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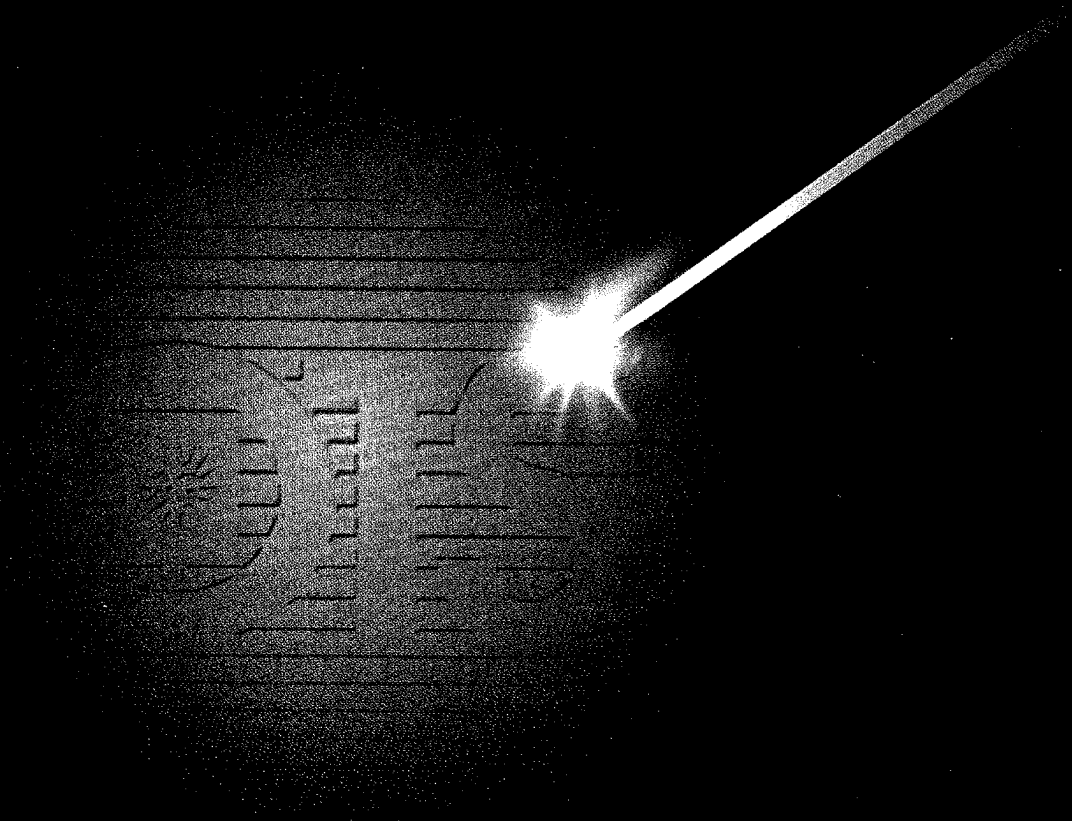
Office of Technical Service



50 Years Supporting Operations

Central Intelligence Agency

OFFICE OF TECHNICAL SERVICE

OTS

1951 2001

FIFTY YEARS

SUPPORTING OPERATIONS

OTS 50th Anniversary Agenda

Welcome:

Director of Technical Service

Robert W. Wallace

Remarks:

Former Deputy Director of Central Intelligence,
Deputy Director for Operations and Director of
Technical Service

John N. McMahon

Keynote Address:

Director of Central Intelligence

George J. Tenet

Reading of Meritorious Unit Citation
Former Deputy Director for Science and Technology

Joanne O. Isham

Concluding remarks:

Director of Technical Service

Robert W. Wallace

Reception immediately follows

THE WHITE HOUSE

WASHINGTON

Crawford, Texas

August 24, 2001

I am pleased to send warm greetings to the past and present employees of the Central Intelligence Agency (CIA) Directorate of Science and Technology's Office of Technical Service (OTS) as you celebrate your 50th anniversary.

New threats have replaced the single, overarching threat that the United States faced during the Cold War. Because of the fluidity and seriousness of the varying threats that now confront us, sound intelligence remains critical to preserving America's national security. Collecting this essential information for use by National command authorities often involves clandestine operations whose success depends on the expertise, ingenuity, persistence, and dedication of CIA employees. Every day for the past 50 years, OTS has stood ready to serve whenever and wherever America's leaders needed their talents. Your work has been and continues to be vital to the security of our Nation, and it helps America meet its responsibilities around the world. You should be proud of your service that has benefited all Americans.

Best wishes for a memorable anniversary celebration and for continued success.

Central Intelligence Agency

Washington, D.C. 20505

3 August 2001

To the Men and Women, Past and Present, of the Office of Technical Service:

I offer my congratulations to the Office of Technical Service as you celebrate your 50th Anniversary. I am honored to have the opportunity to help celebrate your long and rich history. For 50 years, the Office of Technical Service has answered the call of duty, no matter where it has taken you. During that time, your ability to consistently find creative, innovative solutions to some of our most difficult operational problems has become legendary.

I realize that the 21st Century will present us with some major challenges and I know that with your help we will meet them. As the future unfolds, I encourage you to reflect on your rich and glorious history and maintain the tradition of creativity and technical innovation that we all have come to expect from OTS. As we face ever changing, rapidly developing, and more technologically savvy targets, we must be prepared to respond in kind. If we are to accomplish this objective, we must evolve along with technology. Your ingenuity will certainly be put to the test in the years ahead. We are counting on you to ensure the operational success of clandestine collection in the future. I know you will approach this challenge with enthusiasm.

I am pleased to be a part of this meaningful celebration, and commend you on your technical and operational achievements over the past 50 years. I look forward to your continued success.

George J. Tenet
Director of Central Intelligence

DEPUTY DIRECTOR FOR SCIENCE & TECHNOLOGY
THE CENTRAL INTELLIGENCE AGENCY
Washington, D.C. 20505

23 July 2001

To the Men and Women of the Office of Technical Service:

I want to congratulate the men and women of the Office of Technical Service on the occasion of your 50th Anniversary. For 50 years you have answered the call to help protect our nation's security, no matter how difficult the task. You should be very proud of your accomplishments.

Over the years, you have evolved along with technology. You developed and pioneered many state-of-the-art techniques in clandestine intelligence collection. Through your expertise, we were able to make products smaller, smarter, and more reliable for our customers. Today, without question, OTS designs, builds, and maintains the world's best spy gear.

Virtually every clandestine operation owes its success to OTS support. You are spearheading the DS&T's efforts to implement the DCI's Strategic Direction supporting Agent Operations. While times may change, at OTS some things do remain the same--the tradition of excellence and a "can do" attitude that characterizes the Office. This dedication is passed from one generation of OTS employees to the next. I see the results of your efforts, and I am always struck by your diverse talents, ingenuity and selfless dedication to mission.

It is also important to acknowledge the families of OTS officers. I am keenly aware of the hardships that families endure when posted overseas or when temporary duty separates them. Without the unwavering support of their families, OTS officers could not perform their mission. My heartfelt appreciation goes out to the families of OTS officers.

In the future, we will need you more than ever as we face a variety of threats ranging from terrorism to weapons of mass destruction to information operations. Regardless, I know that OTS will meet the challenge. I am honored to be part of your 50th anniversary celebration and wish you continued success.

Joanne O. Isham

Joanne O. Isham

DIRECTORATE OF OPERATIONS

17 August 2001

To My Colleagues in OTS:

I offer today best wishes to the employees of the Office of Technical Service on this your fiftieth anniversary. At this time of reflection and celebration, I recall the countless contributions that OTS has made to the DO's clandestine mission. The success of the DO's operations is also a reflection of OTS' achievement.

For five decades, you have been the DO's technical problem solver, listening to our challenges, and determining the strongest solutions. Your ability to integrate the technical and the operational is a true asset to the Clandestine Service. You have served alongside us in the foreign field, so you understand the ways that we work, and the challenges that we face. Together, we share a heritage that has survived fifty years of changing targets, shifting resources, and the escalation of technology.

As we enter a new century, and as I look to the challenges that the future holds for the Clandestine Service, I know that OTS will be my right hand for the next great technical solution to what appears impossible. I know this to be true, for as a recipient of your training and your products, I have seen the marvelous things of which OTS is capable. We can all look forward to the next generation of OTS' technical triumphs, for they will make our operations safer, more secure and more discreet. On behalf of the DO, I thank you for fifty years of superb performance, responsiveness and commitment, and look forward to working together with you in the 21st century.

James L. Pavitt

Meritorious Unit Citation Award

The Office of Technical Service (OTS) is hereby awarded a Meritorious Unit Citation in recognition of its exemplary service to the Central Intelligence Agency over the past 50 years. OTS, preceded by the Technical Services Staff and the Technical Services Division, has served as the Intelligence Community's premier source for technical support to clandestine operations since it was established in 1951. OTS has maintained a superior record of accomplishment in its support to the Agency's mission, and a reputation that speaks to the talents and pervasive sense of duty maintained by its officers, past and present. The dedication, ingenuity and resourcefulness of OTS officers are hallmarks for the Agency. These elements together constitute an enduring contribution by the men and women of OTS to U.S. intelligence. The collective achievements of OTS and its predecessor organizations reflect honorably on the Directorate of Science and Technology, the Central Intelligence Agency and the Federal service.

The Central Intelligence Agency's Office of Technical Service, 1951-2001

Celebrating Fifty Years of Technical Support to US Foreign Intelligence Operations

By Benjamin B. Fischer
Center for the Study of Intelligence
CIA History Staff

With a Foreword by Robert W. Wallace
Director of Technical Service

Forward from the Director of Technical Service

Full disclosure is unlikely in true stories of an intelligence organization or a clandestine operation. Intelligence professionals and the American public, nevertheless, share a common interest in capturing the essential history of intelligence activity for more than the thrill of a spy story. Only through historical reflection can espionage's past contribution to national and international events be understood. This, in turn, provides a framework for each generation of government leaders to assess the proper future role for secret operations in our Nation's foreign policy arsenal.

Historian Ben Fischer's access to the records of the Office of Technical Service and its predecessor organizations were combined with dozens of interviews of officers who were part of the Office's history. Together these were formed into an unclassified sketch of men, women, inventions and events that collectively embody the professionalism of a select intelligence cadre known first as the Technical Services Staff (TSS) and eventually as the Office of Technical Service (OTS). The technical innovations of TSS and its successor organizations, combined with the operational skills of the Directorate of Operations, created a worldwide clandestine intelligence capability that protected and promoted America's foreign policy objectives throughout the last half of the 20th century.

This discreet glimpse into the history of the OTS will evoke wonder, amazement and pride. For America's adversaries who opposed the spread of democracy and liberty, this history reveals the resolve and ingenuity of a few thousand men and women who were determined to provide America's intelligence operatives and their agents superior technical tools of tradecraft. In the last half of the 20th century, fascism, communism, and totalitarianism were discredited by America's democratic ideals and its superior technology. OTS played a major role in promoting the former and applying the latter.

Histories of organizations that achieve remarkable success over decades often identify decisions that early and unambiguously shaped the philosophy, structure and people of the group. Four decisions in the early years of OTS have stood as pillars throughout the Office's 50-year history.

First, TSS integrated under a single management all of the specialists, engineers, scientists, technical operations officers and support staff necessary to pursue technologies and technical capabilities that had operational utility. The unifying theme of OTS from its earliest days centered on relevance to the clandestine operator - whether an American officer or a foreign agent. This would not be a laboratory for theoretical or experimental sciences. Rather, all research, engineering and production were integrated into a seamless process for systems and devices that met real-world operational needs.

Second, a philosophy of service has always been captured in the Office identity - Technical Services Staff, Technical Services Division, Office of Technical Service. This translated into an obsession for responsiveness evident throughout the OTS history whether the challenge is in war or peace, covert action or intelligence collection, unilateral operations under hostile surveillance or liaison operations against a common threat. OTS did not debate requirements; it went to work to give the operator the technical advantage.

Third, OTS remained singularly focused on an unambiguous mission of supporting overseas clandestine operations. As the last half of the 20th century was defined by growing complexity and fragmentation at all levels of society, OTS held to a stable mission of providing the intelligence operative the spy gear and covert techniques that assured his security, clandestinity and effectiveness. The OTS world had at its center a person, a human intelligence operative. What that person needed to survive and operate, OTS provided.

Fourth, OTS officers, the 'techs,' went into harm's way with the operatives. By the mid-50's, OTS had forward-deployed technical capabilities

and personnel around the world to ensure that technical support was within arms' reach of the operators. The techs did not simply deliver tools or spy gear; they were at the user's side, in the user's environment, training, installing, servicing, monitoring, testing, evaluating, repairing, and sharing the same risks and sense of accomplishment. The field technical operations officer, in the course of a tour, carrying out responsibilities in multiple locations, frequently engaged in more operational acts and met more agents than his case officer counterparts.

From its earliest years, OTS understood that living and working in the field alongside the case officer created a level of mutual trust and understanding not achievable in any other way. For OTS engineers and designers, that knowledge and experience translated into a passion for producing agent-friendly technical gear that worked on the ground. Constrained only by the laws of physics, but not unwilling to use the art of illusion, the techs have been among the most obscure of America's 'silent warriors,' content to have their devices, their cleverness and their magic woven invisibly into a larger operational fabric. To be successful, they could not be otherwise.

Robert W Wallace

Robert W. Wallace
Director of Technical Service

Dedicated to the Memory of

Stanley P. Lovell and Veterans of
the Research and Development Branch,
Office of Strategic Services

Who showed the way
to

The Pioneers of the Technical Services Staff
and the Technical Services Division

Who launched the mission
and to

The Men and Women of the
Office of Technical Service

Who continue on.

Introduction

The intelligence profession is often described as a 'cloak-and-dagger' business. One of America's original contributions to the profession was the creation, during World War II, of a special technical services unit that provided 'cloaks and daggers' to the Office of Strategic Services (OSS), enabling it to conduct covert operations against Nazi Germany and Imperial Japan. The OSS Research and Development Branch (OSS/R&D) developed special weapons of clandestine tradecraft that America and its British ally used to wage subversive warfare in Europe and Asia. In so doing, OSS established the principle that technology is an American strength that, when applied to clandestine operations, can tip the balance in favor of democracy against foreign adversaries.

The Central Intelligence Agency inherited an organizational model as well as a spiritual legacy from OSS. During the Cold War, CIA's Office of Technical Service (OTS) and its predecessors—the Technical Services Staff (1951-1960) and the Technical Services Division (1960-1973)—played a vital role in supporting the Agency's clandestine mission on every continent and in all of America's military actions.

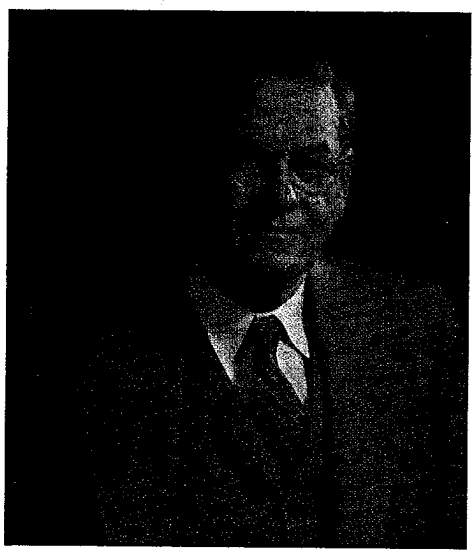
OTS will celebrate its 50th anniversary in September 2001. Over the course of five decades, it has compiled a record of remarkable achievements that fundamentally changed the intelligence profession, taking CIA from novice status to the world's premier foreign intelligence service in the area of technical support and operations. This brief essay touches on some of those achievements. Unfortunately, most remain classified. We hope that those whose contributions were equal to or greater than the ones recounted here will not feel slighted. We trust that they will remain silently proud of a job well done and secure in the knowledge that their efforts made a difference and that their discretion is a guarantee of future success.

The OSS Legacy

The Office of Technical Service dates its origins to 7 September 1951, when its predecessor, the Technical Services Staff, set up shop. Its heritage actually predates the CIA, however, and can be traced back to OSS, America's first intelligence agency. OTS is the lineal descendant of the OSS Research and Development Branch, which Col. William J. ('Wild Bill') Donovan created in 1942 to devise dirty tricks and deadly weapons in a subversive war against Hitler and Emperor Hirohito.

Donovan appointed Stanley P. Lovell, a self-described 'sauce-pan' chemist and successful New England entrepreneur, as chief of the branch. Lovell knew people in private industry and in universities in the Boston-Cambridge area who could be tapped to work on government contracts in support of the war effort.

The R&D Branch bequeathed personnel, special weapons and equipment, files, and even quarters and furnishings to the Central Intelligence Group, the CIA's predecessor organization. Of particular note was a 'Sears catalogue' of OSS equipment, complete with written and pictorial descriptions of special weapons and devices, as well as the names of their manufacturers. The most important legacy, however, was the OSS ethos. Donovan believed that science was critical to the war effort and that the side that most efficiently applied technology to combat and intelligence operations would win. OSS established once and for all the principle that technical support is an integral and indispensable component of intelligence work and that the resulting synergism between the operations officer and the technical specialist was critically important to the mission.



New England inventor and businessman Stanley P. Lovell headed the Office of Strategic Services' Research & Development Branch, the wartime precursor of CIA's Office of Technical Service.

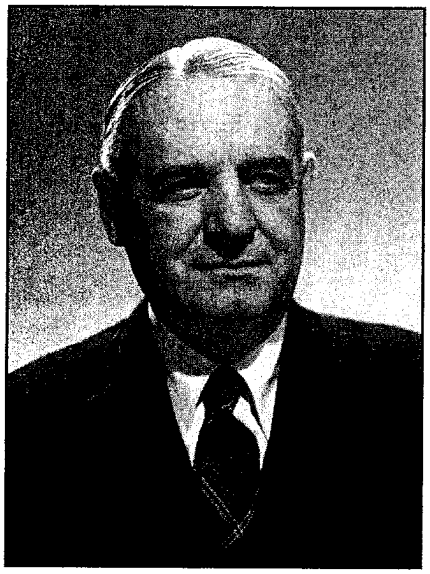
Donovan infused his troops with the 'can do' attitude that persists in OTS today. The World War I hero and Medal of Honor recipient was instrumental in convincing the White House and the War Department that traditional American reservations about intelligence operations and clandestine warfare had no place in a war against totalitarian powers. 'I need every subtle device and every underhanded trick to use against the Germans and the Japanese—by our own people—but especially by the underground in the occupied countries,' Donovan told Lovell at their first meeting. 'You'll have to invent them all . . . because you're going to be my man.'[1]

Despite his Irish background, Donovan was an Anglophile who modeled OSS on Britain's Secret Intelligence Service (SIS) and the wartime covert action organization known as SOE (Special Operations Executive). Prime Minister Winston Churchill and his intelligence advisors sought US help in manufacturing devices suitable for use by commandos, saboteurs, and spies. SOE had the brains, the know-how, the experience, and a certain ruthlessness that the Americans, at that time, still lacked. The Americans, on the other hand, had money, talent, and a desire to learn. Donovan saw in this need an opportunity for American intelligence to excel.

SOE was more than the model for the OSS.

[1] Stanley P. Lovell, *Of Spies & Stratagems* (Englewood Cliffs: Prentice-Hall, Inc, 1963), p. 17.

Under terms of a Memorandum of Understanding signed in June 1942, the two services allocated areas of primary and secondary responsibility between themselves. They cooperated fully in London, Washington, and in the field, sharing intelligence, training, and production of equipment.



Maj.-Gen. William J. ('Wild Bill') Donovan headed OSS, America's first intelligence agency; he was convinced that technology was America's edge in the war with Nazi Germany and Imperial Japan and that technical support was key to clandestine intelligence and covert action operations.

Lovell's R&D unit was created on 17 October 1942. OSS General Order No. 9, dated 3 January 1943, outlined its mission as invention, development and testing of 'all secret and special devices, material and equipment for special operations, and the provision of laboratory facilities.' It also was charged with maintaining intelligence liaison with other government agencies and with the US armed forces. OTS still maintains close ties to the US military, especially Department of Defense special operations units, as well as civilian agencies engaged in intelligence, counterintelligence, counterterrorist, and counter-narcotics operations.

OSS/R&D was divided into four divisions: Technical, Documentation, Special Assistants, and Camouflage. The Technical Division was subdivided into mechanical, electrical, and chemical sections, and it managed the development of special weapons and devices. OSS worked hand-in-glove with Division 19 of the wartime Office of Scientific Research and Development, which was the link between Lovell's branch and the contractors in the private sector. Created in 1943, Division 19 worked almost exclusively for OSS. It was involved in designing, developing, and testing OSS weapons and equipment, as well as negotiating contracts with private industry and university laboratories to manufacture them. It maintained its own laboratory and test facility, the Maryland Research Laboratory (MRL), in a wing of the Congressional Country Club in rural Maryland, where OSS already had leased space for a training facility.

OSS had developed special techniques that guerrilla forces and saboteurs used to blow up and burn down enemy targets. By 1945, it had created an arsenal of 25 weapons that were in production or field use. Many were as colorful as they were creative. 'Aunt Jemima' was a flour-like explosive that actually could be used for baking. 'Balsam' was a chewable, non-toxic paper used by agents to keep secret notes. A device for derailing trains—a key form of sabotage during the war—was called 'Casey Jones,' an allusion to the engineer of poetic

fame. One of the most widely used items was the 'pencil,' a chemical time-delay that the British invented before the war. OSS also developed silencers and limpet mines. Finally, the 'Woolworth Gun' was a disposable single-shot pistol that agents could conceal on their bodies.

The OSS/R&D's Documentation Division prepared identity and other documents for agents operating in enemy and enemy-controlled areas. One of OTS's most important capabilities involved methods for 'authenticating' case officers and agents by providing them with personal documentation, disguises, and cover legends to validate their assumed identities.

The Camouflage Division prepared agents for dangerous assignments behind enemy lines in Nazi-occupied Europe. OSS had to dress and disguise agents with attention to the smallest details of clothing and personal accessories. Lovell hired a Hollywood make-up artist and kept him on the road in Europe and the Far East from late 1944 until early 1945. This arrangement marked the beginning of a long and successful partnership between the Agency and Hollywood. Some of the most innovative techniques used in the movies were first developed to disguise CIA officers and agents. When the White House tasked CIA to 'exfilitrate,' i.e., smuggle out, six American hostages hiding out in Teheran in 1980, OTS turned to Hollywood contacts for assistance with the operation, which employed the cover legend of a movie production company.

The Special Assistants Division of OSS researched drugs, toxins, and lethal concoctions that could be used by OSS and might have been used by the Germans and Japanese against American troops. It also studied chemical and biological warfare methods.

Most importantly, however, this division analyzed secret writing, which Lovell believed could make a major contribution to US intelligence. He contracted with several companies and universities to develop secret-writing chemicals, as well as countermeasures to detect secret writing. The secret-writing section created two committees—one for offensive and the other for defensive measures. The offensive committee researched secret-writing methods that, hopefully, could pass through enemy postal censorship without being detected. The defensive committee analyzed enemy censorship methods for the purpose of countering them, as well as methods of intercepting and reading enemy secret-writing messages. The R&D Branch opened its own lab and by war's end had produced dozens of secret-writing systems, which were classified according to several levels of complexity. Throughout the Cold War, OTS did a land-office business in secret writing. Many agents, especially those behind the Iron Curtain and in other 'denied areas' relied on secret writing as the sole means of communicating with their case officers.

The Cold War Begins

Almost before the ink was dry on the Japanese surrender agreement, President Harry Truman dissolved OSS—'effective 1 October 1945,' his executive order read. The analytical branch was transferred to the State Department, and a skeleton crew of operations and technical support officers, renamed Strategic Services Unit (SSU), moved to the War Department. In less than a year, however, as tensions in US-Soviet relations mounted, Truman created the Central Intelligence Group (CIG). CIG took over SSU, its officers, agents, files, overseas stations, and unvouchered funds. Its operations component became the Office of Special Operations (OSO), which was responsible for foreign intelligence, counterintelligence, covert action, and technical support.

OSO expanded rapidly. Since one-third of its staff consisted of ex-OSS officers, it was able to hit the ground running in Washington and overseas. Technical support, however, did not keep pace. OSO maintained an Operational Aids Division (OAD), which was created in September 1949, but it had a small staff. Most of its personnel came from OSS/R&D's Cover and Documentation Division, which was responsible for agent authentication and documentation, although it had limited capabilities in secret writing, photography, and audio surveillance.

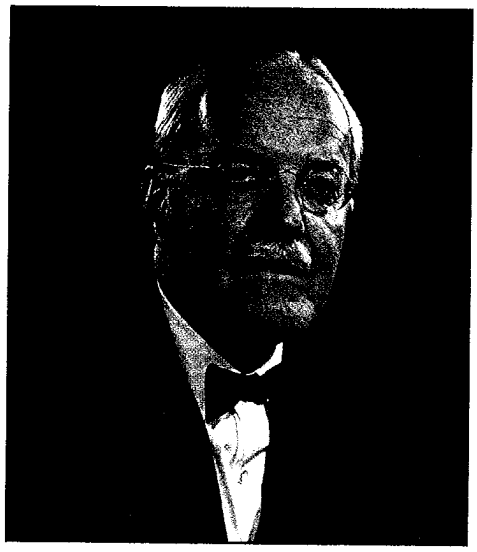
The situation became more complicated with the formation of the Office of Policy Coordination (OPC) in September 1948. OPC's mission was to conduct aggressive paramilitary and psychological warfare operations against the Soviet Union and Eastern Europe. As a result of a major war scare in 1948 and the outbreak of the Korean War two years later, OPC grew at a phenomenal pace. In 1948, it had a staff of 302, a budget of $4.7 million, and no overseas stations. By 1952, OPC had a staff of 2,812, a budget of $82 million, and 47 stations.

OSO and OPC had separate lines of command and control at CIA Headquarters and overseas, where they maintained separate field stations. The two offices competed for staff, funds, and agents and often poached on each other's turf. With higher salaries and a bigger budget, OPC had the upper hand and was therefore resented by OSO officers.

Technical support was caught in the middle of this bureaucratic crossfire. OAD's obligation to support OPC was not clearly defined. OPC had a small R&D unit inherited from the remnants of Lovell's OSS shop doing research in chemistry, applied physics, and mechanics. OAD had to shoulder most of the workload, and it was staggering. During one twelve-month period alone OAD was obligated to provide OPC with documents and training in secret writing and photography for almost 2,000 agents. When an OSO or OPC area division failed to obtain what it requested or had to wait in line, it would often ignore OAD the next time or usurp its role.

OAD was asked to produce 'tailor-made, hand-

wrought' devices, but it lacked the requisite manpower, skills, and workspace. OAD's table of organization had increased almost threefold from 1947 to 1951, but that of OSO and OPC had increased ten times in the same period. Its Washington area facilities were spread over several different buildings, and it lacked a lab, test facilities, or even its own machine shop. Meanwhile, OPC was trying to establish a base of contractors to manufacture weapons and equipment based on OSS examples and their SOE equivalents for paramilitary and stay-behind operations in Europe and other areas of Cold War conflict. (The entire OSS arsenal had been destroyed, and much of the Agency's focus in those days was on war planning in the expectation that an armed conflict with the USSR was inevitable.)



Allen Welsh Dulles was the fifth Director of Central Intelligence; determined to level the playing field with the KGB, he turned to fellow OSS veteran Stanley Lovell for advice on creating a technical services unit to support CIA's foreign intelligence operations.

The Korean War added urgency to the impetus to resolve the technical support problem. In October 1950 President Truman, dissatisfied with CIA's performance on the eve of North Korea's invasion of South Korea on 25 June 1950, appointed Gen. Walter Bedell ('Beetle') Smith as DCI. Smith had served as Gen. Dwight D. Eisenhower's Chief of Staff during the war and was the first postwar American ambassador to the Soviet Union. Smith, in turn, appointed Allen Welsh Dulles, a former OSS station chief and author of a recent report critical of CIA performance, as an advisor and subsequently to the new post of Deputy Director, Plans (DD/P). The latter post placed him in charge of all foreign intelligence operations. He was also tasked with supervision of OSO and OPC and dealing with problems emanating from this bureaucratic bifurcation.

By reputation, Dulles was a 'senior case officer,' a man more interested in traditional agent operations than in new technologies. Nevertheless, one of the first items on his agenda was finding a solution to the technical support problem. Dulles made his first call for help to Stanley Lovell, his former OSS colleague. In a letter to Dulles dated 3 February, Lovell argued for the creation of a single technical service and R&D unit that would support both OSO and OPC. He counseled Dulles that the CIA, as then configured, could not produce the equipment and devices it needed and could not, as in OSS days, rely on the private sector to do the job. Lovell complained that CIA had neglected a key lesson learned by OSS—that science and engineering were keys to intelligence operations. 'Warfare is no longer a

matter of chivalry but of subversion,' he wrote, citing the Soviet takeover in Poland, Czechoslovakia, Hungary, Bulgaria, and Romania. 'Subversion has its own special arsenal of tools and weapons. Only Research and Development is capable of creating such an arsenal . . . .' Lovell recommended that Dulles consolidate all R&D into a single component with a minimum staff of several hundred scientists and engineers.

Dulles also sought help from the Navy, which advised him to contact RAdm. Luis deFlorez, a brilliant engineer who had developed special weapons and equipment for the Navy during the war and reorganized the Office of Naval Research (ONR) before retiring in 1946. ONR was the kind of model that Dulles needed. deFlorez, like Lovell, urged Dulles to create a separate, well-funded, and well-staffed unit within the DD/P that would be responsible for all technical support and operations and would be self-sufficient in developing the items it needed.

Next, Dulles tasked Col. James H. ('Trapper') Drum, a West Point graduate and World War II veteran who was in charge of administration and logistics for OSO, to prepare a staff study of 'the OAD problem.' Known to insiders as 'The Bible,' the report Drum submitted listed problems and formulated recommendations to solve them. One recommendation was to form a single unit under DD/P command to provide direct technical support to both OSO and OPC. Another recommendation was to emphasize development of new equipment and technology for intelligence and covert action operations. The third piece of advice was to develop a base of contractors who could perform R&D and to take advantage of emerging technologies in the private sector.

Dulles agreed entirely with Drum's findings and recommendations. On 26 June 1951, he circulated a memorandum ordering the 'Operational Aids Division of OSO and the Research and Development element of OPC are to be combined in OAD under this Office—Mr. James H. Drum to serve as Acting Chief, effective 1 July.'

Drum's first choice of a name for the new unit, Material Assistance and Development Office, went over like a lead balloon. His second choice, Technical Services Office, didn't fare much better. The word 'office' rankled DD/P geographic area division chiefs, who did not want technical services to have status equal to their own in the bureaucratic hierarchy. It should be a staff, they argued, since its main mission was to provide support rather than run operations. As a result, the Technical Service Office became the Technical Services Staff and retained that title until July 1960, when it was renamed Technical Services Division (TSD.) The new office, Drum wrote to Dulles in August 1951, would 'provide tools of the trade required to support the operating components of the Clandestine Service.'

The new DD/P, Frank Wisner, who two weeks earlier had replaced Dulles, announced the formation of the new office on 7 September 1951.

This is the date that OTS considers its official anniversary. The Technical Services Staff was comprised of the following capabilities: document intelligence, graphic arts reproduction, special assistance, research and development, audio support, and furnishings & equipment. The total staff complement was fewer than 50 persons.

Drum was relegated to the number two slot. deFlorez had recommended hiring someone from outside the Agency who was familiar with current research, new technologies, and top scientists and engineers in private industry. On his advice, Dulles appointed Dr. Willis A. ('Gib') Gibbons, the former Director of Research at U.S. Rubber, who served as Chief of TSS and Director of Research for the Agency as a whole.

deFlorez also recommended that the Agency create a Research Board of senior executives, scientists, and educators to review Agency projects, make suggestions, and provide a bridge between the clandestine world and the private sector. The Board would ensure that TSS was running a state-of-the-art operation, had access to the best companies and research institutions, and was not duplicating research underway in the government or the private sector. For the next decade, until CIA created a separate Directorate for Science and Technology (DS&T) in 1962, TSS and its successor, the Technical Services Division, served as the Agency's incubator for intelligence research and development. It spurred the development of many technologies that subsequently acquired broad military and civilian applications, including consumer products and medical equipment that today we take for granted.

deFlorez headed the Research Board until his death in 1962. The Board held its first meeting 3 March 1953. In addition to deFlorez, its members included prominent scientists from the academic and scientific communities. Cornelius ('Cornie') V.S. Roosevelt was appointed Executive Secretary. (He would later become the last Chief of TSS and the first Chief of TSD.) The Chief and Deputy Chief of TSS were members as well.

In August 1952, OSO and OPC merged into a single clandestine intelligence service with a 'single chain of command and a single set of administrative procedures.' DCI Smith's enabling memorandum made provision for a chief of technical support, along with chiefs for foreign intelligence, political and psychological warfare, paramilitary operations, and administration. This order, in effect, gave TSS a seat on the board of directors of the Clandestine Service.

TSS established its own career service in August 1952 and its own field career service three years later. It therefore acquired control over hiring, firing, training, assignment, and promotion of its personnel and thus acquired autonomy within the operations directorate. Meanwhile, TSS had opened regional overseas bases in Europe and Asia, thereby establishing a worldwide capability to provide technical sup-

port to stations and bases on a rapid basis. These regional bases, in turn, supported other CIA stations and bases, some of which were sufficiently large and sufficiently busy to justify the assignment of 'singleton' technical support officers.

The forward deployment of technical support officers reflected both the growing demand for technical services in field operations and the changing nature of the CIA's overseas mission. From 1948 until the early 1950s, much of CIA's clandestine effort had been directed at preventing as well as preparing for war with the Soviet Union. Covert paramilitary preparations were the order of the day. The Agency recruited Soviet and East European émigrés as well as displaced persons for a refugee army. It also organized stay-behind agents and created arms caches in Western Europe in anticipation of the Red Army's drive to the cliffs of Dover. At the same time, OPC chief Wisner hoped that he could break the Soviet bloc into pieces and 'liberate' the 'captive nations,' as they were called, through psychological warfare operations. The US policy of 'rolling back' Soviet power became passé in 1956, however, when the Eisenhower administration refused to back the Hungarian uprising for fear that intervention would be a *casus belli.*

The OSS model of supporting insurgent forces against a large and powerful enemy was no longer applicable. The first and possibly the most dangerous phase of the Cold War had passed. The new focus was on intelligence collection as East-West relations settled into the pattern of competition and cooperation that lasted until the collapse of communism. By 1957, this new policy was already evident in TSS. An in-house study captured the transition by noting that 'emphasis [in research and development] was still on PM [paramilitary] and PW [psychological warfare] type activities, but there were indications that FI [foreign intelligence] was becoming increasingly important.'

By this time, the TSS professional staff at CIA Headquarters and overseas had increased almost tenfold, and most officers had strong backgrounds in science and engineering. TSS employed a substantial number of consultants with entrée to universities and industrial research laboratories. An in-house test and evaluation unit created in 1957 was an important addition since many of the component's products had to perform under field exigencies. That unit made a significant contribution to maintaining the quality and reliability of OTS products throughout the Cold War. Meanwhile, TSS had created an inventory of 'stock-in-trade' and 'on-the-shelf' equipment and devices, as well as established methods for tradecraft that equaled or exceeded the OSS arsenal Lovell had bequeathed. It also rapidly expanded its base of contractors and hired more graduate engineers, all of whom worked on state-of-the-art projects in electronics, acoustics, and optics. TSS also turned toward developing nighttime aerial photography, an aircraft terrain-warning system, and new approaches to 'automatic intelligence collection' (sensors).

Most importantly, TSS had proven its value to the Clandestine Service and was accepted as a full-fledged member of the operations team. An internal audit concluded that: 'The closer you get to the operating level, the closer you get to the ideal close partnership between the case officer and the Technical Service representative.' The report noted that in one country, 'no project is initiated by a case officer without prior consultation with the TSS representative.'

Covert Wars and Counterinsurgency

The battle lines of the Cold War in Europe were fixed by the late 1950's, but new fronts opened up in Asia, Africa, and Latin America as former colonies achieved independence and Soviet-backed 'national liberation movements' gained momentum. President John F. Kennedy called for a crusade against the communist advance and promulgated the doctrine of counterinsurgency. TSD trainers and experts in special operations were present throughout this era, supporting CIA covert paramilitary operations, as well as those of the armed forces.

The first major operation of the 1960's was the Bay of Pigs invasion, an ill-fated attempt to provoke a popular uprising in Cuba. The island nation had become 'a supply depot for communist arms and operations throughout South America,' according to JFK. The operation was aimed at overthrowing Fidel Castro and his rendition of Marxism.

Frustration and humiliation over the Cuban fiasco led Kennedy to authorize Operation Mongoose, the Agency's largest peacetime covert action in the 1960s, which employed hundreds of case officers and thousands of agents at a cost of $50 million per year. Directed from the White House and the Pentagon and overseen personally by the President's brother, Attorney General Robert F. Kennedy, it was an OSS-type hit-and-run sabotage operation against the Cuban economy. Devices were created to damage Cuban sugarcane fields and wreck cane-cutting equipment and vehicles. Technical experts also provided innovative concealment devices used to smuggle materiel onto the island and into the hands of agents.

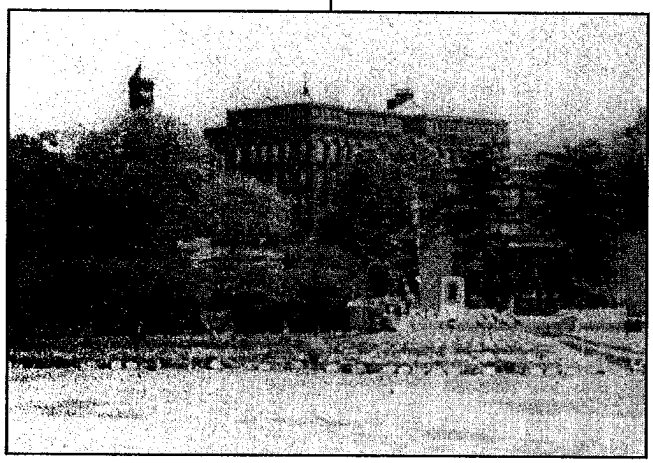
In the late 1950's and 1960's, technical specialists assisted with the training of Tibetan tribesmen who were resisting the Chinese invasion and occupation of their country. It was a lopsided struggle that ultimately proved futile and was abandoned.

In early 1961, JFK ordered the Pentagon to divert $100 million from its budget to 'paramilitary and sub-limited or unconventional wars' in Southeast Asia. This new type of activity was an attempt to apply OSS-type operations with a novel counterinsurgency doctrine. In 1961, when President Kennedy secretly assigned CIA responsibility for all covert intelligence, political-psychological, and paramilitary operations in Vietnam and Laos, TSD was in on the ground floor. Even after JFK revoked that decision and turned command of the not-so-secret war over

to the military, CIA stayed on for the duration and continued to play a central role in 'special operations.'

The Agency fought its largest and longest secret war in Laos. Carved out of the remnants of French Indochina, the small, poor, and land-locked country derived its strategic significance from its borders with China and Vietnam. CIA officers and their Special Forces counterparts established bases at which they trained Meo tribesmen, Laotians, and Thai mercenaries to fight against North Vietnamese and Lao forces.

The war in Southeast Asia ended with the withdrawal of US forces in 1975. Despite the political and military consequences, however, the war had the ironic result of providing CIA operations officers and technical specialists with valuable experience and new ideas. The long conflict fostered a new spirit of cooperation and sense of mutual reliance and teamwork among CIA officers. Experience taught that everyone had to cooperate in drawing up and implementing plans in order for the mission to succeed. The case officer could not be expected to have expertise in every technical aspect of special operations, and the tech could not bring his expertise to bear without understanding the nature and purpose of the operation. The techs learned, as one of them put it, that a 'war zone is not the place for a union shop' or, one might add, for turf battles. The long involvement in Southeast Asia also provided a testing ground for new weapons and devices that enhanced the arsenal of special operations and unconventional warfare.



Until 1965, the Westout Building near the Bureau of Printing and Engraving in downtown Washington, DC was the headquarters of CIA's Technical Services Staff and Technical Services Division.

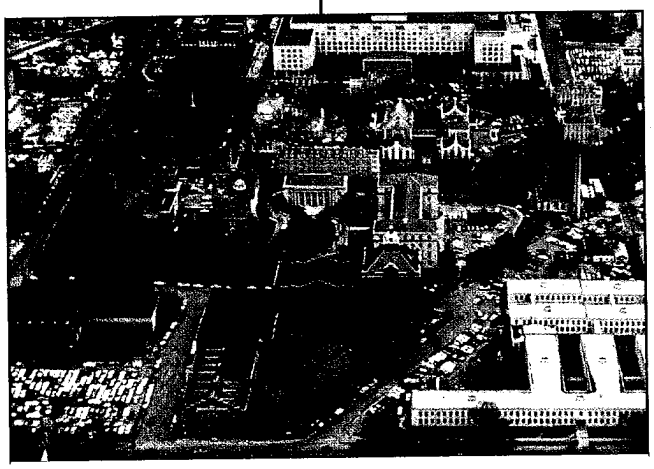
Change in Direction, Change in Directorates

The original TSS/TSD headquarters was located in the Westout Building, at 14th Street and Independence Avenue, NW. In 1965, TSD moved into new quarters in the South Building, located at 2430 E Street, which had served as headquarters for OSS, CIG, and CIA until the new Langley complex opened in 1961. (OTS moved to Langley in the late 1980's.)

By the time of the move, TSD management already had instituted a sea change in hiring policy, seeking to professionalize the service by

recruiting graduate scientists and engineers with undergraduate and advanced degrees. Veterans recall this period as a seminal time that positioned OTS to exploit new technologies coming on line in the private sector and adapt them to intelligence operations. TSD seemed positioned to fulfill a prophecy made in a 1957 study that the 'mechanism now exists within TSS to initiate and foster research at the highest level in this country.' The new spy gear OTS began producing was so much smaller, more reliable, and secure than anything that had preceded it, creating a mini-revolution in the way agent and technical operations were conducted during the final phase of the Cold War.

The other big change in TSD's existence occurred in 1973, when a major Agency reorganization led to TSD's removal from the DD/P, now renamed the Directorate of Operations (DO), and its transfer to the new Directorate of Science and Technology (DS&T). In the process, TSD was renamed Office of Technical Service. DCI John McCone, the driving force behind the creation of the DS&T, wanted to make the transfer in 1962, but DD/P Richard Helms persuaded him not to, arguing that TSD should remain on the operations side of the house so that it could continue providing timely and secure support to operations. Helms asserted that the DD/P-TSD partnership was an integral part of the Agency's operational mission. Technical support and technical operations had become fully integrated into the DD/P's way of thinking and way of doing business. Moreover, case officers could turn quickly to TSD, either at Headquarters or in the foreign field, to service their requirements without hunting around for help. As one TSD officer noted, it was the difference between shopping in several boutiques looking for specialty items and going to a one-stop, everything under one roof shopping mall. Nevertheless, McCone ordered the transfer.



The E Street complex, adjacent to the US Department of State, was home to CIA's Technical Services Division and the Office of Technical Service until the late 1980s. OSS headquarters was located here during World War II.

Soon after the reorganization, a series of public inquiries into possible illegal CIA activities began, including the White House-mandated Commission on CIA Activities Within the United States (Rockefeller Commission) and the Senate's Select Committee To Study Governmental Operations with Respect to Intelligence Activities (Church Committee). TSD came under scrutiny because of MKULTRA, a classified agency research

program that involved Agency funding for the testing and use of chemical and biological agents and other means of controlling or modifying human behavior. Public attention focused on LSD testing, including possible use of unwitting subjects, long before the hallucinogen became fashionable with the American counterculture. MKULTRA was a product of the Cold War, specifically of the fear that the USSR and its allies were using drugs, hypnosis, brainwashing, and other methods to control or modify the behavior of captive populations and against American GIs captured during the Korean War. Although LSD testing was a small part of the total research program, which ran from 1953 to 1964, it generated adverse publicity that continues to resonate in the media.

The OTS Achievement

Despite morale problems created by the reorganization and by Congressional investigations, OTS continued forging ahead under new leadership and in its new home. Gone was the old 'cloak-and-dagger' approach to espionage. In its place were new technological breakthroughs that changed the way CIA collected intelligence through both human agents and technical means. The most important advances occurred in secret writing, electronic agent communications, and audio surveillance.

Secret writing (SW) of one sort or another dates back to ancient times. There are references to it in the Bible and in Caesar's commentaries on the Gallic wars. It also played a major role in the Cold War, however.

OTS has been solely responsible for CIA secret writing since it opened its doors in 1951. For many years, secret writing was a vital method of covert communication. Case officers relied on it to communicate with their agents, and the agents themselves were even more dependent on secret writing, especially in 'denied areas' behind the Iron and Bamboo Curtains, where the use of electronic agent communications involved great risks and where face-to-face meetings were usually out of the question.

Secret writing experts formed a distinct sub-culture with its own sense of élan. For some technical support officers, SW provided an entrée to operations and to fieldwork with case officers and agents, who required training and support. Other tech officers engaged in research, developing new systems that hopefully could survive the scrutiny of mail censors and counterintelligence services' effort to 'break' SW systems. Still others specialized in counter-censorship operations, trying to determine the methods, level of sophistication, and intensity of foreign mail intercept and censorship operations.

In the 1960's, more than two dozen TSD officers were working at Headquarters and overseas on SW, and another dozen or so were involved in research. Contractors proved indispensable in developing new systems. At any given time, several hundred case officers and agents were using OTS-provided secret writing. One globe-

trotting officer, now retired, recalls training hundreds of agents during a ten-year period. On one assignment, he trained stay-behind agents in a country on the verge of war where the US embassy was preparing for evacuation. Secret writing has never lost its value as a first-rate agent communications method in emergencies or when other methods prove inadequate.

The major advancement in SW technology was the shift from liquid invisible inks to dry systems. The KGB was one of the first foreign intelligence services to employ a dry method. OTS spent considerable time researching Soviet systems and finally succeeded not only in 'breaking' them but in anticipating where its KGB counterpart would go next in the never-ending search for more secure systems. By the end of the Cold War, a kind of tacit convergence had emerged as both sides applied new techniques that used very small, almost undetectable quantities of chemical in SW messages. In the words of one CIA chemist, it was like 'uniformly spreading a spoonful of sugar over an acre of land.'

OTS inherited responsibility for agent covert electronic communications from another CIA office in the late 1970s. Even as recently as the 1970s and early 1980s, electronic communications devices were still 'all black boxes and spy gear,' according to one engineer. Electronic devices were large, cumbersome, difficult to operate, and a sure tip-off to the local counterintelligence service if an agent got caught using them.

A big breakthrough came from the microchip, that tiny wafer of silicon that changed the way the world lives, works, and plays today. With microchips came microminiature integrated circuits and increasingly smaller devices. In time, OTS engineers, working with contractors, managed to develop covert communications equipment that could send short-range transmissions from continually shifting locations. At first these were merely signaling devices for agents, but eventually OTS created sophisticated communications gear that could transmit messages safely and reliably. This was critically important in 'hard-target' areas, where radio counterintelligence units were on guard for unauthorized signals that could be intercepted and traced.

The search for effective, reliable, secure, and concealable agent communications devices for use in 'denied areas' such as the Soviet Union and Eastern Europe had a synergistic impact on OTS audio operations. The advent of semi-conductor chips and integrated circuits made it possible to move from miniaturization to microminiaturization. CIA engineers, working with contractors, developed integrated electronic circuits and power sources that, instead of being individually packaged, were assembled in a 'suite' of incredibly small, thin, and flat components. The resulting technological breakthrough was equally applicable to agent communication and audio devices. CIA was now in a position to launch new initiatives and achieve new successes in the Cold War intelligence competition.

OTS was a pioneer in the field of audio surveil-

lance operations—or 'audio ops.' Audio surveillance traditionally takes three forms: telephone taps, concealed microphones ('bugs') connected by wire to a tape recorder, and microphonic pick-up by concealed wireless transmitters.

By coincidence, the Technical Services Staff was formed at about the same time that the transistor was invented. TSS began using the new technology in the mid-1950's, and by 1960, it had developed its first fully transistorized listening device. The transistor ushered in the age of solid-state electronics, permitting the use of miniaturized printed circuits. The result was a reduction in the size of circuits, which produced less heat and operating voltage and were more reliable and robust to boot. This success had profound implications for audio surveillance equipment and paved the way for developing receivers and transmitters that were smaller, lighter, more reliable, and more concealable. Advances in batteries, microphones, transmitters, on/off remote switches, and other products of the microelectronics revolution opened up additional opportunities for the collection of foreign intelligence.

TSS audio ops specialists also began using new techniques for installing microphones without entering the targeted area. Installation tools and techniques reached the point at which the detection of listening devices was very difficult.

The advent of audio ops changed the nature of the intelligence business greatly while enhancing the integration of agent and technical operations. For case officers, audio surveillance offered a way of penetrating otherwise impregnable 'hard targets.' CIA started from scratch in 1950, but by the end of the decade, several 'hard target' countries were taking extraordinary measures to protect their official installations from what they perceived as a substantial audio surveillance threat.

The advent of audio operations necessitated and fostered cooperation between case officers and technical support personnel. Since most operations are done on a target-of-opportunity basis, case officers must be prepared in advance with information on a given target—information that is gained through clandestine surveillance and casing. The case officers then work closely with technicians to develop a comprehensive operational plan for entering a target site and planting a listening device. A typical plan might include cover, method and timing for entering and leaving the target site, selection and preparation of tools and equipment, counter-surveillance during the operation, and methods of communication between the audio team and the surveillants, composition of the entry team and its chain of command, and the specific responsibility of each team member during the operation. Case officers quickly learned to appreciate the value of audio operations, and, on the tech side, a distinct sub-culture developed around the audio operations officers, who were highly regarded inside the Agency for their forays into hostile areas at great risk.

Moscow Rules

The Soviet Union was the hardest of the Cold War's 'hard targets,' the most hostile of all operational environments. The KGB was the largest and most effective counterintelligence service in the world, and it kept all Americans—and especially those working in Moscow—under close and continuous surveillance. Tradecraft, in order to be secure, had to be simple and basic—dead drops and chalk marks, methods that would not have been unfamiliar to George Washington or Nathan Hale. Few if any face-to-face meetings were possible. Nevertheless, by Cold War's end OTS technological breakthroughs enabled CIA to level and then tilt the playing field in its favor, both in the USSR and elsewhere in the Soviet bloc.

The USSR was the hardest of the 'hard targets' for US intelligence during the Cold War. Thanks to technical innovations in electronic agent communications and disguise, CIA was able to counter KGB surveillance and meet agents in Moscow.

KGB chairman Yuri Andropov both feared and admired CIA technology. On one occasion, he upbraided his own chief of technical services when he learned that OTS 'spy gear' was small enough to be measured in ounces while the KGB's counterpart was ungainly and weighed several kilograms. 'We just don't have the technology,' the hapless expert explained.[2]

In the early 1980s the KGB *rezident* (station chief) in Washington became so obsessed with CIA technological prowess that he ordered all KGB officers to use their pseudonyms rather than their true names while working inside the intelligence section of the Soviet embassy.[3] He was convinced that the Agency had bugged them all. KGB headquarters ordered field officers worldwide to remove their coats and other outerwear before entering their offices. A CIA 'mole' had been arrested with a sub-miniature camera, and the Center (KGB headquarters in Moscow) feared that there might be other spies equipped with CIA equipment.

The Gorbachev era ushered in *glasnost* (openness) and expanded western access to the Soviet Union. Senior KGB officials and repre-

[2] Oleg Kalugin, *The First Directorate: My 32 Years in Intelligence and Espionage* (New York: St. Martin's Press, 1994), pp. 260-261.

[3] Yuri B. Shvets, *Washington Station: My Life as a KGB Spy in America* (New York: Simon & Schuster, 1994), p. 47.

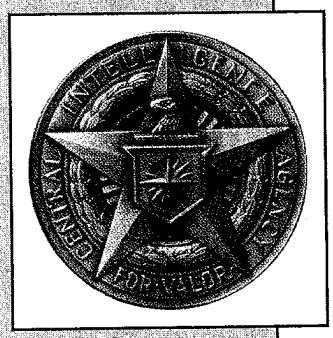
sentatives of the Soviet military-industrial complex began complaining openly—in English as well as in Russian—about CIA's 'technical penetration' of their respective domains. The KGB paid an ironic tribute to the Agency by opening a special exhibit in its in-house classified museum of what it claimed was a collection of CIA spy paraphernalia. One senior Soviet security expert published a catalogue of alleged US technical collection devices, which, he said, had been found near military installations and defense industrial sites. 'Since the 1960s, the Americans, sparing no expense, have been developing, constantly improving, and building up a system of technical infiltration for spying purposes,' the senior officer complained. These public revelations were embarrassing to Soviet security forces, forcing them to tacitly admit they could not cope with the challenge posed by US technical capabilities. The KGB must have made such revelations in a desperate attempt to persuade the new reform leadership to restrict rather than expand the Soviet opening to the West.

The Iran Hostage Rescue

Nothing illustrates OTS skills and capabilities better than the 1980 rescue of six Department of State officers from Teheran. On 4 November 1979, Iranian radicals led by the Revolutionary Guard overran the US Embassy in Teheran and seized 53 American hostages and held them for 444 days. Unbeknown to the hostage takers and the world at large, six State Department personnel managed to find refuge at the Canadian embassy. Several Canadians hid the Americans in their homes.

In Harm's Way

OTS officers often find themselves in risky situations. In 1961, three TSD audio experts were arrested while installing listening devices in a foreign embassy in Havana. They spent three years in the Isle of Pines prison before being released with Cuban guerillas captured at the Bay of Pigs and later received the CIA's Distinguished Intelligence Cross.



Fourteen OTS officers have received the Intelligence Star, which is awarded for 'voluntary acts of courage under hazardous conditions or for outstanding achievements or services rendered with distinction under conditions of grave risk.' Three OTS officers have been awarded the Exceptional Service Medallion 'for injury or death resulting from service in an area of hazard.'

In January 1980, an OTS team managed to smuggle the hostages out of Iran. As a cover legend, the CIA team fell back on the Agency's longstanding ties to Hollywood by creating a dummy film production company that wanted to 'scout' sites for a movie. The operation depended heavily on the use of documents and disguises, which were traditional skills dating back to OSS days.

An exfiltration is one the most dangerous types of missions supported by OTS. The successful removal of the six diplomats was an especially bold effort that required the authorization of President Jimmy Carter and close cooperation with Canada.

The Soviet Forgery Offensive

Not all operations require such derring-do and heart-pounding excitement. During the Cold War, OTS also performed missions that required different skills. One of the them was a counter-intelligence mission involving the evaluation of 'questioned documents,' which were suspected forgeries foisted on CIA and the US Government by hostile intelligence services either for purposes of disinformation or to 'authenticate' a double agent.

In the late 1970's and early 1980's, as détente gave way to confrontation, the KGB began to produce a spate of 'documentary forgeries,' i.e., forgeries that appeared to represent official US Government records and statements. Forgery is a Russian specialty; the most infamous political forgery of the 20th century—*The Protocols of the Elders of Zion*—was a product of anti-Semites in the Okhrana (the imperial Russian secret police). The KGB built upon the Okhrana's record.

The new forgeries were a vast improvement over anything that the OTS Questioned Documents Laboratory (QDL) had seen before. For one thing, the KGB accurately reproduced official US Government publications and forms. For another, it forged for the first time documents attributed to President Jimmy Carter and Vice President Walter Mondale, as well as those of cabinet, sub-cabinet, and other senior officials. These were not run-of-the-mill 'dirty trick' operations designed to embarrass the White House. They were, instead, hard-core 'black propaganda' aimed at causing serious long-term damage to US national interests. For example, the KGB surreptitiously circulated a bogus speech attributed to President Carter in which he made allegedly demeaning references to Greece's role in NATO. Another example was a phony report attributed to Vice President Mondale that contained derogatory comments about Egyptian leader Anwar Sadat. Both fabrications were aimed at harming US relations with key allies.

OTS worked closely with the DO's Covert Action Staff on the forgeries problem. The head of the QDL traveled around the world briefing counter-intelligence services and, in some cases, heads of state, in order to mitigate the damage from

KGB dirty tricks. Eventually, Congress convened formal hearings at which DO officers and an OTS forensic expert testified about the KGB disinformation effort and discredited it.

Endgame

Technical support for CIA covert action operations—both paramilitary and political-psychological—is a legacy of World War II and the early Cold War. In the aftermath of Vietnam and Congressional investigations in the mid-1970's of CIA activities dating back to 1947, covert action fell into disrepute and disrepair as America turned inward. The December 1979 Soviet invasion of Afghanistan, however, changed everything. From 1980 to 1989, CIA conducted what former DCI William Webster called 'one of the most successful operations in the country's history' by supporting the Afghan resistance against the Soviet invaders. Webster added that the Agency had enjoyed the 'support of Congress and the American people,' thus enabling the United States to reach its goal of forcing the 'withdrawal of the Soviets from Afghanistan.'

The Soviet withdrawal accelerated the collapse of communism in the Soviet empire. Other US covert action operations, most of which remain classified, also contributed to the peaceful end of the Cold War. For years, OTS supported the printing of miniaturized books and other publications that were officially banned, but nevertheless found their way through the Iron Curtain. Such efforts were important because the opposition inside the Soviet bloc was primarily intellectual rather than overtly political. The US effort to preserve a surrogate free press in the West helped keep alive the resistance inside the Soviet bloc until the dramatic events of 1989-1991 that finally brought down the Soviet empire.

Beyond the Cold War

In the years since the collapse of Communism, OTS has shifted priorities in some areas and relinquished some responsibilities to other offices even though its basic mission and tools of tradecraft remain relatively unchanged. OTS is accelerating efforts to apply modern technology to its operations. Classic Cold War-era spy gear may appear to be obsolete, but for the most part it has simply taken new forms using innovative technologies to take advantage of the digital and electronic environment.

One of the biggest challenges facing OTS, as well as the CIA in general, is combating the scourge of international terrorism. OTS involvement in counterterrorism dates back more than two decades. In the late 1970's, OTS compiled a handbook identifying false passports used by terrorists. Other US agencies and foreign intelligence services use this manual. In the mid-1980's, OTS joined the CIA's rapid-reaction counterterrorist team, which stands ready to deploy at a moment's notice if American citizens become victims of terrorism. With equipment

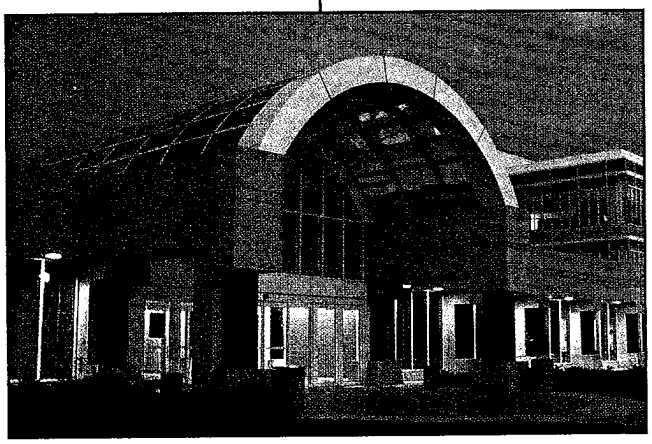
and know-how, OTS officers have assisted the CIA, other US agencies, and a myriad of foreign intelligence services in counterterrorist operations.

OTS played a key role in securing the conviction in February 2001 of a Libyan terrorist involved in the 1988 bombing of Pan Am Flight 103 over Lockerbie, Scotland, which killed all 259 people on board. Based on OTS analysis presented during the trial, the prosecution identified the Swiss-made MeBo MST-13 timing device that had been used to detonate a bomb hidden in the 747 jetliner's cargo hold. After examining a fragment of a circuit board about half the size of a thumbnail that had survived the explosion, OTS was able to match it with a timing device that the Libyans had planned to use in a terrorist operation preempted by CIA several years earlier in Senegal. CIA witnesses present for the trial protected their identities by using aliases and wearing disguises.

Looking to the Future

Despite vast changes in the world, OTS remains mission-oriented and focused on its role in support of clandestine operations in pursuit of US national interests. According to OTS Director Robert Wallace, 'Although more than 90 percent of current OTS officers were never officially assigned to the DO, most think of themselves as operations as well as DS&T officers. OTS officers continue to stay engaged with the operational divisions at all levels in an almost spiritual linkage.'

Some things have changed, however. First, 'Government no longer drives technology—we do specialized development and engineering, more technological innovation than breakthroughs. Private sector contractors work with us for patriotism, not dollars. OTS purchases are in the dozens, not millions, of units,' Wallace added. Second, partnerships within the US Intelligence Community have gone from nonexistent to symbiotic. The first OTS Director, John McMahon, remembers when OTS viewed all external contacts with reservations in light of the sensitive nature of its work for the Clandestine Service. That situation no longer pertains. OTS regularly works with many of the agencies that comprise the US Intelligence Community.



The CIA's New Headquarters Building opened in 1987; the Office of Technical Service moved there in the late 1980s.

OTS can look back with justifiable pride on its accomplishments. It occupies a unique place in CIA history and in the Agency's mission. Drawing on the OSS

legacy, it substantiated beyond all expectation the key insight of Gen. Donovan, Stanley Lovell, and 'Trapper' Drum that technology is an American strength to which our intelligence services must play if they want to succeed. The Cold War, like World War II before it, vindicated that view. In the early days of the East-West struggle, technical support and technical operations were the thin edge between success and failure in the intelligence war with the KGB. By the end of the Cold War, America's technological prowess came to represent the essential difference between the two world systems—one of the main reasons why one side prospered while the other collapsed. This was true in the intelligence arena as well in other spheres of American life.

OTS deserves our congratulations and our gratitude for a job well done. As Director Wallace observed on another occasion:

> *The heavy responsibility of our profession is encircled by immense pride in our success. I share that pride in knowing that today our OTS team is developing, producing, engineering, and delivering technical service to clandestine operations in every corner of the world—and doing so better than anyone can imagine.*

Selected Chronology

1942

13 June	Office of Strategic Services (OSS) formed
17 October	OSS creates Research & Development Branch under Stanley P. Lovell

1946

22 January	Central Intelligence Group created

1947

18 September	National Security Act establishes CIA

1951

7 September	Technical Services Staff (TSS) created

1952

1 August	Office of Special Operations, Office of Policy Coordination merge under the Directorate for Plans (DD/P)
14 August	TSS career service created

1955

28 March	TSS field service authorized

1960

23 February	TSS renamed Technical Services Division (TSD)

1966

TSD moves from Westout Building to 2430 E Street, Washington, DC

1973

4 May — TSD renamed Office of Technical Service (OTS) and transferred from DD/P to the Directorate of Science and Technology

1988

OTS Headquarters moves from 2430 E Street to New Headquarters Building, Langley, Virginia

Directors of the Office of Technical Service

Technical Services Staff, 1951-1960

Col. James H. ('Trapper') Drum, September 1951 - October 1952
Dr. Willis A. ('Gib') Gibbons, October 1952 - April 1959

Technical Services Division, 1960-1973

Cornelius V.S. Roosevelt, May 1959 - May 1962
Seymour Russell, August 1962 - March 1966
Dr. Sidney Gottlieb, March 1966 - May 1973

Office of Technical Service, 1973 - Present

John N. McMahon, May 1973 - July 1974
David S. Brandwein, July 1974 - June 1980
Milton C. ('Corley') Wonus, June 1980 - July 1984
Peter A. Marino, July 1984 - September 1986
Joseph R. Detrani, December 1986 - April 1989
Frank R. Anderson, April 1989 - May 1991
Robert G. Ruhle, May 1991 - April 1994
Robert W. Manners, February 1994 - October 1996
James L. Morris, December 1996 - March 1997
Patrick L. Meehan, May 1997 - October 1998
Robert W. Wallace, December, 1998 - present

OFFICE OF TECHNICAL SERVICE

OTS

1951 2001

FIFTY YEARS
SUPPORTING OPERATIONS