the Alps to the other (a fame far out of proportion to what I've been able to do). You'll receive hospitality undreamed of, assuming you are in the little inns and with the real inhabitants.

This job hasn't been world-shaking and may never be recorded even in Army records. But I've told about it so that you will know, even if it hasn't been as much as many, many others have done in this war, at least I've done something.

Love to all,

Steve

* * *

[Statement of Andrich, Giovanni:]

. . . During the month of August . . . I knew of Hall's presence in the Partisan formation Calvi, with which I collaborated in the way of information and map material. During the second half of September 1944 Hall moved to the Partisan formation Val Cordevole in the Civetta group commanded by Ettore and Simone. During the first few days in Oct. 44 the said formation was subjected to a three day mopping-up operation by the nazifascists; all of the formation escaped. The same Partisan formations were disbanded by order of the Partisan Provincial Command with approaching of winter. From then on Hall was a guest at my mother's house. We became good friends; I became his informer.

On 7 Nov. at Belluno they arrested Montagne and Giacomo, members of CLN. Montagne talked after being tortured and admitted the complicity of Giacomo. Giacomo was himself tortured and tried to kill himself by cutting his veins, during the night from 8 to 9 Nov. On 11 Nov. the Partisan Provincial Command advised Simone to disappear and the undersigned to do likewise. On 12 Nov. a German police captain was making an investigation of my activities. I kept Capt. Hall informed of the above.

On 13 Nov. we had a long conversation and examined the situation. First, to try to reach the Appennines and cross the front lines in order to reach the south: this possibility was dismissed in consideration of the fact that Capt. Hall could not speak Italian and the enterprise was very risky. Second, to try together to reach Switzerland through the frontier of Lombardy. This solution was not possible either, because Hall could not speak Italian and because he would have certainly been identified during the proposed journey through Lombardy. It was decided that Hall be kept in a farmhouse very distant from the town with a safe family. Hall proposed that I reach his southern command through Switzerland and place myself at the disposal of them in consideration of my perfect knowledge of the high Belluno and Adige areas insofar as electrical installations, fortifications, and roads were concerned. I accepted the said proposal.

On 14 Nov. I took leave from Hall and the morning of the 15th I left for Lombardy and I left for Switzerland on 8 Dec. Hall had hinted that he wanted to reach his group in Carnia. During my residence in Milano from 20 Nov. to 7 Dec. I received a letter from my wife which stated that on 17 or 18 Nov. Hall visited with my mother and said that he was leaving; he left the area without saying goodby to anyone but my family.

About the first half of Nov. Hall [had written] me a long letter asking me to deliver it to his dear ones through his command so soon as my area was liberated. The said letter was placed in a bottle and sealed in his presence and buried in the vicinity of my mother's house. No one knew of Hall's presence in my mother's house but Giacomo, Ettore, Simone, and my own family. These persons certainly did not talk.

I believe that Capt. Hall, in view of the heavy snowfall which occurred during the night from 14 to 15 Nov. (twenty cm.), decided to leave alone and without guide for Carnia in order not to remain blocked throughout the winter in the said locality.
Florence, 6 May 1945.

Q. What do you think of Giacomo?

A. Giacomo, Ettore and Simone are very good men.

Q. What of Tell?

A. I know him only by sight; he worked with Hall; blew up bridges; participated in several operations. I did not hear badly of him as a partisan, heard badly of him as a man . . .

* * *

[Messages received at Company D Hq:]

From Hall via Aztec, 10 Dec:

Tell captured. Torture threat made him Nazi agent. Has told all and turned in 20 of my men. Believed in Candide area helping Nazi patrols. Will try to find you next. Kill on sight. Hall.

Aztec 15 Feb. 1945, No. 60:

Hall captured by Nazis. Held in Verona.

Aztec 4 March 1945, No. 72:

Hall captured on way to sabotage Cortina-Doffisco rr line. Heavy snow forced him to rest at house when owner informed Nazis of his presence.

* * *

[German log:]

Cortina, 29 Jan. 1945

Subject: Weekly report, 22-29 Jan. 1945.

To: Commander of Security Police and SD Branch, Cortina.

I. Outstanding events:

None.

. . .

III. Sentences:

. . .

For partisan activities: Roderick Hall American Air Force Lt. 27 Jan. 45.

Signed:
Meier
Commander, Gendarmerie.

* * *

Statement of Captain Howard W. Chappell:

. . . I was head of the Tacoma Mission, in the Belluno area of Northern Italy from 27 December 1944 to 20 May 1945. . . . At no time did I become personally acquainted with Captain Hall but as a brother officer in the field, I have done my best to reconstruct his movements and actions. . . .

At 0700 hours on the morning of 26 January 1945, Captain Hall prepared an explosive charge and prepared to depart for Cortina d'Ampezzo. At 0800 hours, he left the camp near Selva, saying to S/Sgt. Eugene Orban, "This is the opportunity I have been waiting for, with this heavy snow I will have cover to get into Cortina to blow up the railroad transformer station." He was advised against going at that time because an extremely heavy snow had been falling all night and was still falling with no sign of abating. He was determined, however, to accomplish the job and left on skis at 0800 hours. His feet at this time were still causing him considerable difficulty as they had never fully recovered from being frozen some time previously.

[Follows an account of Hall's capture, torture in Cortina, and subsequent treatment in Bolzano inconsistent with first-hand evidence below.]

Subscribed and sworn to . . . this
28th day of May, 1945, in Siena, Italy.

* * *

16 May 1945.

Memorandum

Subject: Circumstances surrounding capture of Captain Roderick S. G. Hall.

. . .

During the interrogation of Forest Guard Alberti, Michele, the following facts were obtained regarding the actual taking of Captain Hall, and are believed by me to be the true ones in the case:

About the middle of January 1945, Alberti during his regular round in connection with his duties as Forest Guard, at a spot about 500 meters from the village of Campo di Sopra, about 2½ km. south of Cortina, came across an individual later established to be Captain Hall. Captain Hall, when Alberti first saw him, was sitting in a depression in the ground on the lee side of a stack of cordwood; near him were his skis, and his submachine-gun was within easy arm's reach. Captain Hall had one boot off and was rubbing his bare foot with snow.

Alberti states that Captain Hall was wearing some kind of uniform, evidently a flying suit judging from his description, and some kind of insignia which Alberti was unable to recall. Alberti stated that his first reaction was one of "compassion" for a man evidently in trouble and offered to aid Captain Hall, without realizing that he might be an Allied officer. Captain Hall, though he spoke very little Italian, accepted Alberti's offer to accompany him to the nearby village of Campo, offered no resistance to Alberti, allowed Alberti to pick up and carry the SMG, and on skis followed behind Alberti to Campo.

Alberti's reiterated statement that Captain Hall several times during the walk to the village said "Sono stufo di questa vita (I am fed up with this life)" is of interest . . . Alberti, who is an old man and made his rounds unarmed, could have offered no effective resistance to a young and determined man. Upon arrival at the village of Campo, Alberti had Captain Hall enter one of the local houses to warm himself in the kitchen and had hot milk served to him.

Consulting with the villagers, Alberti, who was beginning to suspect that he had captured an Allied officer, decided to telephone the Feldgendarmerie of Cortina in the matter. Approximately an hour later two police (German) from this office arrived in Campo and accompanied Hall to Cortina. With evident sincerity Alberti repeatedly made the statement that Hall gave no indication of desiring to escape and comported himself with the greatest calm; he also reported that several times during his wait Hall again made the statement "Sono stufo di questa vita."

After Hall was taken to Cortina, Alberti had no further connection with the case, and other than knowing by rumor that he was subsequently turned over to Dr. Lospichel [head of the SS in Cortina] and later sent to Bolzano, had no idea of the ultimate fate of Captain Hall. The day following the evening that Hall was sent to Cortina from Campo, however, the two German police returned to the latter village, commended Alberti for his vigilance, and as a reward allowed him to keep Hall's skis.

. . .

The local Partisan "Command" members of Cortina stated to me that Dr. Lospichel was generally considered an unusually kind and just person, and that no hint of cruelty or harshness had ever attached to

his name. I interrogated Michielli, Angelo . . ., who was acting as major-domo of Dr. Lospichel's villa at Cortina during the time Hall was there. His statements, also apparently completely sincere, were as follows:

> Between 20 and 30 January Michielli received orders one night to prepare an extra bed in one of the bedrooms of Lospichel's villa, without being given any details, however, as to the identity of its intended occupant. Reporting for work the following morning about 0800 he met the man later established in his mind to be Captain Hall, an American "parachutist" officer.
>
> As Michielli recalls, Captain Hall remained in the villa for two nights, departing for Bolzano on the morning of the third day. Michielli was extremely emphatic in his statements that Hall was at all times extremely cheerful, courageous, and in apparently good physical condition. Michielli was also most certain that Captain Hall did not walk with a limp, did not complain of sore feet, or otherwise give indication of having suffered from frostbite.
>
> Michielli stated that Captain Hall was treated with the utmost kindness and consideration, that he ate at Dr. Lospichel's table and carried on an animated and cheerful conversation during these occasions. On one of the nights of Hall's stay a rather elaborate and festive dinner was served during which the wine flowed rather freely and was the occasion of marked conviviality on the part of all concerned, though Michielli was firm in maintaining that Hall gave no indication of having overimbibed.
>
> On one of the mornings of Hall's stay at Lospichel's villa, Michielli took a typewriter to his room, and stated that Hall was busy the whole of the morning composing a lengthy report. . . . He overheard Hall say to Lospichel . . . that he had nothing further to add to what he had written. Michielli states that there was no evidence of coercion in connection with Hall's preparation of the typewritten report, and that during the time of its composition Hall was apparently in his usual good spirits.
>
> Michielli repeatedly stated to me that Hall was extremely frank in speaking of his clandestine activities prior to falling into German hands, even giving a few details of his activities to Michielli. . . . Michielli states that on the morning of his departure for Bolzano . . ., Hall shook hands with Lospichel in the manner of one taking leave of a good friend, and jokingly told Lospichel that they should meet at Cortina for the skiing season at war's end. Michielli was emphatic in his statement that Captain Hall took his leave of Lospichel in a most cheerful, almost gay manner, and showed not the slightest sign of worry as to what might lie ahead of him.

Following questioning of Michielli I interrogated Mutschlechner, Giuseppe . . ., driver for Lospichel and chauffeur of the automobile in which Captain Hall was taken to Bolzano. His statements were as follows:

> Hall was extremely well treated during his stay of four or five days at Cortina and was in excellent health and spirits at all times, and gave no signs of fear or worry. Mutschlechner on several occasions observed Hall at table with Dr. Lospichel, engaged in animated and cheerful conversation.
>
> Prior to the war Mutschlechner had served as chauffeur at the Hotel Argentina at Cortina, and Hall had spent 4 months at this hotel about 1937, according to Mutschlechner's recollection. Hall recognized Mutschlechner and warmly asked after other former hotel employees whom he had known there. Mutschlechner stated that Hall was most cordial and friendly at all times, and was very frank in stating that he had arrived by parachute on an Allied mission, that he had engaged in clandestine activities, and that, in Mutschlechner's words, he had been a "Partisan Chief" prior to his capture.
>
> Mutschlechner corroborated Michielli's statement that Hall prepared a "long" typewritten report . . . [and] that the report in question was prepared without any evidence of reluctance on the part of Captain Hall.
>
> Mutschlechner's description of Captain Hall's leave-taking of Dr. Lospichel was identical to that given by Michielli, reported above. . . .
>
> Mutschlechner repeatedly stated that Captain Hall was very gay during the trip to Bolzano, laughing and joking with [his German escorts], several times saying that all the vehicle's occupants would meet again at Cortina during the skiing season. Mutschlechner was emphatic in his belief that there was nothing forced in Hall's gaiety and that it was not a cover for nervousness or fear.

It is Mutschlechner's theory that Hall gave himself up because he was "stufo" with carrying on such a difficult and hunted life, and he points out, as reported above, that Forest Guard Alberti could not have taken Hall had the latter wished actively to resist capture.

Like Michielli, Mutschlechner had no idea of Hall's ultimate fate.

. . .

Roger H. Hollingshead
Captain AUS

* * *

21 June 1945

TO: Colonel Tom H. Barratt
Executive Officer
Judge Advocate Section, MTO

SUBJECT: Hall, Capt. Roderick S., Case No. 101

. . .

On 15 February 1945 a message was received by the Company D base from the mission with whom Hall had established courier service to the effect that Hall was captured, . . . that the Germans were threatening to shoot him, but that they were willing to effect an exchange for a Nazi officer. Consequently arrangements for an exchange were undertaken through Switzerland, and our Swiss connections established contact with the Gestapo and reported on 19 February that they had started negotiations for the exchange. The Germans were to give an answer in 3 days if they would accept the proposition for exchange.

On 28 February the Germans sent a message to us through our contact that they were agreeable to an exchange through Switzerland. On 9 March our contact stated that he had met with the Germans who were interested in making the exchange[2] and would submit names from their side within the week. . . . Later, on 19 March, our Swiss source stated that the Gestapo reported that they had no details on Capt. Hall and wished more information. This . . . was obviously false as Hall had been captured since probable date 23 January, and

[2] This meeting was the first between SS General Karl Wolff and Allen Dulles in the "Sunrise" negotiations. On 8 March Wolff had delivered Partisan leaders Ferruccio Parri and Antonio Usmiani as an earnest of good faith.

this message would indicate that even then the Germans were seeking to hide what had actually happened to Capt. Hall. . . .

Judson B. Smith
Major, AGD
War Crimes Investigation Section

* * *

Bozen (Bolzano),
12 May 1945

[Information from] Col. H. M. Threlfall, Liaison Commission, 15th American Field Army:

Subject: List of captured English and American officers.

. . .

Captain Roderick S. Hall, 01114150. During investigations so far conducted, it has developed that an individual named Hall, without citizenship and under observation-arrest by the Security Police in Bozen, has committed suicide during an air raid. The cause of death has been determined by physician, and death certificate was issued by the Office of the Registrar in Bolzano where the burial place could also be established. At present, proceedings are being carried on to to find the doctor and the certificate. . . .

* * *

29 May 1945

Informal Report on the Investigation of the Fate of Capt. Roderick Hall Conducted by Capt. Albert R. Materazzi on 13 May 1945 in Bolzano:

. . .

I first went to CLN headquarters where I obtained the services of a partisan intelligence officer from Bolzano to assist me. . . . We checked various Italian civil agencies and finally located the bureau of vital statistics. There we discovered the death records of "Roderick Hall." We dug out the file and found the death certificate and interment order. The former was signed by a Dr. Pittschieler and the latter by Lt. Tito of the SS who had been camp commandant of the Gries concentration camp (near Bolzano). . . . Tec/5 Fabrega, who was with me, was detailed to find the doctor and we went to the cemetery

where we located the grave. . . . The grave was marked by a small headstone bearing the number 17. It was in row E. The cemetery records were checked and they showed that a "Roderick Hall' was buried there. . . .

* * *

Bolzano 15-5-1945

My name is Fabrega, Salvador, A.S.N. 32993553 Spec. Rec. Bat., 2677th Regt. O.S.S.

I was prisoner in the concentration Camp heer in Bolzano and in the time I was detained know very well the Dr. Pittschieler, Carl, which himself was a political prisoner till the Germans put him to work for them in the camp as a Doctor. He was allways been very kind to me and the rest of the boys and try to help us the best he could. I am very reconnaissant of his services and the best I can ask to the Americans they will have contact with him is to recommend him so that can help us and find out plenty things we must put in the light and for boys that in the time were kill in the camp and he knows a little, while the Germans did not let him know to much.

Thanks many times and good luck to you.

Lt/Sgt Salvador Fabrega

With the Capt. Masseratti we have interogat this man and told him that soon will have to make more depositions when the G.I. will be in town.

P.D. I am American but born in Spain. I only been in the U.S.A. since June 1940. The reason I said that is because mebe you will see I made few mistake in the writing. I did'n learn Ingles in the school so you will not mind. Sal

* * *

1 June 1945

[Deposition of Dr.] Karl Pittschieler, [native of] Bolzano:

. . .

At about 1830 hours on the evening of 20 February 1945, just as I was stepping out of my office at the Camp . . ., I saw a large black six-passenger limousine stop before the cell-block, and saw the following persons alight from it: SS Untersturmfuehrer Andergassen; SS Oberscharfuehrer Storz; and SS Hauptscharfuehrer Johann Haage. . . . Haage roughly called me to . . . follow him into the entrance hall of the cell-block, where, behind the door, I observed a rough wooden coffin. In the meantime Andergassen and Storz had opened the rear door of the limousine and from the tonneau removed a corpse wrapped in a blanket, and proceeded to carry it . . . into the entrance hall.

Here Andergassen and Storz roughly threw the corpse into the coffin . . .; owing to its advanced stage of rigor mortis the body was awkward and difficult to manage, and Haage forced it into the coffin with his feet, after having removed . . . the blanket. [He then] ordered me, . . . "See whether he's dead or not." I was permitted only the most cursory observation of the corpse, and further, owing to the dim light in the cell-block entrance hall, detailed examination was out of the question. . . . However, I . . . came to the conclusion that death had taken place approximately six hours previously. . . . I saw no blood on the body, no marks of strangulation, nor other evidence on which definitely to arrive at determination of cause of death. . . .

On the following day Haage . . . ordered me to prepare a death certificate for the corpse examined the previous evening, telling me [it] was to be made out in the name of Roderick Hall. . . . Knowing that my refusal to prepare the requested death certificate would lead to the corpse's clandestine burial in an unidentified grave, . . . I prepared the certificate, showing "paralisi cardiaca" (cardiac paralysis) as cause of death.

* * *

3 June 1945

[Deposition of] Miss Longo, Renata, [native of] Bolzano. . . . :

On 22 May 1944 I was called for obligatory work service and assigned to the "packages and censorship" office of the Bolzano Concentration Camp, where I clandestinely did all in my power to help the inmates, acting as message carrier to and from the outside for them, bringing them small packages, etc.

While at the camp I learned from records available to me that a certain Roderick Hall was being held there in solitary confinement. While I no longer recall the period that he was held there, I know that Roderick Hall's incarceration at the Concentration Camp was of short duration.

A very short time later, date not remembered, I heard of the death of Roderick Hall and, as a matter of personal interest, queried Maresciallo Hans Haage, in charge of prisoners, in this regard. Haage's only answer was a leering smile which led me to believe Roderick Hall's death was not a natural one, and made me feel certain that Haage knew all the facts in the case. . . .

* * *

3 June 1945

[Deposition of] Arthur Schoster, . . . [formerly] Commissioner of Criminal Police . . . for the Province of Bolzano:

. . . I did not belong to the SS and was not a member of the Nazi Party. . . . My activities as Commissioner of Criminal Police had no relation to military police, military security, secret service, or other specialized spheres, but were purely in the field of civilian criminology.

I have no first-hand knowledge with regard to the case of Captain Roderick Hall; . . . [but on some of] the personalities . . . who are of interest with regard to the case . . ., the following notes are submitted.

. . .

Rudolph Thyrolf, SS-Sturmbannfuehrer.

Thyrolf was chief of the Sicherheitspolizei and SD Command in Bolzano . . . Thyrolf, who is of North German origin, gave the impression of being a mild and pleasant sort of person, and his private life was apparently above reproach. He is known to have treated the personnel of his office with consideration, but . . . from an official point of view he was interested only in the secret service and in specialized police activities. He is known to have given direct orders for the beating and torturing of prisoners.

Thyrolf . . . held his position on orders of Gauleiter Hofer, but the appointment was vigorously opposed by General Harster, who definitely favored Schiffer (see below) and placed the latter in Thyrolf's office, perhaps to spy on him, and eventually to replace him. It is possible, therefore, that Thyrolf, because of the difficult position in which he thus found himself, was led by Schiffer into greater brutalities and excesses than he otherwise would have committed.

. . .

On 2 May 1945, Thyrolf left Bolzano by automobile, possibly accompanied by SS-Obersharfuehrer Albert Storz (see below).

. . .

August Schiffer, SS-Sturmbannfuehrer.

Schiffer was Chief of Section IV (Gestapo) under the Sicherheitspolizei and SD Command of Bolzano, . . . and at the same time acted as Thyrolf's deputy. . . . In October 1944 he arrived from Trieste . . . and it is from that date that the period of greatest brutalities and excesses in the Bolzano Gestapo took place. Schiffer was an extreme Party fanatic and was one of the elect authorized to wear the *gold* Nazi Party emblem. He was the incarnation of brutality, was hated and feared by even his own colleagues and personnel, and threatened to eliminate those among them who failed to conform to his own standards of brutality and mercilessness. . . . He was utterly corrupt, carrying out arrests and illegal requisitioning for sole purposes of furthering his personal interests. In one particular instance he is known to have arrested a woman of Bolzano for the purpose of obtaining her fur coat which had happened to strike the fancy of his secretary, who also doubled as his mistress.

This secretary, Miss Christina Roy, also known as "Krista," . . . is presently residing at the Hotel Watschinger in Sesto (Val Pusteria) and could probably give useful information in connection with the Hall case.

Schiffer was among the first to flee Bolzano, leaving on 30 April 1945, by automobile in the company of SS-Untersturmfuehrer Heinz Andergassen (see below) . . .

Albert Storz, SS-Oberscharfuehrer.

Storz was attached to [Schiffer's] Section IV (Gestapo), . . . and his duties were chiefly in connection with Gestapo prisoners. Storz was an extremely brutal, sadistic type of person and carried out, often personally, beatings and torture of prisoners ordered by Thyrolf and Schiffer. Storz probably left Bolzano on 2 May 1945, in the company of Thyrolf . . .

Heinz Andergassen, SS-Untersturmfuehrer.

Andergassen was also attached to Abteilung IV (Gestapo), . . . and his duties were roughly the same as those of Storz. Andergassen, known as Schiffer's right-hand man, was the incarnation of sadism and brutality; he was incredibly blood-thirsty, especially when under

the influence of strong drink, for which he had a great fondness, and was encouraged in all his excesses by Schiffer.

As previously mentioned, Andergassen left Bolzano with Schiffer on 30 April 1945 . . .

Karl Tito, SS-Untersturmfuehrer.

Tito was Commandant of the Bolzano Concentration Camp . . . His responsibilities to Thyrolf and Schiffer were only in connection with Gestapo prisoners who might be in the Camp.

Tito is not well known to me, but it is not believed that he was an especially brutal type, rather a weak character who merely carried out the orders of his superiors. He probably tried to follow the line of least resistance and lead as easy a life as possible, and most likely was not directly responsible for the atrocities of the camp; certainly, however, he was au courant of all that went on there.

It is known that Tito was still in Bolzano after the arrival of the Allies . . .

Johann Haage, SS-Hauptscharfuehrer.

Haage was attached to the Concentration Camp, nominally under the orders of Camp Commandant Tito, but because of the latter's weak character by far the more important person in any consideration of Concentration Camp activities. Haage's reputation is one of extreme brutality and cruelty.

It is reported that Haage left Bolzano sometime in May 1945, going first to the Val Pusteria area . . .

* * *

Bolzano, 12 June 1945

[Deposition of] Christa Roy:

. . .

. . . In Trieste I . . . was assigned to Abteilung 4 (Gestapo). At the same time Kriminaldirektor and SS Sturmbannfuehrer August Schiffer was also transferred to Trieste and I was assigned to him and became his secretary. When Schiffer in October 1944 was transferred to Bolzano, he took the necessary steps through the RSHA personnel officer, who was his friend, to have me also transferred to Bolzano with him. . . .

During the course of the interrogations I took in shorthand all that had to be put in typewritten reports. Consequently I know all about this particular case. . . .

Captain Hall was transported by car from Cortina to Bolzano. . . . He was immediately brought to the Villa Polacco where he had supper in the kitchen. Hall must then have been interrogated by Thyrolf, who speaks fairly good English, as far as I can judge, and in the presence of Schiffer. This was a provisional informational interrogation. I was not present at this interrogation. I suppose that in the same evening Captain Hall was taken to the mess hall of the Viktoria Gasthaus because there was a room there reserved for prisoners of honor.

The next morning Hall was conducted into Schiffer's office to continue the interrogations. I was present. The interrogation was conducted by . . . Thyrolf. Captain Hall stressed that he was an American soldier and therefore he could not be forced to make any specific declarations; when he was told that he was an enemy agent and not a soldier, he answered that because he was wearing the uniform he had to be treated like a soldier. Schiffer through Thyrolf told him that he could not be recognized as a soldier because he had been infiltrated behind the lines and therefore was obliged to furnish all information. Nevertheless Hall refused; but when Thyrolf told him that what he said would never be known to the American authorities, he changed his attitude.

I have the impression that Captain Hall was, as we say in Germany, of a soft nature. When he was again assured by Schiffer and Thyrolf that his verbal and written declarations would never be made known to any American agencies, . . . and when it was also made clear that unless he gave all necessary information as well as the details of what his mission was and what he had done up to the date of his arrest, he would not be sent to an officers' PW camp, he made his confession. He stated that he was an American Captain and that he was in the service of OSS.

He said that OSS was an American secret military organization, whose members were only volunteers and that only first-rate soldiers were used and they were sworn to complete secrecy, even among themselves. He explained that OSS members had to undergo special school training, and he mentioned several towns in southern Italy where this training was given. He declared that when he was sent into the Cortina region, his duties were to find out everything concerning the German war machine, to contact resistance movements, and to weaken the Germans through terror and acts of sabotage. He told the names of the leaders of some of the Italian bandit groups

with whom he was in contact. He also said that he helped in the demolition of several bridges and other objectives.

Speaking about himself, Hall said that he was from a good family, that his father or uncle, I do not remember which, was to be a member of the future peace delegation, and that one of his relatives was in the British government; he was a prominent personality. Hall gave these details on himself so that he could be exchanged for two or three important German officers. Always referring to this, he also offered an enormous sum of American dollars.

Thyrolf then started negotiation on this deal and assured Hall that he would be treated as an officer to be exchanged, but under the condition that he would first give a complete written report on all his background and training, his duties and accomplishments in the north Italian area. He was then given the chance immediately to write this report and put down whatever he had already told orally. He wrote part of this report in my office. I know that he used to bring continuously reports written in pencil.

. . .

The meaning of "intensified" interrogation was unknown to me [until] . . . I was transferred to Trieste and Schiffer became the Chief of Abteilung 4 (Gestapo) . . . Schiffer had been in action in the East, and . . . he must have learned all the different ways of torture applied in intensified interrogation while in Russia. . . . In Trieste the tortures were introduced by him, ordered by him, and many times carried out by him personally. . . . When he was transferred to Bolzano he continued to use the intensified interrogation, and for those which were to be conducted by him he ordered me to be present and take notes in shorthand.

When at the beginning I refused to be present at this type of interrogation, Schiffer laughed in my face and said that a German woman had to be hard where enemies were concerned. So I obeyed him and became accustomed to these maltreatments. . . . These interrogations were conducted by Schiffer personally, and as collaborators in these tortures he had Andergassen and Storz.

. . .

It appeared to me that Hall had more confidence in Thyrolf than in Schiffer, in fact in spite of his manners, Hall could not get along with Schiffer because he could not overcome his hostile attitude. As far as I know, Captain Hall was never forced to an intensified interrogation because I think that Thyrolf especially would have never permitted this since he had the intention of treating Hall as an exchange prisoner. Schiffer on the contrary took a more radical attitude and would have been inclined to subject Hall to an intensified interrogation. I cannot state whether Schiffer did subject Hall to such interrogation without the knowledge of Thyrolf.

On 16 February 1945 Bolzano was bombed. At that time Captain Hall was interned in one of the cells of the Corpo d'Armata. I do not know why Hall was transferred from his prison in the Viktoria Gasthaus to this cell, but I could understand that this new internment would have been harder for Hall. I do not know whether the transfer was ordered by Thyrolf or by Schiffer; it is possible that Schiffer had ordered it and Thyrolf approved.

Either on 16 February 1945 or the next morning, Gestapo interpreter and warden SS Unterscharfuehrer Johann Pinggera, who was in charge of the prisoners in the cells, came to me bringing a note written by Captain Hall. Hall had told him to forward the note to the Commander. Hall wanted the note to be given to Thyrolf only, and not to anybody else. The note was delivered to Thyrolf, and in later discussions between Thyrolf and Schiffer I heard that in it Captain Hall had asked to be put in radio contact with the Allied command so that he could obtain the immediate stopping of the bombings of the city of Bolzano. Pinggera reported also that Hall was very depressed and that he was shaking throughout his body. SS Sturmbannfuehrer Thyrolf never took any action on the note and never answered nor tried to start any negotiations.

The morning after or two days after he brought the note, Pinggera came into the office and reported he had found Captain Hall hanging in the cell either by the door handle or by the back of a chair that was in the cell. Pinggera said he was sure Hall had pulled out of his mattress the rope with which he had committed suicide. . . . The only [other] thing I know is that Captain Hall's body was sent to the Concentration Camp so that the formalities could be carried out.

* * *

[Comment by interrogator Arthur Schoster:]

Bozen, 21 June 1945

. . .

Worth pointing out is the fact that Hall was subject to continually worsening treatment. First in the Villa Polacco he was treated like

a guest and waited on, in the hall of the Viktoria Gasthaus he was a prisoner on parole, but later he was subject to the worst form of internment, being thrown into a completely filthy, unhygienic single cell in an office building in Corpo d'Armata. This would not have happened under any circumstances had they had the intention to consider him as an exchange prisoner.

. . .

The depression of Hall is easily understandable when one considers that he was kept prisoner in a cell lacking the most primitive requirements and was probably even mistreated. That Hall was trembling all over his body may also be explained by the fact that he was locked up in a completely unheated cell that contained a straw sack but probably not even a blanket.

. . .

Pinggera is supposed to have found Captain Hall hung in his cell either on the door knob or on the back of a chair on 20 February 1945 early in the morning . . . I find it imperative to conduct an inspection of the cells in the Corpo d'Armata building in the presence of the cell warden Pinggera, because to my knowledge there are no knobs on the cell doors and also there has never been a chair in the cells.

. . .

Because of the way Roy behaved in Bolzano, she was strongly criticized by the other employees. She was generally known as the "Queen." She was the one that decided if one or another employee could or could not be admitted to Schiffer's office, either in line of duty or for personal matters. Her manner toward the employees . . . even those of superior grade, was so arrogant that they . . . tried to avoid her as much as possible. The lower employees were afraid of Christa Roy . . . because they knew that one single word said by her to her superior and lover August Schiffer would have been enough to get them transferred or some other punishment. . . . I consider Christa Roy just a bitch without any feelings; she attached herself to Schiffer just . . . so that she could enjoy the advantages which came to her through her boss.

* * *

Bolzano, 1 July 1945

[Deposition of] Heinz Andergassen: [3]

. . .

If Capt. Hall was ever subjected to "special" interrogation I do not know . . . If he were to be interrogated the hard way, I think that my presence as well as the presence of Albert Storz and Schiffer's secretary, Miss Christa Roy, was required. . . .

I think that one or two days before Captain Hall's death Schiffer told me and Storz that he wanted to get rid of the prisoner. . . . I knew that Schiffer, having told me that he wanted to make the prisoner disappear, would have done it. . . . Schiffer . . . used to tell us how he got rid of prisoners in Trieste. Among other stories, he told us that one time . . . he went into a cell and cut a prisoner's veins at the wrist and then threw the glass on the floor so that it would have seemed that the prisoner had committed suicide. He also told us that many times he had strangled prisoners with his own hands. Of course, I do not know whether Schiffer really killed so many people by himself or had some of his men do it.

. . .

Schiffer told me, I believe the same day, that the prisoner had asked to be released to go to the Allied command where he would have been able to stop the bombings of Bolzano. If Hall really made such a proposition or had ever written a document on this, I do not know; . . . I know [only] that he was afraid of the bombings of the city . . .

I think that on 19 February 1945 Schiffer called me and Storz to his office at about noon time. I cannot remember any more if Miss Roy was in his office; anyway Schiffer and his friend Master of Gendarmerie Hans Butz were there. Schiffer gave Storz and me the order to go to the cell where Hall was and get him. Storz and I immediately went . . .; on the way Storz stopped to get a key to the cell that he had on his desk. Schiffer had taken out of a box which was locked in his desk a pair of handcuffs, which he gave to me or to Storz. Schiffer and Butz went straight to the machine-room, while

[3] Details have been added in two or three places from a similar statement by Albert Storz.

Storz and I went to the cell to get the prisoner, and on our way to the cell we found a piece of cloth on a table and . . . took it. . . .

There were four cells all together and Hall was in the first one right in front of the entry. In the cell, Storz told Roderick Hall that he had to come along for an interrogation. (Storz spoke a few words of English.) . . . I put the handcuffs on the prisoner and I think that Storz blindfolded his eyes. The blindfolding must have been done by Storz because he is taller than I am, and Capt. Hall was a tall man.

Hall did not offer any resistance . . . Storz and I then took him down to the machine room as we were ordered. There upon Schiffer's request we moved the prisoner in front of the boiler with his back against it. . . . On one of the large valves with a wheel handle a rope was tied . . . around several times and ended with a noose. The loop had already been made and we had to pass the rope through it. This noose was put over Hall's head and left lying loose on his shoulders so that he didn't know what was happening to him. Then Butz and Storz [sprang upon him and] dragged down on his shoulders so that the noose would tighten around his neck. I tied the end of the rope again around [the next valve] because it started slipping . . . with the weight of the body. Schiffer, who was standing in front of the victim, pulled his legs off the ground and downwards so that the death of the prisoner would be certain.

After the victim had been left in that position for [about ten minutes], the rope was loosened and the body laid on the floor; Schiffer and I made sure that Hall was dead. Schiffer and Butz left the machine-room . . . to make sure that nobody would see us moving the body back into the cell. Storz and I then carried the body back to the same cell . . . In the right corner of this cell was placed a chair with a high and full back. Around this chair I tied a rope which I think I found on the same table where we found the piece of cloth that served to blindfold the prisoner; I tied the rope in such a way that it could fit Hall's head. Hall's body was then laid on the floor in a manner that anybody looking into the cell would have thought he had committed suicide.

Before I left the cell I remembered that I had failed to remove the handcuffs from the body, so I returned . . . and took them off. During the whole procedure in the cell Schiffer, Butz, and Storz were present, but nobody remembered that the prisoner's wrists were tied in the handcuffs. Schiffer then inspected the cell and was satisfied . . . Storz locked the cell and took the key along with him.

Johann Pinggera, who was responsible for all the internees in the prison, must have learned of Captain Hall's death . . . at the latest the next morning; . . . it is possible that Pinggera would doubt that Capt. Hall had committed suicide. . . . Pinggera had to submit a written report in which, as I heard later, he was ordered by Schiffer to state that Capt. Hall had many times threatened to commit suicide. This declaration by Pinggera is completely stupid because to my knowledge Pinggera did not speak any English nor did Hall speak any German or Italian. . . .

[The next afternoon] Storz and I . . . went as ordered to the cell . . . We took the uniform and shoes off the body. . . . The body was then wrapped into two blankets . . . so that it would not be identified . . . and carried by us upstairs to the rear entrance where Storz had already parked the 6-passenger car. . . . After the body was put into the car, I got in beside Storz, who was at the steering wheel, and we drove to the Concentration Camp. . . . Haage was at the entrance waiting for us and guided us through the camp. We stopped the car in front of one of the barracks where a coffin was already placed. If my memory does not fail, two or three of the camp guards took the body out of the car, unwrapped it, and placed it in the coffin. It is also probable that the rope which had been used to fake the suicide had been left around his neck.

. . .

Knowing the way of thinking of Dr. Harster as well as down to Sturmbannfuehrer Schiffer I am certain that the killing of Capt. Roderick Hall was executed with the full knowledge and approval of the highest authorities. In this connection I can state again . . . that Sturmbannfuehrer Thyrolf once declared before many members of Section 4, "Woe to him who brings a parachutist in to me alive". When one of those present objected that it was not always possible to find an excuse to shoot a paratrooper while he was trying to escape, Thyrolf answered that there always was a possibility.

Through the following I would like to point out the brutality and complete absence of any human feelings in Schiffer.

Schiffer had a . . . roll of demolition material in the drawer of his desk. During one of the interrogations of Capt. Hall, Schiffer showed this roll to Hall. Hall upon seeing it immediately warned Schiffer of the danger of having that stuff lying around like that, and Schiffer became very frightened and ordered that all of it be thrown into the River Talfer. Another batch of the same material

which was kept in the Corpo d'Armata was also thrown into the river since there was no other use for it. In spite of the fact that Schiffer received this frank warning . . . he nevertheless ordered Hall to be hanged, instead of being thankful for the escape from this danger.

* * *

CITATION FOR LEGION OF MERIT
POSTHUMOUS

Roderick G. S. [*sic*] Hall, . . . for exceptionally meritorious conduct in the performance of outstanding services in Italy from 2 August 1944 to 27 January 1945. Volunteering for a special mission into enemy occupied territory, . . . Captain Hall parachuted into the region southeast of the Brenner Pass on 2 August 1944 and remained there, as a lone allied officer interrupting communications, collecting intelligence, and operating with partisans, during the course of which he was reported to have been twice-wounded and to have frozen both feet, during severe winter weather, in high mountains. . . . His unflinching courage . . . in undertaking an extremely hazardous operation alone [was] in keeping with the highest traditions . . . Next of kin: Mrs. Milton Dana Morrill, (Mother), 185 East Avenue, South Norwalk, Connecticut.

* * *

HEADQUARTERS
MEDITERRANEAN THEATER OF OPERATIONS
UNITED STATES ARMY
APO 512

GENERAL ORDERS
NUMBER 137: 19 July 1946

Heinz Andergassen, August Schiffer, and Albert Storz, . . . having been sentenced to be hanged by the neck until dead, . . . the sentence as to each accused will be carried into execution . . . on or before 26 July 1946 . . .

By Command of Lieutenant General Lee:

L. C. Jaynes
Major General, United States Army
Chief of Staff

COMMUNICATIONS TO THE EDITORS

Simplification

Dear Sirs:

As one who has been a close student of international communist activities in Africa, I should like to comment on your recent article, "Zanzibar Revisited." [1]

The thesis put forward in this article, i.e., that the Zanzibar revolution was spontaneous and that neither Babu nor Hanga and their parties were behind it seems to be so oversimplified as to be misleading. It may be that the final impetus to start the revolution was given by an excited mob or by disgruntled policemen; it is certainly true that Okello was nothing more than the man of the moment. However, the activities of Babu, Hanga, et al., with Soviet and Chinese support, during the months preceding the revolution produced the conditions from which such "spontaneous" action could emerge. Moreover, the fact that Babu and Hanga took over after the revolution as unquestioned leaders tends to show that they had had a hand in the planning even if the revolution itself jumped the gun.

Dan C. Naxera

Dear Sirs:

I cannot help feeling that the comment above is based on a misreading of my thesis on the Zanzibar revolution.

I certainly do not argue that there was no planning for a revolution in Zanzibar before one suddenly erupted on 12 January. On the contrary, I point out that not just Babu's Umma Party group but at least one if not two other groups were independently planning for a revolution. (I refer the reader to my original study, *Zanzibar: The Hundred Days Revolution* (RSS No. 0013/66, 21 February 1966), on which the *Studies* article was based, for a full discussion of these preparations.) Indeed, the explosive situation that existed in Zanzibar just before the revolution—the political instability of a minority government kept in power only through an unfair constituency system, mounting tensions due to extreme inequalities of wealth, and the

[1] By Helen-Louise Hunter, XI 2, p. 1 ff.

maturing of several plots for the violent overthrow of the government—made a revolution all but inevitable.

In such a situation even the most minor incident can set off an explosion. In the case of the Zanzibar revolution it was the rumor that the government planned mass arrests of the ASP leaders the next day that turned a Saturday night fete at ASP headquarters into the starting point of a revolution. Neither Babu nor Hanga, nor anyone else, had planned it that way. But although neither they nor anyone else could have known, say twenty-four hours in advance, that the revolution would occur just when and how it did, they were quite prepared to move quickly, after the fact, to take advantage of unfolding events.

It is in this sense that the Zanzibar revolution—as it actually materialized on the morning of 12 January—was more nearly a spontaneous affair than it was a planned action by either Babu and his Umma Party or Hanga and his ASP group. I do not understand the particular objections of your reader to the use of the word "spontaneous" in this context. To say, as he does, that "the final impetus to start the revolution was given by an excited mob or by disgruntled policemen" is to say very much the same thing—in different words.

Helen-Louise Hunter

CI Lantern

Dear Sirs:

The review of Rudolph Stroebinger's *A-54: Spion Mit Drei Gesichtern* which you carried in a recent issue,[1] pointing out discrepancies between this Czech account and earlier *Studies* articles about the A-54 agent based on information supplied by his case officer, General Frantisek Moravec, concludes that "the Moravec memory must simply have been very erratic indeed." It is true that General Moravec lacked files, worked from memory, was describing events some two decades old, and presumably erred at times. A few months after he returned the Czech intelligence files to Prague he was himself denied access to them. To the best of our knowledge no impartial historian or researcher has seen them since.

Stroebinger's version of A-54's duty station and the date of his arrest tend to diminish his stature as an agent and the value of the dangerous service that he performed for the Czechoslovakian Republic. Lacking access to Stroebinger's sources, we do not claim that his version is false. But if it is, it would not be the first or even the second time that nationalized Czech files have been used in the concoction of Communist propaganda, including pieces aimed at the U.S. intelligence community.

To conclude that the Stroebinger version must be the more accurate because it seems to be based on research into primary sources is to attribute to Communist writers and governments the objectivity which those governments themselves continue to denounce.

Diogenes

[1] IX 1, p. 99.

How a self-appointed counterintelligence expert fought the Tsar's political police on behalf of the Russian revolutionaries abroad.

THE SHERLOCK HOLMES OF THE REVOLUTION

Rita T. Kronenbitter[1]

Vladimir Lvovich Burtzev, active chiefly as a revolutionary propagandist in Petersburg and abroad after the failure of the 1905 uprising, had been a leading terrorist twenty and more years earlier. Now, though venerated by the younger generation of insurgents for his past achievements and appreciated for his present propaganda services, he was considered too meek and gentle to mix into current terrorist plotting. He was never a member of any of the numerous revolutionary committees nor admitted to the inner councils. He was above all not privy to the dead secrecy of assassination conspiracies.

He developed a genius for counterintelligence investigation, however, that was to overcome this isolation and raise him again to a central position among the revolutionaries. He had the perspective of decades of subversive work. He pondered the failures of revolutionary conspiracies in the early 1880's, the betrayals of his own and other carefully planned operations, and the treacheries inspired by the police among prisoners and Siberian exiles. He had learned much of Okhrana practices the hard way, from the numerous interrogations to which he and his comrades were subjected in Russia. Later, permanently settled in Paris, he was to start keeping notes, organizing in folders information on past and current episodes and maintaining his own dossiers on fellow revolutionaries as well as Okhrana and police officials. He needed such files in his work as journalist and propa-

[1] Based, except for the story of Evno Azef's exposure, for which secondary sources like Agafonov and Nikolaevsky were used, principally on the files of the Okhrana's Paris station which are preserved in the Hoover Institution at Stanford. For earlier *Studies* articles from this source see the author's "The Okhrana's Female Agents," IX 2 p. 25 ff and IX 3 p. 59 ff, "Okhrana Agent Dolin," X 2 p. 57 ff, "Paris Okhrana 1885-1905," X 3 p. 55 ff, and "The Illustrious Career of Arkadiy Harting," XI 1 p. 71 ff.

ganda writer, but they would also provide a basis for his first intelligence investigations.

Whiffs of Treachery

In 1905 an unknown, veiled woman delivered a letter to a member of the underground at Petersburg which claimed that the Okhrana had two spies in the Socialist Revolutionaries' Combat Unit, a certain T., ex-convict, and the engineer Azev, a Jew recently arrived from abroad. Since Evno Azev was actually the top leader of the Combat Unit and the party's chief organizer of terror, the letter was dismissed by the revolutionaries as obviously an Okhrana trick. Azev himself, however, recognized the ex-convict T. as Tatarov, whom he knew to be another Okhrana penetration. He was anxious to deflect the threat to his own position and so urged an inquiry. Tatarov, interrogated by a commission, admitted nothing that would lead to proof of his betrayal, but he contradicted himself enough to increase the suspicion against him. He was suspended from the party and finally, on Azev's motion, shot in his home at Kiev.

Burtzev studied the Tatarov case. He realized that it would be preposterous for the Central Committee to prefer charges against Azev; on the other hand, Azev's furious insistence that Tatarov be killed struck him as excessive. There were ample indications in new denunciations and in the failure of planned terroristic acts that there was still, with Tatarov dead, a traitor in the party. Studying the failures, Burtzev noted that almost as a rule at assassination attempts, whether successful or not, Azev was never on the scene. He was the only person witting and involved in the projects of all teams; yet when arrests sooner or later hit each of them, he always succeeded in evading the police.

To give voice to any doubt about Azev, however, would be equivalent to sacrilege, an insult to the party and its romantic terrorists. To the great majority of the members he was its great hero. Burtzev knew that any statement of his suspicions would be considered slanderous, perhaps a deliberate calumny sponsored by the Okhrana.

In 1908 an agent of the Warsaw Okhrana who had decided to defect, Mikhail Bakai, approached Burtzev in Petersburg in his position as editor of the revolutionary journal *Byloe* (The Past). He offered a mass of information about the Okhrana and its Warsaw office that convinced Burtzev of his bona fides. Burtzev talked him into staying in place a little longer, until he had collected more information on the identities of secret agents. This gamble almost failed; soon thereafter Bakai was arrested and sent to Siberia. But he escaped and came again to Burtzev. Among the new information he had acquired was the identity of the penetration agent who had reported his intention to defect and so caused his arrest. His name was Raskin.

The revolutionaries did not know that Raskin was the Okhrana's name for Azev; still, this was a pointer for Burtzev. Only a few of the top revolutionary leaders had been told of Bakai's defection in place, and of these only Azev had been in Warsaw at the time. Then one day in Petersburg, at a time when the police were arresting revolutionaries right and left, Burtzev saw Azev riding in an open cab. How could Azev, leader of the Combat Unit, ride around the capital in broad daylight? The hypothesis that Raskin and Azev were one and the same person was inescapable.

Hot Pursuit

Soon thereafter Burtzev moved to Paris and started a full-time investigation. He collected further evidence pointing to a traitor at the top of the party, and he was determined to prove that the traitor was Azev. He worked partly by the process of elimination, clearing one leader after another of suspicion until only Azev remained. Even though he was still without concrete proofs he began to voice suspicion openly. But no party leader believed him; Azev continued to direct the party's terrorist activities.

When a party conference opened in London in August 1908, Burtzev wrote to a friend attending it a letter in which he accused Azev of treachery. The letter came to the knowledge of the Central Committee, which decided to take action—against Burtzev. Regardless of how well meant they were, these libels had to stop. Some wanted to arraign him for trial before the underground tribunal; others thought that a frank talk with him might be sufficient. Boris Savinkov, Azev's assistant, was chosen to talk to the misguided old fellow. Boris met with Vladimir Lvovich and told him in confidence what Azev's real role had been in various Combat Unit projects, revealing operational information that was entirely new to Burtzev. This briefing actually only added further circumstantial evidence that strengthened the case against Azev.

Realizing that he would have to have something more than circumstantial evidence, Burtzev executed a masterful operation. He learned that A. A. Lopukhin, dismissed director of the Okhrana, was in Ger-

many. He had met him in Petersburg on several occasions and guessed that he was now probably disgruntled with the Okhrana and might be willing to talk. He contrived to run into Lopukhin, completely "by accident," on a train from Berlin to Cologne. The old revolutionary showed his embarrassment at the impropriety of imposing his company on a former director of the Okhrana. His gentle excuses and congenial indecision broke the ice, and Lopukhin invited him to share his compartment. Their long conversation eventually turned to the subject of provocateurs used, in spite of the official ban on them, by the Okhrana. Burtzev brought up Raskin as an example, but Lopukhin said he had never heard of him. Only just before they reached Cologne, with more prompting and after some hesitation, he revealed that the only provocateur he ever knew about was a certain engineer named Azev.

Burtzev rushed back to Paris and prepared an open letter, set in type, for members of the Party of Socialist Revolutionaries. He sent a galley proof to the Central Committee. Without naming Lopukhin as the source—he had promised not to—he claimed proof positive that Okhrana agent Raskin and the chief of the Combat Unit were one and the same person.

Disgrace and Triumph

Now the Central Committee had to take formal measures. It appointed three of the most popular revolutionaries as judges—Prince Kropotkin, Vera Figner, and G. A. Lopatin—to try not Azev but Burtzev, for his unwarranted accusations. All the leaders participated, most of them attacking the accuser energetically and more convincingly than he could reply. His evidence appeared only circumstantial, based mostly on police rumors. Vera Figner went so far as to suggest that he should commit suicide. In this predicament he felt obliged to break his promise to Lopukhin; he told in detail about their meeting on the train.

Burtzev was exonerated, but some of the leaders were still skeptical: Lopukhin's statement could have been a police tactic to embarrass and confuse the revolutionaries. Prince Kropotkin decided that a further investigation should be undertaken, and Central Committee member Andrei Argunov was sent to Petersburg to verify Lopukhin's statement. Meanwhile Azev himself learned what had happened and hurried to Petersburg to get General A. V. Gerasimov, his case officer, to have the charge repudiated. So when Argunov visited Lopukhin, the latter not only confirmed what he had told Burtzev but also revealed that both Azev and General Gerasimov had put pressure on him to retract.

Burtzev's long fight against handicaps ended on 5 January 1909, when the majority of the Central Committee voted an immediate death sentence. A minority, however, which still hoped that Azev might somehow clear himself, won a postponement of the execution and thus gave him a chance to escape.

The Azev case was only the beginning of a flood of exposures. Bakai had brought the names or aliases of thirty-odd agents connected with the Okhrana's Warsaw branch. Moreover, an Okhrana headquarters staff officer, Leonid Menshchikov, had also defected just before Bakai. Although he had only the code names and fragmentary information on the activities of penetration agents, he provided leads that Burtzev patiently pursued until in June of 1909 he could announce to the world that the celebrated socialite Arkadiy Harting, who as head of the Okhrana abroad was chiefly responsible for its prestige in Western Europe, was actually a miserable little provocateur and since 1890 a fugitive from French justice for his part in a terrorist plot. Paris Okhrana never recovered fully from this blow.

Thus Burtzev, once looked upon as an obnoxious meddler, a disgruntled has-been making irresponsible accusations, became the heroic "Sherlock Holmes of the Russian Revolution" and chief adversary of the Okhrana as counterintelligence officer first for the Social Revolutionaries and their Combat Unit, then for the Leninist Social Democrats, the Anarcho-Communists, and other groups. His triumphant operations would before long begin to turn sour, but in the meantime they had their day.

The Opposition Enlisted

After his permanent move to Paris in 1908, Burtzev maintained a residence at 116 rue de la Glacière until October 1914. From the beginning this apartment served also as his editorial office, first for the weekly *Byloe*, then for *Budushchee* (The Future). It was thus here that he met party leaders, members of various committees, and the general public and kept his library and intelligence files. As his intelligence activities expanded, however, he rented several other offices and also made operational use of the quarters of his principal assistants, initially Mikhail Bakai and the lawyer and journalist Valerian Agafonov.

Burtzev's triumph had been due partly to Agafonov and a split among Socialist Revolutionaries. The party's Central Committee had been formed in Paris under the leadership of a few exiled revolutionaries of considerable wealth such as Viktor Chernov and Mark Natanson. In frequent conflict with these leaders were a number of professional people, lawyers and journalists in exile, most of them struggling for their livelihood. These, like Burtzev, considered the leaders too lax and complacent about the possibility of Okhrana penetrations. In 1908 they were organized as an "Opposition Group" of about a hundred members by Agafonov, who started publishing their small journal, *Revolutsionnaia Mysl* (Revolutionary Thought). Agafonov was assisted by Gnatovsky and Yudelevsky.

Burtzev joined the Group at once and published in the new journal an article, entitled "Black Book of the Russian Liberation Movement," concerning exposed Okhrana agent Mechislav Kensitski and others accused of being traitors to the revolution; this was the beginning of his campaign against penetrations. More importantly, he thus acquired the leaders of the opposition as his voluntary assistants and agents, who gathered frequently in secret meetings and brought him information on the doings and contacts of all the active revolutionaries.

Okhrana chief Harting was, until his own exposure, fully informed of these developments and the progress of Burtzev's debriefing of defectors Menshchikov and Bakai. He had a penetration who was a member of the Opposition Group and so in constant touch with Burtzev and Agafonov. This agent now reported further that the Group, instead of searching in toto for spies and traitors, was forming a smaller special unit named the "Group of the Activist Minority" to watch closely the party members suspected of treason. Agafonov and Ankel Yudelevsky headed this select body and reported to Burtzev daily.

Secret Police Organized

Bakai, a shrewd and fanatical man who had very personal rather than ideological reasons for wanting to clobber the Okhrana, was selected for a key job in Burtzev's service. Lodging was found for him in a semi-deserted house whose remaining occupants, including the concierge, were all Socialists. The location at 7 rue du Montsouris, a dead-end street, was such that any surveillance of the premises by the Okhrana or the French *Sûreté* would be immediately noticed by the occupants. Paris Okhrana could therefore not comply with headquarters' insistence that it watch the place, according to a dispatch it sent to Petersburg. Here Bakai, with the help of Nikolai Sofronski, established what was first reported as his *Liga Politsii* (Police League) but later referred to as the "Revolutionary Police Department."

Bakai's Liga was a covert arm for Burtzev, who apparently did not trust his own office to be free of Okhrana agents (as it actually never was). The Liga was so completely conspiratorial that even important members of the party were not given its address. Its task was to collect intelligence on the Okhrana and its agents and to investigate clandestinely the life of every member of the Party of Socialist Revolutionaries, his income, associations, and loyalty to the cause. Harting expressed to headquarters his prescient apprehension about the Liga's activities and urged that all measures be taken to expel Bakai and Burtzev, as well as Agafonov and other "Activist Minority" leaders, from France. He argued that neither in England nor in Switzerland could such revolutionary counterintelligence efforts cause as much damage as in France.

In Okhrana terminology the task of Agafonov's Activist Minority was essentially internal, penetration of the Okhrana's penetrations, while Bakai's Liga was largely external, doing surveillance and detective-type investigations. Both units reported directly to Burtzev. Both of them, along with Burtzev's own office on the rue de la Glacière, at first depended for support on the not large and not affluent Opposition Group. The funds were meager, but the agents were for the most part avid volunteers, often with moderate incomes of their own.

Vladimir Lvovich Burtzev, from an Okhrana "Man Wanted" bulletin.

Prosperity: French Agents

The exposure of Evno Azev first impressed on the party leaders the need for a strong counterintelligence establishment to clear their ranks of traitors, and the Harting scandal that followed close on its heels put them solidly behind Vladimir Lvovich. His counterintelligence research had driven their most feared and hated enemy from Paris, leaving the Okhrana office there demoralized and without a chief. His propaganda campaign in Harting's wake filled much of the European press and swayed public opinion. He was behind the parliamentary interpellations that threatened the imperial service with expulsion from France and other countries.

Money flowed in freely for a time, first from the Party of Socialist Revolutionaries, then from other revolutionary groups in Europe and in North America. These funds made it possible for Burtzev to expand the service in several ways. He himself could make operational tours in Europe and one to the United States. He was able to pay the agents in Bakai's Liga and to cover their travel expenses, even on detective assignments to Belgium, England, and Italy. He set up another, separate external service. He had recognized what the Paris Okhrana office had discovered a generation before, that Russians were poorly qualified to tail fellow Russians in France. Regardless of how well they spoke French, they were too readily recognized to be used for surveillance. French agents were available, but they had to be paid regular salaries. Now he could begin to hire some.

The first Frenchman Burtzev hired was Maurice Leroy. Already a detective with years of experience, Leroy had been hired by the Paris Okhrana as one of its principal external agents and entrusted over a half dozen years with many intelligence assignments in France, Germany, and Switzerland. He had worked as a leader of surveillance teams and so knew personally most of the Okhrana's external agents in those countries. He had been dismissed in 1908 because of friction with other principal agents and also on account of his dissipated life and misuse of the Okhrana's money. He was probably Burtzev's only French agent with some motivation beside mere salary, for he wanted to avenge himself, first against Henri Bint and Bittard-Monin, the Okhrana's principal external agents, then against the imperial service in general for firing him.

For Burtzev's emerging intelligence service Leroy was a veritable windfall. He was a mature operator, and he knew all the tricks and methods of the Okhrana's external teams and their liaison contacts. He knew by name and even address the agents in France and in other countries. From his accounts of his past work Burtzev was able to deduce the pattern of Okhrana surveillance targets. Although he could produce no information on the identities of penetration agents, his voluminous reports on his external tasks provided certain leads even in that direction.

Expanded Services

After several weeks of debriefing, Burtzev designated Leroy in April 1909 the leader of a team of four surveillance agents—a Frenchman named Gandon whom Leroy himself recommended and three young Russians fluent in French, Klepikov, Dolinin, and Komorsky. The job of this team, at the time referred to as "Leroy's Brigade," was almost entirely surveillance and detective investigation (*filature*). Burtzev saw to it that Leroy's work was coordinated with that of Bakai's Liga. The latter undertook the more aggressive investigations, such as searching the premises of suspected Russians, intercepting mail by bribing landlords, checking on contacts among high-level revolutionaries, arresting and interrogating suspects. (One female agent named Ovsianikova in the Liga had a task of internal nature, circulating among the leaders of the party and reporting on their talks and contacts. She joined Burtzev and Bakai on a trip to the Italian Riviera to visit certain well-to-do Socialist Revolutionaries and made observations on their loyalty and support of the revolutionary cause.) Leroy's people, on the other hand, engaged mostly in street surveillance, following suspects, watching their domiciles, and the like.

In a number of operations during 1909 Burtzev arranged for the two external units, or at least their leaders, to work together. When it was learned that Harting was living incognito somewhere in Belgium, Burtzev quickly worked out a plan to locate him and if possible bring him clandestinely back to France, where the police would be alerted to arrest him. Burtzev thought this course would be of greatest propaganda value for the revolutionaries, but if kidnaping and delivery to France were impossible, they could carry out in Belgium the death sentence of their underground tribunal. Bakai and Leroy spent some three months of late 1909 in Belgium with their agents, Bakai investigating at Verviers, Leroy at Liège. They were confident of eventual success, but Harting had been informed of their assignment even before they left Paris.

Burtzev's service underwent continuous growth up to 1911. Leroy, in charge of recruiting and handling French agents, became his first deputy. In spite of continuous penetration by the Okhrana he did effective work, in 1913 forcing the adversary to dissolve its external service completely. He hired a number of its dismissed French agents, but most of these were doubled back by the Okhrana. Bakai's Liga was eliminated in 1911; Bakai quarreled with Burtzev over credit for the exposures they both contributed to. Agafonov's "Group of the Activist Minority" somehow lost its identity and is not mentioned after 1910, but Agafonov himself continued active and the number of internal agents working among the revolutionary groups increased.

Some Operations: Kuryansky

Burtzev was a most aggressive operator. He did not wait for leads to put him on the track of traitors; he created situations to produce the leads. Early in April of 1912, for example, Paris Okhrana received two letters, one addressed to the ambassador and the other to the consul general, from unknown persons offering their services as agents. Not suspecting that both were written by Burtzev's service, the Okhrana wrote back giving the two applicants appointments at different times and places. It even gave one a second appointment in response to a plea that the first reply had arrived too late. Neither of the two ever showed up.

But two of the addresses proposed for the meetings were, as Burtzev had suspected, used also for the mailed reports of penetration agents. His only purpose in the fake applications had been to obtain such addresses. His surveillance men now went to work and intercepted the mail for them, which gave him the code names of two Okhrana agents, Karpo and Kodak.

Leroy was able to determine that Kodak, who had a Paris address, was Leiba Poznansky, just recently recruited by the Okhrana. But Karpo's letters showed a London return address. Burtzev's men borrowed several of them and copied the contents before returning them to the post office for delivery. (The Okhrana noted the delay in their receipt but failed to take warning.)

When Burtzev thought he had learned enough about Karpo from his correspondence, he sent a telegram to the London address, inviting him to come to the railroad station to meet a certain train. The agent, true name Gersh Kuryansky, came to this meeting. Burtzev approached him and explained that Petersburg had designated him his new case officer. He asked Kuryansky about his operation and any recently obtained information, and he set the following day for another meeting at his lodging. Kuryansky, suspicious of this new case officer, immediately moved to different quarters. Burtzev, finding him gone, merely returned to Paris.

Burtzev could not in this instance, as he did in many others, publicly announce the exposure without compromising his mail intercept practices. But he depended on the revolutionary groups in which Kuryansky and Poznansky worked as Okhrana agents to proceed with exposure and liquidation. An Okhrana agent in Burtzev's service had learned about his trip on the day he arrived in London, too late to alert Kuryansky. Kuryansky was dismissed with three months' pay and left England, but soon thereafter the revolutionaries found him in France and carried out the death sentence of their underground tribunal.

The Smolyansky Case

Burtzev could not disregard the judgments of Mark Natanson, who as a member of the Central Committee was the channel for the funds he required. Although he often forced Natanson to yield to him—even in some cases where his own intelligence was incorrect—Natanson's independent investigations sometimes complicated his efforts. Natanson was practical and rational in his approach, whereas Burtzev, relying heavily on his analysis of recorded data, was impulsive and too sure of his own intuition.

One case in which Burtzev was completely wrong was that of a revolutionary activist named Smolyansky. In falsely accusing him of being an Okhrana agent, he built his case entirely on circumstantial evidence. This included the suspect's intercepted mail and letters from accusers, anonymous and signed. His income was unexplained, and his movements were suspicious. One of his purloined writings was about the Party of Socialist Revolutionaries, and Burtzev saw this as clearly the draft for an agent report. Then Burtzev received a report that a brother of Smolyansky's was a police official in Russia. He regarded the evidence as sufficient to warrant exposing the man as an agent.

Natanson objected. He had made an extensive investigation himself, and the results were quite contrary to the allegations in Burtzev's brief. He argued that the Smolyanskys were Jews and so could

not be employed as police officials anywhere in Russia. Smolyansky was well versed in the affairs of the party, but his way of life and his activities among the émigrés precluded the possibility of his being a police agent. Burtzev then renewed his investigations and gathered still more evidence to support his accusation. He won in the end by appealing to the comrades not to trust anyone. They had trusted people in the past who proved to be traitors, he argued, and that must not occur again.

Tsipin

On the other hand, Burtzev was right and Natanson wrong about an Okhrana agent named Tsipin, who lived lavishly with his wife in a Paris suburb. Natanson's queries in Petersburg seemed to confirm Tsipin's loyalty to the cause. The reports from Russia said that he had been helpful to the party in the capital even before he joined and that he had since distinguished himself as a trustworthy activist. He was described as the son of a well-to-do merchant, who should therefore have money enough to live comfortably abroad.

Burtzev was not satisfied with Natanson's findings. He sought help from the wife of the Socialist Revolutionary leader Viktor Lebedev, pen name Voronov, who lived in the same suburb as the Tsipins. When the two women were visiting one day, Mme. Tsipin displayed a number of picture postcards she and her husband had received from Petersburg. Mme. Lebedev was interested in more than the pictures; she was curious about the names of the writers. She asked questions about them for which Mme. Tsipin had no ready answers. During further chatting, Mme. Lebedev wondered whether her friend couldn't keep her husband from his careless squandering of money; this turned the talk to incomes. Mme. Lebedev, protesting that it was none of her business, nevertheless pointed out discrepancies for which Mme. Tsipin could give no logical explanation. A full account of the questions and answers went to Burtzev, who in the meantime had gathered further information that added to his doubts.

Burtzev's demand for a direct questioning of Tsipin was approved by Natanson, provided, however, that it should take the form of a friendly conversation. Lebedev and Stepan Sletov, both on good terms with the suspect, were entrusted with the disguised probing; it was hoped that they would turn up some lead for further investigation. But Tsipin, as if sensing the purpose of the talks, had a ready answer for everything. This increased suspicion but provided no proof on the basis of which he could be denounced as a police agent. In a secret meeting it was therefore decided that he should not be permitted access to any gatherings of the party; the revolutionaries should break all contact with him. The case was terminated on 24 January 1913 with an announcement of Tsipin's suicide. He was said to have shot himself on the train between Paris and Versailles.

Tatiana Tsetlin

Burtzev's exposure of Okhrana agent Tatiana Tsetlin, pseudonym Maria Tsikhotskaia, was preceded by a long investigation of the circumstances leading to failures in the conspiracies in which she participated. She had joined the Okhrana at Petersburg in 1907 and been placed as a penetration agent in the Socialist Revolutionaries' Combat Unit. The Petersburg police soon arrested most members of that unit but not Tatiana. She went to Geneva and joined another Combat Unit, which assigned her in the fall of 1908 to a team being organized by a Paris comrade, Josif Minor, to go to Petersburg and kill the Tsar. Minor left for Russia ahead of the others in order to make advance preparations; he was arrested upon arrival.

Tatiana remained in Paris associated with Boris Savinkov, the new leader of the Combat Unit, who formed a team with her and two others to begin by killing General Gerasimov of the Gendarmes and an Okhrana headquarters official named Dobroskokov. This was in March 1909. Dobroskokov, it happened, was a good friend of Tatiana's. Only two months before that date he had sent her a package of books through the cover address of an agent named Kershner. She now sent a wire to Petersburg asking him to come to Paris without delay because his life was in danger. Dobroskokov did so, arriving in Paris on Good Friday. The only ones who knew about his trip were General Gerasimov and his assistant in Petersburg and agent Kershner in Paris.

Burtzev had been watching Tatiana. He had studied the circumstances of her unhindered departure from Petersburg in 1907 after most of her comrades were arrested. He had compiled notes on Minor's arrest at the end of a trip which only she and two or three others knew about. He now learned of Dobroskokov's surprise journey just after being chosen as the victim of an assassination plan known only to Tatiana's team. He quickly organized an exceptionally large surveillance team to cover Dobroskokov and his contacts in Paris.

As Dobroskokov stepped off the train he immediately noticed three revolutionary agents and even recognized one of them; but he and Kershner, who met him, could detect no surveillance. When Tatiana came to visit him the following day, however, it became obvious that the revolutionaries had followed her. On her return home she found a telegram from Savinkov asking her to come on 13 April to the apartment of Sinkovsky, a member of her terrorist team. When she did so she was received by ten terrorists and Savinkov, who held a pistol on her.

Revolutionary Justice

The manner of Tatiana's arrest, interrogation, and trial by the underground tribunal is typical of the procedures used in cases of accused traitors. Savinkov ordered her to raise her arms and kept the pistol at her temple while she was being searched. He took from her all her money and told her that 500 rubles found in her apartment had also been confiscated as belonging to the party because it came from the Russian government. Sinkovsky, also a suspect, was being held in an adjoining room.

Tatiana had been under suspicion and investigation, she learned, for half a year, since the fall of 1908. The revolutionaries were familiar with the quarters of Dobroskokov at Petersburg; they had investigated there. They had also penetrated a safe house and learned there the code names of both Tatiana and Sinkovsky. They knew the true name of agent Kershner and the fact that Tatiana had received books through him from Petersburg.

Tatiana and Sinkovsky in the adjoining room were held for five days, watched by up to seven or eight armed members of the Combat Unit. On the second morning there arrived five members of the revolutionary tribunal and a recording secretary. The salient figure at the trial, not acting as one of the judges, was Burtzev with his intelligence records and incriminating papers picked up in the search of Tatiana's quarters, including a number of notes in Dobroskokov's handwriting.

After Burtzev's statement of the case, the tribunal began a long cross examination. Tatiana denied nothing. She declared that she had served the Okhrana but insisted that Sinkovsky had never been a police agent. She admitted acting as a secret agent for two years and made no effort to embellish her position before the court. The tribunal decided that she was an "unrepenting provocateur" and sentenced both her and Sinkovsky to death.

The two prisoners were kept in the apartment waiting to be killed. The guards were changed constantly, at times seven, never fewer than three, all armed. Altogether, Tatiana estimated, some thirty people came and left the building. The landlord's attention was attracted by the great commotion. On 19 April, without explanation, both prisoners were told the death sentence was commuted. The revolutionaries had apparently decided it would be too dangerous to carry out the execution: too many people knew about the trial and the concierge had seen too much; the liquidation could be done later, away from Paris. The prisoners were told that they were expelled from the party but would have to report all changes of address. Both were released.

Tatiana was given back 40 francs of her money. She took a train to Germany. Three armed revolutionaries accompanied her, but she succeeded in escaping from them. She returned to Russia and told the Okhrana this story.

Burtzev as Interrogator

Burtzev himself, in contrast to the others, refrained from pistol threats and abusive language when interrogating. In the case of agent Aleksandr Maas, for instance, he had piled up ample evidence of treason. But in a series of interrogations after his accusation and before the final sitting of the tribunal he, the accuser, acted more gently than even Maas's friends who were serving as judges. Talking like a kindly old professor, he began by apologizing to Maas that the interrogation had to be held because of some reports received from Petersburg. But behind this apparently timid handling was a systematic strategy to prove that the man was lying. Burtzev encouraged Maas to develop a fictitious story about his income. The story became so extensive and elaborate as to provide many facets subject to factual checking, and the traitor was caught in his own fiction.

We have seen Burtzev's ingenuity in eliciting information from the unwilling Okhrana ex-director Lopukhin. In another case, when an underground tribunal had decided to dispatch a team to kill Okhrana penetration Zinaida Zhuchenko, Burtzev first rushed to her apartment for a talk. Assuring her that he would save her life, he gently developed a lengthy interrogation, avoiding arguments, giving advice, and astutely probing into her past activities. She did not believe his as-

Sherlock Holmes CONFIDENTIAL

surances, but she could not refuse to answer his kindly and considerate questions. She gave him the story of her long service for the Okhrana, trying nevertheless to reveal nothing that could give clues to the service's current operations.

CI Hybris

After Burtzev's triumph in exposing Azev and Harting, no revolutionary group was able to refuse his services or to ignore his warnings and directives. The central committees had to accept him in their councils and consult him on the security of projected operations and the loyalty of participating activists. Thus he acquired a peculiar authority over revolutionary operations and the top party leaders. He was frequently able to tell them to change or drop their operational plans.

After Natanson and Chernov, for example, had in 1913 approved a project to dispatch Ziama Kisin with a team to Petersburg to murder Minister of Education Kaso, Burtzev warned them that the conspiracy might have been penetrated by the Okhrana. When they wanted to go ahead with the operation despite his warnings, he threatened to expose them as provocateurs if anything should go wrong. They had to drop the plan. We have seen how in the Smolyansky case Burtzev was entirely wrong, yet Natanson and the other top leaders could not contradict him. He had only to remind them, "For five years I worked on Azev and proved him to be an agent, but the comrades refused to listen," and the central committees were compelled to follow his dicta.

His authoritarian attitude led to a gradual loss of support from the Socialist Revolutionaries and other groups of political exiles. He became chronically short of the funds required to maintain his expanded services. Bakai, after he broke with him, wrote him a public letter in which he charged him with squandering money:

> Despite abundant income you have found yourself financially embarrassed at all times. And you have driven to a financially critical position all, including myself, who had the misfortune of having had dealings with you.

Burtzev may have been a poor financial manager; certainly he was more secretive with regard to funds than any other operational matter. The Okhrana's penetration agents learned and reported virtually every operational plan and action undertaken by his service, but they were never able to render a comprehensive report on where his money came from and how it was spent. Toward the end, at least, it seems clear that his subsidies simply fell off.

The negative side of Burtzev's activities came in for ever sharper criticism. Some of the revolutionary comrades saw in him an evil spirit doing more damage than good to the revolution. His fanatical drive to uncover Okhrana penetration agents at home and abroad created an atmosphere of fear and suspicion among the rank and file. His callous accusations of treason often turned out to be based on insufficient information and hasty assumptions. Two of the Russians in the original "Leroy Brigade," for example, were wrongly accused and committed suicide.

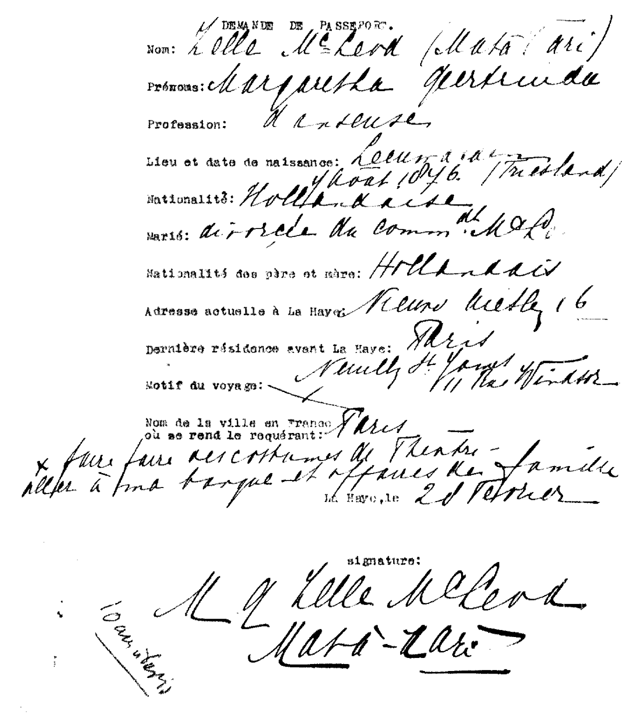
Then some whom Burtzev brought to trial by the underground tribunals cleared themselves as innocent, occasionally even when he was right, and he was obliged to recant with public apology. Sometimes his intemperate charges and subsequent retractions actually helped Okhrana agents, for example Emil Brontman and his mistress Eropkina, to establish themselves more firmly than ever in the revolutionary councils. At the same time accusations against innocents compelled many to desert the movement.

The Fall

Opposition to Burtzev increased particularly in the first months of 1914. Rumors were spread to show him full of naiveté or senile. He was called an old autocrat who conjured up suspects by intuition, without factual intelligence information and proof. He was charged with an obsession for exposing police agents regardless of how much he hurt the revolutionary movement.

With a new series of errors in exposing Okhrana agents the criticism came to a head in mid-1914, and Burtzev lost all financial support from the revolutionary groups. His teams of French external agents disintegrated because their salaries were not paid, and his wide circle of Russian collaborators gradually deserted him. By the time the war broke out in August he was actually destitute, without support from anywhere and thus without a service. He returned to Russia, escaping a throng of creditors to face in the imperial courts the charges of sedition against him. He made assertions that he did not want to oppose a government allied with the democratic West in a war against German militarism; but the true cause for his return appears to have been his loss of supporters among the revolutionaries and his consequent bankruptcy.

There had been times when Vladimir Lvovich had been wanted dead or alive by the Tsarist regime. Returning to Petrograd in wartime, however, he found the authorities unexpectedly lenient. A free man even before the first revolution broke out, he went back to newspaper work in 1917, publishing *Obshchee Delo* (Common Cause). He now became an ardent critic of Bolshevism. Despite his many past services for Lenin's party, therefore, he found it healthiest to return to exile soon after the October Revolution. In Paris he continued his *Obshchee Delo* for several years. His death came in 1942 at the age of 80.


DEMANDE DE PASSEPORT.

Nom: Zelle McLeod (Mata Hari)

Prénoms: Margaretha Geertruida

Profession: Danseuse

Lieu et date de naissance: Leeuwarden 7 Août 1876. (Friesland)

Nationalité: Hollandaise

Marié: divorcée du Comm[t] McLeod

Nationalité des père et mère: Hollandais

Adresse actuelle à La Haye: Nieuwe Uitleg 16

Dernière résidence avant La Haye: Paris Neuilly St. James 11 Rue Windsor

Motif du voyage: ×

Nom de la ville en France où se rend le requérant: Paris

× faire faire des costumes de Théâtre - aller à ma banque et affaires de famille

La Haye, le 28 Février

signature: M G Zelle McLeod Mata-Hari

Passport to Death: Of interest at the semicentennial of Mata Hari's execution (15 October 1917) is her application, executed in her own hand with true name as well as stage name, for the passport with which she probably entered France in January 1917, to be arrested six weeks later. The original is in the private collection of Walter Pforzheimer.

INTELLIGENCE IN RECENT PUBLIC LITERATURE

The German Scientists

THE VIRUS HOUSE. By *David Irving.* (London: William Kimber. 1967. 288 pp. 50/-.)

This is a well and readably written account of the atomic development efforts of the Germans from the discovery of fission by Otto Hahn and Fritz Strassmann in early 1939 to the interrogation of the principal scientists involved at the hands of the "Alsos" Mission in the spring of 1945.[1] (Its misleading title was the cover name for the first German laboratory built exclusively for nuclear research.) Following the author's classic history, *The Mare's Nest,* of the allied intelligence attack on the German V-1 and V-2 programs,[2] this new study, while more concerned with the German nuclear research itself than with the allied intelligence effort against it, yet includes enough of the latter to round out the story. Indeed, it had to: the intelligence-mounted sabotage of heavy water production at Rjuken, Norway,[3] for example, was one of the major factors contributing to the indecision that made the German wartime project fail.

For this reviewer, as one of those who in 1945 had perforce to memorize the reports from the Alsos Mission and spend tedious hours working through stacks of letters, memoranda, and scientific papers to reconstruct the German project, the main outline of its history as told here is less interesting than the many tidbits and side angles we had missed. As was to have been expected, we had never got a clear picture of the in-fighting between the German Research Council and the Army Ordnance Department with respect to nuclear development. Nor realized that the German physicists fully understood the possibilities of using either pure U-235 or element 94, now called plutonium, to make a nuclear weapon and had apparently made these possibilities clear in their oral discussions with the German military: it seems that for both security and psychological reasons—to avoid

[1] The Alsos story is summarized in General Groves' *Now It Can Be Told,* reviewed in *Studies* VI 4, p. A53; it had earlier been given more fully in Samuel A. Goudsmit's *Alsos* (New York, 1947).

[2] Reviewed in *Studies* XI 1, p. 93.

[3] First described publicly by Knut Haukelid in *Skis Against the Atom* (London, 1954). A later episode, the sinking of the train ferry evacuating the last of the heavy water, was recently retold in Adamson and Klem's *Blood on the Midnight Sun* (London, 1964), reviewed in *Studies* IX 3, p. 93.

Recent Books: Scientists OFFICIAL USE ONLY

top-level pressure for immediate results—they never wrote this part down in the papers they kept in their research institutes. That was what gave us the impression that their work on developing reactors and concentrating U-235 was not ultimately aimed at production for weapons.

We had been aware of the constant friction between the theorists and the experimentalists. But it was only upon reading *The Virus House* that I learned that the pure experimentalist Manfred von Ardenne had been working during the war on the electromagnetic separation of uranium isotopes. No wonder the Russians took him and his institute to Sukhumi on the Black Sea in 1945, despite his reputation as a "charlatan" amongst the physicists.[4]

The sections of the book on intelligence are quite well done in those areas where the information was made available to the author, as on the activities of Dr. R. V. Jones, the scientific officer attached to the military intelligence service in the UK, on the effort to sabotage the heavy water operations in Norway, and on both U.S. and UK participation in the Alsos Mission. The activities of MI-6 are less well portrayed. The head of that organization's nuclear section, Lt. Cmdr. Eric Welsh, is seen primarily through Dr. Jones' inimical eyes, as "having a modest scientific background" but "an immense cunning." Yet he is accorded "highest praise" for the way he handled British-American relationships, so delicate in the whole field of atomic research and a major source of friction with Dr. Jones. Big-league baseballer Moe Berg's operations for OSS are given such short shrift that his name was missed in the index.

These imperfections in the area of clandestine operations do not considerably detract from the story. Another clandestine angle, however, deriving from the ideology of Frédéric Joliot-Curie in Paris, the author completely missed. As the possessor of the only cyclotron in Europe outside of Leningrad, Joliot collaborated with the Germans in making needed nuclear physics measurements. But he was a member of the maquis, a convinced communist, and reportedly an agent of Soviet intelligence. That may be one reason why the Germans never discovered the principle of delayed neutrons which makes it possible to control a nuclear reactor.

The author's assessment of the soporific effect on the Germans of their lack of positive intelligence on what the British and the Americans were doing in the nuclear field is in fact quite correct. He ascribes what little knowledge they did have of the U.S.-UK program to decryption of scrambled transatlantic radiotelephone calls. Actually the source of this knowledge, when tracked down by the Alsos Mission, turned out to be a single clandestine report received from a German agent in the Belgian Congo.

Henry S. Lowenhaupt

THE HUNT FOR GERMAN SCIENTISTS. By *Michel Bar-Zohar*. Translated from the French by Len Ortzen. (London: Arthur Barker. 1967. 207 pp. 25/-.)

As a vehicle for the theme that the modern scientist is a mercenary, or at least pawn and prey, of the gods of war, the author presents a compendium of for the most part previously published stories not only about the American-British-Russian hunt for German scientists from 1944 to 1960 but about the weapon-related research of these and other scientists and their exploitation by government in general. Michel Bar-Zohar must be one of those who can't bear to throw any of his working notes away, and the consequent irrelevancies and clutter of detail, especially the long cast of characters who remain only names, frustrate his effort to bring the material to life by devices of journalistic style. In translation, at least, the style is in fact juvenile and choppy; and so are some of his judgments. Here is his quaint explanation for the abandonment, in the summer of 1942, of the project to attack Tokyo with incendiary bats:

> There was no need of 'living rockets' when the death bomb was being developed. The Manhattan Project allowed the bats to be returned to their peacetime occupations.

The book is full of inaccuracies.[5] At best, it might serve as a review of source material; but it omits to cite the sources.

Belinda Lowenhaupt

[4] For the Soviet sequel to the German program see the reviewer's "On the Soviet Nuclear Scent" in this issue.

[5] One of these concerns the war's-end hunt by the U.S. Air Force, which he says "suffered from a slight inferiority complex" and "was too busy with operations in the air" to mount its Operation Lusty for the intelligence exploitation of the Luftwaffe until mid-June 1945. The planning for Lusty, under Colonel Huntington D. Sheldon, actually began in the early fall of 1944 and the order launching it, drafted by Captain Walter Pforzheimer, is dated 22 April 1945. It put some 600 people to work in the hunt for German scientists, documents, and hardware. A Disarmament Command under intelligence direction in the Ninth Air Force was also active in the seizure of German scientific equipment and some scientists, enlisting prominent American civilians to assist in their interrogation.—Editor

Contemporary Issues

TO MOVE A NATION: The Politics of Foreign Policy in the Administration of John F. Kennedy. By *Roger Hilsman.* (New York: Doubleday. 1967. 602 pp. $6.95.)

In 1958 Roger Hilsman received a grant from the Rockefeller Foundation "to study the politics of policy-making in foreign affairs." Not long after commencing work on the project he was summoned to be Director of the Bureau of Intelligence and Research in the State Department, and then Assistant Secretary of State for Far Eastern Affairs. Sometime after the death of President Kennedy he left the government, went to a professorial post at Columbia, and recollected in tranquillity the course of events he had experienced. This book is the result.

It is an excellent book, well organized, well written, well worth reading. There is some introductory discussion on general matters, and a closing section of meditation on the lessons to be learned. Between these are detailed, even anecdotal, accounts of the development of U.S. policy with respect to those areas the author knew best—Laos, Vietnam, and Communist China—together with somewhat less substantial sections on the Congo, Indonesia, Malaysia, and the Cuban missile crisis. Those who knew Hilsman will not be surprised that his own part in these events looms pretty large in the telling, but they will be disarmed by his disclaimer of omniscience and his generous tribute to the sincerity and high-mindedness of those—at least most of those—who opposed his views.

There is a great deal about the CIA—as an institution, as a collection of extraordinarily competent people, as a problem. It was a problem for all the reasons we have heard so often: its size and power, the compelling personalities of Allen Dulles and John McCone, its alleged policy-making proclivities, and so on. Hilsman treats all this fairly and judiciously, it seems to me. He emphatically denies that the Agency is or was a *Staat-im-Staat,* or an Invisible Government. He explains the need for an organization which can engage in covert action overseas and affirms the truth of Mr. Dulles's statement that all the actions of CIA were approved at a high political level in the government, outside of the CIA itself. Yet, says he, this still leaves room for lots of difficulty.

There is indeed room for difficulty. For the philosophical point of Hilsman's book is—not a new idea—that "very often policy is the sum of a congeries of separate or only vaguely related actions . . . an uneasy, even internally inconsistent compromise among competing goals or an incompatible mixture of alternative means for achieving a single goal." Policy emerges out of argument and debate among men of various responsibilities and opinions, and as the sometimes inescapable consequence of actions and decisions, sometimes quite minor in themselves, which are taken as the course of events moves along. Throughout the book one sees the part that CIA actions overseas played in the development of policy. And CIA men sat in the councils of government at various levels, both at home and abroad. They were not faceless men without opinions; they had ideas of what ought to be done; they knew, or thought they knew, what *could* be done. Their views carried weight.

Thus it is not true to say that CIA makes policy, and it is idle to say that it does not make policy. The subject is complicated; it cannot be dismissed in easy generalizations or offhand accusations. I do not know of a better basis for thinking about the matter than is supplied by the material in this book.

In its description of CIA's position and activities the book is accurate, as far as I can discover. There is one matter, however, on which the author erred, and it is an important matter. One day in August, 1963—it was a Saturday—the State Department sent a cable to Saigon which, in effect, ordered a withdrawal of U.S. support from Ngo Dinh Diem. It was a memorable cable, drafted by George Ball, Averell Harriman, Michael Forrestal, and Hilsman. Clearance of this cable was a problem because so many important folk were out of Washington. According to Hilsman it was approved by General Carter for the CIA; and certainly Hilsman ought to know. But the fact is that it was not approved, or seen in advance, by anybody in CIA, and it created a sensation when it was read after being sent. Of course this was an act of high policy, and it was not for the CIA to say yea or nay.

Abbot E. Smith

SOLDIERING FOR PEACE. By General *Carl von Horn.* (London: Cassell. 1966. 372 pp. 50/-.)

These are the memoirs, written in English by the Swedish author (the Swedish edition is a translation from it), of the man who commanded the United Nations peace-keeping forces successively in Pales-

Recent Books: Contemporary OFFICIAL USE ONLY

tine (except the UN Emergency Force in Gaza), the Congo, and the Yemen from 1958 until August 1963. It is unpleasant reading: General von Horn portrays himself, of course not intentionally and no doubt unjustly, as vain, self-righteous, stiff-necked, intolerant, rude, and vindictive, feuding spitefully with all who frustrate him. Moreover, although he is evidently an accomplished linguist, his lack of feeling for the subtletics of English expression make his writing a constant stream of fancy clichés; phrases like "rarefied atmosphere," "jaundiced view," "in no uncertain terms," "blissfully unaware," and "unswerving loyalty" come out stepping on each other's heels.

There is only one chapter (9) strictly of intelligence concern. It describes von Horn's effort to put up security barriers against the Israeli intelligence service, which penetrated his Jerusalem headquarters and recruited many of the UN personnel in Palestine as smugglers or spies or both. A number of case histories illustrate the varying inducements—humanitarian appeal, money, blackmail. But the book as a whole, if you can stomach it, has the fascination of showing through the eyes of the man on the spot and so bringing to life these complex and dramatic crises that most of us followed only through newspapers and intelligence reports.

Anthony Quibble

SERVICIO DE INTELIGENCIA DE CUBA COMUNISTA. By *Pepita Riera.* (Miami: offset printing, paperback. 1966. 255 pp.)

Miss Riera, a middle-aged Cuban refugee in Miami, is well known for her Spanish-language radio broadcasts to Cubans in Cuba and in exile. She had been in the underground movement against Batista and joined Fidel Castro in the Sierra Maestra action. Early in 1960 she turned against Castro and found asylum in the Brazilian embassy in Havana. In 1961 she arrived in Miami, where she has also published several books denouncing communism in general and Fidel Castro in particular.

This book of hers on the present Cuban security services is a new kind of venture. It consists of two parts, first one detailing the functions, organization, and personnel of the internal security organs in Cuba and then one summarizing episodes of Castro-communist subversion in each of the Latin American republics.

Intelligence interest centers on her exposition of internal security practices in Cuba, notably: methods and techniques used by secret agents against citizens suspected of opposing the regime; the functions of the Committees for the Defense of the Revolution; the activity of the Department of Penal Institutions and Rehabilitation Corps; biographical sketches of a number of the principal officers showing their political background and their travel and training in communist countries; the special schools to train Latin Americans in subversion, guerrilla operations, sabotage, and other political action. All this is purportedly based on information provided her by a Cuban intelligence officer who defected in 1964.

In the second part of the book, surveying subversive operations abroad, the author documents Castro's attempt to export his revolution, with Soviet assistance, to all Latin America, training and helping nationals of each country to overthrow their governments. She describes the use of both official and unofficial cover in these operations and emphasizes the use of Mexico as an advanced base. She identifies the National Liberation Fronts and other leftist political organizations and records in chronological order Castro-instigated subversive activities in each country. This material is somewhat superficial; it appears to be based primarily on newspaper accounts. Its greatest weakness, however, lies in blaming Castro-communism for every public disorder in Latin America since 1960, which is a patent fallacy.

The book is a curious mixture of styles. Pages of factual, objective material (except for the oddity of presenting organizational and personal names all in startling caps) and of compilation as uninspired as a clipping service's listings are preceded and occasionally interrupted by purple passages extolling for example the true heroes among the Cuban population, enslaved by a regime of force and terror, who have penetrated all the organs of repression or valiantly evade them while slipping silently in and out of Cuba in the fight for freedom.

Dolores Osuna

Notes from World War II

SALAISTA PALAPELIÄ (Working a Secret Jig-Saw Puzzle). By *Jukka L. Mäkelä.* (Porvoo: Werner Soderstrom. 1964. 270 pp.)

The author, who held an inconspicuous but important post as intelligence officer during the Finnish-Russian wars 1939-45, dedicates these recollections of the period to men and women of the Finnish intelligence service who gave their lives while carrying out their duty. The book combines an explanation, for the uninitiated, of the nature of intelligence, its modus operandi, and its military significance with a description of Soviet intelligence activity against Finland, Finnish countermeasures, and examples of vital intelligence acquired by the Finnish service.

Mäkelä's observations are strictly those of a professional intelligence officer; he depicts intelligence and counterintelligence realistically, without resorting to theatrical cloak-and-dagger effects. He presents the process as a workaday task, one comparable to doing a jig-saw puzzle, in which apparently insignificant and trivial details can often, when collected at a central point, assume their true importance in a much larger picture.

The book should be of primary interest to intelligence-minded students of Finnish history or Finnish-Russian conflicts, which date from the beginning of the Christian era. Noteworthy is its description of the attitudes of Soviet intelligence officers in 1939: they refused to believe any reports on Finland that did not coincide with their own propaganda. The Soviets expected to conquer Finland in one or two days, but their intelligence was so poor that they lost hundreds of thousands of men in the struggle. In one example of this abysmally faulty intelligence, they heavily bombed the tiny city of Porvoo because—the author was told by a Russian prisoner of war—a dangerous Finnish nationalist named Runeberg lived there: they apparently did not know that the poet Runeberg had died in the nineteenth century. Soviet propaganda promised Finnish troops bread if they would surrender, unaware that the Finnish standard of living was among the highest in the world and undoubtedly projecting from the shortage of bread in the USSR at the time.

Arthur O. Wihtol

FLEE THE CAPTOR. By *Herbert Ford.* (Nashville: Southern Publishing House. 1966. 373 pp. $5.95.)

This interesting late comer to the extensive escape and evasion literature of World War II is the story of the Dutch-Paris Network told through the experiences of one of its main architects, John Weidner. The network comprised an Amsterdam-Brussels-Paris-Geneva escape line with branches to Spain. Over it more than 1,000 threatened people were moved to safety and much valuable intelligence was conveyed, at a price: some 40 members of the network died in concentration camps.

Much material of intelligence interest is presented: details on clandestine cross-country movement and border crossing; an overview of the problems of maintaining an escape line; a telling example of the importance of the need-to-know principle; light on some of the deeper roots of agent motivation; and background on the World War II role of Geneva and vicinity, a beehive of covert and clandestine activity.

Weidner, a devout Seventh Day Adventist who never carried or used a weapon, believed he was divinely guided in his activities. It is hard not to agree with him after reading about his intuitive feeling for the weak link, a gift that enabled him to break from custody 5 or 6 times before he was flown to England in 1944.

One of Weidner's main contacts in Switzerland was Dr. W. A. Visser 't Hooft, General Secretary of the World Council of Churches, who has written a foreword for the book. Dr. Visser 't Hooft raises an eyebrow at the reconstructed dialogue but vouches for the basic accuracy of the story.

Louis Thomas

ALS GESTAPO-AGENT im Dienst der Schweizerischen Gegenspionage. By *Jakob Leonhard.* (Zürich: Europa Verlag. 1965. 76 pp.)

These are the memoirs of a Swiss wartime double agent who ostensibly worked for the Nazis in Switzerland but was under Swiss intelligence control. In time, after several real Nazi agents with whom he worked were arrested by the Swiss, the Germans became suspicious, summoned him to Stuttgart, and held him under death sentence for ten months until Swiss representations freed him. The story of his low-level espionage is apparently genuine, but it contains no historical

revelations or insights into the two intelligence agencies concerned (except perhaps that it wasn't a good idea to be a double agent for the Swiss). Most of the book is devoted to the horrors of life and near-death in a Gestapo prison.

Inquirer

IN MEMORIAM

Desmond FitzGerald

1910 — 1967

Citation for

National Security Medal

Awarded Posthumously on 15 September 1967

As an American of high dedication to the principles upon which our nation was founded, Mr. FitzGerald on two occasions left the practice of law to offer his unusual talents to his Government. Enlisting as a private in the United States Army in the early days of World War II, Mr. FitzGerald served gallantly and with distinction in the Asiatic-Pacific Theater until his separation as a Major after the close of hostilities.

He again volunteered his services to the nation, when, at the outbreak of war in Korea, he became a member of the Central Intelligence Agency. In the following sixteen years Mr. FitzGerald's exceptional competence and stimulating leadership won the confidence of his associates and established a standard of excellence to guide and inspire others who will follow in the intelligence service of our country. In achieving the remarkable accomplishments that have been of major significance to the United States during periods of world crisis, Mr. FitzGerald gave unstintingly of himself and his energies, of his courage and imagination. His unchallenged integrity matched only by his passion for anonymity set precedents difficult to follow but of high importance to our government. Mr. FitzGerald's valuable contribution to the strength of our nation's foreign intelligence effort upholds the finest traditions of the Federal service.

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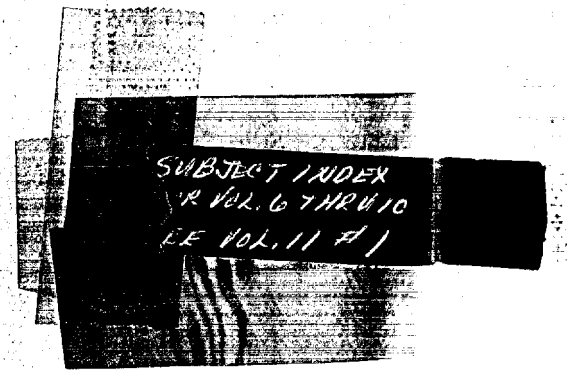

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