CHAPTER 12
An Administrative Interim

Seemingly out of nowhere, certainly totally without expectation, Harry Francis, head of the International Cooperation and Information Program at the NSF, was asking for me and asked if I could meet with him in his downtown office. I could not understand why and he could not say why on the telephone. A trip from the Grammax Building in Silver Spring, Maryland into D. C. to NSF took a little bit of time, most of thirty minutes to drive to the location and thirty minutes to find a parking space. Often I parked in a loading zone and received a parking ticket, but it was cheaper than an hourly rate in a parking building. (That was before Tow-Away.)

He told me I was invited to be an Antarctic Observer with the Japanese Antarctic Research Expedition number IX (JARE-IX) as defined by the Antarctic Treaty. I also would be the United States Representative in the East Antarctic coastal waters, particularly in the vicinity of Showa Base. I would be expected to join the expedition when it arrived at Perth, Australia sometime mid December of this year (1967). Could I perform research while with this expedition? Probably. Are you interested? My overwhelming excitement revealed my immediate response. Yes!

This news sent Polar Met into a tailspin. We had less than five months to write a proposal, have it approved, receive the grant, procure all necessary equipment, and study for this observational program primarily on the high seas between Australia and Antarctica. Herb Viebrock was our in-house expert on the oceanography and its interface with the weather above it, particularly in the Southern Ocean. Our frequent luncheon friend Feodor Ostapoff, Director of the Sea-Air Interaction Laboratory and recently moved to Miami, Florida, would be a God-sent gift of assistance for these hasty preparations. His laboratory also was an excellent source of equipment that could be borrowed before governmental acquisitions and the related paper work could be completed.

"PROPOSAL:

A. Name and Address of Institution:
Polar Meteorology Group
Institutes for Environmental Research
Environmental Science Services Administration
Silver Spring, Maryland 20910

Principal Investigators:
William S. Weyant,
Chief,
Polar Meteorology Group, and

Herbert Viebrock,
Supervisory Research Meteorologist,
Polar Meteorology Group.

B. Title: Exchange Scientist program aboard the "*Fuji*"

C. Desired Starting Date:
1 October 1967

D. Time period for which support is requested:
1 October to 31 December 1968 (15 months)

E. Description of Proposed Research:

At the Antarctic convergence or polar front in the Antarctic Ocean the Antarctic Surface Water descends to deeper layers to form the Subantarctic Intermediate Water (Gordon, 1967). This change is characterized at the sea surface by a sharp temperature gradient in the temperature regime between 2 and 6 C ° (Mackintosh 1946, Koopman 1953, Maksimov 1961, Ostapoff 1962, Houtman 1963) The presence of this surface temperature discontinuity has a profound effect on air masses crossing the convergence zone. For example: evaporation minima occur at or south of the convergence, while the sensible heat exchange is directed from the air to the sea only in this area (Viebrock 1962). Similarly, the ocean-sea ice boundary has an effect on the air crossing it. The associated detailed changes in the vertical structure of the lower layers of the air are unknown.

Also studies of the coastal katabatic winds have been made using largely only surface wind data (Mather and Miller 1966). There is a scarcity of vertical wind and temperature profiles along the Antarctic coast inhibiting a thorough examination of the vertical and horizontal structure and extent of the thermal wind effects. Using techniques similar to those utilized by Dalrymple, et. al. 1966 in analyzing his vertical profile data, the thermal wind effects can be separated from frictional and geostrophic effects.

Therefore as part of the exchange-scientist program, it is proposed to conduct a detailed study of the atmospheric boundary layer over the Antarctic Ocean from the Japanese ship "*Fuji*." The study has a twofold purpose: (1) to examine the effect of the Antarctic convergence and the ocean-sea ice boundary on the overlying atmosphere, and (2) to compare the data for the lower 1000 meters of the atmosphere over the ocean, over the sea ice and along the coast with similar information obtained at Plateau Station on the Antarctic plateau. An excellent opportunity is provided for a study of this nature by the course of the Japanese icebreaker "*Fuji*." The ship is scheduled to leave Fremantle, Australia on 16 December 1967. It will cross the Antarctic convergence in the Indian Ocean, penetrate the sea ice, proceed along the Enderby Land and Princess Astrid coasts, resupply Showa, return through the ice pack, recross the Antarctic convergence south of Africa and finally reach Capetown around 1 March 1968.

Pressure, humidity, wind speed, and temperature observations will be obtained up to a height of 1000 meters using a modified radiosonde transmission system. The sensors will be suspended from a set of four kytoons in tandem pairs raised and lowered with a long train and winch to obtain detailed vertical profiles. It will be necessary to use a shipboard winch. These data are transmitted to shipboard recording equipment at a frequency of 403 megacycles. A standard shipboard radiosonde receiver will be used.

Soundings will be made in series during selected three day periods, as the ship crosses the Antarctic convergence zone, as it enters and leaves the ice pack, and at various points near the coast.

F. Personnel:

The field program will be conducted by Mr. Martin Sponholz of the Polar meteorology Group, IER, ESSA. Mr. Sponholz's salary will continue to be paid under NSF Office of Antarctic Programs Grant AG-102.

The principal investigators' salaries will continue to be paid by ESSA (HV) and under NSF Office of Antarctic Programs Grant AG-93 (WSW).

There will be close technical and scientific liaison with the Sea Air Interaction Laboratory (SAIL), ESSA.

While on board ship the field meteorologist will require the aid of three other persons for winch operations, balloon inflation, and kytoon maneuver and retrieval. In turn he would be willing to assist in other programs.

G. Budget:

Summary of costs			
a.	Salaries		None
b.	Equipment		
	Wind sensors	2400.00	
	Baseline check box	180.00	
	Transformer	40.00	
	Battery Tester	180.00	
	Battery Charger	30.00	
	Tools	100.00	
			2930.00
c.	Expendables		
	60 Radiosondes	555.60	
	120 Batteries	276.00	
	12 Kytoons	1530.00	
	24 Bladders	192.00	
	Recorder-Receiver Paper, spare parts	100.00	
	Radiosonde modification parts	300.00	
	Gas for inflation (Helium or Hydrogen)	1200.00	
			4153.60
d.	Travel		1600.00
e.	Shipment of Equipment		3092.50
f.	Shipment of gas (Christchurch to Fremantle)		4200.00
g.	Data Reduction (computer time)		500.00

	Total Direct Costs	16476.10
h.	Indirect Costs (6%)	988.57
		$17,464.67

In the several meetings I had at the NSF I discovered I would be carrying some difficult decisions of the United States Antarctic program. For one, the scientific leader of the Japanese Expedition was planning a traverse from Showa on Ongal Island in Lützow-Holm Bay to the South Pole and was asking for the United States to supply them with diesel fuel. With the South Pole being used as an icon for heroics the United States came to the conclusion that it was no longer their responsibility to bail out everyone that needed help going to the pole. I had to convey that to the Japanese.

There was the possibility that the *Fuji* might visit Molodezhnaya, a Soviet station, where an American scientist, Dr. MacNamara, appeared to be having a rough winter. I was told that he left the United States with liberal political ideals. A recent message received from the Russian station from Dr. MacNamara stated, "Wisconsin's Senator Joseph McCarthy was right!" If the Japanese visited the Russian station, Dr. MacNamara might want to leave the Russian station with the Japanese. I had instructions to convey to the Japanese Self Defense Force that my American compatriot was expected to return from Antarctica at the schedule of his hosts.

A LETTER

National Science Foundation
Washington D. C. 20550
October 30, 1967

Mr. Masayoshi Murayama
Polar Section
National Science Museum
Ueno Park, Tokyo, Japan

Dear Masayoshi:

Thank you very much for your letter of October 24, 1967. I shall be writing to you again shortly with the specific information you requested. However, I wish to take this opportunity to thank you and Captain Honda for what I know has been a very special effort to accommodate Mr. Sponholz. I am rather disturbed that the appropriate information seems not to have reached you. As you may remember, we were directed last summer to make our formal communications in response to the invitation to send a representative with JARE IX through your Embassy here in Washington. At that time, we advised the Embassy that Mr. Sponholz had been nominated and that he wished to carry out a meteorological program aboard the *Fuji*. Apparently, somewhere along the line there has been a failure in communications. I apologize for not informing you directly at an earlier date. I think you will find that Mr. Sponholz is more than prepared to participate in every way in the Expedition. He has previous Antarctic experience, and I personally feel that you will find him not only a good scientist, but a good member of the team. He is looking forward to it very much.

I wish to clarify one point, and that is that Mr. Sponholz plans to make his observations while the ship is under way and his program does not require the continuous towing of kytoons. I am therefore confident that his requirements are reasonable in

terms of the operating procedures which I have observed aboard the *Fuji*.

Please give my regards to Captain Honda, and we shall be in touch with you very soon.

With best wishes,
Sincerely yours,

Henry S. Francis, Jr.
Program Director
International Cooperation and Information program
Office of Antarctic Programs

END OF LETTER

More and more of my time was taken for service to Polar Met in general, to the NSF, and to the men with international visions of the Weather Bureau's higher administration. I was given many briefings as to what to expect from the Japanese and the Russians, what to look for and seek answers from. Open exchanges were encouraged for potential contacts with my counterparts in New Zealand, Australia, and South Africa.

The mathematics of the weather, my first love, was forced to take a seat farther and farther back in the bus. I was very concerned about surrendering the competitive field of research to my friends at the University of Wisconsin, yet I would be wrong if I did not recognize the priority of Prof. Lettau and Prof. Schwerdtfeger.

After hasty advance background checks on my activities and life that must have invaded the privacy of every person I ever met, I was granted the necessary security clearance and a passport for a diplomat. When I went to the State Department to take an oath related to my position as a U. S. Representative in the Antarctic, I was shocked at the details of my life, especially the details of my recent political activity, that was part of my record. In no uncertain terms the committee members that swore me to allegiance to the Constitution insisted I maintain the correct policy of the United States with respect to all of its foreign activities. I was to have no opinion on Vietnam of my own as long as I was in this position as Representative with the United States Antarctic Research Program. I was not a private citizen.

"Transmission of TOP SECRET, SECRET or CONFIDENTIAL material to a Foreign Service post or through a Foreign Service post to an official of the United States Government shall be through the State Department's Diplomatic Pouch Service or through electrical means in encrypted form. When such transmission is made through diplomatic pouch the inner envelope shall be addressed by name, title and full address, and shall have stamped thereon the appropriate classification. The outer envelope shall be addressed to the Director, Foreign Service Division, Bureau of International Business Operations, including sender's return address, but shall bear no security classification."

Again I had to seek permission from my local draft board to leave the United States. This time someone from the State Department made the request on my behalf as the war in Vietnam began to heat up.

"Milwaukee County Local Board 44

Selective Service System
135 West Wells Street
Milwaukee, Wisconsin, 53203"

"Selective Service #47-44-41-192"

"Dear Sir:"

"Mr. Martin P. Sponholz, 2535 North 2nd Street, Milwaukee, Wisconsin has been selected to represent the United States as a Meteorologist in a U. S. Scientific exchange program with the Japanese Antarctic Research Expedition 1967-1968. Mr. Sponholz will be assigned to Japanese ice breaker *FUJI* to conduct a meteorological measurement program."

"The U. S. Government through the National Science Foundation and cooperating agencies such as the Environmental Science Services Administration participates in scientific foreign exchange programs in the Antarctic. This is an important part of the international cooperation and investigation of the Antarctic regions under the Antarctic Treaty. The Environmental Science Services Administration conducts a program of Antarctic research using data from the measurement program."

"The duration of the tour with the Japanese and in the Antarctic is approximately 5 months beginning November 1967, and terminating by the end of March 1968. We shall appreciate it very much if you will grant Mr. Sponholz permission to be absent from the United States for the period indicated above in order that he may perform this assignment."

"Sincerely yours,"

The funeral of a young soldier where the mourners walk behind a horse drawn cortege draped with the American flag in Arlington National Cemetery sobers every witness. I escorted Helen Goddard, Chief, Administrative Services Section, OOPS, to her nephew's funeral. I never knew the lad except that he had defended me in a foreign land without knowing me. Taps brought me to tears of sadness while I contemplated the gracious history my God gave this country that I now would represent without a weapon.

I was gripped with fear for the lives of the now more and more acquaintances that were in the military taking their 365 day tour of duty in Vietnam. I was proud of their bravery, their service, and their obedience to their country's call. I was puzzled at the ever increasing involvement of our country in this land war in Asia. I was anxious over the risk I willfully placed my own life in for my country's interest in this unclaimed and little known territory of Antarctica. The oath at the State Department made it clear that diplomatic service had its equal risks for my country. I was prepared to go. But no one would willfully be taking aim to shoot me.

Again it was orientation time at Skyland, Virginia, 18-22 September 1967. The thrill of this session was a major speech formatting policy by the Chief Scientist of the Office of Antarctic Programs, Dr. Albert P. Crary. I present his visionary speech here in full.

Long-Range Planning

Long-range planning is a priority requirement for any society faced with

expanding population, widening gaps in standards of living, increasing congestion of urban areas, and dwindling resources. Although I am concerned here only with antarctic planning, many aspects of the problems that we face in Antarctica are indeed applicable to the greater and more urgent ones. Perhaps this is one of the assets of Antarctica - its availability as a contained proving ground where experiments in long-range planning may provide a pattern that will help solve problems on other frontiers. Can we set proper international conservation standards in Antarctica? Would these standards be suitable in other areas? Can we cope with exploitation by international agreement? Can the principles of the Antarctic Treaty be extended to other areas, such as the high seas? Can basic or applied research plans - national or international - be drawn up realistically?

Advantages and Disadvantages

Long-range planning for Antarctica has many advantages as compared with such planning for other areas. First, there are no pressing internal demands or private interests to contend with, and there is no need for "crash" programs. Second, relatively few management agencies are involved, and their responsibilities are well defined. Third, information, an essential ingredient of all planning, is well in hand for all antarctic subjects. And, finally, the logistics are superbly organized, and approximate cost figures can be determined for any new plans or changes in plans.

One important aspect of Antarctic planning should be noted: the plans are updated annually, giving the planners a chance to retrace their steps or modify their plans if necessary.

There are also disadvantages to long-range planning. First, the National Science Foundation (NSF) is not an operating agency and does not hire scientists to work on specific problems. Second, much of the work is basic research, which almost by definition cannot be planned too far in advance. Third, the research choices of the scientists are individual ones, and only by chance would they fall into a master plan in which all components progress simultaneously in logical sequences. For example, the study of a food-chain system in the ocean requires dozens of specialists concerned with interactions between the various links of the chain, but it is most difficult to conduct all parts of the study simultaneously. Also, although the limited flora and fauna of the antarctic terrestrial environment represents one of the simplest of ecosystems, we have not yet become organized to carry out a coordinated study of the system. Finally, there are always budget restrictions, but actually these should not be deterrents to good planning; rather, they should set a high premium on good planning.

Advisory Groups

Who originates U. S. Antarctic plans? Although it is generally believed to be the Chief Scientist of the Office of Antarctic Programs [An office Dr. Crary held from 1960 to 1967.] (and I would be only too happy to assume full credit for all past

successful planning), this is wistful thinking. Most plans, wherever they may originate, go through a long series of study and consideration by many groups. Among these groups is the National Academy of Sciences' Committee on Polar Research (CPR), which was established in 1959 to advise the Office of Antarctic Programs on desirable research in the polar regions. The CPR has a number of panels on various disciplines, each treating a specific subject, and their recommendations are coordinated by the principal committee. The Committee's two-part publication, Science in Antarctica, issued in 1960, was of tremendous assistance. I have been impressed at this orientation session by the great breadth and complexity of biological sciences in Antarctica, and particularly by the exciting new ideas of biologists who are heading south for their first or second seasons. I would recommend to the CPR that it consider carefully a wider representation of biologists on its panels.

In addition to the CPR, there is an international body known as the Scientific Committee on Antarctic Research (SCAR), which is under the International Council of Scientific Unions. Dr. Laurence M. Gould is now president of the committee. SCAR has several working groups, which in turn have subgroups in many fields. I have been a little disappointed in some of these groups as far as planning is concerned, but I realize that some panels may appear to be ineffective because the various nations are generally too involved in their own working areas in Antarctica, while others have been effective because of the global nature of their problems. In the future, however, as knowledge of Antarctica increases, I look forward to greater use of these international scientific panels.

One difficulty that arises in connection with these advisory groups is that the number of scientists genuinely interested in the Antarctic is limited, and it is often difficult to find knowledgeable advisors who are not, themselves, involved in some manner, raising the specter of conflicts of interest. In general, this presents no great problem if the duration of membership on the panels and working groups is limited. I sincerely hope that a personnel rotation policy can be put into effect to allow more antarctic scientists to contribute to these planning studies. My advice to a potential advisor is to get on a panel, put his ideas in the records, and move on to let the next scientist express his opinion.

In addition to these outside committees, the Office of Antarctic Programs has an advisory panel with which we discuss all major antarctic decisions. The members at present are Dr. Laurence M. Gould of the University of Arizona (chairman), Dr. Richard M. Goody of Harvard University, Dr. Laurence Irving of the University of Alaska, Dr. Ernst Stuhlinger of the National Aeronautics and Space Administration, and Ambassador Paul C. Daniels, formerly of the Department of State. This small committee, whose membership rotates, has very wisely guided our major efforts in antarctic research. Long and detailed discussions were carried out with this group before our move into the Antarctic Peninsula at Palmer Station and our decision to construct the research vessel Hero.

There is also an advisory committee in the Foundation for the environmental sciences. This newly formed committee, which is largely concerned with the activities of the Division of Environmental Sciences (DES), has a great interest in Antarctica. Although biology is not included in DES, except in the Office of Antarctic Programs, [The DES includes the earth, atmospheric, and physical-oceanographic sciences sections and the Office of Antarctic Programs.] a biologist, Dr. John E.

Canton of Michigan State University, is a member of the committee. Another member is Dr. Robert A. Ragotzkie of the University of Wisconsin, who will be remembered by many Antarcticans for his studies of the dry-valley lakes. The interest and advice of this committee will assist greatly in coordinating antarctic research with that in other areas of the world.

Then there is the National Science Board, which, in conjunction with NSF's Director, Dr. Leland J. Haworth, establishes policy for the Foundation. The members of the Board are people who have gained national distinction by their research of their championship of science. Thus, a great many university presidents and deans and industrial leaders become fully aware of our antarctic operations through the annual briefings given to the Board. Some members of the Board have visited Antarctica in the past, and others will in the future.

High in the Executive Branch is the Antarctic Policy Group, which was established to ensure that the national antarctic program conforms with overall U. S. policy. The three members of this group are the Assistant Secretary of State for International Organization Affairs (chairman), the Assistant Secretary of Defense for International Security Affairs, and the Director of NSF. The long-range (five-year) plans that are prepared annually are subject to approval by this group; thus, the logistic and international aspects must be satisfied before any major scientific innovation is approved.

Finally, there are the congressional committees that are concerned with the National Science Foundation. In the House of Representatives are the Committee on Science and Astronautics, chaired by Mr. George P. Miller of California; the Interior and Insular Affairs Committee, chaired by Mr. Wayne N. Aspinall of Colorado; and the Subcommittee on Appropriations for Independent Offices, chaired by Mr. Joe L. Evans of Tennessee. Many Senators have also taken special interest in the antarctic program and several have traveled to Antarctica to observe the projects and operations. Owing to the continuous interest by these committees and individuals, the antarctic program has received far more attention in Congress than the funds involved would appear to warrant.

New Ideas

With all of these august bodies backing up the antarctic operations, someone might wonder if the staff of the Office of Antarctic Programs really does anything or needs to do anything except unravel the difficult problems of budgets and logistics. In reality, however, it is this staff that must take the initiative to formulate new ideas, using the input from working scientists, the various committees, and its own information and experience in logistics and international problems.

There are two principal requirements for the long-range plan: We must introduce innovations in antarctic science regularly, and we must plan to remain within the logistic capability of the Department of Defense to support us with aircraft, ships, and personnel. In a way, we are living in a sort of dream world of science in Antarctica. The cost of sending each scientist to "the Ice" is something on the order of $200,000 per field season, and the taxpayer must be convinced that such a bill for research is worthwhile. How many scientists in the audience would be going to the Antarctic if it were up to each of them to raise $200,000 from his neighbors?

If the program is to be worth the price, we must keep it dynamic. New and exciting research must be introduced every year. Nothing is more deadly and wasteful than doing the same thing day after day, year after year.

We also need all the support that we can get through public relations. We must have what our budget people call "grabbers," not only for Congress, but for the congressional constituent - the man on the street. Each year it is a painful task to locate these "grabbers." It may be of interest to note that the section on antarctic research in NSF's 1966-1967 annual report will probably contain items that are the work of two first-year men. I realize that science in the long run is not dramatic, and I am not trying to change science. I am only saying that somewhere, in all the work we do annually, there are things that are interesting to the public if they are explained properly. Meanwhile, we will keep the program dynamic by continually planning new projects.

Both the Department of Defense and NSF are working under level budgets. I see nothing wrong with this, and, in fact, as I mentioned before, we are learning that nothing stimulates long-range planning more than a level budget.

The failure to introduce something new each year and to get rid of the low man on the totem pole is universal in research funding and in government bureaus, but it is a problem that private industry has had to solve for its own survival. Everyone looks forward to a rising budget so that innovations can be introduced without the dreary prospect of cutting anyone from the list - so that a young Ph. D., as well as the mature scientist, can be supported. But the hard facts of life are that both cannot be taken care of with a level budget. Our position is that the budget for research in the United States has not reached an equilibrium. Good research is a very difficult trade and not one of the higher-paid ones. There is a certain, albeit changing, percentage of scientists for any given population, and a certain percentage of these who want to make teaching a profession should have basic research funds, including salaries for their graduate students. How well such an argument would apply to antarctic research, I cannot say, but I expect this question will be scrutinized as other NSF offices are forced to decline a greater and greater percentage of the proposals for support of basic research.

Innovations Recently Effected or Considered

To sum up, the staff of the Office of Antarctic Programs must plan something new every year. To do this, it must at all times have several new ideas going through the processes of evaluation for scientific merit, logistic cost, and international effects. Those that we have on tap and in the making at the present time are the International Weddell Sea Oceanographic Expedition, the airborne laboratory, submersibles, drilling through the ice shelf several hundred miles south of the barrier (to look at water, marine life, and sediments), and the East Antarctic U.S.-U.S.S.R.-France-Australia Glaciological program. Despite our efforts to advertise these new logistic and possibilities, we are never completely certain of the interest. I have come to appreciate that answers from scientists to NSF questions are somewhat like answers from Eskimos - there is a great willingness to please, and if NSF wants a "yes," it will get a "yes."

One successful venture appears to be the International Weddell sea Oceano-

graphic Expedition, and its development may be of interest for illustration. Several years ago, I was considering new areas that needed to be studied and decided that the Weddell Sea was an important one and that it might be explored by means of aircraft landing on the ice. For decades, oceanographers had said that the Weddell Sea was the key area for the formation of antarctic bottom waters. We checked the program out regarding logistics. With no air base in the area, there was a problem of landing C-47 aircraft. We checked it out internationally. Argentina was enthusiastic about a joint Weddell Sea expedition. We checked it out with the scientists at all U. S. oceanographic institutions. The only response was from my old arctic friend, Val Worthington, who said, in effect, "The antarctic bottom waters are formed in the winter and you are going there in the summer. Have fun." The logistics people suggested an alternative: exploration by icebreaker and helicopter.

We delayed the project for one year and were becoming discouraged when almost overnight the dam burst. The Coast Guard transferred to the Department of Transportation, rallied to the support of the expedition with a strong oceanographic team and the revamping of Glacier as a research vessel. Satellite photographs showed plenty of open water in March. Professor Håkon Mosby of the University of Bergen, Norway, organized an Antarctic Bottom Water Committee in SCAR, and he is now providing sensors that hopefully, will operate for a year under the ice and be retrieved in the second phase of the work. Now we have more teams of interested scientists than can be accommodated.

To counter this example, I will provide another one - a wintering-over station in the dry valleys. Considerable effort went into planning the logistics, international aspects, and research programs. Logistically, there was no problem. As an international venture, the program was excellent, with great enthusiasm shown by New Zealand and Japan. Scientifically, it looked good, and most people agreed that the idea was sound. In the end, however, we received no science backup and the project was abandoned. Incidentally, the New Zealanders are still enthusiastic about the project and plan to proceed without us.

What about such innovations as submersibles? Who wants them? This is a major problem in marine science - many industrial concerns have invested in the development of submersibles without a heavy demand from scientists. It has always been my feeling that polar oceanographers who must deal with ice-covered waters have a need for submersibles, but we have not been flooded with requests from scientists for their use. Should we get the submersibles first and then see what the scientists want to do with them, or should we defer acquisition until the scientific pressure builds up? My experience has been to get the hardware, hire an observer if necessary, and proceed; research requests have generally followed. In any event, planners are expendable.

Let us look at the antarctic stations. The construction of Inland Byrd and Pole Stations represents a highlight in antarctic exploration. The installation of Eights and Plateau Stations were also tremendous achievements, but I would rate the closing of Eights an even greater accomplishment. (We also closed Hallett Station as a wintering-over facility, but this decision was eased some by the effects of a disastrous fire.) The closing of Eights Station allowed us to install Plateau Station and bring in new programs. We will close Plateau Station also, if for no other reason than to show that the closing of Eights was not an accident. I personally would not

mind closing Pole or Byrd for a winter or two or even longer, although some people are horrified by the thought of even a temporary closing of Pole Station. I do not think this attitude is reasonable. Vostok Station has been operated for many years, but people forgot long ago that it was closed for one winter. The main thing is to be dynamic. We must continue to introduce changes, and one of the best ways to finance new things in the antarctic program is to close a station. For example, the main reason we are keeping Byrd, Plateau, and Pole Stations open during the winter is to achieve continuity of observation of upper-atmosphere phenomena; as desirable as this is, I do not think it would be justifiable in a cost-benefit analysis. The $200,000 expenditure per scientist per field year should probably be revised to $50,000 each for the summer scientists or wintering scientists at the coastal stations, and $750,000 each for the scientists wintering inland. Perhaps one of our weaknesses is that we do not review proposals with regard to the total cost of research and logistics. However, we do plan to begin this type of analysis very soon.

Criteria for Developing Programs

In conclusion, I offer the following criteria for good antarctic research programs:

1. They should be short and effective.
2. They should be dynamic. The objectives should change with time, which means, essentially, that only the best ones should be retained.
3. The investigator's ambition should not be limited to the things that he thinks can be supported. He should write to the Office of Antarctic Programs about his total requirements. These add up to potential plans.
4. Whenever possible, the investigator should coordinate his programs with those of other disciplines that are related in context or in area. Interdisciplinary combines are the solution when the logistic requirements are large.
5. If at all possible, the programs should be based on international cooperation; the work should be shared with scientists from other countries, with each country contributing equally to the support of its own scientists.

(The End of Burt Crary's speech to the field personnel of the United States Antarctic Research Program assembled at Skyland, Virginia, September 18-22, 1967. Reprinted in *Antarctic Journal of the United States*, Jan-Feb., 1968, pp. 10-14.)

The invitation to the Japanese Antarctic Research expedition was an exciting prospect and a great opportunity to return to the Ice. A drawback for this pending trip was my study of inversion winds was left standing. The trip south was worth it. Doing science in the real natural world, to me, was infinitely more exciting than studying it in dry books, though you had to do both.

A difficult task to learn but very enjoyable watching the achievements unfold was the entire process of logistics. This time I was involved from the beginning. This time I also spoke with experience. I, too, wore a penguin tie clip. I met people and asked them for assistance returning favors. At times those favors were only just a good sea story from the Ice. Again Polar Opps was most beneficial. And this time I also learned of the great assistance from NSF, in particular Harry Francis' office. His assistant, Walt Seelig, an old polar hand, made my move with all of the paraphernalia to Australia possible.

This was not easy. My kytoons needed a lighter than air gas. Hydrogen was too dangerous to be used on board a ship. Helium was the obvious choice, but it was classified as a critical chemical for the national defense. Moving helium outside of this country was illegal without a special license. I attempted to acquire one and received the proper paper work from the various offices of the Department of Defense and the Department of State. The bottom line that stopped my move of helium was that all the laws still listed Japan as an enemy or at least a security risk. Walt found a way. Oddly enough, once on board the *Fuji* I noticed that the helium used by the weather service men of Japan came from the U. S. Navy.

A LETTER

NATIONAL SCIENCE FOUNDATION
WASHINGTON D. C. 20550

November 7, 1967

AIRMAIL

Mr. William McGovern
Consul of the United States of America
Perth, Australia

Dear Bill:

We are fortunate, this year, to have Martin Sponholz of ESSA as the U. S. Exchange Representative to accompany the Japanese aboard the icebreaker, *Fuji*. Mr. Sponholz will be leaving here November 30 and expects to spend a few days in Melbourne to visit the International Antarctic Meteorological Research Center (IAMRC) and possibly the offices of the Australian National Antarctic Research Expedition (ANARE) prior to flying to Perth and thence to Fremantle to join the *Fuji* for her departure for the Antarctic on December 16.

While aboard the *Fuji*, Mr. Sponholz will carry out a program involving data collection of the lower 1000 feet of the atmosphere. This will be done by means of four kytoons (kite-balloon) that are inflated with helium, towed behind the ship and from which sensors are suspended that radio information on the atmosphere back to the ship.

In preparation for this work on board the *Fuji*, the equipment including ten cylinders of helium is being sent by air to Perth, where Mr. Sponholz will arrange for its transfer to Fremantle.

We have taken the liberty of sending this material to Perth in your care with the hope that it is not presuming on your past generous cooperation to our Antarctic scientists.

Best regards.

Sincerely yours,

Walter R. Seelig

Associate Program Director
International Cooperation and Information Program
Office of Antarctic Programs

END OF LETTER

It was the third Christmas season I found myself in New Zealand. New Zealand was a delightfully quiet country, not in a race with anybody. It had more than five sheep for every human and the people, called Kiwis, delighted in rugby, horse racing and beer. Their English, of course, was very British. Some said they were more British than the British.

Their wording was most striking. I remember being taken aback by expressions like, "I feel like the bottom of a bird cage." "I'll ring you up on the telli." I usually let an escort drive me lest I would be on the wrong side of the road. Valerie, always willing to drive, said on the phone, "I'll be glad to knock you up at eight."

Once I complained to the waitress at my dinner table at the Zetland Hotel, where I always stayed, that their usually perfect table setting was imperfect. Disgusted, oddly embarrassed, and very upset, my waitress appealed to Reggie, the hotel proprietor. He was now a very good friend and came to my table to inquire what my problem might be that caused such a trouble with one of his best waitresses. I assured him that there was no real problem but I had asked for a napkin. He then informed me that the proper word for the item I desired was called a serviette. Apparently I had just asked the waitress for female sanitary protection.

Everywhere I went beer was the chief beverage. The hotel I stayed at sported five taverns: a public pub in front of the hotel, a private pub in the back for password male members only, a separate tavern for women, a saloon where most racing wagers were settled, and the hotel lounge upstairs. Where ever I would go for a beer, once it was found out that I was a "bloody Yank," I never had to pay for the next beers. A beer was served in a small glass filled with a long garden hose with a pistol like tap. Everyone would stand around their beer, not touching it until considerable conversation was exchanged. Then without warning a person would say, "My shout" and everyone would chug their beer slamming the empty glass down hard enough so that the bartender knew he had to fill them again. "Another POME beer again then?" (Prisoner Of His Majesty's Empire)

Everyone was so generous. I was hiking over the open range hills along the Pacific coast of South Island and a sheep herder noticed me. He led me to a coastal cave in the rocks overlooking the violent surf, dug down in the sand and pulled out a bottle of cognac he was saving for a Yank. It was his way of saying thanks to the United States for sending troops to New Zealand during World War II to defend the coast from a feared Japanese invasion while their own soldiers were defending Britain in Europe.

I took a bus to Auckland and while crossing a desert in central North Island the driver saw a deer among the sagebrush. He shouted to all of his passengers, "Hold on mates" while he drove off the road and chased the deer down to kill it. After placing the carcass among the baggage, he returned the bus to the road and we continued to Auckland not losing a minute. The colonizing British introduced deer to these islands without predators. There was a bounty on deer.

I remember a lovely young family from New Zealand, Jock Grey, his wife and two young boys from Christchurch. They had me for Sunday tea once before I knew that "tea" meant a four hour eight course meal. They showed me a lot of the civilian life of normal kiwis, some horse racing, a bit of cricket, a summer fair, and lots of beer. The young lads were eager to see me return after my first winter

and laughed when I could no longer tie a tie.

The real tragedy of international work is that so many good people help you and become exceedingly close to you and then when the journey is ended, you must say good-bye and rarely see each other again. After thirty years I must confess even losing the name of one beautiful couple I met on the way to Rotorua, a thermal region of New Zealand like our Yellowstone National Park and its many geysers. In Rotorua the geysers were right in the middle of the streets. This young man and his wife showed me all over the region. We went boating on a hot thermal lake, took in some Maori traditional dance shows, and of course drank a lot of beer.

Many American polar heroes went nuts over the beautiful women of New Zealand. I for one fell in love with their accent. More than just a few returning American sailors or scientists married kiwis. Some polar heroes led two lives with a wife in America and a lover in New Zealand. One had a heart attack in New Zealand but before he died, tragically, his wife, rushing to his bedside, had to run accidentally into his lover at his hospital bedside in Christchurch. In reality, polar men, whether en route to the Ice or returning from the Ice, simply were sexually hungry. I'll not claim to have lived without temptation myself, but I do remember Pastor Balge encouraging us in our college days of the importance of remaining loyal to your spouse even before you knew who your spouse was. That is the better act of true love. En route to meet the Japanese Expedition I was betrothed to Nancy. I was glad that my love to her was always true.

UNITED STATES GOVERNMENT
MEMORANDUM

December 6, 1967

TO: Office of Antarctic Programs
National Science Foundation
Attn: Mr. Seelig

FROM: Am Consul, Perth

SUBJECT: FUJI . . . . . Helium/Sponholz

Walt:

The ten tanks of helium arrived safely and were cleared yesterday. Wigmore and Co. of Fremantle (who will handle the FUJI again this year) will pick the tanks up from the TAA air-cargo office on Monday and take them over to Fremantle.

I did this without waiting for Sponholz since he is still among the missing in the East.

The Japanese Consulate General has called several times concerning the date he will board the ship, and just to give them an answer I have told them he would be ready to board the 10th on arrival. I remember in the past that the Chief of the Scientific section seemed to want his "boys" clustered soonest.

There is to be a large reception by the Japanese Consulate General at a Perth hotel and a shipboard reception in Fremantle. The Japanese Consulate General has looked to us (strangely!) for guidance in protocol and press/TV relations. Every effort to

assist is being made. I'll have the new Captain of the ship (Honda) and the Chief Scientist up to the residence and to the office as in the past.

Several reports of unidentified flying objects have been made in the Perth area. I firmly believe it is Martin Sponholz and his helium inflated kytoon looking for Perth!

I must sling off in closing by announcing that we have had four days of 95 degree weather and that I spent four hours basking on a yacht at a fabulous sea and river cruise luncheon. We "feel" for you snow bound Washingtonians! Happy holidays.

Bill McGovern
American Consul
Perth, Western Australia

END LETTER

I paid tribute to the Avon River in Christchurch, New Zealand, walking its length within the town before boarding the next flight to Australia en route to the Antarctic and its greenless world.

7 December 1967 I arrived in Melbourne, Australia.

8 December 1967 I was a guest of the Department of Meteorology at the University of Melbourne and also the International Antarctic Meteorology Research Center. I discussed ways of exchanging data and raised the problems of getting live data analysis to the field stations in the non-operational seasons. It seemed the biggest hangup was our mutual militaries who dominated the communication systems. Rob Flint was proposing satellite up and down loops to computers back at Stanford. That would become the major communications tool of the future.

I would have to admit I was less than cordial with Professor Radok who I still believe stole our subsurface measurement program out from underneath us. That is the competitive way of science. I now was very guarded of my temperature and wind data.

9 December 1967 I arrived in Perth, and enjoyed a concert by the Seekers.

10 December 1967 The Maritime Self Defense Force Icebreaker *Fuji* arrived in Fremantle, the port city of Perth.

11 December 1967 I contacted the American Consular, visited the *MSDF Fuji*, and was invited to a reception given by the Japanese Consulate in celebration of the arrival of the *Fuji*.

12 December 1967 My meteorological equipment was taken on board the *Fuji*, I was given a tour of the ship and shown my quarters.

13 December 1967 I installed the meteorological gear in the Marine Geophysics Lab on the icebreaker, went to a formal banquet given by the Japanese Consular for the scientific party and the *Fuji's* officers. It was my first introduction to raw fish and chopsticks.

It was time to go South again.