Cutting Edge

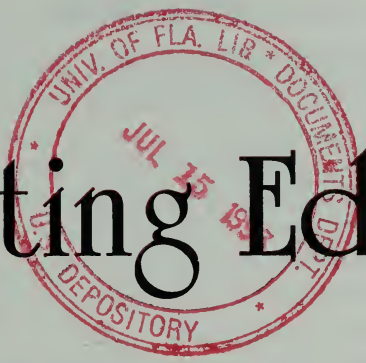
A history of Fort Detrick, Maryland 1943 - 1993

compiled and written by

Norman M. Covert

Headquarters, United States Army Garrison, Fort Detrick.


CONGRATULATIONS
OF
EXCELLENCE
DAKTRON



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DEDICATION

This volume is dedicated to the men and women of Fort Detrick whose sense of patriotism, personal skills and professional attitude made this history; and to the people of Frederick, MD, whose support has been important to the successes achieved in this part of the city.

Prepared by
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FOREWORD

As Fort Detrick celebrates its 50th Anniversary in service to this Nation, it is appropriate to chronicle the 50 years of excellence which have characterized this United States Army installation.

This occasion coincides with a time of transition in the United States Army and the Department of Defense. This installation has been earmarked to be retained in the Army Medical Department for the immediate future. Since July 1, 1973, Fort Detrick has been part of the U.S. Army Health Services Command family. The past 20 years have been good for Fort Detrick and the Army. That is included in this volume. The end marks the beginning of our new role in the Army Medical Department as we change for the future.

A sense of awe and respect is a natural response to any review of Fort Detrick's accomplishments the past 50 years. It is a privilege to be the 30th commander of Fort Detrick, working to carry on this tradition of excellence that has marked my predecessors from the first commander, Lt. Col. William S. Bacon. Please join me as we salute those who came before, and those who will follow.

I commend this volume to your reading and understanding. It is a story of medical pioneers, whose skills on the cutting edge gave this Nation great advances in the cause of science and medicine. This legacy of Fort Detrick is something in which we take great pride. You are part of that legacy as you help lead us into the year 2,000 and beyond.

LARRY G. JOHNSON
Colonel, MS
Commanding

Cutting Edge
A history of
Fort Detrick, Maryland
1943–1993

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Preface

Fort Detrick marks its 50th anniversary as a U.S. Army installation in Frederick, MD, in 1993. It is part of the U.S. Army Health Services Command, headquartered at Fort Sam Houston, TX. Fort Detrick has clearly proved its value to the Nation's defense. In 1992 and 1993 it supported deployed medical units of all the Armed Services in the Horn of Africa, Eastern Europe, and Northern Iraq, strategic communications systems worldwide, and biomedical research and development. Its work was unparalleled.

Fort Detrick's history spans some 62 years since the first military units landed their fragile bi-planes on the grass runway of the first Frederick City airport.

The scientific and technical achievements began in 1943 in the pastoral setting of Frederick County. Fort Detrick scientists gave a legacy to modern medical science that knowledgeable observers say enabled the medical technology explosion of the past decade.

America has endured four major wars in the post's history; Fort Detrick has served under 11 U.S. Presidents; and changed its face to meet the future. Technological excellence is still the by-product of Fort Detrick's military mission.

This volume is intended to recount in historical perspective the achievements of Camp and Fort Detrick. It is no simple or easy story to tell and neither will this volume complete the historical recounting of our many achievements. We continue to look to the future and welcome the assessment of our work by future historians.

Acknowledgment

We are indebted to many persons for their advice, assistance, and willingness to clarify information. These include: Kenneth Bartgis, Herbert Bloom, Alex Bryant, Harold Chichester, Anna Hahn, Dr. Riley D. Housewright, Hubert J. Kaempf, Dr. Harold E. Neufeld, William Patrick, Robert Peel, Katherine Staley, Col. Joseph Pastore and Lawrence L. Ware. We also thank a host of other former scientists and employees, who shared their experiences. Sincere appreciation to: John W. Bennett, Laverne Bosley, Orley Bourland, Richard C. Carter, Gloria Crowl, Chuck Dasey, Joseph Dattoli, Raymond DeLorme, Arthur J. (Jim) Dukes, Lewis F. Fagan III, Lorraine Farinick, Carol Freed, Virginia Garrott, Edgar W. (Bud) Larson, Cheryl Parrott, Larry Pavek, Kenneth Rice, George Sheetenhelm, Edna Smith, Nevin Staub, Hanford Thomas, Dave Weedon, Dr. Anna Johnson-Winegar, and many others, who made contributions or kindly read portions of the manuscript as it evolved.

The following persons have died since they shared their recollections with us: Mr. Everett Hanel; former Assistant Director of Science Dr. Harold Glassman; and Mrs. Louise Trout. The greatest compliment paid was that after reading the draft manuscript, many often began recalling past experiences and credited this work to stimulating those fond memories.

The Public Affairs Office staffers helped protect the information over the years and put it in some order. Thanks to Eileen Mitchell, Margaret A. Sherald, and Carolyn Ann Duble, plus Intern Gerella Hennessey, Spc. Nadine Green and Karren Robbins. Janet Michael, who retired in March 1993, helped the author get started on this history in 1977. Her editing and insight were invaluable.

Also thanks to the Fort Detrick Commanders, who supported this historical recovery program: Col. Robert M. Shaw Jr., Col. G.E. Chapin Jr., Col. Mark L. Hoke, Col. Richard W. Hauer, Jr., Col. Charles W. Churchill and Col. Larry G. Johnson.

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End Sheets: Goodloe E. Byron Building, constructed in 1988, is operations and communications facility for Headquarters, U.S. Army Garrison, Fort Detrick. (Photo by Austin D. Twigg III).

Introduction

Fort Detrick completed 50 years in biomedical research and development in 1993 as the legitimate child of Camp Detrick. No history would be complete without appropriate and complete references to the early program.

This volume was originally conceived as a companion piece and expansion of the 63-page booklet, *SCIENCE and TECHNOLOGY at FORT DETRICK 1943-1968* by the late Lt. Col. Richard M. Clendenin. However, it was obvious that a simple update would have been insufficient to satisfy the need to chronicle the succeeding years from 1968.

Historical documentation of the early program has not been easily retrieved, nor maintained. Extreme secrecy in the old Biological Warfare Laboratories prevented widespread recording and maintenance of traditional history. When the Biological Warfare (BW) programs were disestablished in 1972, much of the historical matter was destroyed or scattered to other locations, including the National Archives, the Adjutant General of the Army, and Aberdeen Proving Ground, MD.

Dr. Edward Dapper, who was responsible for the demilitarization program at Fort Detrick from 1970-73, helped us locate three boxes of files detailing every step of the demilitarization and standdown from the BW program. This information may prove invaluable in current environmental investigations by the U.S Army Environmental Center. The information is an indisputable record of the monumental efforts taken to ensure absolute safety in the standdown and complete cooperation with local, state and federal agencies.

Disestablishing any military organization requires much effort. The biological laboratories acquired and produced a huge volume of information over the years. A review committee had to sift through it and determine which should be retained, destroyed, or transferred to other locations for possible use. The committee was allowed less than six months to make such determinations. It was generally felt that the time constraint allowed the "baby to be thrown out with the bath water." The Fort Detrick Technical Library

was painstakingly assembled and maintained over the years by Ms. Rhoda H. Fogel. The information was a science bonanza that was mostly lost to history. The entire card catalog and just 20 percent of the technical library holdings wound up at Dugway Proving Ground, UT.

A determined effort to recover material relating to the history, not necessarily the scientific history, of Fort Detrick was begun in 1978 by the Public Affairs Office. It has been a fruitful quest. Much material has been received from former employees. Some material has been found in forgotten closets, jammed behind drawers in desks, or intercepted before it was thrown out. The latest finds include a 1958 roster of military members discovered under a file drawer by Hubert Kaempf. Much of the recovered material relates to persons, offices, overall operations, and other non-scientific work.

However, in one instance, an alert team in the records holding area discovered 56 boxes of day-to-day laboratory notebooks that proved valuable to the Army's defense against several law suits. In another instance, the material was indexed, and almost an entire box of books relating to one program saved the U.S. Army Medical Research Institute of Infectious Diseases nearly one year's work when it established a new research program. The entire volume of books was transferred to the National Archives holding facility at Suitland, MD.

The history of Fort Detrick is not glorious in the sense that victory was achieved on the battlefield. However, the cause of science has been advanced more than a quarter century because of the visionaries, who were able to take scientific research from the open bench to maximum containment laboratories. The knowledge in applied science took a quantum leap because Dr. Charles Phillips, who began as an enlisted man at Camp Detrick, completed his World War II project studying gaseous sterilization. His work with *ethylene oxide* took decontamination into the realm where today entire buildings may be cleansed of potentially toxic agents. Hospitals and medical centers depend on Dr. Phillips' work each day.

Dr. Edward Schantz and his team successfully purified botulinum toxin. This has lead the way to purifying other agents for use in treating and preventing disease and the development of vaccines and toxoids. Dr. Arnold G. Wedum was another pioneer at Camp Detrick. His work with safety equipment and procedures is still the standard of excellence in designing and building medical and research facilities. Dr. Leroy Fothergill is often praised for his insistence that scientific procedures be rigidly followed. The reputation is shared by Dr. Riley D. Housewright, who served as scientific director from 1956 until the laboratories closed in 1972.

As you will see in this volume, Fort Detrick continues to be an Installation of Excellence, on the "Cutting Edge" of science and technology, borne of its reputation forged in the challenges of World War II.

NORMAN M. COVERT
Chief, Public Affairs
1993

Cutting Edge

A History of Fort Detrick, Maryland 1943–1993

Chapter 1
Earning Our Wings

The saga of Fort Detrick began with a squadron of airplanes, a group of young men, and the Maryland National Guard Adjutant General. Frederick City was the center of a county known for its fertile land, rolling hills and prosperous farms.

Modern aviation came to Frederick in 1929. According to the 1932 Yearbook published by the Frederick News-Post:

"Municipal airport includes slightly more than 92 acres, leased to U.S. Government August 1, 1929, as an emergency landing field. Cost land $26,785.56. Title to property acquired by city July 29, 1929.

"Made permanent training field for annual encampment of 104th Aero Squadron of the 29th Division (Maryland National Guard) in 1931 and named Detrick Field in honor of the late Dr. Frederick L. Detrick, flight surgeon of the unit."

It was operated by a single person and the field was one of a string of emergency air fields between Cleveland, OH, and Washington, D.C.

The 104th Aero Squadron, 29th Division, Maryland National Guard, trained at Langley Field, VA, each summer. Its members lived in the Baltimore area, some of whom were veterans of World War I. Among them was the squadron surgeon, then Capt. Frederick Louis Detrick, a distinguished teaching surgeon at Johns Hopkins University Hospital.

In March 1931, Maryland Adjutant General Maj. Gen. Milton A. Reckord announced he was "bringing home the boys" from Virginia. He obtained permission to have the 104th hold its two-week encampments at the Frederick airport. The airport had three stone block buildings, which served as the tower, a snack bar and latrine. The grass runway was situated almost west to east with a dogleg north. West 4th Street (now Rosemont Avenue) marked the western boundary. West 7th Street was the eastern boundary, where a tree-lined entrance greeted the National Guardsmen.

The 104th came equipped with its American-made

DeHaviland O-38 Observation bi-planes, cumbersome trucks, and squad tents. What the 104th did not have on Aug. 10, 1931 was a squadron surgeon. Captain Detrick suffered three heart attacks and died on June 3, 1931. So great was the respect and admiration for Dr. Detrick that the unit unanimously voted to name the air field "Detrick Field" during that August 1931 encampment. The name stuck, becoming Camp Detrick in 1943 and Fort Detrick in 1956.

The 1932 Frederick Yearbook highlighted the first encampment on August 14, "Plane from Frederick airport is 'shot down' in mimic battle over Hagerstown."

An air show would be staged for the city at the conclusion of each encampment. The 1932 yearbook recounted:

"August 17– Frederick watches spectacular exhibition of air maneuvers at Detrick Field. . . .

August 24–Throngs of city goers watch guard planes end camp here by successfully 'bombing' Frederick."

Many residents have recounted how they flew for the first time in one of the 104th Aero Squadron's observation aircraft. The squadron supported infantry maneuvers from Pennsylvania to Virginia and took photographs, which later became the basis for maps, and other land-use documents.

One of the first Army aircraft, designed by Wilbur Wright, was flown from Camp Myer, VA, to Frederick on Aug. 21, 1911. Despite the similarity with scenes of the first encampment at Detrick Field, no one can say for sure where the actual location was in Frederick. A famous amateur balloon pilot flew a large aerial balloon from the Peaks of Otter in Virginia's Blue Ridge Mountains to Detrick Field in 1932.

Three bombers are known to have landed at Detrick Field. A Ford Tri-Motor was on display and gave rides in the early 1930s. An eight-engine Barling Bomber was photographed on the grass tarmac in 1933. On May 25, 1939, a B-24 Bomber being shuttled from the West Coast was forced down due to engine trouble. It stopped nose up in the ditch adjacent to the trolley tracks on West 4th Street. Pulled from the ditch and refueled, it took off without incident the next morning. A week earlier on May 19, the first Air Mail

DeHaviland O-38 bi-planes aligned on field at first encampment of 104th Aero Squadron at Detrick Field, Frederick, MD, August 1931.

was received and dispatched from Detrick Field in conjunction with National Air Mail Week.

In 1938, Detrick Field was removed from the list of emergency air fields, but in 1939 the Federal Government renewed its lease. With World War II looming, Detrick Field became home for a Cadet Pilot Training Program. It built a large hangar (Building S-201) and a series of wooden, prefabricated cantonment structures for barracks and administrative buildings. Among those buildings still standing are the former Noncommissioned Officers Club (Building T-115), the former infant care center (Building T-116), Strough Auditorium (T-611), Post Exchange complex (T-713), Post Library and other support offices including Inspector General and Equal Employment Opportunity offices (T-501), Community Activities Center (Building S-718) and Building 719, which now houses Company B, 4th Light Armored Infantry Battalion, U.S. Marine Corps Reserve.

Construction also included the concrete tarmac. Now called Hamilton Street, it runs parallel to Military Road across from Buildings S-10, 11 and 12, the control tower complex. Steel bars embedded in the concrete tarmac allowed

the pilots to secure their aircraft with ropes each night. Hamilton Street still runs directly to the old hangar, where it is covered in asphalt, but most of it remains as it was. It is used primarily for parking.

Quartermaster Corps soldiers from Fort Ritchie, some 26 miles north near Sabillasville, MD, were assigned to Detrick Field and kept the facilities operating in the years immediately preceding the onset of World War II.

The last airplanes departed Detrick Field in December and January 1941-42 after the Japanese Imperial Navy bombed U.S. Military forces in Hawaii on Dec. 7, 1941. All aircraft and pilots in the 104th and Cadet Pilot Training Program were reassigned after the Declaration of War to conduct anti-submarine patrols off the Atlantic Coast.

But that wasn't the end of Detrick Field's aviation history. Irving Shuffler, a resident of Chambersburg, PA, wrote a letter to the editor of the Frederick News-Post in 1981 and asked why no one ever talked about the 2nd Bombardment Wing being at Detrick Field. He provided extensive information that was verified by the Office of the Chief of Military History.

The 2nd Bombardment Squadron, U.S. Army Air Corps, was disestablished at Langley Field, VA, in 1939. However, with the coming of war in December 1941, America was rapidly mobilizing its forces, establishing organizations and units to be deployed to all theaters of war. The 2nd Bombardment Squadron was reestablished in February 1942 and its colors brought to Detrick Field, which had been virtually abandoned save for the skeleton crew from the Quartermaster Corps.

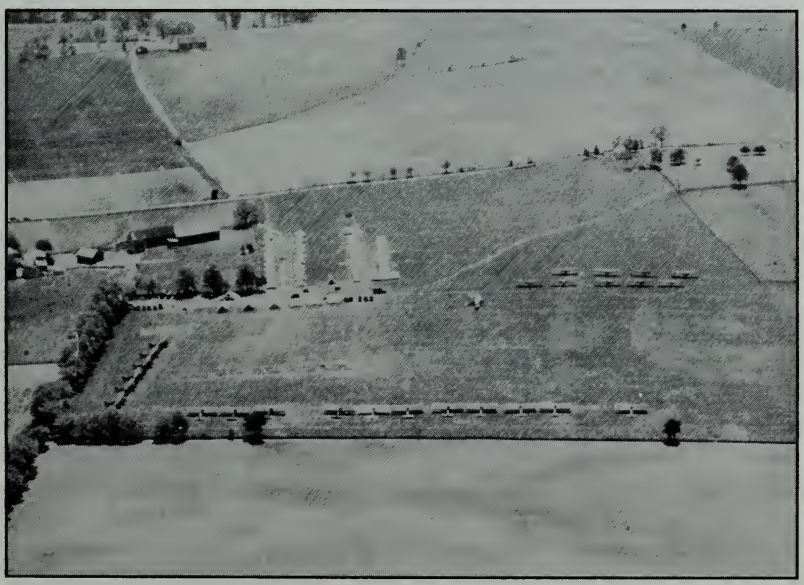
Between February and September 1942, a cadre of soldiers with the squadron completely organized the reconstituted unit, ordering all supplies, equipment and personnel. It had no organic aircraft assigned to Detrick Field. It was later equipped with B-17 Bombers, which were flown to several air bases in the British Isles by women, contracted through the government as "ferry pilots." The unit was consolidated at the Military Terminal, Brooklyn, NY, in September and it deployed to England. The 2nd became the nucleus for the

new 8th Air Force Headquarters and its lineage saw it becoming the 2nd Bombardment Division (Heavy), which was the primary division bombing deep in the heart of Nazi Germany. Among its commanders when World War II ended was movie star Maj. Gen. James Stewart.

The only remnants of Detrick Field's role in aviation are the Blockhouse Tower, the hangar now used by the Directorate of Engineering and Housing (DEH), Hamilton Street, and the wooden buildings, the latter destined to be razed in the near future.

The grass runway is only visible on Blue and Gray Field. The parade field was dedicated in 1985 to the memory of the 29th (Blue and Gray) Division soldiers from Frederick who died during and immediately after the Normandy Invasion on D-Day, June 6, 1944.

The aircraft landing at Fort Detrick in 1993 were helicopters used for shuttling visitors to and from Washington, D.C. Fort Detrick also is designated as an emergency



Aerial view of Detrick Field taken August 1931. West 7th Street is at top.

Soldier walks guard post on concrete tarmac (now Hamilton St.), July 15, 1941. Building S-10 and former barracks at right. Only occupants of Detrick Field at the time were the 2nd Bombardment Squadron and Quartermaster Corps.

landing site for the Presidential helicopter should an on-board health emergency be experienced en route to Camp David. During the 1992 Armed Forces Day Open House, a North American Trainer, vintage 1943, became the first fixed-wing aircraft to land at Fort Detrick since World War II. It flew in over the helipad and quickly touched down in the grass behind the supply warehouse. There was just enough room for the landing and subsequent takeoff.

Visitors to Fort Detrick find it difficult to picture an airfield on this site. Older residents of Frederick will tell you the time period between 1931 and 1942 saw military aviation coming of age and the community was a part of that evolution.

Chapter 2
The Detrick Family of Frederick

In 1931, no one in the Maryland National Guard knew that its action naming the Frederick airport "Detrick Field" would be apropos in 1993, because its name sake was a respective physician and U.S. Army flight surgeon.

By 1993, Fort Detrick had recorded 50 years of pioneering work in the field of biomedical research and development and was part of the Army Medical Department through U.S. Army Health Services Command.

Maj. Frederick L. Detrick

Frederick Louis Detrick was born April 21, 1889 in New Market, Frederick County, where his ancestors had lived since the American Revolution. His 1923 military service record described him as 5-foot-7, fair complexion, brown hair, blue eyes and divorced. There is no information regarding this reference to a first marriage.

It is a twist of fate that Dr. Detrick left Frederick County at an early age and never actually returned, except for occasional visits to relatives in New Market.

He lived a portion of his childhood in Orange, VA, where his grandfather owned Montpelier, the home built by former President James Madison. He was graduated from Rockefeller Institute, New York City, and completed his internship at Bellevue Hospital, New York City.

He entered the U.S. Army March 12, 1918, appointed a lieutenant in the Medical Reserve Corps. He was assigned first to the installation hospital at Camp Wadsworth, SC, on

April 21, 1918. After a brief training and indoctrination at Camp Wadsworth, Lt. Detrick was assigned to the 28th Aero Squadron, 3rd Pursuit Group in France. He deployed from New York City July 13, 1918 and two weeks later was in Belgium.

His work included primarily battlefield health care and reached its high point during the major American offensives, battles of Meuse/Argonne and St. Mihiel. These victories turned the tide in favor of the Allies and provided an excellent reputation for the American soldier and pilot.

One year after he left New York City aboard a U.S. Army transport ship, Lt. Detrick returned to Camp Dix, NJ (July 5, 1919). He was discharged at Camp Dix on July 9, 1919.

Dr. Detrick returned to Baltimore and opened a private practice on Linden Avenue. He was later named to the staff and faculty of Johns Hopkins University Hospital. He earned a strong reputation as a competent surgeon and teacher.

He joined the Maryland National Guard May 5, 1923 and was appointed a captain in the Medical Reserve Corps. He was assigned to the Medical Department Detachment, 29th Division Air Service, which included the 104th Aero Squadron.

The unit was home based at Logan Field, now site of Baltimore Washington International Airport. The 104th still exists at the site as part of the 29th Division, Maryland Air National Guard. It took part in annual maneuvers and training at Langley Field, VA, where the Army Air Corps was attempting to attract attention to the value of aircraft in modern battle.

When the 104th was earmarked to conduct its annual encampment at Frederick Airport, plans were made to bring in the aircraft August 10, 1931. The unit arrived in Frederick, driving up West 7th Street, which was farmland primarily from Frederick Memorial Hospital north. Ground support troops set up camp near the lane of the Kemp Farm and pilots brought in the aircraft from Baltimore.

Captain Detrick was at home June 3, 1931 when he suffered three heart attacks and died, according to his widow, the late Marion Douglas Detrick.

The 104th, in consultation with Maryland National

Guard Adjutant General, Maj. Gen. Milton Reckord, decided to call the airfield Detrick Field in his memory. The name became a permanent moniker for the airport. General Reckord also issued orders promoting Captain Detrick to major, posthumously.

Squadron members had great affection for "Captain Flat." He earned the nickname because the troops always saw Dr. Detrick while "lying flat on their backs," Mrs. Detrick recalled in an interview.

# # #

Frederick Louis Detrick was born in Frederick, a descendant of Philip Dietrich, the first known member of the family in the county. Philip Dietrich was born March 30, 1776, parents unknown. He died January 15, 1851 and originally was buried in the church yard behind Evangelical Lutheran Church, across from Winchester Hall, Church St., Frederick. In 1906, his remains along with those of his wife, Catherine (born April 8, 1781, died May 1, 1851), were reburied at Mount Olivet Cemetery in Lot 160-C.

Philip's son, John Henry Detrick (born January 25, 1806 in Frederick) married on October 8, 1825 Elizabeth Cronise (born February 23, 1807, Frederick), daughter of John Jacob Cronise and Catharine Funderburg of Catoctin Furnace. Jacob and Catharine Cronise are buried in Pleasant Hill German Baptist Cemetery, Monrovia.

John and Elizabeth's son, Louis Frederick Detrick, was born in 1831 in Frederick, the third generation in the county. He married Kate Umstead (born 1839, Green Tree, Montgomery County, MD, died 8 July 1898, Baltimore), daughter of John and Ann (Brower) Umstead. John made his fortune manufacturing fertilizer and was based in Baltimore.

John Umstead Detrick, the fourth generation, was born circa 1864, probably in Baltimore, died 1916. He and his wife Eliza Lillie Downey (born in New Market, daughter of William Downey) were married January 19, 1888 and had a son, Frederick Louis Detrick.

Frederick was married to Marion Amelia Douglas, born

1897 in Philadelphia, died December 10, 1984 in Baltimore. She was a legal clerk for the judge of the circuit court of Baltimore for many years.

Frederick and Marion had one son, John Umstead Detrick II, who was born in 1928 in Ruxton, MD. He died at age 45. He and his wife, Nancy, bore five children:

–John Umstead Detrick III, married Bettina Brinch;

–Nancy Taylor Edwards Detrick, who lives in Bethesda;

–Elizabeth Douglas Detrick, who never married, lives near New Market;

–Ann Hamilton Detrick, unmarried and living in College Park, MD;

–and Frederick Louis Detrick II, who never married, died in 1986 at Lake Anna, VA.

–John Umstead Detrick III and his wife, Bettina, had three children: Nicholas Brinch Detrick, born September 23, 1979; Steffen Brinch Detrick, born June 18, 1981; and Stephanie Brinch Detrick, born June 22, 1983.

Mrs. Marion (Douglas) Detrick, visited Fort Detrick in 1981 taking part in Armed Forces Day ceremonies, which included a reception for local community leaders. Her grandchildren, Nicholas, Steffen and Stephanie visited Fort Detrick in July 1992.

Chapter 3
Building an Installation

Fort Detrick is situated on three parcels of land in Frederick, MD. The total of nearly 1200 acres includes the Main Post (Area A, 800 acres) and Area B (nearly 400 acres). The water and waste water treatment plants comprise approximately 16 acres on the banks of the Monocacy River.

Fort Detrick was formally leased from the City of Frederick in 1940.

"Lease between THE MAYOR AND ALDERMEN OF FREDERICK AND THE UNITED STATES OF AMERICA.

"1. This lease, made and entered into this Ninth day of October in the year one thousand nine hundred and forty by and between The Mayor and Aldermen of Frederick ... for its heirs, executors, administrators, successors, and assigns, hereinafter called the Lessor, and The United States of America, hereinafter called the Government:

"Witnesseth: The parties hereto for the considerations hereinafter mentioned covenant and agree as follows:

"2. The Lessor hereby leases to the Government the following described premises, viz:

"All those tracts, pieces or parcel of ground situate lying and being near the western limit of the City of Frederick, Frederick County, State of Maryland, which were conveyed unto the Mayor and aldermen of Frederick by the two following deeds: From Lewis W. Putman and Della R. Putman, his wife, bearing date on the 29th of July, in 1929 and recorded on the 30th day of July 1929 among the Land Records of Frederick County; (2) from Mary Matilda Kemp and C. Thomas Kemp, her husband, bearing date on the 29th of July, in 1929, and recorded on the 30th day of July, 1929, among the Land Records of Frederick County, containing in the aggregate 92.364 acres of land more or less, and more particularly described on three sheets attached hereto and made a part hereof, together with the buildings and improvements thereon.

"To be used exclusively for the following purposes (see instruction No. 3): Military Reservation and Airport.

Airplane hangar (Building S-201) in July 1941 was destined to become first laboratory space and fermentation facility. In 1993 it served as home base for Directorate of Engineering and Housing shops and offices. Building in the foreground is the Tool Crib. Tarmac now is Hamilton St.

"3. To have and to hold the said premises with their appurtenances for the term beginning October 9, 1940 and ending with July 30, 1941."

A similar lease had existed between the State of Maryland, which used the property at least two weeks each year to train its 104th Aero Squadron, Maryland National Guard.

The above lease paved the way for government control of the former city airport. The Cadet Pilot Training Program was begun in 1940 and continued until December 1941.

In 1943, the government purchased some 154 acres encompassing the original 90 acres and established Camp Detrick, perpetuating the name, Detrick Field.

In September 1946, an additional 147 acres were purchased to increase the size of the original Area A location. At the same time 398 acres located west of Area A, but not contiguous to this area, were purchased to provide a test area. This included the Krantz family property along today's Shookstown Road. It was named Area B.

In 1952, the Army purchased 502.76 acres of land located

between West 7th Street and Oppossumtown Pike to expand the permanent research and development facilities. It included property formerly owned by C. Kemp (32.34 acres), P. Willard (7.9 acres), S.M. Maples (47.09 acres), S. J. Beall (100.38 acres), G. W. Young (81.99 acres) and Mrs. Richard F. Nallin (262.79 acres).

Fort Detrick then added a parcel of less than three acres along the Rosemont Avenue fence in 1962 completing the total land area for the current Fort Detrick.

Camp Detrick was designated a permanent installation for peacetime biological research and development shortly after World War II, but that status was not solidified until 1956, when it became Fort Detrick.

View of main entrance to Fort Detrick in 1956, west of current main gate on West 7th Street. It entered what became parking lot of Building T-719, then Post Headquarters. Military Policemen were replaced in 1973.

Chapter 4
Birth of Science

The scientific era of Fort Detrick began in 1943. Gone were the aircraft from Detrick Field. In their stead came men new to uniforms, but skilled in their craft. Their purpose in March 1943 was twofold: in broad terms, they were to develop defensive mechanisms against biological attack; and they were to develop weapons, with which the United States could respond "in kind" if attacked by an enemy, which deployed biological weapons.

"This was an enormous task," wrote Lt. Col. Richard M. Clendenin in his booklet *SCIENCE and TECHNOLOGY at Fort Detrick, 1943-1968.* " . . . it was literally without precedent and had to be prosecuted with all possible haste.

"The mounting threat of the German 'buzz bombs' that were raining on England from launching sites on the Continent during 1943 spurred the urgency of BW (biological warfare) defense because it was thought that these high-explosive rockets might easily be converted into efficient weapons for massive BW attacks."

From the moment of its birth in the highest levels of government, the fledgling biological warfare effort was kept to an inner circle of knowledgeable persons. George W. Merck was a key member of the panel advising President Franklin D. Roosevelt and was charged with putting such an effort together. Merck owned the pharmaceutical firm that still bears his name.

Merck brought into uniform men and women with skills in several scientific disciplines. Among them was Dr. Ira L. Baldwin, professor of bacteriology at the University of Wisconsin. He became the first scientific director.

The Army Chemical Warfare Service was given responsibility and oversight for the effort that Clendenin wrote was "cloaked in the deepest wartime secrecy, matched only by . . . the Manhattan Project for developing the Atomic Bomb.

"Reasons for the stringent security were twofold,"

Clendenin continued, "not only to prevent the enemy from learning that work was being done in BW, but also to keep the public and even the Armed Forces themselves from becoming unduly alarmed over the possibility of BW. The elaborate security precautions taken were so effective that it was not until January 1946, four months after VJ (Victory in Japan) Day, that the public learned of the wartime research in BW (at Fort Detrick)."

The biological warfare research effort was launched in the fall of 1941 when Secretary of War Henry Stimson wrote to Dr. Frank B. Jewett, then president of the National Academy of Sciences:

"Because of the dangers that might confront this country from potential enemies employing what may be broadly described as biological warfare, it seems advisable that investigations be initiated to survey the present situation and the future possibilities. I am therefore, asking if you will undertake the appointment of an appropriate committee to survey all phases of this matter. Your organization already has before it a request from The Surgeon General for the appointment of a committee by the Division of Medical Sciences of the National Research Council to examine one phase of the matter. I trust that appropriate integration of these efforts can be arranged."

In his historical narrative, Clendenon wrote:

"At the request of the Dr. Jewett, Dr. Edwin B. Fred, professor of bacteriology, University of Wisconsin, gathered together a working group to make the study requested by the Secretary of War.

"Known as the WBC Committee (War Bureau of Consultants) the group comprised 12 nationally prominent scientists plus representatives of the U.S. Army Chemical Warfare Service, the U.S. Army Ordnance Corps, the U.S. Navy Bureau of Medicine and Surgery, the U.S. Army Surgeon General's Office, the U.S. Department of Agriculture and the U.S. Public Health Service. The committee was to do its work in utmost secrecy."

Secretary Stimson understood that intelligence reports clearly stated both Germany and Japan had a biological

warfare capability. He also knew of Germany's BW attack on the Rumanian Cavalry using glanders disease, and that German sabateurs introduced the disease into the United States among horses and mules being shipped to Europe in World War I.

Secretary Stimson wrote in February 1942:

"The value of biological warfare will be a debatable question until it has been clearly proven or disproven by experiences. The wide assumption is that any method which appears to offer advantages to a nation at war will be vigorously employed by that nation. There is but one logical course to pursue, namely, to study the possibilities of such warfare from every angle, make every preparation for reducing its effectiveness, and thereby reduce the likelihood of its use."

In May 1942, President Roosevelt authorized Secretary Stimson to establish a civilian agency to take the lead on all aspects of biological warfare. It was assigned to the Federal Security Agency (FSA) to obscure its existence and Merck was named director of the new War Research Service (WRS).

It became clear to the WRS and Merck that the initial phase of work with universities and private research institutions was inadequate to meet the need. Large scale efforts above what could be done in scattered centers was an obvious need. The use of biological agents in weapons and concurrent need to develop means of protection against these BW weapons prompted Merck to assign overall responsibility to the Army's Chemical Warfare Service.

Dr. Baldwin's assignment soon followed and he headed up an intensive four months of planning and recommended Detrick Field as location for the new BW laboratories. He also surrounded himself with scientists, who represented America's brain trust in their field. He had a priority on funds and personnel, sending out the call for officers and enlisted men in numerous scientific and professional fields.

Dr. Baldwin chose Detrick Field for the site of this exhaustive research effort because of its reasonably remote location and proximity to Washington, D.C., as well as Edgewood Arsenal, focal point of U. S. Chemical Warfare

Parking lot now occupies this group of barracks, admin buildings and orderly room (far end) of Detrick Field in 1941. Site was ideal for World War II research center, authorized by President Franklin D. Roosevelt.

research. Buildings and other facilities left from the airfield—including the large hangar—provided the nucleus of support needed at the beginning. The 92 acres of Detrick Field were surrounded by farmland which could be procured if and when the effort was expanded.

Detrick Field was formally acquired March 9, 1943. A small cadre of men arrived to begin the conversion process. Lt. Col. William S. Bacon, the first commander, and his successor, Col. Martin B. Chittick, oversaw the renovation and construction first estimated to cost $1.25 million.

Clendenin wrote, "Three months after the start of construction, the estimate was raised to more than $4 million to provide for five additional laboratories and a pilot plant."

Bacon was authorized 85 officers, 373 enlisted personnel, and 80 enlisted Women's Army Auxiliary Corp (WAAC) members under two WAAC officers. At its peak strength in 1945, Camp Detrick had 240 officers and 1,530 enlisted personnel including WAACs.

Alex Bryant was a newly married boilermaker living in

Petersburg, VA, when he was drafted. He underwent basic training at Camp Lee, VA, and immediately was put on a train for "destination unknown."

"All I know is I arrived in Frederick and had no idea where I was going. I was taken to Camp Detrick. There wasn't much to see, but I started right in putting in one of the boilers and operating it," Bryant said in an interview.

Dr. Baldwin's task was far-reaching. Science in 1943 was still founded on workbench investigation. Containment of an organism to its own environment was mostly an idea. Overcoming this barrier had to be accomplished before any genuine progress could be made working with highly infectious organisms. The rest of the scientific world had not really tackled the issue, choosing instead to concentrate its efforts on gaining medical knowledge in spite of danger to laboratory staff.

The Japanese, as the U. S. learned at the end of World War II, had been making significant progress learning about traditional biological warfare agents like botulism and anthrax. Their work was in open air testing on prisoners and at their work benches of the officially named "Water Purification Unit 731" near Harbin, a remote, desolate area on the Manchurian Peninsula.

Fort Detrick sent several investigators to Japan after the war to interrogate captured Japanese scientists. Leading the team was Dr. Norbert Fell and Lt. Col. Arvo Thompson. Working with Gen. Douglas MacArthur's intelligence team at Supreme Commander Allied Powers (SCAP), Dr. Fell and Thompson learned the full extent of the Japanese program headed by Lt. Gen. Shiro Ishii. In the European Theater, Nazi Germany had put its effort into chemical research. It also used thousands of Jewish inmates in the concentration camps for grisly surgical and medical research. Nazi Germany is said to have had a mortal fear of the U.S. biological warfare capability and decided against BW shortly after America entered the war in 1942.

The U. S. biological warfare effort became a top priority program in which science would virtually create itself and determine its own destiny. Dr. Baldwin's task was not easy.

Research personnel worked in buildings designed for safety, protecting them, the community and the organism from contamination. Air was filtered, drawn by negative pressure from room and cabinet system.

Clendenin wrote, " . . . basic measures first had to be developed for the protection of Camp Detrick personnel who would be working with highly infectious microorganisms in the laboratories and pilot plants.

"Biological, chemical and mechanical means of protection were studied. Vaccines, toxoids, antibiotics, disinfectants and antiseptics were evaluated. Techniques were devised for detecting, sampling and identifying a great variety of pathogens and their toxic products. Decontamination and sterilization procedures evolved."

Laboratory workers, scientists, civilian employees, and military members were treated in the old Fort Detrick hospital (Building 660). The long wooden corridors are gone from the facility, which was built in September 1944 at a cost of $263,221. It has served as a bachelor officers quarters for more than 20 years.

A Medical Corps complement served in the hospital to

provide medical care for assigned personnel. Dr. Paul N. Hudson served as liaison between the Surgeon General of the Army and the biological warfare program. Civilian medical support was an integral part of the entire Fort Detrick complex in the early 1950s with Dr. Paul J. Kadull in charge of immunization and medical support. Chief Nurse was Betty Grable, whose name caught the ear of soldiers wondering if the great World War II Pinup Girl had joined the Women's Army Auxiliary Corps. Dr. Arnold G. Wedum was in charge of all safety matters.

Lt. Col. Abram S. Benenson was appointed medical liaison officer in 1955. Soon after, the decision was made to create the Army Medical Unit (USAMU). Benenson became deputy to the first commander of USAMU, Col. William D. Tigertt (MC).

Dr. Arnold Johnson, now a physician in California, was one of the first three Army officers assigned to the new laboratories in mid-March 1943. He was responsible for designing modifications to the hangar and other safety equipment when the facility was being set up. Dr. Johnson's design work was preliminary and done in consultation with Dr. Baldwin, Dr. Gail Dack and Dr. Oram C. Woolpert.

"The scientists would come to me," Johnson related, "and tell me what they needed and I would draw up an idea. The engineers would then complete the design work and get it constructed."

Such items as Class III research cabinets and Laminar Flow Hoods were among the items designed by the staff and remain basically the same today. Space-age materials are now used on glove ports and sealant and pastel paints have replaced the dull steel external surfaces. Some of the early models are still in use, but are being replaced.

The first prototype Class III cabinet was fashioned in 1943 by Hubert Kaempf, then a soldier. He had been a new military policeman at Pine Bluff, AR, when he was put on orders for reassignment. "All I know is they put me on a train. We went to York, PA, where a bus met us and took us to Camp Detrick. There I saw all the other soldiers, who had disappeared from Pine Bluff."

This much used photo shows a Camp Detrick researcher using a Class III Safety Hood. Location is Building 550, the old Safety Building, now occupied by Frederick Cancer Research and Development Center.

Kaempf said he tired of his MP duties and was able to transfer to the sheet metal department working with the contractor. He was taught "everything I needed to know" by workmen from the H.K. Ferguson Co.

"We used to work from hand drawings," Kaempf said. "Dr. Wedum would come in and say he thought of something overnight that was needed and we would kind of draw it up and then make it."

Kaempf is still employed at Fort Detrick, having completed more than 49 years service. He is chief of the mechanical branch, Directorate of Engineering and Housing.

A sweep of Frederick by the Federal Bureau of Investigation during World War II resulted in a report that noted security was indeed adequate and effective at Camp Detrick. It added, " . . . either the people of Frederick really did not know or they were not at all curious" about what was going on at Camp Detrick.

One early scientist pointed out the residents depended on Camp Detrick and made every effort not to cause any problems. "It was pretty obvious that we were doing scientific work because of all the laboratory equipment we procured locally," he said.

The enduring legacy of such men as Dr. Wedum, Dr. Baldwin, and indeed, Hubert Kaempf and his contemporaries, is the foundation of Fort Detrick and a key element in the continued expansion of Fort Detrick's scientific and technological achievements over the past 50 years.

Chapter 5
On the Home Front

Contemporary journalists and historians have attempted to chronicle specific events which took place at Camp Detrick, but for the most part these learned individuals have failed to articulate the atmosphere which surrounded establishment of the Biological Laboratories in 1943. Their major failing has been interpreting Camp Detrick events from the standpoint of the present.

There can be no comparison between 1943 America and 1993 America. At no other time in world history had every continent been so dominated by armies in mortal conflict as it was in 1943. The United States faced enemies on both shores and America had mobilized in an all-out effort to crush Nazi Germany, Mussolini's Italy, and the Empire of Japan. America supplied war materials to every embattled country. Millions of young men and women were drafted or volunteered to serve in the Armed Services. American industry looked to those at home, including women for the first time, to handle industrial work building airplanes, ships, and the machinery of war.

The United States feared the enemy and rallied to protect itself on every front. Potential invasion routes were verified and defensive measures taken, including possible German landings in Central America, where its troops could move rapidly through Mexico into the American Southwest and the breadbasket of America. The enemy was expected to use espionage tactics extensively and it made several attempts in its effort to destroy America's will and resources to fight. There was some national hysteria, but calmer minds prevailed. Potential threats were being met at the time the laboratories were established at Detrick Field in April 1943.

What would be the effect, it was asked, if espionage involved contaminating American water and food supplies? In response, the Crops Division was established to study both defensive and offensive measures.

Out of this division came research into growing stronger, more productive food crops. At the same time research

Field investigation team sets up test site at Area B. Elaborate plans including safety precautions were required. Note sensing devices and collection equipment, research team's trailer.

expanded in the fledgling field of anticrop agents. A few chemical herbicides had been investigated privately for many years prior to World War II, but it expanded rapidly at Camp Detrick.

In a report to The Congress in 1977 entitled *US Army Activities in the US Biological Warfare Program,* Volume II reported, "Anticrop research at Fort Detrick concerned BW agents as well as CW (Chemical Warfare) agents, i.e. chemical herbicides and defoliants... Extensive field testing was done to assess the effectiveness of agents on crops. Many candidate anticrop BW agents were screened, resulting in five standardized BW anticrop agents.

"Research on protective masks, particulate filters, protective clothing and shelters was closely integrated with the chemical defense programs. Many compounds were screened for use as decontaminants and decontaminant dispensers were developed for field use. However, some

Workers in Crops Division green house working with plants. Man on right is not wearing laboratory garb, but khaki uniform. Photo is circa 1955.

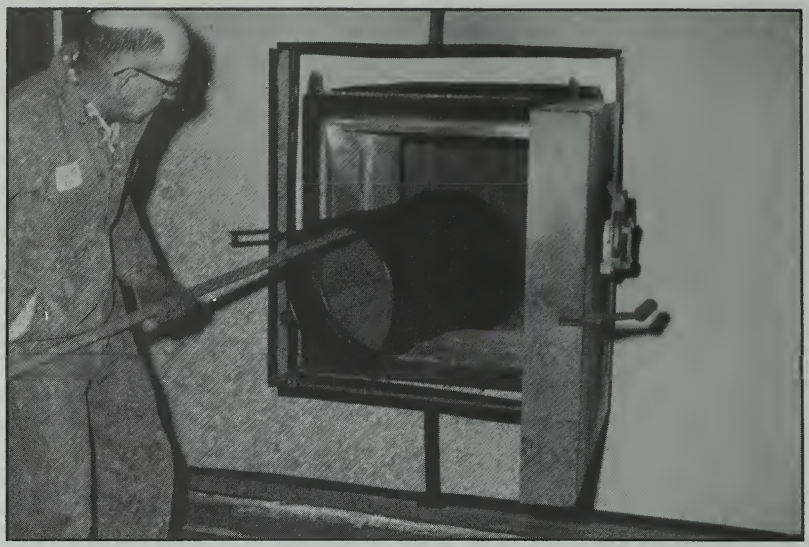
chemicals which are the most effective are also toxic and/or carcinogenic . . . ."

This set the stage for two such anticrop agents becoming center stage in the media in 1978. The attention has not abated in the succeeding years.

Of particular concern was an agent identified as 2,4,5T, or *trichlorophenoxyacetic acid*. This was one of the major components of what became known as Agent Orange. It was an effective defoliant used during the Vietnam War. However, it was tested in its purest form at Fort Detrick in controlled Laboratory tests.

Dr. R. L. Weintraub and Dr. A. G. Norman wrote a definitive paper on 2,4,5-T in 1949. It was published in Economic Botany and was prefaced:

"Large scale use of plant growth-regulating chemicals unheard of ten years ago, has fostered a multimillion dollar business. In 1948, 27 1/2 million pounds of 2,4,5-T, once used only in minute doses for laboratory work, were manufactured



Incineration of agent and containers was just one step in the decontamination process in disposing of anti-crop agent in 1972.

for agricultural use, primarily weed eradication."

Agent Orange became a weapon of choice in Vietnam, where it was, for example, used to clear the perimeter of base camps and used to clear vegetation from known routes of the so-called Ho Chi Minh Trail, supply route of the enemy.

Its use was so wide-spread in Vietnam that it was produced in mass quantities which knowledgeable scientists have consistently blamed on its appearance in Vietnam as an impure form of the original 2,4,5-T. A highly toxic agent, dioxin, began appearing as a byproduct of the manufacturing process and is blamed by many as the cause of physical ailments seen in many Vietnam veterans.

In 1978, the finger of accusation pointed briefly at Fort Detrick. A search revealed some 56 boxes of laboratory notebooks, which were thought to have been destroyed in 1972. They provided important information for the Army.

The 1977 report said the BW program included, " . . . testing, production and stockpiling of anticrop agents. Between 1951 and 1969, 31 anticrop dissemination trials

Discing into soil of incinerator ash from destruction of anti-crop agent in 1972 was overseen by several agencies. Man at center represented State of Maryland to vouch for safety procedures.

were conducted at 23 different locations.

"From 1951 until 1957, wheat stem rust spores and rye stem rust spores were produced and transshipped to Edgewood Arsenal . . .where they were classified, dried and placed in storage.

"Between 1962 and 1969, wheat stem rust spores were produced, transshipped to Rocky Mountain Arsenal, Denver, Colorado, classified, dried and stored.

"Rice blast spores were also produced during this period under contract to Charles Pfizer and Company and shipped to Fort Detrick for classification, drying and storage.

"The entire anticrop stockpile was destroyed as part of the biological warfare demilitarization program completed February 1973."

The U.S. Department of Agriculture took over the work of the Army Crops Division in the mid-1970s.

Anticrop agents were a point of contention in 1972 and 1973 when the demilitarization of Fort Detrick was reaching completion. Safety and environmental experts on the Army's

advisory team recommended the material be processed through the steam sterilization plant and eventually be discharged safely into the Monocacy River.

The plan was reviewed by Federal, State and Department of Defense agencies. The Army then agreed to avoid that method of disposal. Instead it was determined that the quantities of dried material would be first processed in an autoclave. Following that the material would be assessed for the presence of any live organism. If no such live organism were found, the material would be incinerated. The five-gallon containers would be autoclaved again, then, too, they would be incinerated. After incineration the cans would be wire brushed to remove labels, they would then be crushed and finally buried in the sanitary land fill. Ash from the incineration process would be harrowed into the soil in Area B at a site selected jointly by regulatory agencies.

Record files were retired to Suitland (MD) National Records Center in case questions about the safety of the decontamination process arose. The records provide scientific and engineering evidence of the safe disposal of the material including photographs of state officials observing the disposal process.

Anti-crop agents were the only materials requiring such disposal. Other agents could be destroyed in the decontamination process of each building. Such action ensured the buildings could safely be occupied by the National Cancer Institutes' staff, which took control of the facilities in 1973 when the Frederick Cancer Research and Development Center was established.

Chapter 6
Perfecting Sterilization

The list of scientists working at Fort Detrick during and after World War II reads like a Who's Who in American Science. Their names are still held in high esteem among laureate scientists.

Dr. Charles Rush Phillips came to Camp Detrick in 1943 as a junior enlisted man, but with academic credentials exceeding his low station in the military pecking order. His work with gaseous sterilization and decontamination techniques revolutionized applied science.

It was not unusual that announcement of his death in May 1987 would spark little public recognition of his lifetime of work. Like the work of his colleagues at Camp Detrick, the general public did not understand it. His obituary noted he "had been employed as a chemist at Fort Detrick for many years."

His work between 1943 and 1969 made it possible for scientists to have and maintain the tools they needed to develop medical knowledge about microorganisms. The result has been the development of vaccines for a variety of diseases and an understanding of how disease spreads.

Everett R. Hanel, Jr., who died in 1991, never retired after he left the Biological Laboratories in 1972. He became safety director for the National Cancer Institute's Frederick Cancer Research Center at Fort Detrick and a valued consultant on biological safety matters for a number of organizations including the U.S. Centers for Disease Control. Mr. Hanel was interviewed in 1987 and explained the impact of Dr. Phillips' work.

"His work was not the same as the technical aspects of microorganisms . . . like important discoveries about such things as smallpox. Charlie's work was a real step forward in applied science.

"*Ethylene oxide* is used enormously in the United States for medical supplies and equipment. It is just the type of sterilization that works for syringes, needles, pipets . . . in hospitals and laboratories drug manufacturing."

Hanel said the McCormick Company had used ethylene oxide to kill insects on spices brought from India and Ceylon. Libraries had used it to kill silverfish, which ate up pages in books. "They didn't realize it was effective against microorganisms. Charlie wrote 20 or 30 publications on it. I have several folders on *ethylene oxide* and all of his work. His is still the basic work on sterilization and it is still applicable."

Hanel was assigned to National Aeronautics and Space Administration (NASA) when it developed the Lunar Receiving Laboratory. Astronauts were quarantined in the laboratory, which was built from plans developed at Fort Detrick. It included *ethylene oxide* chambers (for sterilization).

Dr. Riley D. Housewright, scientific director of Fort Detrick from 1956 to 1972, first met Dr. Phillips in 1943. He said Dr. Phillips did the "spade work" in a number of areas, but was most widely known for his work in gaseous disinfection." It allowed us to do things we couldn't do before," Housewright said. "That was his most prominent accomplishment."

William Patrick, who worked more than 37 years in Fort Detrick's laboratories, agreed that gaseous sterilization was a major advancement in science. *Ethylene oxide* penetrated objects and could be used to sterilize anything from sensitive laboratory analytical equipment to large trucks. Patrick said it allowed equipment in so-called "hot labs" to be calibrated or repaired. Previous techniques ruined equipment for the most part.

Housewright said Dr. Phillips did extensive research on evaluation of mass and determined leakage, a concurrent project with his *ethylene oxide* studies. He also was one of the first to work on membrane filters. Housewright said the filters are widely used to trap materials, which cannot be heated and must be free of bacteria. Membrane filters are pliable and can be adjusted to meet the required "pore size." They are used for removing unwanted materials from certain horse serums, for example.

Housewright said German scientists collaborated with Dr. Phillips at Fort Detrick after the war.

"He was certainly in the forefront of research on ethylene oxide," Patrick said.

"We are just beginning to reap the benefits of our early '50s work (at Fort Detrick)," Patrick continued. "Dr. Phillips' work . . . came out of necessity. We (at Camp Detrick) had the mission in our minds, and in retrospect I believe we had a sense of the tremendous impact our work would have on science."

Dr. Housewright said, "It (*ethylene oxide*) had a problem of persistence . . . a residue. It might cause blisters if you wore treated shoes, for instance. There was a lot of little things about it. We had to learn to use it."

Dr. Phillips' work also was paramount in Fort Detrick spearheading the application of *ethylene oxide* gas to sterilize delicate instruments and equipment inside a laboratory autoclave.

Kenneth Bartgis, who worked more than 15 years as Medical Biological Laboratory Technician and Aerobiological Engineering Technician, explained, "This prevented damage to such items by steam application, which an autoclave normally utilizes. Hospitals began to utilize *ethylene oxide* within smaller chambers to sterilize its delicate instruments and equipment."

Dr. Phillips attended Clemson (SC) University and was a Reserve Officer Training Corps Cadet for three years. He was not eligible to receive a commission in the U.S. Army.

"I had a job as a teaching professor at Penn State," Phillips recalled, "and kept trying to enlist after the war started, but they kept turning me down for one thing or another. My blood pressure was never quite right.

"I volunteered for the draft and convinced the doctor to change a few numbers around . . . they took me."

He was first assigned to the Office of Price Administration, but through friends was reassigned to Camp Detrick where he arrived as a private with a Ph.D. in chemistry as credentials.

"They immediately assigned me to the division studying gaseous sterilization and decontamination," Phillips said. "Saul Kaye was the sergeant in the division—and let me

know it."

There was "scattered information" about use of *ethylene oxide*, Dr. Phillips said. "The French Resistance had papers discussing it, but we couldn't get permission to get it. Instead, we got a copy of a German extract of it from a source in Switzerland.

"Then we had trouble getting *ethylene oxide*. We started with a small vial that was on the shelf. It worked well in our research, but when it was used up it took more than a month to get any more."

Dr. Phillips explained laboratory clothes had to be dipped in hypochloride and none of the clothes lasted more than three washings or dippings.

"Ethylene oxide did not weaken the fabric nor its seams, so it lasted longer and was effectively sterilized."

Dr. Phillips left Camp Detrick after the war and was discharged from the Army. He became an industrial rehabilitation specialist for the United Nations Relief Association, part of the Marshall Plan.

He returned to Fort Detrick in 1947.

"No one had picked up on my work with ethylene oxide. I began working in Building 521 (now headquarters for Medical Research and Development Command).

"We (Phillips and Kaye) first published our papers in 1949 using many of the reports we had written during World War II.

"The work was reassigned (in 1969) to Edgewood Arsenal (MD), so Saul and I dismantled the lab and sent it to Edgewood. I retired. The laboratory was never put together again."

He continued to serve as a consultant to several organizations, including Fort Detrick, up to his death. He was recognized by certain groups for his work, including one small cash award from a national foundation.

Chapter 7
Opening the Gates

The world is still confused about Fort Detrick. Even the men and women who worked at Fort Detrick prior to 1971 expect Fort Detrick to be a virtual fortress, steeped in secrecy and intrigue.

A booklet prepared by the Public Affairs Office in 1981 noted with clarity, "The secret about Fort Detrick is that there is no secret!"

More than one former laboratory worker has been amazed that he or she could gain unrestricted access to Fort Detrick on such occasions as Armed Forces Day. May 1978 marked the first time in seven years that an open house was held at Fort Detrick to honor the annual Armed Forces Day. Col. Robert M. Shaw, Jr., commander from 1976 to 1980, agreed to open the gates. The crowds weren't overwhelming, but the weather was cool and damp and Frederick had seen locked gates for many years.

Nevertheless, that renewed emphasis on educating the community took hold and the 14th consecutive open house was held in May 1992. The crowds were big and the displays varied.

A man from Thurmont, MD, who claimed to be a military policeman for the World War II Camp Detrick, was thrilled to be able to return and see his old Army camp in 1978. He recalled having walked several posts carrying a loaded .45 caliber pistol and Thompson Submachine Gun.

"We were told to shoot first and ask questions later," he recalled.

Another visitor asked the public affairs officer where the underground laboratory was located. It was an obvious confusion with Fort Ritchie's Site R underground command post, but the question reflected a continuing distrust of what was "really" going on at Fort Detrick.

In the "good old days," former employees admit they had no idea what was taking place in the next building. Fort Detrick had compounds surrounding each major laboratory or division. Access to the front gate did not mean access to

any particular laboratory.

To date, former scientists still keep quiet about their work. Several continue to keep in touch and ask permission when asked for interviews by news reporters. They are still unsure to what extent they should discuss activities in which they were involved. The nature of their work in some cases may still require silence because of its impact on the national security.

A group calling itself, Detrick University, held a reunion in Frederick in August 1988. The group included men who had been drafted or volunteered to be drafted at the start of the Korean War. Each of them held college degrees and were engineers of all types or trained in laboratory science or microbiology.

They stood in the foyer of the new Goodloe E. Byron Building, the new post headquarters, and marveled at the changes, commenting about the difference in security as compared to 1951-52.

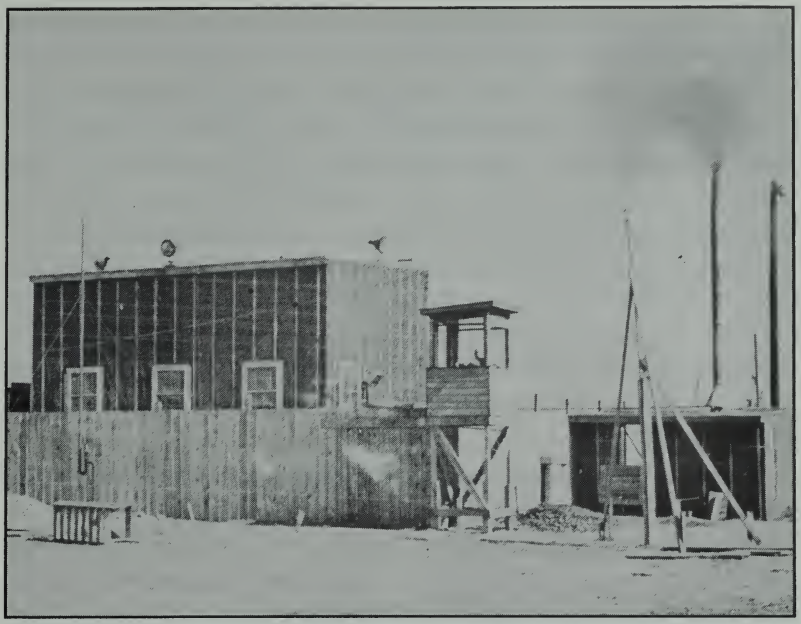
In spite of their college degrees, they had been enlisted men. They admitted to having as their primary goal completing the required term of service and getting on with their professional and private lives. In the meantime, they considered Fort Detrick a place where they could perfect their skills, working in one of the finest research centers in the Free World.

"We were an unruly group," one said, "but we did our job and we are proud of our accomplishments."

Such was the spirit of the team at Camp Detrick.

In 1992, two groups of Navy veterans returned to Fort Detrick for a reunion, and a number of the former Women's Army Auxiliary Corps (WAAC) members returned in August 1992.

A distinguished group of former scientists, technicians, engineering personnel, administrative specialists and other employees met for the first time in more than 25 years in August 1992. They renewed old friendships and discussed the numerous achievements of Camp and Fort Detrick. It was organized by Alan M. Miller and Dr. William G. Roessler. The reunion included a talk by former Scientific Director Dr.



The Black Maria was first laboratory facility built to accommodate top secret research. Scientists completed interior equipment installation; boiler was operated by Alex Bryant, then a soldier.

Riley D. Housewright, who first was assigned to Camp Detrick as a U.S. Navy lieutenant commander.

He said, only today could the group look back and realize what a tremendous impact the original scientific and technical team had on winning the war in Europe and Japan, as well as the war on disease.

The need for maximum security was evident from the time George Merck and Dr. Arnold G. Wedum were challenged with setting up the laboratories at Camp Detrick, Housewright commented.

Any challenge to security was overcome with force. Alex Bryant, who arrived at Fort Detrick as a private, recalled his brush with security problems when he took Christmas leave in 1945.

Each soldier presented his identification card and then was issued a security pass for access to the front gate, then located next to Building 201, the former airplane hangar.

The pass was surrendered to the security guard when leaving the post.

Bryant packed his overnight bag and signed out at the gate, forgetting to surrender his pass. When he returned from leave, Bryant approached the guard, reached for his security pass and found his identification card. He was "arrested" on the spot and taken to the security office.

The situation was considered a security breach and for several hours Bryant was questioned about his pass and why he had not surrendered it. He was also questioned about persons he met while on leave and what he might have done with his pass. Eventually he was released with a stern warning.

"I could have been court martialed or transferred on the spot. That happened to a lot of guys," Bryant said.

Scientists kept a loaded .45 caliber pistol at their side or on the work bench next to them. The compound surrounding the so-called "Black Maria," where offensive research first took place, was guarded by a man on foot and a soldier in the guard tower—each equipped with a Thompson Submachine Gun.

Bryant said the Black Maria, a wooden rectangular building covered in tar paper, was the first laboratory built. The original hangar had been modified to include laboratories and a pilot plant facility for culturing such organisms as anthrax.

The Black Maria was constructed by carpenters as a mere shell. Scientists then went into the perimeter fence and a crane lifted pipes, electrical wiring and other equipment into the compound. The scientists put the laboratory together. Bryant was in charge of the boiler outside the compound and recalled incinerating dead rats with great secrecy from the Black Maria.

Each soldier or civilian employee of the laboratory signed a waiver that granted the U.S. Government all rights to their remains if they died while on duty or as a result of a laboratory acquired illness.

Four men are verified as having died while in service at Camp and Fort Detrick. A young Army lieutenant died in

Building 201 in 1944 when a pump exploded, he died instantly. No further information has been obtained on the incident, which was handled quietly.

Mr. William A. Boyles, a 46-year-old technician, contracted anthrax and died November 25, 1951. Boyles Street was named in his memory.

On July 5, 1958, Mr. Joel Eugene Willard, 53, an electrician with the facilities engineer, also died of pulmonary anthrax. Willard Place was named in his honor.

Mr. Albert Nickel, 53, an animal caretaker, died after being bitten by an animal infected with Machupo Virus. Nickel Place was named in his honor.

Despite these untimely and tragic deaths, Fort Detrick continues to have a remarkable safety record.

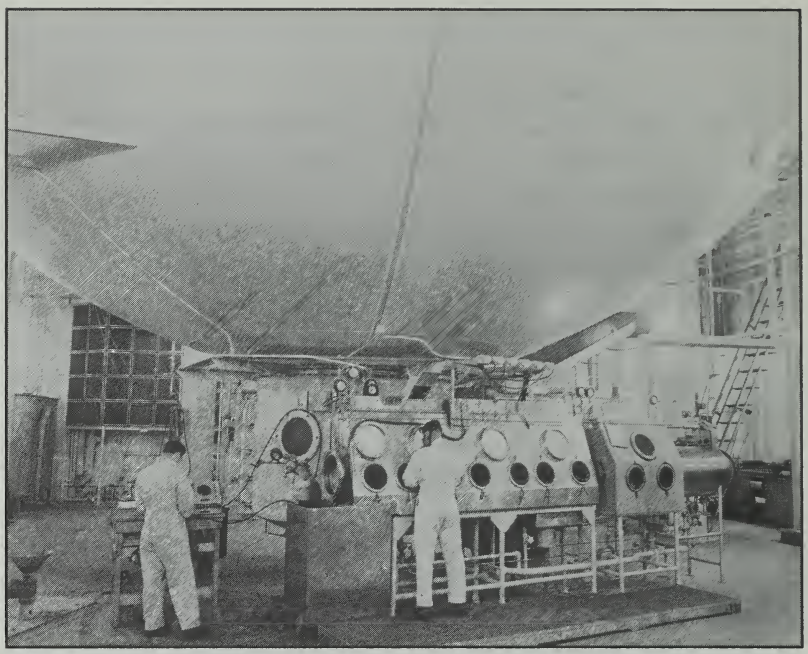
Clendenin wrote, "The inflexible safety rules sometimes irked scientists, who felt that the required procedures delayed their research projects . . . Dr. (Ira) Baldwin refused to permit any relaxation of the safety rules that, as he emphasized, were designed as much for the protection of the community as for the safeguarding of the health researchers.

Dr. Wedum spoke to a national media organization in 1958 and emphasized the media's preoccupation with safety at Fort Detrick, while neglecting safety records of industry.

He said that tremendous successes had been achieved in reducing disabling occupational illness at Fort Detrick between 1943 and 1958. For technical personnel the rate was 55 such illnesses per million man hours from 1943-45. That improved to 11.45 illnesses per million man hours in 1958. He pointed out these figures concern personnel who were greatly at risk, working with organisms for which vaccines existed for only a few.

"Workers are vaccinated when vaccines are available," Dr. Wedum said, "but we do not have effective vaccines for all the diseases we study. One of the most effective medically prophylactic measures depends upon early diagnosis of illness . . . (We) consider every illness, in an employee exposed to an infectious risk, to be an occupational illness until it is proved otherwise."

Kenneth Bartgis, safety manager for the U.S. Army



Workers perform test on one-million liter sphere, the "Eight-Ball," largest aerobiology chamber constructed. Building was destroyed in 1974 fire. Sphere, which is on National Register of Historic Places, has not been used since 1969.

Biomedical Research and Development Laboratory, said he attended a laboratory safety managers conference in 1992 and more than 60 percent of the information was credited to lessons learned and shared at Fort Detrick. The conference was conducted at the U.S. Occupational Safety and Health Administration National Training Institute, Chicago.

The expertise also prompted the National Aeronatics and Space Administration to seek Fort Detrick's expertise and assistance in designing and building its new space laboratory in Houston, TX. The building ventilation systems, laboratory hood configurations and other designs were fashioned after existing Fort Detrick BW facilities.

The safety considerations prompted Dr. Baldwin to insist on separate water and sewer processing systems. The H. K. Ferguson company was contracted to design the first steam sterilization systems. The next designs were completed by

laboratory engineers. Potentially contaminated waste from the laboratories is still carried in a sealed system to 15 holding tanks. The liquid waste is steam sterilized before being processed as normal sewage.

The design was adopted by the U.S. Public Health Service for its Center for Disease Control facility in Atlanta, Ga.

To date, no laboratory accident has occurred that affected the community. Fort Detrick has been accused on many occasions of having caused a problem. Files are jammed with news clippings from front page articles charging Fort Detrick as the culprit in a community environmental problem. The installation has been an obvious target because of the potential to cause such problems, but safety systems have proved their trust and investment.

In the early 1970s, a farmer charged that effluent from the Fort Detrick Sewage Treatment Plant was responsible for the death of several of his milk cows. An extensive investigation revealed the cows had died as the result of eating contaminated feed. The feed manufacturer was held responsible.

Fort Detrick was charged during the 1970s as having contaminated Carroll Creek with petroleum. It took more than four years to discover a service station had defective storage tanks, which leaked gasoline into the ground water.

In 1980, a Fort Detrick contractor accepted blame for paint which was carried downwind and damaged several cars. One situation was never resolved involving an extensive layer of soot which landed in the Villa Estates area, south of Fort Detrick. The boiler plant was blamed as a possible source of the soot.

A restaurateur on Rosemont Avenue carried on a justifiable running battle with Fort Detrick before a new incinerator was installed in 1974. Residue from the old incinerator plant caused heavy smoke and particulates to shower the Rosemont Avenue area under certain weather conditions. It was not a pleasant situation for the restaurateur. The environmentally approved incinerator with its stack scrubbers solved the problem.

In 1979, Fort Detrick was praised by the state and federal

government for its new incinerator and the major advance it represented in the quest to "clean up the air in Maryland." However, three months later, a news report from the Environmental Protection Agency claimed that the Federal Government was one of the top polluters in the State of Maryland. Fort Detrick was on the list accused of polluting the air. This caused a predictable local media storm until the EPA revised its list and admitted it had made a mistake, saying, at one time Fort Detrick was guilty of polluting the air from its incinerator. The apology was a small news item on a back page.

The waste water treatment plant still ranks as one of the best in the Maryland. Its process is responsible for continuing to discharge cleaner water into the Monocacy River than it takes out of the river.

Area B

Area B was established as a proving ground in the former BW program. It was laid out in a circular grid, a series of seven concentric circles with measurement devices from 50 feet to 1000 feet. It was designed to test the flow of materials through the air. The remnants of monitoring devices may still be seen.

In its history, Area B has been used as a sanitary landfill and disposal site. When the demilitarization program began in 1971, destruction of BW agents and stockpiles was a top priority effort requiring elaborate safety measures. All the technology learned at Fort Detrick was used to decontaminate buildings, to test for presence of live organisms, and to insure debris was free of contamination.

No residue from destruction of biological materials was deposited at Area B before it was certified safe by experts. Any small amounts of excess chemicals buried at Area B were disposed in the accepted industry manner, but no more than five gallons per week poured into an open pit. A dye marker was added to check for leaching into the ground water, but none was ever detected.

Another environmental and media storm was created in

This aerial view of Area B shows clearly the circular grid used in the biological research program. Site was also used for disposal of various types of debris, each type disposed in separate locations. No debris from laboratory containing live agent was disposed in area.

1977 when a former Fort Detrick researcher charged the installation might be guilty of polluting the ground water because he "had heard" that toxic materials were buried at Area B. This was given credibility by a report prepared for the Army Environmental Hygiene Agency based on a four-day visit to Fort Detrick and interviews during that period with employees and a review of the remaining records from the demilitarization program (1969-1973). The report alleged the possibility of live agents having been buried in Area B through animal carcasses and sludge from the steam sterilization system. It also alleged a hazard probably existed from disposed chemicals, specifically chemical herbicides.

The Surgeon General of the Army, in concert with U.S. Army Health Services Command and other federal regulatory

agencies, established a review panel to look into the allegations. After six months of deliberations, the panel determined no hazard existed from biological materials, but it seemed prudent to test the ground water for the presence of certain herbicides. In 1982 and 1983, the ground water was tested using some 28 test wells. The first series provided the good news that no herbicides were present in any more than detectable amounts. The second set of tests using four new monitoring wells was analyzed using a priority pollutant scan, which tested for the presence of more than 144 chemical substances. A review of results by the Army and by the State of Maryland experts brought agreement that the ground water was essentially clean.

The extensive testing, which cost in excess of $50,000, again underscored the efficacy of Fort Detrick's safety systems, its knowledge and practical application of that knowledge and in-place systems. However, those systems were challenged again 10 years later when contamination suddenly appeared in one, then other monitoring wells near the former skeet range.

Fort Detrick's own monitoring of ground water in Area B from 1982 was a diligent effort for early detection of any problems which might arise. In March 1991, the presence of *trichloroethene* (TCE) was detected in one monitoring well. That contamination had spread to other Area B monitoring wells with the additional contamination by *perchloroethene* (PCE) in two wells fed from off post water sources. The Environmental Protection Agency established enforceable drinking water standards, or maximum contaminant levels, to reduce the risk of cancer or other adverse effects which have been observed in laboratory animals. The EPA set the TCE and PCE Maximum Contaminant Level (MCL) standard for drinking water at five parts per billion.

After 15 months of reporting the contamination, Fort Detrick was assisted by the Army Environmental Hygiene Agency (AEHA) to assess better means of monitoring the detected contamination. With AEHA's assistance, more data was acquired through 11 new monitoring wells. The Maryland Department of the Environment reacted to the

Building 470 was the Pilot Plant after 1952. The building gained a reputation for mystery. Despite three successful decontamination procedures, it was not certified 100 percent clean. Building has had no usefulness since 1970, now is owned by National Cancer Institutes.

reported information by testing seven residential wells in the immediate vicinity of Area B. It found three water sources above the allowable limit for TCE and/or PCE, all clustered on Montevue Lane, down "gradiant" from the Area B contamination. Subsequent tests off post were not indicative of any widespread problem because contaminated off-post wells, including those at or above the MCL, were located in a cluster on Montevue Lane. Residential wells on Shookstown Road, Kemp Lane, Rocky Springs Road and adjacent roads were free of such volatile hydrocarbons as TCE or PCE.

Fort Detrick cooperated immediately with State officials and the Army Environmental Center began an extensive remediation site investigation to determine if the contamination is originating at an old landfill site on Area B. The State promised to conduct its separate investigation of

several other potential sources of contamination.

Whether Fort Detrick is the primary contributor in the well contamination remains to be seen, but local residents have been supportive in the investigation. Many expressed greater concern over other contamination of their wells by such sources as septic tanks and drain fields. In the meantime, the ground water contamination problem at Area B is a cause for concern and will require extensive remediation efforts.

No water is consumed from Area B, which is used as a research animal farm site by the Army Medical Research Institute of Infectious Diseases, as an antennae site by the 1110th U.S. Army Signal Battalion, and storage and landfill site by U.S. Army Garrison.

Pilot Plant

The so-called "Ghost of Area B," in the words of then Commander Col. Mark L. Hoke, was dispensed with temporarily in 1983 with the favorable test results on the ground water, but it wasn't until 1988 that Commander Col. Richard W. Hauer Jr. exorcised the "ghost of Building 470."

Building 470 was built in 1952 as a pilot plant where quantities of agents were cultured. It was a massive operation and part of the offensive research program.

Efforts to demilitarize Fort Detrick included cleaning up Building 470, a facility more than seven stories tall, containing large tanks and ringed with catwalks from top to bottom. The primary agent grown at the pilot plant was anthrax, a dangerous organism which can lie dormant for thousands of years in a spore state. When dislodged from its hiding place, it can become a viable killer if it lodges in a compatible atmosphere. Lungs of man and animal are perfect environments for the organism to break from its suspended state. It can kill with "great episode" within three days.

Anthrax can lodge in such places as minute cracks in concrete. Thus, cleaning Building 470 was expected to be a major accomplishment. Using techniques devised by Dr. Phillips, Dr. Wedum, Dr. Baldwin and other safety experts, the team decontaminated the building three times. After

using special chemicals and monitoring devices, Dr. Wedum, Everett Hanel and the review team declared that Building 470 "appeared" clear of dangerous organisms. They, however, noted that because of the nature of anthrax it could not state that Building 470 was 100 percent clean. The building had no other purpose than use as a pilot plant and no plans existed for it to be converted for any other use.

Building 470 was locked with access restricted to engineering personnel, who continued to monitor the building. The building became a symbol of what used to be at Fort Detrick and many inaccurate stories circulated that it was sealed because of the danger it represented to the community and individuals.

The real danger, however, was not from anthrax, but from the thousands of pigeons roosting in its rafters and air conditioning cooling towers. Pigeon dung had piled up in the stairwells from years of neglect. The cooling towers were removed in 1981 and cleanup finally begun in 1985.

Although Colonel Hoke had determined Fort Detrick and especially the Pilot Plant represented a national resource in case the offensive program were restarted, Building 470 represented a "white elephant." It was Army property in the midst of the Frederick Cancer Research Facility campus.

The building could not be destroyed without elaborate and expensive preparations. It also offered little to the Army because of its location and vertical design. It did, however, offer 44,000 square feet of usable space if the National Cancer Institute invested money in renovations.

Colonel Hauer signed over the building to the Department of Health and Human Services in 1988 and renovations were planned to turn it into a useful support facility. Thus, in the words of former President Richard M. Nixon, the last vestige of the offensive program, the last sword—as it were—was turned into a plowshare.

Chapter 8
End of an Era

There was considerable gloom and doom in Frederick and Fort Detrick in 1969 when the decision to stop offensive biological warfare research was made by President Richard M. Nixon. It meant a loss of jobs and struck hard at both the employees and the community. Fort Detrick was the largest corporate employer in Frederick County.

The intervening 24 years have seen steady growth and the realization that the installation is a singular asset in the world of biomedical and communications technology. No other industry in Frederick County could challenge the installation's status as largest corporate employer. As a whole, Fort Detrick activities injected more than $220 million into the county economy in 1992.

In retrospect, the 1960s were a period of national dissent, a time of self-evaluation in America. Distrust of the Fort Detrick program and questions on the morality of biological warfare prompted a wholesale review and eventual major revision of Fort Detrick's mission.

Congressional investigations into the chemical/biological warfare programs were begun in 1969 by Senator Eugene McCarthy. He claimed that between 1954 and 1962, there were 3,300 accidents in the biological warfare program under Fort Detrick's auspices.

McCarthy said a study showed that half the accidents involved such things as broken test tubes and scratches to laboratory workers from needles. McCarthy had been given a secret briefing by the Army which described the various incidents which can occur and the steps prescribed to ensure no further injury occurs or to arrest any exposure to BW agent. McCarthy found willing listeners for his charges, but Sen. Margaret Chase Smith investigated on her own. She visited Fort Detrick, interviewing scientists and inspecting facilities and records. Her words of support for the safety and scientific excellence of Fort Detrick effectively blunted McCarthy's gross generalizations.

On April 21, 1969, McCarthy urged the U.S. to join

international efforts to ban chemical and biological warfare agents. He urged President Nixon to resubmit the 1925 Geneva Accord to seek inclusion of bans on nausea and tear gases.

The 1969 budget for Chemical/Biological Warfare research was reported to be $300 million with $5 million for herbicides designed to kill food crops or strip trees of foliage to deprive enemy forces of ground cover.

President Nixon ordered a review of the CBW programs and on 27 June 1969, Fort Detrick Commander Col. E.M. Gershater conducted a seminar for leading civic and political leaders. He reported such efforts as development of an automatic warning device which detected the presence of dangerous biological contaminants. He said efforts included creating biological munitions and the study of biological agents known to have usefulness in military operations and defenses against those agents.

Colonel Gershater emphasized that safety was foremost in Fort Detrick operations and the installation and its facilities were the safest of their kind in the world.

The biological effort was caught up in a major investigation by the National Security Council into the chemical warfare program centered at Edgewood Arsenal. The biological warfare effort, like the chemical, was under the Chief of the Army Chemical Corps and Army Materiel Command in 1969. This caused considerable confusion in the investigations and press reports.

Maryland Senator Charles McC. Mathias asked for suspension of the nerve gas testing program that summer and as a result demonstrators showed up at the main gate of Fort Detrick–the wrong location, to protest those research programs.

Demonstrations were not new at Fort Detrick. In 1961, a group seeking an end to BW research, maintained a 24-hour vigil for slightly more than a year. The group ended its vigil by planting a "Peace Tree" outside the fence. Post engineers attempted to keep the tree living, transplanting it to a better location with better soil, but it never had a chance. A replacement tree was planted by the engineers.

In August 1969, Congress cut $16 million from the CBW programs. Colonel Gershater spoke to the Frederick Chamber of Commerce in October and said he had been assured no jobs were being cut from the current budget. He returned to his office to learn that 47 jobs would be lost in the nationwide cutback at military installations around the world.

On Veterans Day, November 11, 1969, the Nation's press reported President Nixon had asked the Senate to ratify the 1925 Geneva Accord prohibiting first use of chemical and biological weapons. Nixon assured Fort Detrick its research would continue. President Nixon, scoring a major international diplomatic victory on November 25, 1969, signed an executive order outlawing offensive biological research in the United States.

The shock was felt dramatically in Frederick in economic terms. Questions were asked about the order's effect on Fort Detrick, specifically what would happen to its civilian scientists and support personnel. Nixon said the Nation would destroy its stockpile of bacteriological weapons and limit its research to defensive measures.

Lt. Col. Lucien Winegar, then deputy commander of Fort Detrick, said it would "be fair to assume" the installation would continue to work with dangerous organisms used in offensive BW since any defense required knowledge of those agents. Continuation of the defensive research program was authorized in the biological warfare convention. The decision to continue the defensive program and its expansion in 1983 ensured American military members had a measure of protection in such actions as the Persian Gulf War.

The vigilance in BW matters was not easily maintained because of constant opposition at home and abroad. Insiders say the Nation owes a debt of gratitude to the pursuasiveness and sound advice of such former Fort Detrick experts as Col. Richard F. Barquist, Dr. Riley D. Housewright, Col. David L. Huxsoll and William Patrick. Their warnings of Soviet violations were evidenced by such incidents as the "Yellow Rain" attacks in Southeast Asia investigated by Dr.Sharon Watson of the Armed Forces Medical Intelligence Center, Fort Detrick. These were proved correct in February 1993

when *Newsweek* magazine published what the American Intelligence community had been reporting since 1978, namely that the Soviet Union never stopped its BW research program.

The collapse of the Soviet Union provided the opportunity for the Russian government to respond to Free World diplomacy to end such work and admit its violations. Russian President Boris Yeltsin admitted the Soviet Union continued offensive BW research programs at several locations in spite of the 1975 Geneva Accord.

The death of nearly 80 persons near Sverdlosk in 1979 was the so-called "smoking gun" evidence reported by such agencies as AFMIC and the U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID) through the U.S. Department of State. Yeltsin said the deaths at Sverdlosk were directly attributable to an accident, which occurred during an offensive BW experiment using *bacillus anthracis* and not to distribution of contaminated cattle feed.

That incident was deflected for more than a decade by disinformation programs emanating from the KGB, the Soviet counterintelligence operation. Such disinformation programs included the charge that Acquired Immune Deficiency Syndrome (AIDS) resulted from a "cruel experiment at Fort Detrick, which went awry. . . ."

The AIDS charge was disavowed in 1987 by then Soviet President Mikhail Gorbachev, who apologized to President Ronald Reagan for the accusation. Unfortunately a number of prominent U.S. scientists endorsed and gave credibility to the outlandish claim, gaining access to major national media and besmirching Fort Detrick's science programs. Some of these scientists also managed to gain appointments to the United Nations "inspection" team and supported the Soviet coverup. These scientists have remained silent in the face of the Russian admissions.

Fort Detrick was proved again to have provided wise counsel in the face of opposition fed by so-called "pack journalism." Based on its record of 50 years service to the Nation, the soundness of Fort Detrick's scientific advice should have come as no surprise.

Chapter 9
The Public Debate

In 1977, Fort Detrick became the eye of a hurricane when the long-awaited volume, *US Army Activities in the US Biological Warfare Program,* was submitted to The Congress. It outlined in detail the entire BW research effort involving Camp and Fort Detrick, Dugway Proving Ground, UT, Edgewood Arsenal, Pine Bluff Arsenal, AR, Rocky Mountain Arsenal, CO, and numerous smaller testing sites around the Nation.

It discussed in general terms the weapons development program, which was controversial at the start and remains so to date. Biological weapons are still as silent, deadly and inhumane, whether they kill, maim or incapacitate.

There is no question that biological weapons may be used effectively as a weapon of choice. Like atomic weapons, biological weapons are a valuable deterrent and any choice to use them would have been a last resort, according to scientists who took part in the research.

An executive summary with the two-volume set, pointed out, "The policy of the United States regarding biological warfare between 1941 and 1969 was to first, deter its use against the United States and its forces, and secondly, to retaliate if deterrence failed. . . . From its inception, the program was characterized by continuing in-depth review and participation by the most eminent scientists, medical consultants, industrial experts and government officials."

The volumes noted the variety of weapons systems, but refrained from providing specifics because such information may still be used by the Nation's potential adversaries. Only a few persons in the Department of Defense have expressed an understanding of the importance of that information and the need to keep it under wraps, but the question is being addressed. Biological Warfare has been termed, "The Poor Man's Atomic Bomb," an appropriate analogy considering what has been learned since April 1943 at Fort Detrick.

The two-volume report spawned extensive Congressional hearings and major news coverage that has not abated.

There has been pride and admiration expressed by many in the scientific community for the work done at Fort Detrick. At the same time indignation has been expressed from both scientific and non-scientific quarters about portions of the Fort Detrick work, primarily because those detractors believe the U.S. citizenry was victimized by the program.

Political and ethical considerations aside, much was learned at Fort Detrick about the life cycle of infectious organisms and toxins and their effect on the human body. Had the research not been done, American scientists agree they might still be struggling with diseases long since brought under control, like polio and measles.

Recombinant DNA research techniques, through which certain organisms have been cloned to produce weaker, stronger or mutations of the original, are legacies of Fort Detrick, but it was not done in the Fort Detrick laboratories. A small circle of scientists cling to the belief that Recombinant DNA techniques may result in more dangerous U.S. biological weapons.

In 1982, Dr. William R. Beisel, USAMRIID director of science, dealt with that question while being interviewed by a New York Times reporter. Dr. Beisel became frustrated with the reporter, who kept insisting that weapons research was or might be taking place at Fort Detrick's laboratories. Dr. Beisel jumped forward in his chair and blurted out, "But we aren't conducting offensive research! It is simply against the law!"

Dr. Beisel pointed out that Fort Detrick had no weapons specialists after the changeover of 1969. Most of the BW weapons technology was destroyed. Dr. Beisel admitted that any terrorist organization—or Third World Country, need not go to the expense of Recombinant DNA to produce effective biological weapons. "You can produce biological weapons in your basement with very little money."

The chilling effect of his statement was proved in the series of tests, which took place under the auspices of the Biological Laboratories from 1943 to the mid-1960s.

In one such test, travelers at Washington National Airport were subjected to a harmless bacterium. Traps were placed

Rare picture from Oct. 5, 1954 showing many of the principles of the biological laboratories from World War II to early 1960s. They represented the Chemical Corps Advisory Council.

(Front Row from left) Col. John J. Hayes, who became post commander; Dr. Walter Nungester, University of Michigan; Col. Donald H. Hale, office of chief chemical officer; Dr. Ira Baldwin, University of Wisconsin; Dr. Allan Colburn, University of Delaware; Dr. Herald Cox, Lederle Laboratories, N.Y.; Dr. Benjamin Warshowsky and Charles T. Paugh, Fort Detrick;

(Middle rows) Dr. John L. Schwab, Fort Detrick technical operations; Dr. Harold Glassman, later assistant director of science; Dr. Leroy D. Fothergill, then Fort Detrick scientific advisor; Dr. Alex Langmuir, U.S. Public Health Service; Robert Porter, Fort Detrick; Dr. Carl Marquand, Chemical Corps office and secretary to the council; Dr. Robert L. Weintraub, Fort Detrick; Dr. Thomas Carswell, Commercial Solvents Corp.; Grant A. DeShazer, Fort Detrick; Glenwood B. Achorn, Jr., Fort Detrick; Maj. Peter G. Olenchuk, Fort Detrick executive officer, later commander; Dr. Henry I. Stubblefield, Chemical Corps office; Wendell H. Kayser, Fort Detrick; and Dr. Arnold G. Wedum, Fort Detrick director of safety.

(Back rows) Dr. Gordon L. Bushey, Chemical Corp office; Dr. William R. Hinshaw, Fort Detrick; Lt. Col. Michael R. DeCarlo, Pine Bluff Arsenal, AR, later post commander, Fort Detrick; Dr. Charles R. Phillips, Fort Detrick; Dr. Noel H. Gross, Fort Detrick; Dr. Robert S. Hutton, Fort Detrick; James R.E. Smith, Pine Bluff Arsenal; Dr. William W. Dorrell, Fort Detrick; Clark E. Cottrell, Jr., Fort Detrick; Dr. Edwin V. Hill, Fort Detrick; Dr. Abou Pollack, formerly Fort Detrick, then at Baltimore City Hospital; Dr. Carl R. Brewer, Fort Detrick; and Dr. Grant Ash, Dugway Proving Ground, UT.

throughout the facility to capture the bacterium as it flowed in the air. Laboratory personnel, dressed as travelers carrying brief cases, walked the corridors and without detection sprayed the bacterium into the atmosphere.

In the New York Subway, a light bulb filled with the same harmless bacterium was dropped on the tracks. The organism spread throughout the system within 20 minutes. Traps and monitoring devices showed the amount of organism—if it were one of the predictable, dangerous organisms, could have killed thousands of persons. No one was injured or became ill as a result of the test.

In San Francisco, a U.S. Navy ship, equipped with spray devices operated by Fort Detrick personnel, sprayed *serratia marcescens*, a non-pathogenic microorganism that is easily detected, while the ship plied the San Francisco Bay. It spread more than 30 miles to monitoring stations.

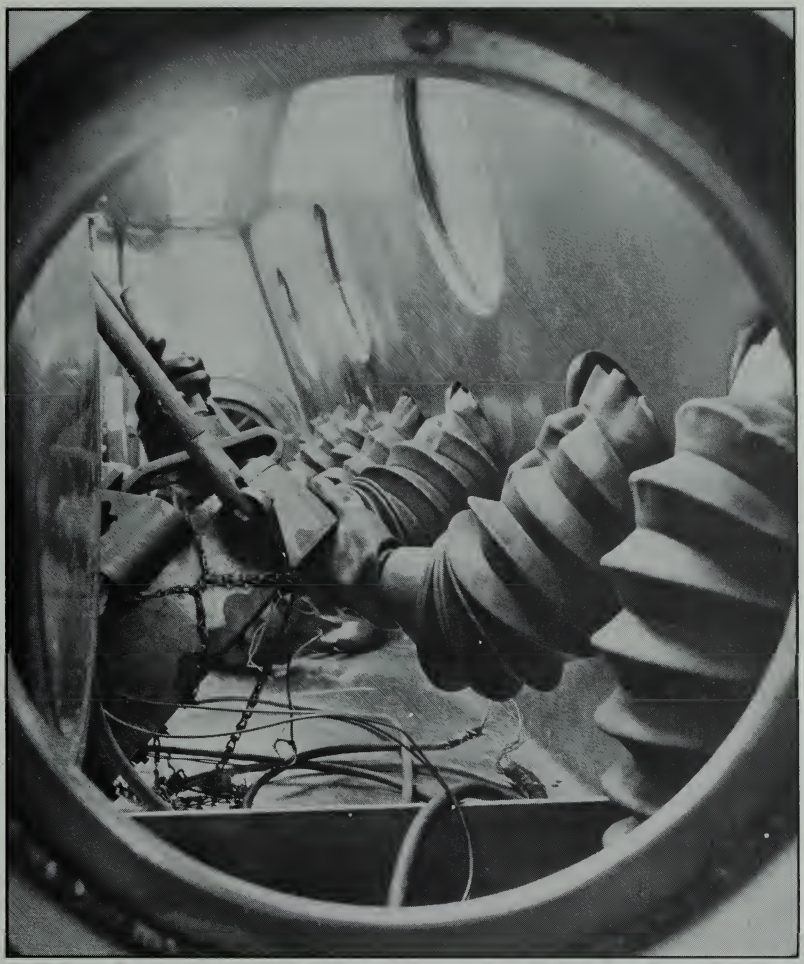
A jet aircraft equipped with spray devices, flew a course near Victoria, TX, and the harmless bacterium was monitored in the Florida Keys.

While some may argue that these were dangerous and thoughtless experiments from the private citizen's standpoint, it proved how helpless the United States would be if an enemy were bent on causing problems. Many believe the U.S. still is vulnerable, one reason defensive BW research continues to take place.

When Iraq and Iran were at war in the 1970s and early 1980s, evidence was clear that Iraq was utilizing chemical weapons. Intelligence showed Iraq had a bonafide biological warfare capability. When Operation Desert Shield began in August 1989, U.S. military experts were wary of the clear chemical and biological threat posed by the forces of Saddam Hussein.

Even the information about Iraq's capability was kept close hold, although the news media was reporting it quoting "sources." Deploying soldiers and their commanders were fully briefed on the threat posed by the chemical and biological weapons capability of the enemy.

The spectacular success of United Nations Coalition Forces in Operation Desert Storm quickly neutralized the



Interior of Camp Detrick bombardier cabinet showing assembling of a munition. Wires are firing system. No weapons testing has been conducted at Fort Detrick since 1969 executive order outlawing such work in U.S.

Iraqi capability. Biological Warfare experts at Fort Detrick were consulted the minute planning started for UN intervention in Kuwait. Defending against BW attack sparked discussions about necessary vaccines, diseases endemic to the theater of operations all subjects being studied at the U.S. Army Medical Research Institute of Infectious Diseases at Fort Detrick.

It was difficult to keep some information under wraps

during the highly secret days prior to 1969. One story came to light that proved embarrassing to Fort Detrick because of the tragic impact of a research program that took place without knowledge of the principle directors or committees.

Dr. Frank W. Olson, a distinguished Fort Detrick scientist, was said to have committed suicide by leaping from a window in a New York City hotel. The seemingly innocuous news story brought to the public and Dr. Olson's family a story of intrigue with Dr. Olson described as an unwitting victim. Dr. Olson's death was the tragic result of clandestine research taking place within the secret confines of the Special Operations Division at Fort Detrick in the 1950s. Clandestine research with the then little-known drug LSD created the situation where Dr. Olson's death occurred. He had been an important member of the BW Labs' team since World War II, but was said to have been unaware that he had ingested the chemical given him by a co-worker in the New York hotel room.

Knowledgeable observers have noted this was a situation that got out of hand in a usually well-controlled research atmosphere. The Army was unaware that the LSD program was taking place and had not sanctioned the project.

In retrospect, the government admitted that some errors in judgment occurred; overall it had controls in place to monitor research projects, field testing and human testing. However, controversy remains over the decision to subject millions of everyday Americans to live organisms in tests outside the laboratory.

Fort Detrick scientists also produced major advances in the applied sciences. During the American Civil War, many soldiers feared being wounded. Their fears centered on being required to enter a hospital where the danger of dying from disease acquired in the hospital represented a greater threat than a mini-ball wound. Hospitals today have effective barriers to disease and contamination. Surgeons and doctors can provide health care using techniques that provide comfort, support and cure. They use vaccines, toxoids, and anti-bacterial and anti-viral drugs which are a direct outgrowth of the 50 years of work done in the laboratories at Fort

Detrick.

Fort Detrick's research left few areas untouched. One little known effort was conducted under the leadership of Dr. John Boucher, who worked with Dr. Michael DeBakey, in the first efforts to develop a working heart valve. The design has been duplicated and with certain modifications can be seen in the artificial hearts and heart machines which keep patients alive in hospitals.

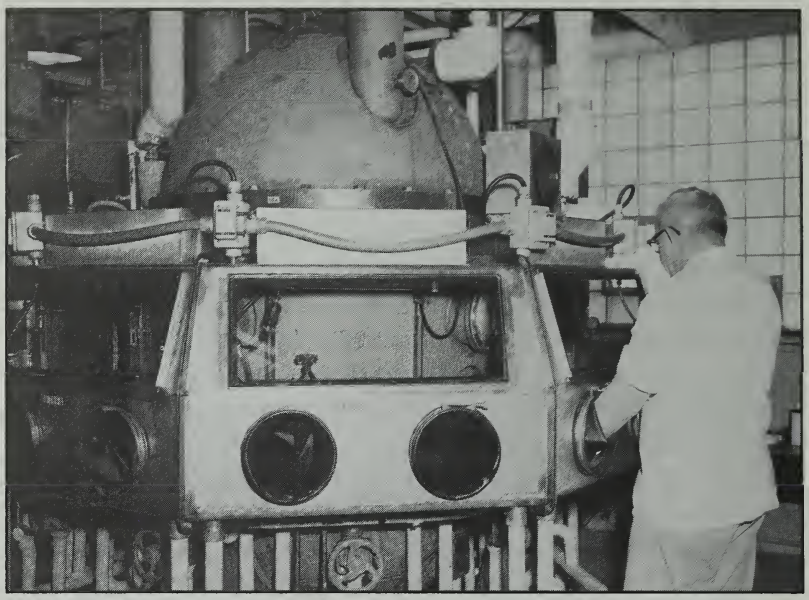
William Royer, a skilled craftsman who once built models and devices in the BW Labs, detailed the story shortly before he retired from the U.S. Army Biomedical Research and Development Laboratory. He wanted to turn over a device he had carried in his tool box for more than 20 years.

Royer said he was asked by Dr. Boucher in the late 1950s to build a one-way valve which could be used in working with the heart. Royer produced the stainless steel valve and associated devices. Dr. Boucher implanted the valve in the chest wall of a dog. Working with a transducer in the one-way valve, Dr. Boucher was able to draw blood directly from the aorta. The first animal died, but Royer then reengineered the valve and Dr. Boucher began to make progress. A similar valve on a larger scale was pictured in the Baltimore *SUN* in 1987 as it was being used to keep a heart patient alive.

Thousands of research papers have been authored by Fort Detrick investigators, including pioneering monographs on experimental airborne infection, bacterial genetics, and the Fort Detrick Design Criteria for microbiological facilities, produced by the entire Fort Detrick scientific community including the engineering staff. The latter book was updated in 1992 and continues to be the standard for construction of such facilities worldwide.

Through the years, Fort Detrick has been known as the leader in aerobiological work. Fort Detrick pioneered the work in the study of microbial aerosols and experimentally induced airborne infection.

Facilities, instrumentation and techniques were developed under the leadership of Edgar W. (Bud) Larson, whose work spanned nearly three decades. Achievements included: generation of microbial aerosols of controlled

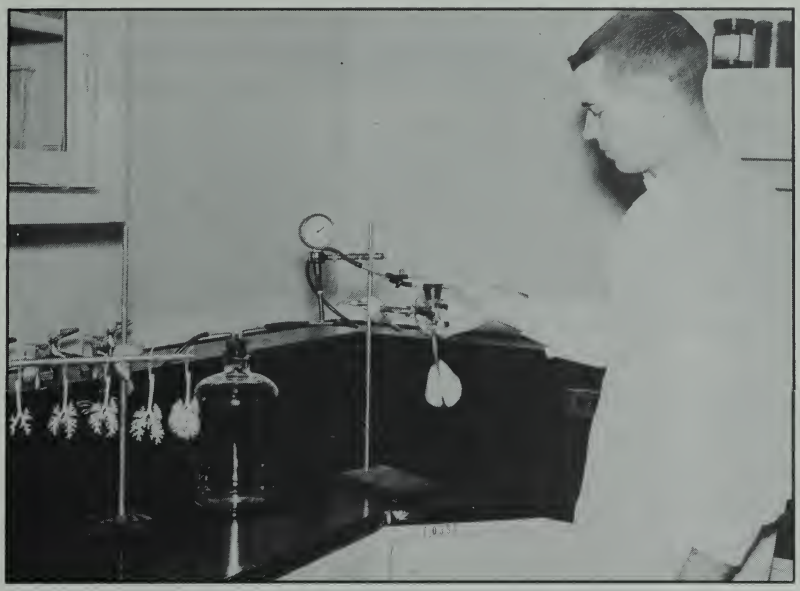


Researcher works in one of several size aerobiology chambers developed at Camp Detrick for work on microbial aerosols and the spread of disease.

concentration and particle size; containment of these aerosols in gas-tight chambers; sampling of air for its microbial content at rates up to 10,000 liters per minute; exposure of experimental animals or humans to microbial aerosols under conditions permitting precise quantitation of the inhaled dose of microorganisms; and study of such hosts subsequent to their experimental exposure.

The specialized equipment was applied to a wide spectrum of investigations of the airborne route of transmission of communicable disease. The U.S. Centers for Disease Control called on Fort Detrick's expertise in seeking answers to the outbreak of the so-called Legionnaire's Disease in Philadelphia. The institute's team set up smoke tests which showed the flow of exhaust from the hotel's air conditioning system back into the air intake chamber. Tests in the institute's aerosol chambers and other facilities revealed the causative organism and solved a nationwide disease outbreak.

Other collaborative aerobiological studies with other



Medical technician inflates lungs during earlier Camp Detrick anatomical research. Work provided valuable information on spread of disease.

institutions yielded information important to medicine and public health. These included evaluation in humans of the prophylactic efficacy of *tularemia* vaccines working with the medical schools of Ohio State University and the University of Maryland; evaluation in humans of the prophylactic efficacy of Q fever vaccines (University of Maryland and Walter Reed Army Institute of Research); study in humans of respiratory viruses with the National Institute of Allergy and Infectious Diseases and Baylor University Medical School; epidemiology of *meningococcal meningitis* (Walter Reed Army Institute of Research); and epidemiology of industrially acquired anthrax with the National Communicable Disease Center, Atlanta, GA.

The Biological Laboratories understood the validity of experimental results being dependent on using laboratory animals of high quality and good genetic and health characteristics. In 1950, the Fort Detrick Animal Farm developed a highly successful method of screening for

salmonellosis, which brought about the establishment of mouse and guinea pig colonies totally free from that disease. *Salmonellosis* had been widespread in laboratory animal colonies throughout the United States causing great losses.

In 1956, the farm performed its first caesarean derivation of mice into a germ-free environment and was thus one of the first laboratories in the country to demonstrate the use of this technique for the establishment of disease-free laboratory colonies. The procedure is widely used and accepted as the primary method for deriving pathogen-free animals. The farm is now operated by the National Cancer Institutes and uses the technique for its colonies.

When Fort Detrick celebrated its 25th Anniversary in April 1968, Historian Richard Clendenin had no reason to believe Fort Detrick would cease its massive operations in the near future..

"Fort Detrick today," Clendenin wrote of the post in 1968, "is a permanent Army post responsible for an essential part of our national defense.... In its relatively short existence of 25 years, Fort Detrick has attained national prominence as a research and development installation. Working in some of the finest laboratory facilities to be found anywhere, its staff of eminent scientists and engineers can be counted upon to continue uncovering new knowledge that will benefit both the National Defense and the health and well being of the Nation."

Clendenin was correct in his assessment, except that he had no inkling that change was imminent.

Chapter 10
Chapel History

Fort Detrick's new Religious Education and Child Care Facility was officially opened March 25, 1993, replacing the child care facility located in the old Noncommissioned Officers Club on Porter Street; and the Post Chapel on Doughton Drive. This new facility is located at the intersection of Ditto Avenue and Stark Street adjacent to the Family Housing area.

Camp Detrick personnel had to attend religious services in the community because no chaplain was assigned during World War II and no facility was available. Today's Fort Detrick Chapel community began with a small service railroad in the City of Frederick.

In 1943, wartime security measures included strict access requirements at Camp Detrick. Thus, incoming supplies and materials, arriving by non-military cargo carriers were subject to strict regulations. Freight and other materials, including coal, arrived by train and were brought to the post by the Fort Detrick switch engine.

Two railroad lines served Frederick with their terminus at the Pennsylvania Railroad line on East Street and the Baltimore and Ohio Railroad Junction on All Saints Street near the train station. The Potomac Edison Electric Company (PEEC) operated the trolley system in Frederick, with a rail line up West 5th Street, past Hood College to the middle of West 4th Street, now Rosemont Ave. The PEEC's Hagerstown-Frederick Electric Railroad Company delivered the hoppers and freight cars to a siding near what is now Montevue Lane.

A Fort Detrick rail operator, among them Kenneth Kaste, hooked up to the cars at the siding and pulled them on post. The tracks were laid on the northwest side of the post. It reached its terminus at the current transportation motor pool. Coal was stacked in a huge pile at the site now occupied by the Frederick Cancer Research Facility's Conference Center. Remnants of the old tracks may still be seen near the perimeter fence, the new carpenters shop area and boiler plants.

Brakeman switches track for switch engine enabling it to turn into repair house. Other direction headed for transportation warehouse. Tracks were removed in 1958. Note home to right, Wide Pastures (Building 1000), which was post commander's quarters. It was torn down in March 1978.

The first switch engine was powered by electricity, but was replaced by a 44-ton General Electric with twin 17,000 horsepower turbines. It was Engine No. 4401, according to retired Lt. Col. Harvey George. The engine was retired when the post converted to oil and the electric company could no longer compete with the trucking industry in cost. The switch engine was declared excess and retired to Fort Holabird, MD, in 1958.

The Fort Detrick Chapel, Building 924, was constructed in early 1944 to serve as a repair house for railroad rolling stock. The need for a chapel was first mentioned during the time period in which the railroad ceased operation. In 1962, the installation commander authorized modification of the old repair house to a chapel facility. Modifications included filling in the old pit, which allowed workmen to get under the switch engine to perform necessary repairs and routine maintenance.

In 1968, the chapel was modified again, this time enlarging

the chapel area, including the addition of a sacristy and office. At the same time, windows were purchased through a grant provided by the Office of the Chief of Chaplains of the Army. They were installed behind the altar and along each side of the nave.

The stained glass windows, depicting the Benedicite of the 144th Psalm, came into Fort Detrick's possession almost by accident. In 1977, Walter Reed Army Medical Center's new facility included the addition of a chapel. The stained glass windows, made by Willett Stained Glass Studio of Philadelphia, were being stripped from the World War II era chapel before its destruction. They were offered to Fort Detrick and accepted without any knowledge of what might be done with them. They were transported to Fort Detrick by driver George Sheetenhelm and stored. After the new carpenter shop was occupied, the wooden crates were moved and in the fall of 1977, Norman M. Covert, post historian, was asked what should be done about the windows. After taking a look at the windows, Covert consulted with Chaplain (CPT) Bobbie J. Bundick, who accepted the notion of installing the windows in the chapel. Mr. Covert learned the windows had been manufactured originally by a Philadelphia firm and, with the commander's approval, contacted Henry C. Willett, who had designed, built and installed the windows at WRAMC.

By the time Chaplain (MAJ) William B. Eberle arrived in January 1978, preliminary discussions had been held between Covert and Willett regarding the windows. The studio dispatched its representative, who met with Chaplain Eberle and Covert and provided an estimate of work involved to properly install the windows.

The chancel's inexpensive windows were removed, a supporting lintel installed on the back wall and sections of block removed to accommodate the larger windows, which reached from ceiling to floor. By the time preparation work was completed, the windows were returned from Philadelphia where they had been cleaned, releaded and one entirely new section installed to replace several broken segments.

The windows were completely refurbished at a cost of

Fort Detrick switch engine parked over pit in repair house, which became Post Chapel. Workmen are not identified. Engine pulled supplies on post from Montevue siding of former Trolley line to Yellow Springs.

$6,000. When installed in the chapel with protective coverings to prevent accidental breakage, they were estimated to have a value of more than $25,000. Army Chief of Chaplains Maj. Gen. Francis Sampson presided at the rededication ceremony for the new windows in July 1978.

One smaller window was not installed in the old chapel because it wasn't suitable at the time. It was returned to its wooden crate, stored and nearly forgotten until plans were being prepared for the new chapel facility. It was finally located in the transportation division office of Dave Weedon, who in answer to a question from the Post Commander Col. Larry G. Johnson, said, "Oh that window? It's been in my office for ten years."

Both sets of windows have now been cleaned, repaired and installed for display inside the new chapel through the guidance of Chaplain (MAJ) Jeffrey S. Mercer and SFC Steven Patzer.

Chapter 11
The New Beginning

Fort Detrick was without a bonafide direction after the demilitarization effort closed down the former biological warfare laboratories in late 1972. The Army Materiel Command (AMC), through the former Munitions Command, had been the overseer of Fort Detrick operations as a series of reductions in force, transfers and reorganizations began taking place.

A major change occurred in August 1971 when the U.S. Biological Defense Research Center was redesignated and reorganized. It was changed from a research center to research laboratory. The organization was Fort Detrick's primary operation after the offensive program ceased in 1969.

Demilitarization of the facilities was accomplished as quickly and safely as possible. Work was overseen by federal, Department of Defense, State of Maryland and local agencies. Buildings were sterilized and facilities made ready for the new tenants.

General Order No. 255 redesignated the former laboratories. It simultaneously established Headquarters, U.S. Army Garrison to be landlord of the installation. Resources came from the pool of military members and civilian employees assigned to similar duties. These new members of the headquarters were taken from the authorization of the former laboratory command and staff structure.

Eight months later on April 1, 1972 AMC relinquished control of Fort Detrick. It was assigned simultaneously to Office of The Surgeon General of the Army (OTSG), which in turn assigned U.S. Army Garrison to the control of Headquarters, Medical Research and Development Command (MRDC). In addition, Fort Detrick was attached to First U.S. Army Headquarters at Fort George G. Meade for general courts martial authority.

Thus, Headquarters, U.S. Army Garrison became a separate function charged with maintaining the installation, but not the functions of the organizations on post.

The Army Medical Unit (USAMU), which was established n June 1956, began the move into its new $17.5 million facility as the standdown began in 1970. It was designated the U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID) in 1972 under the management of The Surgeon General of the Army and MRDC.

In 1973 Project Steadfast reorganized the Army and created U.S. Army Health Services Command, which was activated April 1, 1973, at Fort Sam Houston, TX. Fort Detrick officially joined the command July 1, 1973.

The changes brought new organizations to Fort Detrick which had separate chains of command. Such tenants included the Defense Medical Materiel Board (DMMB), now the Defense Medical Standardization Board; U.S. Army Medical Materiel Agency (USAMMA) and Air Force Medical Materiel Field Office, now the Air Force Medical Logistics Office (AFMLO). The units transferred from the complex at Phoenixville, PA, simultaneous to the closedown of the Valley Forge General Hospital. Fort Detrick was responsible for closing down the hospital and affecting the move of DMMB, USAMMA and AFMMFO to Fort Detrick.

The Army Medical Bioengineering Research and Development Laboratory was organized from the merger of the Army Medical Equipment Research and Development Laboratory at Fort Totten, NY, and the Army Medical Biomechanical Research Laboratory from Forest Glen, MD. It was located in Building 568, one of the few former research buildings to stay in possession of the Army.

It was unusual that a civilian agency establishing itself on a military reservation be given full title to the land. However, the Department of Health and Human Services, then the Department of Health, Education and Welfare (DHEW), took possession and title to more than 68 acres and nearly 70 buildings.

The "campus" became the Frederick Cancer Research Facility, which is today the Frederick Cancer Research and Development Center. The cancer facility has its own telephone system, and has grown increasingly independent of Fort Detrick, except in the utilities and safety areas. The Army still provides steam, disposal of burnable and non-burnable

waste and advice and assistance in the proper disposal of low level radionuclides and excess or waste chemicals.

In 1972, the Health Services Data Systems Agency was transferred from Washington to Fort Detrick. Its organization absorbed the installation data processing center. Control of the center then reverted to U.S. Army Garrison. When the Army established Information Systems Command (USAISC) from the former Army Communications Command, the center was renamed Directorate of Information Management (DOIM) and placed under USAISC with a direct command link to the Health Services Command DOIM. The director of DOIM-Fort Detrick was also a member of the post commander's staff. In October 1992, the organization was separated from USAISC and brought back under the commander, Fort Detrick.

In spite of the management turbulence, the center developed steadily as the leading data processing center in the Department of the Defense. Its responsibility stretched throughout Continental United States, crossing command barriers, providing mainframe computer operations for Health Services Command, as well as medical research teams at Fort Detrick and other locations. A possibility in 1993 was that the Fort Detrick DOIM would be absorbed into the new Defense Information Systems Agency (DISA).

One of the constants since 1959 was the East Coast Relay Station of U.S. Army Strategic Commmunications Command. It was established as a relay point for message traffic within the Defense Communications Network. It transcended that role and became the East Coast Telecommunications Center in 1972. In 1988, the center was redesignated the 1110th U.S. Army Signal Battalion of the 1111th Signal Brigade. The change was primarily in name and encompassed some internal management changes from the battalion to the agencies supporting the Chairman of the Joint Chiefs of Staff and the President.

Growth in size and technical expertise at the battalion has been phenomenal. It is the gateway station for long haul communications worldwide serving 15 switching centers. It is a key element in the Washington Area Wideband System (WAWS), which carries a variety of transmissions from the

National Command Authority to worldwide users. Its management of the Detrick Earth Station of the Direct Communications Link to Moscow (the Hotline) began with construction of the station in 1973 and ultimate acceptance of the facility in 1978 by both nations.

Today the 1110th U.S. Army Signal Battalion continues to be focal point for international telecommunications. During Operation Desert Storm it was a vital link in the communications bridge to the Persian Gulf.

After several years of uncertainty, Fort Detrick received the boost it needed in 1978. A key governmental decision to move defense agencies outside the Washington National Capital Region was responsible for transferring the Army Medical Research and Development Command Headquarters to Fort Detrick.

A second Field Operating Agency of The Surgeon General of the Army, the Army Medical Intelligence and Information Agency (USAMIIA), also moved to Fort Detrick in the spring of 1979. Today it occupies a large, secure complex and is managed through the Defense Intelligence Agency (DIA) as the Armed Forces Medical Intelligence Center (AFMIC).

Ironically, Fort Detrick also lost one of its tenant organizations in the 1978 decision. The Army Medical History Division moved to Washington, D.C., where it merged with its parent organization, the Office of the Chief of Military History (OCMH) under the Adjutant General of the Army.

Since 1978, Fort Detrick also has welcomed the Air Force Medical Wartime Hospital Integration Office (MWHIO), the Secret Service, and the Frederick Field Office of the Federal Bureau of Investigation.

Among the larger organizations, the Naval Medical Materiel Support Command was "piped aboard" Fort Detrick in August 1985. Now the U.S. Naval Medical Logistics Command (NMLC), it was the first Naval detachment at Fort Detrick since June 30, 1975, when the former Naval Unit, Fort Detrick, was disestablished. On February 8, 1944, the U.S. Naval Unit was established at Camp Detrick. It was a field activity of the Bureau of Medicine and Surgery in the Fifth Naval District. It had a complement of 85 officers and

320 enlisted personnel. It was reorganized in July 1944 as the U.S. Naval Unit, Special Projects Division, Chemical Warfare Service. It increased to 125 officers and 875 enlisted personnel. It was disestablished October 5, 1945, but was reestablished a month later on November 13, 1945. It was redesignated as the U.S. Naval Unit, Biological Division, Chemical Corps, September 3, 1947. It was again redesignated April 12, 1956, using the same name. The U.S. Naval Unit's strength was reduced to five officers, nine enlisted men and one civilian employee. The unit departed in June 1975.

The arrival of the Navy completed the co-location of the medical materiel managers of each of the Armed Services in one location. The concept, originally proposed in 1973, was to prove a major success when Operations Desert Shield/ Storm commenced in August 1990. Coordination among the units was called exceptional.

Building 1423, built in 1975, was enlarged in 1988 to accommodate the DMSB, USAMMA and AFMLO. The building has been scheduled for another enlargement making it one-third larger in size. This will allow the Navy sufficient room to move in its operation. The Navy has occupied wooden contonment type buildings, since moving its operation on post from rented quarters in Frederick in 1988.

A former Procurement Division was placed under management of USAMMA in 1975. However, in 1979 a decision by OTSG combined the purchasing divisions of Headquarters, Medical Research and Development Command (MRDC), and Walter Reed Army Institute of Research (WRAIR) with the USAMMA procurement division. It was placed under MRDC and on 1 July 1984 it became U.S. Army Medical Research Acquisition Activity (USAMRAA). It took responsibility for managing medical research contracts with private industry, and medical research projects at colleges and universities, in addition to other procurement actions for the entire installation.

A new organization was formed in 1985 when Col. Harry Dangerfield unfurled the guidon of the U.S. Army Medical Material Development Activity (USAMMDA). Its mission was primarily to recommend areas for research in MRDC as well as being the conduit between research teams and users

in the field.

By 1980, Fort Detrick became home for the Eastern Area Gateway Station, Military Affiliate Radio System (M.A.R.S.). In addition, the Satellite Communications Platoon, AN-MSQ-114, (developed at Fort Detrick in 1980) became part of the new U.S. Space Command (Continental United States). Ground was broken in the Fall of 1992 for its stationary satellite dish, while the administrative team occupied quarters a few blocks away in Frederick.

The first combat unit permanently assigned to Fort Detrick was Company B, 4th Light Armored Vehicle Battalion, U.S. Marine Corps Reserve. Assigned in 1987 as part of the new 4th Marine Division, Company B recruited members through its Inspector and Instructor Staff of active duty Marines and began accepting delivery of the new eight-wheeled vehicles. When President George Bush mobilized Marine Reserve units for Operation Desert Shield, Company B, with a complement of some 120 Marines, deployed to Camp Lejeune, NC. It became part of the lst Marine Expeditionary Force, further deploying to Saudi Arabia in December 1990. The unit's success breaching the enemy lines in Kuwait helped speed victory in the 100 hours of battle in the Persian Gulf War. The unit trained at Fort Detrick, Fort A.P. Hill, VA, Quantico, VA, and 29 Palms, CA. In 1993 the Marines continue with the mission to be ready to augment deployed active units providing reconnaissance and other battlefield support.

Also distinguishing themselves was the 153rd Medical Detachment (Supply Inventory). The unit was responsible for the accounting of medical supplies and equipment sent to Panama as a part of Operation Just Cause in December 1989. Not long after its return from Panama, the 153rd was deployed in August 1990 to the Persian Gulf to provide medical logistics support and liaison. The 153rd is a U.S. Forces Command unit assigned to the Army Medical Materiel Agency. It is expected to be redesignated by 1994.

Another unit to become part of Fort Detrick was the new Fort Detrick Commissary, which opened in April 1992. A large portion of the old supply warehouse was converted for use by the commissary and the Directorate of Logistics

acquired an elaborate mechanical storage system which made efficient use of vertical storage space. The commissary has more than met the sales objectives, proving its need was not understated in years of applications.

Headquarters U.S. Army Garrison underwent a change in alignment within the Directorate of Resource Management which separated the finance and accounting division. The division was placed under the Defense Finance and Accounting Service (DFAS). Personnel were expected to stay at Fort Detrick, but function under guidance of DFAS. The actual change was delayed in early March, but no definite date was determined by DoD.

Fort Detrick's continued affiliation with Health Services Command was uncertain by the second quarter of Fiscal Year 1993. A final decision had not been reached on proposed establishment of a medical command in the Washington area and final alignment of the installation within the Army Medical Department.

Chapter 12
A National Resource

The U.S. Army Medical Research Institute of Infectious Diseases was established in 1969 by General Order No. 6, dated 27 January 1969, Office of the Surgeon General ofthe Army. The orders renamed the former U.S. Army Medical Unit (USAMU), which had been established at Fort Detrick in 1956. The unit was assigned two years later to the new U.S. Army Medical Research and Development Command (MRDC), a field operating agency of The Surgeon General of the Army.

The current principle laboratory facility for USAMRIID was completed in 1971 in two phases. Phase I construction cost $7.6 million, Phase II $6.33 million. With associated equipment the facility today is considered to have a value of $17.5 million. Its construction was overseen by Col. Dan Crozier, whose command of the Army Medical Unit in 1961 crossed into its modern name and mission.

USAMRIID's research facility has more than 10,000 square feet of Biosafety Level 4 (BL4) and 50,000 square feet of Biosafety Level 3 (BL3) laboratory space. It is the largest containment laboratory in the United States. There has never been a release of any dangerous organism outside the laboratory environment. In addition, a special BL4 patient containment ward is available for medical care of patients, who may have been accidentally exposed to infectious agents within the laboratory, or who may have acquired a highly hazardous disease in an endemic area.

The Institute also houses a 16-bed research ward, where clinical trials of vaccines and drugs are conducted in accordance with rigorous regulations of the U.S. Food and Drug Administration (FDA). The goal is approval of a medical product for human use.

The Institute's military and civilian staff of approximately 500 includes physicians, veterinarians, microbiologists, pathologists, chemists, molecular biologists, physiologists, pharmacologists. It also includes technical and administrative staff to support research. The staff includes approximately

70 Medical Research Volunteer Subjects (MRVS), who are highly trained laboratory technicians who have requested the opportunity to participate in clinical trials of vaccines and drugs developed throughout MRDC. The clinical trials are the first phase of human testing in the lengthy research and development process, which is thoroughly monitored and leads to approval of a vaccine or drug, which becomes a medical countermeasure to protect U.S. military personnel.

The Institute deploys teams on short notice to train and provision personnel who establish diagnostic laboratories in theaters of combat operations. Other teams specialize in rapid response to investigate disease outbreaks anywhere in the world and can evacuate patients in BL4 isolation.

A world scientific resource, USAMRIID is a reference laboratory for the World Health Organization (WHO) in Geneva, Switzerland, and collaborates with it and the Centers for Disease Control and Prevention in Atlanta, GA, in helping diagnose and treat unusual diseases whenever they occur.

Col. Joseph Metzger assumed command in 1973, succeeding Brig. Gen. Kenneth Dirks, whose leadership spanned only a few months in 1972. Colonel Metzger was followed in 1977 by Col. Richard F. Barquist, who was responsible for expanding research programs in Rift Valley fever, Argentine hemorrhagic fever, and other unusual diseases and hemorrhagic fevers which may affect rapid deployment forces.

Another major area in which the Institute continues on the leading edge is in laboratory animal science. USAMRIID is fully accredited by the American Association for Accreditation of Laboratory Animal Care (AAALAC), a non-profit organization which evaluates research laboratory animal care and use programs and facilities. AAALAC accreditation is attained by only a small number of research institutions and is regarded as the standard for excellence in animal care and use.

One of the most concise papers written on the modern history of USAMRIID was written by Col. David L. Huxsoll, commander of the Institute from 1983-1986. It was a letter

USAMRIID Commander Col. Ernest J. Takafugi discusses mission and facility safety with members of Frederick County Board of Commissioners. From left: Lt. Col. Peter Madeo, deputy commander, Dawn Hatzer, administrative assistant to the board, Takafugi, Commissioner Gail Bowerman, Board President Ronald Sundergill.

to the editor of the Frederick News-Post, prepared in response to unjust criticism of the institute and its ability to work safely with high hazard microorganisms.

Huxsoll wrote, "(USAMRIID collaborates) with major universities throughout the U.S. (and) with international organizations . . . research is performed in strict and full compliance with the guidelines and regulations of... National Institutes of Health; U.S. Public Health Service; U.S. Centers for Disease Control; Food and Drug Administration, Nuclear Regulatory Commission; and Occupational Safety and Health Administration. These oversight functions are particularly relevant to the development process for products destined to be used in humans... USAMRIID always meets, and in most instances, exceeds research safety requirements set by these agencies.

"Research is unclassified . . . Indeed, USAMRIID has a tradition of being open to the press . . . hosted visits from

numerous domestic and foreign television crews . . . encouraged interviews with scientists and administrators concerning on-going research and past achievements.

"The Institute is host and sponsor to a variety of national and international scientific conferences and symposia. We are also open to the community; classes from surrounding high schools and colleges regularly tour the facilities . . . .

"The Institute has been a major influence in the development of vaccines and drugs. USAMRIID has made significant contributions to solving world health problems through its epidemiological, ecological and environmental studies, improvements in rapid diagnosis, and its pioneering studies on interferon and synthetic substances that can increase the potential of the body's immune system...."

Huxsoll listed some of USAMRIID's contributions to public health:

•Clinical trials on an antiviral drug and a vaccine to fight lethal, endemic diseases in Argentina, Korea and the People's Republic of China;

•USAMRIID conducted large-scale field trials near Buenos Aires, with the Argentine Ministry of Health using the USAMRIID-developed vaccine for Argentine hemorrhagic fever. The vaccine was shown to be more than 95 percent effective in preventing the disease. More than 6,500 agricultural workers took part in the study.

•In 1971 when an outbreak of Venezuelan equine encephalitis threatened humans and animals in Brownsville, TX, and the Rio Grande region, the VEE vaccine developed at USAMRIID was used to quell the disease.

•When Rift Valley fever broke out in Egypt in 1977, the USAMRIID-developed vaccine was used to protect people at high risk, including soldiers of the United Nations Peace Keeping Force.

•The USAMRIID-developed tularemia vaccine was sent to Italy by request of the Italian Government to protect humans from an epidemic.

•Vaccines developed at USAMRIID, Huxsoll added, are provided to "at-risk" researchers throughout the United States, Asia, Europe, Africa, Australia and North and South

Medical technician uses an automated chemistry analyser for samples used in tricothecene research program at USAMRIID.

America.

• In 1989, USAMRIID rushed vaccine to San Francisco in a matter of a few hours to save a baby from infant botulism.

• In 1990, a university hospital in Sweden requested USAMRIID expertise in diagnosis and treatment for a patient, who had recently returned from Africa and was thought to have Ebola hemorrhagic fever. The patient was in shock, near death, and could not be moved. A team of one physician and two nurses flew within 24 hours of the request, accompanied by the portable patient isolation equipment. The USAMRIID team trained the hospital staff in high containment (BL4) patient care. The patient survived.

USAMRIID has hosted and sponsored a variety of national and international scientific conferences and symposia on topics including: toxins, botulism, hemorrhagic fever viruses and plague. Its scientists author more than 100 articles each year in refereed scientific journals. They also are invited

speakers and session organizers at numerous scientific meetings in the U.S. and abroad.

In 1982, USAMRIID's maximum containment treatment facility was called on the provide care for two researchers from the U.S. Center for Disease Control in Atlanta. The men were exposed to partially thawed rat blood, which was contaminated with Lassa fever virus. Lassa fever is an African hemorrhagic disease, which USAMRIID has been studying for more than a decade. The men were quarantined for more than 15 days. The patients were released and pronounced free of any signs of the disease. During the same period of time three other patients were isolated in the ward after having been exposed to Lassa fever. They, too, were released after quarantine, free of the suspected disease.

In 1989, USAMRIID's expertise was called on by the Virginia Department of Health and Hygiene when a commercial laboratory animal holding facility in Reston, VA, experienced an outbreak of an Ebola virus in its primate population. The potentially devastating outbreak was quickly handled by USAMRIID personnel, preventing what health officials feared could have a terrible effect on humans.

In October 1990, the USAMRIID became a staging area for shipping drugs, vaccines, diagnostics and laboratory equipment and supplies for medical support of Operation Desert Shield. By the end of the Operation Desert Storm, six teams had been organized, trained and equipped to join Theater Area Medical Laboratories for diagnosis of biological warfare and endemic disease threats. Special studies were begun to formulate medical doctrine on use of anthrax vaccine in conjunction with antibiotics, immunization with botulinum toxoid and immunoglobulin therapy for botulism. Protocols for the use of antiviral drugs to prevent or treat endemic infectious diseases were also prepared.

USAMRIID's science and technology base serves to address current threats to U.S. military personnel and is an essential element in the medical response to any future biological threats which may confront the men and women of the U.S. Armed Forces.

President Richard M. Nixon greets public outside former Fort Detrick Headquarters, Building 812, during visit November 1972. Nixon's announcement changed face of Fort Detrick, saying the U.S. was "beating its swords into plowshares." He established Frederick Cancer Research and Development Center in former Army laboratory buildings.

Chapter 13
Frederick Cancer Research Center

On October 19, 1971, President Richard M. Nixon's helicopter touched down on Fort Detrick's parade field, now Blue and Gray Field, at midafternoon. He was accompanied by a large number of aides and secret service agents as he strode toward the Post Headquarters, Building 812. He entered by the back door, spoke to Anna Hahn, the commander's secretary, and Louise Trout, who were allowed to remain in the building. He met with the commander, Col. Floyd B. Mitman, Jr., in his office and conference room.

With President Nixon was Senator Charles McC. Mathias (R.-MD.), who was seeing the culmination of an extensive lobbying effort on his part. He had convinced President Nixon to retain Fort Detrick and its specialized research facilities. Also in the official party were Senator J. Glenn Beall (D.-MD.), and Rep. Goodloe E. Byron, Jr. of Maryland's 6th District. They joined in the full-blown media event because their constituents were going to absorb less of an economic blow than originally thought. The crowd milled around outside the front entrance to Building 812 waiting for the President to emerge. When he did, he immediately went to the crowd and told them the good news.

Nixon announced he was creating the Frederick Cancer Research Facility of the National Cancer Institutes. It was to be the leading facility in the fight against what he called, ". . . America's No. 1 enemy - Cancer!" Nixon proclaimed that the new center's utilization of former Army biological warfare buildings was a clear message that America could and indeed was beating its swords into plowshares. Establishing the new research center in former Army laboratory buildings was a bold stroke, which took advantage of existing facilities, which could not be duplicated at any other location for less than $1 billion. It meant new job opportunities for hundreds of displaced Fort Detrick employees.

In the succeeding years, the center has changed its name twice and today is known as the Frederick Cancer Research and Development Center.

Approximately 70 acres and 67 buildings became the new campus of the Frederick Cancer Research Facility, on the Frederick Cancer Research and Development Center (FCRDC). Most buildings have undergone major renovation in the years since 1973, when FCRDC actually opened its doors. This afforded the National Cancer Institutes (NCI) the opportunity to establish highly flexible laboratory operations in government space relatively close to the National Institutes of Health (NIH) campus in Bethesda, MD.

The center has become an internationally recognized center of scientific excellence. This has been the result of the coordinated efforts of government scientists and NCI-FCRDC contractors working to achieve rapid progress against cancer and Acquired Immune Deficiency Syndrome (AIDS).

During the first decade, a single contractor operated the center. Starting in September 1982, the contract was divided into five functional components consisting of a basic research contract program and four other distinct contract areas, which support all government and contract activities on the Fort Detrick campus.

The following NCI divisions have intramural, extramural and clinical activities at the center: Division of Cancer Etiology (DCE); Division of Cancer Treatment (DCT); Division of Cancer Biology, Diagnosis and Centers (DCBDC); and Division of Cancer Prevention and Control.

Contractors also provide support for laboratories of the National Institute of Neurological Disorders and Stroke (NINDS) and the National Institute of Allergy and Infectious Diseases (NIAID).

Contractors include:

–Program Resources, Inc., which is responsible for operations and technical support. Dr. Raymond V. Gilden is director.

–Advanced BioScience Laboratories, Inc. (ABL), a division of Organon Teknika of Durham, NC, operates all the ABL-Basic Research Program with approximately 140 scientists and a technical and administrative staff of 70. Dr. George Vande Woude is principal Investigator and Director.

–Data Management Services, Inc., of Frederick, (DMS),

is responsible for providing computer and statistical support services to the government and contractor programs. Project Manager is Lawrence E. Callahan. Susan W. Wilson is Project Manager for the scientific library.

–Harlan Sprague Dawley, Inc. (HSD), a commercial producer of laboratory rodents, operates the animal production program. More than 800,000 rodents, principally inbred mice, are distributed locally and across the nation. Multiple, redundant facilities and colonies are maintained to safeguyard an uninterrupted supply of healthy, uniform research models.

Cancer research now includes a working relationship with Frederick Memorial Hospital that has resulted in perhaps the leading treatment and research facility in the United States. It continues to have a collaborative relationship with U.S. Army Medical Research and Development Command and its Walter Reed Army Institute of Research (WRAIR), especially in work aimed at developing a vaccine for AIDS.

Actual employment figures for government employees and contractor personnel amount to nearly 2,000 within the FCRDC campus.

All operations are linked to U.S. Army utilities, especially the boiler plant, steam sterilization system, water treatment plant, waste water treatment facility and electrical power.

Dr. W. H. Kirsten, associate director for NCI-FCRDC, died unexpectedly in December 1992, but a replacement had not been named in March 1993. In 1993, key personnel included Dr. Cedric Long, general manager/project officer, Richard C. Carter, deputy general manager, and Ronald H. Defelice, chief contracting officer.

EPILOGUE
To the Year 2,000

The year 1992 marked the seventh consecutive year Fort Detrick was named to represent U.S. Army Health Services Command in the Army Installation of Excellence competition.

In 1986, Fort Detrick was among five finalists throughout the Department of Defense in the first version of the competition, which sought to recognize and encourage installations to be innovative in serving its population.

Fort Detrick was presented a check for $25,000 in 1991 for its final standing in the honorable mention category. Again in 1992, Fort Detrick was named an honorable mention installation with a prize of $50,000 to be used for projects to enhance the Quality of Life.

In the time period 1980 to 1993, Fort Detrick's World War II contonment type facilities started to be replaced by modern structures. The Goodloe E. Byron Building (812) was completed and occupied by the commander and several organizations of Headquarters U.S. Army Garrison in 1987. In 1993 it was complete with a state of the art telephone switch and communication center. It was occupied by such key U.S. Army Garrison functions as the installation commander and command group, Directorate of Resource Management, Directorate for Plans, Training, Operations, and Security, Director of Civilian Personnel, Director of Personnel and Community Activities, Public Affairs Office, Internal Review and Compliance, and Audio Visual Support Center.

Quality of Life services at Fort Detrick in 1993 included the new Child Development and Religious Education Facility, Commissary, Post Exchange, Youth Center and Auto Craft Shop, Community Activities Center, Family Counseling Center, Fitness Center, Field House, pool, tennis courts, racquet ball court, Arts and Crafts Center and other off-duty type activities.

On-post housing included 155 sets of family quarters, including the Nallin Farm House, Nallin Caretaker's House, Stonewall Jackson Beall House and the Beall Farm Bungalow. Quarters included multiple family units for enlisted personnel

and their families and officer personnel and their families. All of the quarters have undergone major renovation in the past decade. Other major improvements have been made to existing structures housing the 25 separate tenant organizations. World War II era temporary structures are being systematically torn down as new projects have replaced them.

The master plan includes scheduled major construction to accommodate tenants, which still occupy temporary or former laboratory structures. In a document prepared in 1986 for Fort Detrick by a historical architect, it reported, "Of the original 245 structures erected during World War II for the research and production facility, 98 are still in existence. Many of the laboratories and pilot plant buildings where research contributed significantly to scientific understanding, are still standing, although most of the original equipment has been removed. The earliest laboratory buildings were wood frame structures. The yellow glazed tile construction of the buildings dating from 1944-45 reflect development in scientific research which dictated the use of building materials which were easier to clean and thus provided less hazard in research."

Headquarters, Medical Research and Development Command occupies several of the glazed tile structures, only one, Building 564, has not been altered structurally. The buildings were first built at Camp Detrick and were copied at other research locations around the world. The command is scheduled to have a new facility consolidating all its operations in the next few years.

One building not occupied is the One-Million Liter Sphere. The so-called Eight-Ball as constructed in 1952 and served many years as the major aerobiological research facility. It was added to the National Register of Historic Places in 1978. Its surrounding wooden structure, however, was burned to the ground in an electrical fire in 1974.

The 1110th U.S. Army Signal Battalion continues to occupy its original facility, but has since added on such support structures as the satellite control facility, the power generation and control facility, which monitors and maintains all power and environmental systems within the battalion

facilities; the structure housing the Eastern Area Gateway Station of the Military Affiliate Radio System (MARS); and the satellite earth station of the Direct Communications Link, the so-called "Hotline to Moscow." That facility is contractor operated by Bendix Field Engineering, Corp. It was opened in 1973 for operational testing and was accepted by the United States and Union of Soviet Socialists Republics (USSR) in 1978. In 1989 it underwent major renovations with the installation of state of the art equipment to support the Washington-Moscow communication link (using Russian satellites) and the new mission to assist in reducing the nuclear threat. With the dissolution of the USSR in 1991, the communication link continued to be maintained continuously with no break in service.

The 1110th Signal Battalion continued to be the focal point for 15 switching centers worldwide providing communication services to several government agencies. Its purpose was to provide long-haul communications channels for users.

Fort Detrick was considered to be important to the National Defense as it began its 50th year. Its value lay in the important communications center on post, the one-of-a-kind biomedical research and development facilities and in-place safety and utilities systems, the co-location of each of the Armed Services' medical materiel managers, the quality of its work force and its ideal location in Frederick, not far from the Seat of Government.

By 1993, only minimal impact had occurred at the installation from the Base Realignment and Closure actions. The U.S. Army Biomedical Research and Development Laboratory was realigned in the 1991 decision and the laboratory destined to be disestablished in September 1993. Its medical materiel function was transferred to the U.S. Army Medical Materiel Development Agency (USAMMDA). Its entomology mission was to transfer to WRAIR in October 1993. The health effects division of USABRDL was originially scheduled to transfer to Wright-Patterson Air Force Base, OH, but a study was being conducted to determine if the function should remain at Fort Detrick.

The Headquarters U.S. Army Garrison commander and

staff were well along in the planning stages of its strategic and business plans to cope during the period of "downsizing" projected for the Department of Defense. No information clearly stated what impact, positively or negatively, Fort Detrick and U.S. Army Garrison functions would be dealing with in the near future.

However, just as in 1968 when Mr. Clendenin wrote of the future impact of Fort Detrick on the Nation, it is still believed by many that no other facility could be constructed which would be able to support the types of work conducted on the installation each day. The answers will come, perhaps, in late 1993, but if the past 50 years are any indication, the Nation can expect to continue to benefit from the military and civilian team at Fort Detrick. The year 2,000 is viewed as an opportunity and an achievable milestone. It is apparent in 1993 that Fort Detrick continues to be on the "Cutting Edge" and excellence is a reality.

ADDENDA

COMMANDING OFFICERS OF FORT DETRICK

LTC William S. Bacon, CMLC
April 1943-Sept. 1943
COL Martin B. Chittick, CMLC
Sept. 1943-Feb. 1944
COL Joseph D. Sears, CMLC
Feb. 1944-Nov. 1945
COL H. M. Black, CMLC
Nov. 1945-Mar. 1946
COL Lloyd E. Fellenz, CMLC
Mar. 1946-June 1948
MAJ Harold J. Isbell, CMLC
June 1948-Nov. 1950
COL Fred J. Delmore, CMLC
Nov. 1950-Aug. 1951
COL Montescue T. Moree, CMLC
Aug. 1951-Aug. 1952
LTC Michael T. DeCarlo, CMLC
Aug. 1952-Mar. 1953
LTC John W. Fitzpatrick, CMLC
Mar. 1953-Dec. 1953
LTC Cecil D. Miller, CMLC
Dec. 1953-Mar. 1954
COL John J. Hayes, CMLC
Mar. 1954-Aug. 1957
COL Donald G. Grothaus, CMLC
Aug. 1957-Dec. 1959
COL Laverne A. Parks, CMLC
Dec. 1959-Aug. 1960

COL Carl S. Casto, CMLC
Aug. 1960-Aug. 1964
COL Vincent Ruwet, CMLC
April 1964-Oct. 1966
COL Peter G. Olenchuk, CMLC
Oct. 1966-July 1968
COL E. M. Gershater, CMLC
July 1968-July 1970
LTC Selvyn H. French, CE
July 1970-Aug. 1970
COL Floyd B. Mitman, Jr., CMLC
Aug. 1970-Jan. 1972
COL Herman E. Wienecke, CE
Jan. 1972-June 1973
COL William L. Bost, MSC
June 1973-Aug. 1974
COL Joseph A. Pastore, MSC
Aug. 1974-Mar.1976
LTC Lawrence J. Lescantz, MSC
April 1976-Oct. 1976
COL Robert M. Shaw, Jr., MSC
Oct. 1976-Oct. 1980
COL G. E. Chapin, Jr, MSC
Oct. 1980-Aug. 1983
COL Mark L. Hoke, MS
Aug. 1983-Aug. 1986
COL Richard W. Hauer, Jr., MS
Aug. 1986-Aug. 1989
COL Charles W. Churchill, MS
Aug. 1989-July 1991
COL Larry G. Johnson, MS
July 1991-

SCIENTIFIC DIRECTORS

Dr. Ira Baldwin, 1943
Dr. Leroy D. Fothergill (Captain, USN Medical Corps), 1944
Dr. Oram C. Woolpert, 1946
Dr. LeRoy D. Fothergill, 1952
Dr. John L. Schwab, 1953
Dr. Riley D. Housewright, 1956-1969

MEDICAL UNIT/USAMRIID COMMANDERS

COL William D. Tigertt, MC, 1956-1961
COL. Daniel Crozier, MC, 1961-1973
COL Kenneth Dirks, MC, April-August 1973
COL Joseph Metzger, MC, 1973-1977
COL Richard A. Barquist, MC, 1977-1983
COL David L. Huxsoll, VC, ,1983-1990
COL Charles L. Bailey, MS, June-September 1990
COL Ronald Williams, MC, 1990-1992
COL Ernest T. Takafuji, MC,1992

U.S. PUBLIC HEALTH SERVICE LIAISON OFFICERS

Captain Bernard B. Berger, August 1950
Captain John A. Rowe, October 1954
Commander Robert Holdenried, September 1957
Captain Boris J. Osheroff, July 1960
Captain Kenneth E. Hanson, September 1963
Commander Calvin E. Sevy, February 1967

SCIENTIFIC DISCIPLINES 1943-1993

MICROBIOLOGY

Aerobiology
Bacteriology
Genetic Engineering
Immunology
Molecular Biology
Medical
Mycology
Virology

CHEMISTRY AND PHYSICS

Biochemistry
Physical Chemistry
Aerosols (Physics)
Biophysics
Biotechnology

ENGINEERING

Aerospace
Biological
Chemical
Industrial
Mechanical
Sanitary

PLANT SCIENCES AND ENTOMOLOGY

Agronomy
Plant Pathology
Plant Physiology
Entomology

MEDICAL AND VETERINARY SCIENCES

Clinical Investigations (Infectious Diseases)
Epidemiology
Pathology
Vaccine Development
Veterinary Research

MATHEMATICS AND STATISTICS

Mathematical models
Bioassay
Design of experiments
Multivariate analysis
Digital computer sciences

FORT DETRICK TENANT ACTIVITES AND ORGANIZATIONS APRIL 1993

U.S. ARMY MEDICAL RESEARCH AND DEVELOPMENT COMMAND

COMMANDER: MG Richard T. Travis
DEPUTY COMMANDER: COL C. Fred Tyner
SENIOR ENLISTED: CSM Johnny M. Williamson

U.S. ARMY MEDICAL RESEARCH INSTITUTE OF INFECTIOUS DISEASES

COMMANDER: COL Ernest T. Takafuji
DEPUTY COMMANDER: COL David R. Franz
SENIOR ENLISTED: SGM Raymond Alston

U.S. ARMY MEDICAL MATERIAL DEVELOPMENT ACTIVITY

COMMANDER: COL George E. Lewis Jr.
DEPUTY COMMANDER: COL Donald Harrington

U.S. ARMY BIOMEDICAL RESEARCH AND DEVELOPMENT LABORATORY

COMMANDER: LTC Joel T. Hiatt
DEPUTY COMMANDER: Major Terry T. Allmond
SENIOR ENLISTED: SSG Troy G. Horine

U.S. ARMY MEDICAL RESEARCH ACQUISITION ACTIVITY

COMMANDER: LTC John L. Chaffee
DEPUTY COMMANDER: MAJ Grace M. Uzomba

U.S. ARMY MEDICAL MATERIEL AGENCY

COMMANDER: COL Richard I. Donahue
DEPUTY COMMANDER: LTC James J. Canella
SENIOR ENLISTED: MSG Yoshiharu Shino

153RD MEDICAL DETACHMENT

COMMANDER: 1LT Michelle M. Whitehead
DEPUTY COMMANDER: (Vacant)
SENIOR ENLISTED: SFC Ivan D. Diggs

U.S. AIR FORCE MEDICAL WARTIME HOSPITAL INTEGRATION OFFICE

COMMANDER: COL Darlene A. Grubor (USAF)
EXECUTIVE OFFICER: TSgt Valerie Reynolds

ARMED FORCES MEDICAL INTELLIGENCE CENTER

DIRECTOR: COL Edward J. Koenigsberg (USAF)
DEPUTY DIRECTOR: Mr. Richard A. Duchateau

U.S. AIR FORCE MEDICAL LOGISTICS OFFICE

CHIEF: COL John E. Holes (USAF)
SENIOR ENLISTED: CMSgt Al Christian

DEFENSE MEDICAL STANDARDIZATION BOARD

STAFF DIRECTOR: CPT William M. Houk (USN)
DEPUTY STAFF DIRECTOR: COL John W. Klish (USAF)

1110TH U.S ARMY SIGNAL BATTALION

COMMANDER: LTC Susan J. Melvin
DEPUTY COMMANDER: MAJ James R. Fisher
SENIOR ENLISTED: CSM Bernard Pinckney

COMPANY B, 4TH LAI BATTALION, 4TH U.S. MARINE DIVISION (USMCR)

INSPECTOR/INSTRUCTOR: CPT Vince Fiammetta
FIRST SERGEANT: Bradley E. Mann

FLAIR U.S. ARMY RESERVE CENTER

COMMANDER: CPT Kenneth L. Wright
DEPUTY COMMANDER: 1LT Ronald E. Frame
SENIOR ENLISTED: SFC Spencer L. Hayes

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COMMANDING OFFICER: CPT David H. Fisher (USN)
EXECUTIVE OFFICER: CPT Tommy W. Cox
COMMAND SENIOR CHIEF: HMCS Terrence P. Tracy

U.S. ARMY SPACE COMMAND, CONTINENTAL UNITED STATES

DIRECTOR: Mr. James Hickman
COMMANDER: CPT Tonney A. Chandler
SENIOR ENLISTED: SFC Donald R. Creten

U.S. DEPARTMENT OF AGRICULTURE, AGRICULTURAL RESEARCH SERVICE

LOCATION COORDINATOR: Dr. Norman W. Schaad
ADMINISTRATIVE OFFICER: Ms. Beth Harrington

NATIONAL CANCER INSTITUTE'S FREDERICK CANCER RESEARCH & DEVELOPMENT CENTER

ACTING ASSOCIATE DIRECTOR: Dr. Richard H. Adamson
GENERAL MANAGER: Dr. Cedric Long
ASSISTANT PROJECT MANAGER: DR. B.J. Gabrielsen
DEPUTY GENERAL MANAGER: Mr. Richard C. Carter

DEFENSE LOGISTICS AGENCY/BALTIMORE

CHIEF: Mr. James M. Keating
SECRETARY: Ms. Kay Horman

HEADQUARTERS COMPANY, FORT DETRICK

COMMANDER: CPT Saul Ford, Jr.
1ST SERGEANT: 1SG Steven Schoolfield

HEADQUARTERS, U.S. ARMY GARRISON

COMMANDER: COL Larry G. Johnson
CHIEF OF STAFF: LTC Gordon V. Bryant, Jr.
COMMAND SERGEANT MAJOR: CSM Donnie O. Gibson
SECRETARY: Mrs. Gloria J. Crowl

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INSPECTOR GENERAL:
MAJ Donald Smathers
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Mr. Norman M. Covert
CHAPLAIN:
CH (MAJ) Jeffrey S. Mercer
EQUAL EMPLOYMENT OPPORTUNITY:
Mr. Raymond O. Meinelschmidt
INTERNAL REVIEW & COMPLIANCE:
Mr. Ronald E. Hilderbrand

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Acting Director March 1993, Mr. Ronald R. Pace
INFORMATION CENTER
Chief: Mr. Ronald W. Long
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Chief, Mr. Ronald R. Pace

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Chief, Dr. Henry Erbes
FIRE PROTECTION DIVISION
Chief, Mr. Daniel L. Whitfield

INSTALLATION SAFETY DIVISION
Manager, Mr. Rudolph Spencer

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DEPUTY DIRECTOR: Mr. Raymond V. Delorme
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Chief: Mr. Raymond V. DeLorme
ENGINEERING RESOURCES MANAGEMENT DIVISION
Chief: Mr. George M. Brooks
HOUSING DIVISION
Chief: Mrs. Betty J. Englehart

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Acting Director, Mr. Larry C. Dutton
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Mr. Frank Goss
SECURITY DIVISION
Ms. Linda E. Young

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SUPPLY AND SERVICES
Chief: Mr. Danny Starliper
TRANSPORTATION DIVISION
Chief: Mrs. Kaye L. Murray

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PROVOST MARSHAL: Mr. William D. Freeman, Jr.
LAW ENFORCEMENT DIVISION
Captain Robert W. Sheaffer
INVESTIGATIONS
Mr. James R. Bewley
PHYSICAL SECURITY
Mr. Wayne N. Beckett

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Fort Detrick
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Years of Excellence
1943 - 1993