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A thoughtful former insider examines in depth the Soviet (and Western) intelligence services.

THE THEORY AND PRACTICE OF SOVIET INTELLIGENCE¹

Alexander Orlov

Like the Western intelligence services, the Russians get information about foreign states from two principal sources, from secret informants and undercover agents and from legitimate sources such as military and scientific journals, published reference material, and records of parliamentary debates. But the Russians regard as true intelligence (*razvedka*) only the first type of information, that procured by undercover agents and secret informants in defiance of the laws of the foreign country in which they operate. Information obtained from legitimate sources and publications they consider mere research data. In the eyes of Russian officers it takes a real man to do the creative and highly dangerous work of underground intelligence on foreign soil, while the digging up of research data in the safety of the home office or library can be left to women or young lieutenants just beginning their careers. The Western intelligence services, on the other hand, treat both types of information as intelligence, often with a much higher regard for research than for undercover work.

Fundamental Doctrine

It is in these variant attitudes toward the two types of information that the difference between Soviet and Western intelligence doctrine begins to emerge. The difference is not just a theoretical one; in practice it affects every phase of intelligence activity from operational planning and choice of

¹ The material in this article has also been submitted to the Michigan University Press as part of the manuscript for a book which may be available by the time this issue appears. It is nevertheless of sufficient importance to warrant this special presentation for the intelligence community.

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strategy to evaluation of the reliability of information procured and its importance to policy makers.

Both Soviet and Western intelligence services strive to learn the secret intentions, capabilities, and strategic plans of other states, but they don't go about it in the same way. The Russians believe that such important secrets can and should be procured directly from the classified files in offices of the government in question and from informants among its civil servants. When the Russians suspect that another country is trying to form a coalition directed against the Soviet Union, they don't seek information about it in newspaper editorials, panel discussions, or historical precedents, although all these sources may shed some light on the matter; they set out to steal the secret diplomatic correspondence between the conspiring states or to recruit an informant on the staff of the negotiators if they don't have one there already. When the Russians want to know the number of bombers in the air force of a potential adversary, they get the figure, not by doing library research on the productive capability of airplane plants or assembling educated guesses and rumors, but by asking their secret informers within the foreign air force or war ministry and by stealing the desired information from government files.

The Americans, on the other hand, and to a certain extent the British, prefer to rely more heavily on legitimately accessible documents. The American intelligence agencies are said to monitor as many as five million words daily—the equivalent of 50 books of average length—from foreign radio broadcasts alone. From enormous quantities of open material like this analysts derive a lot of information about foreign countries, their economies and finance, their industries, agriculture, and trade, their population and social trends, their educational and political systems, the structure of their governments, their leaders' past lives and present views, etc. Drawing on that colossal warehouse of encyclopedic data, intelligence officers write reports and compose national estimates of foreign countries for the benefit of policy makers.

Admiral Ellis Zacharias, Deputy Chief of Naval Intelligence in the last war, wrote that in the Navy 95% of peacetime intelligence was procured from legitimately accessible sources,

another 4% from semi-open sources, and only 1% through secret agents. Another authority on American intelligence, Gen. William J. Donovan, who headed the Office of Strategic Services during the war, expressed the same predilection for "open sources" by saying that intelligence is not the "mysterious, even sinister" thing people think it is, but more a matter of "pulling together myriad facts, making a pattern of them, and drawing inferences from that pattern." This predilection for open sources lies at the core of the American doctrine of intelligence.

But how can intelligence officers pick out from the vast amount of encyclopedic data that flows in to them the key developments for their purposes? One of the chiefs of American intelligence, a distinguished professor and noted scholar, had this to say on the subject:

How can surveillance [of the world scene] assure itself of spotting . . . the really unusual? How can it be sure of putting the finger on the three things per week out of the thousands it observes and the millions that happen which are really of potential import? The answer is . . . procure the services of wise men—and wise in the subject—and pray that their mysterious inner selves are of the kind which produce hypotheses of national importance.

In the Russian view, such an approach is but one step removed from mysticism and metaphysics. What if the "mysterious inner selves" of the researchers and analysts fail to produce the right hypotheses? How safe is it, in general, to rely on hypotheses in matters of such profound complexity as world politics, where nothing is stable and enemies of yesterday become today's friends and fight together against their former allies? A hypothesis may be wisdom itself, yet turn out to be utterly wrong. Not only intelligence officers but statesmen of the highest caliber have time and again been proved wrong in acting on undeniably wise hypotheses.

In 1940-41 Stalin based his strategy on the calculation that Hitler would not attack the Soviet Union. He knew that it was not in Germany's interests to get into a two-front war, and he thought that Hitler understood this too. In the spring of 1941 the British Joint Intelligence Committee also estimated that Hitler would not be so foolish as to add the powerful Soviet Union to his formidable enemies in the West. But these

logical hypotheses went up in all-too-real smoke on 22 June that year.

Stalin, who was his own intelligence boss and liked to take a personal part in the cloak-and-dagger business, warned his intelligence chiefs time and again to keep away from hypotheses and "equations with many unknowns" and concentrate instead on acquiring well-placed informants and access to the secret vaults of foreign governments. He used to say, "An intelligence hypothesis may become your hobby horse on which you will ride straight into a self-made trap." He called it "dangerous guesswork." In 1932 he had ordered that our quarterly intelligence surveys of foreign countries no longer be sent him. Although based on secret data, these surveys were interspersed with unsubstantiated hypotheses and subjective views; they corresponded roughly to the national estimates which the American intelligence agencies produce for the National Security Council. After that the NKVD sent him the cream of raw intelligence only—summaries of important documents stolen from other governments and reports from exceptionally valuable secret informants like foreign ambassadors and general staff officers.

During his periodic conferences with the chiefs of the intelligence services Stalin would often interject: "Don't tell me what you think, give me the facts and the source." But sometimes he would violate his own rule and ask one or another intelligence chief for an opinion. Such was the case during a joint conference which Stalin and Voroshilov had in the summer of 1936 with the chiefs of the NKVD and the Red Army Intelligence Department. Stalin asked Artouзов, deputy chief of military intelligence, "With whom would Poland side in a war between Germany, Italy, and Japan on the one side and Russia, France, and England on the other?" Without hesitation Artouзов answered: "Poland will always be with France and England." "You are a jackass," retorted Stalin. "If Poland didn't side with Germany against us, she would be crushed by the German mechanized divisions on their way to the Soviet Union and would not live to see another day, whereas if she allied herself with Germany she could hope to expand if things went well, and if things went badly she might still get a negotiated settlement." Artouзов did not live to see his illogical prediction come true; he was shot in the great purge, in 1937.

In the Soviet Union research on publicly accessible materials is conducted by the Academy of Sciences, the universities, the scientific journals, and the Ministries of Foreign Affairs, Industry, Trade, Finance, and Statistics. The NKVD based its work 100% on secret sources and undercover agents. The Main Intelligence Department of the Army did study some legitimately accessible sources, but only those dealing with military matters, such as foreign military and scientific journals, army and navy manuals, military textbooks, topographic explorations, and anything printed anywhere about the armed forces of the world. But even in army intelligence the main efforts, at least 80% of the total, were concentrated on building and operating networks of secret informants and on the procurement of secret documents.

Had the Soviet intelligence agencies put their main efforts and resources into building up encyclopedias of world-wide information from overt sources and on processing and analyzing that enormous amount of incoming raw material, they would have never been able to acquire the secrets of the manufacture of the atomic and hydrogen bombs or the blueprints of the American nuclear-powered submarines or to infiltrate the key departments of the American, British, and European governments. Important state secrets and especially clues to the intentions and plans of potential enemies cannot be found in libraries or encyclopedias, but only where they are kept under lock and key. The task of intelligence services is to acquire the keys and deliver the secrets to their governments, thus providing them with the foreknowledge and orientation needed for the making of decisions.

When General Douglas MacArthur, who had been blamed for not having foreseen certain developments in the Korean War, was asked by the Senate investigating committee in 1951 to explain why the North Korean invasion caught the Americans by surprise, he gave a classic reply from which many an intelligence chief could take his cue. He said:

I don't see how it would have been humanly possible for any man or group of men to predict such an attack as that . . . There is nothing, no means or methods, except the accidental spy methods—if you can get somebody to betray the enemy's highest circles, that can get such information as that. It is guarded with a secrecy that you cannot overestimate.

Thus, under the fire of the investigation, General MacArthur, who was not an expert in intelligence, arrived with excellent logic at an idea which touches the very heart of the intelligence problem. "There is nothing, no means or methods, except . . . spy methods . . . that can get such information as that." This is the essence of the Soviet doctrine of intelligence.

Political Intelligence

While The Main Intelligence Department (GRU) of the Soviet Ministry of Defense does only military intelligence, the Foreign Directorate of the Committee of State Security (KGB), successor to the NKVD, is actively engaged in at least seven lines of intelligence and related work, not counting sabotage and guerrilla warfare.

The first line, which is considered the most important, is the so-called diplomatic intelligence, the purpose of which is to keep the Soviet government informed of the secret deals between the governments of capitalistic countries and of the true intentions and contemplated moves of each of these governments toward the Soviet Union. This information is to be procured from primary sources within the secret councils of the foreign governments. The principal sources are the following: foreign diplomats, including ambassadors; the staffs of foreign ministries, including code clerks, secretaries, etc.; private secretaries to members of the cabinet; members of parliaments; and ambitious politicians seeking financial aid and left-wing support. The life history of such officials is studied beginning with their school years, and their character traits, weaknesses and vices, and intimate lives and friendships are analyzed with the purpose of finding the Achilles' heel of each and securing the right approach to him through the right person, say a former classmate, intimate friend, or relative.

These well-prepared approaches have often paid off. Some politicians have been lured into the Soviet network by promises that the Soviet Union would use its secret levers of influence in their countries to further their political fortunes. Such promises have often been accompanied by "subsidies," ostensibly to promote good will toward Russia but in reality a bribe. A number of high officials have succumbed to outright offers of money. Others, especially those who in their youth had be-

longed to Fabian and other idealistic circles, were influenced by humanitarian arguments and persuaded that they must help the Soviet Union stop the march of fascism. Considerable success was achieved among foreign diplomats tinted with homosexual perversions; it is no secret that the biggest concentration of homosexuals can be found in the diplomatic services of Western countries. Those of these who agreed to work for the Russian network were instructed to approach other homosexual members of the diplomatic corps, a strategy which was remarkably successful. Even when those approached declined the offer to collaborate, they would not denounce the recruiter to the authorities. Soviet intelligence officers were amazed at the mutual consideration and true loyalty which prevailed among homosexuals.

It is usually supposed easier to lure into the Soviet network a code clerk or secretary than a diplomat or statesman; a man in an important government position is expected to know better than to take the road of treachery, and he has much more to lose if caught doing so. The experience of Soviet intelligence has in many instances, however, not borne out this view. Honesty and loyalty may often be more deeply ingrained in simple and humble people than in men of high position. A man who took bribes when he was a patrolman does not turn honest when he becomes the chief of police; the only thing that changes is the size of the bribe. Weakness of character, inability to withstand temptation, lightmindedness, wishful thinking, and bad judgment are also traits that accompany a man to the highest rungs of his career.

The consensus of Soviet intelligence chiefs has been that departmental and private secretaries in a foreign ministry are often more valuable as sources of information than an ambassador, because a well-placed secretary can supply documentary data on a wider scale, covering the policies of the foreign government toward a number of countries. An ambassador is considered a much bigger prize, however, because he can be used not only as a source of information but also as a competent consultant for the Russian Foreign Office and even as an agent who can influence to a certain extent the foreign policy of his government.

Military Intelligence

The second line of Soviet intelligence activity is to procure data on the military posture of Western and other countries, the quality and strength of their armies, navies, and air forces, their degree of mechanization, mobility, fire power, technological advancement, and modernization, and the productive capacity of the armament industries and the mobilization plans of the big powers. Soviet intelligence watches with a jealous eye every new invention in the field of arms and tries to steal it while it is still in the blueprint stage or on the drawing board so that Soviet inventors and engineers can be the first to apply it. With the advent of the nuclear and rocketry age, which has completely revolutionized the material base, strategy, and very concept of warfare, Soviet intelligence strains all its efforts to obtain immediate information on the progress being made by the leading Western countries in these advanced fields and to gauge the striking and retaliatory power of the Western world.

As we have said, the KGB does not look for this information in public documents. Neither is it interested in monitoring foreign radio transmissions and distilling from them crumbs of random information. It procures the military secrets of foreign governments from the classified files of the general staffs of those countries, from the secret reports of foreign defense ministries, from military research laboratories and proving grounds, and so it knows that what it gets represents, even if incompletely, the true facts on which Soviet policy makers can confidently base their decisions.

In wartime, military intelligence becomes the principal function of every branch of the Intelligence Directorate of the KGB. The main task of its field posts, its underground *residenturas* abroad, is then to inform the Soviet government by radio and other means about the war plans of the enemy, his troop concentrations and movements, the size of his uncommitted reserves in men and materiel, and the extent of the damage inflicted on the enemy by the air forces of the Soviet Union and its allies. Diplomatic intelligence concentrates the efforts of its informants and secret agents on watching the relations among the governments of the enemy coalition, with special emphasis on frictions among them. The *residenturas* must keep a sharp eye also on Russia's allies in the war, immedi-

ately signaling to the Soviet government if an ally puts out peace feelers and is gravitating toward a separate peace with the enemy. It may be recalled that during World War II the Kremlin sounded an alarm when it intercepted rumors that British representatives were about to meet in Franco's Spain with emissaries of Hitler. During the worst days of the last war, when Russia's defenses were crumbling and the Western allies were slow in opening a second front, there were moments when the Western leaders were jittery at the thought that Stalin might try to save what was left of the country by making a separate peace with Germany.

While the residenturas abroad keep the government informed of the enemy's grand strategy and his capabilities and vulnerabilities, day-to-day tactical or combat intelligence is taken care of by the intelligence sections of the Soviet armed forces and by the special detachments (*Osoby Otdel*) of the KGB attached to all army units down to the regimental level. It is their duty to supply the Soviet commander with data on the size, disposition, and fighting strength of the enemy force with which the troops under his command will soon be locked in battle. The standard sources of military intelligence are supplemented by material obtained in raids the KGB guerrilla detachments make on enemy headquarters, by ground and aerial photo reconnaissance, and by the interrogation of prisoners, refugees, and spies who pose as refugees.

Economic Warfare

The third line of Soviet intelligence is called economic intelligence, which contrary to what might be supposed has little to do with studying the economy of foreign countries. It was created for the purposes of exercising State control over Soviet export and import operations and of protecting Soviet foreign trade from the pressures and abuses of international cartels and other organizations of monopolistic capital.

In the 1930's, for instance, the Division of Economic Intelligence discovered that the biggest electric concerns of the world had entered into a "gentlemen's agreement" according to which they would not compete with each other in their dealings with Soviet Russia and would overcharge her on purchases up to 75% over current world prices. I myself saw a letter signed by the vice president of General Electric Co. ad-

dressed to the presidents of the German AEG and the Swiss Brown Boveri Co. which contained a list of prices made up especially for the Soviet Union 60 to 75% higher than the regular market prices. General Electric tried to justify this extortion by pointing out that Russia's credit standing was "not too good." The gentlemen's agreement was finally broken up by the Soviet government, but not before Soviet trade had suffered losses totaling tens of millions of dollars.

Plants

The fourth line of Soviet intelligence is misinformation. The Soviet government is interested not only in obtaining information about the policies and impending moves of other countries but also in misinforming and misleading the foreign governments concerning its own position and intentions. But whereas in procuring secret information from abroad the intelligence officer is given free rein to steal whatever he considers valuable, the task of misinforming the outer world about the Soviet Union cannot be left to the discretion of the individual officer or even of the intelligence service as a whole. What false information or rumors should be deviously placed within earshot of some foreign government is a question of high policy, since the purpose is to induce this government to do what the Kremlin wants it to do, perhaps to bluff it into inaction or into making a concession. In this area, therefore, Soviet intelligence cannot act without specific directives as to the substance of the misinformation and the way it should be planted.

When in the 1930's, for instance, the Soviet government wanted to obtain a mutual defense treaty with France in order to counteract the growing menace of Hitler's Germany, Soviet intelligence was given instructions to introduce into French General Staff channels certain pages from a German army report which showed that Germany was planning to occupy the Rhineland at the beginning of 1936 and invade France within eighteen months after that. Similarly, at about this same time, an effort was made to shake England out of her complacency by slipping into British intelligence channels (through a German double agent) inflated figures concerning German aircraft production; these created quite a stir in the highest councils of the British government. Here the task of the misinformation desk of the NKVD had been to fabricate ostensible pho-

copies of the German documents with such skill that they would seem genuine even to trained military experts.

During the Spanish civil war, in which a Russian tank brigade fought against the forces of General Franco and Russian pilots flew the newest and best Soviet fighter planes (I-15 and I-16) and medium bombers (CB) against the German air squadrons supporting him, the misinformation desk was ordered to introduce into German military intelligence channels the information that these Soviet planes were not of the latest design, that Russia had in her arsenal thousands of planes of second and third succeeding generations possessing much greater speed and higher ceiling. In August 1937 German experts had examined and tested two Soviet I-16 fighters when they landed by mistake on an enemy air strip in the Madrid sector, and they had been amazed at the quality and performance of the planes, which in some respects surpassed German fighters. Now the false information that the Russians had on the production line still better and more modern models served Stalin's evident aim of impressing upon Hitler that the Soviet Union was better armed than he thought and that it would be wiser for Germany to have Russia as a partner than as an opponent.

Penetration

The fifth line of Soviet intelligence is infiltration into the security agencies and intelligence services of foreign countries. This activity holds a special challenge and a peculiar fascination for Soviet intelligence officers. Although they regard foreign intelligence officers as mercenary spies (while thinking of themselves as devoted revolutionaries carrying out dangerous assignments for the Party), the Soviet officers do have a feeling of kinship with them and react to an encounter with one of them with the same thrill and curiosity that enemy fighter pilots feel on sighting each other across a space of sky. Their hostile attitude toward their foreign counterparts becomes sincerely friendly the moment the latter begin to cooperate as informants.

The principal aims pursued in infiltrating foreign *security* agencies are the following: to find out what these agencies know about Soviet intelligence operations in the country in question; to determine whether they have succeeded in plant-

ing counterspies in the Soviet network or in recruiting anyone connected with the residentura; to learn in good time of any intended arrests of network personnel; and to use their facilities to check up on persons in whom the Soviet residentura happens to be interested. The penetration of foreign *intelligence* services is done to find out whether they have succeeded in creating a spy network in Soviet Russia, and if so who these spies are, what secret information they have transmitted, and what lines of communication they use.

In some of the Western countries, furthermore, the intelligence services have access to the confidential papers of other departments of the government, including defense and foreign affairs. This practice is justified on the ground that it helps them evaluate the information from their own secret sources abroad and render more accurate estimates of the intentions and capabilities of other countries. Whatever the merits of this argument, the NKVD was quick to take advantage of the resulting convenient concentration in one place of secret documents from several government departments; it instructed its residenturas abroad to try to procure from the intelligence services not only their own information but also that which they receive from other government departments, for example military attaché reports and the political analyses and estimates of ambassadors.

Although the intelligence services of different capitalistic countries do not always have harmonious relations with one another, thanks to national rivalry and personal jealousies, they do cooperate with one another to a certain extent in combatting Soviet espionage and subversion. Some of them exchange information in this field, forwarding to each other photographs of known or suspected Soviet spies. Soviet acquisition of this correspondence reveals what they know about Russian intelligence activities and may sometimes warn of an impending exposure and arrest of an agent. In my time, however, the secret information procured from foreign intelligence services rarely gave us cause for alarm. Much of it was incompetent and out of date. As a rule the strength of the Soviet armed forces was ridiculously belittled. The reports on Soviet espionage activities were based more on hindsight than foresight, and they frequently contained outright fantasies con-

cocted by unscrupulous doubles and falsifiers. But though much of the information collected by the foreign intelligence services about Russia was found to be worthless, it was by no means worthless to Soviet intelligence to know about this.

It is generally said that knowledge of two things is indispensable to the charting of foreign policy in a time of crisis—the real power of one's own country and the power of the potential enemy. But to these a third must be added: one must also know what image one's own power creates in the eyes of the adversary. This is very important, because however distorted that image, it is what he is going to act upon. By infiltrating the intelligence services of foreign countries Soviet intelligence can learn and report to policy makers how each country assesses the capabilities and deficiencies of the Soviet Union. It is then up to the policy makers to figure out what mistakes the potential enemy will be likely to make when the chips are down as a result of the distortions in his view of the Soviet Union as a world power.

The infiltration of a foreign intelligence service is a much more hazardous operation than the acquisition of informants in other government departments, because the foreign intelligence officers are wise to such practices and may maneuver the recruiting officer into a trap or grab him outright before he can get away. The KGB therefore advises its residenturas not to rush things but to approach and cultivate first a friend or relative of the target officer and use him as a go-between. Then the actual recruiting and all meetings until the recruited officer has proved his sincerity (by turning over important information) should take place on territory outside the jurisdiction of the target country.

The safest way to infiltrate a foreign intelligence service without fear of being trapped is to transplant a completely reliable agent into that organization, for example to induce an old and trusted informant in some other branch of the government to seek employment with the intelligence service. Sometimes it may be necessary for him first to cultivate socially for this purpose a senior officer of the intelligence service. Agents planted in a foreign intelligence service can be used not only to procure secret information but also as a channel through which misin-

formation about the Soviet Union and other countries can be introduced.

The intelligence and security services of none of the big world powers have escaped infiltration by Soviet agents. Gen. Walter Bedell Smith, as head of the CIA, was aware of Soviet successes in this field, and in September 1953 he expressed his apprehension in the following words: "I believe the communists are so adroit and adept that they have infiltrated practically every security agency of the government."

Political Action

The sixth line of Soviet intelligence is to influence the decisions of foreign governments through secret agents occupying important positions within them. In the last two decades there have been quite a few instances in which highly placed Soviet secret agents were able to tip the scales of policy in favor of the Soviet Union. Some of these agents started out as junior diplomats in the foreign offices of the West and climbed with the help of their socially prominent families to high government positions. Others were already mature politicians and statesmen when they were seduced by money and other base considerations. One of the leading members of Mussolini's cabinet and the Fascist Grand Council succumbed to an offer of money and agreed to collaborate with Soviet Russia.

A leading member of the parliament of a mid-European country, who was not thought to be a friend of the Soviet Union, would meet secretly with the Soviet ambassador and take his instructions concerning the position he should assume in certain matters affecting Soviet interests. In another European country an inspector of the national secret police, who had become a Soviet informant, reported the police had documentary proof that an influential member of the cabinet was a partner in a big narcotics ring and owned, together with a famous racketeer, a luxury brothel a few blocks away from the presidential palace in the center of the capital. This minister was so powerful in the councils of the government, as well as in the underworld, that the head of the secret police was afraid to tangle with him. Moscow ordered the residentura to steal all the incriminating documents, and photographs of them were shown to the minister at the Soviet embassy, as a "friendly gesture," by the Soviet ambassador himself, who happened to

be a former chief of the Foreign Department of the OGPU, i.e. of Soviet intelligence. The friendly gesture was well understood, and it inaugurated a period of close collaboration between the minister and Soviet intelligence. His task was not merely to provide information but to influence the policies of his government as directed by the Soviet Foreign Commissariat.

Another type of KGB political action is to pave the way in ticklish international matters for later negotiations between the Soviet Foreign Office and other governments. If exploratory talks conducted, directly or through go-betweens, by Soviet intelligence agents with representatives of a foreign government produce results satisfactory to both sides, the official diplomats of both countries can then take over. If not, the Kremlin remains free to disclaim any knowledge of them. A Russian intelligence officer by the name of Ostrovsky who had secretly negotiated the establishment of diplomatic relations with Roumania became the first Soviet ambassador to that country.

Another activity along this line consists of clandestine attempts to induce leaders of a political opposition to stage a coup d'état and take over the government. The inducement would be a promise of political and financial support and, if the state happened to border on Soviet territory, military aid as well. In 1937, for instance, one of the chiefs of intelligence was commissioned by Stalin personally to enter into secret negotiations with former Roumanian Minister of Foreign Affairs Titulesku, who lived at that time in Menton, on the Franco-Italian border, and persuade him to overthrow the reactionary regime of Prime Minister Maniu. Stalin offered financial and military aid against a promise by Titulesku that upon assumption of power he would sign a mutual assistance pact with the Soviet Union.

Industrial Intelligence

Although intelligence activity is as old as society, this seventh line of Soviet operation is something new, first begun in 1929. Its purpose was to assist in the industrialization of the Soviet Union by stealing production secrets—new inventions, secret technological processes, etc.—from the advanced countries of Europe and America. Soviet intelligence organizations abroad

began to recruit engineers, scientists, and inventors working in the laboratories and plants of the big industrial concerns of the world.

At this time the Soviet Union, besides buying big quantities of machinery and even whole plants from the industrial companies of the West, negotiated with them for the purchase of patents and the know-how for production processes. A number of such purchases were made and foreign engineers came to instruct the Russians in the application of the new methods. But often, when the price demanded by foreign concerns for their "technical aid" was too high—it always ran into many millions of dollars—the head of the Soviet government would challenge the Foreign Department of the NKVD to steal the secrets in question from them. The response to these challenges was invariably enthusiastic, and after a number of them had been successfully met the new Division for Industrial Intelligence was created within the NKVD Foreign Department.

Sometimes the theft of all the necessary formulas, blueprints, and instructions would still not enable Soviet engineers and inventors to construct a complicated mechanism or duplicate a production process. They would need the human component, the special skill or engineering know-how. In such cases officers of the Division for Industrial Intelligence would, with offers of additional rewards, persuade the appropriate foreign engineers to make a secret trip to Russia to instruct the Russian engineers or supervise the laboratory experiments on the spot. Precautions were taken to insure that the traveler's passport should not bear any border stamps or other traces of his visit to the Soviet Union: the engineer would travel with his own passport only to the capital of an adjacent country, where he would turn it over for safekeeping to the local Soviet agent and get from him a false one on which he would proceed to Russia; then on the return trip he would turn this in and pick up the genuine passport where he had left it. The fees paid by the Russians for such trips ran sometimes as high as ten thousand dollars for a few days, but the savings realized amounted to millions of dollars. The following is a typical such operation.

A Worm Turns

In view of the fact that the Soviet government was spending huge sums of money on industrial diamonds needed for the expanding oil industry, metallurgy, and various geological projects, it was naturally interested in an offer made by the German Krupp concern to supply newly invented artificial diamonds almost as hard and good as natural ones. The new product was named "vidi," from the German *wie Diamant*, "like diamond." The Commissariat of Heavy Industry bought some of the vidi, tested them in drilling operations, and was amazed at their high quality. It decided to buy the patent from Krupp and have German engineers build a plant to produce them in the Soviet Union.

Soon a delegation of German experts headed by two Krupp directors arrived in Moscow. Knowing how badly the Russians needed industrial diamonds for the five-year plan, they demanded a staggering price for this technical aid. When the deal was being discussed at the Politburo Stalin turned to the head of the NKVD and said: "The bastards want too much money. Try to steal it from them. Show what the NKVD can do!" This challenge was taken up eagerly, and one of the chiefs of the Foreign Department was charged with the operation.

The first step was to find out the location of the vidi factory and the names of the inventor and the engineers in charge of production. This task was assigned to a German agent, scientist Dr. B. In the Berlin Technische Hochschule, with which he was associated, Dr. B. looked up all the available treatises on achieving hard metal alloys and then approached a noted professor who had written some of them. From him he learned that a Krupp inventor had succeeded in attaining the hardest alloy known and that this was being produced in a plant on the outskirts of Berlin.

Dr. B. now went to the site of the plant and dropped in at a beer hall frequented by its technical personnel. After visiting the place a few times, he engaged some of the technicians in conversation. He represented himself as a scientist who was writing a book on hard metal alloys. "Oh, then you are working with our Cornelius," said one technician. Dr. B. said no, but he had known a Professor Cornelius. "No," said the

technician, "he is not a professor, he is only a foreman in our plant, but he is a man who could teach the professors how to make industrial diamonds."

Through an inspector of the Berlin Polizei Presidium, another secret Soviet informant, the Russian residentura obtained information on Cornelius, including his home address, and the next day Dr. B. rang the doorbell there. He was admitted by Cornelius' wife, who told him that her husband had not yet returned from the plant. This Dr. B. knew; he had come early on purpose, hoping to learn something about Cornelius from his wife. He told her that he was a Doctor of Science and was writing a treatise on hard metal alloys and that his colleagues at the Technische Hochschule advised him to see Herr Cornelius, who might be helpful to him. He added that if Herr Cornelius was really an expert in that field and if he was willing to contribute to the research he might earn some money on the side.

Frau Cornelius, flattered that a scientist from the famous Technische Hochschule should come to seek advice from her husband and stimulated by the prospect of earning extra money, began to praise her husband's abilities and high reputation at the plant. She said that the engineer who had invented the process for producing artificial diamonds had trusted only her husband, because he alone knew how to handle the specially built electric oven, and now that the inventor had fallen out with Krupp and quit her husband was practically in charge of the whole thing. He could demand from Krupp any salary he wanted, and they would have to give it to him; but he was not that kind of man. For him devotion to the company came first.

When Cornelius returned home Dr. B. restated the purpose of his visit and, in order to underscore his purely scientific interest in the matter and allay any possible suspicion, invited him to his personal room at the Technische Hochschule for the following Saturday. On Saturday, after a talk at the Hochschule, he took him for dinner to his luxurious ten-room flat in the eight-story apartment house which he had inherited from his father. He had seen at once that Cornelius was too illiterate technologically to be able to explain in scientific terms the secrets of production, even if he wanted

to. He was only a foreman trained by the inventor to operate the oven. What Dr. B. wanted was to find out the name of the inventor, his whereabouts, and the history of his break with the Krupp concern. After an excellent dinner and a few glasses of brandy, Cornelius enjoyed telling the story to his genial host.

The inventor's name was Worm. When he saw what fabulous prices Krupp was getting for the industrial diamonds which he had created and which cost the company so little, he decided to build secretly a plant of his own and realize some of these profits for himself. He borrowed money from the bank, rented a little shop, made an oven like the one he had constructed for Krupp, installed the minimum equipment needed, and made a few profitable sales of vidi to foreign customers. With the proceeds of these he was able to pay off part of the loan, and it looked as though he was on the way to becoming a rich man. But at this point the Krupp concern learned about his disloyal competition and swooped down on him with all the fury of an industrial giant. He was summarily fired. Customers were warned that if they bought a single ounce of vidi from him Krupp would never sell them anything. The bank suddenly became rigid and demanded prompt repayment. In spite of his talents as an engineer and inventor Worm could not find work. All doors were politely but firmly closed in his face.

Dr. B. hurried to see Herr Worm. Here too, he contrived to ring the doorbell when the man was not at home; he had found that women are more talkative than men, especially when they have an opportunity to do a bit of advertising for their husbands. Frau Worm was overjoyed that someone was interesting himself in her husband. The Krupps were brutes, she said; they ruled the country. Her husband was a martyr. They had driven him to desperation. All his savings had gone into the enterprise, and it was ruined with one blow.

Dr. B. listened to her story with unfeigned sympathy. He said he had an interesting proposition for her husband which might get him out of his difficulties. From that moment he became her trusted friend, the man who was going to save her husband from strangulation by the Krupps. He left his telephone number for Worm to call.

The next day they met at the Technische Hochschule and from there went to Dr. B.'s apartment. Dr. B. suggested that in order to escape from the Krupp stranglehold Worm would have to offer his talents to a foreign concern. He said he knew a big Scandinavian company which might be interested in acquiring the secret process of vidi production and entering the field in competition with Krupp; he would check. A few days later he informed Worm that the company was definitely interested; it had authorized him to advance the inventor up to ten thousand German marks. He asked Worm to submit a description of the vidi production process and furnish data on equipment needed, cost, etc.

For the time being, Dr. B. declined to name the company. This did not necessarily look suspicious, because as a go-between he was entitled to a commission and would need to protect his own interests. But Worm got a strange hunch. "I want to warn you," he said, "that if my invention is needed for the Russians I will have nothing to do with them!" Dr. B., taken aback, hastened to reassure him that it was a Scandinavian concern all right. It turned out that Worm was a fanatical Nazi and Russian-hater.

Something had to be done to overcome that burning hatred if Worm was to be maneuvered into giving his vidi invention to Russia. While he was writing up his process Dr. B. would supplement the advance, giving him another thousand marks every week or so, which delighted Frau Worm. He also had the Worms several times for dinner at his home. When Frau Worm wanted to buy things which she had been denying to herself for long, but her husband kept too wary an eye on his dwindling advances, Dr. B. sensed this and immediately came to her assistance. He privately gave her money for herself with the understanding that she would repay it when her husband struck it rich; he was convinced that a prosperous future was just around the corner for them.

Worm's description of his process was sent to Moscow. After a close study, the Russian engineers declared that without the personal guidance of the inventor they would have trouble constructing and operating the special oven required; it was supposed to make several thousand revolutions a minute under an enormously high temperature. Moscow wanted

to have the inventor at any cost. Now the friendship Dr. B. had cultivated with Frau Worm paid off. She cajoled her husband and wrangled with him for a whole week and at last brought him to the realization that they had no choice, that this was their last and only chance.

The Soviet trade delegation in Berlin signed an official two-year contract with Worm, under which he received a flat sum in German currency, a monthly allowance in marks for his wife—who preferred to remain in Germany—and a salary for himself in Russian rubles. He was entitled to a suite in a first-class Moscow hotel with restaurant and other services and to a chauffeured automobile and two vacations in Germany per year at Russia's expense. He took with him to Moscow a German engineer by the name of Mente who had been his assistant at the Krupp plant.

Worm's letters to his wife breathed hatred toward everything Russian. He contracted rheumatic fever during his stay and returned to Germany a broken and embittered man. But he had fulfilled his contract with the Soviets to the letter, turning over to them his cherished brainchild, the priceless vidi process.