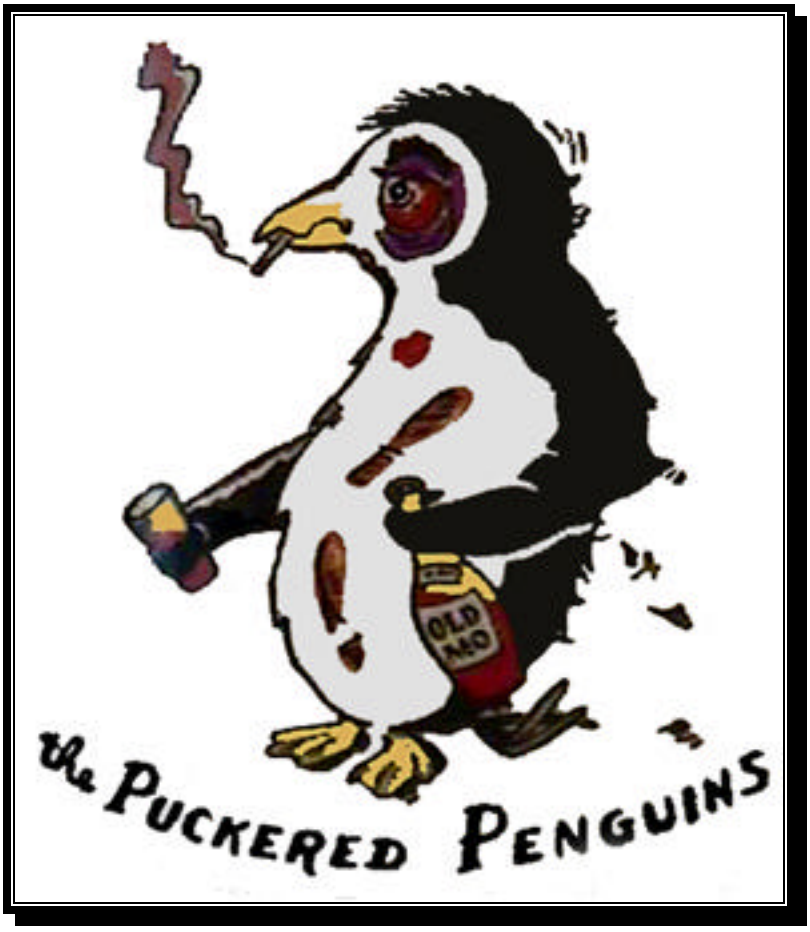
Flight of the Puckered Penguins

Operation Deepfreeze II, 1956-57



by

CDR James Waldron, USNR (Ret.)

Brief Biographical Sketch of
Commander James Edgar Waldron, U. S. Naval Reserve (Retired).

The author, James Waldron, in furs. Taken at Little America Five (LAS V)

Commander Waldron was born on May 19, 1925 in New Orleans, Louisiana, U. S. A.

Before entering the U.S. Navy in January 1943 he attended St. Aloysius High School and Loyola University of the South. He entered the Navy under the Aviation Cadet Program and received his Navy Wings and commission as an Naval Ensign in May 1945. He trained to be a Navy fighter pilot in F6F Grumman Hellcats and qualified aboard an aircraft carrier at the end of his training.

When Japan surrendered and the war's fighting ended he was transferred to Carrier Aircraft Service Unit Twenty-One (CASU-21), at Naval Air Station, Norfolk, Virginia where he spent the remainder of his first active duty period as a ferry pilot. He was released from active duty in May 1946 and enrolled in Tulane University. In 1948 he enrolled in Southwest Photo Arts Institute and in 1950 he was graduated as a commercial photographer. He then proceeded to Colorado Springs, Colorado where he received

training and worked as a photolithographic cameraman and pressman. During this period of inactive duty he continued flying fighter aircraft in the Naval Reserve.

At the start of the Korean War he volunteered for active duty and was recalled to duty in June 1951. He received training in helicopters and in December 1951 he was ordered for duty to Helicopter Utility Squadron Two (HU-2), where he was assigned to several successive aircraft carriers as an Air/Sea helicopter rescue pilot. In May 1954 he was ordered to Helicopter Training Unit One (HTU-1), Pensacola, Florida for duty as a helicopter flight instructor.

After two years of instructing neophyte helicopter pilots he volunteered for duty in Operation Deep Freeze Two and was accepted for the 1956-1957 operation. He reported to Air Development Squadron Six (VX-6) at Naval Air Station, Quonset Point, Rhode Island in June 1956 and received flight training in the R4D (C-47) Dakota aircraft and the HO4S Sikorsky helicopter. In August 1956 he departed for the Antarctic as a copilot on an R4D Dakota aircraft.

During the sixteen months he remained in the Antarctic he flew many flights to remote locations, including the South Pole Station (10,000 feet above sea level). He also flew many helicopter flights in and about Little America Five in support of the scientific community studying the Antarctic phenomena. After returning to the United States he was ordered for duty to the Operations Department of Naval Air Station, Port Lyautey, Morocco. During his two years in North Africa he flew many R4D transport flights and performed many helicopter rescue missions in the helicopter. When the Sebou River flooded on two separate occasions he flew around-the-clock helicopter missions rescuing dozens of Moroccan natives inundated by the floods.

In 1960 he was ordered to the Naval Air Development Center, NAS Johnsville, PA. and for three years he worked as Projects Officer for the Anti-Submarine Warfare Laboratory. During this assignment he flew Research & Development flights in the C-47, the P2V, the H-34 and the H-3 type aircraft, all in support of the engineering programs carried on at the Center. In 1964 he was ordered to Helicopter Combat Support Squadron One (HC-1), Naval Air Station, Ream Field, California. He was assigned as Projects Officer for the all-new Helicopter Vertical Replenishment Program. He and his assigned pilots and air crewmen accepted the first UH-46A helicopters from the Vertol Aircraft Corporation for the Navy and they deployed as a group to NAS Atsugi, Japan, where they initiated the first heavy-lift Vertical Replenishment helicopter operations in the Navy. Mr. Waldron also assumed the duties as Officer-in-Charge of the helicopter detachment in Atsugi, Japan.

Besides vertical replenishment his detachment also provided utility helicopters for ships operating in the Western Pacific during the Vietnam War. In 1967 he was selected for Commander. In 1969 he was ordered to become Aircraft Maintenance Officer of Helicopter Training Unit One (HTU-1), where he was responsible for the maintenance of approximately 150 helicopters used in flight training of new pilots. In 1969 he was ordered to the Amphibious Operational Training Unit, at Little Creek, Virginia, where he oversaw the operational training of amphibious ships in the Norfolk area. After a year he was appointed as Executive Officer of the this training unit.

On June 30, 1970 he retired from the U.S. Navy. Since that time he has trained in computers at Christopher Newport College and in 1971 he went to work for the Veterans Administration as a Veterans Benefits Counselor in Veterans Administration Hospitals at Hampton and Richmond, Virginia. He retired from Federal Civil Service in May 1987 and presently resides in Richmond, Virginia with his wife, Merle. Between them they have six grown children.

Table of Contents

Introduction

Passage over the Southern Pacific Ocean as it sweeps past the Antarctic Continent presents the mariner with some of the fiercest and most terrifying weather conditions in the world. Untold seagoing men have braved these turbulent waters; some have survived and some were never heard from again.

Our approach to Antarctica took place at 10,000 feet of altitude but our height did not spare us from the fury of the storm raging on the surface. At times it took both pilots working together just to maintain a level attitude. The updrafts from the icy storm kept trying to roll us upside down and draw us down to those freezing waters. The struggle against these uncommonly high winds and violent updrafts lasted for several long hours adding considerably to our weariness once the sixteen hour flight between the South Island of New Zealand and McMurdo Sound, Antarctica was concluded.

After many wearying hours we finally broke free of this backbreaking turbulence and we found it less of a struggle to keep the aircraft headed toward that land of ice. For a long time we flew through a starless sky, an ink bowl of darkness, but we were somewhat consoled in being able to think of something other than keeping the aircraft from crashing into the Antarctic waters below.

Sometime after midnight New Zealand time a thin sliver of colored light appeared on the horizon announcing the approach of that vast continent of snow and ice and its twenty-four hours of sunlight. Slowly the sliver became longer and taller and its color went from a gray glow to bright orange. It was like nothing I had seen before. I had previously flown into beautiful sunrises and sunsets but this time it was a different experience. The glow had a mystic charm, a patch of color that beckoned one to wish for more. Ever so slowly the glow started taking on specific shapes and faint outlines of mountains became discernible. The orange color soon brightened into a soft whiteness and when it did the eye could discern greater details of the enormous mountains stretching before us.

I was seeing for the first time a land of almost total ice that was to become my home for the next sixteen months. I didn't think, at the time, of the consequences of a crash landing in those craggy, frozen peaks or of the possibility that I might sometime have to exist on the surface with survival measured in days or hours of supreme cold. I could only think that here was the start of my great adventure, an adventure that would be like no other I might ever have to face again. Here I would live and grow in experience.

Here I would face difficult and dangerous flight conditions that severely taxed my flying abilities. Here I would suffer frustration, boredom and loneliness. Here I would find part of myself, a degree of self-reliance, that had often escaped me in the past. Here I would come alive as I had never felt alive before.

Read with me as I journey through those distant skies where many might have wished to go, but few were able to make the sacrifice of time and energy necessary. I was never

disenchanted with my Antarctic experience, though it seemed at times like a time without end.

I hope you find the story as absorbing in reading it as I found in living it.

Sincerely,

Jim Waldron

Note:

The title of this book refers to my squadron's nickname, "The Puckered Penguins," a name that downplays the heroics of our Antarctic flying exploits and indicates that as aviators we were as worn out as the ancient aircraft we flew. Our squadron insignia (see the cover) showed a bedraggled and molting penguin with bloodshot eyes, holding a half-consumed glass of brandy in one hand and a bottle of "Old Mo" brandy in the other. A cigarette dangles from his mouth and he appears to be suffering from a severe hangover.

Note: The "Antarctic Notes" appearing at the end of the early chapters of this book are from *Compton's Encyclopedia, Online Edition****, downloaded from*** *America OnLine****, May 4, 1994.***

Chapter 1:
The Adventure Begins

Going to the Antarctic in 1957 was a lot different than if you were going there today. In 1957, the United States had not achieved any of the successes in space travel that occurred in the 1960s and continued through the present time. Long range, cargo-carrying, ski-equipped aircraft did not exist and our first few years on the continent had to be taken with aircraft lacking the capabilities of today's aircraft.

In 1957 Antarctica was still a mysterious continent and if one thought of the place at all it was with a vision of endless reaches of ice and intolerable cold. Explorers had visited the continent from time to time and some had even stayed over during a winter or two, but because of their transportation limits and the paucity of their resources, their overall knowledge of the continent was limited. In actuality, the Antarctic Continent is as large as the United States and Mexico combined, so major areas of this vast continent were still unexplored as of our start in 1957 when I began my sixteen months on the Ice.

In late spring of 1957 I was just ending my second year as a helicopter flight instructor in Pensacola, Florida, when the Navy announced that flight instructor tours were being extended from two to three years. This came as a disappointment to most of us flight instructors because the job of training neophyte helicopter pilots was a dull, repetitive business. All of us longed for the excitement of sea duty and the extending of our instructing duty to three years was a real drudge. I had found myself in a situation where there were days following more days, when training maneuvers were repeated over and over again, in a seemingly endless pattern. Eventually, the faces of the students I instructed soon seemed to look the same and the mistakes they made all followed a similar pattern.

I had been looking forward to going back to sea duty, where the missions varied from day to day and there were always new challenges to be met. The prospect of being a flight instructor for another whole year was grim news. So I thought it was a godsend when the Navy announced that they were looking for a few volunteers to participate in Operation DeepFreeze II. Helicopter pilots stood high of the list of the types of volunteers needed. The only negative aspect of this announcement was that volunteers had to show they were willing to winter-over on the Antarctic Continent, increasing their stay on the Continent to as much as a year and a half. I did not relish the idea of being on isolated duty for such a lengthy period of time but I surmised that it would greatly increase my chances of being chosen for my next higher rank if I were to volunteer for wintering-over. I didn't know if this was a fact, but it did give me a boost to volunteer for the new duty.

My first step in the process of volunteering was to present the idea to my wife. "Darling! A great opportunity for an adventurous sea duty tour has arisen and I wanted to float it by you for your advice and OK, before I place my name in the hat." My wife, who

always looked forward to my transfers, suddenly looked excited. First, I told her how they needed helicopter pilots for exploration of the Antarctic Continent. This got her attention because she was very interested in the advancement of my aviation career. Next, I told her that the tour on the Continent was one that would keep me away from home for about a year. This didn't set too well with her, at first, but as she thought of it more she came to realize that I wasn't getting anywhere professionally as a flight instructor and a difficult challenge, such as I would be getting as an explorer of the Antarctic Continent, might prove valuable in getting future promotions. She soon came to agree that the change in duty stations was not so bad an idea and like all good Navy wives she was soon looking forward to getting on the road again.

From the talk around the flight instructor's ready room, I gathered that several of my fellow aviators were considering applying for Operation DeepFreeze II, which might have made the selection of helicopter pilots for the program quite competitive. When I learned a few weeks later that I had been selected for the job, and none of my fellow pilots at Ellyson Field were on the same list I was quite surprised. I believe now that much of the talk I heard around the ready room was just that and no more. When it came to actually volunteering I am sure that most of them considered that the year or two spent chasing adventures was not worth the time away from family and the seagoing Navy. Looking back these many years later I feel that the time I spent in the Antarctic to have been a great developer in my flying ability and also my self-image. I was never sorry that I decided to place my name in the hat for this most marvelous adventure.

DeepFreeze I and DeepFreeze II, plus all the DeepFreeze operations that followed were joint military exercises which supported the International Geophysical Year, a worldwide effort by the scientists of the world to take a close look at the world, from one end to another, over an entire year, much like a head to toe examination of a patient by a medical doctor. The U. S. Navy was assigned logistic responsibilities for all Antarctic operations. Men, ships, aircraft and millions of tons of equipment and supplies would be applied toward searching out the far reaches of this enormous, unexplored land. Scientists and other observers would be placed at appropriate sites, so that they could study various scientific aspects of this frozen continent. These men would study the weather, the movement of ice, the geology of the land below the ice, the animals and plant life, and dozens of other characteristics of the Continent, increasing our knowledge of this almost unknown place.

When my orders arrived I was given a very short notice to quit my assignment in Pensacola, and report for Antarctic flight training at Quonset Point Naval Air Station in Rhode Island. It did not, however, take much in the line of encouragement to get myself and my family packed and ready for the move. This all came about in the month of June 1956 and since the squadron in Rhode Island was scheduled to leave for the Ice in late August of that same summer and because of the specialized flight and survival training I would need to complete before the squadron headed south it was important that I report for duty as quickly as possible. ***1 & 2***

My wife and our young daughter accompanied me as we departed Pensacola, bound for Air Development Squadron Six (VX-6). We placed most of our major household

goods in storage for the two years I expected to be attached to the squadron. My wife decided that she would remain with me in Rhode Island while I was preparing to leave for the Antarctic, however, once I left for the Antarctic Continent, she would move to Georgia, where she would live with her sister . Most certainly she hated to have me gone for so long but she knew that separations were a necessary part of the Navy life I had chosen. As I did on my previous tours of duty, I always kept her aware of my adventures through my letters and my photographs. In this minor way, she shared in my experiences and it made the wait for my return a bit more tolerable

Air Development Squadron Six (VX-6), turned out to be a very "mixed bag" as compared to other Navy squadrons and I was to find that it take much getting used to. First, the squadron was made up with pilots and flight crews from all parts of the Aviation Navy. There was a large number of aircraft types needed to accomplish the Antarctic mission. There were P2V Neptunes, the R4D Skytrains, the UC-1 Otters, the HO4S Sikorsky helicopter, and R5D Skymasters. The squadron also had a UF-1 amphibious aircraft but it never flew to the Antarctic. Each of these aircraft types had a different mission and each crew had to be given a different brand of training. The squadron even had parachutists as part of our working group; also there were several Marine Corps pilots attached to the squadron. The extra long-range R5D aircraft were to be used for aerial mapping of the inner reaches of the Continent. The P2V aircraft were fast moving, ski-equipped aircraft which could carry small cargo loads and a few personnel to distant reaches of the Antarctic. The UC-1 aircraft were short-range ski-equipped aircraft which were used for supplying fuel and supplies to the Trail Party, which would come into being late in the summer. Helicopters, such as the HO4S, were to be used for rescue work, short-range cargo transfers, and aerial surveillance. Lastly, there was the R4D aircraft (now called the C-47), which was the workhorse of the squadron. Those of us who flew the R4D saw much of the Antarctic Continent from low altitude and we covered more mileage and saw more of the rugged beauty of that Continent than all the other aircraft crews put together.

I had previously been in several squadrons of the U. S. Navy and was accustomed to the various types of officers needed to fill a squadron roster. Squadron VX-6, however, proved to be a lot different than anything I had experienced before. In a search for qualified aviators for long-range Antarctic flying, pilots were selected who had accumulated thousands of hours in multi-engine aircraft and those who were selected were most often pilots who came originally from the enlisted ranks. These men were all officers, however, they made the transition to officer rank by promotion from the enlisted ranks, rather than through the usual line officer selection routes. I had worked over the years with many of these "mustang" officers and I believe that I learned a lot from them, since they were accustomed to spending long hours in the air, doing a lot of the tedious work of flying, while leaving most of the administrative work to others to accomplish. They were first and foremost riveted to the aircraft they flew and they were able to discover many of the nuances of flying that other aviators seldom managed to learn.

I was assigned to fly as copilot on one of four R4D's which were to be used for the initial South Pole landings and for the establishment of all the remote bases on the

Continent. Lieutenant Commander Eddie F. was to be my Aircraft Commander so he was made responsible for my introduction to R4D flying. Eddie was the only R4D Aircraft Commander who had not come up through the enlisted ranks. I believe that this distinction led to some of Eddie's difficulties as our time on the Ice slid by, but more of this later. Once my very brief R4D flight introduction was completed I was scheduled to remain as Eddie's copilot for the entire first summer on the Ice.

The R4D's would make most of the cargo and personnel flights at the beginning of the summer, however, once operations got underway the Air Force C-124 aircraft were scheduled to deliver vast quantities of cargo which they air-dropped by parachute to remote inland bases across the Continent. The C-124 was not ski-equipped, so it was left to the R4D's and the P2V's to deliver passengers and fuel to remote campsites around the Continent when landings were required.

My assignment to an R4D flight crew came as a surprise because I had applied for the Antarctic mission as a helicopter pilot and I hadn't realized that I would be considered for anything else. I had never flown transport aircraft so it seemed strange that I should have been relegated to being a copilot in something as ancient as an R4D. Looking back now, I can see that my assignment to the R4D gave me more career versatility because for the rest of my flying career I would not be limited to helicopters and single engine aircraft. At the time, however, I was very upset knowing that I would have to assume the role of a green copilot of an R4D for a good part of my Antarctic stay. Most of my flight experience up until 1957 had been as a fighter pilot and a helicopter pilot but for the while I was scheduled to go to one of the most demanding of places on this good Earth as a green transport copilot. It just did not seem right at the time.

My helicopter experience was not to be ignored by the squadron because I was to be the only fully qualified helicopter pilot at my wintering-over station, Little America V, during the long winter months to come and there would be more than enough adventure for me in a helicopter flying role when summer R4D flying on the Ice came to an end. I was scheduled to winter at the Little America V Station and it was figured that I would find many helicopter flight missions when the proper time arrived.

Learning to fly the R4D (C-47 Skytrain type aircraft) did prove to be an advantage to me in later years because there was always one or more of these durable aircraft on board every naval facility where I was stationed and I seemed to be in constant demand when pilots were needed to transport personnel and cargo. The R4D was slow when compared to other aircraft of the time but it was a reliable and forgiving airplane, and one which would get us through some very poor weather flying conditions. Eventually, I became an Aircraft Commander of the R4D, but this was after I left the Antarctic, so my long range, Over-The-Ice experience was achieved mainly as a copilot, yet it was sometimes a breathtaking experience.

Shortly after I had completed my check-in at the new squadron I was sent to Jacksonville, Florida to pick up a newly overhauled and winterized HO4S Sikorsky helicopter. I had never flown this type of helicopter but it was reasoned that I could familiarize myself with it on the two day flight back to Rhode Island. This type of flight instruction was not ideal considering I would be flying the machine under super-cold

conditions, but since I was a high time helicopter pilot I had the advantage of experience in other types and my adaptation to this new type helicopter was completed quite rapidly. Before leaving for the Antarctic I was able to accumulate several more hours of flying in this helicopter, so when I got to fly the HO4S again on the Ice I fitted myself into the cockpit without any problems. ***3, 4 & 5***

After the ferry flight from Jacksonville, Florida, I was scheduled for my first training flight in the R4D. Since summer in the Antarctic happens six months later than summer in the Northern Hemisphere, I could expect to be a member of Eddie's flight crew from August 1956 through February 1957. Before leaving for the Antarctic I made nine flights in the R4D, but only four of these flights were purely for training purposes. Eddie used the two flights to demonstrate single engine and twin engine characteristics of the R4D. It was enlightening but hardly adequate as the only formal R4D flight training I received at Quonset Point before leaving for the Ice. Most of my flight experience in the R4D had to be gotten as we made our way to the Antarctic and after that, while we flew on the Continent itself. In any case Eddie didn't seem to care much about giving me a real checkout; he knew that I was not slated to become an aircraft commander in the R4D while attached to the squadron so he only showed me enough of the aircraft's capabilities to make his flying job easier. It seems that if I were to become a full fledged R4D aircraft commander I would have to do it upon some subsequent tour of duty not while in VX-6.

Surprisingly my first R4D flight turned out to be a most memorable experience. What happened should have been a harbinger of the difficulties our flight crew would face once we left for the Ice. While Eddie was a qualified Aircraft Commander with excellent knowledge of the aircraft and its flight characteristics, he often reacted poorly when things became difficult in the air. When faced with unexpected situations, he often showed poor judgment and he often did things in the cockpit which placed the aircraft and flight crew in serious jeopardy. ***6***

Our first flight together proved to be a good example of how Eddie reacted to emergency situations. For the first hour and a half of our first flight he demonstrated how the aircraft took off and landed, how it flew on one engine, and what steps had to be done to handle in-flight emergencies. He allowed me to handle the flight and engine controls, so I could get a "feel" of the aircraft. Then he decided to try to lower the newly installed skis, which were attached to the regular landing gear. For landing on solid surfaces of a paved runway the skis would retract above the wheels so that they would not drag on the runway during landing and takeoff. For landing on the snow, the skis would be lowered below the wheels and the aircraft would slide along the snow.

Our aircraft had just been returned from the overhaul facility in Jacksonville, Florida and something went wrong in the hydraulics controlling the lowering and raising mechanism. Once the skis were lowered they refused to retract. Our crew chief tried adding more hydraulic fluid into the system, but because of an apparent break in the lines the fluid was quickly pumped overboard and skis refused to retract. Eddie called the tower at Naval Air Station Quonset Point and informed them of our emergency situation. Eventually squadron maintenance personnel arrived in the control tower and a lengthy discussion was held over the radio about what we might do to correct the situation. After

having exhausted all the in-flight attempts to raise the skis it was decided that we would have to try landing on the grass next to the runway to minimize damage to the skis and aircraft. Before landing, however, the crash crew from the station had to spread foam on the grass to "grease" our landing somewhat. Since this soapy mixture took about forty-five minutes to apply, we were instructed to circle the field and wait for a clearance to land. The foam landing should have given us a surface similar to landing on the Antarctic snow, so we should have experienced no difficulty in the landing except having to wait that forty-five minutes. That is what I thought, anyway.

During the wait, Eddie went over in great detail what each crew-member was expected to do during the landing. Eddie would tell the crew chief, when we were about to land, "OK, pour it now!" I was told to wait for a voice signal from the crew chief that he had poured the last can of hydraulic fluid into the system reservoir, at which time I was expected to pump furiously on the emergency hydraulic pump handle, which was next to my left leg. It was hoped that this would give us some wheel braking action, since a small bit of the landing wheels stuck out below the skis and this could help us come to a stop after the landing. We practiced these precautions, over and over, so things should have gone smoothly once we started our approach to a landing.

After what seemed like a lot more than forty-five minutes we were told by the control tower that the foam had been applied to the landing area and that we could start our approach. During our long wait the weather over the airfield had deteriorated greatly and when we started the downwind leg of our approach to the landing area a fast moving rain squall moved over the field and our forward visibility became very poor. Rain had started coming down quite hard. I thought that Eddie would delay his approach until the squall drifted past the field which would have taken but a few more minutes, but it appeared that his mind was set on landing right then and that was that.

About this time I noticed that Eddie had become visibly nervous and excited as we started our turn to the landing area. Still I thought he had himself in control, non-the-less. As the aircraft turned into the wind we entered the rain cloud and the details of the airfield ahead of us became very difficult to distinguish, however, Eddie continued his approach, flying partly on instruments and partly by visual means. As we got low and crossed the field boundary, the visibility improved somewhat and I could see that we were not lined up with the foamed grass area. It was here that I could see that Eddie was definitely rattled. He was sweating profusely and his movements were rough and uncoordinated.

Since we were not lined up with the foamed landing area, but aimed at a group of spectators who had gathered to observe our landing, I expected that Eddie would add engine power and make another try at approaching the field. Instead, he continued his approach, as though he was committed to landing on that approach. No matter what happened he was determined to land. Seeing that our flight path took us directly at the spectators they immediately started running to get out of the way. Still Eddie would not take a wave-off. Eddie called for the crew chief to pour his last can of hydraulic fluid.

There was another factor which made our approach dangerous, and that was our excessive speed. Eddie did not make enough engine power corrections as we turned on

the final approach and so we had far too much speed for a normal landing. We touched down hard on the wet grass but the skis did not dig in as I had expected. Maybe the wet grass made our landing smoother than what it would have been on dry grass. Still, we were going rather fast over the ground and ahead I could see a hill and for a few moments it appeared that we would not stop before we crashed into it.

The crew chief announced over the intercom radio that he had just finished pouring the can of hydraulic fluid and as I had been directed in our pre-landing practice, I started pumping away at the emergency hydraulic hand pump. At the last moment, as though by magic, the brakes seemed to take hold and we stopped just short of the hill we had seemed destined to crash against. Though the skis were down there was still enough of the tires protruding below the skis to give us some braking action and my hand pumping on the emergency hydraulic pump took effect. That was all that kept us from becoming another aircraft accident statistic.

The next half hour or so was both joyful and hectic. Everyone on the field was happy that we and the aircraft has survived without damage or injury, yet those who had to run to escape our ill-planned approach were less than kind to Eddie. From that day on he was the object of criticism from his fellow officers, especially the ex-enlisted pilots, and if they could have convinced the Commanding Officer of the squadron of his flying deficiencies they would have had him grounded for life. Whenever Eddie pulled one of his characteristic flight boners we came close to becoming an accident statistic, but the Good Lord was kind to us and we made it through despite Eddie's tendency to panic in tense situations.

Eddie and I were always good friends and we shared many good times together, so I do not wish to infer that we were at odds with each other. During normal times Eddie was an excellent pilot and I learned a lot about flying the R4D from him in spite of his faults. It was only these occasional, panicky moments in the air when Eddie showed he could not take pressure well, that his flying became dangerous. Some aviators are that way and most compensate for their condition by avoiding dangerous flying situations. Eddie was the exception; he picked a very dangerous flying mission when he volunteered to go to the Antarctic and he exposed himself, and his flight crew, to several situations which he could not handle satisfactorily.

Antarctic Facts

Antarctica contains 5,000,000 square miles of mostly ice covered land and mountains. The South Pole is on a plateau 10,000 feet above sea level. The average height of the continental plateau is 8,000 feet. The lowest temperature recorded was around minus 110 degrees Fahrenheit. There are no trees and very few plants. Valuable ores and oil have been discovered but are too remote to be collected.

Chapter 2:
Shortened Training Necessary

Air Development Squadron Six (VX-6) was the aviation arm of Operation DeepFreeze II and was the naval unit responsible for most flights to and from, and over the Antarctic Continent. The U. S. Air Force supplied the super-large C-124 GlobeMaster aircraft for supplying air-dropped equipment to the South Pole Station and other far flung stations on the Continent. The C-124 was not equipped to land on other than the ice runway at McMurdo Sound, so if there was something that had to be delivered such as personnel, liquid fuel or delicate electronics equipment which could not be air-dropped by parachute it had to be transported by either the R4Ds or the P2Vs.

The star mission of the entire DeepFreeze II summer period was the R4D flights to the projected South Pole Station. This mission required the delivering of personnel and equipment to a 10,000 foot high ice plateau where buildings were to be constructed to house the personnel who were to spend the winter months at “the loneliest spot on earth”. The R4D aircraft in use by the Navy was almost a duplicate of the commercial DC-3 Douglas Transport aircraft. It was not powered with supercharged engines which came into use in later years of Antarctic operations so it was necessary to have JATO rocket engines attached to the sides of the R4D to provide the extra thrust needed to get the aircraft off the ground when taking off from snow runways with heavy loads of cargo. The rocket engines, in particular, had to be used for takeoff from the Pole Station because the air there was so thin that the aircraft engines could not develop sufficient power to reach takeoff speed. Eighteen JATO racks had to be attached to the fuselage of each R4D aircraft and when ignited these rockets each supplied 1000 pounds of thrust for about sixteen seconds. This power delivered the extra push needed to get the aircraft into the air. After takeoff the pilot could jettison the empty JATO bottles, getting rid of their drag on the airframe.

One of the first flights we made at Naval Air Station Quonset Point during one of our local training flight period was to check out the JATO system of our aircraft. Eighteen JATO rocket motors were loaded onto the racks on the sides of the aircraft while we sat on the edge of the Quonset Point runway. Once they were loaded and armed electrically we were cleared by the tower for take-off. Eddie was at the flight controls so he added takeoff power on both engines and started rolling down the runway. Once the tail wheel lifted off the ground Eddie pushed the JATO firing switches and suddenly we felt the magnificent thrust of those 18,000 extra pounds pushing us forward. It was as though we were suddenly transported to a high powered fighter aircraft. Eddie had to place the aircraft into a steep climb to keep from flying too fast since this ancient aircraft was not built to fly at “rocket speeds.”

I think now, that I sensed how it must feel to be launched in a rocket ship to outer space. For the few seconds while the rockets were giving us their full thrust it seemed as

though we had unlimited power available to us. The system worked perfectly and we knew from that moment that we would have the necessary power available on the Ice when we needed it for those dangerous takeoffs. Before we returned to Quonset Point for our landing, we flew out to sea where we dropped the empty JATO rocket casings into deep water. *7*

Since none of our ski-equipped R4D aircraft had been tested for high altitude snow ski landings and since none of our flight crews had polar experience, it was next decided that we would take one R4D aircraft and two R4D flight crews to the Continent of Greenland where landings could be practiced on that snowy ice-capped continent. The U. S. Air Force at the time maintained an aviation squadron at Sondestrom, Greenland, a sea-level airfield located deep into a fiord on the west coast of Greenland. From this airfield they flew ski-equipped C-47 aircraft to the top of the Greenland Ice Cap, where they had established a small weather station at around 10,000 feet above sea level. This station was located at the geographic middle of the continent. Our squadron leaders felt that the conditions for flying in and out of this location were thought to be similar to what we might find at the South Pole.

In addition to our R4D aircraft, we were accompanied by a ski-equipped UF-1 aircraft on the trip to Greenland to act as a potential rescue aircraft if the R4D became forced down on the Ice Cap. Since we were taking two R4D flight crews and just one R4D to Greenland, I was scheduled to fly as copilot on the R4D on the flight northward only. For the flight back to Rhode Island I was scheduled to fly as copilot in the UF-1, an aircraft I had never flown before. *8 and 9*

In my entire Navy career I had never flown on a long over-water flight, so this was an entirely new experience for me. On this flight to Greenland I was to experience, for the first time, how boring it gets sitting in a cockpit for many long hours without a break. It took much concentration to keep my mind on the task of flying when the mind resented the boredom and the eyes grew tired of monotonous over water scenery or the gray nothingness of flying through solid clouds.

The first leg of our trip northwards took us from Rhode Island, over Eastern Canada to the Air Force Base at Goose Bay, Labrador, where we remained overnight. Since Goose Bay was a remote station, the Air Force provided regular nighttime musical entertainment and the night we arrived was no different for we found the base clubs to be alive with music, drinking and good times. It was difficult to turn in at the Bachelor Officers Quarters for the rest we needed for the next day's long flight because the party was just getting started when we had to quit. 8

The next day we flew 8.3 hours, mostly in and out of the clouds, as we made our way to Sondestrom Fiord. When the coast of Greenland at last came into view the weather had improved, so we were able to fly up the fiord without having to fly on instruments down a fifty mile narrow gorge that offered little room for error. Since the visibility was good as we flew up the fiord, we relished seeing the beauty of these mountains which was beyond description. According to our flight charts the fiord was wide enough that we could have turned the aircraft around and not crashing into the sides of these mountains, but it did not seem that way from the cockpit. Our wings at times seemed almost to be

touching the mountains on both sides. The fiord was about fifty miles long and ended where the continental mountains rose sharply to well over ten thousand feet, blocking our flight forward. At the base of these mountains was a combined U. S. Air Force Base called Sondestrom Air Force Base and a Danish commercial airfield.

The view was magnificent on the clear day that we arrived, but I shuddered to think how inhospitable it would be if one had to enter the fiord navigating by instruments, knowing all the while how narrow was the passageway to the field and how the mountains loomed straight upwards at the end of the runway, making a "missed approach" an almost impossible maneuver to execute. 9 We made our landing without difficulty and I was very happy to emerge from the aircraft after what was my longest flight of my career. There would be many more such flights that would be greater in length, flights we would call "butt busters," once we headed for Antarctica.

After a couple of days of awaiting for the proper weather conditions we were scheduled for the first flight to the top of the Greenland Ice Cap, some 400 miles inland from Sondestrom. Since it was our R4D Aircraft Commanders who needed the high altitude landing practice, my name was not on the list to make the flight in the R4D. Instead, I was assigned as copilot in the UF-1, which was assigned to accompany the R4D as it flew over the ice, acting as a rescue aircraft if the R4D was disabled after landing on the ice and the crew needed to be rescued or if the R4D was forced down on the ice cap while enroute. The UF-1 was equipped with skis and JATO rockets, so it could have landed on the snow in an emergency.

Immediately after our takeoff from Sondestrom Airport, we had to climb steeply to over 10,000 feet to clear the high mountain peaks which surrounded the Greenland Ice Cap. The view of the mountains was magnificent and they glowed in the bright sunlight. I felt that I was witnessing something far different from anything I had seen before. There was no civilization on the Continent of Greenland, except along the thin edges of the continent, so once we left the air base we were over landscape seemingly untouched by man. Except for the tiny hut in the middle of the ice cap where our two aircraft were headed, the surface of this continent was almost without man's influence. Since we were above the Arctic Circle there were no trees on the mountains, just some brush and grass where soil had collected. From our high altitude, the peaks appeared to be a chocolaty brown and so craggy and steep I shuddered to think how inhospitable they would be if we were forced to parachute down into them.

About a half hour after takeoff we reached the ice cap and as we proceeded toward the center of the continent the mountains disappeared behind us. Ahead of us for as far as we could see there was only featureless snow. None of us had ever seen such a broad expanse of snow, smooth snow reaching to the horizon in every direction. It was as though the world had only two colors: blue for the sky and white for the surface. Visibility was good looking ahead but only moderate looking downward. Since there were no objects on the surface to be seen, just the wind carved texture of the snow we had nothing to tell us how high we were above the ice. We had to rely on our instruments to maintain the aircraft heading and our altitude. We had to use our navigational radios

and celestial navigation equipment to tell us where we were, how far we had to go and how long it would all take.

Eventually it became difficult to concentrate on flying, because there was nothing to see outside the aircraft, except for the featureless horizon. Later I was to fly over many such featureless ice and snow surfaces on the Antarctic Continent and as I will tell later I had to train my thinking to remain alert so I could concentrate on the business of flying.

After many hours of penetrating this featureless void and after many unanswered radio calls, we finally contacted the radio station where the R4D would try to land. The voice from this tiny station on the very top of the Greenland Ice Cap told us that conditions were ideal for landing and they then supplied us with a radio beacon which we could home our aircraft on. From my cockpit position in the UF-1, I finally spotted the tiniest building imaginable, there in the middle of a sea of snow, a lonely spot, if I ever saw one.

The R4D made its approach to a landing and touched down on the surface close to this Air Force outpost building. From my cockpit seat high overhead the landing appeared very normal, but the pilots in the R4D were surprised to learn that the snow was very soft and their landing run out was much shorter than expected. The surface was not crusted as we often found in the Antarctic, so the skis really dug in. Fortunately no damage was done to the aircraft because of the shortened landing.

After mail was exchanged with the men at the camp, the crew members of the R4D wired the 18 JATO bottles, so they would fire on the pilot's command. The pilot, after checking his engines, began takeoff from the soft snow. It took all 18 JATO rockets to get the aircraft airborne. To me, at about 1000 feet above the surface, it seemed like a normal takeoff. Later the pilot radioed to us that even with the rocket help it was marginal that they got into the air. Had they not been able to get airborne that day we would have had a difficult problem ahead of us because they would have had to reduce their passenger load, and part of their fuel load, to get off the surface. With that as new situation, they would have had to return on another day to pick up the passengers they left behind. We were fortunate that this didn't occur for that probably would have would have delayed our departure date for the Antarctic.

The flight back to Sondestrom was long, but, as the squadron always maintained, routine. After both aircraft landed and were secured for the day we had a celebration, which might have seemed unnecessary by the Air Force pilots, who made these Ice Cap landings on a regular basis, but for us it was the first success in our Antarctic adventures and we felt we had to make it seem like a memorable event. ***10***

The following day the weather was warm and the sky was cloudless, so another crew loaded aboard the R4D and the UF-1 aircraft and took off for the Ice Cap, to repeat the mission of the previous day, only with different flight crews. ***11***

I was left behind with nothing to do so I decided to explore the land near the airport. A fellow aviator and I decided to climb the small mountain, which was just to the east of the runway. It was an easy climb and as we reached the top we found the view of the runway, with the larger mountains in the distance to be most inspiring. We then noticed when we faced away from the runway we had before us a large treeless meadow that

stretched off into the distance, as though it had no end. The meadow was almost without vegetation, however, there was some proof that small animals existed there. Since the winters were so long and so cold I was amazed that any warm blooded animals could have survived in such an environment, but the evidence was there to see in those tiny animal trails which seemed to go in every direction.

We walked over this meadow for several hours enjoying the signs of nature, the vegetation and the rock formations. Hours later when we finally returned to the mountain top overlooking the base runway we found that the two aircraft which had departed earlier in the day were preparing to land. From our cliff we were able to look down on the two aircraft as they circled the runway and then landed. It was a glorious view and our particular position made the returning aircraft appear as model aircraft landing on an almost make-believe runway.

We hurried down the mountain, joined our squadron mates who had just returned from the Ice Cap. We were pleased with the tales of their day's exploits and spent the next several hours listening to their telling of the exciting things that they had experienced.

The following day we all headed home to our base in Rhode Island. On this return flight, I rode again as copilot in the UF-1. The UF-1 was faster than the R4D, so the flight back to Quonset Point took considerably less time than the trip we had going out. Once on the ground in Quonset Point we were greeted by the entire squadron in a way that was most heartwarming. Although I had not participated in the actual Ice Cap landings, I was there as a safety backup crew, so my contribution was of some value. Eventually, my involvement in flying exploits would increase and I would find myself more in the center of activity than I was at the moment. ***12***

Antarctic Facts

The Ross Ice Shelf, the largest ice shelf on the continent is roughly the size of France. It floats on the sea, is affixed to Roosevelt Island, Mount Erebus and the continent of Antarctica. It varies from 200 feet to 800 feet thick with about 2,000 feet of sea below. It comes within 300 miles of the South Pole, thus providing the easiest surface route to the Pole.

Each summer, when the breakup of the winter sea ice allows the full force of the ocean swells to reach the edges of the shelf ice, large fragments, up to 90 miles in length, are broken off, or calved, to float northward where they disintegrate and melt.

Chapter 3.
Leaving for the Ice

My assignment as an Assistant Administrative Officer in my new squadron came as no surprise to me because squadron administration was the most frequent of my jobs up to that time. Administration is a time-consuming and repetitious type of work which involved reviewing correspondence, preparing new correspondence, interpreting rules and regulations and advising the Commanding Officer on matters which he considered he needed a consensus of opinion. My job always placed me close to the "front office" and this experience of being close to those in command gave me a familiarity with military protocol I would be able to use to great advantage later, when I had charge of various military units.

One memorable experience I had as the Assistant Administration Officer resulted when I was handed a letter from a young unmarried lady from New Zealand who it seems had a passionate affair with one of our squadron enlisted men resulting in her getting pregnant. The young lady did not ask that the sailor marry her or support her expected baby. Instead, she asked that he send her enough money to purchase a "pram" (short for perambulator) or baby carriage. Since the New Zealand Government provided a dole to young mothers she didn't have to worry so much about money. She did, however, want a baby carriage as that was a status symbol amongst N.Z. mothers.

I spoke briefly with the young sailor and he readily obtained a money order for his young lady friend so she could purchase a "pram". He seemed quite happy to be free of all other responsibility in the matter. He had, however, no bout of conscience about his duties as a father.

Just so this story is complete in all respects I must tell of one local helicopter flight which is both memorable and embarrassing to me. I was scheduled for a two hour local flight in the HO4S helicopter and since my flights were not structured and controlled as they had been in the Pensacola Training Command I decided to look over the State of Rhode Island with the birds-eye view afforded by my low flying helicopter. At 400 feet above the surface, I covered much of the rural areas of the southern half of the state. I found it a most interesting way to study the makeup of the land and on this particular flight I was able to see how Rhode Island's stony soil had resisted farming efforts over the many years since it had been settled. One factor that amazed me was the large number of abandoned farms where men and their families had worked for generations, only to give it all up because they couldn't make a living at it.

When I had used up my scheduled flying time I returned to NAS Quonset Point and landed. From the looks I received from the ground crew and from my fellow aviators, I guessed that I was in trouble of sorts. Since I had been flying low over the countryside, I presumed that some farmer had reported my breech of flying ethics to Navy officials. I was told that I should report immediately to the Squadron Operations Officer, who then

told me that a retired admiral had phoned the base complaining that I had flown low over his home. It appeared that this had happened frequently during the few months just past as other helicopters than mine had flown low over his home. The admiral had placed a complaint with the Base Commanding Officer that he considered it a nuisance that should be stopped. I learned later that some of the antisubmarine helicopter pilots had seen a nude young lady sunbathing on top of her grandfather's boathouse and once word of this had spread amongst the pilots of the squadron, it became a regular thing for these fellows to fly over the old man's place. Once the admiral made his telephone complaint, the antisubmarine helicopter pilots rerouted their flights so as to avoid flying over this ticklish area. Unfortunately, I was not aware of this situation when I flew low over the boathouse. My brightly painted orange helicopter must have stuck out like a sore thumb for the Admiral had no difficulty in describing me to the NAS Quonset Point Operations Officer. ***13***

Although I explained my innocence in this over-flight matter, the Operations Officer said he had to ground me from flying for five days. Since we were only a few days away from leaving Quonset Point for the Antarctic, this grounding did not hurt me professionally. It only bothered me that I was accused of the wrong crime. My grounding was lifted the day that we left for the Ice and was never mentioned again. ***14***

Well, the day for saying good-bye to family and friends eventually arrived so on September 11, 1956 we departed on what was to be for me a fifteen month stint at the coldest place on Earth, away from family, friends and the civilization to which we all were so accustomed. I was to return a much more matured and experienced pilot. Also, I was destined to learn much about my own personal stress endurance, which until then had little chance of being tested. I would also be able to compare my physical and mental tenacity against other men in a way that is not often given to us in the everyday world. I believe I also learned about the strength and weaknesses that go to making up my own personality. This was a great opportunity for me and I have no regrets about the time and effort I expended in getting through that fifteen months on the Ice.

When we departed from Quonset Point it was just at sunrise and I will always remember the brave, but sad, smile I received from my wife as we said our good-byes. She had been a constant encouragement to me as I prepared for my icy adventures, but I sensed a weakening of her resolve as the time to leave approached. She had planned on staying with her sister in the Atlanta area after I left for the Ice, so at least she would have someone with whom to share her lonely days, once I had departed. As the time to depart grew closer I believe the long months ahead, coupled with the imminent dangers ahead, started taking its toll on her emotions. We said our good-byes, with my eyes looking towards the skies ahead and her eyes heavy with tears. ***15***

The first leg of our flight took us all the way to Hutchinson, Kansas, where we quickly refueled for the flight to California. Later in the day as the aircraft flew over Salt Lake City, Utah, one engine started to run rough. Our crew chief checked the engine performance on his electronic gauges and he discovered that one cylinder of the right engine was shorting out. He recommended that we land as soon as we were able, so he could make the necessary repairs.

The Air Force Base at Ogden, Utah was nearby, so we called the tower and was cleared to land. Repairs took longer than we had expected, so we decided to remain in Utah for the night. The next day, after a short test flight, we departed Ogden with a destination of Alameda Naval Air Station, Oakland, California. This was to be the jumping off place for us on our flight to Hawaii. We checked in at the officers' quarters, where we joined the pilots and air crewmen of our squadron who had arrived in California the day previously. They were headed, as we were, for the Antarctic Continent. There were three other R4Ds than ours, one P2V and one R5D aircraft, all poised for the first major step of our trip south. ***16***

We were all anxious to get underway for Barbers Point Naval Air Station on Oahu Island, Hawaii, but we were told that we would have to wait several days to get clearance from the FAA authorities for the flight. On the night before we were scheduled for takeoff we all went into San Francisco, where we enjoyed an sumptuous oriental meal in a Chinatown restaurant. It was a fitting celebration for our present situation and we managed to relieve some of the anxiety that was building up inside us.

Our takeoff for Hawaii was scheduled for late afternoon of September 14th so most of our flight would take place during the night hours when commercial flights over the Pacific were at their lowest. Since our R4Ds were slow, our use of a large amount of lost airspace over a long period of time would cause less disruption of commercial air traffic than would have been the case if we had made the flight during daylight.

Our takeoff time from Alameda was set for 3:00 PM so we loaded our aircraft with 18 hours of fuel, plus our personal gear and aircraft repair tools. We were about 5000 pounds over the maximum gross weight allowed for normal R4D flights, but we were confident that our JATO rockets would give us the boost needed to get airborne. As we taxied toward the end of the runway, the aircraft seemed heavily overloaded and slow to respond to engine power. This was to be expected because of our weight but still it seemed to me as though we had to be well past the acceptable limits for flight. When we reached the end of the runway we proceeded to give the engines a high power turn-up. One engine seemed to run a bit rough and our flight crew chief, reading the electronic gauges, told us that one spark plug was not firing properly and it would have to be changed. Since we had been given our flight clearance for takeoff we knew that if we returned to the parking area of the field that our clearance would be cancelled and that it might be several days before we could obtain another clearance. Eddie decided to make the engine repairs on the grassy area next to the runway and he advised the control tower to keep our clearance open. Our crew chief got on a ladder and right there, on the edge of the runway, he exchanged the bad plug for a new one. Altogether, it took about thirty minutes, all the while local aircraft taxied around us as they prepared to takeoff. ***17***

While I waited for the crew chief to change the plug, I stood alongside the aircraft and watched other aircraft preparing to takeoff. One small aircraft passed close by me and I observed the pilot waiving at me. I ran to the aircraft and climbed into its cabin. The pilot who waved at me was an old acquaintance from Pensacola, Florida and he was getting ready for a local flight when he saw me. We shook hands and I exited his aircraft, so he could get on with his flight. Suddenly, I was aware of how small our world is, that I could

meet a fellow pilot such a long way from Pensacola and greet him like it was just a routine situation.

When the repairs were completed, we made another high power engine turn-up and both engines seemed to be working as they should. The tower gave us clearance for takeoff, the ground personnel wired our JATO rockets, so they would fire on the pilot's command and then we taxied onto the runway for takeoff. Eddie applied full power to the engines and released the brakes, but since we were so overloaded the aircraft was agonizing slow in accelerating. Although we had 8000 feet of runway ahead of us, we were barely able to get the tail wheel off the ground by the time we had used up half of the runway. Fortunately, our 18 JATO rockets took fire the instant when Eddie pushed the Fire Button and we, at last, were able to get the needed push to stagger into the air. We climbed straight ahead gaining the speed we needed to stay airborne. Just when it appeared that we were having a good time of it, the JATO rockets burned themselves out and the loss of thrust made it seem as though we had stopped flying. The engines were still at climb power and while we were gaining some altitude slowly, the hills to the west of San Francisco appeared immense in front of us and it looked that we would not have been able to clear their tops by the time we reached them. In any case we had no intention flying over these hills because we had planned a route which would take us over San Francisco Bay, so if we were to crash it would be into the water and not into some residential area.

After what seemed a very long while, we at last had enough altitude to clear the top of the Bay Bridge and we turned northward, continuing to climb. When we reached the Golden Gate Bridge, we had 2000 feet of altitude and our course was set for the open Pacific Ocean.

It soon turned dark and there was little or no horizon, so we had to fly mostly by instruments the entire night. I had not rested well the night before the flight, so the endless hours of that long night became a lot more difficult for me than they might have been if I had started out fresh. Sometime around midnight I started having stomach cramps, probably from the Chinese food I had eaten the night before, and probably resulting from the anxiety I has experienced during the days just past. Our tiny toilet was in the far distant reaches of the aircraft and to get there I had to climb over boxes of cargo and luggage, a well as two immense fuel tanks in almost total darkness. The trip to the toilet took about three minutes, which seemed an eternity, as my bowels screamed for relief. I managed to make the trip in good time and within another five minutes I was back in the cockpit resuming my place as copilot. No sooner had I fastened my seat belts than my stomach pain returned and with a second mad dash I repeated my darkened trip to the distant toilet, groping over those hellish boxes, and fuel tanks, like a madman. Fortunately this second stomach attack proved to be my last for the night and I returned to the cockpit, a bit worn, but ready to share the flying time with Eddie.

The weather for the night was perfect and since our job as pilots was to keep the aircraft on the course given to us by the navigator and to maintain surveillance of the engines it was difficult to stay alert and attentive. Both Eddie and I had to fight to stay awake throughout much of the night. The tough work, however, fell mostly on our

neophyte navigator, Ensign Creech, and on our radio man, who had to report our position to the Flight Control Center in San Francisco, and later on in the flight, to Honolulu Flight Control. Ensign Creech had almost no experience in over water long distance navigation, so he really had to work to keep us on course. Sometimes he reported us as being well north of our intended course and sometimes well south. Considering his lack of experience, it is a wonder we did not get totally lost along the way. We did make it to our destination as we had planned so, as they say, success is the thing that counts. Our radio man was a very competent individual and he managed to get our reports sent on time, though we had very antiquated radio equipment on board.

Dawn at sea comes about very slowly. First there is a questionable glow in the sky, and slowly, but ever so slowly, it gets brighter. Since we were flying westward that also delayed the sunrise a bit, too. At last, we became aware of the ocean below us and eventually, the magnificent blue of those waters became visible. After a while we spotted some of the outward islands of the Hawaiian Chain, but it was still many hours before we reached the Island of Oahu. Once we reached land, however, we could see how beautiful that island really is, but the good feeling I received in looking at it was just temporary because by then I longed most to climb into a bed, any bed, and sleep. The landing at Barbers Point Naval Air Station was routine because we had used most of our fuel and we were flying in a lightweight aircraft again. Altogether the flight took 16.3 hours, which was, by far, the longest flight I had ever made, up to that time. We were to spend the next twelve days in Hawaii, waiting for orders to fly to New Zealand, our jumping off place for the Antarctic. Life in Hawaii for us was exciting once we slept off the weariness we experienced in getting there.

Ah Hawaii! the land of sunshine and good times. Having no assigned duties for the few days that followed I decided to join some of my flying buddies to see what was happening on the Island of Oahu. First, we tried surfing at Ewa Beach, but I quickly learned that by the time I had paddled out into the deep water where the rolling waves began, I was too tired to really enjoy the quick ride and subsequent wipe out on the beach. Next, I tried tourist watching under the Banyan Tree at Waikiki Beach, but discovered that one can only imbibe so many alcoholic coolers before the vision dims, so that venture was short lived also. We decided next on visiting a famous old Chinese restaurant that the Navy had dubbed, Lousy Chows. Early in the meal I was unpleasantly surprised when a waiter accidentally dropped a bowl of soup over my head, so I have little recollection of how the rest of the meal went. One evening we went to the then-famous Pearl City Tavern, a collecting place for Navy personnel. The Tavern contained a restaurant, a night club and a bar. Behind the bar there was a glassed-in make-believe jungle in which some 25 live monkeys cavorted. One could spend hours watching their antics and enjoy every minute of it. After a few drinks and a fine meal in the restaurant we took seats in the night club where we witnessed a variety show which featured “the tallest show girl in the world”. She must have been seven feet tall and beautifully proportioned. Her act was very entertaining but I couldn’t help thinking that I was looking at an ordinary girl through a magnifying glass.

Before continuing our journey southwards we took one sight-seeing flight over Oahu and Molokai Islands, giving us high altitude vistas which were beautiful beyond description. I still have memories of those lush green hills, the tall waterfalls and the white beaches with their wild and reckless surf. Hawaii proved for me to be a perfect place to rest before continuing our flight to the Ice. ***18***

Antarctic Facts

An ice sheet covers nearly all of Antarctica. At its thickest point the ice sheet is 15,670 feet (4,776 meters) deep - almost 3 miles (5 kilometers). It averages 7,000 to 8,000 feet (2,100 to 2,400 meters) thick, making Antarctica the continent with the highest mean elevation. This ice sheet contains 90 percent of the world's ice and 70 percent of the world's fresh water.

Chapter 4:
Poised and Ready

Our “mighty armada” was gathered at Naval Air Station, Barbers Point, Hawaii awaiting the arrival of Rear Admiral George Dufek, Commander of the Navy Task Force for Antarctic Operations, who was flying with his staff from Washington, D.C. We were told not to leave for New Zealand until RADM Dufek had flown ahead to New Zealand and had made final arrangements for our squadron aircraft to land at the New Zealand Navy facility, called Wigram Airfield. This wait gave each of us an opportunity to soak up the Hawaiian sun, enjoy Oahu and get mentally prepared for that long over water flight southward.

For the moment at least the aircraft sat idle on the tarmac while our maintenance crews made minor adjustments to the engines, as well as checking over the airframes and flight controls for possible discrepancies. Our venerable R4D, the work horse of our Antarctic flight mission, was a conglomerate of many add-ons to the original DC-3 transport aircraft. A new style radar had been added into the nose of the aircraft making it longer by a foot or so. This radar would prove to be invaluable in helping us to find objects in the snow that our eyes might miss. There were skis on both main wheels and also on the tail wheel. The main wheel skis could be raised and lowered depending on whether we would be landing on snow or on a hard surface runway.

Once we arrived on the Ice the tail wheels were removed to reduce weight. In any case they were no longer needed since all future landing would be on snow. Inside the cabin of the R4D there were two 400 gallon fuel tanks and one 250 gallon fuel tanks, with a rapid discharge system that allowed fuel to be discharged rapidly should an emergency landing be required when heavily loaded. This quick fuel dump would also be used to transfer diesel fuel to rubberized fuel tanks at remote landing sites for use by automotive vehicles. We often carried diesel fuel in the cabin tanks for the tractors traversing the Tractor Trail between Little America V and Marie Byrd Station and once hoses were connected between the aircraft and the rubberized fuel tanks several hundred gallons of fuel could be transferred in a matter of minutes. As stated before racks had been installed along the bottom of the R4Ds that allowed us to mount up to 15 JATO rockets. These rockets gave about 1,000 pounds of forward thrust each and were used for heavily loaded takeoffs. The rockets could be fired from the pilot’s seat and the empty canisters later dropped when they had burned themselves out. When fired the JATO rockets gave 15 seconds of thrust.

For normal flight operations the R4D had a maximum gross takeoff weight of 33,000 pounds. When using JATO for takeoff on our extended flights we frequently grossed as much as 38,000 pounds. Even so, when the JATOs had burned themselves out, had we lost one engine at low altitude while heavily loaded we would have been forced into a disastrous crash on the Ice. If we had sufficient altitude giving us enough time to drop

fuel from our cabin fuel tanks it is possible we could have remained airborne and returned to the base runway, so under such circumstances the rapid fuel discharge system could have been our salvation.

The squadron had one P2V-5 Neptune aircraft at Barbers Point. This was a smaller, less powerful Neptune than the P2V-7s which would come to the Ice the following summer, but still an effective aircraft for polar operations. The aircraft had skis and JATO racks and had a considerable speed advantage over the R4Ds. Its long range capability would have helped to make flights to the South Pole Station easier and quicker than the R4Ds.

Next, we had two R5D transport aircraft, with excellent cargo carrying ability. These two birds didn't have skis so they were limited to operating from the ice runway at McMurdo when on the Continent. These aircraft made several long range photographic mapping flights to distant reaches of that icy continent. It also made flights between McMurdo and New Zealand (2.100 miles) when cargo and passengers needed to be transported. During my first summer on the Ice aviation fuel stores ran low early during the summer months and both R5Ds had to be sent back to New Zealand until ships arrived with more aviation gasoline. I presume the flight crews of those two aircraft wearied themselves with Christchurch liberty, and missed roughing it up with us on the Ice.

One of our R5D aircraft commanders was an electronics enthusiast. At his own expense he installed a complete high fidelity sound system throughout his assigned aircraft and he played recorded music for the enjoyment of his crew and passengers while the aircraft winged its way across the Pacific and across the Antarctic plains.

It is no wonder the journalist and news photographers witnessing the DeepFreeze II operations scrambled amongst themselves for a place on R5D flights across the Continent. Could it be that sitting in a warm and comfortable seat, listening to hi-fi music and feasting on kitchen cooked meals could have clouded their appreciation of just how rugged the Antarctic wastes really were. I have no recall of any of these pseudo-explorers requesting to fly with us in our venerable but icy R4Ds. That might have been taking "roughing it" too far, I suspect.

The summer operations has been carefully planned by the Admiral's staff. The R4Ds would first set up an emergency landing and refueling site halfway between McMurdo Station and the South Pole. Fuel would be brought to the site and loaded into rubberized tanks. A small building and a store of supplies would be delivered for the men who would man the site throughout the summer. Next the P2V-5 and the R4Ds would deliver personnel and light cargo to the South Pole, 840 miles from McMurdo, where a permanent camp would be set up. Meanwhile the C-124s would air drop heavy cargo by parachute to be used in building the South Pole camp.

At the same time as the Pole Station supply was in progress, one of the R4Ds was to be used, first, to deliver mail and cargo to Little America V Station, and later to deliver diesel fuel to caches along the proposed Tractor Trail. Giant Caterpillar Tractors, pulling large sleds loaded with cargo would cover 647 miles of snow and ice to reach the inland site of the proposed Marie Byrd Station. During the second summer season of my

Antarctic stay our ski equipped aircraft would also supply a SnoCat traverse of the Ross Ice Shelf and a study of crevasse formation and movement, called the Ice Deformation Study.

I do not wish to ignore the most important role the U. S. Air Force Giant C-124s played in delivering giant loads of cargo to both the Pole Station and Marie Byrd Station. Once they successfully air dropped a medium size tractor to be used in setting up the Pole Station building site. Without their help neither station could have been fully outfitted during that first summer. The C-124s were limited to landing and taking off from the ice runway at McMurdo so flights had to be planned when good weather was predicted for the entire flight since there was no other place for the immense birds to land other than McMurdo. One returning C-124 met with an unexpected white-out condition on return from a long flight and landed well up the runway and crashed into the ice at the end of the runway. The aircraft damage was determined to be unrepairable there on the Ice so it was junked at McMurdo. For a while it was used as a parts storage building high on the hill, away from flight operations.

Finally, RADM Dufek and his staff arrived from Washington, D.C. and was quickly loaded aboard one of the R5Ds. His departure southward marked the start of our transit of the South Pacific Ocean and the next leg of my Antarctic adventure.

Antarctic Facts

The Antarctic ice was formed from the snows of millions of years that fell on the land, layer by layer. The weight of the new snow squeezes the old snow underneath until it turns to a substance called firn, then ice. As the ice piles up, it moves toward the coast like batter spreading on a pan. The moving ice forms into glaciers, rivers of ice that flow into the sea. Pieces of the floating glaciers break off from time to time, a process called calving. These icebergs float north until they reach warm water, break into pieces, and melt. Icebergs as large as 40 miles long and 30 miles wide have been sighted, but most are smaller. In some places the floating glaciers stay attached to the land and continue to grow until they become ice shelves. The Ross Ice Shelf alone is bigger than France and averages 1,000 feet thick.

Chapter 5:
South Pacific Crossing

After fifteen days of sun and fun in beautiful Hawaii we received orders from Admiral Dufek to depart for the city of Christchurch on the South Island of New Zealand, where we were to make final preparations for our long flight to McMurdo Air Facility in the Antarctic. We departed N.A.S. Barbers Point on the island of Oahu on September 27th and headed first for the tiny atoll called Canton Island. The island was an American possession, located near the Equator, in the middle of the Pacific Ocean. ***19***

Sometime during the long flight to Canton Island, Eddie started moving the flight controls forwards and backwards rapidly so that the aircraft pitched upwards and nosed downwards steeply. He admitted after a few moments that he was simulating a condition where the air around us had become very rough, although it had in fact been very smooth since we had left Hawaii. He had coaxed the navigator to advise him when we were crossing the Equator and when that happened he decided to let us know that we were doing something out of the ordinary. If we had been on shipboard at the time of crossing the Equator there would have been a real ceremony held to honor Father Neptune. Everyone aboard a ship crossing the Equator for the first time would have had to face a difficult and perhaps degrading initiation. Fortunately for us, traveling as we were, at high altitude in a cramped cockpit, there wasn't the time or the opportunity to take the usual amenities. Still it did leave an impression on all of us pollywogs.

The flight to Canton Island required over twelve hours of flying and while it was made mostly in daylight over water, the landing took place after dark. I still have a vision of my first over water night landing. Because there was no moon out that night and no surface lighting except for the runway lights everything beneath us, was inky black. Using the cockpit instruments I was able to tell my attitude, airspeed and altitude, however, when I looked outside the cockpit the runway seemed like a tiny spot in an black void. There would be almost no visual clues to help me land the aircraft until the aircraft crossed over the end of the runway. The ocean below us must have been glassy smooth because I could see no whitecaps to assure me where the water began. As I approached closer to the airfield I slowed the aircraft, lowered the landing gear and wing flaps and gently lost altitude. Still it seemed that we were not moving, but that we were suspended in midair with the runway still a long way ahead of us. Finally, after what seemed a small eternity, the runway started getting larger, giving me some idea of what I had to do to effect a landing. After I finally got the aircraft on the runway I realized that it would take a lot of practice before I could consider over water nighttime landings for me a routine event.

Canton Island at night was not a very intriguing place, to say the least. Except for the runway and a few adjacent buildings there seemed to be little except sand and palm trees. The air was heavy with humidity, and except for the two or three Polynesians who helped

us refuel, it might have been a deserted atoll island anywhere in the tropics. We remained on the ground for about an hour before departing again, this time for the Fiji Islands. ***20***

The flight to Nandi Airport on the main island of the Fiji Islands was accomplished mostly at night. On this jump across the ocean we were airborne for 7.6 hours. We landed on this beautiful island just after sunrise after first flying low over some magnificent coral reefs, which circled the island. The best of artists could not have captured the brilliant colors of the reef, for they were more varied in hues than a canvas might ever portray.

Just inside the outer reef, the water was a light green that was as pure a color as I had ever seen. It is no wonder that certain men find a lifetime of contentment in living around such beauty with little of the stress you find in our modern society. ***21***

After our arrival at Nandi Airport, we were told that we were to delay our takeoff for New Zealand for three days, a decision I was not willing or desirous of questioning because I wanted to see something more of the Fijis than the airport, if I could. After a short ride into town, we checked in at a British hotel, the best to be had on the island. Our room assignments and the hotels provisions proved to be most comfortable and the service we received from the hotel staff was outstanding. Had an opportunity arose to keep me there I would have been content to have remained there for a week or more.

Since we had been awake for over thirty hours, when we arrived at the hotel, we all turned in immediately for a well earned rest, even though it was still early morning. We were waked a few hours later for tea, and a bit later for a lovely supper in the hotel restaurant. After supper we all got together for a few drinks at the bar, but we didn't last long at this activity because we were still worn out from the long flight from Hawaii - so it was back to bed for all of us.

It was still dark outside my hotel room, and I presume around six in the morning, when there was a light tap on my door. Before I could answer the knock a tall, black native woman entered my room, carrying a tray with my early morning tea. Since this was an island, steeped in British tradition, I presume that tea at sunrise was a tradition, however, I would have preferred to have remained asleep instead. The same event reoccurred every morning while we were in the Fijis so we all learned to accept it as part of the hotel fare, even though several of the pilots in my group chased the serving women from their rooms when they failed to see the importance of their accepting tradition over additional sleep. All of us may have been flying fools, but in between flying chores we loved the solitude of sweet sleep like a drunk loves his bottle.

About a half hour after being awakened for tea and after drifting back to sleep, there came a second shock. Outside our rooms there was a large hollow log placed on the grass next to the green garden wall surrounding the hotel. There were two large wooden clubs placed on the ground adjacent to the log and when breakfast was ready to be the serving a tall muscular black man in native costume started hitting the log with the clubs. He started with a slow steady beat, which gradually increased in frequency until the clubs were moving faster than the eye could follow. If there was any sleep left in me after this racket, it quickly evaporated in that crescendo of sound. As a form of communication, it carried a urgent message, which was stronger than the need to sleep.

The town, surrounding Nandi Airport, was not very large, and except for one block of East Indian-run stores, there were only a few government buildings and native homes in sight. Adjacent to the hotel was a large fenced-in courtyard, which was used by the native police force. Every day that we were on the island the black policemen, some of whom were over six feet in height, did precision marching on this parade ground. Their British style close order drill and the precision they demonstrated in handling themselves and their rifles was very impressive.

When Sunday rolled around I located a Catholic church, which was within walking distance from my hotel. I arrived just as Mass was beginning and sat amongst the congregation of mostly black natives. When the gospel time came around and everyone stood up for the first time I was amazed to find that all the native Fijians were much taller than I was. Everyone, including the women, seemed at least six feet tall and their bush-like hairdos made them seem even more "giantesque." For the first time, in all my travels, I felt like I was the pygmy and the natives were the tall ones.

On October 1st we received a message from the Admiral's staff which directed us to take departure for New Zealand. We boarded our aircraft in short order and were once again airborne for another long over water flight. The trip to Christchurch, New Zealand took over eleven hours and was mostly done above the clouds. It wasn't until we reached the northern tip of New Zealand that the weather cleared enough so we could see what the surface looked like below us. From the air New Zealand appeared to be a country of many beautiful vistas. Mountains and valleys abounded and it all appeared inviting to the curious traveler. After a few hours we left the North Island and crossed the straits which separated the North Island from the South Island. ***22***

At last we arrived at the naval air station called Wigram Field, our destination, where we would make final preparations for our long and dangerous flight to the Antarctic. It was here that we would concentrate on getting our aircraft into near perfect working order. We also took time to reacquaint flight crews of their duties, especially their in-flight emergency procedures. It was here that the weathermen would study the weather patterns so we could select departure times to give us the best weather situation possible for the flight southward. ***23***

After checking in at the base Officer's Quarters we found that our room assignments would place us in buildings several blocks apart from each other. Eddie was given a room in the senior officer's quarters - I was given a room in one of the junior officer's quarters and our navigator was placed in a second junior officer's quarters. This was the first time since leaving Rhode Island that we would not be within earshot of one another and resulted in each of us enjoying Christchurch in different ways, ways governed by age and maturity. All three of the officers attached to our particular R4D went our own ways and each of us saw a different bit of New Zealand. Later, in comparing our experiences we were amazed at the variety of things we had seen and done.

My B.O.Q. room was adequate in size but my body had been acclimatized to tropical weather in Hawaii and Fiji so the damp and cold of that New Zealand spring permeated the building walls and even with the heat they gave us I was uncomfortably cold most of the time. New Zealanders seem to be enamored with fresh air and were always throwing

open windows, even though it might be raining and near freezing outside. I couldn't leave my room, but for a few moments, only to find my windows opened wide on my return. The New Zealand officers living in the building where I slept seemed immature and unruly by my standards. They came and went in sizeable groups it seemed and whenever they were around they generated a great amount of noise. They were quite athletically inclined and it seemed that they were always on their way to some sports activity or other throughout the entire working day. What they were in training for still remains a mystery to me for there was little flying around the field other than what we did in testing our aircraft.

I am able to recall one morning when their habits made me quite uncomfortable for a brief time. I had slept in late and on awakening I was pleased to note that the building was unusually quiet, indicating that the young N.Z. lads had gone off to one of their daily sports activities. I decided that I would take this opportunity to get my first hot shower since my arrival in New Zealand. I rushed from the warmth of my quilted bed to the half frozen communal bathroom. I closed the windows and turned on the hot water in all three showers so the steam would quickly fill the room and make it as comfortable as possible, so I could strip down and get my shower. Climbing into that steamy shower was a real delight and in moments I felt overwhelmed by the feeling of total warmth, the first I had experienced since arriving on this island. Unfortunately my joy was short-lived because the young officers returned suddenly and someone gasped, "What the hells going on here! Then before I knew it all the windows were thrown fully opened and the New Zealand icy damp was upon me in a flash. I rinsed off and dressed as quickly as possible and rushed back to the relative warmth of my room. I decided then and there that there would be no more hot showers taken surreptitiously during my stay in New Zealand.

We remained at Wigram Field for sixteen days before the weather conditions between New Zealand and the Antarctic improved enough for us to consider making the big jump to the Ice. During my short stay I was able to meet many New Zealanders and to witness their sincere hospitality. In many ways this was the nicest part of our entire trip. We found ourselves being stopped by the natives on the city streets of Christchurch and being offered the hospitality of their homes and their friendships. Everyone wrote down our names and after a day or so we found ourselves deluged with phone calls from our newly acquired friends, offering us options on what we might do with that day's free time. In short order it was impossible to satisfy all the invitations which we received and we had to disappoint a lot of eager folks every day.

The New Zealanders seemed to like Americans in a most unexpected way. To them we must have seemed like young heroes, since we were headed toward South Pole adventures. Still they went out of their way to show us a good time. Their social customs were very modest in nature and not given towards doing extraordinary things. Rather, they did routine things in an extraordinary manner. They sensed that we were facing great adventures in the months ahead and they seemed to want to make us feel that they could share in our excitement and thus live a part of it with us. None of us would ever forget their hospitality.

We were fortunate to meet the owner of a tobacco store in center of downtown Christchurch, who took a liking to some of us who visited his store. We were surprised when he offered us the loan of his automobile for a trip to the nearby mountains. He suggested that we visit a hot springs resort, while we drove through the mountains, since this was a popular place for natives and tourists alike. We picked up a enough food for a picnic from a local delicatessen and drove the fifty miles or so to the spa. The waters in the spa smelled vile, however the hot water provided my half frozen feet the first good thawing since I had arrived in New Zealand. The automobile ride through the mountains and sheep herding country of the South Island was idyllic. It was surprising to me that this beautiful country was not visited more frequently by the tourist trade since it seemed to me to be one of the most beautiful places I had visited in my military experience. With the advent of plentiful and economical air travel during recent years, perhaps New Zealand has since assumed its proper place as a tourist Mecca.

Christchurch, the jewel of the South Island, deserves special mention here because it is distinctive and unique. As a town it appears to be an exact copy of an ancient English village, with a river that winds its way through the heart of the town. Both sides of the river's banks have been planted with trees, gardens and lawns. Paved sidewalks parallel the river and are a haven for cyclists, runners and promenaders. There are benches along the way for those who prefer to sit and rest. In addition to this the stream abounds with ducks and geese making the park a charming place to visit. The rest of the city is cozy and the people seem unrushed as they go about their daily tasks. After work a goodly part of the male work force gathers at local inns and quaff a few beers before heading home. There is good cheer in their voices as the workday unravels and strangers, such as us, were welcomed as friends, and not strangers.

While in New Zealand we took only one local flight and that was for the purpose of flight checking our aircraft and radio equipment. Everything worked satisfactorily so in all regards we were ready for our flight to the Ice. One of the R5Ds went on a local flight with the intention of doing further training of our parachute teams. These teams were to be available in rescuing any survivors of a crash in the Antarctic wastes if such a crash occurred where a rescue aircraft could not land, such as in mountainous areas. One by one the parachutists jumped from the R5D landing on Wigram Field's grassy area. The last to jump was the U.S. Marine Captain who was the leader of the survival team. Unfortunately his parachute opened a bit to early and it snagged on the horizontal stabilizer of the R5D. The R5D flew in circles around Wigram Field for about thirty minutes before the Captain was able to wrest his chute free of the aircraft. He made a routine landing on the airfield and sustained no injuries as a result of the incident, but all this was, in a way, like a warning of tragedy yet to come on the Ice.

Antarctic Facts

The Transantarctic Mountains extend across the continent, dividing the ice sheet into two parts. The larger, eastern part rests on land that is mostly above sea level. It has been there at least 14 million years, and scientists do no think it is ever likely to melt. The smaller, western part is on land that is mostly below sea level. Scientists think that

if the world were to warm a little, as it has in the past, the western part could melt - perhaps in as little as a one-hundred-year period. The melted ice would raise sea level throughout the world about 20 feet.

Other mountain ranges include the Prince Charles Mountains and smaller groups near the coasts. The Antarctic Peninsula has many mountains. The Ellsworth Mountains are Antarctica's highest, the Vinson Massif rising 16,864 feet above sea level. Mountains with only their peaks showing through the ice (called nunataks) are found in some areas. Several active volcanoes on the continent provide spectacular and scenic landforms at many places and are located near the Antarctic Peninsula and the Transantarctic Mountains.

Chapter 6:
South Pacific Crossing

When October 16, 1956 rolled around our aerologist found that the weather had improved between New Zealand and McMurdo Station, Antarctica, so it was decided that we should load all our aircraft and take departure for the Ice. Just before our takeoff we were handed special orders to fly first to the town of Taieri, New Zealand, an airport about 150 miles south of Wigram Field. The Admiral's staff thought that the extra miles we would be closer to Antarctica would make a big difference in how much fuel we would have left once we reached the Ice. *24*

It was just after lunch that we departed Wigram Field, following a sad farewell from our newly adopted Christchurch friends. The flight to Taieri was quite routine, and for us a short hop after having made the long flight from Rhode Island. After landing at Taiera we refueled our aircraft and reloaded the JATO rockets. We were agreeably surprised to receive telegrams sent to us in Taieri from our friends in Christchurch wishing us well on our long flight to the Antarctic. One family even had a case of bottled beer delivered to our aircraft, which was intended as a reminder of the good times we had in New Zealand. Unfortunately, the beer froze in the bottles on the long flight to the Ice and after we had landed in McMurdo there was only a case of cracked glass and frozen beer to greet us. *25*

There was no runway at the airport in Taieri, just a grass field for our takeoff. All four R4Ds taxied to the edge of this grass field to await takeoff at ten minute intervals. I watched the first aircraft lumber into the air, with all eighteen JATO rockets firing. It looked impressive and I waited with great anticipation until it was our turn. The ten minute wait seemed much longer than it really was and when it was our turn, Eddie advanced both engine throttles. When both engines came up to full power he released the brakes and slowly we started to roll. The grass field tended to slow the aircraft so the takeoff roll was even more sluggish than the takeoff had been from the paved runway in N.A.S. Alameda, California. About midway across the field, when the trees ahead seemed to be getting ever so close, Eddie fired all the JATOs, even though the tail wheel had not yet come off the ground. With this magnificent push from the rockets we gained flying speed and climbed ahead just missing the trees by several feet. When the JATOs quit firing and we were left with only the two engines turning, it seemed as though we had almost stopped going forward. The coastal hills a few miles away appeared to be too high to surmount for a while since we are barely climbing, but after a few additional miles they passed below us and in crossing the coastline all we had ahead of us was level ocean all the way to the Antarctic. Eddie kept a modest amount of climb power on the engines and we slowly crept upwards at about 200 feet per minute until we reached 10,000 feet of altitude. Using more power than that would have consumed fuel needed at the end of the flight and would have reduced our chances of making it successfully all the way to the Ice. *26*

As we climbed in altitude it was nice not knowing what was observed on the ground back in Taieri as we made our takeoff. If we had been told on the radio, I believe we would have been a lot more apprehensive about our flight southwards. Shortly after we left the field we received a message from one of the aircraft still waiting for takeoff asking us if we were having any in-flight difficulties. Feeling that everything was normal with our aircraft, we radioed back that things were proceeding smoothly and we gave no serious thought concerning the call. What happened was that Eddie fired the JATO rockets before the tail wheel came off the ground and the searing rocket blast set the tail wheel on fire. Since the fire was behind us and out of sight we didn't know that the tail wheel was on fire. We trailed black smoke for a long time until the tail wheel burned itself out, doing no further damage except for the tire itself. Our forward speed fortunately blew the flames behind the aircraft so none of the aircraft metal parts were singed or burned. Had such a fire occurred further forward on the aircraft it could have turned us into a magnificent fireball since we were so heavily loaded with fuel. Another situation which could have been catastrophic would have occurred if we had lost an engine after leaving the ground. In such a case we would have started dumping fuel to lighten our loads, and the pipe, which dumped the fuel, ran next to the tail wheel. The burning tail wheel would have lit off those hundreds of gallons of gasoline trailing out of the dump pipe and our aircraft would then have become a burning torch.

And so we started the sixteen and a half hour flight over the worst ocean in the world, a flight that was so long that it seemed at times as though we had been in the air for weeks on end. The flight from California to Hawaii had been almost as long as the flight to McMurdo. The big difference was that much of this flight would be made over the raging and frigid waters of the South Pacific Ocean where a water landing due to an in-flight emergency would have certainly been fatal to the entire crew.

A few hours after we left the coast of New Zealand, it became dark and the weather, which was predicted as satisfactory, became unusually rough. At one time we started collecting ice on the wings and fuselage, forcing us to climb to higher altitude where conditions were not so conducive to icing. Around midnight we made radio contact with a U.S. Navy destroyer, which had been situated along our flight path near where the Antarctic icebergs started. This ship was placed there to carry out a sea rescue should one of our Antarctic bound aircraft be forced down along the way to the ice. It was a totally dark night and we were flying through heavy clouds as we made contact with the ship, so we couldn't see what was happening in the ocean below us, however, the ship's captain told us by radio that the seas were extremely rough and if we had to make a forced landing it was highly improbable that he could have rescued us in those high seas. This was not a comforting thought, but fortunately for us our aircraft engines continued to run smoothly so we expected no difficulty in reaching our destination.

Somewhere to the rear of us were two of our fellow R4D's heading as we were for the Ice and one R4D was ahead of our flight path. We were all stretched out about 10 minutes apart so there was little chance that we might collide during that long flight southwards. Some hours after we had all passed the Point of No Return, the point on our course where we no longer had sufficient fuel to return to New Zealand, the last R4D in

our group, which was piloted by Lcdr. Gus Shinn, reported that he had lost control of his gyro-stabilized compass, the most important piece of navigational equipment for Antarctic flying. (Since the magnetic compass became unusable as we approached the magnetic pole, we had to rely on a special gyro compass for direction.) Should this instrument cease to work properly there was nothing left to give the pilot information as to how he should steer his aircraft. With no stars to steer by the pilot would have wandered aimlessly until his fuel was exhausted.

Just ahead of Lcdr Shinn's R4D, Lt. Harvey Speed, the aircraft commander of the second to the last R4D, reversed the course of his aircraft and flew northwards until he could pick up the disabled R4D on his radar. The two aircraft got together in the dark and Harvey did the navigating for both aircraft all the way to McMurdo. In doing this Harvey jeopardized his own aircraft somewhat since he used up fuel which might have been needed upon reaching his destination. If there were navigational errors made along the way or if the weather was bad on arrival and it was necessary to make several instrument approaches to the ice runway the lack of reserve fuel could have spelled disaster. Harvey was not officially recognized for his brave action, however, his fellow pilots knew what a great chance he had taken and we all admired him for it.

As we approached the Antarctic Continent sometime during the early morning hours we slowly became aware of a change in the light in the sky. At first it was a light grayness on the horizon, which grew brighter in degrees until we could make out the mountains covered with snow that ringed the continent. It was an unusual sight since the grayness turned first to golden pink and then to bright white, so bright that we were forced to put on our dark glasses or suffer snow blindness.

I had seen a few snow covered mountains from the air before but bits and pieces of rock always showed through the snow covering. Here in the Antarctic there was little rock showing through the snow; instead, the mountains appeared like giant scoops of vanilla ice cream. All the mountains were over 12,000 feet high and they fell steeply into the frozen sea with no discernible beach. Since the Continent was just emerging from an intense winter period, the ocean below us was frozen solid and there was no open water in sight.

We had been told that there was a very small Navy unit, located at Cape Adair, near where we first intercepted the Continent coastline. Should one of our aircraft have had to make a forced landing near this camp there would have been other humans around to assist us but there was no fuel or repair facilities to get our aircraft back in the air again. Should this have become a necessity we would have lost days or weeks in repairing the aircraft and this would have jeopardized the summer exploration operations. Fortunately all of our R4D's had sufficient fuel on board as we passed Cape Adair so a forced landing did not become a necessity.

As our four sluggish R4D aircraft slowly plodded our way southwards to McMurdo Sound, there was another of our squadron aircraft making the flight with significantly better airspeed. Lt. Dave Carey's P2V aircraft took off from Wigram Field hours after we did and with an advantage of about 90 miles per hour, he was scheduled to reach the ice

runway at Naval Air Facility, McMurdo well before we did. If he had tried to contact any of us by radio when he passed us enroute I never heard his call.

From Cape Adair we flew along the coast of the Antarctic Continent, which ran north and south for several hundred miles all the way to McMurdo Sound, our destination. As we drew closer to McMurdo the visibility became worse close to the surface, but at our altitude we could see ahead quite well. On our right was the magnificent row of mountains which encircled the Continent, and ahead and to our left, were Mount Erebus and Mount Terror, both heavily covered with snow. Mount Erebus had a spire of smoke from its peak because it is still an active volcano. Mount Terror, once a volcano, is now quite dormant.

When we were within radio voice range of the airfield at McMurdo, we called the portable tower, just recently placed on the sea ice, next to the scrapped ice runway. We were greeted by a friendly voice which assured us that they had our aircraft on radar and that we would be given a Ground Controlled Approach to a landing. The type of radar used by the tower gave such specific information about our location from the ice runway, that the operator in the tower could direct our heading and descent so as to bring us to the very end of the runway so all we would have to do is to level the aircraft and place the skis on the ice surface.

As we approached the runway and got closer to surface, the reduction in visibility became more apparent to us in the cockpit and when the tower operator told us we were over the end of the runway we were still unable to see any outline of the runway. Eddie got a glimpse of the runway after we had flown halfway down its length, but since there wasn't enough room left to land, he added engine power, choosing to make another approach with the guidance of the tower radar operator. We climbed back to about 500 feet above the surface and followed the radar operator's instructions until we were again told we were over the end of the runway. This second time our speed was slower and Eddie was able to get us lined up for a landing. The ice runway wasn't at all smooth but it felt comforting to be at last on the surface after all those hours in the air.

As we taxied from the ice runway to the parking area, I noted in the distance the tail of a P2V aircraft sitting at a crazy angle and almost upside down. For a moment I couldn't surmise what I was looking at. My mind was weary from the long hours in the air and it refused to accept the reality that this was the tail of the P2V that over-flew us during the long flight southward. It, and its crew, had come to a violent end there on the sea ice. I communicated this to Eddie, as he taxied the aircraft to our parking spot, and I can still hear his repeated curses as he realized that some dreadful thing had happened on the ice in front of us.

After we had exited the aircraft and got to talking with some of the wintering-over personnel who had worked for weeks preparing the ice runway for our landing. They told us that the P2V had arrived from Christchurch, New Zealand under radar control, just as we had done, however, the visibility was even worse than when we had arrived. Lt. Carey missed his approach to the runway, just as we had done, and he applied engine power to make a second approach to the runway. Instead of climbing to a safe altitude, as we had done, he remained low over the surface, trying to keep the tower and runway in sight.

With the visibility quite poor and both pilots looking outside the aircraft they failed to monitor the aircraft instruments, they allowed the aircraft to fly into the ice surface. Since the aircraft was in a steep bank, the right wing contacted the ice and the entire aircraft was thrown into a vicious cartwheel, tearing itself apart on the ice surface. Lieutenant Dave Carey, the Marine Captain, who had the parachute incident in New Zealand, and two enlisted crewmen were all killed instantly. The other three members of the crew were critically injured and were placed in the base dispensary until they could be flown back to New Zealand for treatment.

And so started the first day of my Antarctic adventure. Even though I was dead tired from the long flight, the reality of what had happened to friends and fellow squadron mates imparted a severe sting to my ideals about adventure in the Antarctic. As a result, my first few days at McMurdo were not as joyous as I had imagined they were going to be. In flying there is always a specter of death lurking in the background, however, most pilots seem to ignore its presence until something like a crash happens. During my military career I was a witness to dozens of crashes with fatalities. None of them were easy to accept, particularly when friends were involved, but this accident affected all of us differently. We were there on the Ice twenty-four hours a day and we had no home and family to ease our cares once we left the flight line. None of the crew of the P2V were close friends of mine but we had on occasion shared flight experiences over a drink or two, so it wasn't as though the dead were strangers. Still, you have to go on with living and with flying and you hope that it won't be your turn next time.

Antarctic Facts

About 2 percent of Antarctica is ice-free. These unusual land areas, called oases, generally are near the coast and include the dry valleys of southern Victoria Land and the Bunger Oasis in Wilkes Land. High rims at the end of the valleys prevent entry of large glaciers. The warm local climate melts the ends of smaller glaciers extending into the valleys.

Chapter 7.
Life at McMurdo

The popular saying that life must go on is doubly true in the Antarctic, because the weather and the remoteness from civilization makes it imperative that everyone participate actively towards the survival of the group. After the initial shock of Dave Carey's P2V crash had taken its heavy toll of my emotions and after a few hours of sleeping off the long flight from New Zealand, I found myself once again working as an administrative officer for the squadron unit there at McMurdo Station. I had to jump into the steady routine of handling messages to and from the squadron headquarters in Rhode Island, and I was not surprised to find that most of the message traffic had to do with the crash of the P2V. I was assigned the job of seeing that the personal effects of the crash victims were inventoried and prepared for shipment to next of kin. Since I was the only squadron administrative officer at McMurdo, at the time, the details of making squadron reports fell on my shoulders.

One task that was assigned to me was one that I would rather have avoided, and that was to make a positive identification of one of the deceased airmen. When the accident occurred, those on scene at the time sent messages to the States giving the names of the deceased and the injured, as well as brief details of the accident. The families of the deceased were notified of the crash and condolences were given by representatives of the squadron in Rhode Island. In the case of one enlisted crewman who had been killed, there was an unexpected reaction from the family concerned. They told the squadron represented who visited them, that the airman in question had called them by telephone the day after the date of the crash. What had happened is that the airman called his family before he took off from New Zealand and because he was west of the International Date Line, his family was one day behind calendar-wise from the date in New Zealand so they reasoned their son was still alive. While we realized that this was the cause of the discrepancy in their reasoning, I was still told by the squadron Executive Officer that I should take steps to positively identify the deceased airman and then advise our Rhode Island squadron office of my findings.

I went first to the enlisted quarters at McMurdo Station and located a man who had known the deceased man and I asked him if he would be willing to identify the remains of the deceased man. He indicated he was willing to help me and the two of us proceeded to the tent, which had become our temporary morgue. The four corpses had been placed in zippered bags and since the air in the tent was well below freezing the bodies were frozen solid. I unzipped the bag of the deceased in question and asked the attending enlisted man if he could identify the deceased, which he acknowledged that he did. After identification was completed I sent a message to squadron headquarters verifying that the man in question did indeed die in the crash as had been reported on the day of the crash.

The weather in the McMurdo Sound area had become quite poor shortly after all the arriving aircraft were tied down, so we were not able to get airborne again for eight days. In between working, sleeping and eating, I took advantage of my time by studying McMurdo and its surroundings. The camp itself was located at the foot of Mount Erebus, an active volcano. Mount Erebus and Mount Terror combine to make up an island about fifty miles in diameter. On one side of this island is McMurdo Sound, frozen solid about 3/4 of the year and open to ship navigation the other 1/4. On the side of the island facing the South Pole is an ice shelf several hundred feet thick, with ocean water below the ice. This ice shelf runs about 600 miles east and west and about 600 miles towards the south from McMurdo, and consists of compacted ice pushed down from the Antarctic Plateau through dozens of glaciers. The surface of this ice shelf is about 125 feet above sea level and as the ice floats on the sea below it rises and falls with the daily tides.

The view from Main Street at McMurdo Station is a grand one. Towards the west, about forty miles away is the Continental Range which encircles the Antarctic Continent. On good days it looks like a short half hour walk away across the sea ice because the lack of moisture in the air gives everything far away a degree of clarity hardly ever seen in the warmer parts of the world. From Main Street, looking a bit to the left is Observation Hill, a hundred or so feet high, with a prominent wooden cross on the summit. It was erected there in memory of Captain Scott and his team of men who went to the Pole but died on the return trip. One day several of us climbed to the top of Observation Hill, where we could look out over the Ice Cap which extended southwards well past the limits of the horizon. About thirty miles out on that lonely icescape, Captain Scott on his lonely journey returning from the South Pole set up his tent for the last time and died of exhaustion and the cold, while a short distance way there were those who could have rescued him. Looking to the north from Observation Hill, one can see one of Captain Scott's abandoned cabins, left much as it had been when he departed for the South Pole. It is maintained now as a historic site, however, when we were there it was packed with ice and snow from the floor to the ceiling. Sometime in the years gone by the door to the cabin blew open and the snow promptly filled it.

Just over the small hill behind Scott's cabin one could see the mast of a small Navy ship, an oiler, which was brought to the Continent the previous year, containing aviation fuel for our early summer's operations. The small ship was allowed to become frozen to the shore line so the winter storms would not tear it loose and grind it against the rocky shore and thus sink. It wasn't many weeks before our aircraft had gobbled up all this fuel and we had to wait for other ships to arrive with replenishment.

When you left Main Street heading westwards, towards the ice runway, you walked down a short hill which led you to the frozen sea ice, which varied in thickness during the summer months but was usually firm enough to support the aircraft which landed there. The runway was about a mile out from the base buildings to give clearance when visibility was poor to the aircraft landing and taking off leaving them free from having to worry about flying into the hills around McMurdo Station. Within a few days of our arrival at McMurdo a snow covered runway was prepared next to the ice runway so the R4D's could land using their skis, thus leaving the ice runways for the wheeled aircraft.

McMurdo Station was built on volcanic rock and had two streets, each two blocks long. On both sides of the streets there were Quonset Huts, containing living quarters, a mess hall, administrative offices, washrooms, a laundry room, storage sheds and even a chapel. The station had no beauty in itself since it was built on stark black volcanic soil and the only adjective that can describe it is “drab”. As we moved between buildings our shoes picked up the dusty volcanic soil and we then carried it into all the buildings, making constant sweeping a necessity. Even the insides of our living quarters were drab in appearance.

There were two buildings used for officers’ quarters and both were located side by side. My cubicle was located in the Junior Officers building, which held about 25 double bunk beds. Between the beds there were metal lockers, so there was a modicum of privacy provided, but not very much when you consider State-side standards. The buildings were not lighted well and since people came and went at all hours of the day and night, each of us had to get used to sleeping with lights on. The dry air of the Antarctic and the 24 hours of daylight helped produce insomnia in all of us and sometimes it was next to impossible to fall asleep, even though our physical time clocks told us we should be getting some rest. The condition was called the Big Eye and since all of us suffered from it from time to time, it seemed that the camp was always awake. Men moved about the base, half awake and half asleep at all hours of the day and night. You could go to the mess hall, the bathrooms, the office spaces, the laundry, or a dozen other places and always there was a small group of bleary eyed individuals killing time until a sleepy feeling returned and they could return to their beds for some sleep.

There was a small sitting room in the Junior Officers Quarters and it always seemed to hold a talkative group and their chatter made sleep impossible for those who were waiting for sleep to come as they lay in their bunks a few feet away. Outside the base buildings, the air was always cold and dry, but if it was windless, as it was a good bit of the time, we found we could go between our living quarters and the next door bathroom in just our long johns. Often we would stop and talk amongst ourselves out in the open for ten or fifteen minutes, wearing just our underwear. The radiant heat from the sun seemed to compensate for the below freezing temperatures and our bodies could maintain its heat for a short while at least, even though we wore only one layer of clothing. Somewhere in my file of old photographs several of us are caught in our underwear enjoying life in the open, with no sign of discomfort on our faces. There is also a bikini-clad mannequin, leaning against the wall of our quarters, giving a false impression that the weather might be warm as toast. Eddie brought this mannequin to the Ice as a joke and it was our showpiece for several months before it disappeared.

Just outside the camp and down the hill away from our living and working areas, was a lonely and seldom-visited building, where the dogs and their keepers stayed. Alaskan Huskies had been brought to the Antarctic, along with sleds and drivers, to be used in case of an aircraft crash in a remote area where air rescue could not be conducted. The dogs were fed raw seal meat and as a result they were very smelly. The trainers lived, ate and slept in the same building as their dogs, because the odor of the dogs permeated their

clothing and others in the camp found it difficult to be around them for very long. It was a lonely existence for the trainers but they didn't seem to mind it.

Getting to and from the camp to the ice runway, about a mile away, was accomplished in tracked vehicles, such as the Weasel or the SnoCat. These vehicles were noisy and uncomfortable but they were the only mode of travel we had, other than walking. As the summer progressed the ice became soft and slushy and deep puddles of water collected on top of the hard ice, making walking to the runway an impossibility. One tracked vehicle took an unauthorized short cut back to the camp one day and the vehicle plunged through the ice into about fifteen feet of water. The driver drowned in the icy waters and it caused all of us to use more caution when proceeding out to the ice runway. One of the things you learned quickly in the Antarctic was that danger lurks everywhere. And when you least expect it, tragedy can strike.

Antarctic Facts

Surrounding Antarctica are the southern parts of the Pacific, the Atlantic and the Indian oceans. The Antarctic Convergence, which encircles Antarctica roughly 1,000 miles off the coast, divides the cold southern water masses and the warmer northern waters. The Antarctic Circumpolar Current, the world's largest ocean current, moves eastward around the continent at an average speed of about half a knot (1 kilometer per hour). Sea ice up to 10 feet thick forms outward from the continent every winter, making a belt 300 to 1,000 miles wide. Even in summer the sea ice belt is 100 to 500 miles wide in most places.

Chapter 8:
The Pole is Our Goal

On October 25, 1957, after a local test flight, in which we checked out our aircraft after that long over water flight from New Zealand, we then departed McMurdo Station on our first operational mission of the summer season. While the other three Squadron R4D's began establishing a weather and refueling station at a site halfway to the South Pole, we were sent to Little America V Station, which was about 575 miles east of McMurdo Station. Little America V Station had been established the year prior to my arrival in the Antarctic and since it had been eight months since that station had received visitors, our arrival there with mail, cargo and relieving personnel was expected to be a welcome one. ***27 & 28***

The surface of the ice between McMurdo Station and Little America V Station was both interesting and beautiful so the flight between the two locations was always interesting. After leaving the ice runway at McMurdo we flew eastwards with Mount Erebus and Mount Terror on our left and the smooth ice shelf below us, extending itself towards the southern horizon without discernible features. Both mountains had a heavy mantle of snow and appeared massive and stark against the smooth ice shelf below us. Both mountains had their own individual aspects. Erebus was craggy and imposing, with a large plume of smoke coming from its volcanic mouth. Terror had softer lines and appeared less stern and forbidding than Erebus. Mount Terror had once been an active volcano, but it has been quiet for centuries and its surface has been smoothed somewhat from the wear of time. The surface of the ice shelf was not absolutely smooth but showed small disturbances called *sastrugi*, caused by the scouring of the surface by the wind. From our altitude of about 500 feet over the surface the sastrugi effect was somewhat apparent but down lower the roughness could be seen more clearly.

After leaving behind both island mountains our flight path took us to where the ice shelf met the open sea. Here the edge of the ice stopped abruptly, leaving a sheer icy cliff about 125 feet high. This 500 mile long ice cliff was in the state of constant change. As the waves of the sea pounded against it during summer months and as the warmer water below melted it, large chunks of ice, sometimes several miles long in size, would calve off and fall into the open sea. These pieces of the ice shelf then became icebergs and floated northwards, moved by the wind and ocean currents. In time I noted that if we had several days of high winds and unruly seas, the debris from the fallen cliffs would cover the ocean for as far as one could see grouping itself into a vista of seemingly unending floating icebergs. Since these floating icebergs were readily available, the seals would often cover them as they rested from their fishing forays.

The ice shelf below our flight path was called the Ross Sea Ice Shelf and it was about 600 miles long and about 600 miles wide, and it contained the ice pushed down from the Antarctic Continent by numerous glaciers over thousands of years gone by. The ice itself

was several hundred feet thick and floated on the ocean below. Though it rose and fell with the tides, its motion was indiscernible to those who lived on it and one soon forgot that below the place where one worked and existed 24 hours a day took place over a 5000 foot deep ocean and not over land. The ice shelf was attached to land on three sides and where the ice met the land there was a considerable amount of fracturing caused by the rise and fall of the tides. Later in the summer our large cargo-carrying tractor trains experienced considerable difficulty with these tidal fractures on the surface and it took considerable snow bridging to make the route they traveled across these tidal cracks safe.

For the most part the surface of the ice shelf was smooth and we were able to safely land our R4D's just about anywhere we needed to without expecting difficulty. This massive ice shelf also moved northward as more ice was pushed towards the sea from the numerous glaciers, and in its passage it occasionally moved over a submerged island or some rocky formation just below sea level. Wherever this occurred the surface of the ice shelf became disturbed and exhibited strange characteristics. Within fifty miles of Little America V Station there was a surface feature called Roosevelt Island, which was about thirty miles long where a section of the ice shelf passed over a submerged rock or island. The ice shelf in this region rose up into a smooth dome several hundred feet high and could be seen from a considerable distance away.

On this, our first navigational flight in the Antarctic, I was amazed how clear the air was in all directions. Since there was no haze we were able to see hundreds of miles in all directions. Mountains which appeared to be close were, according to the maps, actually a long distance away and though we were traveling at speeds around 150 miles per hour they receded from our view very slowly. Objects appearing ahead of us often seemed closer than they actually were and our judgment of distance was often in error by a factor of three or four. We learned in time to measure our distances by using our aircraft radar, instead of depending on our eyeball estimates. Most of our flights over the ice shelf were made at 500 feet above the surface because there were no hills or rises which we might fly into and it was an ideal height to pick up small objects on the surface which we couldn't have detected from higher altitudes.

On this first flight to Little America we discovered that the edge of the ice shelf was a perfect navigational feature for our purposes, for it proved to be a straight line pointing to Little America V Station and all we had to do was to follow this line of cliffs and be certain that we would reach our destination. Even when visibility was poor enroute or when clouds covered the surface we were able to use the coastline for navigation purposes because the reflective light from the ice cap and the dark ocean water came through the clouds giving a sure indication where the ice shelf stopped and where the ocean began. On this early summer flight the ocean was still frozen solid and there was no dark water below us, but within a few weeks the ice would move away from the cliffs and the contrast between the two would become apparent. About forty miles before reaching Little America we passed over a small inlet, called Kainan Bay, which had been used by Rear Admiral Byrd when he established the first Little America Station in the year 1935, as well as subsequent years when his expeditions took him to Antarctica. This bay had been carved in the ice shelf as the ice flowed over the submerged Roosevelt

Island. Here the ice shelf was thinner than elsewhere and the cliffs were low enough that ships could unload their cargo without too much difficulty. In Rear Admiral Byrd's time the inlet, called the Bay of Whales, was deeper than when I saw it so it was quite a haven for his off loading operation, but less impressive in 1957 when we flew over it. Later in my stay in the Antarctic I was able to explore Admiral Byrd's old camp and I will tell of it later in the story.

After passing the old Little America V Station, we were able to establish radio communications with the control tower at the newer Little America V Station. Being the only aircraft in the air within a 500 mile radius, the control tower operator gave us clearance to land without hesitation. This was to be my first snow ski landing and I was surprised at how smooth it was. Since the runway had been scraped and leveled by one of the station's tractors, it made the surface a lot smoother than it would have been otherwise. After landing we parked next to the small airport terminal building and proceeded to debark. Since the personnel there at Little America had not been visited for about eight months, they gave us a warm welcome. Our enlisted crew members were left behind to refuel the aircraft for the flight back to McMurdo Station, while the three officers, Eddie, Ensign Creech and I were driven by a tracked vehicle to Little America itself, which was about a mile away. I was surprised to find that although the buildings had been assembled just eight months earlier, they were entirely covered by snow. Only the smoke stacks and radio antennas rose above the level of the snow. We were soon to find that any tool left outside for a short period of time was soon covered over by blowing snow, so the buildings being larger stopped a lot of blowing snow and thus they were soon covered. Considerable amounts of equipment had been lost in the first year of Antarctic operations because there was no time available to store it inside of buildings and once it got covered by snow it was almost impossible to locate.

We discovered right away that Little America was a much different place than McMurdo, mostly because it was located on packed snow and not on solid land like McMurdo. Winter or summer it was colder at Little America because everything surrounding Little America was snow and at McMurdo there was the black soil which radiated heat in the summer and the hills which blocked some of the icy winds as well. It deserves mentioning, however, that the snow immediately surrounding Little America was not white but dark gray. Although the snow was white when it fell, the constantly running generator engines and tractor engines spread a film of carbon over the surface which made the camp surroundings look dingy.

The buildings were large at both stations, however, differently constructed. McMurdo had Quonset Hut buildings, which were developed during World War II and Little America had buildings which were cubicle in shape, with flat roofs. These Little America buildings were built and pre-assembled in the States and when they were fitted properly they were disassembled and shipped to the Antarctic where they were reassembled. The walls of both types of buildings were heavily insulated and did a remarkable job of keeping out the cold.

On entering Little America buildings we were surprised to note that we had to step down into them because the snow outside the buildings had collected so as to be several

feet higher than the inside floor. All this accumulation had taken place in the eight to ten months since the buildings were put together. We also noted that the outside doors all opened inwardly because the snow piled up outside the door during the night and had to be shoveled away every morning before work could commence outside. In all there were about twelve large buildings at the main site of Little America and they were all connected by one unheated tunnel which ran the length of the camp. Although the temperature in the tunnel was below freezing, the snow covering kept the wind out, so you could move about in the tunnel without wearing heavy outside clothing.

We were first taken to the building which housed the officers who had wintered over during DeepFreeze I. I was surprised and taken aback at the appearance and manner of these men, whom we would have thought would have been overjoyed at seeing us, the first visitors of the summer. Since we wore bright, new arctic-style clothing, it was not surprising to find that the long winter months of hard work had taken its toll on their wearing apparel. Some were dressed in tattered and torn items. What was surprising, though, was that everyone there was so unkempt and disheveled, and uncaring about their physical appearance. The second surprising thing about these officers was how nervous they seemed and how suspicious they seemed of us, the newcomers. The senior officer of the group had a large beard and as we talked with him his fingers either shook badly, or he engaged them in twisting his beard continuously. I later commented to Eddie that I hoped that when my forthcoming wintering-over period had approached it's ending that I wouldn't exhibit these same characteristics. Looking back to that time when I, too, ended my stay on the Ice, I can truthfully say that I survived the rigors of the Antarctic winter without any of the signs of exhaustion shown by these Little America men.

After this brief meeting with the station officers and a meal in the station dining room, we were escorted back to the airfield, where we made preparations to return to McMurdo. I was asked to help carry an R4D aileron from the Operations Building to the aircraft, a distance of about fifty yards. The aileron which was part of the wing of the R4D had been brought to Little America by ship and in off loading it on to the ice shelf it was damaged. We were taking it to McMurdo for repairs. At that time I was wearing a pair of woolen mittens, instead of the leather fleece-lined gloves the other men were wearing. I thought they were adequate for doing the lifting that needed to be done but the intense cold of this metal part instantly seeped through the gloves and by the time we were halfway to the aircraft my hands became extremely pained by the cold. I couldn't afford to let go my end of the aileron for fear of letting it fall to the snow and thus damage it further, so I forced myself to continue carrying this heavy item until it was safely loaded into the cabin of the aircraft. As the blood returned to my frozen fingers, I experienced the greatest pain I had ever known. I sat in the Operations Building for at least 30 minutes with pain showing all over my face and tears rolling down my cheeks as well. Those mittens might have been adequate for moderate temperatures but were useless in the Antarctic, so I never wore them again.

As soon as my hands were usable again, we said our brief good-byes to the Little America personnel and we started the engines for our return trip to McMurdo. Taxiing the aircraft on skis was a different experience from what it was when we maneuvered the

aircraft on solid ground, or on the ice runway at McMurdo. Whenever we parked after a flight our skis froze to the surface of the snow and when we started to taxi it would take full power on both engines to get the aircraft to move forward. Once the aircraft started moving forward, the power would then be reduced so as not to taxi too fast. When taxiing on a hard surface the wheel brakes would slow the forward motion and the rudder would control the direction. With skis we had to use differential power settings, plus the rudder, to get directional control. Since we had no brakes with the skis it took more judgment as to when to reduce power so as not to overshoot the place where we wanted to stop.

The takeoff from the Little America snow runway was smoother than I had expected but it took more of a takeoff run to get airborne than it would have on a hard runway. Once airborne we headed for McMurdo and since there were no planes in the air at McMurdo, nor any well south of New Zealand, Australia, South America and Africa at the time, you might consider that we had a large expanse of the southern part of the world all to ourselves. The weather remained clear throughout the flight and although it was after midnight when we arrived at McMurdo the sun was still high on the horizon. It was going to take a little while to get used to this constant daylight. Few senior officers were still up when we returned to our quarters so we had to wait until the next day to debrief on our mission. ***29***

Antarctic Facts

Antarctica has three points that are called "south poles." The best known is the geographic south Pole, at 90 degrees S. latitude. It is at the axis of the Earth's rotation. The geomagnetic pole is at about 78 degrees S. 110 degrees E., in East Antarctica; it is the center of the Southern Hemisphere auroras. The magnetic south pole is the area toward which compasses point; it is just off the Adeline Coast at about 65 degrees S. 140 degrees E.

Chapter 9:
Heading Inland to Beardmore

McMurdo Station had become a real hub of activity by the time we had returned from our flight to Little America V Station. The Operations Plan for the summer placed foremost priority on getting an emergency radio station set up halfway between McMurdo Station and the South Pole, about 300 miles inland. As I had mentioned earlier the station was named Beardmore Station and it was to act as a radio relay station, a weather reporting station and an emergency refueling station for R4D's returning from the South Pole and other remote locations. The other three squadron R4D's had already started shuttling back and forth from McMurdo to the new Beardmore Station. (This name is a misnomer because the Beardmore Station was not located at the foot of Beardmore Glacier as planned in the Operations publications, but at the foot of the Liv Glacier, about 80 miles to the east of Beardmore Glacier. The pilot of the first R4D going south found the surface of the ice shelf at the foot of the Beardmore Glacier too rough for landing and scouted eastwards until he found a smoother area, which just happened to be at the foot of the Liv Glacier. Since the new refueling base was shown in the operations publications as Beardmore Station the name stuck, even though it was geographically incorrect).

The R5D, which made the first flight southwards from New Zealand, was now busily engaged in making several long distance exploratory mapping flights of the interior of Antarctica. Another P2V had flown in to McMurdo from New Zealand and was making some exploratory flights of its own. While all squadron aircraft were now involved in operational flights, McMurdo personnel were making preparations for the arrival of the giant Air Force C-124 Globe Masters, which were to be used for air dropping cargo at the South Pole Station. As mentioned before these large aircraft couldn't land anywhere on the Continent except at McMurdo, because like the R5D's, they made only wheel landings and the ice runway at McMurdo was the only hard landing spot on the Continent.

McMurdo itself was showing signs of coming to life after the long winter isolation that was just passed. The newly arrived people were starting to take over from the wintering over group and the streets of the small village, which had seen little activity for over a half year, were now full of people. Our return from Little America, like a lot of later missions, was treated with little fanfare. Everyone seemed to be so busy working at their own activities that they seemed to have little time to care much what our squadron flight crews might be doing.

Our second Antarctic flight mission, as well as several others that soon followed was to join with the otherR4D's in getting Navy personnel, radio equipment, supplies and fuel to Beardmore Station, which was about 400 miles south of McMurdo Station. After all this equipment was unloaded on to the snow surface we then emptied our large internal

fuel tanks of aviation fuel into rubberized tanks which had been spread out on the snow surface near the tents which would house the base radio operators. We seldom had to use any of this fuel but it was good to have fuel available should things have gone wrong.

It should be noted that one phenomenon of the Antarctic regions was that when the Sun developed sunspots (volcanic eruptions on the surface of the Sun) radio communications were disrupted to different degrees and long distance radio communications became difficult or impossible for days on end. It was hoped that the Beardmore Station radio operators could relay messages that might not get through to McMurdo and the Pole Station without their help. Beardmore Station personnel also made frequent weather observations which they forwarded to McMurdo and Little America. These reports helped the meteorologists at these two stations to make better weather predictions for all our flight operations.

On my first flight to Beardmore Station I found myself once again amazed at the grandeur of the Antarctic Continent. Our flight path took us over the Ross Sea Ice Shelf which is flat and mostly featureless for over 400 miles. We kept over the western edge of the ice shelf, where it meets the mountains that surround the Antarctic Continent. Heading southwards towards Beardmore Station I had the magnificent ice clad mountains that bordered the Continent on the right hand side of the aircraft. These mountains held back the great mass of ice and snow of the continental plateau. Since the air was superbly clear, mountains many miles away seemed much closer than they were. Although I knew that these icy peaks were extremely cold and forbidding for anyone to traverse on foot, still they looked from my distance wonderfully smooth and inviting. Like a beautiful painting you want to study in order to feel the vibrancy of the art, the view of these pearl-like beauties caused me to stare at them for hours at a time, as we flew southwards. ***30***

About fifty miles south of McMurdo we flew over a large area of disturbed ice, perhaps twenty miles square, where the slowly moving ice shelf met and was squeezed between two large mountains. The tremendous pressures that were generated caused the surface of the ice to fracture and form into thousands of enormous crevasses. For anyone not familiar with what crevasses are they should imagine that the surface of the ice cracked open leaving a deep fissure which might be several hundred feet deep. Some crevasses in time form a thin bridge of snow deceptively covering the gaping holes below. An unsuspecting person walking over this snow bridge could easily break through this snow bridge and then fall into the deep crevasse below. Many an Antarctic explorer has fallen through these snow bridges and quite a few have met their death this way. Even large motorized vehicles have unexpectedly been lost when the surface gave away without warning. The airfield at Little America V was called Kiel Field, in honor of a U.S. Navy sailor, who in 1955 lost his life when his large tractor broke through the snow bridge of a giant crevasse and he and his tractor plunged several dozens of feet to the bottom of this terrible chasm.

As I flew over this myriad landscape of crevasses, I thought what a forbidding place it would have been had we been forced to land there. Even if our skis hadn't penetrated one of these snow bridges as we landed we would not have been able to safely leave the aircraft for fear of an unseen crevasse swallowing us up. I flew over this horrible place

many times and each time I thought of going down on that nightmare surface and I prayed that our two engines would keep running until we were clear of the area.

Still it was a beautiful sight from the air with the almost geometric pattern of the crevasses meeting the coastal mountains rising up many thousands of feet into the air and I can easily say that all this was one of the most thrilling vistas of my Antarctic sojourn.

As we proceeded southwards, we passed five or six major glaciers, each spilling vast amounts of ice from the high plateau of the Continent. Although each glacier was a thing of beauty, Beardmore Glacier was the most beautiful and the most interesting. Glaciers have been described as frozen rivers, however not so frozen that they are without movement. Explorers of the Antarctic tell of grinding and popping noises which go on constantly as the ice is pushed towards the mouth of the glaciers. Monstrous shapes are created as the ice is crushed and tumbles forward making passage on foot a veritable nightmare. If Beardmore Glacier is a river, it is the widest river in the world, for it is over five miles wide at the mouth. From the cockpit of my R4D I found the jumble of ice on the glacier as indescribable and had we crashed landed while flying over it would have been like flying into the side of a mountain.

After almost four hours in the air we finally reached Beardmore Station, which had been selected only a few days previously. A lonelier site you couldn't have imagined. The two men who lived at this site for weeks at a time had nothing to look forward to except eating, sleeping, relaying radio messages and taking weather observations. Whenever we shut off our engines and climbed out of our aircraft cabin I was amazed at how very quiet it was there, especially when there was little or no wind blowing. Since the snow surface absorbed most noise, you could hear the sound of your own breathing. The nearest mountain was about two miles away, yet it looked a lot closer. Looking away from the mountains there was only the desolate ice shelf which was featureless for as far as you could see. I marveled at how men who could stand living under such lonely circumstances for weeks at a time. They sure enjoyed our occasional visits, especially when we brought them mail and offered them some gossip from McMurdo.

Somewhere back in the States someone who anticipated the need for a toilet facility at this remote site, took out his carpentering tools and hammered a wooden frame with its usual half-moon over the door. This outhouse on the snow was prefabricated so that it was easily snapped together once we had delivered it to the camp. It was built like any outhouse might be, with one exception; inside it was so narrow that your knees stuck outside and the door couldn't be closed. If there were any wind, and there usually was, you managed to conclude your business in short order. Still, with the magnificent mountains rising upwards to over 10,000 feet high just outside the outhouse, the view was nothing short of magnificent.

Returning to McMurdo after stopping off at Beardmore Station should have been the reverse of going there, however, it somehow was always different. The view changed, the angle of the sun was different and the colors reflected from the snow surface were somewhat changed. I would have thought, before I went to the Antarctic, that snow was white and that was all there was to it. What I found out was that as the sun angle changed, as the wind rearranged the snow crystals on the surface and as the visibility changed,

there was also a change in the hue or color of the snow. Sometimes the snow appeared blue like the sky, and at other times it appeared as various shades of pink. The photographs I took at that time reflected this constant change of color. *31*

It should be noted that the light reflected from the snow was so intense that we were forced to wear sun glasses at all times. Once our Navigator, Ensign Creech, left his navigation table to join us in the cockpit for a look-see at the scenery. In the two or three minutes that he gazed out of the windshield, a view he foolishly took without sun glasses, he burned the retina of his eyes and had to be grounded for several days. Snow blindness results in sun burning your eye retina and it is very uncomfortable, requiring that you keep your eyes bandaged until the sunburn heals.

After we had completed three round trip cargo flights to Beardmore Station, it was decided that the unit was fully operational and we could go on to do other things. It was now time for the first South Pole landing, the operation which was to test whether our R4D's could really land and then takeoff from this most remote location, the bottom of the world. *32*

Antarctic Facts

According to theory, some 200 million years ago Antarctica was joined to South America, Africa, India and Australia in a single large continent called Gondwanaland. There was no ice sheet, and trees and large animals flourished. Today, only geological formations, coal beds and fossils remain as clues to Antarctica's warm past.

Chapter 10:
All is Not Work

Although my job in squadron administration took up a lot of my non-flying time it was not so for most of the squadron officers. Between flights a majority of the pilots had no job assignments so it was sit-around, sit-around all day long. Of course there were meals and once-a-day movies and if one was curious there were hikes into the mountain reaches or over the sea ice shore line, but not much else. Most of the officers, however, sat-around, played cards or just talked. There seemed to be a twenty-four hour a day bull session in progress in the Officers Quarters and if you wanted to sleep you had to do it while constant chatter battered your ears. This took some getting used to but I learned that if you are tired enough you can sleep through anything.

Most squadron pilots didn't get to associate much with the Air Force pilots at McMurdo. Air Force pilots were quartered in a different building and their operating hours were different from ours. No effort was made to bring the two groups together socially and as a result there was a barrier that developed between both groups.

General McCarthy, the senior Air Force officer, in talking with news reporters concerning the C-124 flights over the distant reaches of the Continent said several times that their work on the Ice was, "strictly routine". For those of us who struggled with the extraordinary cold, our cranky flight machines and long, wearying flights, operations in the Antarctic were anything but, "strictly routine". The General failed to comment about his aircraft having struck a hummock of ice on the end of the runway when his aircraft landed on return from the Pole flight. In all three C-124s were damaged in landings following flights returning to McMurdo. One C-124 was even scrapped as a result of a crash into an ice hummock on landing.

It should be no surprise to anyone that our group ridiculed the General's description of Antarctic flying conditions. Our squadron lyricist came up with a ditty that covered our opinion of General McCarthy and his C-124's. The song was sang to the melody, "No Gear At All", a song sung my Navy pilots since World War II:

STRICTLY ROUTINE

General McCarthy flew to the Pole
At seventeen thousand, so nary a soul
Could see very well while gasping for air
So nobody's sure if they ever got there.
Chorus
Strictly routine, strictly routine
Going to the Pole in a flying machine.
(*Chorus*)
General McCarthy returned to the strip,

Landing too short, a snow bank he clipped.
He shook us all up, but nobody died,
So with a great smile he quite truthfully cried,
(*Chorus*)
After his flight he conferred with the Press,
Most of who seemed to be mighty impressed,
Took off down the runway - a jolt and a lurch,
In less than twelve hours he was back in Christchurch, saying:
(*Chorus*)
Now Scott and old Amundsen got to the Pole,
And McCarthy's amazed that they ever did so,
He thinks it was marvelous, and what is more,
They got there without a C-124.
(*Chorus*)
Well, General McCarthy, we know what you mean,
Flying to the Pole is just, strictly routine,
But you've got to return, and this is real hell!
The tough part of flying, is landing as well!
(*Chorus*)
Now, General McCarthy is back in the States,
Fulfilling commitments for lecturing dates,
While here at McMurdo, we curse and we swear,
At three 124's with their tails in the air.

The song goes on for nine more verses but the reader is safe in surmising that it doesn't get any more charitable as it proceeds to its end. Of course we weren't a one song squadron. Someone was kind enough to type up a seven page song sheet to be used at our frequent beer parties - another pastime for our aviators with time on their hands. Since our R4Ds were all ancient aircraft with primitive flight characteristics for the year 1956 our favorite song dealt with that venerable old aircraft:

VX-6 CANNONBALL

Now, listen all my shipmates, I'll tell a tale to you,
About some Navy pilots, and of the plane they flew,
They flew down to McMurdo, for Task Force 43,
They didn't fly an aircraft, they flew an R4D.
(*Chorus*)
Listen to the rattle, the rumble and the roar,
As we go down the runway in a beat-up old R-4.
You can feel the airframe shaking,
See the pilot's trembling hand.
If we don't get her airborne, we'll see the promised land.
(*Chorus*)

A bucking and a slipping, down the ice we go,
Everyone lean forward, cause Christ! We're going slow.
Throttles through the firewall, 15 JATOs blasting free,
I've 18 tons strapped to my back in this beat-up R4D.
(*Chorus*)
I'm sitting in the cockpit, I can't retract the gear,
I'm running out of airspeed, this is the end, I fear.
So listen, all my loved ones, please say a prayer for me,
For I'm attached to VX-6, and a lousy R4D.
(*Chorus*)
Creaking down the runway, what do my poor eyes see?
A hundred correspondents - and the "gawdamned" NBC.
They've heard about this aircraft,
And they expect the worst.
They'd feel bad, if I crashed in flames,
But, they want to get it first.
(*Chorus*)

The old R4D took a beating when pilots talked about her on the ground but it was a lot more reliable than anything we, or the Air Force, had down on the Ice. The next 15 months proves this statement to be true. Movies were the only commercial entertainment we had at McMurdo but the selection of films was very limited. Long before ships arrived with new movies the collected ice bums had witnessed them all. One movie was screened so many times it became a local guru movie. Its title was, "They Died With Their Boots On" and before many screenings everyone knew the main lines of the actors and they would yell them out as the actors spoke them. It was great fun but it finally ended with the arrival of new movies.

Antarctic Facts

Antarctica does not have 24-hour periods broken into days and nights. At the South Pole the sun rises about September 21 and moves in a circular path upward until December 21, when it reaches about 23.5 degrees above the horizon. Then it circles downward until it sets on about March 22. This "day," or summer, is six months long. From March 22 until September 21 the South Pole is dark, and Antarctica has its long "night," or winter.

Chapter 11:
First Flight to South Pole

By October 31, 1956, Beardmore Facility was considered fully operational as a halfway weather and refueling stop between McMurdo Station and the South Pole. Our meteorologist reported that the weather over the South Pole was improved enough for the squadron to attempt its first landing at the Pole itself. The site for this permanent outpost happened to be on top of the polar ice cap at an altitude of about 10,000 feet, where super-cold temperatures were known to exist all year long. It was not unusual to expect temperatures as low as minus 100 degrees Fahrenheit, so building a permanent research site there was going to be no ordinary feat. Both the men and equipment for this enterprise had to be selected for durability and adaptability or the project would not be the success that was necessary for their survival.

Lieutenant Commander Gus Shinn, U.S.N. and his R4D flight crew were selected to make for the first landing at the Pole location. As soon as Lcdr. Shinn had taken off from McMurdo and was enroute to the South Pole, our aircraft was to fly to Beardmore Station, where we were to remain in a ready condition in case the first R4D was unable to get off the surface of the South Pole after landing. Should Lcdr. Shinn experience engine or other failure enroute to the Pole and be forced to land in some remote area, we would have flown to his emergency landing site and offered them fuel and/or rescue services. This assignment was not the glorious pole landing adventure that we had hoped for, but nevertheless it was an important and necessary job that had to be done. Our hopes had been to make the first polar landing but Eddie's reputation for being less than 100% reliable probably influenced the decision to be otherwise.

Lcdr. Shinn's R4D aircraft carried RADM Admiral Dufek, Captain Douglas Cordiner, who was my Commanding Officer and Captain Hawks, the Admiral's Aviation Officer, as passengers on the flight southwards. As Lcdr. Shinn's aircraft proceeded southwards, an Air Force C-124 GlobeMaster aircraft positioned itself high over the South Pole and provided navigational information to the R4D. After about seven hours of flight the Lcdr. Shinn's R4D reached the Pole and made the world's first aircraft landing at this remote and unforgiving location. Weather conditions at the Pole that day might be considered fearful to some. The temperature was minus 58 degrees Fahrenheit and there was a brisk wind blowing. While the pilots remained in the cockpit keeping the engines running so that they wouldn't freeze up, the passengers exited the cabin and planted the American Flag on the frozen surface, signaling the arrival of the first Americans to reach the bottom of the World.

It was quickly apparent to Admiral Dufek that it would be unwise to remain at the South Pole for any length of time for the people standing outside the aircraft quickly started showing signs of frostbite and the Admiral, himself, froze his lungs when he took

a deep breath of this super-cold air. Without delay they all climbed back into the aircraft and preparations were made to takeoff.

It was at this time that a new situation developed, which no one had expected. During the landing run the skis heated a few degrees from the friction of the landing run and this small bit of heat buildup caused the snow to melt and then freeze to the skis. The aircraft then was frozen to the surface of the Pole and when Lcdr. Shinn applied takeoff power to the engines the aircraft refused to budge. He next tried firing four of his JATO rockets while he had full engine power going. This didn't break the skis loose from the ice. Again he tried using JATO, plus full engine power, and full forward and back elevator controls. At the last moment the aircraft broke free of the ice and started moving. Slowly the aircraft gained flying speed and they finally got airborne.

Since the surface of the South Pole is nearly two miles high where the air is thin, the engines were not able to develop their full power. Without additional push of the JATO rockets, it would have been an impossibility for the aircraft to reach takeoff speed. To top off the difficulty in getting enough power for the takeoff maneuver, Lcdr. Shinn's cockpit windshield was totally frosted over and he had to make a blind takeoff. It was only through his great skill that they were able to survive both the landing and takeoff from the Pole. Admiral Dufek decided after that frigid polar experience that we would wait several weeks before continuing with the establishment of the South Pole Station in hopes that the warmer temperatures a few weeks further into the summer would make the job less hazardous for everyone.

One thing that concerned me when I was on the Ice was that we never seemed to consider the experience of others when Antarctic flying was being planned. We were not the first aviators to brave the polar regions by aircraft, so we should have studied what others had learned before we started on our own. After I had completed my tour on the Ice I read that other arctic pilots had found themselves frozen to the ice surface and they found that they could break themselves free by passing a length of piano wire under their skis. With our wide bottomed skis it would have taken two men, one on each side of the skis, sawing through the ice with a piece of stiff wire in order to free the aircraft. It is too bad we couldn't have tried this simple and effective system and saved ourselves a lot of engine power and JATO bottles, thus making our takeoffs a lot easier.

While Lcdr. Shinn was struggling at the Pole our aircraft remained on the surface of the ice cap at Beardmore Station with a full load of fuel as well as extra survival equipment and an extra supply of JATO rockets. Our wait was at least ten hours long and in some ways it was more difficult than having made the Pole flight ourselves. Rotating the job between each crew member, we kept someone in the cockpit keeping the engines warm and running those ten hours. During that same period of time our radio man monitored his radios for information concerning the flight to the Pole. The others did what they could to keep warm. ***33***

At one time during our wait our state of readiness was temporarily reduced by headquarters in McMurdo, so Eddie and I decided to walk to the base of the mountain which seemed only a half mile or so away from us. The clear air around us deceived us

into thinking we could have made the walk in a few minutes, when in fact the base of the mountain was at least two miles away from the small camp.

The surface of the ice was smooth and our walk was an easy one. We laughed and talked in an easy going fashion the entire way without any apparent consideration of the fact that we were walking over a deep ocean, with several hundred feet of ice between us or that the nearest permanent human habitation was over 2500 miles away. After about a mile of hiking we came upon some ice which was clear as glass and our walking became more difficult because the surface was so slippery. In places where we placed our feet the ice gave off strange musical sounds, probably caused by the ice being compressed by the weight of our bodies. The sounds were weird and a bit frightening since we couldn't be sure if we might be over some ice bridge which might open up and swallow us. Ignoring the risk we continued forward and after a while we came to some solid ground, which was the start of the mountain's base. There I collected a variety of rocks which I brought back to McMurdo with me. When I showed them to one of the geologists in camp, he told me he had collected similar rocks from this same location in the year 1935, when he accompanied Rear Admiral Byrd on one of his Antarctic Expeditions. He said that my rocks, as well as the ones he had collected, gave him many clues as to the origin of the Antarctic Land Mass.

After returning to the aircraft from our walk we continued to keep busy by eating, sleeping, exercising and even reading. The long wait finally came to an end when Lcdr. Shinn over-flew our landing site on his way back to McMurdo Station and we were finally released to return to McMurdo. There was no celebration for us when we landed at McMurdo since our participation was treated by our squadron mates as just a normal operating task. We had to revel instead in the telling of the day's exploits by Gus Shinn's crew who made the first polar landing. We could hardly wait until it was our turn to fly to the Pole. Unfortunately, things were happening which changed the direction of our squadron efforts, so our hopes for an early try at the polar landing for our crew had to be put off for several long weeks. ***34***

Antarctic Facts

Antarctica is the coldest continent. The world's record low temperature of -126 degrees Fahrenheit was recorded there. The mean annual temperature of the interior is -70 Degrees Fahrenheit. The coast is warmer. Monthly mean temperatures at McMurdo Station range from -18 degrees Fahrenheit. in August to 27 degrees Fahrenheit in January. Along the Antarctic Peninsula temperatures have been as high as 59 degrees Fahrenheit.

Chapter 12:
The Trail to Marie Byrd Land

One of the squadron's main goals during the first summer of Operation DeepFreeze II was to assist in the setting up a large research station in Marie Byrd Land, about 400 miles southeast of Little America V Station. To accomplish this mission tons of equipment and building materials had to be moved from Little America V Station to the projected site. To accomplish this giant D-8 Caterpillar tractors, pulling large sleds in tandem, were scheduled to move inland over uncharted frozen ice fields.

Before the tractor party could set out on the long journey an advance party of tractors went ahead to lay out the trail. As they proceeded they marked the trail with bright red flags every mile along the way so the main tractor party could navigate by them.

During the previous summer an attempt had been made to lay out a trail following the most direct route possible to the proposed research site. Unfortunately they encountered heavy crevassing and in an attempt to cross this area one of the tractors broke through the surface and the tractor and its driver plunged into a deep crevasse. The driver, a man named Kiel, lost his life in the fall and neither he nor the tractor could be recovered. Our airfield at Little America V Station was later named in his honor.

Our Advance Tractor Party, hoping to avoid this crevasse area, initially went further inland on the Ross Sea Ice Shelf before attempting to cross the crevasses. Even with this precaution being taken they still encountered heavy crevassing and several weeks were spent in dynamiting these cavernous openings in the surface and in using the bulldozer tractors to fill the holes with snow and ice. Once through the crevasse field the advance party was able to establish a fairly smooth trail all the way to where the Marie Byrd Station site was to be located.

Initially our R4D was used to bring dynamite to the Advance Tractor Party because the amount that was needed to fill the crevasses was a lot more than they had taken with them when they left Little America. It should be noted that the fully loaded main tractor group only moved forward at about four miles per hour so it was expected that the entire movement of goods for Marie Byrd Station would take all summer. We were expected to deliver diesel fuel to various staging areas along the marked trail where rubberized fuel tanks had been placed by the Advance Tractor Party for use later by the Main Tractor Party as they proceeded towards Marie Byrd Land. The main party carried only enough fuel to take them to the next fuel tank thus allowing them to carry a maximum amount of cargo on the tandem towed sleds. Our R4D's could carry 800 gallons of diesel fuel in our cabin fuel tanks. There were rubberized fuel tanks every ten miles along the planned tractor trail so many R4D flights had to be planned to get the job done.

Red flags on bamboo poles had been placed along the trail to mark the trail for the tractor train once it started out from Little America. Sometimes we could see these tiny flags while flying low over the trail, but at other times, when our in-flight visibility was

obscured by blowing snow or haze we had to rely on our radar to pick up the fuel tanks and occasional metal drums which had been spaced alongside the trail every ten miles. Whenever we arrived at one of the pre-placed fuel tanks we would land and then taxi over the snow so as to get close enough for our enlisted crew members to hook up a hose between our aircraft tanks and the rubberized tanks on the ice. After a time or two our crew became quite proficient at transferring the fuel so we had only to spend a short while on the surface before taking off for a flight back to Little America. On some days we made several of these flights to the trail because the success of the Trail Party depended heavily on our getting fuel cached along the trail.

While long hours were spent on flying these fueling missions our occasional hours of rest and relaxation were spent in Little America where we had been assigned temporary quarters. After a few days we found that living conditions at Little America were considerably different from those of McMurdo Station. There was less hustle and bustle at Little America and since the station consisted of many buildings interconnected by covered tunnels there was less need of going outside as was necessary in McMurdo Station. It was entirely possible for one to stay entirely indoors for days at a time, rather than going out into the cold air. Many workers did just this because their jobs did not require going outside.

During the winter months which followed this most active summer there was one office worker I knew who boasted that he had never gone outside from the day the ship dropped him off at Little America until another came to reclaim him ten months later. For most of us, however, there were times when we had to leave the comfort of the “city life” and face the perils of the outside cold. The outside air at Little America was much colder than it was at McMurdo Station because there were no mountains to block the blowing wind and no hillsides to provide solar radiation. Except on the warmest of days one did not remain long outside unless the job required it.

One of the pleasures of Little America, as compared to McMurdo Station, was that there were few newspaper and television personnel on board to make for unwelcome activity. At McMurdo these gentlemen kept things stirred up as they went about in search of a publishable story. It seemed that they were always in search of a short term “hero”, one who could be used for editorial fodder. Since Admiral Dufek’s staff was mostly located at McMurdo, and everyone there with a job to do leaned towards the staff for decisions it seemed a natural place for news personnel to seek out story material. At Little America each unit was more independent of command and as a result things got accomplished without having to seek positive authority before starting out. As a result I believe that we were more successful in our operations at Little America than those units located at McMurdo.

Our navigator, Ensign Creech, soon became adept at picking up the pre-positioned fuel tanks on his radar, so we were able to stay over the trail even when visibility became poor. This trail flying was not difficult, however, the repetitious nature of the flights made it difficult to maintain a proper degree of concentration as we proceeded up and down the trail. Since the sun stayed bright 24 hours a day, we flew whenever the weather was acceptable and the body didn’t revolt due to fatigue. Folks who were permanent

members of Little America V Station during the preceding months tended to keep regular hours in their waking and sleeping, so they found it difficult to accept our around-the-clock mode of flight operations. We found it a difficult task as well, but we had a specific timetable given to us by the Admiral's staff and around-the-clock flying happened to be the only way we could meet our deadline.

During the first few flights along the trail it seemed strange to land at a location where the surface was featureless and where there was no object in sight except a lone fuel tank that we had come to fill. In all directions the surface contained no geographic features like hills or bare rocks. Like future landings on the Moon nothing we could see bore any resemblance to things we saw from the air in other parts of the world and the loneliness of a featureless space was oppressive.

At these remote locations we had no runway, no boundary markers, no signals telling us where to land. We had to determine our landing area using the wind direction as our only determinant. Sometimes the surface had been roughened by the wind, producing patterns in the snow called sastrugi. Sometimes these sastrugi were large enough making our landings and takeoffs were quite rough so we had to select landing directions so as to minimize the wear and tear on our landing gear and skis as well as in consideration of the wind direction. Sometimes I would get out of the aircraft after a landing along the trail, when the crew members were transferring fuel. Once away from the noise of the idling engines I would marvel at the silence of the snowscape and the endless view of snow in all directions. Nothing on earth could be quite so peaceful and yet so lonely as that scene before me.

Flight after flight over this vast plain of ice and snow built up a lot of flight time for our log books, but it did little for us emotionally. Inside the aircraft, however, we did develop a close working relationship as crew members, which helped towards completing our flying assignments. Eddie handled the planning of all the flights, the times and the directions we would fly, when we would stop for rest and when we would stop for necessary maintenance work on the aircraft. My job was to act in his stead when he was not available. He might have included me more in the planning stage of these flights, but this was not his nature. He always preferred to do all this on his own, seldom clueing me on what was to take place before it happened. In the air we split the flying time evenly, except for those occasional times when he allowed our navigator, Ensign Creech, to abandon his plotting board to get a little flight time of his own. Mr. Creech who was without navigational experience when he reported to the squadron quickly learned that polar navigation required that he utilize every bit of information he could obtain about the wind, the sun location and his radar to keep track of our flight path over the ice. Basically he had the sun's position in the sky, our gyro-stabilized compass, wind drift measurements and our cockpit visual sightings to help him determine our location over that vast continent, where magnetic compass readings and radio signals were mostly unreliable. In spite of his brief training as a navigator he soon learned his craft and he always got us where we wanted to go and then back to base camp.

Our two enlisted crew members were both top notch men. Our Crew Chief knew our aircraft perfectly and he must have worked often when the rest of us slept because our

aircraft was always in tip top condition. I can't remember having missed a flight because of a maintenance problem. He also provided us with delicious in-flight meals which he cooked on a small stove towards the rear of the cabin. Because of the continuous cold in the cockpit, our bodies demanded large amounts of food. Our Crew Chief was always there with piping hot meals to keep us going. Once Eddie spilled an entire bowl of hot soup in the cockpit and it settled to the floor where it soon froze solid. Our Crew Chief must have worked long hours after that flight getting this mess cleaned from the flight deck but he never complained.

Our radio man operated his gear from a tiny compartment behind my cockpit seat and it was his job to send our messages by hand-transmitted code to Little America so our home base could be kept aware of our in-flight situation. He also copied our weather bulletins and any messages from Little America pertaining to our mission. Voice messages didn't carry well over the radio in the Antarctic so sending and receiving coded messages became a necessity once we were away from Little America. Our radio man was uncomplaining and faithful in the performance of his duties. When post-flight work had to be done on our aircraft he was there every minute he was needed and I believe, like our Crew Chief, that he often missed sleep just to keep our aircraft from defaulting on a flight mission.

Our flights were mostly satisfying events and we often spent much time talking and joking on the aircraft intercommunications equipment while airborne. Most of our conversation was related to our mission; we seldom talked about home or life back in the States. It seemed we were constantly searching for the next trail marker or fuel cache, and each of us in the cockpit strove to be the first to sight the next ahead.

With the super-bright glare of the Antarctic sunlight bearing down on our eyes for hours at a time our vision would often play tricks on us. Often when looking towards the featureless horizon I would imagine that I could see a dot-like object straight ahead of the aircraft. As I would stare at this object it would seem to move towards the left or right and if I continued to gaze intensely at it, it would soon move over one of my shoulders and disappear behind us. If I would then switch my gaze to the horizon in front of the aircraft the object would again return to a dead ahead position and start again to slide to the left or right side of the aircraft. Watching these imaginary specks on the horizon became a game for me to play to amuse myself on these long flights. I fully realized that the speck on the horizon was only an apparition, however, toying with it helped dispel the boredom during some of the long hours of flying.

One sensation coming from Antarctic flying which I never got over was the cold feet situation. Although we wore lots of Arctic survival clothing and we kept the cockpit as warm as possible the icy aluminum flight deck transmitted the outside cold directly to my feet. As a result my feet remained painfully cold from takeoff to landing and there was nothing I could do to alleviate the pain. I constantly flexed my toes and arches to ensure that frostbite would not set in, but this did not stop the hurting. I believe that all of us in the aircraft hurt from the cold but we erased it from our thinking as much as we could do.

Everything has to end sometime and our Phase One Trail Party experience terminated when we were ordered to return to McMurdo Station. While we were away at Little

America the other R4D's had resumed flights to the South Pole and soon it was to be our turn to make that long flight as well. I was not quite sure if we had been relegated to Little America because of our Squadron Operations Officer's hostility towards Eddie but later events gave many indications that this was the case. I don't believe that the emergency fiasco back at Quonset Point, when we couldn't get our skis to retract, had been forgotten and we were purposely removed from the most dangerous flying situations when the South Pole Station was being established, because they were afraid that Eddie might come apart when tough situations arose. Still it was a good feeling to know that we were going to make a South Pole flight while it was still an adventure. *35*

Antarctic Facts

Antarctica's interior is one of the world's major cold deserts. Precipitation (if melted) averages only 1 to 2 inches a year.

SIGNIFICANT EVENTS

Nov. 6, 1956
Army and Navy Trail Reconnaissance Party departed Little America V Station to establish tractor trail to Marie Byrd Land.
Nov. 18, 1956
Trail Reconnaissance Party reached heavily crevassed area along projected trail.
Nov. 19, 1956
Parachute drops of equipment for the construction of the South Pole Station started by U.S. Air Force C-124 aircraft.
Dec. 4, 1956
Reconnaissance Party finally cleared crevasse fields on the Tractor Trail.
Dec. 9, 1956
Fully loaded Tractor Train reached crevasse fields and crosses safely.
Dec. 23, 1956
Tractor Train finally reached Marie Byrd Station site and construction of permanent buildings begin.

Chapter 13:
Time Out From Flying

Returning to McMurdo Station control from Little America at this particular time of the summer operations was like going directly from a quiet church to a noisy ball game. Although camp life at Little America was not perfect at least it gave sense of being calm and peaceful. McMurdo was just the opposite. With people seemingly everywhere and all sorts of unrelated activities going on at the same time it was Main Street come alive. There were so many groups, military and civilian, aboard the station and so many centers of operations that only the Admiral's staff could have understood who was responsible for what and where it all might be leading. A much larger contingent of U. S. Air Force C-124 pilots and crewmen than before had settled down on the station and all were involved with air dropping cargo to the South Pole Station and other remote sites. The Navy Seabees had a group of sailors who were slated to assemble the South Pole Station. While they waited for our R4D's to move them to this remote location, they took up some more bunk space at McMurdo.

There were also newly arrived fuel systems management personnel on board who operated the fuel storage for the Antarctic operations and the dog handlers who were trained to make rescues of downed pilots should an aircraft go down in an area inaccessible to ski-equipped aircraft. Next there were the many civilian engineers, news people, meteorologists and equipment specialists who waited for the Navy to provide them transportation where their work could be accomplished. Lastly, there was my own squadron, Air Development Squadron Six, with five types of airplanes, pilots, air crewmen and maintenance personnel, all busily engaged in keeping every flying piece of equipment operational and ready for flight.

The station mess hall, which was tasked with feeding these several hundred people, had to be operated twenty-four hours per day, and if that wasn't enough they had to have several seatings at every meal so everyone could be served. Everyone had to do their own laundry so as can be expected there was a long line of waiting to find a free machine. Washrooms, toilets and showers always seemed to be in use at maximum capacity and waiting became commonplace. Even the Admiral and the Air Force General had to wait their turn to shower.

On my arrival at McMurdo from Little America I was told that I should slip back into my role as Administrative Officer for the squadron. Who the officer who might have been assigned to care for administrative details while I was away, I was never able to discover. It was as though they had let the paperwork pile up waiting for my return. When not flying I was expected to put in an eight hour day reviewing incoming correspondence, writing letters and dispatches and, lastly, advising the squadron Executive Officer on what work was being accomplished by the enlisted office staff. It was disappointing to find that so much work had been allowed to accumulate while I

spent that month in Little America because there were dozens of officers sitting around the day room of the Officers bunk room at all times of the day and night having little to keep them occupied. Many of these fellows considered themselves to be professional aviators and when routine squadron work had to be accomplished they either disappeared or assumed a helpless role. That the Commanding Officer and the Executive Officer allowed this to happen without taking corrective action was beyond my comprehension.

One day while at one of my meals in the dining hall I happened to meet a friendly newspaper man from the Boston Globe. This fellow was not your usual pushy type that abounded at McMurdo but a man with a sense of adventure much like my own. We discovered that both of us had an interest in the animals of the Antarctic region and we decided to hike it over to the place on the ice where the seals were appearing, a distance of about two miles from camp. Flying has been curtailed out of a fear of using up all our aviation fuel before the ships arrived to replenish the tanks, so it was easy for us to get away from camp for a few hours. It was a Sunday and I needed a day away from the office.

First, we climbed over a small hill to the south of the station and then proceeded over the frozen sea that surrounded McMurdo Island, to the Ross Sea Ice Shelf. Where the sea ice and the continental ice met there was a lot of *hummocking*, where large sheets of flat ice had been thrust upwards creating a very difficult area to cross on foot. This twenty-five yard thick rough area had been created when the tides ground the sea ice against the continental ice. It was a chancy thing trying to cross this rough area because it was so uneven and there was always a chance we might fall into an open crack in the ice and then into the ocean below. It took us quite a while to wend our way through those large boulders of ice but finally we got through and on to the Ice Shelf.

As I had mentioned previously the Ross Sea Ice Shelf was usually a cliff averaging about 125 feet above the sea ice. Here close to McMurdo Station there was only about 6 feet difference in the height of the two. Also at the juncture of the two ice fields there were several cracks in the surface in which we could see water. It was here that the female Waddell seals surfaced to deliver their pups.

We found about ten to fifteen seals and their newly delivered seal pups, sunning themselves on the ice surface and since they had no natural enemies on the Antarctic ice surface they mostly ignored us unless we ventured too close. Even then they would only bare their teeth and growl a bit, but if we became motionless they closed their eyes and then ignored us. This placid tendency has always been an invitation to disaster for them for seal hunters for hundreds of years have been able to massacre hundreds at a time with no defenses shown by the seals.

Besides the seals and their newly delivered pups was the remains of the bloody afterbirth residue which made the surface quite messy. The skua gulls, which were scavengers, were making a feast of the afterbirth so nature was being served even here at the bottom of the world. We had to be careful where we stepped because we could easily slip on the abandoned tissue and blood. Many of the pups were nursing from their mother seals, while others were being taught how to enter and exit the ocean through the many cracks in the surface. The mother seals would find a soft spot in the surface of the ice and

using their upper teeth they would scrape a ramp in the snow surface so the baby seal could easily slip in and out of the water. The pups were only about two and a half feet long and too weak to emerge from the water without help. First the mother seal would push the whining pup into the ice hole and the two would go off swimming together. When they returned for air the pup would be guided by the mother seal so that his nose was on the ice ramp she had made. The mother seal would then get behind the pup and push it up the ramp, clear of the water. The mother seal would then dive a ways down into the water then turn around and with a grand push of its tail it would shoot upwards out of the water and on to the ice surface. Once this four hundred pound mass was out of the water it was no longer a sleek and swift, hydrodynamic swimming body but a lumbering and ungainly mass of blubber and bone. Seeing these wild animals in their natural state was an exhilarating experience for the both of us and we talked about the experience for hours after we returned to the base.

As we stood there on the Ice Shelf we looked towards Ross Island, about a mile away, and since the air was superbly clear we were able to get a view of Mount Erebus with its smoking volcano. It is a grand and massive thing to behold and a thrilling sight for the eyes. I had seen the volcano from the air and was impressed with it but this view from the surface was dramatically different and worthy of our admiration.

On another day, while flying was still curtailed, Eddie and I decided to climb the hill behind the base which led up the side of Mount Erebus. For a short while after leaving McMurdo we were forced to climb up a steep hillside but once at the top we entered a long smooth ice filled plateau which presented a gentle climb for about two miles before becoming steep again. Here, in what would have been a lovely mountain meadow in warmer climates, we were able to walk in comfort over a smooth icy surface. Ahead of us was a lovely view of the volcano and we were able to make out the many ridges leading to the peak of the mountain. The air around us was quite still and since the snow absorbed sound we could hear our own breathing and the rustle of our clothing as we walked. We might have gone further up the mountain's side but we couldn't be sure that the weather would have remained fair. Sudden changes in the weather are a frequent phenomenon in the Antarctic and we had no heavy clothing or protective tents with us so it would have been foolhardy to have ventured further from base camp.

We found a slope along the way which led downwards to the sea ice where we would be about three miles north of McMurdo Station. Going down the slope was fun and a lot easier to handle than the stiff climb we had when we set out. Once we reach the sea ice we had to cross the fractured area between the sea ice and the rocky shore, taking the greatest precautions against falling into the open sea. Once we were on the smooth sea ice we came upon a pool of liquid that was bright crimson in color and about ten yards square. It turned out to be seal's blood which the camp's dog handlers left when they killed several seals for dog food. The contrast between the blood and the bright sea ice was a dramatic site but nonetheless a sad one.

On the walk back to the base over the ice we passed a small Navy ship which had been sailed to the Antarctic during the previous summer and then tied to the island

shoreline where it froze in the sea ice. The ship contained our dwindling supply of aviation fuel which we and the Air Force used as we explored the continent.

Soon we crossed a small hill and there before us was Captain Scott's old hut, with McMurdo Station in the distance. When Captain Scott and his men departed on their perilous venture to the South Pole he departed from this small hut, which looks the same then as it did fifty years before. It was a wind scoured wooden structure and when we tried to enter it we found that a door had blown open sometime in the past and all the rooms were filled from floor to ceiling with snow. I understand that the building has since been cleared of snow and remains as monument in memory of Captain Scott and his men, who never returned from that perilous trip on foot to the South Pole.

Outside the hut we noted that there was a pile of broken equipment, supplies and food. We were able to pry loose a tin of cookies and I tried eating one of them even though it had been frozen for fifty or more years. It was a tasteless thing and except for the experience of having tasted it there was nothing to do but discard the rest.

After a short walk from the hut we reached our home base where we could sit over a cup of coffee and relish the thought of what we had seen and done. Here on the distant continent of Antarctica we had taken an invigorating hike through a desolate but beautiful meadow of ice in an area seen by few men. We had then traversed over sea ice about seven feet thick, over an ocean several thousands of feet deep. We had observed the site of the killing of a dozen or so seals and we had visited Captain Scott's old camp, abandoned fifty years earlier. In a very small way we felt like pioneers ourselves.

It is always nice to be remembered so it was for me a great pleasure to be told on my return from the hike that a package had arrived from New Zealand a gift from a couple I had met there in my short sojourn in Christchurch. My new found friends, thinking I might need cheering, had sent me a 10 pound package of Whitebait and fresh eggs. Every spring in New Zealand a small fish called by the New Zealanders Whitebait, about an inch long, enters the rivers of the South Island of New Zealand to spawn. Using nets the New Zealand natives could scoop up dozens of pounds of these fish in an hour. These tiny fish were a great delicacy and they are best prepared by scrambling them in eggs in a hot skillet. I had tasted them on my short stopover in N.Z. so I knew that this gift meant a great treat for me, and also for my friends on the Ice. I asked one of the camp cooks to cook the fish and eggs for me and along with my friends we had a unforgettable meal. I am forever grateful to these N. Z. friends. They don't come any nicer than these kind folks.

Antarctic Facts

Because it is such a large area of extreme cold, Antarctica plays an important role in global atmospheric circulation. In the tropics the sun warm the air, causing it to rise and move toward the poles. When these air masses arrive over Antarctica, they cool, become heavier, and fall from the high interior of the continent toward the sea, making some Antarctic coasts the windiest places in the world. Winds on the Adeline Coast in the winter of 1912 to 1913 averaged 40 miles per hour 64 percent of the time, and gusts of nearly 200 miles per hour have been recorded.

Chapter 14:
Going to the Pole

Since reporting to Air Development Squadron Six I had looked forward with great anticipation to our crew's first flight to the South Pole. I had even imagined how the flight would occur and what my role would be throughout the fifteen hours enroute. Unfortunately, it didn't take place anyway close to what I had thought it would be like.

It was just a day before Christmas, after a long eight hours of work in the squadron office that I learned what was going to take place. After leaving the office I took a shower, ate my evening meal and then attended a movie in the mess hall. At around 10:30 P.M. local time, I met Eddie, who had just left a meeting held in the Admiral's quarters. Eddie told me that we had been ordered to prepare for a flight to South Pole Station taking off at around 6:30 A. M. the following morning. After having been held back from flying to the Pole as the three other R4D crews had been doing regularly, the Admiral and his staff finally relented so as to let us try our luck this first time. I was overjoyed for I had felt sure that we would spend the whole summer without once being given the chance. ***36-42***

There should have been plenty of time for me to rest before taking off, however, I was soon to discover that some of the officers who resided in my bunk room had started an unscheduled drinking party that would soon block any hopes of my getting sleep. During the day just gone by one of the R5D crews had completed one of their rare Antarctic flights and they were so proud of their achievement that they felt the need to celebrate. We told them all that we were going to the Pole hoping they would appreciate how important it was that Eddie and I get some rest. None of our protestations seemed to have any effect in reducing the noise in the building. As I tried to prepare for sleep I was faced with more inebriated officers than I could handle. The barracks was filled with loud talking and music and those having the most fun thought it improper and rude for anyone to want to sleep at such a time. Though I tried to fall asleep by covering my head with a pillow the noise was too intense for sleep to come. After a while they started making it a game to come to my bedside, shake me and offer me a drink. This madness went on until about 3:00 am, when the noise finally quieted down enough that I was able to drop off into to a troubled sleep.

Eddie waked me at 5:00 a m, saying it was time to get into my flight gear and head for the airfield. I managed to get a bite of food at the mess hall and on the way to get on one of the snowmobiles for a ride to the airfield I met our squadron flight surgeon. I told him that I was starting out on a long polar flight with little sleep and I was wondering how I would manage it. He gave me several pills, which he said would help keep me awake during the most demanding part of the flight, the landing and takeoff at the Pole. He cautioned me to hold off in taking the pills until I was an hour or so from the Pole so that

the medicine could have time to take effect. With the pills in hand I hurried to the distant airfield where our aircraft had been readied for the flight by our maintenance crew.

When our four R4D's had been modified in Jacksonville, Florida, for the Antarctic mission and skis had been installed, one set of skis had been coated with Teflon. Teflon coated skis had not been tried before but the engineers had hoped that the material's lower coefficient of friction would permit us to slide along the snow surface easier than the bare aluminum on the other three R4Ds. Whether this innovation eventually proved to be successful or not I was never able to discover but I know it almost cost the lives of several people, including myself.

Eddie knew of the Teflon coating and was itching to prove that it would work as predicted. Without telling any of us in the crew of his intentions, he attempted to takeoff in our heavily overloaded aircraft without using the JATO rockets to get airborne. Loaded with fuel, passengers and cargo, and well over the designed maximum gross weight, our R4D was barely able to get off the ground with a long smooth runway. Eddie had only a short snow runway for his trial takeoff and a short distance past the end of the runway was a 15 foot wall of ice which would have brought us to a disastrous end should we have lifted clear of the runway but had been unable to gain altitude. I might mention here that unknown to us there were two CBS television cameramen situated to the left of the runway near its very end. They had planned to get a few moments of TV footage of our JATO rocket takeoff for the Pole. They, too, did not know that Eddie was planning on getting airborne on engine power alone and that such a maneuver was most hazardous.

He applied full engine power as usual and as we slid quickly toward the end of the runway we all anxiously waited for him to fire the rockets. Long moments seemed to go by with nothing much happening to get us quickly into the air. Foremost in my mind was the end of the runway was quickly approaching. Finally, Eddie was able to pull the aircraft into the air but we were just a knot or two above stalling speed. We climbed to about ten feet above the snow at which time the left wing started to drop suddenly indicating that the wing was in a stall condition. Eddie rotated the control wheel to compensate but since we were so slow the extra aileron control surface caused the wing to stall even more. Suddenly we found ourselves in a left turn, losing altitude and about to crash into the ice where the two CBS cameramen stood. If something hadn't been done immediately we would have cart-wheeled across the ice surface. With the large load of fuel on board we would have become a magnificent torch spread over a quarter mile of ice.

I yelled at Eddie to fire the JATO rockets and when he did we had the instant boost needed to get us safely into the air again. Eddie then climbed to about 1000 feet above the surface where he eased off on the engine power and we headed towards the Pole trying to catch our breath after that super-close call. We discovered later that the TV crew on the edge of the runway saw our wing drop and since the quickly descending aircraft was pointed directly at them they immediately abandoned their cameras and started to run. The fright that they suffered was discussed about the camp for weeks to come and their negative comments about Eddie's poor airmanship fueled the fires which raged amongst the flight crews for the rest of the summer. Henceforth there was a strong movement to

have Eddie grounded from further Antarctic flying and they might have succeeded if another R4D plane commander had been available to take his place.

Since we were heavily loaded Eddie kept our aircraft at 1000 feet for the 400 miles between McMurdo Station and the Beardmore Glacier, where we would have to climb to 11,000 feet to clear the surface of the polar plateau. Staying low helped us conserve our fuel, saving as much as possible for the long hours of flying ahead. The view below us as we cruised over the ice shelf was spectacular, as it always was on clear days. There were the snow capped mountains and glaciers to our right and for a while after takeoff we had to pass over the heavily crevassed ice fields with fissures so wide that they would have swallowed our entire aircraft had we been forced down due to engine failure. We were able to see mountains a hundred or so miles away because the air was so clear. The snow was dazzlingly bright and could not be looked on except with dark glasses.

Although the scenery passing below our aircraft was breathtaking I had a problem with trying to stay awake because the lack of sleep the night before. Even though I kept trying to pay attention to the numerous things occurring in the cockpit such as monitoring the engine temperatures, oil pressure readings, the aircraft headings and altitude and fuel usage rates I was having to force myself to stay awake. My tendency to drop off to sleep in spite of my effort to stay awake was becoming a real problem. I found myself at times dreaming with my eyes open and I had to assume uncomfortable sitting positions to force myself to pay attention as to what was going on. Until we reached the Pole Station fatigue was constantly foremost on my mind. After about four hours of flying we reached the Beardmore Glacier and Eddie applied climbing power to the engines and slowly we gained altitude. At times it seemed that the slope of the Beardmore Glacier was steeper than our climb rate and it appeared that we would soon fly into that rough surface before we reached our intended altitude. Beardmore Glacier and the magnificent mountains which bordered it on both sides was simply superb to see. The surface of the glacier appeared as a horribly disturbed mass of tumbled boulders of ice. From beginning to end the glacier was about 100 miles long. The mountains appeared almost free of snow, as though the intense wind that blew over them never allowing the snow to accumulate. The mountains were reddish as though they contained high concentrations of iron. Finally as we approached the end of the glacier and could see the polar plateau ahead of us, the rough surface finally smoothed out and from here to the Pole we could have landed anywhere if it had become necessary. The high altitude we were flying at with its thinner air served to make my sleepy feeling worse than before. About an hour before our expected landing at the Pole I took the pills the flight surgeon had given me, but they seemed to have no effect on my attention span; I still had to flight an all-consuming sleepiness. I believe that I should have taken the pills earlier in the flight because the real boost that they gave me didn't occur until after we had departed from the Pole.

The Pole Station is at an altitude of just over 10,000 feet above sea level so we would be landing at high altitude, where the air is quite thin, where our actual landing touch-down speed would have to be considerably higher than at sea level and our available maximum engine power would be much lower than it would have been at sea level. In reality we would be operating our aircraft during landing and takeoff under marginal

conditions so the threat that something undesirable might happen was a real possibility. When our navigator advised us we were approaching the Pole Station location all five of the crew stared ahead, each of us trying to be the first to see the lone building which housed the people who lived and worked there. We were almost on top of the station before we saw it for blowing snow had almost covered the newly assembled structure even though it had been completed just a few weeks earlier.

Eddie found the wind line and he landed the aircraft as close to the assembled people on the ground as was possible. Since our actual ground speed was higher than it would have been at sea level we hit hard on landing, but no damage to the aircraft was incurred. It was minus 35 degrees Fahrenheit on the surface so we planned to off load the aircraft in record time because any lingering on the surface at that cold temperature was to invite trouble as bits and pieces of the aircraft froze up. We certainly didn't want to be stranded on the Pole as another aircraft did the following year. It took many days before sufficient aircraft heaters could be flown to the pole to get the frozen in aircraft back in the air. Eddie and I took turns in the cockpit keeping the engines turning because if allowed to stop they would shortly freeze up. When my turn came to leave the cockpit I went outside just to say that I stood on the South Pole. It was so miserably cold that any pleasure I might have derived at being in so remote a spot was quickly diminished. I soon lost my built-up body heat and I started to suffer real pain as the super-cold air attacked my face and hands. No one had to beg me to get back into the warmer cockpit.

Looking out my cockpit window I could see a large circle of empty oil drums with a flag pole and American flag in the very center. The flag stood at the geographic South Pole and the oil barrels laid out indicated the slight wobble that the earth had as it turned on its axis. Once we had discharged our personnel and cargo we prepared for takeoff. Someone on the surface hooked up eighteen new JATO bottles and wired them so we could fire them when needed. Eddie applied full engine power and we started our takeoff run into the wind. I had though Eddie had learned his lesson back at McMurdo and would be more than willing to use the JATO to get us airborne, but I was wrong. Thinking he could get us off the ground with engine power alone he started a takeoff run that seemed endless. The surface was hard and rough and it seems we went about three miles while being constantly jarred and thrown about. Eddie was still trying to evaluate the Teflon skis but he was battering the aircraft unmercifully and every moment we continued this way along the ground took us further away from the Pole Station and the personnel who could have helped us should we have crashed. The crew chief, who was not buckled into a seat, was holding on to the airframe with all his strength, not wanting to get thrown free and injure himself.

Finally, Eddie sensed that he was not going to get airborne on engine power alone and he hit the JATO switches. We quickly got airborne, but not before he had thoroughly exasperated the entire crew. After we climbed to cruising altitude and reversed our course so as to head back the way we came, I looked at the surface below and there was the dense smoke trail we left behind as the rockets fired. I was amazed to see the distance we had covered until our skis cleared the surface. Such was the folly of the man who daily held our lives in his hands. While we had been on the surface at the Pole our radio man

had received a message from headquarters at McMurdo ordering us to fly to Beardmore Station to pick up a passenger and then to fly to Little America for more cargo and passengers before returning to McMurdo. This would add another four hours of flying to this mission, plus the two extra hours we could expect to be on the surface at Little America while we were being refueled. Six hours was being added to our fifteen hour mission so we weren't happy about that. After our takeoff from the Pole the medicine finally started to have a beneficial effect and soon my sleepy feeling was entirely gone. Going downhill from the Pole, that is from 11,000 feet high down to 1,000 feet above sea level, made the flight to Beardmore Station seem a lot shorter than it did when we climbed up the glacier several hours earlier. Finally we reached the Ice Shelf and Beardmore Station. We made a quick landing, picked up our passenger and in moments we were airborne again. Now we were just 400 miles from Little America starting a low altitude run to the coast. Much of the danger we had faced was behind us now and the hours ahead as we cruised homeward, via Little America, was seemingly routine flying time.

Finally we reached Little America and we discovered that the entire station was celebrating Christmas Eve with an all hands party. We were forced to spend a lot of extra time in getting fed and in getting the aircraft refueled, because most of the workers were two sheets to the wind and most were not available for routine work. We finally got the cargo and fuel loaded on board and were soon on our way back to McMurdo. When we arrived back in McMurdo we found the Christmas merriment still a factor even though it was well after midnight. Even though we felt sorry for having missed this party we were happy to be back where we could once again sleep in our own bed.

My bed felt wonderful. I was dead tired and I desperately wanted to fall to sleep but the stay-awake pills I had taken at the Pole and the buckets of coffee I drank along the way was still coursing through my veins. Every time I closed my eyes they seemed to pop open of their own accord even though I tried my hardest to keep them shut. Several hours of twisting and turning went by before sleep finally came. When I did drop off I fell into a state of total oblivion and it was twelve hours later before I was able to push myself up from the sheets.

Antarctic Facts

Every year about a dozen nations send scientists to Antarctica to do research. In the Antarctic summer about 2,500 people are in the region for this work. They operate research stations and camps; travel in airplanes, helicopters, and snowmobiles to areas that they need to study; and operate ships for resupply and oceanic research. In winter fewer than 1,000 people remain to operate about 30 research stations scattered around the continent.

Chapter 15:
Second Pole Landing

After our return from the South Pole Station I was surprised to learn that Rear Admiral George Dufek had been diagnosed as having pneumonia resulting from inhaling the super-cold air at the South Pole. For several days he had been hacking away loudly in his room, but we all thought that it was a temporary flu condition and that he would soon be up and about. The flight surgeon, however, felt that the admiral would recover quicker in a warm environment so he had the admiral flown back to New Zealand to remain for several weeks getting his health back.

During the beginning of the summer period there had been a heavy flying schedule placed on all aircraft, Air Force and Navy alike. In time the supply of aviation fuel dwindled to the point where it became apparent that some conservation action would have to be taken until the supply ships arrived with additional aviation fuel. Since the Admiral had to go back to New Zealand it was decided to fly him there in the R5D and leave the aircraft there for the remainder of the summer period. With him went several of our VX-6 squadron officers, those who were not essential to the summer mission. The R5D crew was not to be missed by most of us because they had flown only infrequently and they were often appeared miserable from their inactivity. It was this group which staged the party the night our R4D crew was preparing to go to the Pole for the first time. Their frequent parties and carrying ons were a disturbance to those of us who flew frequently so their leaving brought a big sigh of relief from all of us.

While our crew waited for another South Pole flight we made one additional flight to Beardmore Station and another one to Little America V Station. These flights were for routine things, like transporting mail, equipment and personnel needed at these outlying stations. In between these flights we either rested or worked on routine squadron matters.

Just like everyone else I am capable of making mistakes in judgment. Most of the time my mistakes are undiscovered by other folks and I put it down as experience to be drawn on in the future, however one day I pulled a classic boner in sight of all my friends and acquaintances. It could have cost me my life and I consider myself fortunate that I survived. I was a long time, however, surviving the ribbing I received from my friends.

First, I must tell you of two features of the McMurdo base which enter into the story of my unplanned experience. McMurdo Air Facility did not have plumbing to carry away the toilet wastes. Instead the toilets sat over open-ended fifty gallon drums which were carted away daily to a special site away from the center of the camp and later pushed into the ocean when the sea ice moved away from the shoreline. Until that time the waste sat in a semi-frozen state - out of sight, out of mind and the area was dubbed by all as Honey Bucket Lane.

The second feature of the base was the tidal crack where the sea ice met the land upon which McMurdo Station was located. As the daily tides made the sea ice rise and fall

there was often an open fracture in the ice surface a foot or so wide leading to open water about eight feet down. If you had to cross this crack in the surface while walking you had to be very careful so not as to fall in the crack and the water below.

With that explanation in place I can now proceed with telling you of the foolish thing I did on a beautifully clear and warm day, as I returned from my noon meal. As I walked down one of McMurdo's two streets I heard the sound of an approaching helicopter. As it flew overhead I noted it to be one of the small Bell helicopters which are carried on ice breaker ships. One of the ships was reported to be breaking up sea ice a few miles from McMurdo so the cargo ships could discharge their cargo at a reasonable distance from McMurdo Station.

This ship's helicopter flew low and slow over the street I was walking on and I instantly recognized the pilot as being one of my former helicopter students. He recognized me at the same time and I motioned for him to land on the sea ice so I could go down there to greet him. It was here that I abandoned my usual caution and raced down the hill towards where the helicopter landed. Since I did not want to make my former student wait too long for me to reach him I ran in a straight line to where he had landed his helicopter. Halfway down the hill I found the surface I was running on to become suddenly soft. In looking down at my feet I discovered that I had entered Honey Bucket Lane and from my knees down my shoes and trousers were coated with a considerable amount of the camp's offal. Needless to say, I was a mess and very aromatic.

At this point I reversed my course and once clear of Honey Bucket Lane I selected another route to the sea ice. As I approached the waiting helicopter on a run I completely forgot the need to take caution in crossing the tidal crack. Suddenly I fell into the open crack and disappeared from the sight of my friends on the hill. They instantly thought that I had fallen into the open sea water and they all rushed down the hill to try to save me from drowning. Since I was running quite fast when I fell into the gaping crack in the ice my momentum caused my shoes to become imbedded into the softened sea ice's vertical wall and it stopped my fall into the open water. I threw my arms upwards and I used my hands to grasp the surface ice so as to keep from falling further into the open crack. I then started to dig my shoes higher and higher into the softened sea ice and I was soon free of the crack and safely back on the surface.

As I stood up on the ice I did not consider how dangerous my fall into the crack had been - in time, and with the help(?) of my friends, I came to see how dangerous my actions had been. I resolved that for the foreseeable future I would take much greater precautions when moving on land about the Continent.

Well, once free from the crack in the ice I went to the helicopter and I spent a delightful few moments talking with my former helicopter student. He told me that when I disappeared in the crack in the ice that he told his crewman to rush to my aid. Before the crewman was fully clear of the helicopter I emerged from the ice and all of us were able to breath a sigh of relief. I have never seen my former student again and I have often wondered what he thought of my careless act.

After the helicopter took off and returned to the ice breaker ship I retraced my steps to the top of the hill with more considerably greater caution than when I came down. I took a lot of kidding from my friends and when they refused my entry into the Bachelor Officers Quarters I was forced to go to the "washerteria" building where I stripped down and did some unpleasant washing of shoes and clothing. Don't believe that I was allowed to get over this goof easily. It was a matter of great embarrassment to me for a long time.

The weather conditions between McMurdo Station and the South Pole continued to be reported as excellent for flying. Since there was a need to transport several more men to the Pole Station, we were ordered to make the flight on January 4, 1957. This was to be our crew's second and last flight to the Pole. Since we had an early warning about the flight we made sure to get well rested before the flight. We used our JATO rockets for the takeoff this time and the entire flight went smoothly from start to finish. We weren't rerouted on the return flight as we had been on the previous flight so from takeoff to landing back at McMurdo was a lot less than before. Still the fourteen hours we spent in the air were terribly long and very fatiguing. Telling ourselves that what we were doing was unique in the annals of aviation history did help ease the burden somewhat but the hours of vibration, cold, engine noise and the hard seat cushions took extraordinary toll on the body. ***43 & 44***

I used my camera to capture the snow-scapes, mountains and glaciers as I did on most flights. My color photographs of the Beardmore Glacier turned out to be beautiful, however, they never quite conveyed the painful cold that I experienced when I took those shots. I had to keep my camera under the cover of my heavy flight jacket until just before shooting each scene or else the camera lens would have frozen up from the cabin cold. To this day I can still feel that camera pressing into my ribs for hours at a time. For many years I proudly showed those colored slides, however, time has destroyed their subtle shades so I no longer project them for I only end up apologizing for the poor quality that remains in the slides.

Our second landing at the Pole was much like the first landing with the skis jolting hard on that ice-like surface. Outside the cabin of the aircraft there was the same super-cold and painful air that greeted us on the first flight. While we were unloading our aircraft one of our squadron's P2V aircraft landed besides us where they deposited their load of personnel for the remote Pole Station. I was amazed how well the building construction had progressed since our first flight knowing how difficult it must have been for men to work outside when temperatures ranged from -10 to -35 degrees Fahrenheit. I thought sympathetically of the men we were leaving behind to exist for six months, with no hopes of being brought out during that period, no matter what the reason.

After returning to McMurdo, we were ordered to fly to Little America V Station where we would spend the rest of the summer months supplying the Tractor Train and in outfitting Marie Byrd Station. It was planned that I would remain at Little America as Officer-in-Charge of the VX-6 detachment after the summer season was over. Lieutenant Commander Dave Carey had been scheduled to be the wintering-over Officer-in-Charge of the aviation detachment at Little America but he was killed on the day we first arrived in the Antarctic. Since I was the next senior in rank leadership of the detachment during

the approaching winter fell on my shoulders. This change in assignment made a big change in my attitude for the remainder of my Antarctic stay. As copilot of a five man R4D aircraft crew, under Eddie's leadership, I often suffered from a lack of purpose, even though our flights themselves carried a lot of importance. Eddie was one who preferred to do all the planning and he would only reveal his plans to me at the last moment. Though we were good friends he hesitated to include me in much of the work normally assigned to a copilot between flights. Now I was scheduled to be left in charge of a fifteen man and twelve aircraft detachment during the worst months of the year when our only contact with the rest of the Navy and the world would be by radio. It would be a momentous experience for me; one that would give me a depth of personal confidence I might not have achieved otherwise. *45*

Antarctic Facts

The first expedition to come close to Antarctica took place from 1772 through 1775. The English navigator James Cook sailed around the continent and came within a hundred miles of it. Land was seen in about 1820, when British and United States seal hunters and a Russian exploring expedition reached the Antarctic Peninsula.

In the Antarctic summer of 1839-40 a United States Navy expedition headed by Charles Wilkins mapped 1,500 miles along the coast of East Antarctica. The next summer James Clark Ross of Great Britain sailed into the Ross Sea, traveling as far south as a ship can go. The first recorded landing on Antarctica was on Cape Adare in 1895, and the first group to spend a winter on the continent did so at Cape Adare in 1899.

Chapter 16:
A Pilot's Pilot

Harvey Speed was, and always will be to me, the embodiment of a truly American homespun hero, a dominant but pleasant personality and a joy to have known during my 16 months in the Antarctic. He possessed a true sense of what was humorous and just what type of stories would be appreciated by his all-male audience, a situation which always guaranteed him popularity on the Ice. He supplied us with a constant string of funny sayings and he could always apply these sayings to the exploits of the day. He was always a stabilizing influence among the officers and the enlisted men of the squadron. His character and personal presence lead others to place total trust in any order he might give. Throughout the remainder of this book I will cover some of his finest flying exploits; however, in this chapter I want to discuss in detail his character, his personal attributes and, most of all, my total confidence in him as a man. I wish he were alive today because I would give most anything to say all this to him face-to-face.

Harvey and I both reported to Air Development Squadron Six at the same time and we both came to the squadron from out of the Training Command in Pensacola. We were both seeking high adventure and we volunteered to winter-over in the Antarctic because we were tired of instructing fledgling aviators. It seemed to the both us there must be better things to do than sitting in a cockpit, hour after hour, day after day, observing, and correcting, the mistakes made by students who looked and acted much like the dozens of others you had flown with last month and the month before.. Harvey was born in upper Michigan and as a young man he played semipro baseball. Because of his athletic pursuits, he was muscular and well coordinated. He first enlisted in the Navy as a sailor and after several years of shipboard experience he applied for, and was admitted into the pilot training program. Eventually, he won his Naval Aviator's Wings and became an enlisted pilot. Later, when the Navy offered commissions to qualified enlisted pilots, Harvey applied for and was appointed to be a naval officer. When I first met him he was a Lieutenant, however, when our tour in the Antarctic was half over his record as an officer was reviewed by a promotion board and he was promoted to the rank of Lieutenant Commander.

Harvey was very modest about his flying exploits and he would not seek the approval and interest of the newspaper and television reporters as many of the other squadron aviators did. He wore clothing on the Ice which gave him the appearance of being country boy in order to escape the attention of the reporters with cameras and note pads . When he was cornered into telling someone about his latest flying experience he minimized the importance of it, instead of embellishing the story as one would expect.

His store of folksy sayings and funny stories made him a favorite among his fellow officers, and the enlisted flight crews, as well. During a "bull session", he would keep everyone highly amused with down-to-earth sayings and homespun stories and it was our

habit to encourage him in hopes of his making what might have been dull event a lively time for all.

Lieutenant Bob Anderson, his wintering-over roommate at Little America V Station, frequently told Harvey that he was starting an index of Harvey's stories, so Harvey could just give an identifying number instead of having to relate his stories in their entirety, thus saving time and increasing the number of laughs per minute. Harvey did not see the humor in this comment since he always enjoyed putting much effort into telling his stories and he did want anyone to spoil his style. Still he harbored no grudges against anyone who might see fit to kid him.

Besides being very skilled as an aviator, Harvey exhibited total calm, no matter how grave a flying situation might become. When he flew on instruments he would drop his cockpit seat to its bottom setting and concentrate totally on the instruments in front of him. When faced with hazardous flying weather he would instruct his copilot to keep his eyes focused outside the aircraft and to inform him if anything like the surface of the snow or another aircraft came into view, because it was his intention to place his total concentration on flying the aircraft. Harvey didn't mean, however, that his copilot shouldn't monitor his flight instruments. On one poor weather day, Harvey was forced into making an approach to the runway under instrument flight conditions. He told his young copilot to keep his eye peeled ahead and to inform him when the runway came into sight. Part of the aircraft's flight path on this approach took the aircraft out over the open ocean. As the aircraft passed from flying over the white Ice Shelf to the dark ocean water, the cloud they were flying in became extremely dark. Suddenly, Harvey felt his copilot leaning into his field of vision and was practically lying in his lap. His copilot yelled out, "Harvey, we're upside down!" Realizing that his copilot was disoriented, Harvey shoved the young man upright in his seat and told him to let him fly the aircraft and to keep his eyes open for first sight of the runway. This sort of thing did not shake Harvey; he just made the event all the more humorous when he told of it later.

Harvey always bragged about his family which he had every right to do because as I had learned they were salt-of-the-earth folks, just like he was. Harvey was an excellent father and his devotion to his children later helped lead his sons into a Navy career. His sons are now a senior naval officers with Naval Aviator wings of their own. If my tour as Officer-in-Charge of the VX-6 Little America V Station is to be considered a success, I must admit that it is due in large part to the help and advice I received from Lieutenant Commander Speed. His close contact with our enlisted crew and his understanding of maintenance procedures kept me on the right track throughout the winter months. When there was physical work to be done which called for all-hands participation he was the first one to jump into doing the job, thus setting an example for officers and sailors to follow. I will always consider myself fortunate to have had him as part of our Antarctic team.

Antarctic Facts

The struggle inland and toward the geographic South Pole began with the first expedition by Robert F. Scott of Great Britain in 1901-04. But the first person to reach

the pole was Roald Amundsen of Norway on Dec. 14, 1911. On another Antarctic expedition Scott arrived at the pole just a month later; he died on March 29, 1912, trying to return to the coast. These early expeditions relied on sail power, dog power, and human power for their transportation.

The mechanical age arrived on Nov. 26, 1928, when Hubert Wilkins, leading an American expedition, made an airplane flight from Deception Island. On Nov. 29, 1929, Richard E. Byrd of the United States flew a three-motor Ford plane over the South Pole. Byrd also explored parts of Antarctica by air and on the surface in 1933-35 and 1939-41 and commanded the largest single expedition ever made to Antarctica - the United States Navy's Operation High Jump in 1946-47. Thirteen ships, many airplanes and helicopters, and approximately 4,700 men made surveys almost all the way around the continent.

In 1990 a six-man international expedition led by an American named Will Steger completed a 221-day trek across Antarctica from west to east using dogsleds. At more than 3,700 miles, it was the longest dogsled trek, as well as the first unmechanized passage through the South Pole. The team members were from the United States, the Soviet Union, France, China, Japan, and Great Britain.

Chapter 17:
On the Tractor Trail

While much has been written about the glories and thrills of flying, it seems to me that too little has been stated about the boredom and tedium that drags on in between these fun-filled times. Although there is a saying that flying encompasses hours and hours of boredom, interspersed with occasional moments of terror, the tedium is seldom stressed. This chapter is not about terror, but about those long hours of sitting in a cockpit, as mile after mile of repetitious scenery sailed by. It is about the little things I would do to keep my interests from sagging and my eyelids from slamming shut.

During the month of January 1957 our R4D flight crew made one flight after another, only to be followed by others, supplying the tractor trail caches with fuel supplies. We would depart Little America V Station at least once daily, and if the weather was good several more times, heading southeast along the flagged tractor trail to some nominal spot, called by us a cache, which contained only an empty, or partly empty rubberized fuel cell. It was at these desolate sites, marked only by a few barrels of engine oil, that we would land, hook up a hose between our aircraft and the cache fuel cell and transfer several hundred gallons of diesel fuel. If the weather was clear, there would be little difficulty in finding the trail marker flags which had been positioned a mile apart by the party of vehicles which had established the trail. Stacked fuel drums were positioned every ten miles along the trail and we used these larger objects for our dead reckoning navigation. On poor visibility days it became a struggle and a half to find these objects because there was little or no contrast in the light making the barrels difficult to see. Radar was our main tool on those poor visibility days and the eyeballs became our secondary source of navigational information. ***46***

After leaving Little America and heading away from the coast we found nothing new or unique on the surface to catch our eye, except the occasional flag or fuel drum cache. The snow scene before us was flat and featureless and the strong sunlight forced us to squint continuously if we were to pick out the trail flags. I would find that my eyes often played tricks on me because of the forced staring. I would imagine occasionally that I would see a small object on the trail just ahead only to find a few moments later that it was a mirage or an eyeball floater. After a while I became cautious about saying I had a flag in sight for fear that it was just another object of my imagination.

All this dull scenery and this trying to see such tiny objects as small flags on the ice surface ahead forced me into a continual stage of daydreaming. It became easy to imagine I was back home in the States or, maybe doing something more thrilling than staring into a featureless horizon. Such reveries made concentration on the instruments or on flying the aircraft very difficult. I struggled to keep from having Eddie catch me with my eyes closed, so I am convinced that some of these daydreams soon turned into periods

of sleep, while my eyes remained wide open and my stare remained directed towards that featureless horizon.

We tried conversation from time to time to dispel the monotony, however, since we had been together as a flight crew for over six months there was little to discuss between us that might be considered new. Besides, the engines noise was loud and talk only added to that disturbance. Aside from this our navigator and radio man both had duties to do which were different from those we had in the cockpit, so any prolonged conversation between Eddie and myself tended to dispel their powers of concentration.

Our trail flights averaged about four or five hours in length and if the weather did not deteriorate while airborne we would sometimes make a quick turnaround when we got back to Little America and head back out on the Trail carrying another load of fuel for the tractors. We took as many flights as weather permitted, so we often found ourselves at variance with the routine working hours of the base camp. This meant that we would often come and go from our long flights when the others were sleeping or enjoying their off-duty time. With the sun well above the horizon 24 hours a day and our ground crews always ready to service our aircraft immediately following our landings, it was only our own physical and mental endurance which limited the time we could spend in supporting the tractor trail mission.

When we had first returned to Little America from McMurdo Station we found that the population of the station had doubled or tripled in the time we had been away. There was not enough bedrooms to house officers, such as myself, and I was assigned to sleep in an unheated room which was full of canvas cots and little else. No specific cot was assigned to any of us newcomers, so we would grab the first empty one we could find, spread out our personal sleeping bag and sleep thereon. Initially I felt hurt that the station housing plan had not included the supplying of adequate living space for us, but after the first time or two that I tried out my sleeping arrangements I found that sleeping in a plush sleeping bag in a room at the freezing temperature was not as bad as I had expected it to be. It was a cocoon existence and once I got the sleeping bag interior warmed with my body heat I slept much better than I had done in the steamy officers quarters at McMurdo. Still, this lack of consideration by the base planners did upset me because even the lowliest of camp workers had a better housing deal than I had and it was not until the situation was corrected a month later when permanent quarters for the winter months had been assigned that my self-esteem rose to an acceptable level.

Aside from our flights to the trail caches we managed to make several flights to the newly established Marie Byrd Station. Byrd Station was a just tiny campsite on a lonely plateau four hundred miles inland from Little America with just a few men to operate the assigned equipment and keep the place going. We found that it was very peaceful there once we shut off our aircraft engines and went inside the buildings. If eating, sleeping and just getting by was all one wanted out of life this had to be the perfect place to roost. Waiting for the daily radio transmissions between stations and operating of weather measuring instruments, was the only things that these men had to do, so it was an existence that for me had a limited appeal. Once winter set in, however, it was a whole

new ball game because survival under supremely miserable weather condition had to be on the minds of those isolated sailors 24 hours a day.

On one of our flights to Byrd Station, visibility turned poor as we approached the camp and we could not judge our height above the surface of the snow. We could see dark colored objects like buildings and mechanized equipment, but we were unable to see the thing that counted the most and that was where the ice surface began. Eddie decided to make a landing approach using instruments only. He planned to hold the rate of descent to a bare minimum, hoping we would contact the snow surface in a gentle manner. He said that seaplanes he had flown formerly often made such approaches to land in the ocean when the water was so smooth that estimating ones height above the water's surface became impossible. He planned this approach to the surface at Marie Byrd Station in the same manner, but he did not control his rate of descent as he should have done so we hit the snow surface so hard that I expected the landing gear to collapse. I have never before, or since, experienced such a hard landing. On any aircraft other than the R4D we would have been another aircraft accident statistic. This lack of finesse on Eddie's part was just another indication to the crew that this was a pilot to fear.

Fortunately for me, and the rest of the flight crew, this was one of our last flights together since it was soon time for them to return to the States; the summer season was coming to an end and everyone scheduled to return to the States was packing their personal effects. Only our navigator, Ensign Creech and I were scheduled to remain for the winter months ahead. We still had two more months of flying before darkness set in so the remaining flights out of Little America would have to be done by us, the wintering-over party.

Antarctic Facts

The International Geophysical Year (IGY). 1057-58, was a major scientific effort that established 50 year-round stations, including one at the geographic South Pole and one at the south geomagnetic pole. In 1988, after six years of negotiation, the IGY nations that had signed the Antarctic Treaty agreed on a convention to permit strictly controlled mining in Antarctica - probably by the end of the century. There are no known mineral deposits of value, however, and the harsh climate does not encourage offshore oil exploration. Both the Antarctic Treaty and the new convention avoided the issue of sovereignty, claimed by seven nations over various parts of the region.

Chapter 18:
A Little Flying Variety

When squadron summer pilots departed Little America, the wintering-over pilots were left behind to complete the remaining flying missions. Our squadron Commanding Officer remained at McMurdo Station so our contingent at Little America was not designated as yet a separate detachment, although we operated as one for another two months when he did leave Antarctica. Remaining at Little America were six squadron pilots, sixteen enlisted men, four R4D aircraft, six UC-l Otter aircraft and two HO4S helicopters. It was to be eight months before the squadron returned for DeepFreeze III flight operations and during that time we were expected to perform the following missions. First, we would continue to make inland replenishment flights of fuel caches until it became too dark for us to continue. During the winter months we were to winterize the aircraft, protect them from the elements as best we could, and when the sun again came up in August to prepare these same aircraft for summer flight operations. We were then to start flight operations, as the weather permitted, and to reestablish the Beardmore Station camp, which had been abandoned at the end of the summer flying season.

On February 4th I was designated as Commander Task Unit 43.2.2, a rather glorified title which only meant that I was considered formerly in charge of the aviation detachment located at Little America V Station and responsible for all flight operations emanating from Little America V. Besides flying and being responsible for the officers, enlisted men and aircraft assigned to the detachment I was now required to give frequent message reports to the Admiral's staff as to our progress. As a result my work load increased significantly. I took over the maintenance of personnel records of detachment personnel and throughout the rest of my Antarctic stay I did whatever was necessary to improve their physical and psychological state, a job that was often not easy because of our isolation and my shortage of resources. Some of the radio messages I had transmitted went to my squadron headquarters in Rhode Island and some went to the Antarctic staff in Washington, D.C. Since the base at Little America V was operated by a Navy Seabee Construction Battalion out of Rhode Island I had also to maintain good working relationship to the Base Officer-in-Charge, Lieutenant Commander Orndorff. The following personnel were scheduled to winter-over in the VX-6 aviation detachment at Little America V:

Officers and Enlisted Personnel

* Lt. James Waldron ADC W. S. Miles AD1 F. A. Long
* Lt. Harvey Speed AD1 B. G. Melton AD1D. R. McCrea
* Lt. Bob Anderson AE1 E. Tracy AK1 W. E. Pearson
  Ens. W. T. Schick AT1 W. A. Cumbie AM1 D. Darchuk

Ens. R. S. Aygarn AD2 G. H. Stewart AM2 J. Gutierrez
Ens. E. R. Hillis AE2 C. L. Burton AD3 D. Castaneda
AT3 J. C. Leischner PR3 A. Canzoneri
AT3 R. W. Hackett AD3 E. R. Ingles
AN A. Day

* All three wintering-over Lieutenants were promoted to Lieutenant Commander during their stay in the Antarctic.

We continued to operate two of the four R4D aircraft, with Lcdr. Speed and Lcdr. Anderson as Plane Commanders. Daily as the winter approached and the temperature dropped we found it was taking longer and longer to warm the engines before they could be started. The weather along the Trail was also showing signs of worsening. Anywhere where flying is involved ordinary events can often change into real adventures on very short notice, however, in the Antarctic it made a more indelible memory because of the remoteness of our flight operations. One such event that occurred on a routine flight we made to Marie Byrd Station towards the very end of the summer flying season. I went on this R4D flight as copilot, with Harvey Speed as Plane Commander. Most of the 800+ mile flight to and from Byrd Station was routine, however on our return to Little America, we received a radio message that we could expect deteriorating weather conditions as we approached Little America.

About an hour before we expected to land at Little America, we encountered heavy haze making it difficult to see where we were going. To avoid crashing into the surface we climbed to a thousand or more feet above the ice and started flying strictly by our instruments. By the time we reached Little America, we had lost all visual contact with the surface so we contacted Kiel Field control tower by radio, As soon as radar contact was established with the tower, instructions for a Ground Controlled Approach were then transmitted to us. This meant that a trained operator in the control tower would direct our movements over the surface to get us lined up with the runway. When our aircraft reached a certain distance from the end of the runway he would then give us descent instructions in preparation for a landing on the runway. Presuming that when we reached a certain height over the surface we could land if we could see the runway. If we couldn't see the runway at this point we would have to make a wave-off and climb back to 1000 feet of altitude to try another instrument approach.

Harvey Speed was on the controls during the approach to the runway and as we got close to the surface I was to keep looking straight ahead for first sight of the runway. The clouds we were flying through were quite dark and oppressive and as we approached the two hundred foot altitude wave-off height we still couldn't see the runway. With no other option available, Harvey added engine power and started a second approach. In all we made three approaches to the runway and were never able to spot enough of the surface to make a safe landing. On one approach I did, for a moment, spot a vehicle below us with someone holding a lighted flare. Unfortunately this glimpse didn't last and once again we reentered the clouds. We were running low on fuel by this time so Harvey decided that we should head inland, hoping to find a smooth place to land. About fifty

miles south of Little America the weather over the Tractor Trail continued to be too poor for a visual landing. We were between cloud layers and as we looked eastwards we noted a glow towards the horizon indicating that the weather in that direction might be better. Since this was our only recourse Harvey turned the aircraft in that direction.

After about twenty minutes of flying we broke out suddenly into clear air and we were relieved to find that the surface of the snow below us appeared smooth and flat. It couldn't have come at a better time because we were then so low on fuel that we had to either land or crash. Harvey turned the aircraft into the wind and made a landing in an area where no aircraft had ever landed before. We were close to the edge of the Ice Shelf and on a featureless plain of snow which pitched slightly upwards towards the south. When Harvey switched off the engines and we climbed out on to the snow, we found that the wind was blowing at a gentle ten miles per hour and the temperature was about minus thirty-five degrees Fahrenheit. We advised Little America by radio of our location and we were told that fuel would be flown to our location as soon as the weather improved. It was obvious to us that we had better start using some of those survival techniques which we had learned back in the States because we had no idea how long we might be stranded. After a few hours of minus thirty-five degrees Fahrenheit, we could expect that the temperature would take its toll on us even though we wore heavy winter clothing. It was obvious we couldn't expect to survive unless we took some precautions.

Before thinking about sleeping arrangements, we all opened our emergency rations and had a quick meal on that icy plain. We were so hungry and so happy to have landed safely that we eagerly devoured our rations even though what was in those rations was plain fare compared with the fine meals served in the mess hall in Little America. I next removed survival tents from the aircraft and proceeded to set them up on the snow. Harvey decided to try sleeping in his sleeping bag on the aircraft cabin floor. In retrospect I believe I made a better decisions because the tent proved far warmer then the cabin of the aircraft. Harvey found that the aluminum of the aircraft transmitted the cold temperatures right through his sleeping bag. Not surprisingly he spent a miserable night. My tent was constructed of semitransparent silk cloth which kept out the wind but not the cold. There was a small tin bucket and a wax candle which when lit increased the temperature inside the tent by a few degrees. It did do this but certainly not enough to make it really comfortable.

I climbed into the sleeping bag and although it took an hour or so to get warm enough to sleep it was very pleasant sleeping particularly since the day just past was a long one leaving me exhausted. I believe I slept about 14 hours before waking and then only because the noise made by others outside the tent made further sleep next to impossible Once dressed and out of the tent I found the outside weather to be clear and cold like it had been when I had bedded down. The wind had died down and except for our own conversation it was quiet on the ice. Except for a slight darkening of the horizon in the direction of the open water there was a bright glow to the air in all directions. I proceeded to attack my emergency rations again because survival in such cold climates demands a high intake of calories. Like the others in our stranded group I woke with a ravenous appetite.

After breakfast, I started looking for something to keep all of us busy. I also gave some consideration as to what we would have to do in order to survive if help didn't arrive quickly. I had read somewhere in my survival books how the Eskimos made their igloos so I got the crew busy in constructing one. I found a handsaw in the aircraft and proceeded to cut slices of snow about 1 foot by 1 foot by 8 inches in size. We then piled them one on another in a circle about eight feet in diameter. As the walls increased in height, we started having them lean towards the center so we would in time cap the structure with a roof. The snow bricks froze together so there wasn't a tendency for the structure to cave in, as one would expect. We had worked for several hours at building this icy structure and the crew was quite enthusiastic over our accomplishment when a P2V rescue aircraft appeared on the horizon. This aircraft carried the load of fuel we needed to get our aircraft back into the air. Our work on the igloo was abandoned as we prepared for our return to Little America. I have often wondered how long our small defense against the Antarctic winds must have stood before being covered by blowing snow. I have also considered what our survival might have entailed if we had been stranded in that lonely place for several days instead of just eighteen hours. Our food supplies on hand were limited to just a few days so that would have been the limit to our endurance because food is absolutely vital if one is to survive in such cold. Our flight back to Little America was a routine trip and we were pleased that we had really been missed by everyone while we were away. Since we were a necessary link to the success of the remaining summer mission we were not surprised that we came back to a full flight schedule. We were ordered to make a quick turn around so within two hours we were once again airborne. Another mini-Antarctic adventure was over.

When the summer group had departed and we had rearranged the flight crews it became apparent to me that someone had to fly the UC-1 aircraft since we ended up with one pilot in surplus for the number of aircraft we had on hand. Since I had wanted to get more experience in the ski-equipped UC-1 and since it seemed appropriate to let our navigators get a bit more flight time in the R4D cockpit I quickly switched from the twin-engine aircraft to a single engine one. I had received some excellent flight instruction from one of the high time UC-1 pilots in how to maneuver this fine aircraft on the snow surface and I was soon off by myself soaring down the tractor trail. The seats had been removed from the cabin of the Otter and in their place we carried several fuel drums containing either diesel fuel or lubricating oil for the tractors. Taking a single enlisted flight crewman with me I would fly south along the trail for two or three hours and at specified locations I would land and my crewman would push the fuel drums onto the snow surface where it would be recovered later by the tractor party on its return trip from Byrd Station.

I had a glorious time working on my own this way and the weather remained outstanding for days at a time. Sometimes I made as many as three flights in one day as I gloried in my new-found independence and in the pure joy in flying an aircraft that fit me like a glove and did everything I asked of it. I found out quickly how to taxi up to my refueler with great accuracy and without any loss of time. I would aim the aircraft directly at the refueler and taxi at great speed, then at the last moment turn ninety degrees

away from it and the aircraft would slide gently sidewards to a stop just feet from the end of the refueling hose. It was an exhilarating feeling to have such profound control over an aircraft. It was almost as though the aircraft and I were made for each other.

As the summer approached an end the light after midnight became rosy in color and for hours I would fly in what seemed an unreal light. It was sundown colors which never seemed to come to an end. The outside temperature also started dropping and it was harder to keep warm in the cockpit, even with the aircraft heaters going full blast. It also took longer in the mornings to get the engines warmed enough to start and the gasoline-fired heaters had to be left on longer to get the same job done. Besides flying the UC-1 I was called on to fly the HO4S helicopter on various missions. During January, February and March of l957 we had several ships tie up on the edge of the Ice Shelf about a mile from Little America V Station and there was considerable activity in that area while they unloaded supplies and personnel. Since the tractors from Little America were being used to move heavy cargo inland we were called on to ferry the newly arrived scientist and technicians from the ships to the station. I made several of these helicopter transport flights and found them amusing because the people we were bringing into the camp looked like typical tourist. Some had bright new clothes and several had shiny skis. It was as though they thought the Antarctic to be a tourist spa, perhaps to include ski lifts and other winter delights. They were soon to learn that the Ice was all work and very little play. One or two hardy types did try their skis in time, however, the flat surface of the snow and the dangers of crevasses took away much of the romance of skiing. A technician, Peter Schoeck, went skiing alone one night when the weather was beautifully clear and when he started back to camp was surprised when the weather turned sour suddenly, like it can in the Antarctic. He spent an hour or so in blinding snow before he found our airfield building. He completely missed our base camp and ended up at the last building between us and the Pole itself 800 miles away. The fellows at the airfield helped him get warm again and offered him as much hospitality as they could afford. When he was first missed we started organizing search parties but it seemed futile to send searchers out when the wind was so fierce and the visibility was practically nil. Fortunately Mr. Schoeck found our inland control tower and the search was called off before anyone ventured outside. When the weather cleared up about a week later Mr. Schoeck was able, for the first time, to make his way back to Little America V Station.

One of the ships unloading at Little America was the Ice Breaker Atka and they too brought new personnel to our camp. I made several trips out to the Atka and made, what was for me, my first icebreaker landings. I believe I made about four trips between the ship and our camp and while the visibility over the Ice Shelf wasn't very good but not unacceptable for me, considering the experience I had gained over the summer. One of the ship's helicopters, however, failed to maintain sufficient altitude over the ice after crossing the edge of the Ice Shelf and he flew into the rising surface of the ice. The helicopter slid to a stop suddenly and then rolled over on to its side. No one was hurt in the crash but it did reduce the number of helicopters available to the ship for the remainder of its cruise. Later the ship requested that our squadron transfer one of our HO4S helicopters to them so they would have a helicopter for ice surveillance on the trip

northward. We hated to give up one of our flying machines, but, we understood how vital a helicopter was to the ship's safety while they maneuvered through the ice fields to the north of us, so we couldn't say no to their request. After the last supply ship left our area it was apparent that we were running out of time in getting the off-loaded cargo up to camp from the edge of the Ice Shelf. Winter was quickly closing in on us and anything that we left on the Ice Shelf would soon be covered over with snow and probably lost. Our food for the winter was the main item we were worried about and although our camp tractors were working around the clock they couldn't handle all the cargo that was stacked out in the open.

The base commander, Lcdr. Howard Orndorff, had a few hours in helicopters so I asked him to help me airlift the food provisions to our camp by helicopter. Howard had not flown the HO4S before but he was quick to learn and we took turns in flying back and forth between the edge of the Ice and camp. The helicopter had little heat and since it was around 30 to 35 degrees below zero at about that time we had great difficulty in keeping warm. Our hands would become so painful after about fifteen minutes of holding the flight controls it was necessary to turn over the controls to the other pilot while we would place our hands inside our flight clothing and warm them against our chest walls.

I had warned Howard about the tendency of the articulated rotor head system to go into a condition called ground resonance if one landed while moving in a direction other than straight down. It isn't a condition that one could expect to happen often, but there in the Antarctic with super-cold flight controls and landing gear we had all the elements in place to get ground resonance without really trying. When the helicopter enters this condition the rotor head gets out of balance and if the aircraft remains on the ground the helicopter will disintegrate in a matter of a very few seconds. The only way out of this situation is for the pilot to immediately takeoff and the torsional vibrations will dampen out in the air. On one of our lifts from the Ice edge Howard had the flight controls and I had my hands inside my flight jacket warming them. Howard made a normal approach to a hover, but when he landed the helicopter he put it on the ice left wheel down. This sudden off balance landing put the helicopter into ground resonance and the aircraft started shaking itself in a fierce manner. I recognized what was happening immediately and I reached down to the Collective Pitch Control and yanked us into the air. Howard hadn't realized what was happening and if I hadn't taken effective action we would have come apart there with five or six men standing under the rotor blades. It frightens me to think what might have happened if those rotor blades had sliced through those unwary individuals. ***47-54***

Antarctic Facts

Because it has never had permanent human settlements, Antarctica has had an unusual political history. Seven nations have claimed pie-shaped sectors of territory centering on the South Pole. Three of the claimed sectors overlap on the Antarctic Peninsula. One sector is unclaimed. Most other nations do not recognize these claims. The United States policy, for example, is that the mere discovery of lands does not support a valid claim unless the discovery is followed by actual settlement. Also, like

many other nations, the United States reserves all rights resulting from its exploration and discovery.

Chapter 19:
Operating Alone On Ice

Getting our wintering-over detachment organized into a workable unit, was not difficult because we had plenty of talent available. Besides, each of us was most eager to make the remainder of our stay in the Antarctic a success. We had practiced long and hard in our flying roles for several busy, summer months so what we needed was to establish what our non-flying roles would be for the six months ahead of us. Since Harvey Speed was the officer most knowledgeable about aircraft repairs, I appointed him to be my Aircraft Maintenance Officer. Lieutenant Commander Bob Anderson had considerable experience in flying large and small aircraft types so I assigned him to be my Operations Officer. Needing to provide our share of support for the base itself I allowed Ensign Creech, Ensign Aygarn and Ensign Hillis to be assigned collateral jobs connected with the main camp operations. When not engaged in flying the detachment aircraft these three gentlemen would work directly for Lieutenant Commander Orndorff. Since these duties did not relate to aviation matters in any way these three young officers were not very happy with their assignments. I decided that their jobs were necessary for the survival of the camp so it had to be done. The only way the camp could exist was to have as many men as possible participating in station support functions of one kind or another.

In addition to my duties of maintaining the detachment administrative records I handled all the radio communications traffic with the staff in Washington, D.C. and the squadron in Quonset Point, Rhode Island. I also maintained the personnel records for both the officers and the enlisted men of the detachment. Besides these duties, I accepted assignments to several boards by the Base Commander, Lieutenant Commander Orndorff. The board which handled the examination for advancement of the enlisted men of the base and for our aviation detachment took a considerable amount of my time in February. Because the taking of advancement in rating examinations directly affected the morale of all the sailors in the camp, it was essential that the crew felt our handling of this event showed we had their best interests in mind. Since several men wanting to take examinations were many miles from Little America out on the Tractor Trail, it was necessary at times for us to fly the examinations out to them so they could take these examinations as the Tractor Train plodded its way towards Marie Byrd Station. We took this responsibility seriously for to do otherwise would mean that we would possibly delay promotions for worthy individuals on detached duty in as remote an area as one could find.

It was not long after the arrival of the civilian scientific team from the States that these fine gentlemen started making their presence felt. Most of them were eager to get going on their research, so they generated many energetic projects all going on at the same time. Since our main responsibility for being in the Antarctic was to provide flight

support for these scientists, engineers and the technical support people, we had to spend a considerable amount of time with them so as to discover their logistical needs. We had to decide quickly how we would be able to help them, since the end of summer was fast approaching. In this regard we had to decide the most appropriate method of transporting them and their equipment to the remote locations where they hoped to do their studies. This was not easy because most of these men had no experience in aviation matters and many had little idea of what the inner continent was like. Their projects were approved and described on paper back in the States. What we had to do was analyze all their requests and schedule them after considering what we had learned of flying on the Continent in the six months of intensive flying that had just gone by. We found it necessary to instill in their minds that flight safety had to be the uppermost in all our plans so as to avoid disastrous consequences.

Many of the studies scheduled by our scientific group were those which could be done without ever leaving Little America. These were the weather studies, cold weather physiological studies, solar radiation studies and Aurora Australia Studies. The men handling these projects first assembled permanent measuring equipment on the roofs of our buildings and without venturing away from camp were able to get results. These scientists were not problem to our aviation planning.

Where our participation proved most important was in helping the men who wished to probe the geology of the Ice Shelf. As they moved from selected spot to selected spot checking the composition of the earth below the surface of the Ice we had to provide them air transportation. At various remote sites they would explode dynamite charges a short distance away and by measuring the recorded echo of the explosion they could tell where the bottom of the ice was, the depth of the ocean below the ice and something of the composition of the ocean floor itself. As they moved from spot to spot, they would develop a geological map of the Ice Shelf which added further to our knowledge of the Earth.

It was our job to provide supplies and equipment to these scientists as these items were needed. We also took scientists with us in our aircraft, while we scouted the area ahead where they intended to move next. In a short flight they could see what sort of terrain they might expect as they progressed slowly over the surface by motorized equipment. We also helped them to plan their route to avoid crevasse areas which would force them into to backtracking and rerouting.

While we were willing to provide all the logistic support that the scientific group might want, there was more to our flying mission than that. There was still a considerable amount of flying that needed to be done in support of Marie Byrd Station and the Tractor Train. Some flights in support of the scientific party would have to wait until the start of the next summer when we could devote 100% of our flying time to their mission. On February 7th we received a message from McMurdo Station. The message stated that it we needed to provide an R4D aircraft, as soon as possible, to fly important cargo and personnel to the South Pole Station. This mission was an unexpected one for us and a bit unusual because all squadron support aircraft had flown back to New Zealand. The Base Commander at McMurdo Station also requested that an Air Force C-124 fly back to the

Ice from New Zealand to fly surveillance and navigational cover for our R4D and crew. Going back to the Pole this late in the season was hazardous since the super-cold temperatures had once again returned to the South Pole Plateau. In addition, there was no other ski-equipped aircraft on the Ice except our Little America R4D flight crews. With one R4D flight crew on the way to the Pole, we had with just one flight crew left on the Continent to attempt a rescue, if the other went down on the South Pole Plateau.

The C-124 aircraft sent back to the Ice from New Zealand did not have skis. It would only be able land and takeoff from the McMurdo ice runway only. This aircraft would only have been able to paratroop emergency equipment if our R4D broke down along the way and had to land. This would be the only help available that could be expected in an emergency, except for their relaying the situation by radio to McMurdo Station.

Since this new mission gave us next to no room for error, we hated to have this role placed on our small detachment. Still it was a necessary flight and we were the ones capable of handling the situation. I picked Lieutenant Harvey Speed to make the flight and he decided to take Ensign Schick as copilot, Ensign Hillis as Navigator, ADC Miles as Plane Captain and AT1 Cumbie as radio man. Lieutenant Anderson would have liked to have gone on this mission but he was the only other fully qualified R4D Aircraft Commander on the Continent and it was necessary for him to remain at Little America to make himself available for a rescue of the other flight crew if they forced down anywhere.

Before Harvey Speed could leave for McMurdo Station, he had to make three test flights of the R4D picked for the Pole flight. We had been having engine problems on this aircraft for several days. It was necessary that the ground maintenance crew worked around the clock to get it back in flying order. Harvey left for McMurdo Station about the time most of the people in camp were turning in for the night, arriving at McMurdo at around 2:30 PM on the 8th of February.

Shortly after Harvey Speed arrived in McMurdo the weather closed in. It was not until February 11th that it cleared enough for him to head for the Pole Station. The flight to the Pole Station met with good weather and he made the landing, at that 10,000 foot high plateau, without incident. After dropping off his cargo and passengers, he loaded seven other military passengers for the flight back to McMurdo Station.

After taking-off from the Pole, Lcdr. Speed proceeded northwards, towards McMurdo Station. After an hour or so of flying he experienced low oil pressure on the engine which had been a maintenance problem before he left Little America. To avoid total engine failure he landed on the polar plateau, many miles from any base. His crew chief discovered that an oil line on his aircraft had frozen solid. All the oil in the supply tank had been pumped out of the aircraft before it had landed. It is fortunate that they landed when they did because the engine would have frozen up a few minutes later from total lack of lubrication.

There on the icy plateau Chief Miles, working with just his hands and a few tools, repaired the frozen line. The engine was successfully restarted and Harvey made another takeoff. They were soon airborne and headed again for McMurdo Station. They had spent two hours on this isolated plateau making repairs to the engine. All the while they were

on the surface, temperatures were well below 0 degrees Fahrenheit. They were fortunate that the engine with the frozen oil line did not refuse to turn over when the starter reengaged because the low temperatures in time could have soon turned the engine into a solid frozen mass.

If Harvey had not been able to get off the surface when he did those of us on standby at Little America would have had to fly to his position with engine heaters, fuel, tools, survival equipment and equipment to get him back into the air. Since we were the last ski-equipped flight crew on the continent it would have been an all or nothing situation for everyone involved. The only other available flight crews were either in New Zealand or enroute to the States. It would have taken many long days to get any of them back on the Ice if we had needed them. By the time they did arrive to help, we might have all been frozen solid on that windswept plateau.

Antarctic Facts

The unsettled situation caused by unrecognized claims for land in the Antarctic might have continued had it not been for a surge of scientific interest in Antarctica that developed in the middle 1950s. At that time scientists of 12 nations decided to make research in Antarctica the major portion of a large investigation, the International Geophysical Year. The 12 nations were Argentina, Australia, Belgium, Chile, France, Japan, New Zealand, Norway, South Africa, the United Kingdom, the United States, and the Soviet Union. When this program was completed in 1958, these nations decided to continue their research programs in Antarctica.

Much of the research had been achieved through international cooperation and the 12 nations carried their new, friendly ties from science into politics. They met in Washington, D.C., in 1959 to write the Antarctic Treaty. The treaty reserves the region for peaceful purposes, especially scientific research. It prohibits nuclear weapons and disposal of radioactive waste, and it does not allow military activities except to support science and other peaceful pursuits. The treaty does not recognize or dispute territorial claims of any nation, but is also does not allow any new claims to be made. It allows members to inspect each other's installations, encourages the exchange of personnel, and requires each nation to report to the others on its plans and results.

The treaty does not include anything about sharing Antarctica's natural resources, but it does provide for meetings every other year to further its objectives. At these meetings the treaty nations have agreed on conservation plans and on responsible collection and sharing of resources. Other nations later joined the Antarctic Treaty, and by 1982 there were 26 that had signed it.

Chapter 20:
Winter Routine Begins

Little by little the remaining summer folks departed from the Ice and those of us left behind began the task of arranging our daily activities and our space requirements. I found myself freed from the frigid bunk room where I had been sleeping and was assigned to a room in the Senior Officers Quarters. Chaplain John Zoehler was also assigned to this same room and he proved to be a very favorable room mate. During working hours and on most evenings John preferred to work out of his office and he only used our bunk room for sleeping purposes. This resulted in my having the room all to myself during waking hours so it became a place that I could relax or work in comfort without having to make conversation.

Our Senior Officer Quarters also housed Captain William Dickey USN, who had been assigned as Senior Officer Present in the Antarctic for the winter months ahead. His job was to coordinate all Antarctic activities for the various bases on the Continent until the Admiral and his staff returned the following September. Since the Antarctic bases were very remote from each other and radio communications were usually difficult to maintain Captain Dickey found himself with a lot of time on his hands and as a result he often tried micro-managing Little America V base operations and was often a thorn in the side of Lieutenant Commander Orndorff, the base Officer-in-Charge. Fortunately for me, he seldom interfered with my detachment operations because of what happened on our first day of winter operations.

My flight and ground crews had been working around the clock for several weeks when the last ship sailed from Little America V. I decided that everyone needed a few hours of rest so I gave the entire crew the afternoon off. Before my Commanding Officer left the Ice I had discussed with him the degree of authority I would have during the winter months. He assured me that I could operate my detachment as I saw fit. He did not consider that the area commander, Captain Dickey, would interfere with our routine operations, so long as we accomplished our assigned mission. Feeling that I had all the authority needed, I told my crew that they could relax from their duties for the afternoon.

Lcdr. Orndorff, the base Officer-in-Charge, took exception to my decision since his work force had work that had to be done. There were many tons of cargo off-loaded from the supply ships still sitting on the edge of the ice shelf and it was necessary that it be carted to the base and stored before it was covered by blowing snow. Without consulting me he went to Captain Dickey complaining that he thought it was unjust that my crew would be off duty at the same time that his crew had to work. It didn't occur to him that my crew had been working around the clock for several weeks provisioning the Tractor Party, a period of time when his men were working only eight hour days. Captain Dickey called me to his office and proceeded to lambaste me for the decision I had made without consulting him. I was unaware at that time that Captain Dickey wanted to assume

authority over all our activities. This was not specifically covered in operational plans put out by the Admiral. Throughout the summer months, when our aircraft operated from Little America, our detachment reported our activities directly to the Commanding Officer of our squadron and the base commander had little say as to what we were doing. I assumed that I would continue to operate the detachment in the same manner during the winter months, even though we would be half a world away from our squadron headquarters.

Captain Dickey didn't see it that way at all and he wanted me to know that he expected me to consult with him in all our planning. I felt that I was right in giving my men time off and that I had only to keep Captain Dickey advised, not get his approval for everything the detachment did. Captain Dickey was strongly opposed to my independent reasoning and we got into a very messy argument. Neither of us wanted to back down. When he saw I was not going to agree to his way of thinking, he gave me the ultimatum of changing my attitude or returning to the States on the first available ship. Since I was still just a Lieutenant (soon to become Lieutenant Commander) it soon became clear to me that I could not win an argument with a Navy captain, no matter how right I felt my reasoning to be. With this in mind I acquiesced and promised to discuss my operational plans with him before taking action on the plans.

Although I did discuss my future operations in detail with Captain Dickey for the remainder of my time in the Antarctic, he never again took such a determined stance as he did that day and I found myself pleased that he usually agreed with anything I made up my mind to do in detachment operations. I believe our one test of wills and my strong determination won some sort of admiration from him because he never confronted me again. We became good friends and I often shared my thoughts and ideas with him on many matters even though I didn't always feel that I had to.

Lcdr Orndorff's anger over the situation quickly subsided. Since we had a long winter ahead of us and since cooperation was necessary if we expected to make a success of our winter operations, we soon developed a close working relationship and a mutual respect. Still it remained a mystery to Howard how my short-lived battle with Captain Dickey earned fro me a bit of freedom from his interference while he was constantly frustrated as Captain Dickey took exception in almost every decision Howard made during the months that followed. Howard was a good officer and if he had been able to make decisions without having them negated by Captain Dickey, I believe that he would have managed his job real well. Captain Dickey had few official duties during the winter months so it is easy to understand why he felt he had to assert himself in the daily operations of the base.

Our Senior Officers Quarters contained a variety of people types and not all were from a single mold. Chaplain John Zoehler and I roomed together and we adapted to each other's idiosyncrasies and we gave each other the privacy needed over the long winter months. John spent most of his waking hours either in his chapel or in moving between buildings where he could have direct contact with everyone wintering over so I saw him mostly at bed times.

The room next to ours was occupied by Howard Orndorff, the base Officer-in-Charge, and Lcdr Robert Hancock, the base Supply Officer. I enjoyed my daily contact with these

two individuals because we were all of the same rank and we found we could talk with ease about our various problems without having them become taken out of context.

Bob Hancock elected to try some strange projects during the winter months, however, I don't believe he utilized the information he collected for any specific purpose. One project he worked on was the stratification of heat levels in our living quarters. He mounted about twenty thermometers on the walls of his room starting at floor level and reaching the ceiling. He found it could be near 100 degrees Fahrenheit at the ceiling and freezing or below at floor level. I didn't need his thermometers to tell me this because I found it necessary to wear heavy socks and shoes to keep my feet warm and simultaneously be stripped to the waist to prevent becoming overheated. Bob also took several hundred photographs of base personnel shoes. In spite of his attempts to issue each individual identical cold weather shoes Bob was not able to find two individuals wearing the same shoe types on the same day. Bob's collection of photos showed over 100 different shoe types being worn by camp personnel.

Captain Dickey had a room to himself at the opposite end of our building from my room. He didn't stand on ceremony as did many senior officers, always welcoming visitors to his room for a chat. He would talk about anything and everything, so he provided some delightful moments during that long winter night. I believe that down deep in his soul he resented having been left behind on the Ice, with little responsibilities. He was not a sharp individual, however, he should have rated a more demanding assignment than the one he received.

The remaining rooms in our living quarters were assigned to senior scientific personnel. Try as we did, we were unable to make close association with any of these individuals. They were all devoted to their work and while they were friendly in a routine way they seemed to exclude military personnel from close association. The Chief Scientist, Dr. Albert Crary seemed to be a particularly strange person and a bit more distant than the other scientists in our building. He bore the rugged characteristics of a man born to live in the wilderness and as a result he did little to make things more comfortable for himself. He slept in a sleeping bag placed across a plain mattress as though sheets, pillows and blankets were too sterile for him. He wore the same plain clothes day after day for the ten months I knew him and I have no idea when, or if, he did any laundry. We had nightly movies and weekly beer parties as our main sources of entertainment. I am able to recall only one party which he attended and I never saw him at the movies. In July, when we reached the halfway point for our wintering over, the camp had a party to celebrate the occasion. Dr. Crary imbibed too much that evening and instead of becoming noisy, or passing out, or getting nauseated he became a zombie instead. He seated himself on the floor with his feet folded under him and refused to move. He folded his arms across his chest and all efforts at getting him to stand up were unsuccessful. Several of his associates found a four wheel dolly and they physically lifted the Chief Scientist on it and pushed him from the Recreation Building to the Senior Officer Quarters. Once there they lifted him bodily and placed him on top of his sleeping bag. They left him in this "Lotus Position" because he refused to get into his sleeping

bag. No one knew how long he remained in this position. He did not show up for meals for fifteen or so hours later with a look that spelled, “Massive Hangover”.

The remaining officers and scientists attached to our camp occupied the Junior Officers Quarters building and from all appearances there wasn’t much difference between their living spaces than those of our building, however, there was less protocol and less show of authority so their spaces were more homelike and friendly.

Chaplain Zoehler and I arranged our room with two metal lockers dividing the room in equal halves. We had our two level bunk bed on one side of the lockers and the chairs and table on the other side. It was possible for one of us to be sleeping while the other stayed up to read, a situation that occurred often since John’s job and mine required different waking hours. During the winter months I completed a half dozen professional correspondence courses, painted a bit and read several novels in that room. John, however, used the room solely for sleeping and changing clothes and because of that he proved to be an ideal room mate.

One of the reasons my waking hours was so different from John Zoehler was that I had to work out of the Communications Building when incoming radio messages were received from Stateside. Most of our messages arrived around midnight or later and as a result I had to spend considerable time reading messages and writing replies after most camp personnel were abed. This resulted in my turning in around 2:00 A.M. and sleeping past breakfast most mornings.

I maintained a desk in the Station Administrative Office and this was the place where I did much of the detachment record keeping and letter writing. Although we were several thousands of miles from home, there was still much routine paperwork that had to be done. I tried to spend six to eight hours per day at my desk and the only time I varied this schedule was when I went to the airfield to check on work progress with the aircraft. Although flight operations were curtailed and outdoor work was at a minimum, there was always work that had to be done.

Chapter 21:
Our Days Get Shorter

Between the later half of February and the first half of March, we experienced our most active periods of flying since arriving in the Antarctic. Faced as we were with shorter days and deteriorating weather conditions we flew every moment available. In doing so we had to use every pilot we had to get the assigned missions completed before winter. We even had to use Captain Dickey and Lieutenant Commander Orndorff as copilots although they were not members of our squadron and unqualified to occupy pilot seats in any of our aircraft. We needed them just to meet minimum cockpit requirements and they were the only other pilots available.

On top of our heavy flying schedule we received word that the Commander in Chief of the Atlantic Fleet, Admiral Wright, was to arrive in the Antarctic for an inspection of our operations. We had to send an R4D to McMurdo Station to airlift the Admiral if he decided to visit Little America. Having little other choice I sent Harvey Speed and his overused flight crew to McMurdo to await the Admiral's arrival on the Ice.

Unfortunately, Admiral Wright chose to fly around the Antarctic in an Air Force C-124 aircraft instead of using our aircraft, so sending Harvey at this busy flying period was a waste of time. Harvey did manage to bring back mail and cargo so his trip was not a total loss. The Air Force aircraft gave the Admiral a bird's eye view of both camps but it did not let him see how we lived, nor how our flight operations were proceeding.

At about this same time McMurdo Station experienced a fire which destroyed a storage building containing parts for their tractors. Without these repair parts their very existence during the coming winter months would have been impossible. To cover their loss they requested our help in getting replacement parts from out of our inventory. The Supply Officer at Little America did a quick check of his spare parts and within a day he located enough parts to make a sizeable airlift to McMurdo. We had to use both R4D's in this ferrying of spare parts.

Our flight crews had to fly more long and successive hours with little rest between flights, something I hoped they might be getting used to. On one flight, Lieutenant Anderson had to make six instrument approaches to the Little America airfield before he could see the runway well enough to land. The approaching winter weather was already taking its toll on our flying capabilities even before all the necessary flights had taken place.

On February 22, Lcdr. Anderson had to fly out to the Tractor Party, because they had not been heard from for 56 hours.. Fortunately, he located the party at Mile 207 along the Tractor Trail and landed next to their moving vehicles. He discovered after the landing that the Trail Party's radio transmitters had become inoperative. This produced no real emergency since they had been able to make miles without the radio. Still it was important that they be able to communicate with Little America in case of an emergency.

While repairs were being made to the Trail Party transmitters, Catholic Chaplain Darkowski, who went along on the flight, said Mass for the members of the Tractor Party.

At about the same time I had to dispatch Lcdr. Speed to the small camp at the foot of the Liv Glacier to rescue the men who had operated at this remote weather station during the summer months. Shortly after arriving at this remote campsite weather conditions became so fierce that he couldn't safely take off. He had to remain on the ice surface for three whole days before the weather improved. Finally, he took off on instruments and headed for McMurdo knowing that he could not remain on the remote icy surface any longer. In time his aircraft would have frozen up completely, had he remained on the surface any longer. He flew back to McMurdo mostly on instruments. We at Little America were all relieved that we did not have to make a rescue flight in his behalf.

On February 25th Admiral Dufek and his Staff returned to New Zealand, placing the entire Antarctic command in the hands of Captain Dickey. From here on out we, the wintering-over party, had to exist and operate strictly our own. We would not be able to expect outside help, even if an emergency developed.

On February 26th we started tying down some of our aircraft for the winter. To do this we first would dig holes in the ice, then place wooden anchors that would freeze in the holes. Using ropes tied to these anchors we would then tie the aircraft at several secure points. Once the anchor had frozen to the ice it would take a massive force to dislodge it. When we were able we would then remove the cloth-covered control surfaces from the wings and tail surfaces of the aircraft, Storage of these delicate parts inside the Maintenance Building insured that they would not be damaged by the winter winds.

Additional flights were still required to be made to the Trail Party, Byrd Station and to McMurdo Station, however, each one had to be scheduled on a somewhat irregular basis, whenever the weather permitted. On one flight returning from McMurdo, Lieutenant Speed brought with him a Siberian Husky, named Clem, who would be our camp mascot for the winter months. Clem was brought to the Antarctic to pull ski sleds out of McMurdo. When he refused to pull like the other dogs it was decided to get rid of him. If Harvey had not taken him from the dog trainers, they would have probably put him to sleep since they could not afford to maintain a dog who had no snow sled pulling potential. Clem was an extremely docile animal and since he was the only pet in camp he soon became the favorite of all the men in the aviation unit. He loved the attention he received from our lonely gang and he soon became the official greeter at the air terminal.

On March 6, two of our R4D's were loaded for a final trip to Byrd Station. This was to be our last supply trip to this remote site for the season. Lt. Anderson's aircraft developed mechanical problems during the warm up period, so he had to cancel his flight. Lt. Speed did make the flight but he experienced heavy instrument conditions all the way to and from Byrd Station, making future long range flights for the season too risky.. Lt. Speed told the men at Byrd Station that we would not be able to visit them again for several long winter months ahead. One can only imagine how final that must have sounded.

We were to make only one more long flight before calling it quits for the summer but we continued making short-range flights out of Little America for a while longer. Since we could depend on weather predictions to be accurate for the short time the aircraft would be airborne there was less concern for being caught away from camp due to worsening conditions. We could expect that for future flights our meteorologists would not be able to predict with the accuracy we needed when we went over one hundred miles from Little America. Whenever we went further than that we found ourselves hazarding the aircraft and crews unduly.

On March 9th I flew along the Ice Shelf for several miles to the east of Little America looking for the USS Northwind. This icebreaker ship was lost in the sea smoke. Sea smoke is a fog close to the surface of the water caused by the difference in temperature between the cold air and the warmer water. Using radio bearings I was able to locate the ship and advise them of their course and distance to Little America's off loading area. I made several trips between the ship and Little America carrying cargo.

On one approach to the helicopter landing area on the ship I could only see the uppermost antennae of the ship rising out of the sea smoke. I brought the helicopter to a hover just over the top of the sea smoke, where I expected the helicopter landing area to be. Then I descended slowly through the fog until the flight deck came in view. My vision was obscured for a few moments only but I was certain of what I was doing. Howard Orndorff, seated in the copilot seat, however, did not feel so secure and he was amazed at my courage and skill in making the shipboard landing.

With the weather precluding further long range flights we started making lots of interesting flights close to base camp. Harvey Speed flew to Roosevelt Island with several scientists scouting the crevasses surrounding the island. This flight help the scientist establish their exploratory route scheduled for the following summer. Bob Anderson and Captain Dickey flew in the Otter to Rear Admiral Byrd's old camp, Little America III, looking for usable cargo. This flight was followed by my several similar flights, all carrying back items which had been left behind by Byrd before World War II. One of the scientists, Dr. Herfried Hoinkes, a micrometeorologist, went to the old campsite to study a pit dug 16 years earlier.

It was during this period when we visited the old Little America site that we heard that Rear Admiral Byrd had died. His death was quite a shock for all of us since his explorations were a precursor of ours; we even held a memorial service for him several days later. On March 21st, Harvey Speed and Captain Dickey flew in the R4D to McMurdo. Along the way they flew a course 100 miles inland from the ice shelf so the scientists could study the surface they would traverse the following summer. Harvey and Captain Dickey were unable to return to Little America until the 25th because of inclement weather. This was to be the last flight between Little America and McMurdo Station for the season. The daylight hours were at a minimum and the weather was too treacherous and unpredictable to chance further flights. ***55 & 56***

Chapter 22:
Flight Operations Cease

Although our operational flights had been cancelled for the season we still planned local flights for night flying training purposes and also to test our capability for getting our aircraft airborne in super-cold weather. We hoped that nothing would happen at one of the other bases which would require that we fly to their aid but we thought that we should be ready in any event. Looking back on it now it is easy to see that each flight we attempted at this period of time took such an enormous amount of time and equipment just to get the engines and the cockpit instruments warm enough to work properly that these exercises were quite marginal in success. We also limited our flights to very short distances from Little America because if an aircraft and crew were forced down any significant distance from Little America, it would have been a long time before rescue personnel and equipment could have reached them. We also had to consider that since the base itself had many operations which had to be accomplished during the winter months ahead any long distance overland rescue operations would have severely burdened base operations. The chances for survival by a downed flight crew over a long period of time when the temperatures were -35 degrees Fahrenheit or lower would also have been marginal at best. Still, we thought that as long as we and the aircraft were available that we should at least measure the difficulty of night time operations.

On April 1st Harvey Speed and Bob Anderson made a local R4D flight, remaining within ten miles of Little America. Heating the aircraft so that it was safe to fly took almost all day so very little time was left for flying. The next day temperatures dropped to between -45 degrees F to -50 degrees F, so no attempt was made to rewarm the aircraft for another flight. On April 4th I held a “wetting-down” party for the entire station’s personnel so as to celebrate my promotion to Lieutenant Commander. Since beer was the only alcoholic beverage available, beer had to be “the drink of the day”. A good time was had by everyone and I received congratulations from everyone. On April 9th I was able to take a short flight around the field in one of the Otter aircraft. A six hour warm-up of the engines was required on this flight so there was very little daylight left to stay airborne for long. On that same day two more Otter flights were made with several of the detachment pilots taking turns at the flight controls. I tried turning up the helicopter but in spite of a long warm-up period using several heaters I was unable to get an oil pressure reading on either the engine or the rotor transmissions. On April 10th the crew worked all day heating the helicopter but whenever I tried to engage the rotor system the aircraft pitched wildly which was probably due to the rotor head dampeners freezing up. I was also unable to get an R.P.M. gauge reading on the rotor head, something which was a 100 percent necessity if I was to fly the aircraft.

Following this failed attempt at starting the helicopter we decided to discontinue helicopter flight operations for the remainder winter season for it was felt that trying to

fly the helicopter under such cold conditions would result in excessive wear on the moving parts of the engine and the rotor system. Since we had no schedule operations for the helicopter during the winter, putting it away caused no problems for our commitments. On April 11th a storm moved in with high winds and low visibility. Although we had taken precautions against this high wind situation a wing tie-down rope snapped on one of the Otters. Fortunately no damage was incurred to the aircraft and the ropes were doubled so the event wouldn't be repeated. Early in the day on April 12th Ens. Schick and Ens. Aygarn were able to have a long and successful flight in the immediate vicinity of Kiel Field. Both had spent so many long hours in the back of the R4D navigating during the summer months that they were overjoyed at being allowed to fly on their own. Later in the day I was able to get airborne in the Otter but I found that the weather at that time wasn't satisfactory for visual flight. Since I didn't want to enter the clouds which were lower in altitude than I had thought I landed after only twelve minutes of flying. Rime icing started to collect on the wings whenever I got close to the bottom of the clouds, which were about 1,000 feet above the surface.

On April 19th Harvey Speed and I managed to fly the Otter for two hours and eighteen minutes during which time I managed to get in six practice Ground Controlled Approaches to the runway at Kiel Field. This would be the last instrument practice I would receive for the rest of the winter. During the flight we ran out of daylight due to the shortened hours of sunlight so we were able to log 42 minutes of night flying - our first night flying of the year.

Following this flight the weather became very poor due to high winds and lowered visibility. Any fair weather that occurred during this period of time occurred after midnight and before the crew awakened for the day. The weather finally improved on April 20th we were able to make four training flights from Kiel Field giving each of the pilots some "hands on" experience. We all got in some night landings and we found the flare pots along the edges of the runway gave us excellent visual reference. We found that the landing lights on the aircraft also helped considerably in judging the distance to the ground as we approached the landing area. Twenty-eight Ground Controlled Radar Approaches were made by our pilots on this date, the most we had made on any date since we arrived in the Antarctic.

On April 21st the weather proved unsatisfactory for flying so we all pitched in to help the station move cartons of beer from the edge of the ice to Little America. Captain Dickey was so pleased with the results of our beer transfer that he bought beer for "all hands" after the work was completed. On April 22nd the Station Chaplain John Zoller and a sizeable number of the station personnel joined in dedicating the Richard E. Byrd Memorial Chapel. This chapel was only a Quonset hut but it was from then onwards the center of religious worship for the station. Captain Dickey, Lieutenant Commander Orndorff and I were called on to make presentations during the dedication ceremony.

Also on April 22nd Bob Anderson and I flew the R4D for forty-two minutes and we were able to make one Ground Controlled Approach. We were unable to get as high as 1000 feet above the surface without entering the clouds and it proved to be my last flight in the R4D until the sun came up again in September. On April 24th Lieutenant

Commander Speed and Captain Dickey were attempting a takeoff in one of the R4D's when the port wing stalled and the very tip of the wing contacted the snow runway. Harvey Speed was able to get control of the aircraft and the aircraft came to a stop in the rough snow area to the left of the runway. Examination of the wing revealed that the wing tip and left aileron were bent. Fortunately a spare wing tip was available at Little America and the aileron was repairable in our maintenance workshop so the aircraft was again ready to fly within a few days. Undaunted by the incident, Lcdr. Speed and Capt. Dickey started up one of the Otter aircraft and they were able to make a local flight before the bad weather moved in over the field again.

It was apparent that with very little daylight available to us and with the cold and lowered visibility hampering our every flight that most flying for the season had reached its end. As pilots we knew it was inevitable that we would have to put away our flying gear for the winter but it was a difficult thing to accept. Now we would have to take on new jobs around the camp, wherever we were needed. Keeping busy up until then wasn't difficult because our flight operations at times had gone on around the clock. Now, however, the daily routine of keeping the camp running was foremost in our minds. We agreed that each of us would take on specific responsibilities, some of which were not related to aviation matters. Harvey Speed and Bob Anderson were to devote themselves to keeping our aircraft maintenance crews busy in getting the aircraft ready for the coming summer season. The three young pilots from our detachment were assigned to jobs connected with station operations. I took over handling the communications with our squadron in Rhode Island and the administration of officer and enlisted personnel records for the detachment. Even with these things to do there was still a lot of time when assigned work was completed for the day so all one could do was read, work on hobby crafts, draw out others in discussions and attend the station movies. Those four and a half months of trying to keep busy when there was little to do seemed at times to be endless for some. Most found out you had to keep yourself busy or time seemed to come to a stop. I found a room in one of the camp buildings where I could develop my color slides and that took up a good portion of my free time. I had also brought several correspondence courses to the Antarctic which had to be completed over the winter months. I even tried painting by the numbers to keep my hands and mind busy. Those who had no hobbies or who didn't read some found inactivity heavy on their hands. ***57-61***

Chapter 23:
Hotel Little America

Up until this point of time Little America V was for me just a place to eat and sleep and get ready for the next flight, however, with the beginning of winter the camp started becoming more and more, a home away from home, a place of business and a zone of entertainment, at least for the next six months or so. Our aircraft had been shuttling back and forth between Little America and McMurdo so frequently during the summer months that neither base bore any semblance of permanency for me. I was used to hunting for and finding a quiet place to sleep in between flight missions. So it was a decided change for all the detachment pilots when assignment of regular sleeping quarters was made by the Little America base commander. Now having a place where we could put away our excess clothing and not have to consider packing it up for the next move thereby giving all of us a degree of stability we had not experienced during the summer months.

Living the long winter months in one spot was to be my new reality and now that it had started I had the opportunity to look at the base I would consider home for a while. Little America V had been conceived and assembled, building by building, back in Rhode Island, then taken apart and shipped to the Antarctic to be reassembled on a site about a mile inland from the edge of the ice shelf. It had been estimated by the Antarctic staff geologists that the site chosen for building the Little America V Station was far enough from the ice shelf edge that it would be free from this calving of the ice edge for at least thirty years. It is interesting to note, however, that Little America V broke off from the floating ice shelf about fifteen years after it was constructed and in its entirety now rests somewhere on the bottom of the ocean surrounding the Antarctic Continent. Fortunately those living at Little America discovered a developing crack in the ice half way between the base camp and Kiel Field. It was quickly apparent that Little America V's days were numbered and the base was quickly abandoned. We often joked about waking one morning to find ourselves separated from the Continent and drifting northward as another iceberg. I'm glad it hadn't happened while I was there.

In any case Little America V was erected on a flat ice field where the ice was about 700 feet thick, with several thousand feet of open water below that. Since the tides of the ocean rose and fell twice daily, our camp rose and fell accordingly twice a day as well, however, we were unaware that this was taking place because the ice shelf extended about four hundred miles east to west and another four hundred miles from north to south. Since that entire mass of ice floated on the tides the movement was so gentle that we were unaware of it happening much like passengers on ships at sea not being aware of tides. Most of the ice shelf was over water, but where it reached the continental land mass it rested on and was affixed to the Continent. Surrounding this ice shelf on three sides were several glaciers (rivers of ice) constantly feeding new ice to make up for the ice which broke off at the northern edge. This movement of ice from the continent toward the

sea was a slow process and for those of us housed at Little America it was noiseless and vibration free.

Our camp consisted of about fifteen buildings, all interconnected by an unheated tunnel. During the construction of the camp the tunnel was constructed of 2 by 4 inch wood framing and covered with wire mesh and burlap to keep out the blowing snow. Since the snow in the Antarctic blows constantly, the tunnel and the buildings were soon covered with hard-packed snow, thus sealing the tunnel from the frigid outdoor weather. Most of the time the tunnel temperature remained a few degrees below freezing but since the air was still within its confines you could go between buildings in relative comfort without having to doff a lot of outdoor clothing. Some of the buildings were devoted to scientific work, some were set aside for living quarters, some were used for storage, and some for equipment repair and maintenance. There was one building equipped with showers, wash sinks and toilets. One building housed the food preparation and food storage facilities and one building housed the medical and dental personnel and their equipment, plus the base photographic laboratory. One building had offices and one had all the communications equipment. Lastly, there was one building that was used exclusively for recreation. Here were held the nightly movies and here the frequent parties were held.

During the long winter months my daily routine was a constant repeat of the day preceding it except for Sundays when everyone took time off from their routine work. Something about the dryness of the air and the cold temperatures caused me to sleep longer hours than before coming to the Ice. Since I didn't get to bed until well after midnight I usually slept through breakfast the next morning. This didn't matter much because our cooks were very accommodating and some food was readily available at all hours. By sleeping so late, however, I didn't get to see my Harvey Speed and the enlisted crew before they went out to Kiel Field where our aircraft maintenance work was accomplished. We were connected to the air facilities by radio so I was always able to discuss matters with them throughout the day. After breakfast I would spend most of the working day in my office, which I shared with Captain Dickey, Lcdr. Orndorff and the base yeoman. There were always radio communications from the States which had to be acted upon. There were letters and personnel forms which had to be written. I had been assigned to several boards by the Base Commander and these often required my attention. One activity that I embarked on during the winter months was to collect information concerning problems we had with our aviation equipment due to the super-cold conditions under which we operated and the solutions we had discovered to these problems. Before I left the Ice I presented several copies of this report to the officers who took our place in hopes that they would find the information useful and would thus avoid making some of the mistakes we had made.

At the conclusion of my working day in the office I would return to my room where I did my studying and recreational reading. At mealtimes I would talk with Harvey Speed about operations at the airfield so I would be aware of the progress they were having with the readying the aircraft for the next season's flight operations. Lcdr. Bob Anderson worked closely with Harvey and he, too was very capable in handling his assignments. So

I was fortunate in not having to constantly monitor airfield activities. They, in turn, kept me informed of what was going on with the enlisted men and with the aircraft. About once a week I would go out to the airfield so as to assure everyone of my interest in their work, but everyone was so well organized in their work that there was little for me to do but observe. From time to time some of the men suffered problems such as depression and anxiety coming from our isolation. I often discussed these problems with the men concerned and I hope my advice to them, as well as my personal interest, helped them get over their problems.

As flight operations had slowed down and finally quit for the winter the crew tied down all the aircraft so that none would blow away during high winds. Heavy doubled lines were tied to the wings and fuselage. Moveable control surfaces such as ailerons, rudders and elevators were removed and brought indoors for the winter. As the winter progressed the skis froze to the ice surface and snow built up so as to half cover the aircraft, thus protecting the aircraft from hurricane force winds which appeared from time to time during the worst of the winter. We erred in not removing the rotor blades from the helicopter when winter set in and as a result they were all warped and had to be returned to the States for overhaul the following summer. Fortunately, we had a spare set of rotor blades on hand and we were able to install them once the summer returned.

Kiel Field and our aircraft maintenance building was located inland, about a mile and a half from Little America, a bit far to walk when the temperature outside was minus thirty-five or so degrees Fahrenheit. It was necessary for the crew to use a tracked vehicle to make the trip to and from the airfield. Each morning a heater would have to be dragged to the tractor which was located outside the Little America automotive garage. Once the engine was warmed up the tractor engine was started and the crew would climb into an enclosed sledded trailer and would be bussed to the airfield - a ten minute trip. Since the crew cooked and ate their noon meal at the airfield they didn't return to Little America until the end of their workday. For the evening return trip they had to reheat the tractor engine to get it to start. Though it was hard work having to be sledded back and forth daily I found that most of the crew preferred the quiet of the airfield to the hustle and bustle of Little America.

As nighttime rolled around and the evening meal had been put away a large portion of the station people would gather in the recreation building to watch the evening movies. Bob Hancock, the Station Supply Officer, had managed to obtain a great assortment of movies, many of which were classics, so we were able to get a lot of enjoyment out of this daily pastime. Our movie hall was a gathering place where you could see everyone gathered in one place at the same time. It was a place where you could discuss the days activities without interruption. A lot of friendly talk made the day just past seem a bit more worthwhile as a result. It was also a place where a lot of kidding took place and anyone who had pulled a boner sometime during the day was assured of some heavy razzing from the collected group. Aside from the movies, beer drinking was a major activity for most after the working day was over. Unfortunately all the beer had been frozen solid while in storage and had to be thawed before drinking. Most of us kept a case or two under our bunks allowing the thawing to take place slowly to avoid having it spew

forth in a gusher when the can was opened. Freezing caused the taste of the beer to be less than satisfactory but we were forced to drink it as it was or go without - not a pleasant choice.

Besides beer there was a considerable cache of brandy, called Old Mathuselum, which had been shipped to the Ice. Unfortunately, Doctor Unger, the Station Medical Doctor, a teetotaler, controlled its issuance so it was only on rare occasions that we received any of this potent drink. Dr. Unger also considered that the accident potential to be unduly high if personnel were able to consume considerable quantities of brandy, thus leaving him with the responsibility of having to provide treatment for the injuries they might sustain. McMurdo Station witnessed a severe helicopter accident during the winter months, with one fatality and four severe burned individuals to be treated for several months before the individuals could be evacuated for long term hospital care. Dr. Unger spent a lot of time worrying that he, too, might have one or more severe injuries on hand which would tax his small clinic beyond its limits and so he made brandy drinking a rare experience for all of us over those long winter months.

Out of the entire station there was only one place I could call my own, a place that I didn't have to share, a place I could go to and not be bothered with interruptions. Ever since the 1940's I had been a photography enthusiast. Besides taking pictures and developing them, I had studied the chemistry of the photographic processes and through my "darkroom magic" was able to produce better than average pictures. When I left the States I took packaged photographic chemicals, in addition to the camera and film that I needed for my photographic recording of my Antarctic Adventure. All summer I had carried my Rolleiflex camera with me on every flight and at every opportunity I shot scenes of the Continent. I decided on shooting slides because I would be able to develop them on the Ice so as to check my picture taking results.

When flying stopped at the beginning of winter I started looking around for a place where I might develop my pictures. I found a room in a remote location that was not being used and I immediately set up my shop. I built shelves along the wall and I found ways to seal the entrance door so as to insure total darkness while I developed my film. I had brought some developing equipment with me and what items I didn't have I was able to borrow. I had no running water but in the bathroom next door there was both hot and cold running water. Most of the camp water contained diesel fuel which came from the snow melters having been placed too close to the camp's generators so I was forced to go outside to scoop up fresh snow for mixing my developing solutions. After I brought the fresh snow into the darkroom I would place the stainless steel bucket in a larger container which contained hot water from the bathroom. Once the snow melted I would mix my chemicals and set up for developing my film. Since constant temperatures were necessary for developing color film I would keep the stainless steel developing tank in a deep tray using a mixture of snow and hot water to control my temperatures. My technique was rather primitive considering how it might have been done back home but it worked. I was able to produce several hundred slides over the winter which were as good as I might have gotten if I had them developed in a commercial laboratory.

Chapter 24:
Preparing for the Sun

After four months of darkness we looked forward with great anticipation to seeing the sun again. Getting up in the dark, going to work in the dark and working the entire day in the dark was depressing after a while. Besides the dark the cold had been intense and every effort one made to do a bit of outside work was intensified as a result. Everything one handled that had been left outdoors needed prolonged heating before it could be used. Gasoline driven heaters were kept indoors so that they could be started with relative ease and then could be dragged outdoors and applied to any equipment that had to be used. Working on equipment left outside took a supreme effort. Most of the time it took hours to accomplish what could have been done in minutes in a temperate zone.

We could have done some flying every month of the winter but the wear and tear on equipment and on ground personnel was so intense that we decided it wasn't worth it. So all the aircraft were parked well clear of any buildings or obstructions, securely tied down and left to weather the cold and blowing snow until spring returned. In all we had four R4Ds, six UC-1 Otters and one helicopter stored this way.

While it was still dark, but within a couple of weeks before the sun would creep above the horizon we decided to start digging the aircraft out of the snow. The R4Ds were about half covered with hard packed snow and since we needed two of these aircraft to start summer flying operations we started digging out these aircraft first. Since the enlisted crew had more than enough work to do getting checking over the engines and airframes as a prelude to their being flown, we decided that the detachment pilots would do most of the digging around the aircraft. Each of us took up shovels and for about six hours each day we worked at freeing the aircraft from their snowy graves. Shoveling wasn't easy since the snow was very hard packed. Each shovel load had to be broken loose from the hard pack and then lifted free from the rest. Sometimes it seemed as though the shovel handle would break as more and more tension was applied to the handle in an effort to free a resisting chunk of the white stuff.

Since it was still dark outside all of this work had to be done in darkness. Flashlights soon froze and then would produced no light, so much of our work was done around the aircraft using our memories of the aircraft's outlines to tell us where to place our shovels. Temperatures at the time ranged from 30 to 35 degrees below zero F. so we had to constantly check our faces, hands and feet to avoid their becoming frozen. After a bit of constant digging we all perspired inside our heavy winter clothing and this perspiration quickly froze if we stopped to rest for very long. The toll on our bodies was very high and at intervals it was necessary for us to go indoors to recover from fatigue. Since we burned up a lot of calories working in the cold we had to eat copious amounts of food to restore our energies.

Day after day we worked and our results seemed small, however, after about two weeks two of the R4Ds were free enough of the snow that a tractor could be attached to the landing gear so the aircraft could be pulled free of the hole they were in. Once free of the accumulated snow our maintenance crews would then get to work going over the entire aircraft, readying them for flight.

During this preparation for summer flying the crew came upon a very disturbing thing. It seems that in readying one of the aircraft for storage at the end of the preceding season, one of the aircraft mechanics opened the fuel dump valve to discharge fuel in the tanks, but didn't remember to close the valve when he was finished. All winter long the fuel dump pipe was open to the elements and slowly, but surely, the large 400 gallon internal fuel tank filled with snow. Before any flying could be done heat had to be applied to the cabin for days, melting the accumulated snow and allowing it to drain into the snow. This took about two weeks but in spite of a diligent effort at drying out the tanks some moisture remained in the tank and was to give us some great difficulty in the days ahead.

Once the aircraft were readied for flight and the daylight had returned Harvey Speed and Bob Anderson test flew both R4Ds. During takeoff with the R4D that had the retained snow in the fuel tank a bit of ice from the fuel tank entered the carburetor of the left engine and completely stalled the engine. Fortunately Harvey was able to land the aircraft without damage, but when the same thing repeated a few weeks later the results were not so favorable.

Once both aircraft were found to be flyable we had only to wait for favorable weather and temperatures so we could fly to McMurdo Station to start our summer flying. Both R4Ds and one UC-1 Otter which had been extricated from the snow were securely fastened to the surface since a spring storm could come up on short notice and we had to be prepared. Double lines were attached to the wings and tails of each aircraft thus providing maximum protection from high winds.

Just when it seemed the worst of the winter was over a new storm moved over the base. When it came early one morning the crew was about to leave for Kiel Field to do their routine daily work. The winds came up so quickly and so violently that it would have been foolhardy for their having left base camp, so they remained at Little America instead. There were two men who bunked and lived at Kiel Field so they were the only ones on hand to witness the onslaught of the storm.

Throughout the day the wind howled and screamed worse than any other storm we had during the winter months. It was not a supremely cold wind but a wild dreamlike storm that would have reaped great devastation anywhere in the world it might have occurred. Our buildings at Little America were covered with several feet of snow and it was seldom that we were aware of the wind blowing outside as we went about our daily activities indoors. On this day, however, we frequently could hear the wind howling and it gave us considerable apprehension as a result. Around three in the afternoon a real strong swell in the sound of the wind came up and all the buildings seemed to shudder for a few moments. In checking with our meteorologists we were told that the wind had been measured at 73 knots (over 80 miles per hour). This must have been the storm's last gasp

for in a relatively short time the wind subsided, the clouds drifted away and the calm on the surface outside was very ghostlike. It was such a dramatic change it seemed unreal. Shortly after the wind died down we received a call from the two men who bunked out at the airfield. One of them had gone outdoors to check on the condition of the aircraft. The two R4Ds came through the storm in fine shape, but the UC-1 Otter had torn itself loose from its moorings and was blown about a quarter of a mile away. The wings and tail of the Otter had remained tied down to the snow surface where the aircraft had been parked but the wings of the aircraft had broken off at the wing roots and the tail section (rudder, horizontal stabilizer and elevator) had been severed completely from the rest of the fuselage. The pilot's cabin, the engine and almost the entire fuselage must have been carried in the wind for a whole quarter of a mile before being dropped upside down in one piece. There was no evidence that the aircraft had touched the surface during its hurling journey because the fuselage was largely intact, except for the torn off tail and wings. I always hated to see an aircraft destroyed since flying was a major interest in my life so I was quite depressed that one of the aircraft entrusted to my care was destroyed. There was nothing we could have done to have prevented this loss short of leaving the Otter covered with snow. Since the aircraft was needed for summer operations leaving it in the snow wasn't an option. Now we had to dig out a second Otter and have it readied for summer flying. After our two R4Ds and flight crews had departed for McMurdo, the remaining two R4Ds, three Otters and one helicopter were resurrected from the snow by the maintenance crew and readied for summer operations.

Chapter 25:
Summer Begins

As the entire detachment worked long days at digging our aircraft free of the hard packed snow, we could see the predawn glow on the horizon as it increased in brightness daily finally reaching the point where the sun actually appeared. It seemed that we had been starved for daylight over the dark winter months and once the sun returned to the sky the gloom we had all experience suddenly evaporated. We had a varied flight season ahead us at and we were more than ready to spring into the air. On August 17th we succeeded in at last removing the aircraft from the snow we needed to start the initial flights of the summer. The crew worked diligently in getting the aircraft back in flying shape and on August 23rd we completed a short test flight in one of the R4Ds. The landing gear refused to retract so the test flight was cut short. Still it was a start.

On August 26th, after a brief test of R4D #17246 the flight crew completed a 3.5 hour flight during which a reconnaissance was made of the Bay of Whales, Roosevelt Island and the Tractor Trail out to the 20 mile cairn. This reconnaissance flight allowed the IGY staff to evaluate the sea and snow conditions to see if the effects of the winter weather might have some effect on their upcoming operational plans. The temperature on the surface was -52 degrees Fahrenheit at takeoff but proved to be considerably warmer at cruising altitude.

On August 29th R4D #17274 was test flown for 4.0 hours, giving us two aircraft ready for summer flight operations. It was still extremely cold and the weather was too unpredictable for us to contemplate starting long range flight operations so we decided to wait a few days for our first flight to McMurdo Station. It was fortunate that we did delay our departure for on August 30th the powerful storm, which was described in the last chapter, hit the base and destroying one Otter aircraft. We would have perished had we run into this storm enroute to McMurdo Station.

On September 3rd both R4Ds were loaded and we departed on the first flight to McMurdo for the season. The weather was perfect for the flight but I couldn't help but think that we were the only two flying aircraft within several thousand miles and if any problems had developed with either aircraft there was no help available anywhere. Other Antarctic-bound aircraft and ships were weeks away from arriving on the Ice. ***62***

We were warmly greeted after we landed on the snow runway at McMurdo Station, particularly since we brought some supplies that the camp greatly needed. We had hoped to start setting up the camp at the base of the Beardmore Glacier as soon as we could refuel the aircraft at McMurdo, however, a radio blackout proved to be in progress at that time preventing our being able to communicate with the control tower. Such radio blackouts are caused by changes in sun spots which in turn affect the Ionosphere. Sometimes our communications were grossly affected for days at a time due to these radio blackouts. We decided that it was best that we wait until this blackout situation

cleared up before going further with our flight operations. About two miles to the south from McMurdo Station was the New Zealand Antarctic Base. The base was commanded by Sir Edmund Hillary, the man who first conquered Mount Everest. Shortly after we had arrived at McMurdo we received an invitation for supper as guests of Sir Edmund and his officers. Commander Flynn USN, Commander of McMurdo Station, drove Harvey Speed, Bob Anderson and me to the small camp where we had a delightful meal and an evening of contract bridge with Ed's officers. Ed Hillary was a great host and he made us feel welcome in an extraordinary way. I saw Ed several times afterwards as he passed by our work area on the sea ice with his team of sled dogs and he always gave a friendly wave of the hand.

By Monday, September 9th the radio blackout had subsided and both R4Ds were loaded and both took off for Beardmore Glacier, about 400 miles towards the South Pole. During the previous summer the radio relay and refueling station had been set up at the foot of Liv Glacier which was well to the east of the flight path of aircraft going from McMurdo to the Pole. As a result it was inconvenient for refueling purposes. We had proposed placing it at the Beardmore Glacier for the second summer's operations and were told by the staff back in Washington, D.C. that this was acceptable as long as we could transfer the stored fuel at Liv Glacier to the new site. We figured that this would prove to be no real problem and after we had established the new camp we were able to transfer all the stored fuel in two round trips. ***63***

Our first flight to the proposed Beardmore campsite was a beautiful experience with visibility enroute of over 50 miles. As we approached the glacier we descended to about 100 feet over the surface and we were pleased to discover the surface of the ice to be relatively smooth and perfect for landing. The glacier was so immense in size ahead of us that it appeared we would fly into it when we were still five or more miles from its mouth. Harvey Speed, my aircraft commander, held his course until we were about a mile from the glacier before landing. Our cargo was quickly unloaded from the cabin of both aircraft and within a short while we were once again airborne for McMurdo.

On Tuesday, September 10th we made a second sortie to the Beardmore Camp, delivering 4000 pounds of cargo and five passengers who were to set up the new campsite after we had left them on the Ice. After landing we spent a little more time on the surface than on the previous flight. We checked over the site and made further evaluation of its potential as a summer relay and refueling stop. Everything we saw seemed to indicate that our choice of a site was quite satisfactory. The return flight to McMurdo was routine and after landing we immediately started making plans for further supply flights to the Beardmore. ***64***

The next day, Wednesday, September 11th, started out as a normal day but it quickly became a death defying experience for one of our R4D crews. Both aircraft took off about five minutes apart, however, our aircraft R4D, 17426, with Lt. Anderson and me at the flight controls developed a low oil pressure situation in one engine shortly after takeoff so we returned to the snow runway at McMurdo where quick repairs were made by our ground maintenance crew. ***65***

While on the surface we received a radio message from Lt. Speed's R4D that they had made a forced landing on the ice shelf after the left engine had quit in flight. No damage was incurred to the aircraft and the crew suffered no injuries, but they needed for us to deliver two engine heaters to them to melt the ice from the fuel lines of the failed engine. Their aircraft was the R4D which had accumulated snow in one of the fuel tanks during the winter months. Although we had expended many days in trying to remove this snow, some of the ice crystals in the tank must have remained and had dislodged only to pass into the fuel lines and freeze at the engine strainer, thus cutting off the flow of fuel to the engine.

As quickly as we could we off-loaded our cargo and loaded the two engine heaters that Harvey had requested. We then flew to the forced landing sight, about twenty minutes away, and landed alongside Harvey Speed's R4D. We spent about an hour on the surface while heat was applied to the failed engine. Once Harvey had the engine running smoothly we both took off again, heading this time back to McMurdo. After about five minutes of flight the left engine of Speed's aircraft again failed and he was forced to land again on the ice shelf. From my position in the cockpit of the other R4D it seemed that his second forced landing was quite rough because the surface was a lot more disturbed by the blowing winds. Fortunately, the aircraft sustained no damage and the crew went unhurt. ***66***

Lt. Anderson and I again landed alongside Harvey's R4D and with the two heaters and the additional maintenance men we carried aboard our aircraft the stricken engine was again thawed out and made ready for takeoff. This time Harvey unloaded all his cargo on to the ice surface so he could be light enough to continue flying on one engine if the left engine quit once more. Fortunately, the left engine continued to run smoothly all the way back to McMurdo and normal landings were made by both aircraft on the snow runway. It is interesting to note that the temperature at both forced landing sites was minus 36 degrees and the wind was 35 knots. Needless to say, we were all quite upset over the dual forced landings but we were very happy that both the aircraft and crew survived without injury or damage.

The next morning, Thursday, September 12th, Harvey Speed made a short maintenance test flight and when it appeared that his engine was going to operate satisfactorily he flew his R4D back to the site where he had his second forced landing. There he recovered the cargo he had dropped the day before and after taking off he returned to McMurdo Station. On Friday, September 13th, both R4D's flew to the Beardmore Glacier with three passengers and 8,000 pounds of cargo each. We found that the crew we had left at this site a few days before had erected a Jamesway hut and one tent. They had also laid out the outlines of one runway with flags. They had also set up one 10,000 gallon fuel tank. After we had off-loaded our cargo and passengers both aircraft returned to McMurdo. ***67***

Our next planned mission was to fly both aircraft to the camp at Beardmore Glacier, where we were to remain for three days in order to retrieve supplies and fuel from the old camp at the foot of the Liv Glacier. Both aircraft were loaded to the maximum with fuel and supplies. Harvey Speed got his aircraft started first and he taxied out to the snow

runway, about a third of a mile from where Lt. Anderson and I were warming our engines. Harvey next started his takeoff run but he had difficult with his directional control so he aborted his takeoff. Most likely he had a bit of a crosswind and the aircraft started to turn into the wind, thus leaving the side of the runway. He was very heavily loaded and this made the aircraft more difficult to control on the surface.

Harvey taxied back to the beginning end of the runway and began another takeoff. This time he applied the JATO rockets early in the takeoff and became airborne in a normal manner. When the R4D reached about 25 feet above the icy surface the left engine failed completely and the left wing dropped suddenly. The wing tip struck the surface and dragged along the surface for about twenty yards. Harvey immediately turned off his right engine so as to level the aircraft and moments later the left engine came on with full power lifting the left wing from the surface but also dropping the right wing so it too dragged on the surface. All this time the JATO rockets were still firing. Harvey then took the best action possible and added power back to the right engine. The aircraft leveled itself and began to climb slowly to altitude. The six feet of the left wing tip was broken and it stood up vertically like a rudder, looking like an unreal version of the R4D. Harvey soon discovered that the ailerons were frozen in place so he was unable to turn the aircraft in a normal manner. He found he had to use the aircraft's rudders and skid the aircraft around the air strip until he was lined up with the snow runway. He made a beautiful approach and landing but from our parked position on the surface we felt certain that he was going to crash at any moment. He was so heavily loaded that had he crashed it would have been catastrophic, to say the least.

Since we were down to one R4D we decided to fly the two crews to Little America and pick up R4D, 17418, which was reportedly ready for flight testing. Within three hours of the aircraft incident we all left for Little America. ***68***

Chapter 26:
Summer's Second Go-Round

The day after we arrived back at Little America was Sunday, September 15th, and the weather became unsatisfactory for further flying so the maintenance crew proceeded to do a lot of work on the aircraft that was needed. I had a lot of office work to do, work that had piled up while I was at McMurdo Station.

On Monday, September 16th, both R4D's took off to fly to McMurdo Station but after a short while enroute we received a message from McMurdo that their weather had deteriorated to below minimums for landing, so we returned once more to Little America. *69*

The next morning the weather at McMurdo was reportedly poor so we decided to do some aerial reconnaissance work for the Little America IGY staff. Harvey Speed, in R4D 17418, took the IGY Traverse Party on a flight over the proposed trail over Roosevelt Island which the research tractors would soon be driving over. The reconnaissance information achieved was considered excellent, however, they thought additional flights would have to be made before the tractor party started out from Little America.

Roosevelt Island has never been seen by anyone. It is an island below the surface of the ice shelf and as you approach it from the air it is seen as a 20 mile long by 10 mile wide hump in the otherwise smooth surface of the Ice Shelf. As the ice from the continent is pushed towards the sea the Ice Shelf slides over the island causing the anomaly in the surface. It is smooth all over, except around the edges of the island where there are crevasses, some open and some hidden. This island was scheduled to be crossed by the IGY Traverse Party during the forthcoming weeks.

When Harvey Speed and his flight crew returned to Little America we received word that the weather had improved at McMurdo, so we loaded both R4Ds and took off for McMurdo Station. We discovered following our landing that the R4D that Harvey had picked up had now developed a fuel leak, under the fuselage near the JATO racks. This was potentially quite dangerous so the maintenance crew spent all of the next day at McMurdo repairing the leak. *70* The next day, Thursday, September 19th, we woke to find the base was under a storm condition. Everyone remained in the barracks instead of going down to the flight line. During the afternoon some base personnel, led by Major Antos USMC managed to drive down on the ice where our aircraft had been parked. The visibility was only a few feet and the wind velocity was quite high at the time. They discovered that R4Ds 17418 and 17246 were securely tied down but the damaged R4D 17274 had broken from two of three tie downs. The tie downs were replaced by digging new deadmen into the ice surface.

At around 6:00 P.M. that same day another group went out to the aircraft and discovered that R4D 17274 had again broken its tie downs and had shifted position about ten yards. The hinges on the elevators of R4D 17418 had snapped as also the rivets

connecting the elevator to the horn. Our maintenance crew had to work about three hours in blowing snow and zero visibility in retying R4D 17274 and in increasing the tie downs on the other aircraft. The crew returned to the base physically exhausted. A bit later Harvey Speed came to me saying that the broken wing tip on R4D 17274 was flapping badly in the wind and it was a good chance that it could break off entirely from the wing and be blown into the fuselage, thus doing more damage to the aircraft. Since the crew was so exhausted from their work tying down the aircraft he suggested that he and I go out to the aircraft on foot, cut the broken wing tip free and carry the wing tip back to camp for secure storage.

It was not very cold at the time but the wind was blowing fiercely and maintaining our direction over the ice was very difficult. As we walked I could hardly see Harvey although he was only a few feet from me at all time. He carried a stepladder and I carried a hacksaw, our only tools for the mission.

After a seeming eternity of difficult walking into a raging wind we finally bumped into the aircraft we were searching for. Harvey had me to climb on the ladder and hold down the six foot long wing tip which wanted to fly had it not been held to the aircraft by a thin piece of aluminum. Harvey got on top the wing and using the hacksaw he started cutting the wing tip free. I had my arms around the leading and trailing edges of the wing tip and I had the weight of my chest on the top surface to hold it down. Harvey worked the hacksaw back and forth for about five minutes. Finally he yelled, “Hold on tight! I’m all most through!

He gave a few more thrusts of the hacksaw and the wing tip came free of the aircraft. It also came free from me. In an instant the wind yanked it out of my hands and it was gone in an instant. Where it went, no one knows; it was never seen again. Perhaps it is still out there flying about. We gathered up our ladder and hacksaw and headed back to camp, this time it was a downwind walk but since we were headed to a broad shore line where the base was located it wasn’t as hard finding land as it was finding an aircraft situated alone on the ice.

It is interesting to note that the wind reached 72 knots that day and not everyone made it back to the base camp so easily. One man from the base left the ice runway during the morning hours headed for the base. When he did not reach camp after a reasonable amount of time a search party consisting of Harvey Speed, Bob Anderson and an officer from McMurdo Operations went out on foot, finally locating the missing man. When this man found that he was lost he turned off his vehicle engine and awaited rescue, rather that wandering without direction, a good move on his part.

The last thrust of winter continued for another three days. All that could be done to repair the damaged R4D was done by the maintenance men. The other detachment pilots, however, had little to do but supervise. Because of the damage to the aircraft much of my time was taken up making message reports to the squadron and the staff of our operational situation. One other job that I picked up along the way was to act as president of an Aircraft Accident Board. During July, the McMurdo base helicopter pilot, a Lieutenant McNeil, had been piloting the base helicopter, getting in some night flying experience when the accident occurred. Lt. McNeil was not a high time helicopter pilot;

he had only completed his basic helicopter training immediately before he was sent to the Antarctic. Considering the extraordinary weather conditions and the extreme cold in the Antarctic, no neophyte helicopter should have been left to fly alone on the Ice, however, he had been left as the only helicopter pilot at McMurdo Station for the winter season.

Lt. McNeil's accident occurred on a clear, windless evening when visibility was very good. He had been flying out over the sea ice, performing takeoffs and landings with a non-pilot sitting in the copilot seat. When Lt. McNeil had completed his practice over the ice he proceeded to return to the heliport situated on the hill next to the base. During the flight the moisture from the breaths of the two men in the cockpit must have frozen on the windshield because the pilot could not see ahead very well. As he approached the heliport he was a bit low resulting in his wheels hitting the surface unexpectedly. Lt. McNeil must have panicked when this happened because he pulled back on his cyclic pitch control and up on his collective pitch simultaneously, when pulling up on the collective pitch would have been sufficient. The helicopter went into an extreme nose high attitude as the aircraft gained considerable altitude suddenly. The pilot was not able to return the aircraft to level flight and the helicopter settled vertically on to the tail and crashed. The helicopter immediately caught on fire. Lt. McNeil and his front seat passenger were able to get free of the crashed helicopter with only a few scratches. Three of the passengers who had been seated in the helicopter cabin suffered severe burns. A third passenger, who had not been buckled in his seat, was thrown into the tail cone when the helicopter impacted with the ground. He was consumed by the resulting fire. Our accident board inquiry determined that Lt. McNeil had exceeded his flying ability when he attempted to fly during the winter months. He also reacted improperly when his wheels contacted the ground as he approached the heliport. The Board also thought he was assigned as the base helicopter pilot without adequate helicopter flight experience. It was my understanding at the time that Lt. McNeil had received separation from active duty orders after he reported for duty on the Antarctic Continent. He asked for an extension of his active duty time to allow him to complete his wintering over period and his request was granted. It is too bad he didn't let his release from active duty take place as it was scheduled. Perhaps the accident along with its fatality would never have taken place had he not been granted an extension. On Monday, September 23rd the weather had improved enough for both R4D to start back flying supplies to the relay site at the Beardmore Glacier. On this first round trip flight we delivered one camp cook plus 8,000 pounds of cargo. *71*

On Tuesday both R4D's flew to the campsite at the Beardmore Glacier and after unloading cargo we immediately took off for the abandoned campsite at the foot of the Liv Glacier in order to move the fuel and cargo left there the previous summer. The old campsite was found to be intact with no visible damage from the severe winter just passed. Even the Christmas tree which had been placed outdoors on a snow hummock the preceding December had not lost its needles. It must have frozen while still green and while the sap in the tree had not dried out every needle still clung tenaciously on the tree. *72* We retrieved about 3,500 pounds of cargo, which included several drums of diesel fuel. We tried to extricate the snow kitten from the ice but it was frozen into the

surface too firmly. When we returned to the camp at the foot of the Beardmore Glacier we shut down the aircraft, planning to continue our resupply flights in the morning.

There was considerable confusion in every ones mind as to the name of both remote campsites. When DeepFreeze II was first planned a relay site was included in the Operations Order and it was scheduled to be located at the foot of the Beardmore Glacier. [73] When the pilots approached the proposed site at the foot of the Beardmore they thought it to be too rough for landing, so they proceeded eastward until they reached a satisfactory spot at the foot of the Liv Glacier. Since the Operations Order listed the camp as Beardmore Station that was the name in went by all through the first summer. DeepFreeze IIIs Operations Order switched the name of the second summer's relay station to Liv Station, so even though we relocated the station to the foot of the Beardmore Glacier the name it went by was Liv Station. So Beardmore Station was at the Liv Glacier and Liv Station was at the foot of the Beardmore Glacier. As a result throughout the rest of the summer you didn't always know which station someone might be thinking of when they mentioned it by name and not by location.

Once again the weather closed in when we were on the surface at the new campsite. We missed being able to fly on the 25th, but on the 26th the weather improved and we were once again able to fly to the old station at the Liv Glacier. The gasoline pump was found to be intact and usable but over the winter months the rubber fuel tank had ruptured and most of the fuel had escaped. Lt. Anderson and I returned immediately to the camp at the Beardmore. Harvey Speed stayed behind and was able to extract 200 gallons of gasoline from the ruptured fuel tank.

After Harvey had returned to the new campsite it was decided that he and Lt. Anderson would return to McMurdo since only his aircraft contained enough fuel for the return flight. Once he returned with a full load of fuel it would be an easy job to transfer enough fuel for both aircraft to fly back to McMurdo. [74]

Chapter 27:
Left Behind on the Ice

For the first time in my tour on the Ice I was left with nothing to do. Even during the darkest of the winter months at Little America there was always paperwork to be done, messages to be sent, the evening movies and conversations to be held with fellow camp mates. Now I was left behind on the Ice Shelf, with two other men and I had nothing to do but wait for the return of the refueled R4D.

Once Harvey and Bob Anderson disappeared over the horizon I was struck with the utter silence of my new world. The wind was still and the snow seemed to absorb sound so I could hear my own breathing and even my heart beating. It made everything seem unreal, like a new dimension had been added to my senses. I was literally on a flat desert of ice that extended westward, eastward and northward for as far as my vision carried me. To the south my eyes were overwhelmed at the grandeur of tall mountains and Beardmore Glacier, the widest river in the world. We were about five miles from the base of the glacier but the air was so clear and the glacier so immense that it seemed I could have thrown a rock and hit some of the tumbled ice making its descent down the glacier. Geology books describe glaciers as frozen rivers of ice, constantly on the move, endlessly flowing towards the sea. The surface was very rough and I knew that if I were a bit closer to the glacier I could have heard the grinding of the ice as it slid towards the sea. Since the winter had just ended the mountains were still covered with snow making them look like giant ice cream cones. Mountains extended for about 120 degrees of our horizon the south and the Ice Shelf horizon occupied the remaining 240 degrees.

The top five inches of the surface was made up of soft snow which the wind, when it blew, formed into small wavelike sculpturing which changed from day to day. Below this softer snow everything was impacted snow and below a certain depth solid ice. This ice, several hundred feet deep, floated on the ocean and was held in place by the surrounding mountains, except where it calved off at the northern edge, some 400 miles from where our camp was located.

There was one hut at our campsite and this small building served as living quarters and work space. It was dark and cozy in the sleeping area so one had no sense of daylight, even though outside it was daylight 24 hours per day. I had removed my emergency sleeping bag from our aircraft and had installed it in the hut. While at the campsite I managed to grab a bit of “shut-eye” and I slept so well in that warm space that it was difficult getting up at all. Those who occupied the camp for the summer ate a high calorie diet of steak, eggs and potatoes four times a day. It was nice for a day or two for me but I believe I would have soon tired of it, had my isolation been extended. There was one other building at the campsite and that was the camp outhouse. It had been constructed back in the States, taken apart and shipped down to the Ice. Made of plywood and a few nails it was frozen into the surface when it arrived and no wind could budge it.

There was one fault in the building. It was too small. You couldn't close the door when you were seated so you had to do your business fully exposed to the elements. If there was not wind you could remain moderately warm, but if the wind was blowing you did not tarry. One good thing about the outhouse, the view of the mountains was great. Few, if any, outhouses in the world provided the grandeur and magnificence of scenery.

My idyllic but lazy stay at the Beardmore Camp lasted 48 hours and was interrupted when Harvey Speed and Bob Anderson returned with fuel for our near empty R4D and even 400 gallons for storage at the Beardmore Camp. Since they arrived late in the day we decided to remain overnight before starting out again. On Sunday, September 29th both aircraft returned to McMurdo. We considered the camp outfitting was complete and except for a few missing items and additional fuel the camp was considered fully operational for the summer flying season. *75*

Squadron aircraft and flight crews had started to arrive at NAF McMurdo Station following their long trip from Rhode Island so our two R4Ds were no longer needed there. We refueled both aircraft and flew back to Little America, where we knew we had many missions to accomplish before we would be allowed to return to the States. *76*

Chapter 28:
The Little America V Station Detachment Blossoms

Day by day Little America seemed to grow in population as summer personnel arrived by both ship and aircraft. Some of the arrivals were destined to become part of the VX-6 aviation detachment and replace my group, some were assigned to bolster the station personnel roster and some were IGY personnel targeted for scientific studies of the Ice Cap. ***77 & 78***

With new personnel reporting to the detachment and some resulting confusion in individual conception of job roles we finally had to take time out from our aircraft work to hold an All Hands meeting so we could discuss our mission and how the new hands would be fitted into the detachment organization. Naturally, some of the men who had wintered-over were reluctant to turn over their jobs to newcomers. This seems rather odd since there wasn't a one who didn't ache to go back to the States. This mixing of old and new personnel caused some friction but it only took mention that should the old-timers want to head back to the States they would have to relinquish their control their job functions to the new men. Once this was made clear the turnover was made a lot more expeditiously.

From here on we were able to send certain of the enlisted men back home as the new men got accustomed to working in the cold. Unfortunately, the pilots who had just wintered at Little America, such as myself, were expected to remain on the Ice until most of the flights in support of the Tractor Train and the Little America IGY studies had been accomplished. We, too, ached to get off the Ice but the squadron had not planned for replacement R4D pilots in sufficient numbers to consider letting us go home early. As the camp swelled with newcomers and additional bed space was needed, I returned from a flight to find that an additional bed had been added to my quarters. This was a bed with an upper and lower bunk and it consumed the space where I had studied and worked during the winter. Now I had two additional roommates to contend with.

One of the two men assigned to my room was Sir Hubert Wilkins, the famed arctic explorer. He was a very old man, too old it seemed to be on the Ice. Since he died a year or so after this visit to the Continent it only proved further that he shouldn't have been there. I got to talk several times with Sir Hubert and he proved to be a very interesting person, however, a very strange man. He told me that he had no permanent home. He said he had so many friends around the world that having a place to live wasn't a real problem. It seems that he went from one friend's abode to another; as his welcome wore out in one place he switched to some other. He always seemed to be reading from a Bible sized book and when I questioned him about it he told me that he belonged to a "religion" that welcomed only a handful of members from each world throughout the universe. He

considered himself to be one of the fortunate few who had been selected to belong to this extraordinary cult. He believed that the various members of this "religion" communicated telepathically over the vastness of space. He was more than convinced that this "religion" was no hoax. Of course, I didn't challenge his beliefs.

Sir Hubert was assigned to a cold weather research group under the U. S. Army. He was involved in testing an arctic boot which could be worn anywhere in the world, even the desert. He removed the pair of boots he wore only to go to bed at night and when he did his foot odor almost drove me from the room. He told me that he did not wash his socks but he kept them on his feet until they wore out. I don't think he bathed at any time that he was in Little America. Fortunately for all of us he was only there for about two weeks before he moved on to another Antarctic base.

Our detachment was very pleased to receive Lt. Peterson, a non-flying officer, who was sent to us from McMurdo to take over the maintenance of our aircraft at Little America. He was an accomplished aircraft maintenance officer and his presence provided a continuity in leadership that was difficult to achieve when all the detachment officers were off flying somewhere on the Continent.

When we found that replacement skis were to arrive in December, Lt. Peterson had his crew check the skis on all our R4Ds. Small cracks were found in the metal, but he said the cracks weren't large enough for us to ground the aircraft. He stressed that we should inspect the skis after each flight to see if they were getting any larger.

One day a P2V-7 flew to Little America with personnel and cargo from McMurdo Station. After off-loading they taxied to the end of the runway for takeoff for the flight back to McMurdo. In turning the aircraft into the wind one of their propellers struck a runway marker. The propeller was so damaged that the flight had to be cancelled. We immediately requested a replacement propeller from McMurdo so quick repairs could be started.

Stormy weather kept all the aircraft from flying for about five days during mid-October, giving the ground crews a chance to get a considerable amount of aircraft repair work done. Finally, the work on the damaged P2V-7 propeller was completed on October 25th and following a test flight the aircraft returned to McMurdo Station. Acquisition of parts and repairs to this aircraft took 13 days. During all that time we kept the enlisted members of that crew busy repairing other aircraft, but the pilots were just miserable and did nothing but stroll about Little America and look forlorn. About this same time I started flying the UC-1 Otter aircraft while the R4Ds started flying fuel to the distant fuel caches, like Mile 380 Cache. The UC-1 was a smaller aircraft by far than the R4D, but it could carry several drums of diesel fuel to the caches closer to Little America, thus relieving the R4Ds somewhat. For the remainder of my stay on the Ice I would fly the UC-1 and the HO4S-3 helicopter exclusively.

On October 25th, while one of the R4Ds was carrying diesel fuel to the Mile 380 Cache, I flew a reconnaissance flight over Roosevelt Island, with Traverse Party members as passengers. We flew over the proposed route that the Traverse Party would cross Roosevelt Island. Once we found a route over the island that was relatively free of crevasses, I landed the aircraft and a cairn marker was set up to mark the spot. Later, as

the Traverse Party moved their tractors over the island the marker would tell them where the crevasse-free area was located. ***79 - 83***

Later that same day I made another reconnaissance flight over the southern half of Roosevelt Island where the crevasses were heaviest. Aboard the UC-1 was Dr. Jim Zumberge who was studying crevasse formation and how it related to mountain formation. He was looking for a particular type of crevasse but we were unable to find what he wanted on this single flight. Another flight would have to be scheduled at a later date. The next day I flew the UC-1 on a photographic flight of an area of the ice called Prestrud Inlet. This was requested by Dr. Zumberge for his Ice Deformation Study. Later in the day I flew the processed photographs to the Traverse Party, which had started out on their Roosevelt Island crossing. When I landed alongside the Traverse Party I was asked to make another reconnaissance flight over the crevasses surrounding the proposed path of the Traverse Party. Afterwards I returned to Little America. On the 28th of October we heard by radio that Commander Colley's P2V-7 had landed at the South Pole Station but was unable to takeoff because of an engine problem. In that super-cold condition he had turned off his engine while he inspected the camp and when he tried to restart the engine one of the cylinders cracked. An engine change would be necessary before the aircraft could be flown back to McMurdo.

Our two flying R4Ds were put on alert at Little America should they be needed in getting men and parts to the stranded aircraft on the Pole. This alert lasted only one day, after which time the R4Ds returned to diesel fuel supply to the Tractor Party. During the late evening of October 31st, following the evening movies, I went to the base radio center to pick up any messages that had arrived for the detachment. While I was there a voice radio message was received from the Roosevelt Island Traverse Party stating that Mr. Peter Schoeck had fallen into a crevasse and was seriously injured. The caller on the radio said that Mr. Schoeck need medical attention but they didn't recommend a flight because the weather at the site, some 50 miles from Little America, was too poor. I was later told that the Traverse Party knew that they were passing through a heavily crevassed field, but had stopped for the night. Following the eating of their evening meal, Mr. Schoeck went outside on his own. He saw a strange shaped rise on the surface of the snow a few feet from where the tractors were parked and he went over to it to investigate. Suddenly the snow he was standing on collapsed and he fell into a crevasse, landing on a ledge about 50 feet from the surface. He had broken four ribs, damaged one of his lungs and ruptured his spleen. The others in the Traverse Party were able to rescue him from the crevasse but they had no way to access or treat his injuries.

After a brief discussion with one of my pilots, we both headed to Kiel Field where our night time maintenance crew was readying an Otter for the flight to Roosevelt Island. Knowing that the weather at the Traverse Party location was marginal, we thought we would at least go to the area and look see for ourselves. If it were possible to land we would do so, otherwise we would return to Little America and wait for some improvement in the weather. The weather for take off at Little America was very good but as we approached the Traverse Party the visibility started falling off and it was difficult to distinguish objects on the surface.

I called the Traverse Party and asked them to send me a radio signal that I could home in on. The man who answered soon turned on a low frequency signal and it brought me right over the camp site. I could make out the red tractors and trailers but not much else. The man on the surface said that the crevasses were quite extensive and if we decided to land that we should land in the area where his tractors had passed over a few hours before. I told him I couldn't see his tracks in the snow and asked that he have the men he had with him to ski out from the tractors in the direction from which they came, spacing each man about 25 yards apart.

Once they were all in place I made an approach to a landing and as my radar altimeter indicated I was within 50 feet of the surface I visually lined up the aircraft using the men as a reference for my glide slope and direction. When I was next to the man most distant from the trailers my skis dug into the snow giving me a rather hard but not damaging landing. We came to a stop just feet from the trailers and within a few minutes Mr. Peter Schoeck was loaded into the UC-1 Otter and we were ready for take off. I directed my copilot to turn the aircraft around and make the takeoff. Since we were going downwind the takeoff run was extra long and since the surface was so rough we bounced horribly. Poor Mr. Schoeck must have felt every bump as adding injury to his crevasse caused injuries.

Finally, we got airborne and it was an easy flight back to Little America, where the base doctor was waiting for the patient. After some emergency surgery and a day or two of rest Mr. Schoeck was airlifted to McMurdo and on to New Zealand, where he was able to recover in a hospital capable of treating his injuries. ***84***

At the time neither I, nor my copilot, considered what we did to be anything but routine. Over the months I had flown several flights under weather conditions far worse than the night we rescued Mr. Schoeck. In spite of all this both of us pilots were recommended for the Air Medal. My air medal was delivered many months later while I was stationed at Port Lyautey, Morocco. It is interesting to note that my copilot, Lt. "Dutch" Gardner, and another VX-6 pilot were killed in an Otter the year following our rescue flight. They had flown to a remote site in the Antarctic where a small landing area had been prepared. On takeoff from this landing area they turned towards the mountain to the right of them, instead of to the left, which would have placed them over open water. They were unable to climb over the hill next to the runway and flew into it, killing them both instantly. I don't know if Lt. Gardner received his Air Medal before he died, but I hope he did.

Chapter 29:
A Top Speed Countdown

I had expected my last month on the Ice to see a gradual slowing down in my activities so that I would gradually work myself out of a job. It didn't work that way, however, because the final month turned out to be our busiest in my entire sixteen months. The weather was good and the demand for our flights were almost more than we could handle, even with the influx of additional pilots, air crewmen and aircraft maintenance workers.

The IGY staff in McMurdo Station expected us to supply the Tractor Party with enough diesel fuel so that they could make the trip to Marie Byrd Station and then return to Little America using the fuel which had been placed along the trail. This meant many trips to fuel caches for the R4Ds and the Otters. We were also expected to keep Dr. Crary's Traverse Party supplied with whatever they might need as they surveyed the Ice Shelf. The Ice Deformation Party led by Dr. Zumberg also had supply needs that had to be satisfied. There were trips to be flown by helicopter to the ships to pick up personnel who would spend the following winter at Little America. Lastly, there were the VIPs who had to be taken to various exotic spots like the abandoned RADM Richard Byrd's camp now hidden below the Ice.

With the continuous arrival of new officers and enlisted men to the detachment, my administrative role increased so I found myself spending much of the daytime handling in-house problems and flying operational flights during the evenings, sometimes until three or four in the morning. When the weather was good I would go into the control tower building, grab a bite to eat and perhaps rest some, while the ground crew refueled the aircraft and reloaded it with barrels of diesel fuel for the Tractor Train.

It seemed strange flying alone over the Ice, with just an enlisted crewman in the copilot seat for company, knowing that we were sometimes the only thing in the air for hundreds of miles. With a radio range of about fifteen miles we were soon out of contact with the control tower and our only navigational aid was the trail that the tractors had made a few weeks before. The Otter was very reliable so I had no reason to worry about having an engine fail but landings along the fuel caches were sometimes rough and it was possible to have a ski failure and be stuck for hours or days before help could get out to me. Fortunately nothing like that happened in all those flights to spoil my safe record.

I also got to fly the helicopter some during this last month. One day when visibility was poor I had to fly out to one of the ice breaker ships to pick up passengers arriving from the States. Out of habit I always climbed to a safe altitude above the ice when flying anywhere, lowering the helicopter only when a landing was intended. The surface of the ice near the edge of the Ice Shelf varied in altitude from spot to spot and flying at low altitude only invited the ice to come up and meet with your skis as you flew along. A few days before one particular flight the USS Atka had a helicopter turn over on the flight

deck and burn. The pilot and his passenger were seriously burned before they could get free of the aircraft. Since the ship had only one helicopter left and several passengers for transfer, they requested that we assist in flying their passengers to Little America.

Although the visibility that day was marginal I elected to fly out to the ship which was only about ten minutes away from Little America. The ship was moving slowly in sea smoke but I was able to see enough of the flight deck to be able to land. While on the flight deck I briefed the ship's helicopter pilots on finding Little America and about the weather enroute. Once my passengers were loaded into the cabin I took off and flew to Little America. The ship's helicopter took off shortly thereafter but once they were over the Ice Shelf they flew low, presuming that the surface was flat. After about a mile their skis touched down on a rising snow mound and they quickly went from about 90 knots forward speed to full stop. Their rotor blades hit the snow surface but the aircraft remained upright. Fortunately, none of the crew or the passengers were injured but the aircraft was too damaged to repair. Since the ship now had no helicopters and they had a lot of navigating through ice floes on the way back to the warmer waters of the Pacific Ocean we were ordered to give the USS Atka our only helicopter. We were due to receive a newer and more powerful helicopter in December so we felt we would be able to get along without a helicopter for a few weeks in any case.

We started having a surge of "tourist" traffic, people who came to the Ice to observe our Antarctic operations. Once they had seen all that McMurdo had to offer, they moved on to Little America V for additional kicks. We soon had senior Navy officers, retired Arctic and Antarctic explorers and even one U.S. Congressman, all of whom we had to keep amused and informed. They all wanted to see the Tractor Trail, the Traverse Party, the Ice Deformation Party and, most of all, the remains of RADM Byrd's old camp site, Little America III. Our Otters and our helicopter saw yeoman service in delivering our VIPs to these exotic spots.

Foremost in interest to our visitors was the Little America III camp. All its buildings were fully covered with ice and snow with only a few radio antennas visible above the surface. Early visitors that summer had found the roof top of one of the buildings and after digging through the snow covering they entered the building through a skylight or escape hatch. Once in the building visitors were able to move through the camp by the interconnecting tunnel using flashlights. One portion of the tunnel had collapsed from the weight of the snow and in that area one had to crawl on their knees to get through. For the most part, however, the buildings and tunnels were clear of snow and debris. Although some twenty years has passed since the buildings had been occupied it looked like the occupants had just departed a few hours earlier. Food was still stored on the shelves and the everything was in perfect order. Although the camp dwellers had departed hurriedly because World War II was getting started, they left everything in a state of readiness as though they expected to return at the first opportunity.

On my first visit to the camp I noted that there was considerable canned and bottled food items which I thought would be nice to have back at Little America V. On my next visit I gathered several bottles of steak sauce and several cans of canned mackerel, and other delicacies we lacked. They had been refrigeration all those years so I reasoned that

they were not likely to have spoiled. When I opened each container it was as though I had just acquired the item from a local grocery shelf; it seemed as fresh and as tasty as one could hope it to be.

On one visit to Little America III I brought along my close friend, Dr. Herfried Hoinkes, the micrometeorologist who had wintered over with us. He had read about an experiment that had taken place in Little America III in the 1930s, by an ice geologist who had wintered over at Little America III. Inside the camp, over the winter months he was there, he had dug a hole about 15 feet wide by 15 feet, and about 25 feet deep. He had cut the sides of the hole so the walls of the hole were smooth and perfectly vertical. Dr. Hoinkes had reasoned that the sheer walls of the hole would have assumed a pin cushion shape due to the weight of the snow over the twenty years and his investigation proved his theory to be correct. The ice walls of the hole were indeed bowed inward in a smooth curve.

When I went to Little America III with U.S. Congressman Saylor from Pennsylvania, he spied a frying pan frozen into the ice where the tunnel had collapsed. He said that there was a minor congressional scandal in progress at the time which he hoped to name the "Frying Pan Scandal" after the Tea Pot Dome Scandal of many years before so he crawled on his chest towards the pan. When he tried pulling the frying pan free a cascade of ice particles started falling on him. Knowing there was some thirty feet of ice over him he quickly backed out of that narrow spot. I told him that I would try to extricate the frying pan for him at a later date and mail it to him in Washington, D.C. On my next visit to the camp I tied a rope to the handle of the frying pan and by pulling from a safe distance I was able to break the frying pan loose. Later in the day I packaged the pan and mailed it to the congressman with a friendly note. I am still waiting for a reply.

On Friday, November 25, 1957 I had just returned from a 3.6 hour flight in one of the R4Ds and having no further flights for the day and no ready transportation back to Little America I started to walk back from Kiel Field. It was a clear, windless day and the temperatures were relatively warm, so a one mile walk was no real problem for me.

Just as I started down the roadway to Little America I heard one of the squadron R4D-8s approach the field. I had been expecting this flight because we had heard that RADM Dufek and my squadron skipper were due to inspect the base and our flying facilities. All of a sudden one of the engines on the R4D-8 went to full power and when I looked upward I could see that the right ski was pointed downward, instead of being parallel to the wing. Normally there was a steel cable that kept the ski from pitching down and somehow this cable broke.

Eddie, my aircraft commander from the previous summer, was the aircraft commander of this aircraft and he had our skipper, Commander Colley a non-qualified R4D-8 pilot, in the copilot seat. With the ski pointed downward it acted like a large air brake, slowing the aircraft severely on one side. This is why so much power had to be carried on one engine. Eddie would have like to have retracted the landing gear but the rear of the ski was against the trailing edge of the right wing and it was felt that if the gear had been retracted that the ski would push itself into the wing and would rupture the fuel tank on that side of the aircraft. That could have started a major in-flight fire, with

catastrophic effect. Minute by minute, as everything was considered and tried, Eddie became increasingly uncontrolled in his emotions and actions. I learned of this later from one of the pilots who had been aboard the aircraft when the incident occurred. I had noticed this trait of Eddie's time and again the summer before, that when things became extra difficult for Eddie, he seemed to lose control of himself. This must have been more than apparent to Commander Colley because somewhere along the way he took over control of the aircraft and he told Eddie to leave the flying of the aircraft up to him. This is a rare situation when an unqualified pilot would take over for a qualified pilot solely for the reason that the qualified one became emotionally unqualified to continue.

After about fifteen minutes of this high engine power situation the right engine started popping and finally quit. It wasn't designed to carry maximum power indefinitely, so it just stopped turning suddenly. All Commander Colley could do was dive for the runway and at the last moment level off as though he was going to make a normal landing. When the nose down ski touched the runway it folded under the wing and the aircraft skidded off the runway and came to a sudden stop. No passenger or crew member on the aircraft was injured, however, the engine and the ski were damaged beyond repair. Some minor fuselage damage took place during the crash, but this proved to be repairable. It was quite clear that this R4D-8 was destined to remain at Little America for several weeks before it could be expected to fly again. I wasn't privy to what the skipper said to Eddie after the flight, but I do know that he was henceforth grounded from flying for the rest of the summer. Commander Colley told Eddie to remain for the summer in Little America and he was not permitted to return to McMurdo until the squadron returned to Rhode Island at the end of the Antarctic summer. Eddie spent all summer working out of his room at the base. Although he was senior to me in rank and fully eligible to relieve me as Officer-in-Charge of the VX-6 Little America Detachment the skipper chose to keep me in charge and relegated Eddie to doing nothing for the months ahead. It was a great comedown for Eddie, but in all respects he took it well, as though he realized he had really fouled up and deserved the worst. Although I do not know the long term outcome of Eddie's flying career, I would presume that he was grounded from flying for the rest of his active duty time.

One of the last operational mission that I witnessed during that summer was the Ice Deformation Project. Dr. Zumberge, from the University of Minnesota, had a theory that ice under lateral pressure was folded in the exact same way that mountains were folded during their formation. He believed that he could prove that the ice when pressed from the side would form hill-like formations that would resemble recently formed mountains. I made several flights with him over heavily crevassed ice and in time he located an ice formation which seemed to support his theory. It was at this sight that we helped him set up a campsite where he could study the ice formation in depth. After he had been operating the site for several weeks I visited him and descended into a crevasse where he had mounted his measuring instruments. It was most interesting to go down into a crevasse and see how the ice had been split as a result of the stresses placed on the ice as it moved over Roosevelt Island. It was supremely quiet in the crevasse but I am sure it wasn't always that way for deep crevasses are the result of gross forces of nature in

action and that had to be a noisy event when the crevasses were created. Inside the crevasse the color of the ice was deep blue and unlike anything I had seen before.

After leaving the Ice I searched through many IGY study reports to learn what Dr. Zumberge might have learned during his summer inside an Antarctic crevasse, but was unable to find out if he was able to prove his theory. In any case, I hope his research proved of value to future ice geological research. Sometime during the later part of the month of November as new pilots came in and took over the flying of the R4Ds and my five other wintering-over pilots were relieved to return to the Continental United States. Little by little I found myself in charge of a detachment of newcomers and I soon became aware that I was becoming superfluous to the operation. Still, I had to go on and perform my usual duties until my relief arrived.

Finally, a Lieutenant Commander William Franke, who was designated to relieve me as Officer in Charge, arrived at Little America. He was a highly qualified man and probably did a fine job with the detachment after I had gone, but the turnover wasn't like I had expected it to be. There was so much I could have told the new man about winter operations that would have prevented him from making some of the mistakes that we had made in learning the ins and outs of cold weather operations but he seemed totally uninterested in hearing it from me. I offered to show him around Kiel Field and explain where all the equipment was located and how it had been put to use when it was needed, but again he didn't seem interested. I even offered to stay around for several days until he felt comfortable with handling the job ahead. Again he indicated he didn't think that it was necessary. I did give him a manual of fifty or so pages that I had prepared during the winter months on what we had learned about cold weather operations. I hope he was interested enough to put some of my written advice into practice for the booklet took me weeks to prepare but I rather doubt that he did.

Chapter 30:
The Long Trail Home

There was no 5:15 train waiting to take me home from the Antarctic. Now that I was out of the control seat and just another body at McMurdo Air Facility I had to wait my turn for transportation off the Ice. Everyone was nice to me about my sans-transportation situation but they weren't going to schedule a special flight for me and from what they told me there weren't any schedule any time soon. So I did the only thing I could do and that was to wait as patiently as I could and not be a bother.

I put in some sack time, I ate three meals per day, and kept my gear packed and ready to go. I would like to have done a bit of hiking into the surrounding hills but there was no person available who had time on their hands to accompany me on an outing. Besides, I didn't want to leave the camp and miss a flight going back to New Zealand.

One day the squadron skipper, Commander Colley, told me that he was going out on a local flight in his P2V-7 and he would be pleased to have me aboard his aircraft as a passenger. I had never flown in a P2V type aircraft and I was more than happy to accept his offer. Also, this was my first joy ride since I had arrived on the Ice and I knew I would find it unique to be able to look around at the glorious scenery and not be concerned about my flight duties. The P2V-7 was a powerful aircraft when compared to the R4D and the UC-1 aircraft I had been flying. It cruised about twice as fast as the R4D and its rate of climb was a marvelous experience for me.

After takeoff I went up to the cockpit and studied the magnificent mountains which surrounded McMurdo Sound. I had viewed them for over a year, but seeing them a high altitude in a fast moving aircraft gave me a thrill that I hadn't had when I observed them previously in a heavily loaded, slow R4D. Commander Colley soon told me that he was going to fly low over a place called Dry Valley. This was a slope of rocks about two miles wide that went from sea level up to around 10,000 feet of altitude. This slope of rocks and debris could have been a glacier at one time or another, however, the constant winds coming down from the ice cap kept the area mostly clear of snow. Commander Colley said I would get a better view if I were to sit in the glassed-in bombardiers seat in the nose of the aircraft, so I made my way forward to that choice location. It was here that I could put my face next to the most forward looking place on the aircraft and feel as though I was a free body rushing through the air and not enclosed in an aircraft cabin. Cdr. Colley lowered the P2V-7 to about 50 feet above the surface and with climb power on both engines we rushed over that jumble of giant rocks and debris from sea level to the top of the continent. Once on top he turned the aircraft around and dove merrily down the dry gulch at well over 200 knots. It was at times quite frightening because it seemed at times that we would fly into the surface. Still, it was exhilarating to say the least, much like the fighters I flew during World War II, when we flat-hatted over the Everglades of Florida. Knowing that death was so near and could be so catastrophic made it even more

exciting. When we finally landed on the ice runway I told the Skipper how delighted I was with the flight. He, however, acted as though the flight was just routine for him, leaving me to feel I must have missed something along the way. I later flew P2V aircraft in night over water research flights but I never found the aircraft so exciting as it had been that day.

Well, finally my day arrived to leave the Ice for good. The squadron needed replacement parts from storage in New Zealand and so an R5D aircraft was scheduled to make the round trip. The flight outbound from the Continent, as we skirted the range of mountains I had flown along 16 months prior, was still a beautiful site to see. As we left the Continent behind us and entered the night stretching out before us I saw no need of looking out the window since there was nothing to see for a thousand plus miles. I had brought along my sleeping bag so I climbed into it and slept the rest of the way to New Zealand.

When I awoke I was told we were approaching the coastline of New Zealand's South Island so I went forward to the cockpit for my first glimpse in a long time of land without ice and snow. It was late spring in New Zealand and my eyes were overwhelmed with the green that covered the earth from horizon to horizon. Remember, I hadn't seen green for many months and my eyes were dazzled and enchanted with so much color before me. It took days before I was able to adjust to the flood of color that surrounds us every day. After landing in Christchurch I discovered that I would have to wait several days before any aircraft departed for the States so I spent my waking hours visiting friends I had met just before our departure for the Antarctic. Everyone that I knew had followed our exploits on a daily basis and they were all happy to see my return.

Finally an Air Force C-124 was scheduled to depart for its home base in South Carolina and since it was mostly empty I had no trouble getting myself on their manifest. We flew first to Hawaii and although I was anxious to get back home the crew found some questionable discrepancy with their aircraft and we ended up staying in Honolulu for two days. I badly needed a haircut so I went to an all-Japanese barber shop in downtown Honolulu. All the barbers there were women and as is their custom they ended the haircut with a massage of the neck and shoulders. Recall, I had not seen females in many months so this touch of gentle female hands proved to be an exciting moment. All this, however, was a precursor of my going home to my wife and family and it helped in a small way of easing me back into the niceties of female companionship.

The flight to Greenville, South Carolina, with one short stop in California, seemed to take an eternity. Finally it ended as we taxied to the Air Force terminal and there on the tarmac was my wife who was overjoyed at the sight of me, as I was at seeing her again also.

Thus ends my saga, not my last adventure but at least the most memorable. I went to the Ice to test myself in several ways. Could I face extraordinary cold and the hazardous flying conditions of the Antarctic? Could I handle almost total isolation from civilization, cramped quarters, extreme cold all with little recreation? Could I live among men also facing isolation and survive in an acceptable manner? I believe I managed to do all this and as a result I came out a much better person as a result. I saw a few who had not

managed very well when faced with the terrors and isolation of life on the continent. I feel fortunate that none of the trials that I faced either broke me or weakened me. All in all it was a wonderful adventure.

Chapter 31:
And There Were Further Adventures

Earlier in the book I indicated that I hoped to find in myself a degree of self reliance that wasn't there at the start of my tour with Air Development Squadron Six. I also wanted to come alive in knowing that there was no task the Navy might give me that I couldn't handle.

Now some years later I feel the entire adventure made me a better officer and a whole lot better an aviator than I might have expected. Almost daily, while I was on the Ice, I faced wholly unique challenges of one kind or another and for the most part I believe I handled them well. As a junior officer earlier in my career there was always some precedent for making decisions, or lacking that, friends and acquaintances who could offer advice as to what they might do in similar circumstances. There was no such road map determinants for me on the Ice. I had to use my past experience and personal judgment for each new problem arising. In all the entire experience turned around my military career and I found myself acting the leader and not the follower for the first time.

Antarctica was not the only scene of adventure for me during the remainder of my Navy career. Following my assignment to Squadron VX-6, I received orders to the Naval Air Station, Port Lyautey, Morocco where I was assigned for two years to Flight Operations in and about Morocco, as well as Western Europe. During my tour in that African nation I finally qualified as Aircraft Commander in the R4D (C-47) aircraft. While in Morocco I flew many helicopter rescue missions when on two separate occasions the Sebou River flooded its banks isolating many farmers to rooftops and trees when the water suddenly engulfed their homes and property. I vividly remember one occasion when I landed on a small hill which was surrounded by water and was slowly being eaten away by rushing waters. I wanted to air lift the farmer and his family to a safe location but he refused my help unless I would first lift his cow to safety. My helicopter was too small to admit anything as large as a cow and when I advised the farmer he decided to remain where he was. To him losing a cow was like losing a family member.

Following my two years in Morocco I was ordered to the Naval Air Development Center at Naval Air Station, Johnsville, Pennsylvania where I spent three years as a Projects Officer in the Anti-Submarine Warfare Laboratory. Here I worked to get new electronic equipment installed and flight tested in operational Navy aircraft. During my tour I qualified as Aircraft Commander in the H-34 and the H-3 helicopters. I also went to school to become a copilot on the P2V type aircraft. In many ways my tour in Pennsylvania helped round out my flying career because I flew numerous long distance flights over the continental United States and Eastern Canada, as well as many over water antisubmarine flights.

My next assignment was to Helicopter Combat Support Squadron One (HC-1), at Ream Field, San Diego, California, where I was selected to operate a newly formed

group of pilots and air crewmen in the emerging Vertical Replenishment Program. My new group was sent to the Vertol factory in Philadelphia for pilot training in the UH-46A twin engine helicopter. Following our training we accepted the first two operational UH-46A helicopters and flew them back to San Diego. After a period of training new pilots in the helicopter we were sent to the Naval Air Station in Atsugi, Japan.

I remained in Japan for three years and I am still quite pleased when I think of how successful our Vertical Replenishment group was in introducing heavy lift vertical replenishment to the Pacific Fleet. It was always amazing to the personnel manning the ships in the Viet Nam waters how we could flood their decks with much needed cargo in a short period of time. Much of the cargo which had been transferred by line between ships was, under the new system, delivered by helicopter even if the ships were widely separated at the time.

A few months after I first reached Japan I also became Officer-in-Charge of the HC-1 detachment at NAS Atsugi. Besides the UH-46A helicopters we had several H-2 helicopter which were used on Western Pacific ships as needed. We must have been a successful group of officers and enlisted men because before I left Japan the detachment was commissioned as Helicopter Combat Support Squadron Seven (HC-7). Just prior to my return to the States I was promoted to full Commander, and for a Reserve Officer I felt I had reached the epitome of success.

My next set of military orders was to report as Aircraft Maintenance Officer at Helicopter Training Squadron Eight, at Ellyson Field, Pensacola, Florida. My job was to oversee the maintenance of about 150 training helicopters and to fly maintenance test flights on the various types of helicopters located at Ellyson Field. It was an all encompassing job and not strictly desk work as some jobs get to be.

My last duty assignment was to the Amphibious Operational Training Unit at Little Creek, Virginia, where I was first assigned as the Aviation Officer and later the Executive Officer. Our job in the Unit was to test the Atlantic Fleet ships in amphibious operations. I had a highly skilled crew of senior enlisted men who really knew their business. They were so accomplished that I had little to do except review and sign their reports. Unfortunately, it was a job without flying, my only assignment where I had no place in a cockpit. During my one year in the Little Creek assignment I received notice from the Bureau of Naval Personnel that there were no provisions for keeping Reserve Officers on active duty beyond twenty years. I was at the time entering my twenty-second year of active duty so I was retired on June 30, 1970. I have lived in Virginia ever since.

On closing out this chapter and the book itself please note that I am supremely thankful for the career I had in the U. S. Navy. I was never assigned to do the same job twice. I flew about 125 different types of naval aircraft, operated off of 13 aircraft carriers, two refrigerated stores ships, and one aviation ordinance and refueling ship. I flew as far north as the center of the ice cap of Greenland and as far south as the South Pole itself. I was fortunate to see parts of North Africa, Europe, Japan, Central America, the Philippine Islands, and much of the Continental United States. Who could ask for more?

Footnotes

(If the aircraft type and serial number are shown, these are flights in which I flew as one of the pilots. Also, when flights I made are mentioned the aircraft type and serial number are shown in bold print.)

1. June 20, 1956. Departed from Pensacola, Fla. for duty with Navy Squadron VX-6, in Quonset Point, R.I.

2. June 30, 1956. Reported for Antarctic flying duty with Squadron VX-6.

3. Jul. 5, 1956. Departed Quonset Point, R.I. for Naval Air Station, Jacksonville, Fla.

4. Jul. 7, 1956 to Jul. 10, 1956. **HO4S-3 Serial No. 138507** Flew from Jacksonville to Quonset Point in HO4S helicopter. 11.4 flying hours.

5. Jul. 12, 1956 to Jul. 26, 1956 **HO4S Serial No. 138497** and **138507** Flew familiarization flights. 6.6 flying hours.

6. Aug. 8, 1956 **R4D-5 Serial No. 12418** Made first flight as co-pilot under training in R4D aircraft. 2.9 flying hours. When I reported to Squadron VX-6 for duty I had over 2,300 hours of flying experience. My helicopter flight time then was 1,378 hours.

7. Aug. 11, 1957 **R4D-5 Ser. No. 17274** Local flight from N.A.S. Quonset Point, tested JATO rockets on takeoff. 2.0 flying hours

8. August 12, 1956.**R4D-5 Ser. No. 17274** Departed for Goose Bay AFB, Labrador, enroute to Greenland. 5.7 flying hours.

9. Aug. 12, 1957 **R4D-5 Ser. No.17274** Flew from Goose Bay AFB, Labrador to Sondestrom, Greenland. 8.3 flying hours

10. Aug. 16, 1957 **UF-1 Ser. No.142429** Flew from Sondestrom, Greenland to top of Greenland Ice Cap and returned to Sondestrom. 5.0 flying hours

11. Aug. 17, 1957 **UF-1 Ser. No. 142429** Flew as co-pilot part the way back to Quonset Point, Rhode Island. 3.0 flying hours

12. August 20th, returned to Quonset Point, R.I.

13. Aug. 22, 1956 to Sept. 5, 1956 Flew ten training flights in both the **R4D** and the **HO4S** helicopter. 7.6 flying hours in the R4D and 5.3 flying hours in the HO4S.

14. Sept. 5, 1956. Grounded by Operations Officer for five days for flathatting.

15. Sept. 11, 1956. **R4D Ser. No.17274** Departed Quonset Point, R.I. for Continent of Antarctica. First stop was at Hutchinson, Kansas, then on to Ogden, Utah. 6.5 flying hours.

16. Sept. 12, 1956. **R4D Ser. No. 17274** Flew short maintenance test flight at Ogden, Utah, then flew to Oakland, Calif. 5.4 flying hours.

17. Sept. 14, 1956. **R4D Ser. No. 17274** Departed from Oakland, Calif. for Barbers Point, Hawaii. Flight was 16.3 hours long.

18. Sep. 22, 1956 **R4D Ser. No. 17274** Flew from Oahu Island to Molokai Island and returned to NAS Barbers Point. 2.1 flying hours.

19. Sept. 27, 1956. **R4D Ser. No. 17274** Departed Hawaii for Canton Island. 12.2 flying hours.

20. Sept. 28, 1956. **R4D Ser. No. 17274** Arrived at Canton Island. Refueled and departed for Fiji Islands. 7.6 flying hours.

21. Sept. 28, 1956. **R4D Ser. No. 17274** Arrived at Nandi Airport in the Fiji Islands. 7.6 flying hours.

22. Oct. 1, 1956. **R4D Ser. No. 17274** Departed Fiji Islands for Christchurch, New Zealand.

23. October 1, 1956. Arrived at the Naval Air Station called Wigram Field, in Christchurch, New Zealand. 11.3 flying hours.

24. Oct. 16, 1956. An R5D squadron aircraft, with RADM Dufek, made first flight of summer season to Antarctic Continent.

25. Oct. 17, 1956 **R4D Ser. No. 17274** Flew from Christchurch, N.Z. to Taieri, N.Z. 1.6 flying hours.

26. Oct. 17, 1956 **R4D Ser. No. 17274** Flew from Taieri, N.Z. to Naval Air Facility, McMurdo Sound, Antarctica. 16.5 flying hours.

27. Oct. 25, 1956 **R4D Ser. No. 17274** Local test flight at McMurdo Station. 1.8 hours.

28. Oct. 25, 1956 **R4D Ser. No. 17274** McMurdo to Little America V Station with mail, cargo and personnel.4.4 hours.

29. Oct. 25, 1956 **R4D Ser. No. 17274** Little America to McMurdo, with cargo, mail and personnel. 3.8 hours.

30. October 28, 1956 **R4D Ser. No. 17274** McMurdo Station to Beardmore Station at the foot of Liv Glacier and returned to McMurdo Station. Flying time 10.0 hours

31. October 28, 1956 USS Glacier, an icebreaker ship arrived at McMurdo Sound. First ship to arrive in Antarctica this season.

32. October 28, 1956 **R4D Ser. No. 17274** McMurdo Station to Beardmore Station at the foot of Liv Glacier and returned to McMurdo Station. Flying time 9.5 hours.

33. October 31, 1956 **R4D Ser. No. 17274** McMurdo to Beardmore Station at foot of Liv Glacier as a rescue aircraft for first flight to the South Pole. 4.8 flying hours.

34. November 1, 1956 **R4D Ser. No. 17274** Returned to McMurdo Station from Beardmore Station. 3.8 flying hours.

35. **R4D-6, 17274** Flights I made in support of Tractor Train Operations:

11/13/56 .....4.1 hrs.
11/13/56 .....3.7 hrs.

11/17/56 .....8.9 hrs.
11/21/56 .....6.2 hrs.
11/23/56 .....4.0 hrs.
11/23/56 .....4.1 hrs
11/25/56 .....5.2 hrs.
11/27/56 .....6.8 hrs.
11/27/56 .....1.4 hrs.
11/27/56 .....2.0 hrs.
11/29/56 .....1.6 hrs.
11/29/56 .....1.5 hrs.
11/29/56 .....4.0 hrs.
12/1/56 .....4.0 hrs.
12/2/56 .....2.1 hrs.
12/2/56 .....2.1 hrs.
12/5/56 .....2.2 hrs.
12/5/56 .....1.5 hrs.
12/5/56 .....2.4 hrs.
12/6/56 .....1.8 hrs.
12/6/56 .....2.3 hrs.
12/6/56 .....1.4 hrs.
12/6/56 .....2.2 hrs.
12/6/56 .....0.8 hrs.
12/6/56 .....1.7 hrs.
12/7/56 .....4.5 hrs.
TOTAL flight hours in support of tractor trail party.....82.5 hrs.

36. Dec. 18, 1956 **R4D-6 Ser. No. 17274** Local test flight out of McMurdo. Flying time 1.6 hrs.

37. Dec. 19, 1956 Air Force C-124s departed McMurdo for New Zealand due to deteriorating ice runway conditions.

38. Dec. 23, 1956 Tractor Train reached Marie Byrd Station.

39. Dec. 24, 1956 **R4D-6 Ser. No. 17274** Flew from McMurdo to South Pole Station Flying time 7.4 hrs.

40. Dec. 24, 1956 **R4D-6 Ser. No. 17274** Flew from South Pole to Beardmore Camp at Liv Glacier. Flying time 2.5 hrs.

41. Dec. 24, 1956 **R4D-6 Ser. No. 17274** Flew from Beardmore Camp to Little America V Station. Flying time 3.6 hrs.

42. Dec. 24, 1956 **R4D Ser. No. 17274** Flew from Little America V Station to McMurdo Station. Flying time 5.5 hours.

43. January 3, 1957 **R4D-6 Ser. No. 17274** Local flight from McMurdo Station. 4.3 hours.

44. January 4, 1957 **R4D-6 Ser. No. 17274** Second flight to South Pole Station and returned to McMurdo. Total 14 flying hours.

45. January 8, 1957 **R4D-6 Ser. No. 17274** Returned to Little America V Station from McMurdo Station. 3.8 flying hours.

46. January 8 through 23, 1957 Eleven **R4D** flights totaling 40.2 flying hours delivering diesel fuel in support of Tractor Trail Party.

47. January 24 through 31, 1957 **UC-1 Otter aircraft Ser. No. 142426** Completed eight flights delivering diesel fuel to Tractor Trail Party, totaling 13.9 flying hours.

48. January 9 & 12, 1957 **HO4S-3 Ser. No. 138517** Flew two photographic missions in helicopter.

49. January 26, 1957 **HO4S-3 Ser. No.138517** Flew maintenance test flight in helicopter.

50. February 4, 1957 All VX-6 squadron officers and men who were not scheduled to winter-over went aboard the USS Curtis for their return to Quonset Point, Rhode Island.

51. February 25, 1957 Rear Admiral George Dufek and his staff departed the Antarctic and was not to return to the Ice until September 1957.

52. February 2 through 22, 1957 **R4D Ser. No. 17247** Completed eight flights with Lcdr. Anderson, supplying diesel fuel to the Tractor Train. 33.3 flying hours.

53. February 11, 1957 **UC-1 Otter Ser. No. 142425** Transported scientific personnel. 2.5 flying hours.

54. February 26 through March 18, 1957 **HO4S-3 Ser. No. 138517** Completed 11 flights delivering frozen food from edge of ice shelf to Little America V food storage area. In all 53,000 lbs. of frozen food was moved. 20.5 flying hours.

55. May 11, 1957 We received a dispatch advising us that our Commanding Officer, Captain Cordiner had been relieved. The new skipper was Captain Vernon Coley.

56. April 25, 1957 The sun set for the last time, ending Deepfreeze II Operations. Temperature when flag was lowered was -40 degrees Fahrenheit.

57. April 9, **UC-1 Ser. No. 142425**. Flew 0.7 hrs around Little America.

58. April 12, **UC-1 Ser. No. 142425**. Flew 0.2 hrs. around Little America.

59. April 19, **UC-1 Ser. No. 142425**. Flew 2.3 hrs around Little America, completed six GCA approaches.

60. April 22, **R4D Ser. No. 17274**. Flew 0.6 hours around Little America.

61. May 6, 1957, **UC-1 Ser. No.142425**. Flew 2.5 hours of night flying, my last flight of the season.

62. Sept. 3, 1957 **R4D Ser. No. 17246** Flew from Little America V to McMurdo Station. This was my first flight of the second summer season. 4.5 flying hours

63. Sept. 9, 1957 **R4D Ser. No. 17274** First flight from McMurdo Station to Beardmore Glacier where site for new relay station was established. After unloading cargo we returned to McMurdo Station. 7.2 flying hours

64. Sept. 10, 1957 **R4D Ser. No. 17246** Second flight made to Beardmore Camp. 7.0 flying hours

65. Sept. 11, 1957 **R4D Ser. No. 17246** Took-off for Beardmore Camp, but heard that Speed's R4D was forced down on the ice shelf, so we returned to McMurdo for heaters and personnel. 1.1 flying hours

66. Sept. 11, 1957 **R4D Ser. No. 17246** Flew to forced landing site of R4D, 17274 with personnel and engine heaters. Also landed in second forced landing area to assist Harvey Speed. Finally returned to McMurdo Station with both R4Ds. 2.3 flying hours

67. Sept. 13, 1957 **R4D Ser. No. 17246** Completed third supply flight to Beardmore Camp with supplies. Returned to McMurdo Station. 6.3 flying hours.

68. Sept. 14, 1957 **R4D Ser. No. 17246** Flew to Little America V Station so Harvey Speed could pick up a replacement R4D aircraft. 3.6 flying hours.

69. Sept. 16, 1957 **R4D Ser. No. 17246** Took off for McMurdo but had to return to Little America when the weather was reported to have become bad at McMurdo. 0.5 flying hours

70. Sept. 17, 1957 **R4D Ser. No. 17246** Flew from Little America to McMurdo Station. 3.9 flying hours.

71. Sept. 23, 1957 **R4D Ser. No. 17246** Flew from McMurdo Station to campsite at foot of Beardmore Glacier, then returned to McMurdo Station. 6.7 flying hours

72. Sept. 24, 1957 **R4D Ser. No. 17246** Flew from McMurdo Station to campsite at Beardmore Glacier. 3.8 flying hours

73. Sept. 24, 1957 **R4D Ser. No. 17246** Flew from Beardmore Glacier site to Liv Glacier site, then back to Beardmore Glacier site. 3.2 flying hours.

74. Sept. 26, 1957 **R4D Ser. No. 17246** Flew from Beardmore Glacier to Liv Glacier to discover ruptured fuel tank left on the surface. Immediately returned to Beardmore Glacier, too low on fuel to return to McMurdo Station. 3.3 flying hours

75. Sept. 29, 1957 R4D Ser. No. 17247 Returned to McMurdo Station from campsite at Beardmore Glacier. 3.3 flying hours.

76. Sept. 29, 1957 **R4D Ser. No. 17246** Flew from McMurdo to Little America V. 3.9 flying hours 77. Oct. 17, 1957 A squadron P2V-7 arrived at Little America with cargo, mail and passengers.

78. Between October 17, 1957 and November 1, 1957 our detachment R4Ds flew ten long range flights down the Tractor Trail with diesel fuel for the fuel caches. The R4D's also made five round trips to McMurdo Station to pick up cargo, mail and personnel slated for Little America V.

79. Oct. 14, 1957 **UC-1 Ser. No. 142425** I made two reconnaissance flights in support of IGY Traverse Party. 4.7 flying hours

80. Oct. 25, 1957 **UC-1 Ser. No. 142425** I made two reconnaissance flights in support of IGY Traverse Party. 2.3 flying hours

81. Oct. 26, 1957 **UC-1 Ser. No. 142425** I made a combined photographic and visual reconnaissance flights in support of IGY Traverse Party. 4.0 flying hours

82. Oct. 27, 1957 **UC-1 Ser. No. 142425** I made a local flight to check out newly received pilot in techniques for ski landings. 1.0 flying hours

83. Oct. 30, 1957 **UC-1 Ser. No. 142425** I made a reconnaissance flight in support of IGY Traverse Party. 0.2 flying hours.

84. Nov. 1, 1957. UC-1 Ser. **No. 142425**. I rescued injured IGY scientist who was injured when he fell into a crevasse. LT. Ratzlaff flew as co-pilot. 1.6 flying hours.

85. Nov. 5, 1957 **UC-1 Ser. No. 142425** I flew to Traverse Party delivering cargo and a replacement for Mr. Schoeck, who was injured in fall into crevasse. 2.1 flying hours

86. Nov. 3, 1957 An R4D was getting ready to take off from runway when it started to rain. The rain froze to the aircraft and flight had to be cancelled. Mr. Schoeck, the injured man was being transferred to McMurdo Station for a flight back to New Zealand.

87. Nov. 5, 1957 **UC-1 Ser. No. 142425** I flew an reconnaissance flight to Okuma Bay and Edward VII land for IGY scientists. 2.4 flying hours.

88. Nov. 5, 1957 One R4D started take off for Byrd Station but snow was so soft the aircraft could not reach flying speed. Flight was cancelled. It was later discovered that coatings on the R4D skis needed recovering.

89. Nov. 6, 1957 R4D-8, Cdr. Frankiewicz suffered an engine failure over Beardmore Glacier and made a forced landing at Station at foot of Beardmore Glacier. He needed an engine change. One of our R4Ds flew to McMurdo with several of our wintering over enlisted personnel who were headed for home.

90. Nov. 6, 1957 **UC-1 Ser. No. 142425** Flew a reconnaissance flight to Traverse Party for Ice Deformation Program. Landed at Traverse Party with cargo. 2.2 flying hours

91. Nov. 7, 1957 **UC-1 Ser. No. 142425** I flew an ice reconnaissance flight over Roosevelt Island for Ice Deformation Program. Passengers were Argentine Navy Officer and Russian meteorologist. 2.6 flying hours

92. Nov. 7, 1957 Two of our R4D are at Byrd Station in support of Tractor Party. One R4D remained at McMurdo Station to assist in getting engine to R4D-8 stranded at Beardmore Glacier.

93. Nov. 8, 1957 A P2V-7, enroute to the Pole Station, had an engine fire and failure on climb out from McMurdo and had to make an emergency landing at McMurdo airfield. An engine change will be required.

94. Nov. 9, 1957 Our helicopter slipped off a jack that was holding it up and radio compartment was damaged. Three days of repair will be necessary.

95. Nov. 10, 1957 One of our R4Ds returned from Byrd Station under poor weather conditions.

96. Nov. 11, 1957 Two R4Ds returned to Little America.

97. Nov. 11, 1957 **UC-1 Ser. No. 142425** I flew a vertical photographic flight to 10,000 feet above Ice and photographing Little America. Dr. Zumberge discovered an area for his under-ice study program. .04 flying hours

98. Nov. 11, 1957 **UC-1 Ser. No. 142425** I flew another low altitude photographic flight showing Little America V, Kiel Field, the ship off-loading area on the edge of the Ice and Little America III 2.0 flying hours

99. Nov. 12, 1957 One of the R4Ds, enroute to McMurdo suffered an engine failure and pilot landed on Ice Shelf. No injuries or damages were incurred in the landing. A second R4D flew to crash site, picked up crew and passengers and flew to McMurdo Station.

100. Nov. 13, 1957 The UC-1s were pressed into service to provide fuel to Tractor Train which was down to 5%.

101. Nov. 14, 1957 An R4D flew out to Traverse Party with 250 gallons of gasoline.

102. Nov. 14, 1957 **UC-1 Ser. No. 142425** I flew to site where Ice Deformation Program was studying the inside of crevasse. Congressman Saylor (Pa.), Capt. Dickey, Capt. Maher, Vladimir Rastorguev (Russian meteorologist) and Ben Harlin, IGY Staff were passengers. Flew to Little America III, left by Admiral Byrd before World War II, was visited by all on a one hour stop over. 2.6 flying hours

103. Nov. 15, 1957 One R4D departed for McMurdo with Congressman Saylor. Off loaded cargo at R4D downed on Ice Shelf. Left six men to make engine change on downed R4D.

104. Nov. 16, 1957 One R4D flew to Traverse Party with 600 gallons of gasoline, plus four passengers. A second R4D flew to McMurdo with 2,000 pounds of frozen meat.

105. Nov. 17, 1957 One R4D flew to aircraft downed on Ice Shelf with flying crew, following a successful engine change. Both R4Ds returned to Little America. The third R4D returned to Little America from McMurdo with passengers and cargo.

106. Nov. 18, 1957 One R4D flew to Mile 380 Cache with diesel fuel. A second R4D flew to McMurdo Station with cargo, mail and passengers.

107. Nov. 19, 1957 One R4D flew to Mile 380 Cache with diesel fuel. A second R4D returned from McMurdo with passengers and cargo.

108. Nov. 20, 1957 **HO4S-3 Ser. No. 138517** I flew a maintenance test flight. Also re-familiarized myself with helicopter. I also made ten GCA instrument approaches. 1.8 flying hours

109. Nov. 20, 1957 One R4D flew to Mile 380 Cache with diesel fuel. Two other R4Ds flew to Byrd Station with passengers and cargo.

110. Nov. 21, 1957 Three R4Ds flew to Mile 380 Cache with diesel fuel.

111. Nov. 22, 1957 **UC-1 Ser. No. 144673** I made a photographic flight to Bay of Whales to lay out flight lines for vertical photos. 2.2 flying hours

112. Nov. 22, 1957 The three R4Ds made a total of nine flights to various Tractor Train fuel caches with diesel fuel.

113. Nov. 23, 1957 Two R4D flights were made to Tractor Train fuel caches with diesel fuel.

114. Nov. 24, 1957 **HO4S-3 Ser. No. 138517** I flew to Ice Deformation Party with passengers, cargo, fuel and mail. 1.5 flying hours

115. Nov. 24, 1957 **HO4S-3 Ser. No. 138517** I flew to Ice Deformation Party with passengers, cargo, fuel and mail. 1.4 flying hours

116. Nov. 24, 1957 Three R4D flights were made to Tractor Train fuel caches with diesel fuel.

117. Nov. 25, 1957 **R4D-5 Ser. No. 17246** I flew as co-pilot to McMurdo Station so as to talk with my Commanding Officer concerning his releasing of detachment enlisted personnel who had wintered over from Antarctic duty. 3.6 flying hours

118. Nov. 25, 1957 The helicopter made two flights to Ice Deformation Party with cargo. One R4D delivered fuel to two Trail Party Caches.

119. Nov 26, 1957 **R4D-5 Ser. No.17246** I flew as co-pilot from McMurdo Station to Little America. 3.2 flying hours

120. Nov. 26, 1957 Two R4Ds flew diesel fuel to Tractor Train fuel caches. The helicopter made two trips to Ice Deformation Party with cargo, fuel and passengers.

121. Nov. 28, 1957 Two R4Ds departed for McMurdo with all of our remaining detachment wintering over personnel. Later they flew to the base at the foot of Beardmore Glacier with diesel fuel. Later they returned to Little America. The helicopter flew to the Ice Deformation Party with passengers.

122. Nov. 29, 1957 The helicopter flew to the Ice Deformation Party with cargo, passengers and food.

123. Nov. 29, 1957 R4D-8 crash landed at Little America following ski failure and engine failure.

124. Nov. 30, 1957 **HO4S-3 Ser. No. 138517** I flew out to ships arriving from United States with Admiral's party of officers. I landed on board to unload. I made three total round trips from Little America to the ships delivering personnel. 2.1 flying hours

125. Nov. 30, 1957 **HO4S-3 Ser. No. 138517** After refueling I continued to make my trips out to the arriving ships. 1.3 flying hours.

126. Nov. 30, 1957 A UC-1 flew to Little America III with RADM Dufek and his party. Later Returned to Little America.

127. Dec. 1, 1957 One R4D took off for McMurdo Station but was forced to return due to poor enroute weather. The helicopter flew to Ice Deformation Party with passengers. The helicopter made a flight out to the ships in the Kainan Bay area. Later an R4D and a P2V-7 flew from McMurdo to Little America with cargo, mail and fresh provisions.

128. Dec. 2, 1957 Three R4Ds and one P2V-7 flew to McMurdo Station with the remaining wintering over Little America personnel. On this date I was relieved as Officer in Charge of the Little America V VX-6 Detachment by Lcdr. William Franke USN.

129. Dec. 4, 1957 **HUS Unknown Serial No.** This was a familiarization flight for me in the new, more powerful aircraft. 1.6 flying hours

130. Dec. 6, 1957 **UC-1 Ser. No. 144673** This was my final piloting flight in the Antarctic. I flew from Little America V to McMurdo, where I awaited transportation to New Zealand. 4.6 flying hours

LIST OF PERSONNEL WHO WINTERED OVER AT LITTLE AMERICA V DURING THE WINTER OF 1957

Captain William M. Dickey, USN
Commander, Naval Support Units Antarctica

Lcdr. Howard J. Orndorff, USNR
Officer-in-Charge, USN MCB Special, Detachment BRAVO, Little America V Station

Lcdr. James E. Waldron, USNR
Officer-in-Charge, Detachment Air Development Squadron Six (VX-6), Little America V

Lcdr. Robert E. Hancock, SC, USNR
LAS V Supply Officer

Lcdr. Harvey G. Speed, USN
Aircraft Maintenance Officer, VX-6 Detachment LAS V

Lcdr. Robert G. Anderson USN
Flight Operations Officer, VX-6 Detachment LAS V

Lt. John E. Zoller, CHC, USN
Chaplain, Little America V

Lt. Pat B. Unger, MC, USNR
Medical Officer, Little America V

Lt. Robert J. Adams, DC, USNR
Dental Officer, Little America V

Ltjg. Robert K. White, USN
CEC Officer

Ltjg. Peter Reynolds, USN
CEC Officer

Ltjg. William T. Schick, USNR
Pilot and Navigator, VX-6 Detachment LAS V

Ltjg. Ronald S. Aygarn, USNR
Pilot and Navigator, VX-6 Detachment LAS V

Ltjg. Earl R. Hillis, USNR
Pilot and Navigator, VX-6 Detachment LAS V

MCB Special, Detachment BRAVO

Arthur W. Baldwin, RMC, USN
Edward W. Camp, CMC, USN
Charles M. Darter, CDCA, USN
John Dzema, ATCA, USN
Harrison R. Gilbert, YNC, USN
Julian P. Gudmundson, BUC, USN
Calvin L. Larsen, PHC, USN
Franklin O. Stackhouse, ATC, USN
Bernard F. Verboncouer, QMC, USN
William J. Williams, RMC, USN
Harold E. Butler, HM1, USN
Forrest E. Durnell, SK1, USN
Kenneth A. Elliot, CD1 USN
Bobbie F. Grice, RM1, USN
Russell R. Guenther, SW1, USN
John E. Reilly, BUCA, USN
Robert W. Anderson, ET3, USN
Robert S. Ballou, RM3, USN
Richard H. Banasiak, CS1, USN
Walter R. Jones, CD1, USN
Charles W. Leighton, CD1, USN
Jack C. Rees, CD1, USN
Rocco A. Taurisano, CS1, USN
Delmar E. Ward, CD1, USN
Graham E. Black, SW3, USN
William H. Bradley, CM2, USN
William R. Burns, RM3, USN
Russell H. Cooke, CM2, USN
David N. Cox, CE3, USN
Sterkel L. Coyne, CD3, USN
Harold D. Crain, UT2, USN
William R. Denney, CS2, USN
Alfred W. Fellows, CM3, USN

Thomas E. Gehringer, USN
Gerald W. Grimes, RM3, USN
John A. Hricsina, CM3, USN
Johnnie J. Jarratt, RM3, USN
Richard Hills, PH2, USN
Charles W. Jenkins, HM3, USN
Robert E. Jones, CD2, USN
George F. Kaczanowski, CE2, USN
William E. Kanzenbach, RM3, USN
John Kieffer, ET2, USN
William F. Kraut, RM1, USN
Hector K. Lett, CD3, USN
Elmer W. McCarty, CM3, USN
Jerry F. Mann, UTCN, USN
James J. Miller, AC2, USN
Alvin L. Miller, CD2, USN
Robert L. Molla, CM2, USN
Steven Muniz, CD2, USN
Allen E. Pracht, BU3, USN
John P. Renback, CM2, USN
Boyd D. Russell, RM3, USN
Joseph B. Yeaton, ET2, USN

Detachment Air Development Squadron Six (VX-6)

William S. Miles, ADC, USN
Earl Tracy, AECA, USN
William A. Cumbie, AT1, USN
Daniel Darchuk, AM1, USN
Joseph Gutierrez, AM1, USN
Fred A. Long, AD1, USN
Bernest C. Melton, AD1, USN
Daniel R. McCrea, AD1, USN
William E. Pearson, AK1, USN
George H. Stewart, AD1, USN
Charles L. Burton, AE2, USN
Angelo Canzoneri, PR2, USN
David Castaneda, AD3, USN
Robert W. Hackett, AT3, USN
Earl R. Ingles, AD3, USN
James C. Leischner, AT3, USN

Civilian IGY Personnel

Dr. Albert P. Crary, PhD.
Jose A. Alvarez from Argentina
Hugh F. Bennett
Walter W. Boyd
Richard L. Chappell, American Boy Scout
William J. Cromie
Paul C. Dalrymple
Ben W. Harlin
Gene L. Harter
Dr. Herfried C. Hoinkes from Austria
William C. Lavris
Frederick A. Milan
Benjamin F. Remington, Jr.
Peter A. Schoeck
Walter C. Sutton
Ronald L. Viets
Samuel A. Wilson
Carl O. Wyman
Hr. Hans Bengaard from Denmark
William B. Moreland
Ronald C. Taylor
Joseph P. Krank
Bruce J. Lieske
Vladimir Ivanovich Rastorguev from USSR

Photos

Photo 100 Heiberg & R4D

One of Squadron VX-6 R4D aircraft flying over the Axel Heiberg Glacier.
Picture is a composite of two different pictures.

Photo 101 Upper Glacier & R4D

This view was taken at the upper reaches of the Beardmore Glacier, as the Continental Ice Cap flows into the glacier. The altitude here is about 9,000 feet above sea level.

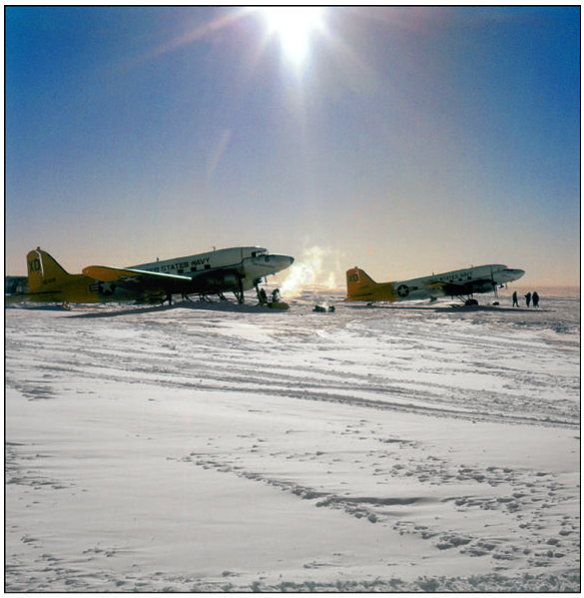
Photo 102 Mountains

These are the mountains immediately to the west of the Beardmore Glacier.
Photograph was taken mid-summer 1956.

Photo 103 First GlobeMaster

First C-124 Globemaster aircraft to land on ice runway at NAF McMurdo Sound.
This was the only place on Antarctic Continent where the Globemaster could land.

Photo 104 Two R4Ds



Two R4D's being warmed up before a flight from Little America FIVE.

Photo 105 AC in NZ

Photograph taken at Wigram Field, Christchurch, New Zealand as squadron await improvement in the weather between Christchurch and the Antarctic. All four R4D aircraft, as well as the P2V aircraft and the R5D aircraft are shown. The P2V was later to crash at NAF Weirlardo killing four crewmen and injuring four others.

Photo 106 R4D taxiing

R4D Bureau Number 17274 at the Beardmore Campsite in September 1956.

Photo 107 R4D at Beardmore

An R4D at the Beardmore Campsite, September 1956.

Photo 108 Adm. Geo. Dufek

RADM Dufek and Air Force pilots discuss flight operations on ice surface. C-124 cargo hatch on right side of picture

Photo 109 Approaching Beardmore

Early during the summer of 1957, before the regular summer operations had got underway, we flew to the base of the Beardmore Glacier to set up a weather and refueling station halfway to the South Pole from NAF McMurdo. Here Lcdr. Harvey Speed has descended low over the ice in order to find a relatively smooth landing area. A short while later both aircraft landed and started setting up the new campsite.

Photo 110 Armada

A Mighty Armada. Here the first Tractor Train Party is grouped together just prior to departing for Marie Byrd Station, 800 miles inland from Little America V.

Photo 111 Barrier Shelf

This is the northern edge of the Ross Sea Ice Shelf. It is over 100 feet high and where the sea ice and ice shelf meet is an unstable juncture. Here hundreds of seals break through the weak ice and come to the surface to deliver their pup seals. Hundreds of seals are visible at times throughout the summer.

Photo 112 Upper Beardmore Glacier

Photo 113 Bird Clouds

Early one morning in September 1956, before the sun had risen, I observed these clouds with shapes like birds in flight. The film fails to capture the myriad colors that my eye observed, but the shapes remain.

Photo 114 Broken Ice

A VX-6 Squadron R4D aircraft overflies some roughened ice near Roosevelt Island.

Photo 115 Brown Mountains

Photo 116 Camp Beardmore

This scene of the Beardmore campsite was made shortly after the R4Ds started delivering cargo needed to set the camp up as a weather and radio relay station halfway between the South Pole and NAF McMurdo. Rubberized fuel cubes were stocked with aviation fuel for emergency use. In the center foreground can be seen several JATO rockets for use in getting heavily loaded R4Ds airborne.

Photo 117 Ceiling Ice

This is a photo of the ice that has collected in the tunnel at the abandoned Little America over a forty year period of time. When RADM Byrd and his men abandoned the base they sealed it off from the weather. This collection of ice is the result of this tunnel's isolation.

Photo 118 Control Tower at Little America V Station

Our control tower at Kiel Field, Little America Station FIVE was built on top of our Maintenance Building, but after a winter of snows it barely shows above the surface snow.

Photo 119 Snow Covered Otter

This UC-1 Defrosted Otter was tied down for the winter in February 1957. This photograph shows the amount of snow that accumulated by mid-September 1957 when we started digging the aircraft free for summer operations.

Photo 120 Crashed P2V

Photo 121 Crevasse Detector

Photo 122 Mt. Erebus (High)

Photo 123 Mt. Erebus (Low)

Photo 124 Face to Face

This photograph was not taken by Commander Waldron.
Here are three penguins, I've lost in fact.

Photo 125 First C-124

First C-124 Globemaster aircraft to land at NAF McMurdo Sound ice runway. This runway was the only place on the Antarctic Continent to which this large aircraft could land.

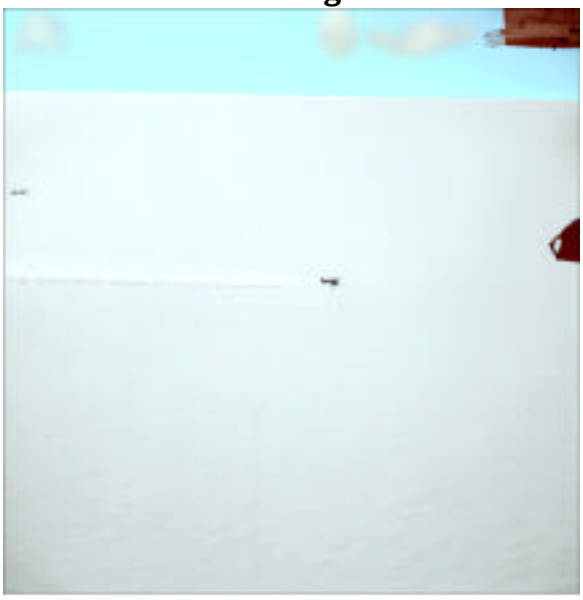
Photo 126 Frozen River

When you stop to consider that glacier ice is constantly moving although rather slowly, you get to realize that in this photograph you are seeing rapids, like in a mountain stream, frozen momentarily. If the camera could be fixed permanently in space and slow motion pictures taken over a long period of time, when played back you would see something like a tumbling brook.

Photo 127 Hoedown Band

The Saturday Night Hoedown Band at Little America V.
Earl Hills, bass; John Zeller, accordian; Harold Rader, guitar and Bill Cornish, guitar.

Photo 128 Practicing in Greenland



Before the squadron departed for Antarctica it was decided that our aircraft and pilots would fly to Greenland and practice landings on top of the Greenland Ice Cap. Here an R4D is taking off at around 10,000 feet altitude.

Photo 129 Heiberg Glacier & R4D

When Amundsen went to the South Pole he traversed the Axel Heiberg Glacier. This photograph shows part of the western wall of the glacier. To the eye it appears like vanilla ice cream flowing down the sides of the mountains — a most unusual and dramatic image.

Photo 130 Helo Warm-up

As the summer season drew to a close and temperatures dropped to -35 degrees and below, we were pushed to complete our remaining missions. One mission was to move the frozen food by helicopter from the edge of the ice shelf to the kitchen storage area. Here the helicopter is warmed for hours before it is ready to fly.

Photo 131 Scott's Hut & Clouds

This picture was taken by someone other than Cdr. Waldron. It shows Captain Scott's old campsite, the one he departed from enroute to the South Pole and never returned, having perished over the Ice Shelf.

Photo 132 Iceberg

In this photograph which was taken from an Otter aircraft, the view is looking northward from the edge of the ice shelf. In the distance one can see some small icebergs and sea ice.

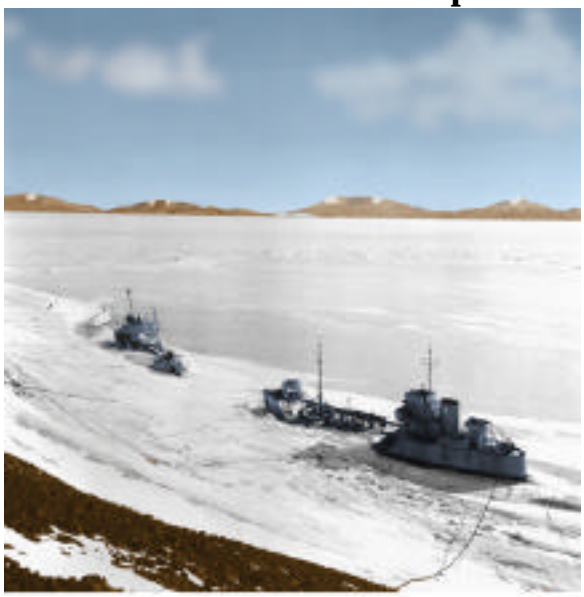
Photo 133 Melting Ice

This is just some ice melting around Little America Five. It looked pretty so I photographed it.

Photo 134 Ice Shelf

A high altitude photograph of the northern edge of the Ross Ice Shelf. The white streaks on the surface of the Ross Sea indicates there has been significant off-shore wind blowing snow into the water.

Photo 135 Iced-in Ship



This small ship was loaded with aviation fuel and towed from the States to the Antarctic where it was tied up and frozen to the shore near NAF McMurdo. During the summer of 1956 it provided primary fuel for operating aircraft.

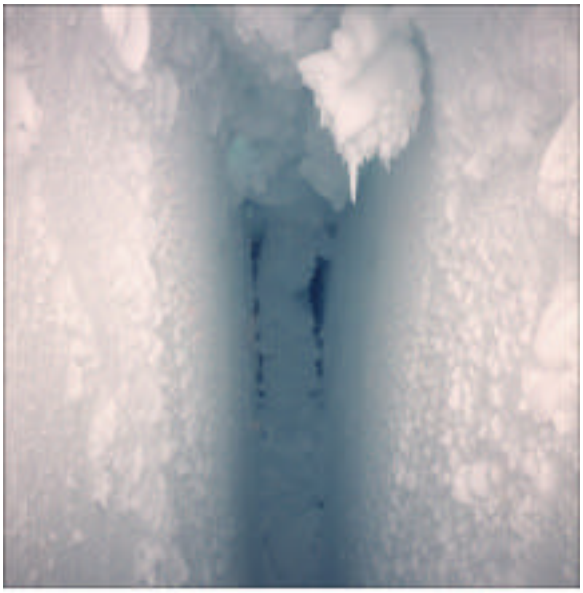
Photo 136 Edge of Ice

The northern edge of the Ross Sea Ice Shelf. Some of the ice below the surface of the water is visible. The serations in the ice front is caused by ocean waves that pound against the ice.

Photo 137 Ross Ice Shelf

The edge of the Ross Sea Ice Shelf, seen from the cockpit of the R4D. When this photo was taken the ocean surface was still frozen. Within a few weeks the weather warmed and the ice broke up and moved away from the continent.

Photo 138 Inside Crevasse



During the summer of 1957 a Dr. Zarsbury PhD started a study of how ice is deformed and crevasses are formed due to stress as the ice flows over submerged land masses. He located a crevasse that suited his scientific requirements and proceeded to study the crevasse from inside. This photograph was taken halfway in the bottom. It was about 15 feet wide and about 50 feet deep. In the near distance one can see a collapsed snow bridge.

Photo 139 Jim Waldron

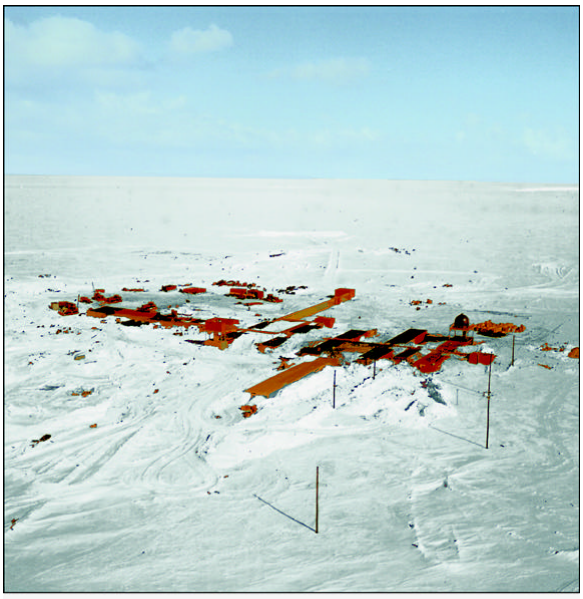
Photo 140 Kainan Bay

In late 1956 this was all that was left of Kainan Bay, the edge of flooding site for Little America FIVE. After offloading cargo it was placed on the ice surface until such time it could be moved to Little America FIVE, about two miles back from the edge of the ice.

Photo 141 Keil Road at Little America V Station

Picture was taken from helicopter over Kiel Field, looking directly northward. In the foreground the much used road leading to Little America FIVE, seen in the midground. The horizon seen is actually the edge of the ice shelf, about four miles away. The dip in the roadway enroute to Little America FIVE is where the ice shelf fractured allowing the base to break away from the continent.

Photo 142 Little America V Station



This is Little America FIVE during the summer of 1957. The collected snow on the rooftops has been removed.

Photo 143 Little America V Station

Little America FIVE, Summer 1957

Photo 144 Liv Glacier & R4D

Photo 145 McMurdo and Ice

NAF McMurdo with sea ice in the background. Photograph was taken from the hill to the east of the camp.

Photo 146 Rift #4

More disturbed ice from around Roosevelt Island.

Photo 147 McMurdo Street

Photo 148 Minna Bluff

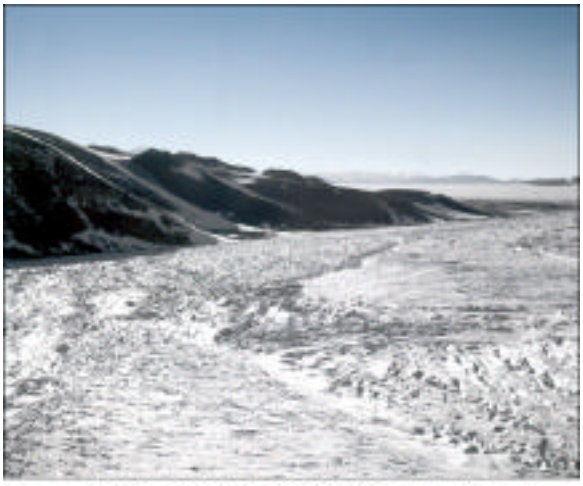
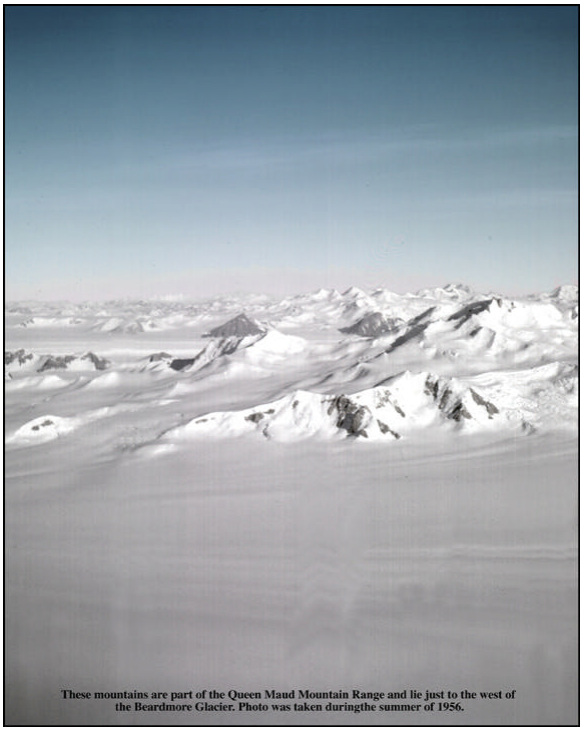


Photo 149 Moon & R4D

This is a rare view since it combines a low angle sunrise and the moon in the background. We have just started to dig out the R4Ds following the winter of 1957. Temperature is around -35 degrees F.

Photo 150 Mountains 2



These mountains are part of the Queen Maud Mountain Range and lie just to the west of the Beardmore Glacier. Photo was taken duringthe summer of 1956.

Photo 151 Mountains 3

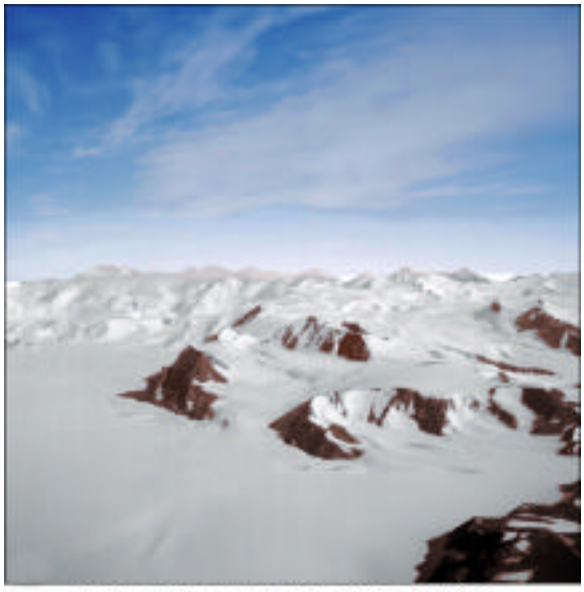


Photo 152 Mountains 4

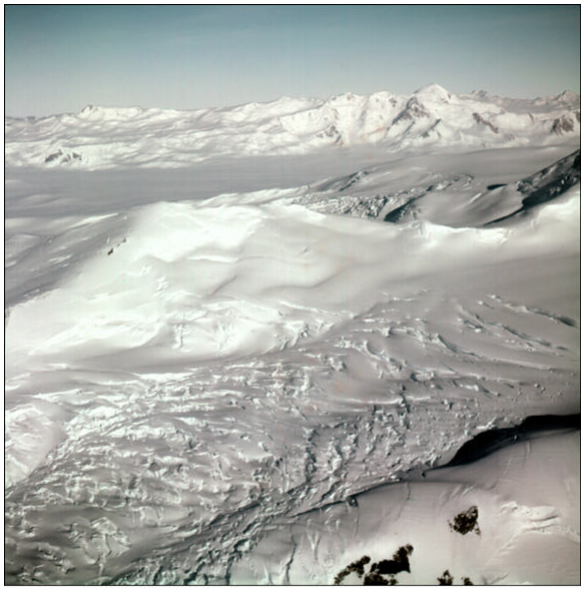
This picture of mountains and ice was taken from over the Beardmore Glacier as we were enroute to the South Pole.

Photo 153 Mountains 5

Photo 154 Mountains 6

This is another view of the mountains that one passes over enroute to the South Pole.

Photo 155 Mountain View



Sometimes I would think that I was seeing something no one had ever seen before, or at least something that only a handful of flying folks had ever observed. This view was deep in the mountains enroute to the South Pole and at the same time glorious and silently lonely.

Photo 156 Otter & View

Another view of the disturbed ice around Roosevelt Island. Photograph was taken from an Otter aircraft.

Photo 157 Otter & Crevasses

This photograph taken from an Otter aircraft shows roughened ice surrounding the submerged Roosevelt Island.

Photo 158 Otter B&W

This photograph was not taken by Commander Waldron. It is a black and white photograph of a Canadian built Otter aircraft.

Photo 159 Otter

One of the six Canadian-made DeHavilland Otter aircraft located at Little America FIVE. These aircraft were used for short-haul flights such as delivering diesel fuel for the tractor train and for ferrying scientists to inland points where research projects could be carried out.

Photo 160 Penguin Emblem

Photo 161 Penguin

An Emperor Penguin.

Photo 162 Penguin War 2

The Emperor Penguins versus The Puckered Penguins
The day squadron VX-6 won the Antarctic.

Photo 163 Pole Shot
JATO trail after take-off

This photo was taken from the cockpit of my R4D shortly after a takeoff from the South Pole. The smoke from our JATO rockets can be seen on the surface.

Photo 164 Pole & P2V

Photo 165 Que Será Será

This photograph is of the aircraft, "Que Sera Sera", the first aircraft to land at the South Pole. It is presently located at the Naval Aviation Museum in Pensacola, Florida. Lieutenant Commander Harvey Speed is the aircraft commander.

Photo 166 R4D at Liv Camp

One of the squadron R4D aircraft preparing to takeoff from Boardmore Station. Taken early during the summer since shadows on snow are long.

Photo 167 R4D Composite

Photo 168 Mr. Erebus & Lava

Mount Erebus is viewed from a different angle. Smoke from the volcano was not visible on this day when the photo was taken. The jet black rocks in the foreground are from the ancient lava flows from the volcano.

Photo 169 R4D over mountains

Photo 170 R4D aircraft

A VX-6 Squadron R5D transport aircraft used to transport individuals to and from the Antarctic and, also, to do high altitude aerial photography of the Antarctic Continent. Commander Ed Ward, Executive Officer of the squadron, was the Aircraft Commander.

Photo 171 Radar Tower at Little America V

There were two towers, such as this one, at Little America FIVE. This one was used to track weather balloons that were launched every four hours of the day. The other tower was used to observe and photograph the Southern Lights. Both towers were usually enclosed so the only person who had to go outside was the man who launched the weather balloon.

Photo 172 Readying R4D

Following the long winter months, an R4D is being readied for the 1957 summer operations. Note the rudder, elevators and ailerons have been removed and stored during the winter to avoid damage. Temperatures about this time are below -35 degrees Fahrenheit.

Photo 173 Red Mountains

Red colored mountains near Mount Hall.

Photo 174 Rift #2

Another disturbed area of the Ross Ice Shelf as it flows over Roosevelt Island.

Photo 175 Rift #3

Most Antarctic scenery evokes a sense of loneliness and desolation. When one considers that such views have been excluded from human view for centuries, even thousands of years, there comes a unique feeling almost of discovery. Here the viewer tries almost without success to place himself as being an explorer of something new, although in itself the material is very old.

Photo 176 Rift

A rift in the surface of the Ross Ice Cap as it passes over the Beardmore Glacier. The shadow of my R4D aircraft is caught as it passes over the rift.

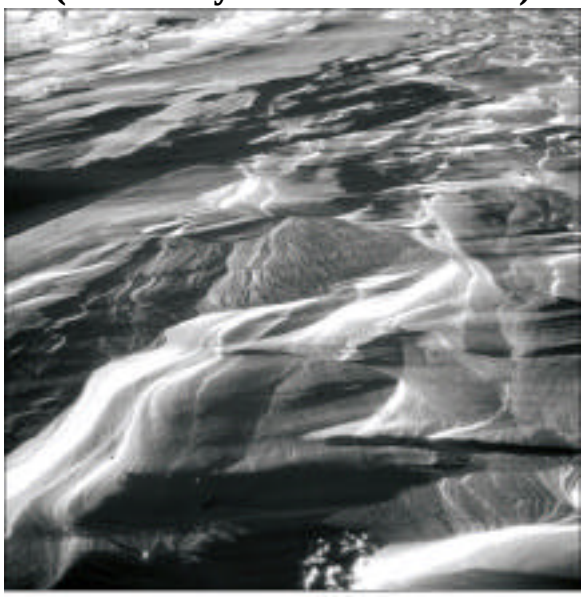
Photo 177 Ross Ice Shelf rising over Roosevelt Island & R4D

As the northward moving Ross Ice Shelf moves over Roosevelt Island deep fissures and crevasses form around the edges. This area is about forty miles east-south-east of Little America. 1956.

Photo 178 Frozen Sea

I do not know where I might have taken this photograph. It was most likely taken on a maintenance flight in September 1956. In the foreground is the frozen over Ross Sea, with a few small icebergs sitting above the surface. In the mid-ground is the edge of the Ross Ice Shelf. I do not recognize the island in the background.

Photo 179 Sastrugi (Caused by windblown snow)



This is sastrugi, wind-carved patterns in the snow surface. Sometimes it is damaging to the skis on aircraft if the selected path of landing and takeoff is not in accordance with the direction of the sastrugi patterns.

Photo 180 Sea Ice

Not much color here but a good view of the ice edge and some light sea ice. This was taken at what was left of Kainan Bay where the ships tied up when supplying Little America FIVE. The ocean here is very dark because of all the krill in the water.

Photo 181 Seal Feeding

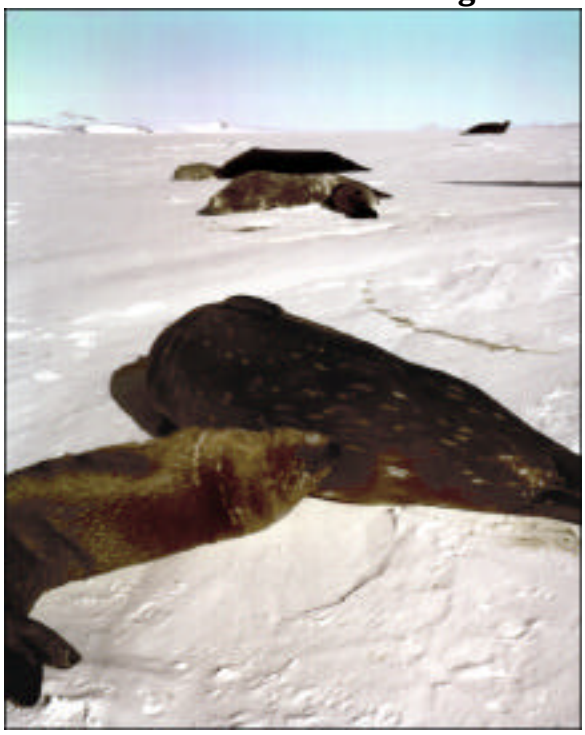


Photo 182 Serpentine Crack

This serpentine curve in the foreground caught my attention since it was so unique as compared to other cracks I had seen in the Ice Shelf.

Photo 183 Setting up at Beardmore Station

Here we are setting up the Beardmore Station Camp, which is located at the foot of Liv Glacier and halfway to the South Pole from NAF McMurdo Sound. The station was to be maintained by two Navy sailors.

Photo 184 Skiers & Erebus

Here we see Dr. Paul Siple, PHd, (left), and Mr. Don Gay, reporter for the Boston Globe. They are skiing toward the seal rookery. Dr. Siple was a Boy Scout and a member of RADM Byrd's expedition in the 1930s. He was senior scientific leader at the South Pole in 1957.

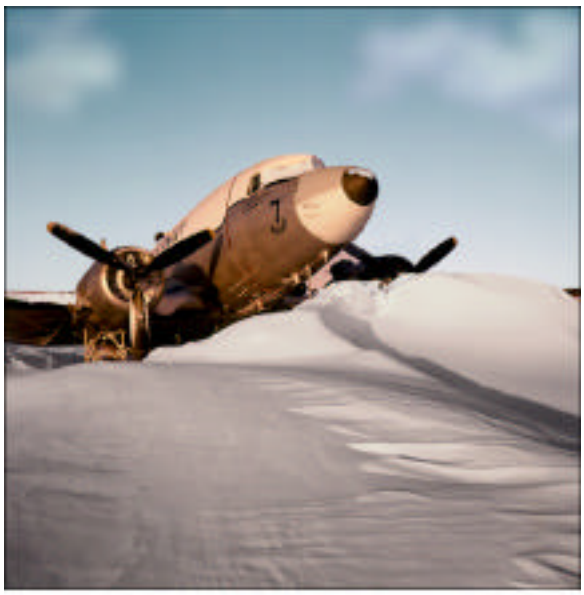
Photo 185 Skua Gulls

This photograph was sent taken by Commander Waldron. This is a photograph of two skua gulls.

Photo 186 R4D "Takahe" in Drifts

Here is the Takahe after being dug from the snow that enveloped it during the winter months.

Photo 187 R4D "Takahe"



The R4D called Takahe just before being dug out from winter snows. The Takahe is a New Zealand wingless bird.

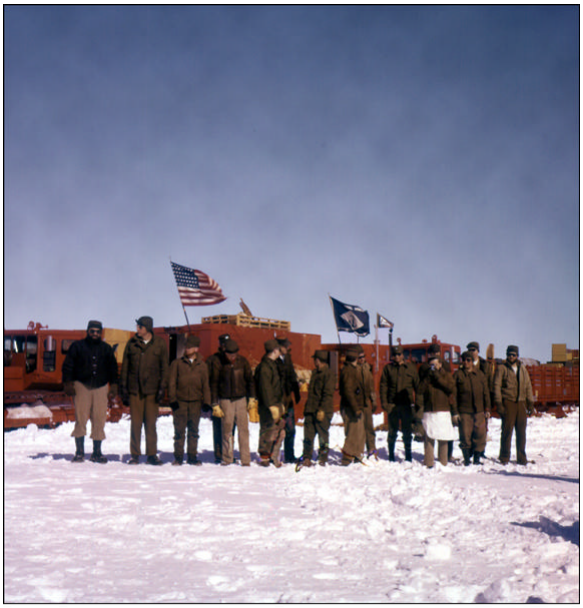
Photo 188 Three Emperor Penguins

This photograph was not taken by Commander Waldron. It is a picture of three Emperor Penguins taken on the Ice..

Photo 189 Tractor and Otter

One of the six Canadian-made DeHavilland Otter aircraft located at Little America FIVE, photographed with D-8 tractor.

Photo 190 Tractor Train at Little America V



Members of the first Tractor Train to go from Little America FIVE to Marie Byrd Station. Taken moments before they departed for their 400+ mile journey.

Photo 191 Tractors Departing Little America V

First tractor train departing Little America FIVE for Marie Byrd Station...400 miles Inland.

Photo 192 Two Ships

Two Navy ships (probably the USS Neosho, a supply ship and the USS Atka, an icebreaker), tied up to unload cargo destined for NAF McMurdo. The channel in the sea ice was made by the ice breaker.

Photo 193 R4D & Upper Beardmore

Enroute to the South Pole, flying up the Beardmore Glacier, we passed several feeder glaciers, which fed the main glacier with age old ice from the Continental Ice Cap.

Photo 194 VX-6 Emblem

Photo 195 Map of "Waldron Spurs"

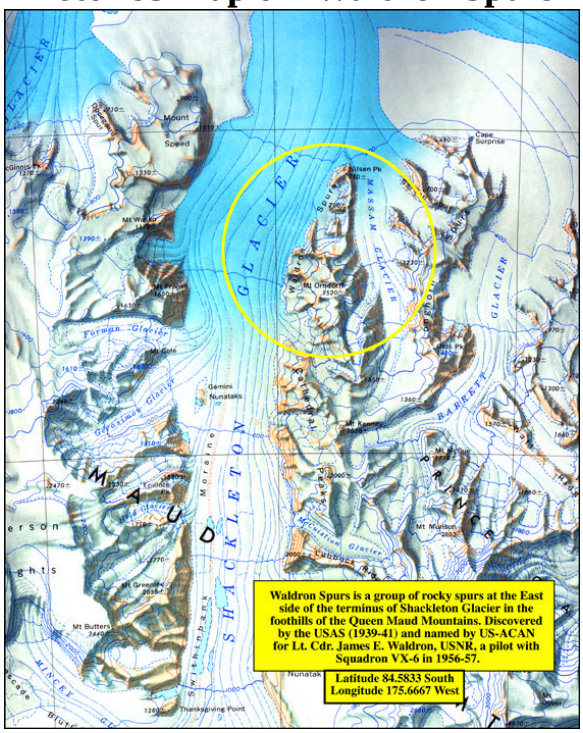


Photo 196 Whiteout

This is the start of a whiteout in which everything visible becomes almost invisible and appears to be floating in space. Aircraft attempting to land are unable to see the surface since everything appears to be floating in a container of milk.

Photo 197 R4D at Liv Glacier

Navy R4D aircraft, Bureau Number 17274, at Beardmore Station, near the foot of the Liv Glacier, on the Ross Ice Shelf. This aircraft and flight crew were positioned halfway to the South Pole as a rescue aircraft for the first R4D landing at the South Pole.

Photo 198 Three Aircraft

This photograph shows all three types of aircraft stationed at Little America V. (From left to right) The UC-1 Otter aircraft, the HRS helicopter and the wing of the R4D Dakota aircraft.

Photo 199 R4D Cargo loading

At the start of the summer season of 1957, this R4D is being loaded with cargo needed at NAF McMurdo. Note the low sun angle. It is still very cold at Little America V when this picture was taken.

Photo 200 Movie time

Almost every night during the winter months at Little America V, a large group would gather in the recreation building to see a vintage movie. This was the most popular entertainment that was available for wintering over personnel.

Photo 201 Snow on the Roof

Little America V did not experience much snowfall but there was a great collection of blown snow that covered everything. Here the wintry snow collection is removed by hand shoveling. If it wasn't removed snow would seep into working and living quarters.

Photo 202 Tractor Vehicle

Here is one of the tracked vehicles which was used for utility work on the ice runway area of NAF Mcmurdo. The sailor in front of the vehicle is a VX-6 crewmember, however, I can no longer identify him.

Photo 203 Mannequin

Before we departed New Zealand the 3 marvelous ocean friends brought us a mannequin, presumably to provide us with "female companionship" during our long months on the Ice. It was a nice gesture but this young lady could provide us with little warmth and was coldly unresponsive. Where she disappeared to as the summer dragged on is anybody's guess.

Photo 204 Sleeping Seal

Mr. Dan Cass, of the Boston Globe newspaper, tries to waken a sleeping pup seal.

Photo 205 SleepingSeal 2

"What do pup seals dream about?" His eyes seemingly has a smile on his face as he might be dreaming of the activity of his mother from her fishing trip under the sea ice. In a few days he, too, will be making his assault from the ice matrix of the Ross Sea.

Photo 206 Ice Bound Lichen

To me this was amazing; something growing out of clear ice. The ice was snow that had melted and froze again. Emerging from the ice was a bit of lichen which was growing as a result of the 24 hour sunlight proving that plant growth can occur no matter about the cold if given enough light.

Photo 207 Seals with Jim Waldron

Here we see Jim Waldron observing a mother seal and her newly delivered pup. Both sleep contentedly in the sun, mostly unconcerned over the presence of human visitors. In the far background is Dr. Paul Siple who is also observing the seals.

HRS Sikorsky helicopter, piloted by the author, delivering frozen food between the ship offloading area and Little America V. Temperature at the time was -35 degrees Fahrenheit.