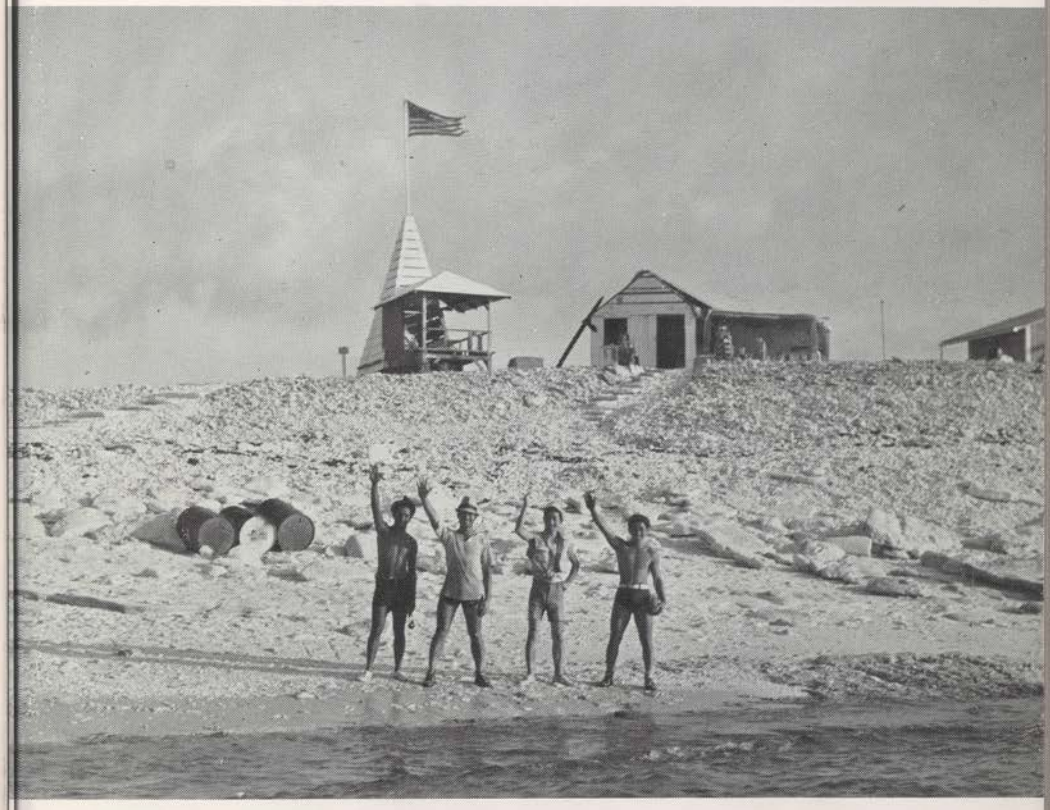
PANALA'AU
MEMOIRS

By

E. H. Bryan, Jr.



Pacific Scientific Information Center
Bernice P. Bishop Museum, Honolulu, Hawaii 96818

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with the aloha of
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PREFACE

Why the title Panala'au Memoirs?

The Hawaiian word panala'au meant a colonist or colonizer. The English dictionary defines memoirs as records of facts or events in connection with a particular subject or historical period, especially as known to the writer or gathered from special sources.

What is written here is an intimate story of events on five coral islands in the equatorial Pacific ocean during the years 1935 to 1941, and of the colonizing of these islands for the United States departments of Commerce and, later, Interior. Young men who participated in these activities were, at that time, in their early twenties. So great was the impact of these experiences on their lives that they have organized a group known as the Hui Panala'au. The writer is proud to be an honorary member of this Society. He was a member of the initial expedition in 1935, which placed the "colonists" on three of the islands, Jarvis, Howland, and Baker; he had visited the other two islands, Canton and Enderbury, in 1924 with an earlier expedition; and he revisited all five islands in 1938, when facilities had become much improved. He made personal scientific observations on each of the islands. His connection with Bishop Museum brought him into close contact with the colonists at that time and later. He has been furnished by Colonel H. A. Meyer, whose relationship to the colonization will become apparent, with copies of logs and diaries kept by the colonists, and with records of cruises made by Coast Guard cutters which furnished transportation and provided supply.

We believe it very fitting that this little book should be called Panala'au Memoirs.

The "Hui Kupu Aina," which was to become known as the Hui Panala'au, was organized February 8, 1939. Its object was to perpetuate the fellowship of Hawaiian youths who had served as "colonists" on American Equatorial Islands. About 60 persons were eligible for membership. James Kinney was elected President; Henry Ahia, Vice President, and Theodore Akana, Secretary-Treasurer. Richard B. Black was selected as the club's adviser, and in his absence, Lt. Commander Frank T. Kenner.

Major gatherings of the club include: an aloha luau on February 10, 1941 for Lt. Commander and Mrs. Kenner, attended by about 25 former "colonists" and several guests from the Coast Guard; a meeting on July 29, 1945, with 88 persons present, highlighted by the signing of two scrolls, one sent to Commander Frank Kenner and the other to Colonel H. A. Meyer; and a dinner on June 21, 1958 attended by some 70 members, wives and guests, honoring Admiral and Mrs. Kenner, and announcing the award of the Frank T. Kenner Scholarship.

In July 1956 the club, now called the Hui Panala'au, "society of colonists," was granted a charter of incorporation by the Territory of Hawaii with the following purposes:

"(1) To preserve and perpetuate the association and fellowship of those persons who took part in or materially contributed to the colonizing of the Equatorial Islands of the Pacific for the United States of America;

"(2) To foster and maintain in themselves, their associates and successors the desirable traits of character constituent to the racial makeup of the members of the corporation;

"(3) To honor and esteem those who died while in service of the United States of America as colonists of the Equatorial Islands of the Pacific; and

"(4) To establish and provide scholarship assistance at the University of Hawaii for deserving graduates of Hawaii's high schools."

We wish to dedicate this book to the Hui Panala'au and its members, with the hope that it may help to further some of the purposes of the organization.

The Author

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Cover picture: "Goodbye, we'll see you in three months."
Jarvis Island, January 19, 1937.

1. THE CHALLENGE

Early in 1935, the American Secretary of Commerce, and more especially his Department of Air Commerce, was faced with a special problem. There had been a sudden interest in the development of air routes across the central Pacific from California to Australia. In June 1928, Charles Kingsford-Smith, intrepid Australian aviator, and party had flown the trimotor plane Southern Cross from San Francisco to Sydney by way of Hawaii, Fiji, and Brisbane, with very little previous knowledge of conditions and landing places between. When he reached Honolulu on June 1, he made an appeal through the press for information concerning possible emergency landing places on the long hop from Honolulu to Suva. The writer, who had visited islands in the Phoenix group four years previously, gave him maps, photographs, and data about Canton and Enderbury Islands, showing that it would be possible to land on parts of them--but that is another story.

It became highly desirable to learn more about various key islands in the central Pacific. What were they like? On which could emergency airplane landings be made? What were the seasonal weather conditions?

There was also another important consideration: to whom did these islands belong? Most of the small islands in the central Pacific had been claimed by the Americans under provisions of the Guano Act passed by the United States Congress on August 18, 1856. Half a dozen of these had been worked extensively by American companies between 1857 and 1877. Then, when the best of the guano had been dug and shipped away, they had been abandoned. A few of these islands had been occupied, in turn, by British interests, and later abandoned by them. Enterprising British sea captains also had a policy of annexing unoccupied and unattached islands. It was thought to be highly desirable that at least certain key islands should not be left with uncertain government status. Giving them that status could best be accomplished by occupying them.

It was decided in Washington to start with three islands, Jarvis, Howland, and Baker. The task of organizing and leading expeditions to place parties of Americans on these three islands was assigned to William T. Miller of the Bureau of Air Commerce. Fortunately for the success of his mission, he was given complete and enthusiastic cooperation by a number of government departments and other agencies. The Treasury Department made available Coast Guard cutters to transport the parties to the islands and to keep them supplied. The United States Navy furnished a broad range of supplies, including fuel for the ships, and thousands of gallons of water in fifty gallon drums, for these were small, "desert" islands. To the U. S. Army was assigned the task of establishing the camps, including their equipment and the personnel to set them up.

But how was all this to be coordinated and accomplished on short notice and without publicity? We are fortunate in having a detailed and intimate account of those busy days in March 1935 from notes kept by Harold A. Meyer, at that time a young Lieutenant of Infantry, and aide to General Halstead Dorey, who was assigned the task of coordinating the job. With his permission we quote:

> "Wednesday, March 6, 1935. Colonel Van Voorhis (Chief of Staff of the Hawaiian Department) came to the General's quarters and mentioned a confidential matter.... The Department of Commerce wished to put into effect a colonization plan on some islands in the South Seas, near the Equator. He said that he had already discussed with the Department of Commerce representative the proposed plan, and in accordance with instructions from the War Department had arranged to supply him any needed articles that the Army had on memorandum receipt.
>
> "The plan, as worked out by Mr. Miller and Colonel Van Voorhis and members of his staff, was that certain individuals were to go to these islands and remain there for a period of from six weeks to several months, depending upon the result of the negotiations in Washington. Colonel Van Voorhis stated that Mr. Miller had agreed

upon the use of soldiers who might be on furlough for this purpose, and that they felt that there should be five men in the group, to be placed on each of the three islands. These would be one NCO, one cook, one first aid man, and two Hawaiians who could look after such matters as fishing and boating, and other miscellaneous duties. The trip was to be made on the Coast Guard Cutter Itasca.

"The reaction to this proposal was that almost simultaneously General Dorey and I said that this would be a marvelous opportunity for anyone, and we wished we could go. The Chief-of-Staff's recommendations were approved.

"The next day, Thursday, about noon, the General sent for me, and as I entered the door he said, 'Do you want to go to the South Seas?' Naturally my reply was 'Yes, Sir.' He told me that he would like to have an officer go along, and that I had been selected. I would assist in getting the project underway, as well as to use my judgment as to the advisability of leaving the various groups on the islands, as shown by their physical condition at the time....

"The next day (Friday) we had a conference. On Saturday I met Mr. Miller and had a few minutes conversation with him concerning plans for the trip. He placed in my hands...the selection of men to go on the trip and arranging for securing supplies and equipment...."

Lieutenant Meyer summarized what he had been able to learn about Jarvis, Howland, and Baker Islands.

"Landing might be extremely difficult in smooth water, and probably impossible in rough weather. There were no inhabitants, and the islands rose only a few feet above the level of the ocean. They were covered with sand, coral, and a few scattered patches of brush. There are many birds. The islands had been used by various fertilizer companies for the purpose of extracting guano, but never have been regularly inhabited. The islands were at the present time in dispute between the United

States and Great Britain, and that as a result of this colonization plan the controversy over ownership would be settled by the State Departments concerned. The purpose of this colonization was to open up the air routes to the south and to Australia, and the Department of Commerce felt they could be utilized as possible landing places for trans-Pacific planes and would be necessary in the scheme of national expansion. There is practically no suitable drinking water. There were no possible sources of food supply, except the birds and the fish which surround the islands and which in all probability could be caught....

"Due to the extremely confidential nature of the mission it was not possible for me to confer with individuals who might have certain and definite knowledge of the problem.... Through the G-4 and Colonel Van Voorhis a tentative list of equipment had been drawn up.... No arrangements had been made for food by G-4 at this time or for any other incidental items. I immediately sent for Sergeant Austin Collins of the 19th Infantry...with whom I had taken a hike on the island of Hawaii a few weeks previously. I felt Sergeant Collins would be of great assistance. The General has given me authority to select any men I wanted.... Sergeant Collins reported, and after receiving the best wishes of General Dorey [with whom he had served in France], he and I started to work. This, at that time, consisted of discussing some of the problems that we could see facing us. I then got hold of Private [Leonard A.] Duff, 35th Infantry, who had been recommended by Colonel Van Voorhis.... During Saturday and Sunday I talked with several soldiers whom I knew personally or by reputation.... No questions were asked, no promises were made. Apparently all desired to go and see some of the world they had not seen before, irrespective of the hardships involved or the rewards they might receive. Duff jumped into the problem and within a very few hours had made out a schedule of food which would suffice for five men on a desert island for 42 days. He seemed so thoroughly familiar with the subject and so sure of the facts that I felt the greatest confidence in him immediately.

I informed him that he would have charge of the food supply for the entire expedition.... Sunday, he and I went to the North Shore of Oahu where we discussed with some Hawaiians problems with regard to getting and preserving food.... I sounded them out on the possibility of getting some Hawaiians who might undertake living on these islands...."

His notes go on to discuss the efforts to obtain containers for drinking water which could be handled readily. It was estimated that 900 gallons should be put ashore on each of the three islands, and 50 gallon drums seemed the best containers. The big problem was where 54 such drums could be obtained. They eventually were procured by Mr. Miller from a chemical company. Sergeant Collins, whose years of service in the Army had never included being a Supply Sergeant, was stationed at Fort Shafter to accumulate equipment. The Quartermaster made available copies of their reports on supplies for the Whippoorwill Expedition of 1924, and arrangements were made to purchase what was needed from the Navy. Colonel Scott, of the Medical Corps, had already arranged for three medical chests to be prepared. (Eventually, four were taken, which was fortunate, for one was lost in landing on Baker Island.)

Quoting from H. A. Meyer:

"During the next two or three days, while Duff and Collins and others, who had been selected, were beginning to collect supplies, Mr. Miller and I had a talk with Commander W. N. Derby of the Coast Guard Cutter Itasca, where many of the details were worked out concerning the trip. One problem came up. This was the question of the Coast Guard ship going back to visit the the groups on the islands within a week or two after they had been landed. The original plan had been to drop the groups off, taking as much time as necessary to make camp and provision it; return to Honolulu, and then go back to the islands within six weeks. An alternative was to go on to Samoa before returning to Honolulu; refuel, purchase any additional supplies necessary for the island groups, and then return to look them over and see

if everything was satisfactory. This would give those of us interested a sufficient basis upon which to judge concerning the conditions there; also the success of the operation and the type of supplies to be taken back the next time. Commander Derby favored this idea, and when it was presented to Admiral Yarnell he also acquiesced, and it was presented to the Navy Department. There was no fuel at Samoa, but there would be a tanker in the vicinity at the time proposed. Commander Derby, after learning of the personnel to go on the trip, stated that he would have space for three officers, whom the Commanding General would permit to go on leave.... I had been informed that I would go, on the status of detached service, as a member to carry out the plans of the Department of Commerce....

"...Mr. Miller and I went to see Mr. [Albert F.] Judd, [Trustee] of the Bishop Museum. Mr. Miller invited a member of the Museum staff to go along on the trip. Inasmuch as Mr. Miller had requested me to secure Hawaiian boys, I asked Mr. Judd for recommendations. About two hours later, Mr. Judd informed me that the Museum considered it a wonderful opportunity for scientific purposes, and that in all probabilities Mr. Bryan, Curator of Collections, would go. Further, they hoped we would take the men who were to go on the trip down to the Museum where they could learn about the islands, and encourage them to make collections which would be of scientific value to the Museum. He also said that Mr. Barnes, of the Kamehameha Schools, would select six Hawaiians who would meet the conditions laid down by us, and would have them ready for me to interview the the next day, it being understood I was to have complete authority in the selection. The requirements were that they must be grown up, that they be able to fish in the native manner, to swim excellently, and to handle a boat; that they be boys who were disciplined, boys who were friendly and unattached, and who had proven themselves of the type of disposition that could stand the rigors that might have to be undergone, who it was believed would be able to 'take it', no matter what might come.

"Thursday I saw five of the group at the Kamehameha School. I talked with Lieutenant Sidney Hinds, on duty there (as R. O. T. C. instructor), before I conversed with them, and he agreed with me thoroughly that it was much better to take a group of young men of Hawaiian blood who came recommended through the schools than it was to go out and pick up beach boys and individuals living on the the shore, irrespective of their interests.... The five, varying in age from 19 to 24, former graduates of Kamehameha, impressed me very much. I had a feeling that they would be able to accomplish the work we had in mind for them. I talked with them at length, explaining as thoroughly as I could some of the problems that might influence them, with this group as well as with the soldier men. I painted the least rosy picture I could. I tried to dwell upon the possibilities of hardship that they might encounter.... I explained the necessity of discipline of the highest order, with respect to my judgment before landing, and particularly that would devolve upon them of accepting the leadership of whoever might be designated as the man to take charge of the party on the island."

Eventually all twelve enlisted men and six Hawaiians were selected.

"My general plan has been to have a conference in the evening with the two or three men who have been assisting, where we would go over the work accomplished during the day and discuss plans for the next day. We have taken our lists and have tried to think what things should be taken and which to discard. The latter process has been most complicated. There are the necessities and the luxuries; those things which are essential to life, and those which are important to a certain degree of comfort.... They must have food and water and, if the expedition is to have any degree of success, their spare time must be accounted for in some useful occupation which, at least, will take their mind off their isolation.... We must have shelter for the men and shelter for the food and other supplies. We have planned to depend upon tentage.... The medical chests, when used by a first aid man, should meet any of the normal emergencies to

be expected. We have taken along tools and such other articles as the artisan might need to build or repair the essentials in keeping the camp in good condition. The lack of wood on the islands forces us to use liquid fuel. Due to temperature, gasoline was discarded in favor of kerosene.... As an emergency, quantities of sterno, as well as charcoal have been provided. Gold Medal cots were suggested by Colonel Elliot, with one blanket. Sergeant Meredith, General Dorey's secretary, suggested the use of a shelter half in addition, to keep out the night breeze...then two shelter halves which, in case of emergency, could be used in place of tents.... Yesterday, I was advised by Mr. Bryan to take three blankets apiece. 'You should have something under you as well as over you, because at night it gets particularly cold, and at this time of year there may be night rains.' In as much as I have light blankets, I have put four per man on my list. For personal protection, the item of clothing had to be given consideration. The way to handle the question was to purchase it in bulk after getting the measurements of the men. It was felt that straw hats would serve the purpose; but straw hats of the type wanted were not available in proper quantities, so helmets have been ordered. It also has been found that upon these coral reefs leather shoes are of practically no benefit, and heavy rubber soled shoes are the best, so we have bought them. Other articles will be white clothing, with a few blue denims thrown in. For fishing, nets, spears and gaffs have been procured, and a few hooks, lines, rods, reels and other fishing apparatus....

"From the information I now have as a result of reports had by the Department of Commerce, the Navy, the Bishop Museum, and the Department G-2, it is believed there will be no difficulty in securing a plentiful supply of fresh fish on the islands. For lighting purposes, we have secured lanterns which use kerosene, or, in their absence will burn candles. Flashlights, with extra bulbs and batteries, are being taken for each group. In addition to that, Corporal Kline, of the Signal Corps, has developed a method of getting electric light from small batteries, and has agreed to furnish this equipment in

its simplest form.... Due to the expense of procuring the proper radios, that item has been discarded.... Certain meteorological instruments have been forwarded from Washington.... As for other scientific work, the Bishop Museum is sending along materials and directions for collecting whatever specimens they desire.

"As a precautionary measure and in justice to all concerned, it was felt that a medical and dental inspection should be made of all men going on the expedition. [This was done at Schofield Barracks.] It was also felt that anyone with dental defects should be fixed up before departing. The vision of a man sitting on a desert island, on a hot summer day, and having his molar pulled out with a pair of Quartermaster pliers is not at all enticing.

"One man made out a list of all the things which might be essential for amusement and recreation for a group of men under such conditions.... A special selection of books for use on the ship, which apply to travel, adventure, and scientific investigations in the South Seas, will be taken. It is believed that these amusements and sufficient reading material, and the work of establishing camp and keeping it up; the collecting of specimens, the recording of observations made on meteorological instruments; maintaining a diary or log; fishing and studying the habits of birds, fish and other life, will keep the men fairly well occupied as far as their time is concerned."

The notes from which this chapter was compiled were made by a young Army Lieutenant, and give an intimate picture of some of the preparations made for these pioneer expeditions. Now, nearly 40 years, and many experiences later, Colonel H. A. Meyer (U.S.A., retired) adds a short summary of these early expeditions to the equatorial islands in the following words.

The first four expeditions are the key to the entire project. The first trip, organized in secrecy and in haste, was for the purpose of placing American citizens on the islands of Jarvis, Baker, and Howland for an indefinite period of time. Mr. Miller of the Department of Commerce was

directed by Washington to conduct this expedition. His personal request for military assistance resulted in my being detailed to help, and Mr. Miller placed me in charge of most of the activities in connection with the preparation and personnel of the trip. He says:

"At that time we placed Kamehameha boys and soldiers on furlough on the islands, and after a short cruise to American Samoa, we returned to make sure that our plans were in operation properly.

"The second expedition followed soon thereafter, with the primary mission of replacing the soldiers with Kamehameha students. This was directed from Washington as part of their international policy.

"The third expedition was a follow-up to the second to insure that the situation was well in hand and that proper supplies, equipment and health were in evidence.

"The fourth expedition, last of this series, was based upon the fact that the colonists residing thereon should be replaced and given an opportunity to return to civilization. After conversations with Dr. Peter H. Buck [the Director of Bishop Museum and a distinguished authority on Polynesian culture], Mr. Judd, Mr. Bryan, and Dr. Barnes, it was felt that a great opportunity awaited these colonists if they could have a few days with the Polynesians of American Samoa. It was finally arranged that the ship would proceed to Samoa for an indefinite period of time. While in Samoa, and acting upon the request of the Bishop Museum officials, I organized the Hawaiian colonists into small groups and personally made arrangements for them to live with families throughout the island of Tutuila. We were delayed in Samoa for several weeks, pending a decision by Washington to complete the establishment of the claim to the islands. During our return trip to Hawaii, we took off all of the colonists and supplies that were on the islands. This completed the first phase, which might be called the Department of Commerce expeditions of colonization."

Colonel Meyer goes on to say that he had encouraged these colonists to keep diaries of events on the islands, written day by day, and that he feels that these provide a valuable source of material, showing the reactions, temperament, accomplishments, psychology, integrity, loyalty, and development of a group of young men placed definitely under leaders on desert islands. These reports have been given to Bishop Museum for safekeeping, and excerpts from some of them are reproduced in this publication. Colonel Meyer states enthusiastically that the duties of these colonists were performed in a magnificent manner!

With regard to the visit to American Samoa, made during the fourth trip, Colonel Meyer says:

> "The impact of this group of Hawaiian lads upon the society of the Samoans is worthy of study and development. I can attest to the personal admiration, respect and friendship that these young men received while guests in that far off area. To my knowledge throughout those weeks there was not an unpleasant, unfortunate, or untoward incident of any kind resulting from their stay. On the contrary, all records, oral and written, will undoubtedly show that the Bishop Museum, in sponsoring this part of the project so wholeheartedly, was justified in its desire to secure information and add to the knowledge of the well being of the Polynesian people.
>
> "In addition to the Samoan activities, two of the Kamehameha boys volunteered, even though they had spent a year as colonists, to stay for several weeks on Swains Island to give assistance so badly needed as a result of a great hurricane. The detailed reports of these two men are some of the most thorough, most revealing, most meticulous, and most soul satisfying of all the projects with which I was associated. The amount of good these boys did can never be measured in strict terms."

At the end of these four expeditions Captain Meyer returned to duty with troops at Schofield Barracks, believing that he could now give his attention to military activities. This was not to be. A few months later he received a trans-

Pacific telephone call from the former officials of the expeditions, stating that President Roosevelt had just annexed the islands of Jarvis, Baker, and Howland, and that these islands should be re-colonized at once. He was informed that he would be in full charge of this expedition, that he would use his own judgment in every respect, that the expedition would be kept secret, and that messages were going to all government agencies concerned to give full cooperation.

Said Captain Meyer:

> "This expedition, the fifth, was organized along the same lines as the previous ones. Before the day was over, I had secured the services of my former enlisted personnel, and all the Kamehameha boys volunteered to return to the islands. Sergeant Collins took charge of the group going to Jarvis on U.S.C.G. Tiger, under command of Lt. H. J. Doebler. The U.S.C.G. cutter Itasca, under command of Commander F. T. Kenner, took the groups full speed to Howland and Baker. They arrived one day ahead of the warship of a friendly nation, which was heading for those same islands."

Under the reoccupation of these three islands, jurisdiction over them passed from the Department of Commerce to the Department of the Interior. Both William Miller, representing the Commerce Department, and Richard B. Black, of the Department of Interior, made the Sixth Cruise. Thereafter the person in charge of island personnel and their supply represented the Interior Department. Gradually the camps were made more permanent and more comfortable, with radio communication and better facilities. There were 23 regular cruises in all, with two other special trips, both to Jarvis Island, to meet emergencies. On the twelfth cruise, March 1938, colonists were placed on Canton and Enderbury Islands, in the Phoenix group. In October 1940, the colonists were removed from Canton Island, the Pan American Airways manager there taking over the duties of representing the Department of the Interior. Following the advent of World War II, two of the colonists were killed by air attacks on Howland Island, and all personnel was removed from the four islands during February 1942.

In the pages which follow, summaries will be given of all of these cruises, as well as the names of the colonists on each of the islands during the interval between cruises, and an abbreviated log and listing of offical parties on each cruise. At the end of the book will be found a roster of all the persons who went on the cruises, both colonists, with dates of arrival and departure on islands, and others making the trips. Other chapters will give more intimate accounts of activities on the islands, as taken from logs, diaries, notes, articles, and personal recollections. Concise descriptions and histories will be given of the five islands, and also others visited by different cruises.

LETTER FROM H. A. MEYER (1974)

This letter is in response to the suggestion that I record some facts regarding the early period of colonization, which received little publicity, and also the preparation of the air-strip on Howland. I have written this from memory. However, my duties at that time required maximum cooperation and I remember them vividly.

My responsibilities were sixfold: (1) Select, brief, and train Kamehameha and soldier colonists and assistants. (2) Secure, package, crate, test and transport the vast number of items essential to expedition success. (3) Put aboard ship, inventory, and make them accident- and water-proof for landing operations. (4) Seek all available scientific information, advice, and assistance. (5) Insure every practical degree of safety, health protection and well being of every colonist. And (6) maintain the maximum degree of secrecy.

This report to you is not intended to commend individuals or organizations. Many letters of commendation were furnished to them for their efforts to further the success of these missions. I do not recall that any letter of complaint was ever prepared. It is essential, however, to mention some individuals whose position and personality were of unusual assistance.

Initial requests to the U. S. Navy at Pearl Harbor for providing all food and related supplies were soon extended to include the preparation of barrels for water (from oil drums), packaging, water/accident proofing and testing. After a short briefing with Admiral Yarnell, the Captain of the Port was informed that my soldiers and I were to have priority on all requests. From that hour on, the expression "Admiral's Orders" was sufficient for unquestioned cooperation. Our requirements were always met, if available, and we received most valuable technical advice and assistance from all hands.

The U. S. Coast Guard, stationed in Hawaii, was not organically equipped nor prepared to transport, store and

land such large expeditions in men and equipment. Crew members and my colonizing group worked together constantly and in harmony. They solved the many problems of loading, storing, preparing, distributing and planning landing operations. Under the fine leadership of such skippers as Commanders Derby, Finley, Kenner and Doebler, no questions ever arose over lack of cooperation or deficiency in coordination between the Coast Guard and the Expedition Personnel.

Resources of the Bishop Museum, in Honolulu, were fully utilized by me. Many individuals were most valuable with their helpfulness, information, advice, criticism, and enthusiasm. The leadership and knowledge of such leaders as Albert Judd, Peter Buck, and Ed Bryan contributed in a great measure to many of the more successful and fortunate aspects of the early expeditions. The whole-hearted support by the officials of the Museum served as a catalyst for the enthusiastic responses that I received from many other organizations.

Albert Judd, a trustee for the Kamehameha School for Boys, in order to solve a dilemma for me, suggested that the colonists be secured from students or graduates of the school. This was happily agreed to. Through the personal efforts of Dr. Barnes, Don Mitchell, and Captain Sid Hinds, I interviewed and selected the young men and boys that I felt were needed. The "Panala'au Memoirs," I am convinced will serve to show the superlative manner in which each and every one of these Hawaiians cooperated in, as well as coordinated, their activities.

Many items required or suggested were not available from the Military or Naval establishments. Cash money was not available. By categories, requests were made to other agencies for:

(1) Agricultural supplies for experimentation with garden seeds, plants and trees.

(2) Weather recording instruments.

(3) Equipment or supplies for various collections and observations.

(4) Certain pieces of heavy machinery for use in the hasty construction of the airfield on Howland Island, in advance of the proposed flight of Amelia Earhart from Honolulu.

The responses to all of my requests were immediate and positive. I recall some of the organizations which contributed material, advice, labor, or transportation. They are: the U. S. Weather Bureau, the U. S. Department of Agriculture, the Territorial Government of Hawaii, the Territorial Bureau of Forestry, and the Hawaiian Sugar Planters' Association.

The U. S. Army provided enlisted personnel, supplies, equipment, labor, transportation, and technical equipment. Generals Dorey, Drum, and Van Vorhees gave me full authority to make requests in their name. Colonel George Patton provided continuous intelligence information on many subjects. Enlisted men prepared lists of equipment and supplies, selected, packed, and placed them on shipboard. Artillery tank specialists secured condemned tractors and other heavy equipment, placed them in operable condition, disassembled them for ship loading, reassembled them upon landing, and placed them in operation for the construction of Howland Island Airfield. An Engineer Company, in seclusion, constructed a pontoon raft for landing the heavy equipment required on Howland. Specialists (radio, electronic, mechanical, secretarial) were secured to assist and accompany the expeditions. An Infantry Company (my own command) was detailed (under First Sergeant Don Cashin) to provide labor, drivers, personnel, and expertise for each of the above activities. Schofield Barracks Post Hospital specialists thoroughly examined all personnel (Military and Hawaiian) for medical and dental difficulties. Where advisable, constructive or emergency action was taken on those who were accepted to accompany the expeditions.

The Army, Navy, and Army Air Corps were always enthusiastic in accepting personal invitations from the ship commanders to select officers or enlisted men to accompany an expedition as observers or guests.

Unloading and landing a reconditioned Army tractor on a home-made pontoon, for use on the Howland Island airfield, January 1937.

It took tractor, boat, and manpower to land material and supplies from the U.S.C.G. cutter Duane, to build the airfield on Howland.

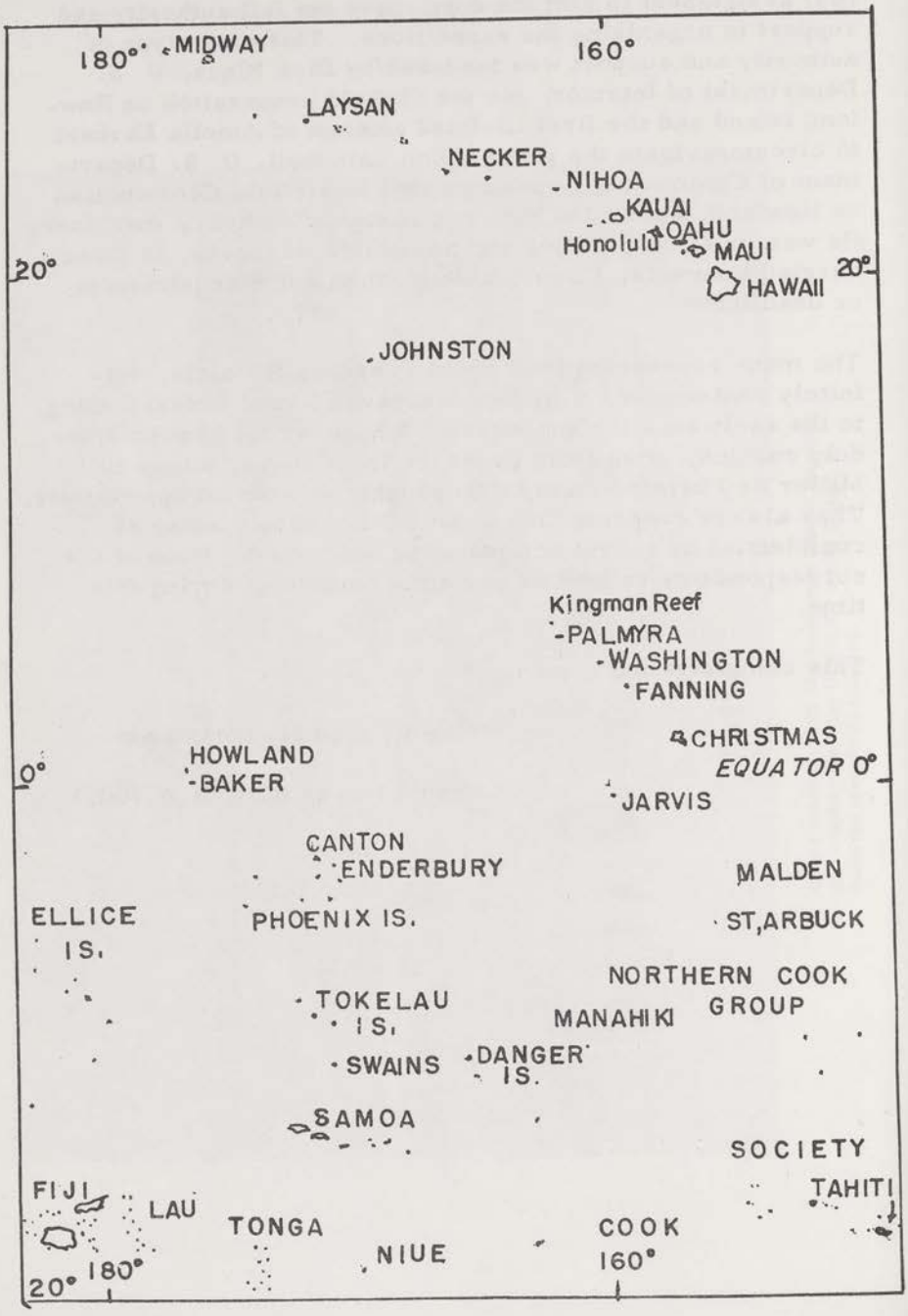
Bill Miller, U. S. Department of Commerce, upon my initial assignment to him for duty, gave me full authority and support in organizing the expeditions. This same type of authority and support was tendered by Dick Black, U. S. Department of Interior, for the airfield preparation on Howland Island and the first ill-fated attempt of Amelia Earhart to circumnavigate the globe. Bob Campbell, U. S. Department of Commerce, Superintendent of Airfield Construction on Howland, submitted his requirements for heavy machinery. He was most cooperative and adjustable whenever, in those hurried moments, I was unable to meet some requirement or deadline.

The many representatives of the press, in Honolulu, definitely contributed, with their cooperation and understanding, to the early mission successes. Whenever they became unduly curious, often from pressure from above, either Bill Miller or I briefed them as thoroughly as seemed appropriate. They always respected my personal situation insofar as confidential or secret actions were concerned. None of the correspondents caused us any embarrassment during this time.

This completes my report.

With my fond regards, I am

"Ham" Meyer (Col. R.A. Ret.)


180°
MIDWAY
160°
LAYSAN
NECKER
NIHOA
KAUAI
OAHU
Honolulu
MAUI
HAWAII
20°
20°
JOHNSTON
Kingman Reef
PALMYRA
WASHINGTON
FANNING
CHRISTMAS
EQUATOR 0°
0°
HOWLAND
BAKER
JARVIS
CANTON
ENDERBURY
MALDEN
ELLICE
IS.
PHOENIX IS.
ST, ARBUCK
NORTHERN COOK
GROUP
TOKELAU
IS.
MANAHIKI
SWAINS
DANGER
IS.
SAMOA
SOCIETY
FIJI
LAU
TAHITI
TONGA
COOK
NIUE
160°
20°
180°

2. THE ISLANDS

Strewn across the equatorial Pacific, in the area between Hawaii and Samoa, and within a width of about 2,000 miles (150° to 180° west longitude) are some thirty low coral islands. Their names, areas (in square miles), and the names of the groups in which they are placed by modern geographers, and governing country, are as follows:

"Northern" COOK ISLANDS	
Palmerston	.7
Suvarov	.16
Tongareva or Penrhyn	3.8
Manihiki	2.0
Rakahanga	1.55
Nassau	.45
Danger Is. or Pukapuka	2.0

LINE ISLANDS		
Flint	G.B	1.0
Caroline	"	1.45
Vostok	"	.1
Starbuck	"	8.1
Malden	"	11.25
Jarvis	U.S.	1.75
Christmas	G.B.	222.7
Fanning	"	12.4
Washington	"	2.9
Palmyra	U.S.	.5
Kingman Reef	"	-

(No definite group)		
Johnson	U.S.	.65
Howland	"	.73
Baker	"	.29

PHOENIX ISLANDS		
Canton	U.S.&G.B.	3.5
Enderbury	" "	2.3
Birnie	G.B.	.1
Phoenix	"	.2
Sydney	"	1.7
Hull	"	1.5
McKern	"	.2
Gardner	"	1.6

TOKELAU ISLANDS		
Atafu	N.Z.	.78
Nukunono	"	2.1
Fakaofu	"	1.01

AMERICAN SAMOA	
Swains	1.0

Some of these islands have the form and structure of a typical atoll, with islets along a reef, surrounding a shallow lagoon, into which there are lagoon entrances. Others form a series in which the size of the lagoon becomes proportionately smaller and smaller until it disappears altogether, leaving a saucer-shaped sand islet. The land

reaches its highest elevation, seldom more than 20 feet, around the crest of the beach, particularly on the windward side, surrounding a central depression.

As can be seen from the area figures, most of the islands are small. Christmas Island is the exception, being three times as large as all of the others combined.

It is not the size of the island, however, that determines its suitability as a place on which man can live. This is governed largely by the rainfall, which in turn influences the vegetation and other environmental factors. Most of the other factors of the climate are very uniform. Located within the tropics, and lacking elevation, the temperature never becomes cold. Being surrounded by great expanses of ocean, and with trade winds the rule, the temperature never becomes very hot. In this equatorial belt, air expands, rises, and allows denser, cooler air to move in from north and south to take its place. The rotation of the earth from west to east makes the air appear to drift westward, giving rise to trade winds.

Rainfall is not uniform in the Pacific. There are definite wet and dry zones. Average annual rainfall at sea level may vary from less than 30 inches to more than 160 inches a year. There are pronounced seasonal differences of rainfall on many islands; also there are great variations from year to year. Stretching across this portion of the Equatorial Pacific are alternating wet and dry bands. To cite the more obvious of these, there is a wet zone through Palmyra, Washington, and Fanning Islands, which lie from three to six degrees north of the equator. A "dry" zone extends along the equator and a little to the south of it. In this zone lie Jarvis, Malden, Starbuck, Howland, Baker, and the northern part of the Phoenix Islands. Christmas Island is located between the wet and the dry zones noted above. It is drier than Fanning, but not so dry as Jarvis and Malden. South of the equatorial dry zone the rainfall may increase, so that the southern islands of the Phoenix group might be fit for human habitation some years; but other years might be "dry." Then the coconut palms and cultivated gardens would cease to produce food crops.

Rainfall is by all odds the most variable factor in the climate on these equatorial islands. It not only varies from zone to zone, but also from year to year. Rainfall records for these islands have not been kept for very many years. Two of the longer records come from Fanning, where there was a cable station, and Malden, where guano was dug for many years. On Fanning, the annual recorded rainfall has varied from 47.4 inches to 208.8 inches. On Malden the range for different years has been from 3.94 inches to 93.59 inches. In more recent years there have been records from Canton Island which range from less than 8 inches during the year 1954 to almost 70 inches during 1958, and 112 inches in 1941. During a dry year an average of as little as two-thirds of an inch of rain fell in a month, and the plants dried up. In a wet year, with ten to fourteen times as much rainfall, a comparatively luxurious vegetation made its appearance, followed closely by insect life, including even butterflies. About 100 different species of insects have been collected on Canton Island. Some of these doubtless reached Canton on ships and airplanes; but other species, which live in association with plants which grow on the island, must have arrived under their own power. In another part of this account is given a tabulation of the principal kinds of plants found on these equatorial islands.

The five islands--Jarvis, Howland, Baker, Canton, and Enderbury, with which this story is mainly concerned--all lie in "dry" zones, so it will be their environment--plants, animals, and relationship to man's existence--that we will try to describe. However, by way of contrast, we will also note conditions on Palmyra Island, a very wet island, at which some of the cruises stopped. All of these notes concerning the islands, their plants, birds, mammals, reptiles, fishes, crustaceans and mollusks, will be in Chapter 11.

Jarvis, Howland, and Baker are of the driest type. They support only grass, herbs, vines, and low shrubs. On Howland there were the remains of a few small clumps of kou trees (Cordia subcordata), which appeared to be more dead than alive. This kind of tree grows better on Enderbury and Canton, where were also found the tree

heliotrope (Messerschmidia argentea) and a few planted coconut palms. After the development of the airport on Canton, numerous herbs, shrubs and trees were introduced and cultivated, to make the small population feel more at home.

The most conspicuous animals seen on Central Pacific atolls and sand islands are the birds. All of them are either sea or migratory species. Mammals are represented by rats. There are at least two species of lizards. Sea turtles come ashore at times to lay their eggs. There are a number of kinds of fishes along the reefs and off shore. Spiny lobsters are numerous; also good eating. Hermit crabs are found on land. Collecting mollusks became a fascinating hobby for many of the "colonists," and a list of the principal species will be given in Chapter 10.

3. SHIPS AND TRIPS, 1935 TO 1942

There were in all 26 trips made by U. S. Coast Guard cutters to the five islands in the equatorial Pacific occupied by "colonists." Some of these were of major historical importance. Some were routine supply trips. Two were emergency visits, made necessary by sickness. Omitting these last two, the other 24 of the round trips from Honolulu to the islands and return have been called "cruises" and have been given consecutive numbers, by which they are known officially and in published accounts. The object of this chapter is briefly to summarize these trips, where and when they went, and to describe events of special importance. In Chapter 12 summary charts are given which list the names of the "colonists" and the members of the official parties. This will obviate the necessity of discussing them here. An intimate diary of Cruise 4 to Samoa, written by James Carroll, appears in Chapter 7; and detailed accounts of Cruises 11 and 13, which visited the greatest number of islands, are given in Chapter 9. Excerpts from the diaries of Abraham Piianaia and Killarney Opiopio, concerning the month they spent on Swains Island, appear in Chapter 8.

The cruises fall into two natural periods: The first four were made under the auspices of the U. S. Department of Commerce. They received a minimum of publicity. The "colonists" lived in very temporary camps, chiefly in tents, with no radio communication, and very few comforts or facilities, on three islands: Jarvis, Howland and Baker. At the end of the fourth cruise all parties were withdrawn.

The balance of the cruises (numbers 5 to 24 and the two emergency trips) fall into the second period. They were made under the auspices of the U. S. Department of the Interior. Five islands were occupied: Jarvis, Howland, Baker, Canton and Enderbury. Two of the cruises visited several additional islands (see Chapter 9). The camps were of a more permanent type, including frame houses containing better furniture, refrigeration, water tanks, and radio communications. Except in the case of Cruise 5, when the

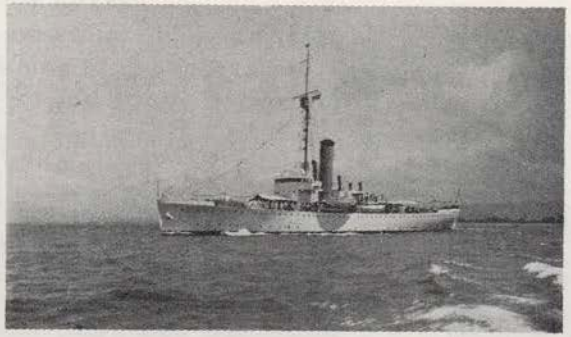
camps were reestablished, and the final trips which were made during war time, there was an abundance of publicity, reporters having been taken on some cruises.

Cruise 1 was made in great secrecy, on the U. S. Coast Guard Cutter Itasca, Commander W. N. Derby, March 20 to April 27, 1935. After a brief stop at Palmyra Island to pick up some sprouting coconut palms, the first camp was established on Jarvis Island on March 25-26; the second on Howland Island, a thousand miles to the west, March 30 to April 1; and the third on Baker Island, April 2 to 3. The Itasca proceeded to Pago Pago, American Samoa to refuel, stopping at Swains Island, April 6 and 15, and then visited each of the three camps on the return trip to make sure that all was well: Baker and Howland, April 18, Jarvis on April 22, and after passing Washington Island returned to Honolulu on April 27.

The Itasca made soundings on the east side of Jarvis Island, where a shoal was found.

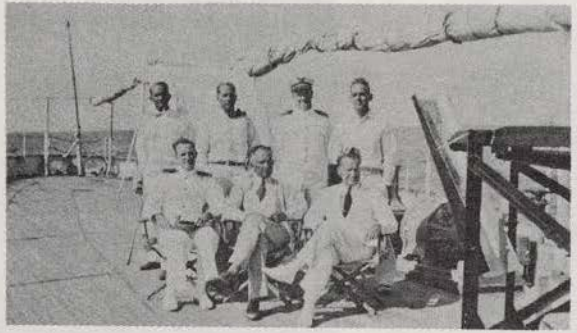
Cruise 2 was made on the Itasca, June 9 to 26, 1935, to provide the three camps with supplies and replace the army men, who had established the camps, with Hawaiian boys. A visit was made to Palmyra June 13, Jarvis June 15, Baker and Howland June 19, Johnston Island June 23, and return to Honolulu June 26. The camps were found to have been well kept and in good condition, with all the occupants in good health and spirits. No landing difficulties were experienced at any island.

Cruise 3 took the Itasca on a routine supply trip, September 9 to 26, 1935. It passed the U.S.C.G. Tiger towing the four masted schooner Seth Parker from Samoa to Oahu, Sept. 10. Sighted Kingman Reef, Sept. 12, anchoring inside the lagoon. One day at Palmyra, Sept. 13. Jarvis Island, Sept. 15; Baker and Howland, Sept. 19; Johnston Island, Sept. 23; and returned to Honolulu Sept. 26. Soundings were made at Kingman Reef. Fishing was reported good at Palmyra and Baker; poor at Kingman Reef, Howland and Johnston Islands. The three shore camps were "noteworthy for cleanliness, tidiness, and general excellence."



The U.S. Coast Guard cutter Itasca sets out from Oahu on an early cruise to the Equatorial Islands, 1935.

Commander W. N. Derby, with Lt. Meyer and a group of early "colonists" from the Kamehameha Schools.



Official party on the first cruise, on the deck of the Itasca. Seated (L to R): Cmdr. Derby, Col. Gunner, Wm. T. Miller; standing: Lt. Meyer, Lt. Howard, Cmdr. Eaton, Lt. Shull. Photo by Bryan.

Lt. Meyer and a group of Kamehameha boys, on the deck of the Itasca, 1935, discuss their future problems as "colonists."

William T. Miller on the deck of the Itasca at the end of the fourth cruise, with Polynesian specimens collected by the Official Party.

Richard B. Black, expedition leader, with U.S. Army assistants on the 9th cruise, March 1937.

Cruise 4. The U. S. Coast Guard Cutter Itasca was under command of Commander F. W. Brown. It left Honolulu on January 9, 1936. Bright sunny weather was enjoyed at Palmyra, January 13. Stores and personnel were landed at Jarvis, January 15. On January 19, a very heavy surf prevented landing off the camp at Baker, but successful landings were made on the south side. Howland was sighted too late to make landings that night, but water and stores were put ashore next morning, January 20, and exchange of personnel made. January 24 was spent at Swains Island. About 1100 pounds of staple food was landed for the relief of the inhabitants. Abraham Piianaia and Killarney Opiopio were left on Swains Island to collect specimens and data. The Itasca moored at the Naval Station dock, Tutuila, January 26, and remained there until February 26.

It had been anticipated that the period of occupation of the three islands might be a short one, so careful thought had been given to how that interval might be used to the best advantage. Dr. Peter Buck, Director of the Bishop Museum, urged that, if possible, the Itasca continue on to American Samoa and thus give the "colonists" with Hawaiian blood an opportunity to get acquainted with other Polynesian young people. As a part-Polynesian of distinction, Dr. Buck wrote letters to various Samoan chiefs describing the proposed visit, and expressing the hope that their contact with these young men would be pleasant. Mr. Albert F. Judd, who had traveled widely in Samoa, did likewise, on behalf of the Kamehameha Schools. They asked Captain H. A. Meyer to assist with the contacts on Tutuila. A brief story of the results appears in Chapter 7.

On the return trip, a stop was made at Swains Island on February 27, and the two "colonists" taken on board. Baker was reached on the morning of March 1. A survey of conditions showed that no landing could be made on the west side due to heavy surf. One surf boat was landed on the south side, and four Hawaiian boys and their personal belongings removed from the island. No attempt was made to remove remaining stores due to unfavorable conditions. In the afternoon better conditions were found on Howland, and the four "colonists," their possessions, and most of

of the stores and equipment were removed. On March 5, excellent weather at Jarvis made the evacuation much easier. Honolulu was reached on March 9, after a cruise of over 7,400 miles. It was noted at Baker Island that the contour of the southwest corner of the island had changed somewhat during the past months.

Because of the need for haste in recolonizing the islands, the 5th cruise was carried out by two Coast Guard ships, and called respectively 5A and 5B.

Cruise 5A. The Itasca, under command of Lt. Commander Frank T. Kenner, left Honolulu at 11:53 on June 13, 1936. Captain H. A. Meyer, with a group of his reliable assistants, Carl Summers, Ralph Wilson, and James V. Bailey, and eleven Hawaiian "colonists," and equipment and supplies, reached Baker in the early morning of June 18. There, aided by a calm sea, the camp which had been so hastily abandoned was quickly reestablished. Two of the tents were down, the third was standing; but the entire camp was overrun by hermit crabs and rats. The water in unopened drums was found drinkable, but much of the food which had been left was destroyed to avoid possible contamination. The west shore of the island appeared to have changed. There was evidence of much erosion, suggesting that high surf had prevailed during the winter season. Most equipment had deteriorated badly due to the weather. About half the trees and plants set out by earlier expeditions were growing, particularly the coconut palms. The green vegetation indicated that considerable rain had fallen.

At 10:30 the Itasca departed from Baker and arrived at Howland at 12:55. Here the former camp site had been dismantled March 1, 1936, but there was no evidence of it having been visited during the interval. The fresh water left in unopened drums was tested and found to be good. Twelve new drums were also left. The vegetation on Howland was also in good shape. The Itasca departed for Honolulu at 1812, arriving on June 23, 1936, after a cruise of 3,378 miles.

Cruise 5B. It had been planned to use the U. S. Coast Guard Cutter Reliance, but it not being available,

the cutter Tiger, under the command of Lieutenant H. J. Doebler, with personnel and equipment, left Honolulu June 13, 1936 at 11:35 for Jarvis Island. Austin Collins accompanied Lt. Doebler as his assistant to recolonize the island. They did so on June 19, and returned to Honolulu, June 25, 1936 at 1740.

Cruise 6. The U. S. Coast Guard Cutter Itasca, under command of Lt. Commander Frank T. Kenner, left Honolulu July 25, 1936 at 1000. It anchored at Palmyra Island at 0902, July 28 off the west end of the island. Two parties were landed for the purpose of planting seeds and setting out plants on Home Island and Cooper Island, at the request of the owner, Mr. Fullard-Leo. Thirty sprouting coconuts were taken aboard for transplanting on Jarvis, Howland and Baker. Jarvis was reached on the morning of July 30, and the camp personnel were found in good health and spirits. Supplies, building materials, aerological and radio equipment, and plants were landed. H. T. Stewart, with the Chief Carpenter's Mate of the Itasca and two assistants started the construction of a house. Lt. (j.g.) Swanson, Ensigns Sutter and Mellen, the Itasca's Chief Quartermaster and two seamen, constituted a survey party to definitely establish the position of Jarvis, locate a true meridian for aerological observations, and complete a survey of the island. The supplies and equipment were all landed, and the "colonists" received a physical examination from Dr. Meyer. All drinking water was tested. The observations continued during the night, and construction continued during July 31 and August 1 and 2. Parties made hydrographic observations around the island. The Itasca departed at 1614, August 2 for Baker Island. The Equator was crossed August 4 with appropriate ceremonies.

Baker Island was sighted August 6. Lumber and building materials were sent ashore, and construction and survey parties repeated the procedures which had been carried out on Jarvis. The four "colonists" were found in good health and spirits; and drinking water on the island was tested by Dr. Meyer. At 1305, August 6, the Itasca continued on to Howland, arriving at 1610, and immediately began unloading lumber and building materials. Dr. W. H.

Meyer examined the Hawaiian boys and found them in good health and spirits. He also tested the water supply. A carpenters' working party was left on Howland and, on August 7, the Itasca returned to Baker. There, throughout the day, all of the supplies were put ashore; the frame structure of the house was complete; the survey party worked throughout the day and completed its work in the late afternoon. All parties returned to the ship and it returned to Howland. That evening a bright comet was observed, which proved to be Peletier's comet. During August 8 and 9 all stores, plants and equipment were landed on Howland, the survey of the island was completed, and the carpenters finished building the house. Work on Howland having been finished, on August 10 the Itasca made a circuit of the island, taking fathometer soundings, and at noon it departed for Honolulu, where it arrived August 17 at 1110, after a cruise of 4,725 miles.

The official report of this 6th Cruise says: "One of the major accomplishments of the cruise was the extensive survey of Jarvis, Baker and Howland Islands: true positions, meridians, and a hydrographic survey of the surrounding waters. Survey party personnel was commended. Baker was found to be 4-1/2 miles, and Howland 5-1/2 miles to the eastward of previously charted positions."

Cruise 7. Left Honolulu, on the Itasca, Lt. Commander Frank T. Kenner commanding, October 16, 1936, at 1600. It carried three 800-gallon iron tanks to hold drinking water. October 20 was spent at Palmyra, where working parties collected 375 sprouting coconuts, departing at 1719 for Jarvis.

The Itasca hove to off the camp on Jarvis, Oct. 22, at 0607. A high and dangerous surf prevailed, which would prevent the safe landing of equipment and supplies. The surf was still high on the morning of the 23rd. The motor launch entered the channel at 1330, but it was evident that the surfboats could not enter under oars. They were towed in and skillfully maneuvered so that all supplies and equipment, including the 800-gallon tank, were gotten ashore. Only two drums of water were lost while being towed in

through the channel. The island personnel were found in excellent health and spirits, and the condition of the camp was excellent. The leader, Solomon Kalama, reported that on September 5, 1936, a British war vessel, identified as the Wellington, approached the island and then steamed off. Exchanges of personnel were made and the Itasca departed for Howland Island at 1800. On October 24, at 1400, appropriate ceremonies were held, crossing the Equator.

Howland Island was reached October 26 at 0621. Calm sea with little surf speeded the transfer of equipment and supplies ashore, four boats being used. The camp was rated excellent, and all personnel were in excellent health. All stores, including the water tank, were ashore by 0950. Several unusual incidents were reported by personnel on Howland: On August 25, at 1400, a white vessel, flying a Japanese flag, came from the east, circled the north end of the island, and passed down the west side about a mile and a half from camp. The description fitted the Hakuyo Maru. It departed in a southeasterly direction. On September 19, at 0950, the French cruiser Savorgnan de Byassa came from a southeasterly direction and hove to off camp. Taking soundings, it approached to within about 25 yards of the reef. A boat was lowered and an officer and two sailors approached, but the surf was too high to make a landing. The officer addressed inquiries in English to the boys about their health and supplies. At 1030 the cruiser departed. On October 19, at 1530, a British freighter approached from the west to within about a mile of camp, then rounded the north end of the island. Its name could not be read.

The Itasca left Howland for Baker on October 26 at 1040. It hove to off Meyerton at 1300. A heavy surf was running on the west side, but it did not appear to be dangerous. A considerable change was noted in the beach line since the survey made the previous August. The Itasca proceeded to the south side of Baker, and at 1545 landing operations were begun. The motor launch was anchored, and the self-bailing surfboat was hauled back and forth between it and the beach, through the surf. In this manner all the supplies, equipment and plants, even the large iron tank, were landed by 1850, and a course was set for Honolulu, arriving October 31, at 1212, after a cruise of 4,244 miles.

Plants provided by Charles S. Judd, Territorial Forester, for each island: 33 hala (Pandanus), 33 milo (Thespesia populnea), 34 ironwood trees (Casuarina). Of the sprouting coconuts collected at Palmyra, 75 went to Jarvis, 150 each to Howland and Baker. A report on farming operations on Howland Island indicated that watermelon, casaba melon, and pumpkin seeds had been planted; 22 ironwood trees were growing nicely; 5 Hawaiian pepper plants, planted January 1936, were doing well, 18 inches tall; ten mango trees (Mangifera indica), planted in September 1936, were 2 feet tall and doing well; four breadfruit trees (Artocarpus), planted in September, were doing well; hala trees, planted January 1936, were doing fairly well; 35 melo trees, planted in August, were doing fairly well; and 5 coconut palms planted in January and 15 in August were doing well.

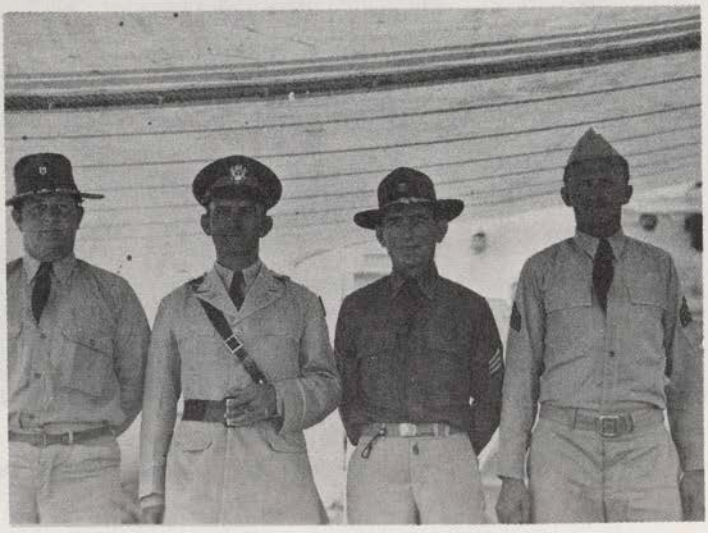
Cruise 8. The U. S. Coast Guard William J. Duane, Commander P. F. Roach, departed from Pearl Harbor, January 13, 1937, at 1000, deeply laden, all holds filled, and most of the deck space covered with cargo. It had been berthed at the Navy Yard for a week, taking on equipment and supplies for the construction of the air field on Howland. The bulkier pieces of equipment included two tractors, each weighing 6100 pounds stripped, a two-ton roller, a plow, a grader, a tank wagon, two steel stone boats, each weighing 1100 pounds, and a pontoon weighing 4500 pounds. In addition to the regular supplies for four men each on three islands for three months, there were supplies for ten additional men on Howland.

Howland Island was reached at dawn on January 22. The cutter departed Howland at twilight on January 26 and arrived at Baker at daybreak on the 27th. A heavy surf was breaking on the westerly side of Baker, but it was only moderate on the south side so two boat loads of supplies and provisions, five drums of water, and the inspection party were landed. It had rained recently, and Baker was well supplied with fresh water.

That night, after picking up the inspection party, the W. J. Duane steamed slowly back to Howland Island, arriving at daylight on January 28. Fifteen drums of fresh

The "Big Four" on the 8th cruise: Meyer (Army), Kenner (Coast Guard), Campbell (Air Commerce), and Black (Interior) on the deck of the Duane.

The author and his chief advisor, "Ham" Meyer, prepare to go ashore on an island, during the first cruise, 1935.



Lt. Meyer and his team on seven of the first nine cruises (1935-1937): Wilson, Meyer, Summers, Collins.

water not required at Baker were landed at Howland. The surveying party, the inspection party, their bedding and outfits, two "colonists," and two W.P.A. workers were taken aboard for transportation to Honolulu; the cutter departed at the end of daylight on January 28, arriving at Pearl Harbor February 5, at 1530.

Cruise 9. The U. S. Coast Guard Cutter Shoshone, Commander G. T. Finlay, departed Honolulu, March 10, 1937, at 0709. It arrived at Howland Island on March 15 at 0916. Unloading was completed by sundown. It departed for Baker Island at 0515, March 16, arriving off Baker at 0832 that morning. They found surf conditions better on the south side, but waited for higher water on the reef. Unloading was completed by sundown. Returning to Howland Island, drums of fresh water were unloaded, and empty gasoline drums and machinery no longer required were taken aboard for return to Honolulu. Two red lanters were sent ashore to be placed on the north and south ends of Howland, for use in checking the positions of the vessel during the night. During the 18th and 19th, watches of ship personnel were given shore liberty for recreation and swimming. On March 20, upon receiving word that the Earhart flight was indefinitely postponed and that the gasoline was to be left on Howland, all the equipment to be returned to Honolulu and the personnel on shore who had completed their duty there--including Robert Campbell, Bureau of Air Commerce-- and seven W.P.A. workers were taken on board. The Shoshone departed for Jarvis at 1642, March 20. The Equator was crossed on the afternoon of March 22, with appropriate ceremony. Jarvis Island was reached on March 24 at 1010; stores were unloaded and an exchange of one "colonist" made; departure was at 0418.

Arrived off Fanning Island March 25 at 1252 and delivered 10 sacks of mail and 400 pounds of fresh stores. Acting Administrative Officer for the Fanning Island District, E. L. Leembruggen, came on board, and a party of officers and official party went ashore to see the island. Under way at 1800 for Palmyra, where the ship arrived and anchored on March 26 at 1017. Ashore until late afternoon, and under way at 1729 enroute to Honolulu, arriving March 29 at 1305.

Cruise 10A. The U. S. Coast Guard Cutter Itasca left Honolulu June 18, 1937, to be present at Howland at the time Amelia Earhart and Fred Noonan arrived from Lae, New Guinea on their flight around the world. It arrived at Baker Island on June 24 and Howland on June 25. The plane failed to arrive. The cutter took part in the unsuccessful search for the lost fliers, July 2-18, as did aslo the aircraft carrier Lexington and the destroyers Cushing, Lamson, and Drayton. The Itasca returned to Honolulu July 24.

Cruise 10B. After refueling, the Itasca left Honolulu July 29, 1937, stopped at Fanning Island to deliver mail, arrived at Jarvis Island August 2, and returned to Honolulu August 6, 1937.

Cruise 11. The Coast Guard Cutter Roger B. Taney, Commander E. A. Coffin, left Honolulu October 23, 1937 at 10 P.M. Since details about this cruise are told in Chapter 9, only an abridged log will be given here. Sighted Kingman Reef October 27, 9:25 and spent the balance of the day at Palmyra. Arrived Whaler Anchorage, Fanning Island, October 29, 9:35 A.M. to 6:24 P.M. Lagoon Passage, Christmas Island, October 30, 10:20 A.M. to 10:30 P.M. Cross the Equator October 31. Jarvis 12:45 P.M. to Nov. 1, 3:20 P.M. Moored at Naval Station wharf, Pago Pago, Nov. 5, 1:30 P.M. to Nov. 7 at 11:00 P.M. Apia, Samoa, Nov. 8 to Nov. 10, 7:00 A.m. Safetulifei, Savaii, 9:30 A.M. to 5:20 P.M. Swains Island, Nov. 11, 9:25 to 12:20 P.M. Passed Atafu, Tokelau Islands, Nov. 12, in early morning, and stopped off the village on Hull Island, morning of Nov. 13. Anchored at Sydney Island in the late afternoon, deliverying a small skiff. Stopped at Phoenix Island, Nov. 14, 7:20 to 9:30 A.M. Arrived at Enderbury at 12:40 P.M. and departed at 2:35 P.M. Off Canton Lagoon entrance at 6:00 P.M.; unable to anchor, returned at 7:00 next morning (Nov. 15), leaving for Baker at 10:48 A.M. Off Baker Nov. 16 at 10:00 A.M., and because surf was bad proceeded to Howland, arriving at 1:20 P.M. Laid corner stone of Earhart Light next morning at 7:20, and departed for Baker at 10:15 A.M., arriving at 1:45 P.M. Left Baker for Honolulu November 17 at 7:30 P.M., arriving November 23 at 7:30 A.M., after a cruise of 5,600 miles.

Cruise 12. U. S. Coast Guard Cutter Roger B. Taney, under command of Commander E. A. Coffin, left honolulu February 28, 1938, 5:00 P.M. Brief stops were made at Howland Island to pick up three men and the aerological balloon sounding station, and at Baker Island to deliver mail and fresh food (March 5). Reached Enderbury Island early on March 6 and landed personnel, carpenters, lumber and supplies to build a camp, raising the American flag at 8:45 A.M. When the carpenters had the footings of the bungalow in place, the ship continued on to Canton, arriving off the lagoon entrance at sunrise March 7. The two British radio and weather observers, Lansdale and Manning, were on hand to greet them, having heard the broadcast the evening before from station KSL, Salt Lake City, that Canton and Enderbury had been annexed by order of the President of the United States. "Come in and have a glass of beer, gentlemen," is reputed to have been their greeting. Surveyors Henslee Towill and Alfred Voigh began a survey of the atoll with the advice of Capt. H. O. Paxton of Schofield. F. A. Edgecomb, superintendent of lighthouses, 19th district, selected a site for a lighthouse near the entrance. Returning to Enderbury in the afternoon of Mar. 8, the Taney picked up the carpenters and departed for Howland and Baker. A stop was also made at Jarvis, and the cruise returned to Honolulu on March 21, 1938.

Cruise 13. The Roger B. Taney, Commander E.A. Coffin, left Honolulu July 16, 1938. Since a detailed summary of this cruise is given in Chapter 9, only a skeleton log will be noted here. Howland was sighted on July 22 at 9:00, and a smooth landing made. A very smooth landing was made at Baker, July 23, at 10:20 A.M., and under way for Howland at 2:35 P.M. Off Howland at 5:50 P.M. and one man put ashore. Cross the Equator, with appropriate ceremonies July 24. Off the entrance to Canton lagoon at 7:45 on the 25th; all freight ashore by 5:30, and under way for Enderbury at 10:00 P.M. Landed at Enderbury July 26 at 7:40 A.M. Returned to Canton, July 27. Ashore at 9:40 A.M. and returned to the ship at 7:15 P.M. Under way July 28 at 3:00 A.M., passing Birnie at 8:00 A.M. and off Hull at 1:50 P.M. Traded off NW point of Atafu, July 29 at 1:40 P.M. Landed at Swains Island, July 30 at

8:55 A.M. Reached Pago Pago Harbor July 31 at 10:00 A.M. Departed August 3, soon after midnight; past Ofu and Olosega; and reached Tau at 10:10 A.M., where the day was spent. Off the lagoon entrance of Rose atoll, Aug. 4 at 9:10 A.M., and departed at 11:40. Off Puka Puka on Aug. 5; visit from Geofrey Henry and R. D. Frisbie. Arrived Jarvis Island Aug. 8 at 8:55. Departed Aug. 9 at 5:05 A.M. Stopped at Whalers Anchorage, Fanning Island Aug. 10 at 3:08 to 10:35 P.M. Anchored at Palmyra Aug. 11 at 12:20; departed Aug. 13 at 6:55 A.M. Passed Kingman Reef at 9:05. Arrived Honolulu, August 15, 7:30 P.M.

An emergency trip, called "13A" was made to Jarvis Island by the Roger B. Taney, Commander E.A. Coffin. Word was received by Richard B. Black on October 3, 1938 that Carl Kahelewai, "colonist" on Jarvis, was very sick. Dr. Harold D. Lyman, U. S. Public Health doctor, diagnosed his symptoms as appendicitis. Carl Kahelewai was a former student of the Kamehameha Schools and also McKinley High School. The Taney, making 20 knots on the 1,310 mile dash, was half way at 2:30 P.M. on October 5 when fellow "colonists" reported that Carl was responding to treatment. The Taney reached Jarvis October 7 at 5:45 A.M. Carl was taken on board at 7:00 and by 9:20 the Taney was under way for Honolulu at full speed. On Saturday, October 8, his condition took a turn for the worse, and at 8:40 that evening he died of peritonitis. The Taney returned to Honolulu on October 10 at 8:30. A memorial service, held on McKinley High School campus October 11, at 11:00 A.M., was attended by 3,000 students and many prominent persons and relatives. The light of Jarvis Island was dedicated to the memory of Carl Kahelewai, with a bronze tablet, December 11, 1938. (A detailed article by William Norwood with pictures appears in the Honolulu Star-Bulletin for October 10, 1938.)

Cruise 14 was made on U. S. Coast Guard Cutter Roger B. Taney, Commander E. A. Coffin. Left Honolulu November 25, 1938 at 5:00 P.M. Visited in turn: Howland Island, Nov. 30; Baker Island Dec. 1; Canton Island, Dec. 2; Enderbury Island, Dec. 3; Jarvis Island, Dec. 11; Palmyra Island, Dec. 12-13, and returned to Honolulu Dec. 18 at 6:30 A.M. Thirteen "colonists" taken and 16

returned. Jarvis Light was dedicated to Carl Kahalewai, Sunday, December 11, which would have been his 22nd birthday. Canton Light had been put in operation on November 1, 1938. George V. Langdale (British radioman on Canton) was taken 50 pounds of sugar and parts for a gasoline lantern.

Cruise 14A. Cutter Roger B. Taney, Commander E. A. Coffin, making an emergency trip to Jarvis Island, left Honolulu January 7, 1939 at 12:30 P.M., carrying emergency supplies and Dr. J. H. Wolfe to render aid to Manuel Pires, radio operator. Dr. Wolfe and Dr. Harold D. Lyman had been in radio communication with Pires the previous night, and had diagnosed the condition as acute appendicitis. On the evening of January 7 they gave advice by radio, to which he was responding well. They reached Jarvis January 10 at 7:30 A.M. Manuel Pires was transferred to the ship and Alexander Wong left in his place. The Taney departed at 8:30 A.M. Pires was much recovered and was able to be on deck and greet friends and relatives upon arrival at Honolulu January 13 at 9:30 A.M. He underwent a successful operation for appendicitis, performed by Dr. Robert Lee at Queens Hospital on January 21, 1939.

Cruise 15. U. S. Coast Guard Cutter Roger B. Taney, Commander E. A. Coffin, departed Honolulu March 15, 1939. Arrived Baker Island March 20, 8:55 A.M.; moderate surf made unloading easy. Camp conditions and health of all personnel excellent. A new wind charger generator was erected on top of Government House. The new radio call for Baker was K6PUL. Taney departed that afternoon at 5:00 for Howland, arriving at 9:00 next morning. There, low tide with ideal surf conditions made landing easy. All members of the island colony were given medical examinations. Frederick Wilhelm had a fever, possibly from tonsilitis, so was replaced and taken to Honolulu for treatment. Camp was found in good condition. A new wind charger was installed; also new radio equipment, call K6JEG. Eugene Burke was designated the new leader. Taney departed for Enderbury March 21 at 7:26 P.M.

Arrived Enderbury, March 23 at 8:15. Landing conditions ideal and all supplies and equipment ashore in the

early morning. Camp was found in excellent order, and it was evident that all personnel, who were in excellent health, had exerted considerable effort to maintain a fine colony. The base for the daymark had been completed, and this project would be continued. A stone base would be constructed for the new wind charger. A food cellar and water shed had been completed. Stored supplies were found to be in excellent condition. During the afternoon a working party from the Taney, Gunner R. A. Taylor in charge, assisted by several "colonists," continued to blast a channel through the reef. This work was hampered by the presence of numerous sharks and frequent breakers that tended to dislodge TNT charges after they were planted. New radio call was K6QMQ. Taney departed for Canton at 5:00 P.M. James Kinney remained on Enderbury to band birds at the request of the Biological Survey and the Bishop Museum.

Arrived at Canton at 8:38 A.M., March 24. Supplies and equipment were landed during the early morning. All personnel in good health except James Kamakaiwi, who had sprained his shoulder muscle in an accident in late February. The water supply was low, due to lack of rain. A new theodolite, furnished by the Weather Bureau, was left in the place of one which had been in use. The lighthouse was inspected and its mechanism checked. Its reported low visibility was believed due to the condensation that at times collected on the inside of the lantern. When clean, visibility was 14 miles. Camp in general was in good shape. Radio generator and gasoline generator were checked. A hydrographic survey was made of the entrance channel and water in the lagoon adjacent to the two camps. New radio call for Canton, K6PMO. In the British camp, Mr. Fleming was very appreciative of kindness received; there had been no replacement for Mr. Langdale, who had departed early in the year. The Taney departed for Jarvis March 25 at 4:50 P.M.

Arrived Jarvis March 28 at 7:40 A.M. Due to high surf, it was impossible to land until the morning of Mar. 30. Condition of the camp was found to be excellent; all equipment and buildings in good condition, clean and well kept. All personnel in excellent health. Water supply was low,

so 26 drums were landed. The new radio call was K6OWJ.

The Taney departed for Palmyra March 30 at 12:50 P.M. The usual stop at Palmyra for recreation was from 2:30 P.M., March 31, to 6:00 P.M., April 1. Arrived Honolulu April 4, 11:30 A.M.

It was noted that buildings were already in need of repairs, but that foodstuffs in cans apparently do not corrode as fast in food cellars as on shelves, except on Canton, where ground water is too close to the surface. Weather instruments need frequent checking. Climatic conditions on the islands leave gasoline driven units in poor condition. Their replacement by air-cooled generators was recommended.

Following this cruise, Lt. Commander Frank T. Kenner addressed the Visitors Club in Honolulu on April 13, 1939 on the subject of the history of the development of Uncle Sam's Equatorial Islands, and Commander E. A. Coffin showed motion pictures which he had made of the islands.

An article in the Honolulu Star-Bulletin by William Norwood, in his column, Aloha Lines, April 8, 1939, paid tribute to James C. Kamakaiwi, Jr. and his several years' service as a "colonist" on Howland Island, where the airfield was named in his honor, and also a full year on Canton Island. It said that he had been a major reason for the good relations there between American and British parties.

Cruise 16. The Rober B. Taney, Commander E.A. Coffin, left Honolulu May 20, 1939 at 5:16 P.M. A stop was made at Hilo on Sunday, May 21, to take on board stores for American Samoa. Arrived at Canton Island, May 28, at 7:25 A.M. There certain supplies and personnel were left for Pan American Airways, and contact was made with the U.S.S. Burhnell, which was making a survey of the region. The Taney continued on at 10:58 A.M., reaching the Pago Pago Naval Station May 31, at 9:25. It remained there until June 3, at 5:20 P.M., during which time stores and equipment for Pan American Airways were loaded on board. It arrived at Canton June 6, at 9:10 A.M., and

stores for Pan American and the "colonists" were put ashore. A thorough inspection of radio equipment was made here as elsewhere by Chief Radioman Max H. Kearns, U. S. Coast Guard. The P.A.A. project had progressed well, and preparations were being made for the first scheduled survey flight in early summer.

The Taney arrived at Enderbury at 8:14 A.M., June 7. All stores and equipment were soon landed. The colony was found in excellent condition. Replacements in personnel were made (see summary chart 4), including James Kinney's being taken from there to Jarvis to continue bird banding for the U. S. Biological Survey. The Taney departed at 5:00 P.M.

It arrived back at Canton on June 8, at 6:50 A.M. Kini Pea terminated his service with the Department of the Interior and became an employee of Pan American Airways, and other exchanges of personnel were made. A tour of the northwest side of Canton was made to investigate other possible openings into the lagoon. An agricultural project, proposed by H. H. Warner and Ashley Brown of the University of Hawaii, was carried on by Sam Kahalewai, with the assistance of Frederick Wilhelm. The Taney departed for Baker on June 8 at 2:36 P.M.

Off Baker June 10, at 7:45 A.M. Surf conditions were excellent, and all supplies and equipment were landed during the morning. The colony was in excellent condition, and leader Louis Suares was commended for the energy and good judgment exercised. The radio and weather equipment were checked. The Taney left Baker at 11:05 A.M. and arrived at Howland at 1:30 P.M. All supplies and equipment were landed, and the colony inspected during the afternoon. It was in excellent shape and leader Eugene Burke was commended for its high standing. Canton reported loss of radio contact with Enderbury, so at 8:00 A.M., June 11, the Taney departed Howland for Enderbury, arriving at 12:35 P.M. on June 12. It was found that the generator needed repairs, and these were effected by Chief Radioman Max H. Kearns, U.S.C.G., with the assistance of island operator Maurice Paquette, so that communications could be maintained with Canton until new equipment could be installed.

The Taney left Enderbury at 2:37 P.M. and sighted Jarvis June 14 at 7:50 P.M., but no landing could be made until 7:25 next morning. Medical examinations were given the "colonists" while supplies and equipment were landed. A place was selected for a food cellar, and excavation begun. The wreck of the Amaranth had completely disappeared. Arrived at Palmyra June 17 at 9:35 A.M. and the day was spent in recreation and the exploration of the island, departing at 6:26 P.M. Arrived Honolulu June 20 at 3:00 P.M.

At Pago Pago the Taney took on board the famous outrigger canoe which U.A. Woodberry had sailed from Hawaii to Samoa, and took it back to Honolulu. A detailed account of this cruise by William Norwood appeared in the Honolulu Star-Bulletin for July 8, 1939. H. H. Warner gave the Lions Club an entertaining account of the cruise.

Cruise 17. The Roger B. Taney started out October 3, 1939, but turned back because a member of the crew was stricken with acute appendicitis, reaching Honolulu just after midnight, and was under way again at 2:30 A.M. Arrived Canton Island October 9 at 6:40. Lawrence Browne ashore and serviced the Weather Bureau equipment, and Ashley Browne made a survey of agricultural and landscaping possibilities. Nine Pan American Airways personnel and freight were landed by barges. Visits were made with Mr. Fleming, the British Deputy Administrator and Airport Manager Frank MacKenzie. The American "colonists" were receiving such excellent cooperation that it was estimated that for the next four months two men could perform all the necessary upkeep of the camp and maintain all the weather and radio schedules. All personnel on the island were in good health, but Fred Lee was returned to Honolulu for dental treatment.

The Taney arrived at Enderbury October 10, at 8:00 A.M. An energetic program of upkeep and improvement was evident on the island. The lighthouse was completed with the exception of the cap and mechanism; it serves as a good daymark. A new radio transmitter was installed, changing to radiophone. The colony was reduced to three. The Taney departed at 12:40 and arrived at Canton at 3:40 P.M., picking up P.A.A. personnel and "colonists."

Arrived at Baker October 12 at 6:40, where ideal conditions were found for landing. Conditions and health were found to be excellent, with utmost harmony, and the plantings around the buildings in excellent condition. The Taney departed at 10:10, reaching Howland at 12:32. Here landing supplies was delayed until mid-afternoon because of low tide. Conditions of the colony excellent. The pilot balloon station was reestablished and personnel instructed in its operation. The Taney departed for Jarvis at 4:55 P. M.

Arrived at Jarvis Island October 15 at 12:52 P. M. All supplies and equipment were landed with incident. The colony was in excellent condition, and all were taken aboard the Taney for evening movies, and returned in the morning, the ship departing at 10:23. Palmyra was reached on October 17; remained until noon next day. Returned to Honolulu October 21 at 8:15 A. M.

Jarvis and Canton now have dependable radio, with a small transmitting unit on Enderbury until a new regular set can be installed, the radio phone being given the call KVZE. All personnel on the islands were given thorough medical examinations by Dr. J. M. Wolfe. Buildings on all the islands were repaired and repainted. All lighthouses were given doors. All colonies were found in excellent condition and were commended. Lawrence Browne, of the U.S. Weather Bureau, checked and serviced all weather equipment. Small separate houses will be constructed at Canton, Howland and Jarvis for storage of hydrogen tanks.

Ashley Browne made recommendations regarding plantings on the islands. Commander Kenner concurred in general but thought that the emphasis should stress two purposes, windbreak and shade, rather than as plant coverage for the islands, because of limited available funds and until the permanency of the colonies was known. Planting material carried on this cruise included 22 hau, 3 flats of Casuarina equisetifolia (75 plants), 6 milo trees, 1 Plumeria acutifolia, 4 Geiger trees (Cordia subestena), 8 crown flower (Calotropis gigantea), 12 Messerschmidia argentea, and seeds of Pluchea indica, Prosopis (spineless Kiawe), Kentucky wonder beans, watermelons, tomatoes. Also, 15 tons of soil in sacks was delivered to Pan American Airways, Canton Island.

Lawrence W. Browne, of the U. S. Weather Bureau, said: "I feel justified in saying that the work on the islands is being done well and intelligently. From the point of view of the Weather Bureau, the boys seem of a high order of intelligence and very conscientious." He said that he would recommend to Washington that instruments be made of stainless steel in the future. The weather observations of the "colonists" are sent to the Navy at Pearl Harbor by radio and relayed from there to Pan American Airways, the Weather Bureau, and other interested agencies. Hydrogen filled balloons are used to study the upper air over Canton, Jarvis and Howland.

It was reported that the lagoon at Canton has been cleared sufficiently for seaplanes to land and take off safely and that the hotel is almost finished.

The following statement by Ashley C. Browne was published in the Honolulu Star-Bulletin, October 21, 1939. "The settlements are as clean as two pins. The lighthouses shine out brightly at night. The boys take care of themselves. I can't say too much in praise of their work.

"The boys will develop something on these islands. I don't think they will ever be tropical paradises because they are not in the rain belt. Palmyra, which we visited on the way back, has a heavy rainfall and is covered with a jungle. The sparse rainfall makes it difficult to get trees started on the Line Islands, but after they are started trees grow quite well. The ironwood trees are about 10 feet high now. The best shade possible is offered by ironwood and palm trees and the beach heliotrope."

Cruise 18. U. S. Coast Guard Cutter Roger B. Taney, Commander, E. A. Coffin, left Honolulu March 4, 1940 at 5:00 P.M. Arrived Howland Island March 9, at 9:00 A.M., finding conditions excellent for landing. The colony was in excellent condition, except that the radio equipment was completely worn out, so that a new received and transmitter had to be installed. Government call letters KVZH were assigned for official business. A new wind charger was installed. Considerable rain had fallen during the past

three months, so that vegetation was extensive and all plants set out in October 1939 showed remarkable growth. These were the first results of the project laid out by Ashley Browne of providing shade trees for the "colonists."

The Taney left Howland at 5:00 P. M., March 9, and was off Baker at 8:00 A. M. next morning. Landing conditions were poor. Bad weather had removed most of the sandy beach from the west side, depositing it on the south side. Landing was finally effected on the west side. Surf conditions remained bad throughout the day, hampering the landing of supplies and equipment until evening. The radio had been inoperative since early February. A new receiver had to be installed. The entire radio set-up was changed to phone operation only. No regular radio operator was left on the island. The leader established communications with Howland, and only one schedule a day. The government call KVZB was assigned. In general the condition of the colony was excellent. Although water was plentiful, some 20 drums were condemned as unfit for drinking, to be used for washing and plant life only. All food supplies that remained on hand were condemned and destroyed. All weather equipment was checked, and much of that from previous expeditions was declared unfit and returned to Honolulu. The gasoline generator unit was completely overhauled, and six new storage batteries were left, the old ones being worn out and unserviceable. Plentiful rain during the past three months had encouraged the growth of vegetation. All plants which had been set out had survived. The Taney left Baker at 7:00 P. M., March 10.

Arrived Canton Island March 12, 1940, and stores and equipment landed promptly. Mrs. Fleming had joined her husband, the British Deputy Administrator, having arrived by steamer from San Francisco several months before. A series of conferences were held with Mr. William Mullahey, manager of the Pan American airport on Canton Island. He noted that the P. A. A. base was almost complete; the hotel was still under construction; and landscaping the surrounding grounds had been started. The American colony was in good condition. During the past four months the two radio operators had been able to keep up with

schedules, but had found little time to improve the surroundings. It was decided to have three operators during the next period. It was noted that the Delco unit in the American colony interfered seriously with the radios of Pan American and the Brisith camp. A move of the entire American colony 75 yards westward and a new arrangement of the Delco plant and radio antennas will be recommended to Washington. Maurice Paquette, who had been in charge of the American Colony, was released from employment by the Department of Interior to assume a position with P.A.A., as of March 12. His place was taken by Charles Steun, and Dominio P. Zagara was also assigned to Canton. The Taney remained over night at Canton, during which time the census was taken, discussions continued for improving the American colony, and plans were drawn for the new site.

The Taney departed Canton Island, March 13, and reached Enderbury at noon. All stores and equipment were landed. The Medical Officer inspected the food and water supplies and found the health of the colony excellent, and the camp in excellent shape. Harold Kim will handle all communication with Canton by radiophone. The Taney departed on the evening of March 13, returning to Canton Island. It remained there until after the arrival of U. S. Navy planes on March 14 and then departed for Jarvis.

Arrived at Jarvis early Sunday morning, March 17, landing all stores and equipment during the morning. A complete inspection by the medical officer showed that health and conditions on the island were excellent. The radio transmitter was in good condition, but the receiver was completely out of commission. The Taney remained all day, while efforts were made to repair the radio receiver. Finally, one borrowed from the Taney was installed. Frederick Wilhelm, returning to Honolulu from Enderbury, was taken sick and the Taney departed immediately for Honolulu on March 18. His condition improved on the 20th and the course was altered to Palmyra, now under Naval jurisdiction. The cruise continued at 6:00 P.M. on March 21 and arrived at Honolulu March 23, at 2:00 P.M.

Ashley Brown gave valuable advice and information to all island personnel concerning setting out trees and

plants. His efforts on the 17th cruise were amply rewarded by the condition of plants and trees set out at that time. The careful tending of them by the "colonists" had aided greatly to their growth. Rainfall had been plentiful at all the five islands. The press called Mr. Brown the "Johnnie Appleseed" of the Pacific.

He said in his report: "We have been planting in proportion to the reserve supply of water on each island. Some of the islands are very dry. On this trip I took about 1100 plants: 900 for Canton, and 100 each for Jarvis and Howland. We also left about 60 young coconut palms on the three islands, each about 7 feet high." After inspecting the plants left last November, he said: "Plants on Jarvis, Howland and Canton are doing very well, especially the ironwoods and kamanis."

Regarding recommendations on water conservation, Commander Kenner suggested that cisterns should not be constructed until the future of the islands is definitely established. He remarked: "Highlights of the voyage included a 237-pound tuna snagged by Lt. Hill; and the pounding surf at Baker, which made landing so difficult."

Cruise 19. U. S. Coast Guard Cutter Taney, Commander E. A. Coffin, left Honolulu July 18, 1940, arrived at Howland Island July 23 at 11:35 A.M. and landed supplies. Chief Radioman Kearns supervised the installation of a new gasoline generator and a new power supply unit. Low water caused the discontinuance of landing work from 1:00 to 4:00 P.M., but this was completed at 5:10 P.M. The ship drifted during the night and got under way for Baker at 5:00 A.M., July 24. There was little surf, and all supplies were landed between 8:20 and 9:34 A.M. The gasoline generator was sent to the ship for repairs and returned at 12:20. At 12:35 the Taney started back to Howland, because it was feared that the new radio generator was not functioning; but after a message was received from Howland that everything was satisfactory, the course was changed to Canton Island. The Equator was crossed at 9:30 and 41 polliwogs were initiated.

Arrived off the entrance to Canton lagoon at 3:47 P.M., July 25, and met by the P.A.A. launch towing a scow loaded with empty drums, gas bottles and other freight going to Honolulu. These were unloaded and the scow was loaded with freight to be landed, including several hundred plants, trees, fresh vegetables, fruits and meats, which had been carried in the "reefer" on the after deck. Mr. R. H. Van Zwaluwenburg and Won Pat left the vessel. Mr. Graves, Airport Manager, came on board and a party went on shore at 6:50 P.M. Mr. and Mrs. Graves and the P.A.A. doctor stayed on board for dinner and to see the movies, returning ashore at 11:15 P.M., at which time all except Mr. Doyle returned to the ship. Having drifted during the night, it returned to the lagoon entrance at 8:00 A.M., July 26, and a party headed by Mr. Kenner went ashore from 9:00 A.M. to 5:19 P.M. Again the Taney drifted for the night.

Under way for Enderbury at 3:00 A.M., July 27, reaching the landing at 8:20 A.M. Landing of supplies was favorable, and most of the party went ashore until 5:50 P.M. A course was set for Baker Island to investigate radio silence. Arrived there July 28 at 4:50 P.M. Unable to repair the transmitter ashore, it was brought on board at 6:20 P.M., and the Taney was allowed to drift during the night. Got under way at 1:30 A.M., July 29, and stood to the southward, since an unprecedented westerly wind and northerly set were driving the ship toward the island. Under way at 6:00 A.M. and off Baker landing at 7:36 A.M. Sent the repaired transmitter ashore at 8:00, July 29, and under way for Howland at 8:50 to investigate radio silence there. Off Howland landing at 11:50 A.M. Mr. Kenner and Radioman Henry K. Lee went ashore to investigate. The boat returned at 1:40 for materials to make repairs. Wind and heavy rain made landing unpleasant. Repairs on the transmitter were effected and the boat returned to the Taney at 3:55 P.M., and it was under way for Jarvis at 4:05, July 29.

On August 1, the Taney passed and spoke the five-masted schooner City of Alberni of Vancouver, 12 miles south of Jarvis Island, bound for Sydney with lumber. Arriving off the Jarvis landing, the first boat went ashore at 1:50 P.M. and all supplies had been landed at 3:25 P.M.

Shore parties returned to the ship at 5:35 P. M. and it drifted for the night. Returning to Jarvis at 8:00 A. M., August 2, Mr. Kenner and such of the official party as desired went ashore. Radioman Henry K. Lee spent the afternoon of August 1 and morning of the 2nd repairing the motor generator on the island. It had been out of commission for over three months. Mr. Durham (C. A. A.) completed a survey of the island. All hands returned to the Taney by 12:20 and a course was set for Honolulu. Arrived at Honolulu, August 6, at 8:00 A. M. after a cruise of 5,058 miles.

Mr. J. Walter Doyle made the trip to investigate the possibility of establishing a Customs entry port on Canton to expedite the handling of passengers arriving at Honolulu International Airport. A similar entry point on Midway was being considered. He was quoted by the press as saying that he was amazed at the improvement made by the million dollars spent by Pan American Airways at Canton Island. "It's the tourist resort of the Pacific. The still water lagoon, 30 miles in circumference, is a fisherman's paradise, and the 40-room hotel is excellent."

The press also commented that two of the "colonists" returning from the Line Islands had experienced four months' blackout. They were two of the four men on Jarvis Island where the light plant burned out a resistor four months before the supply ship arrived, and cut them off from the world. "We had no lights, no radio, and consequently no news," James Kinney, 27 years old, was quoted as saying. He had spent 14 months on Jarvis and 3 on Enderbury studying and banding birds for the U. S. Biological Survey.

Cruise 20. The Roger B. Taney, Commander E. A. Coffin, left Honolulu October 3, 1940, and returned Oct. 22, after visiting Canton, Enderbury, Howland, Baker, Jarvis and Palmyra Islands. Exact dates and details of these visits are not available to the writer.

The American Legion Post #1 sent the "colonists" 500 pounds of magazines. Its members have been sending magazines down to them for the past two years. Mr. and Mrs. F. Fleming of Canton Island have been helpful in distributing them in 10 boxes, some of each type of magazine in each box.

Said Judge Delbert E. Metzger upon his return to Honolulu, "Part of our course was directly along the equator. I asked the navigator of the Taney to hold the beat as closely as possible on the line, and then for a period of 40 minutes I paced back and forth across the deck." Commander Eugene Coffin gave the Judge a letter bearing out his claim to a record.

Lt. Commander Frank B. Kenner reported that the colonies were in good condition and all the "colonists" happy and fit. The group at Canton Island was withdrawn as being unnecessary there, with Pan American Airways in control. The Airport Manager now represents the Interior Department.

Cruise 21. U. S. Coast Guard Cutter Roger B. Taney, under command of Lt. Commander G. B. Gelly, departed Pearl Harbor, March 17, 1941. Arrived Canton Island March 22. Seven tons of cargo were discharged for Pan American Airways, and the Coast Guard light was serviced and given its quarterly supply of acetylene. Also delivered 658 plants of nine varieties to Airport Manager Harold Graves from H. H. Warner and Ashley Browne. The apparatus which had been loaned by the U. S. Weather Bureau to the Interior Department was picked up.

The Taney sailed March 22 from Canton to Enderbury, arriving March 23. The "colonists," their living quarters and food cellar were all found in good condition. The water shed had twice been demolished by storms (on December 28, 1940 and February 14, 1941). On the first date the winds had reached 55 m. p. h. The badly scared "colonists" had huddled in a back room of Government House living quarters, which shook appreciably on both occasions. The radio antenna system and windcharger had been blown down. They were reassembled and reset. The shed housing the refrigerator, cook stove and mess gear suffered minor damage and were repaired by the "colonists," but the refrigerator and cook stove were out of commission. They were repaired temporarily by Taney personnel. Weather observation equipment was in fair shape, but radio communication equipment was in poor condition. The station had been off the air since

December 16, 1940. A new transmitter and a reconditioned receiver were installed and tested. On March 24 the Taney sailed for Baker Island.

Arrived at Baker in the evening of March 25 and drifted off the island during the night. Because of rough seas, it took all of March 26 and 27 to land supplies. Dr. J. M. Wolfe found the "colonists" in good health, and the camp buildings in good condition. Weather instruments and the refrigerator were in fair condition, but radio equipment was in poor shape and a new cook stove was needed. The Taney sailed for Howland on March 27, arriving off the island in the evening and drifting over night. Good landing conditions were found. The "colonists" were in good physical condition and the camp clean and neat. Radio equipment was in poor condition and a new cook stove was needed. Weather instruments were in fair shape. The Coast Guard light was serviced. The ship departed for Jarvis on Mar. 28.

Jarvis was reached on April 1 and supplies landed without difficulty, except that three drums of gasoline and seven drums of water were lost on the reef at the entrance to the channel. The reef has grown to such an extent that landings are dangerous except at high water. The Taney supplied mines for blasting the coral heads away, which was done with partial success. Dr. Wolfe found the "colonists" in good health and the camp in excellent condition, very clean and neat. The radio equipment and weather instruments were in fair to good condition, better than at the other three islands. Henry Kong Lee was credited with the good condition of camp and equipment. The ship sailed for Palmyra on April 2, sighting Christmas and Fanning en route. Some supplies were landed April 4 at Palmyra for the Naval personnel, but no one went ashore. The Taney returned to Honolulu on April 7.

Cruise 22. The Roger B. Taney, under command of Commander L. B. Olson, left Honolulu July 23, 1941 at 1:07 P. M. and arrived at Howland Island July 28, at 9:00 A. M. Surf conditions were favorable for speedy landing of supplies. Dr. J. M. Wolfe found that Dominic P. Zagara and Henry C. Knell were suffering from burns received on

the evening of July 25. Both were given further treatment and transferred to the Taney. The burns had been caused by the ignition of hydrogen from an observation balloon in making night observations. The Taney continued on to Baker Island at 1:20 P.M., arriving at 4:05 P.M. Good surf conditions made it possible to land supplies promptly. The "colonists" were all in good physical condition, but William K. Pea returned to Honolulu due to his having been ordered to active duty in the Naval Reserve. Other shifts of island assignments were also made (see summary chart 6). A new Stancor transmitter and a new gasoline driven motor generator were installed on Baker. The "colonists" had completed excavating a food cellar, lining nearly half of its walls with bricks from an old structure about 350 yards away. A supply of cement was left to complete the job. The Taney left 8:00 P.M. that evening.

Off Enderbury on July 30 at 8:42 A.M. and landing of supplies started immediately. The condition of the camp was greatly improved and all the "colonists" were in good physical condition. Hans Jensen was commended. The "colonists" reported that on two days in June naval patrol planes had flown over the island from the direction of Canton and returned in the same direction. The Taney left for Canton at 11:50 that morning.

Arriving off Canton at 3:00 P.M., July 30, it was learned that an epidemic of measles existed among some of the P.A.A. personnel on the island, but that the disease had been isolated and it was safe to land. Airport Manager Willard Kirk had been designated Assistant to the Acting Field Representative by John J. Dempsey, Acting Secretary of the Interior , on July 15, 1941, and represented the Department on Canton. Ships officers attended a dinner at the P.A.A. hotel, and the Taney sailed that evening at 10:26.

Arrived off Jarvis Island August 2 at 7:15 A.M. and began to land supplies immediately. All the "colonists" except Henry Lee were replaced. Repairs were made to the motor generator. The seismograph was in unserviceable condition and was returned to Honolulu. The Taney left Jarvis at 4:27 P.M., August 2, and arrived at Honolulu August 6, at 4:30 P.M.

There was no official party on the cruise. The requested secrecy of the movements of the Taney was such that none of the "colonists" knew of the coming of the vessel until it arrived. Excellent surf conditions speeded up landing operations. No vessels had been sighted by any of the "colonists."

There were two cruises after No. 22, concerning which very little information was recorded, it being war time. The names of the personnel on the islands are recorded on "Summary Chart 6" but the dates of arrival and departures are not available.

Cruise 23 left Honolulu in November 1941. No changes were made at Howland, and the shifts of personnel on Baker, Enderbury and Jarvis lead us to assume that the sequence of visits was in that order. There were no "colonists" on Canton, and Willard Kirk, P.A.A. Airport Manager, continued to serve as the Acting Field Representative of the Interior Department on that island.

We know of the death of Joseph Keliihananui and Richard Waley on Howland, December 18, 1941, due to enemy shell fire.

Cruise 24, the final pick-up of all the "colonists," left Honolulu in January and returned in February 1942. T. W. Bederman and Alvin K. Mattson were taken off Howland on January 31, and Walter Burke, J. K. Pease, J.W. Coyle and Blue Makua from Baker the same day.

Joseph Kepoo, J. F. Brahn and J.J. Riley left Enderbury on February 7; and Karl E. Jensen, Paul G. Phillips, E. K. Renken, David K. Hartwell and Bernard H. Hall from Jarvis Island on February 9, 1942.

This completes the history of the colonies on the Equatorial Islands.

The airfield on Howland was named for James Kamakaiwi, Jr., long-time leader on that island.

Some "colonists" made their own surf boards.

They even made "outrigger canoes."

Lieutenant Meyer received colonizing advice from a permanent resident.

Amelia Earhart Light (beacon), Howland Island,
after Japanese bombardment of December 18, 1941.

4. JARVIS ISLAND AND THE "AMARANTH"

Jarvis had the distinction of being the first of the islands "colonized" during this period, on March 25, 1935. It also had other features which made it distinctive. Foremost of these in influencing the daily lives of the "colonists," and giving Millersville a distinctive architecture, was the wreck of the "Amaranth." The distance from the camp to the wreck, in a straight line, was three quarters of a nautical mile. One round trip measured 1.73 statute miles of travel. It would require an adding machine to measure the total distance traversed by the colonists during just their first year on the island, to procure lumber for constructing shacks, furniture, a raft, surfboards, an outdoor gymnasium, and other items. Austin Collins, leader of the initial party, set the pattern by building the first wooden house. It became fashionable to construct others and to make improvements.

What was the "Amaranth" and when was it wrecked? The most detailed account was written by George N. West in the Honolulu Advertiser for December 22, 1946. George first became interested in the history of the shipwreck when he was a colonist on Jarvis from June 15 to September 14, 1935. One of his duties during this period was to keep the "log" of the party. This series of journals contains a day by day, intimate account of all happenings, and many of the thoughts of the little group, most of them Kamehameha School boys. After his return to Honolulu, George set about learning all he could concerning the "Amaranth."

He learned that it had left Newcastle, New South Wales, Australia, on August 3, 1913, with a cargo of coal, 1,800 tons, for San Francisco. On board were Captain C. W. Neilsen, his wife, their baby boy, and the officers and crew of twelve. The cabin boy, George Vining, age 19, of Santa Rosa, California, furnished many details of the incident, when the survivors passed through Honolulu the following October.

On the night of August 30, 1913, at three minutes past eight, the "Amaranth" was running northeast under full sail, in slightly foggy weather. Suddenly it struck the reef on the southwest side of Jarvis and heeled over. There was no surf or other sign of land. Captain Neilsen immediately ordered the crew to take to the boats. They stood by all night, and next morning a landing was made on the opposite side of the island. There were remains of old buildings and a few graves, but no sign of life or useful vegetation. As the party landed, staring them in the face was a sign which Vining said seemed ludicrous even to the wrecked seamen. It said: "This island is leased by His Britannic Majesty King George V to the Pacific Phosphate Company of London and Melbourne. All trespassers will be prosecuted under English rules."

Vining went on to say that the vessel broke up rapidly. Water and provisions were obtained from the poop, the only part exposed, and it was decided to proceed south to Samoa in two boats.

The Captain's boat held nine persons, including Mrs. Neilsen and her 18-month-old boy. The other boat, commanded by First Officer A. M. Johnson, held six people. They set out from Jarvis on the morning of September 1. Each rigged a jury mast, made of oars, and set sail for Samoa, 1400 miles away. The second day out they parted company. Vining, in the Captain's boat, stated that after ten days they reached Danger Island, where they were treated kindly by the Polynesian inhabitants. As no steamers touched there, they sailed on and four days later reached Pago Pago. Here, Vining said, they received a minimum of kind attention. They were put up in natives' barracks. However, sailors of the U. S. Gunboat "Princeton," stationed there, gave them some clean clothes to wear. That ship went to sea to look for the other boat and found it at Apia on September 24. Although they had run out of water, all were well. The entire party was sent by way of Honolulu on the S.S. "Ventura" to San Francisco.

Regarding the boat trip, Vining stated at Honolulu that scurvy had made its appearance among them in a mild form. But despite the long dreary days and nights without

seeing a sail, and with occasional buffeting by winds and rough seas, Mrs. Neilsen and her child had remained cheerful. "The baby had been a wonderful kid, ready to laugh and crow at all times. He had kept all of us in good humor."

George West's article remarked: 'To the colonists... the remains of the 'Amaranth' proved a blessing. Its lumber was salvaged and provided shelter, comfort, recreation, and a means to obtain food from the sea. The settlers built shacks which enabled them to move from the shelter of the tents; beds, surfboards, and a raft from which to fish off the reef."

Details concerning the history and geography of Jarvis, together with the names of all persons concerned and an abridged log are given in the "Technical Supplement," later in this book. The following are a few excerpts from the "log" which was kept by the colonists during the first year.

Landing was accomplished at a small break in the fringing reef on the northwest side, on the morning of March 26, 1935, just below a four-sided, triangular beacon. Three tents were set up in a depression between two mounds of low-grade guano, behind the beach crest, about 200 feet southward from the beacon. This spot was chosen because of its protection from the wind and proximity to the landing place. Sailors from the Itasca brought our supplies and equipment ashore and piled it on the beach above the high water line. We carried it up to the beacon for safekeeping. Meyer and Bryan put their cots beneath the beacon. At about 2:15 A.M. there was a racket from there as they tried to catch Polynesian rats in an insect net. These rats are so small that they were called "mice" by the colonists.

The last of our water and supplies were landed this morning and the sailors are looking over the island. Collins made a flag pole and attached it to the top of the beacon. At 1:25 P.M. the American flag was hoisted by Collins and Ahia while Aune, Toomey, and Graf stood at attention, and members of the official party watched the ceremony. Mr. Kline assisted Collins and Ahia in setting up the meteorological

instruments. Collins fixed a box desk for reading and recording them. We lunched on fresh fish which Toomey had speared. Fish are plentiful around the island in shallow water. We pitched a fourth tent to use as a kitchen. Collins and the Hawaiian boys went to the wreck to get some lumber.

The Itasca left at about 2:30 P.M. and headed for Baker Island.

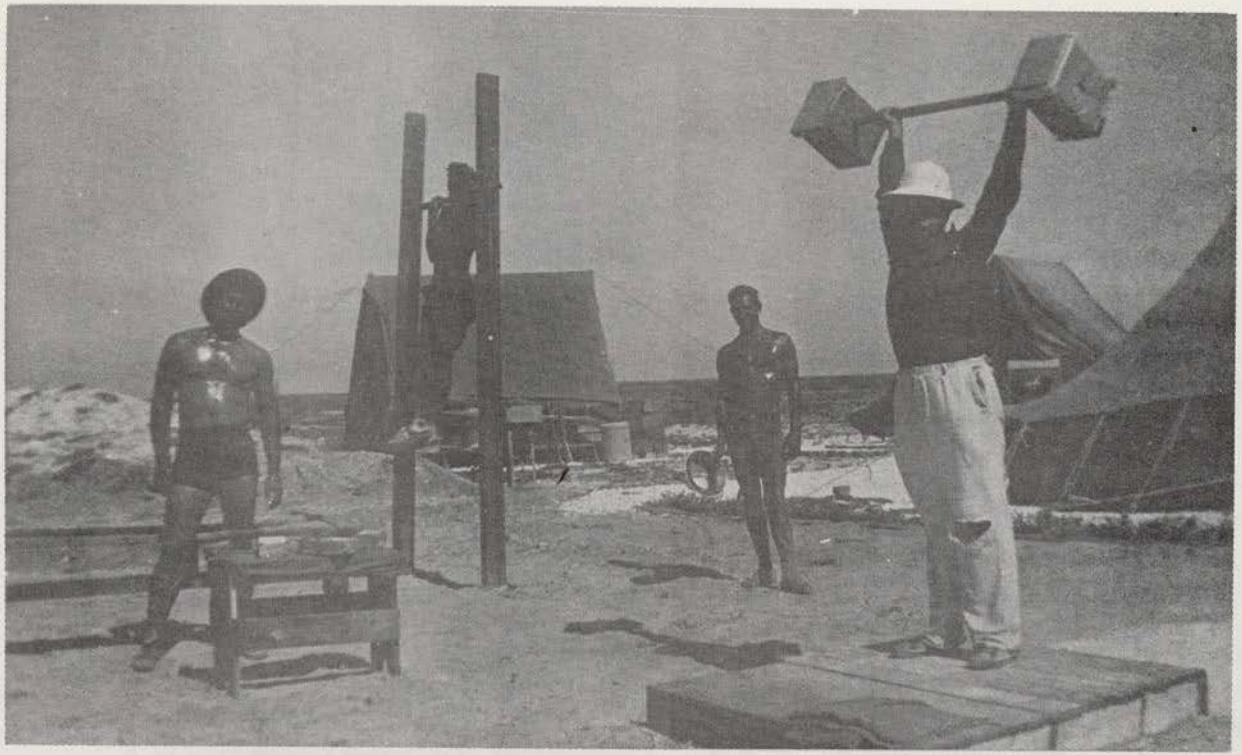
Next morning (March 27) we rolled seven of the 15 drums of water up to the beacon. On another trip to the wreck to get lumber we found some money: German 10 pfennig dated 1875; Canadian 10 cent piece, 1902; Mexican 20 centavos, 1907; American Lincoln penny, 1910; a Hawaiian half dollar, 1883; and a Chile peso, 1893. We also found some dishes.

March 28. Collins built a wooden table on which to draw maps of the island, showing where the airfield could be placed. Measurements by him and Ahia showed that Jarvis measures 1.90 miles N.E. to S.W. by 1 mile and 200 yards wide. Aune took charge of the cooking. Graf cares for the medical supplies and keeps the log. Ahia and Toomey specialize in catching fish and spiny lobsters. All five worked as a team. A rain squall drifted across the island and a gallon of water was caught. Following the rain they planted five sprouted coconuts along the north edge of camp.

During the days that followed, Collins plotted a good location for a landing field on the northeast side of the island, about 1,240 by 1,000 yards. The distance between camp and the east end of the island was measured, 2,400 yards.

March 30. It was noted that for the second time since their arrival rain clouds were seen to approach the island from the NE and break up off shore. Parts of the storm seemed to go each way around the ends of the island. "So far we have noticed no mosquitoes or house flies."

Sunday, March 31, brought us a fairly heavy rain with a SE wind varying from 18 to 24 miles per hour. Our tent fly blew down, but the storm brought us about 15 gallons



Sgt. Collins kept his Jarvis pioneers physically fit with an outdoor gymnasium, built with materials from the wreck of the Amaranth.

The first camp on Jarvis, 1935.

Expedition members visit the wreck
of the Amaranth on Jarvis, 1935.

of water. Ahia planted cabbage, radish, onion, celery, and lettuce seeds on the side of the guano ridge. Ahia's and Toomey's electric lights from batteries seem to draw more moths and other insects than the lantern does, at least they bother us more. Graf catches specimens for Bishop Museum. He noted that the most abundant insect in the tents was a "beetle-fly"; they are attracted by lights, get into bunks; sleep on the tent ceiling, and are a general nuisance. They do not bite, but their crawling in bed gives an uncomfortable feeling. [This has been identified as an Oedemerid beetle, Ananca bicolor; with slender, deep purplish-black elytra and a pale orange prothorax "collar."]

What we call "field mice" [small Polynesian rats] by the dozen crawl over the beds during the night and sometimes get between the blankets. Our sleeping is done on portable camp cots, made of canvas over a collapsible frame. We use khaki wool blankets with no pillow or mattress. Each has sufficient bedding to suit his own idea of comfort. Some use two blankets under and two over, with one for a pillow. The nights are quite cool.

Breakfast usually about 7:00; a mainstay, since we eat but two meals a day. Toomey and Ahia like the water and supply us with marine food, both fish and lobsters. Each of them lends a hand with the cooking, water carrying and general camp duties. Ahia is greatly interested in plant and insect life and does some collecting. During any time of day one or two or more may be found here or there on the island, at the shipwreck, fishing from the boat or what-not. At noon we may gather at the kitchen tent and eat a can of sauce or fruit together. No cooking is done at that time. The evening meal is eaten between 6:30 and 7:30. After that we talk, tell stories, play cards or checkers, practice on the mouth-organ, or sometimes catch insects around the light. We are building paths to improve the appearance of the camp. We have found farming in any form out of the question. The coconuts are making no progress. Planted garden seeds are eaten by the "mice." Everything dries up between showers and we can't spare fresh water.

On April 11 there is the entry: We have all become interested in sporting events, and at about 9 o'clock we held a meet: shot-put, standing and running broad jump, high jump and ball throwing. Then we go swimming, or across to the shipwreck to fish.

On April 13, Ahia noticed that the boat was missing. It had broken away, apparently as the result of an exceptionally high tide. We did not see it again.

On April 18, while cooking breakfast the oil stove caught fire. Graf dragged it out of the tent and put a wet blanket over it; but the stove was damaged beyond use. Work began immediately on a fireplace a few feet southwest of the kitchen tent. Breakfast was delayed, but not for long.

April 19. Conditions around camp are getting better day by day. New refuse pits have been dug. Collins got more lumber at the shipwreck and built a table for use in the kitchen. Aune likes the new stove better than the old one that burned oil. The path from the beach to the beacon is about 5 feet wide and is covered by four inches of coarse sand. We now have two roads into camp, one past the beacon and one direct from the beach, along the old guano tracks left by the guano diggers.

April 22. When raising the flag at 5:35 A.M., Collins, Toomey and Ahia sighted a white ship about 8,000 yards off the west coast. At about 6:30 A.M. the Itasca was off the landing. The official party and several of the crew came ashore. They inspected the camp and seemed highly pleased. The landing boats made three trips and brought ashore additional water and supplies. Graf went on board to get a few needed items. The stay of the visitors was brief and by 9:00 A.M. the ship was under way, making a circuit of the island. Aune and Toomey spent the remainder of the day making shelves and arranging the new supplies. Mr. Griffin was very thoughtful in his selection of additional foods, and items which we had been thinking of were included. Fresh fruit and real crackers were novelties on our supper table. Coconuts from Samoa were planted around camp, each of us trying our luck at getting a tree started. This ended our fourth week on Jarvis.

April 25. Following breakfast, Collins set out to do some more measuring and staking out of rock piles and ridges on his map. Ahia is also making a map of Jarvis. A supper of sweet potatoes, cabbage slaw, pea soup, wieners, crackers, jam and other nicknacks was highly enjoyed.

April 26. A map-making routine seems to have developed among the group. Angles, degrees and dimensions are the topic of the day. Graf continues to collect shells.

April 29. The first thing this morning a bos'n bird was found making its nest at the beacon, right where it is necessary to stand for reading the thermometer. The bird fussed some each time someone came near, but continued to hang around. It refused to eat bacon scraps. Finally, after several hourly disturbances, the bird decided it would nest elsewhere and flew away. Food inventory was taken today. Collins is starting work on his fourth map of the island. He has also started digging just southwest of camp to determine the depth at which water can be struck. The water from Samoa was not considered as good to drink as that from Honolulu.

April 30. Toomey, Collins and Aune had a close call with a shark while swimming at the landing place. Ahia and Graf caught about 50 aholehole fish and saved the largest for eating. In the afternoon Collins visited the shipwreck to get lumber for a sketching board. In the evening he picked his way through about two feet of solid rock in the water hole. He carries out a schedule of mapping each day and also spends about an hour working in the new water hole.

May 3. While helping Aune get supper, Toomey spilled some hot cooking oil and burned his legs and feet. Through prompt treatment, although huge blisters formed, they were nearly healed in about three weeks.

May 7. The airfield is completely staked out.

May 8. A brick oven, started by Collins and Aune, has been improved with empty kerosene cans for either cooking or baking. It adjoins the previous fireplace.

May 9. Collins and Graf went to the shipwreck to collect insect and marine specimens. They brought back a black, yellow-edged eel, a small crab, lobster, jellyfish, worms, sponge and seaweed.

May 10. Work on the new waterhole has been discontinued because of cave-in possibilities. A depth of nearly 12 feet was reached. It will be used for garbage.

May 12. Collins plans building a cabin or house, using the fly tent, which was pitched on the beach, as a roof. He repaired a chair which he had brought from the shipwreck. He made several trips and has a framework set up.

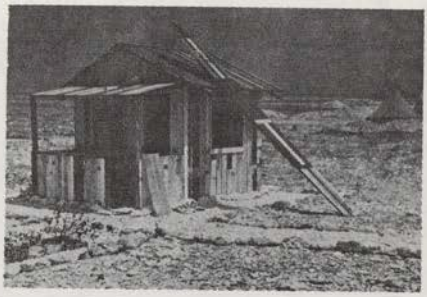
May 17. Ahia caught a grayish, brown-speckled eel, too large to be kept. Sharks are plentiful toward the N. E. end of the island, and rather bold and curious.

May 18. Collins put the fly, from the beach, as the roof of his house. He carried gravel for the floor, and has the outside banked with a foot or two of rock.

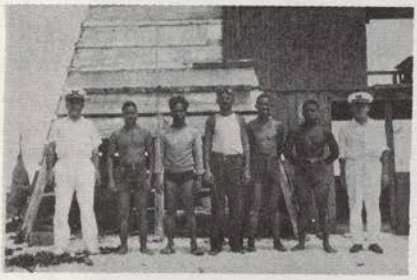
May 19. Another Sunday ends our eighth week on the island. Collins put a few finishing touches on his house and declares it complete after one week of work. There has been more than the usual amount of rain the past few days. The moisture is giving the radishes a "boost." Another dozen or so plants broke through the ground and look healthy. Coconut plants, 14 in all, retain a partial greenness. During the recent moderate rains it was noticed that the ground in the central section of Jarvis becomes marshy and boggy, but it dries quickly. In places it cracks and cakes.

May 20. Ahia substituted for Aune as cook, starting with eggless hotcakes. Collins and Ahia moved into the new house. Toomey and Graf occupy the Headquarters tent vacated by them.

May 21 was spent in routine exercising, swimming and reading. Toomey's foot nearly healed but it bothers him to walk on it. Several zinnia and lettuce seeds had sprouted as a result of last week's rain, and a few peanut plants are well above ground.

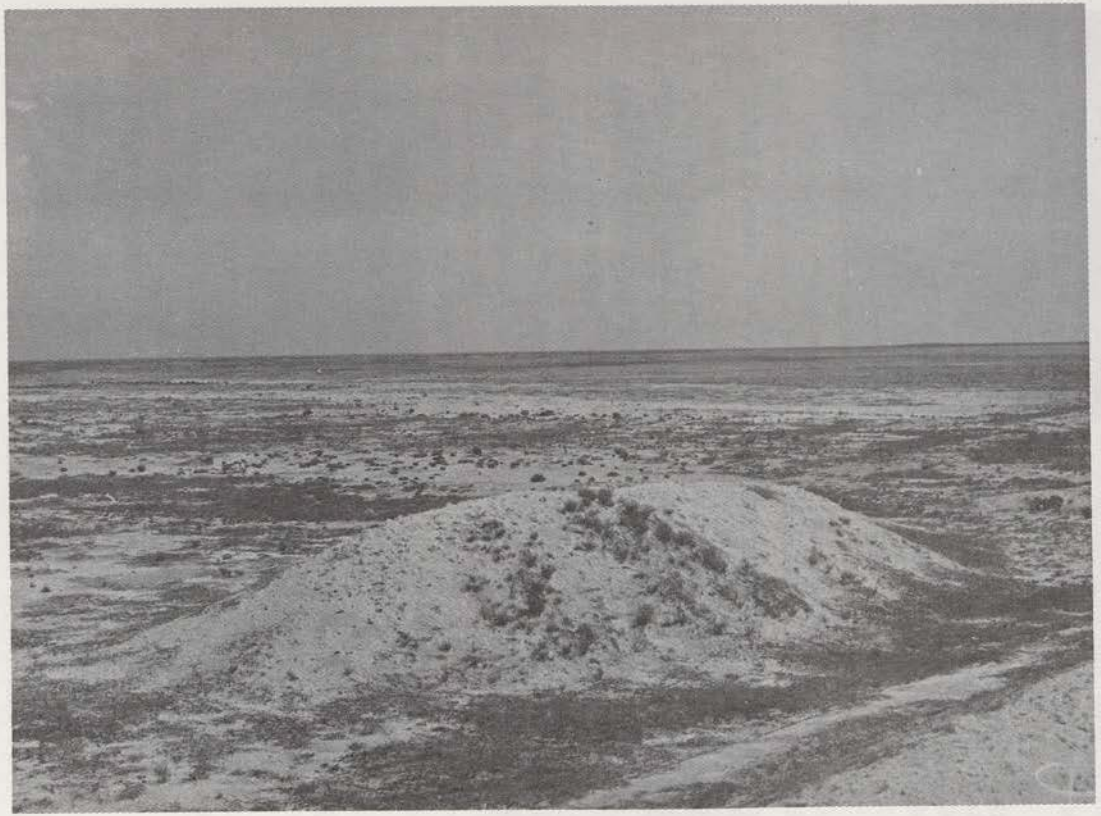


Sgt. Collins built himself an "office" on Jarvis, 1935, from material from the wreck of the Amaranth.



Jarvis Island was recolonized, June 19, 1936. Sgt. Collins installs Henry Ahia, Hartwell Blake, George Kahanu, and Frederick Lee; flanked by officers of the U.S.C.G. Tiger, Cruise 5B.

Jarvis Island camp and beacon, August 18, 1936.



Looking across the "basin" of Jarvis Island from near camp. The mound in the foreground is low-grade guano, dumped from a tram car and never shipped.

May 24. Toomey welcomed back into routine activity. Collins, Toomey and Ahia fished at the landing and caught a good sized red snapper. May 28, Toomey and Graf caught a few lobsters right after breakfast. May 29, Ahia had good success baking in an improvised oven. He strives for variety and tries many new things. We relish his baked dishes. He and Aune worked together last evening on "peach cobbler." Supper, June 4--pea soup, tomatoes, fried fish, boiled squid, navy beans, sauerkraut, called a "meal fit for a king."

June 6. Collins started the day with a trip to the shipwreck in quest of a canvas to patch his cabin and keep the rain out. Zinnia plants continue to grow. Aune transplanted some pickleweed (Sesuvium) to use as a hedge. The log records numerous collecting trips and catching fish. June 11 the Hawaiian boys observed King Kamehameha Day.

June 15. The Itasca was sighted to the north and soon arrived off the landing. This ends the log as kept by Graf. It was continued by George West. Those in the first landing party were W. T. Miller, H. A. Meyer, Commander Derby and his aide. Collins, Graf and Aune went aboard to return to Hawaii. Henry Ahia and Dan Toomey elected to remain and were joined by George West and Frank Cockett. Mr. Albert Judd, Donald Mitchell, Mr. Meredith and the crew of the Itasca came ashore for a visit. Fresh supplies were landed; also 15 new drums of water. Unloading was completed by 1:30 P.M.; many of the visiting party had lunch on Jarvis. We had a serious talk with Lt. Meyer regarding our food supply, water and duties. By 4:15 P.M. all of the visitors were in the boats ready to go aboard the Itasca. The particular handshake of Mr. Judd and the tone of his words were so sincere and well meaning that they touched us all. We would all make good for Kamehameha (Schools) and all other Hawaiians.

The ship left at 4:45 P.M. Henry [Ahia] then talked to us regarding the importance of our duties, and our situation for the next three months. He and Dan gave us a few pointers about the weather instruments, how to read them and record the readings. At supper, on each side of the kitchen table sat Henry Ahia, Dan Toomey, Frank Cockett, and

George West, residents supreme of Jarvis Island, U.S.A. In the midst of our supper we remembered that we had forgotten to lower the flag, so we rushed out and did so in true American style.

June 16. We spent all morning putting the cottage and tents in order. While taking an evening swim, Henry caught a shark, one of several close to shore. All this, the beautiful sunset, seeing "mice" running in all directions during supper, were experiences new to Frank and George. We have a little mascot, a baby frigate bird; this was its second day with us, and very much alive. Our supply of apples and oranges is beginning to spoil, so we are consuming them as fast as we can.

June 17. Frank, Dan and Henry hauled up three drums of water. Frank and Dan caught aholehole fish for the little mascot. We made a close written account of all our rations and arranged the supplies. In the late afternoon we hauled up four more drums of water. The coconuts are doing well; even radishes and flowers are coming up slowly. We opened the Bishop Museum collecting box and arranged its contents for instant use.

June 19. Pancakes were served for breakfast. Dan caught small fishes for the little frigate bird. He caught one fish we didn't know and saved it as a specimen. Henry clipped the hair of George and Frank. A ukulele and books of Hawaiian songs by Charles King and Johnny Noble were additions to our entertainment. The remaining four drums of water were hauled up. June 20 Dan made a portable lighting system.

June 21. Visited the shipwreck. Frank and George were impressed. Caught 18 fish and a lobster. Raw fish and poi made up our noon meal. We had a short rainfall at dusk with heavy raindrops. Fried fish for dinner. We learned that hermit crabs feed on "mice."

June 23, Sunday. Everyone seemed quiet and solemn all day, with devotions in the evening. Frank Cockett was startled by a large bird inside the beacon, which he thought at first was a bat.

June 24. We made boxes into which various types of soil would be placed in which to plant seeds. The soil was collected in barren land in the easternmost part of the island; also some from guano diggings and nearby mounds. There are only four packages of seeds: phlox, marigold, lettuce and radish. The weather instruments are not giving us logical readings. The anemometer was cleaned and oiled according to instructions.

June 25. Bag coverings were made for our sand boxes. White beans, brought from Honolulu, were planted after a night's soaking. The coconuts were cultivated again. The weather instruments are now operating satisfactorily. Frank and Daniel caught a red snapper and made a delicious chowder. Our little frigate bird, which we named Sailor Boy, died early this morning. It was probably too young to be taken away from its mother.

June 26. At 2:45 this morning we had the heaviest rain since June 15. Two kites were made to learn how the birds on the island would react to them. One was tied to a pole at the shipwreck. Many birds flew around the kite but did not attack it. Dan flew his kite after lunch. Again the birds only showed their curiosity. We are taking daily physical exercise in the evenings in a miniature outdoor gym. The "mice" on the island are a menace to our gardens.

June 27. We made a shell-hunting trip around the island. Shells were scarce and hard to find. We stopped at one place to watch the sharks swimming around in water so shallow that it amazed us. We watered the gardens in the evening.

June 28. Frank and Dan went fishing. Henry inspected the landing field site. Several little mounds needed to be leveled and a few holes filled. The beans we planted on the 25th are beginning to sprout. July 29. We are learning to play the ukulele and also to fly kites. The phlox seeds which we planted are growing.

June 30, Sunday. No church to go to, but we held our period of reverence. Wind and rain at 4:45 P. M.

Several things had to be moved around to be protected. It poured at intervals all through the night. The white beans have sprouted more than an inch above the soil.

July 1. New camp activities: Dan Toomey and Frank are the new cooks; Henry gathers firewood; George enters the day's events in the log, prepares menus, and helps Henry. A weekly check of rations was made. Ocean water, for washing, was stored in a container by George. Dan Toomey recharged batteries. A bad squall this morning from 10:26 to 10:29; a sudden gust of wind and a heavy downpour. Henry and George spent the afternoon filling holes in the airfield.

July 2. Frank and Dan caught three good fish, two of them strange to us. One is black and red like a kolo. They had an encounter with a large shark. Seeds were sprouting and look healthy. We ascertained the time of sunrise and sunset from the World Almanac to check on our time.

July 3. We are building a wooden bed to accommodate more than two persons to use as a couch. Frank, Dan and George brought a broken door and pieces of lumber from the shipwreck. At nightfall we laid our mattresses on this punee and all four of us initiated it. We also discussed building a raft and enlarging the cottage. Our log shows that a drum of water lasted two weeks. Daily exercises at sunset.

July 4th was observed by flying the flag, having biscuits for breakfast, and ending the day with chicken noodles. July 5 Henry spent the morning shell hunting. During his trip he saw some turtles on the westernmost side of the island. Dan and Frank spent the morning fishing, catching 'o'o and uhu. George collected insects.

July 6. Frank, Dan and Henry went in search of suitable lumber for a raft. Not having the necessary tools, they collected shells instead and again sighted turtles. Our farming project is beginning to look discouraging; the plants are drying out.

July 8. We started building our raft; 8 feet square, made of four logs with an empty drum at each corner. We will use it for fishing off the channel where it will be possible to catch larger fish without danger from sharks. July 9 Henry and George went to the shipwreck for more lumber. July 10. We started enlarging the cottage, begun by Frank and Henry, because of the kinds of lumber found, instead of finishing the raft. The walls facing the west were knocked down and the side walls extended 12 feet. The roof was not completed because of lack of lumber. A gorgeous sunset, the sky almost completely orange color. The sun's rays shone through cumulous clouds, with the half moon in a blue area overhead.

July 11. The lumber business reached its peak: lumber was brought to camp all morning, with backs bent and shoulders burning. We put new pieces of tin on the table legs to keep the "mice" from climbing to the top. In the afternoon we finished the roof.

July 12. Last night there was a heavy rainfall, heaviest about 12:10 A.M. Another severe rainstorm at 7:25 P.M. Heavy wind knocked down the kitchen tent, breaking tent pegs. July 13, after drying and setting up the kitchen tent, we spent the day working on the cottage. We patched the roof with canvas and softened candles. July 14. There is now a lake in the center of the island caused by heavy rains. We saw a very bright meteor at suppertime.

July 15. Seeing large fins, Frank and George drifted out on the raft to try to catch sharks. The fins turned out to be the curving ends of an enormous sting ray. It swam around the raft and caused a whirlpool. It had a black body and was shaped like an enormous bat. We decided that what we had thought to be dolphins were sting rays. The Hawaiians call them hihi-manu. Fin tips may rise 5 feet above the water.

July 16. At last we have moved into the cottage. It has a lanai on which we can enjoy eating meals. Now we are making cupboards, shelves, magazine stands, and a lighting system. We made a new cooking table and safe for dishes and silver. We can see the ocean while we eat. We knew by

the World Almanac that the moon would be full. It rose over the eastern horizon as we cooked and dined. The tide was low tonight and the reef within sight was almost dry.

July 17. Henry fixed a chair, made braces for the cooking table, and patched a hole in the canvas. Dan worked all day, cleaning the shells he had collected last night. Frank repaired his flashlight. George prepared menus, made corrections in the ration account, and tried to catch up with his diary.

July 18. This evening it was nice and cool. The wet and dry thermometers read 77 and 73 degrees respectively, unusually low readings. The lowest wind velocity was at 3:00 A.M., 3 miles. In the evening Frank and Dan went hunting on the reef. They found a number of shells and a large lobster, which they cooked.

July 20. Henry and George made a profitable trip around the island, studying birds, insects and plant life. They saw a small flock of "quail" [some species of migratory bird]. They have long legs and are smaller than a love bird. We saw them on the northeast end of the island. Love birds are found in the easternmost part of Jarvis. One never tires of rambling among them; thousands of them fly low over you with shrill cries. [These observations may include other species of terns.] We came to a place where there were lots of holes. We found a bird in one of them. It was about the size of a love bird, but the bill bent down at the tip. [A petrel or shearwater.]

July 21. Today is our fifth Sunday on the island. We are all well and nothing serious has happened to us. None of us is homesick, but we do miss a lot of things.

July 22. Our raft was finally completed by Dan and Frank. Stray lumber from the shipwreck was used to make a platform. In its center a hole was left for fishing purposes. We plan to whitewash the cottage and the beacon. Henry got some lime from the airfield, mixed it and spent the day whitewashing the cottage. George carried bricks for the roadway around the camp. He and Henry spent much time washing and scraping the concrete off the bricks.

July 23. Henry made a table on which to skin birds. He also made an experimental aquarium. He put in it some aholehole, with seaweeds and coral, but they all died. Yesterday, when Henry went to get lime he found a partly dug grave, which looked as if it had been dug some years ago. Nearby were some human bones. In the evening Dan and Frank went torch fishing. They came back with 'o'o fishes, lobsters and two stick fishes. They made their torches from 1-1/2 inch pipe which they found at the shipwreck.

July 24. Since the heavy rain of July 12, we have not had noticeable rain. The "mice" don't trouble us so much here as they did at the old place. There, during suppertime, they would run around in countless numbers.

July 25. Ever since we started having pancakes for breakfast every morning a competition has been on. Everyone has tried to claim the title of champion pancake eater. This morning we ate the best pancakes ever cooked on the island, made by Dan. Dan and Frank went torching again after supper. They caught 26 lobsters and several fish, and had a further encounter with sharks. It rained disgustingly toward midnight, and our roof leaked so badly that we had to move our beds down to the tents for the rest of the night.

July 26. Our cottage was in total disorder this morning due to the rain. The fish lasted us all day. They were the best eating fish we had ever had. We also cooked the lobster, some boiled, some made into soup. One of the fish is called po'o-pa'a; it is dotted all over the body with red, black and yellow. Another specimen, about the size of a human hand, has a flat body, protruding eyes, short legs and feelers. Its color is light red.

July 27. Dan and Frank hiked halfway around the island. They noted seeing eels that ate crabs. One rose up like a rattlesnake ready to strike. At lunch time we saw several porpoises leaping out of the ocean, six or more abreast, and also following the leader. We had hot-cross buns with sausage inside for supper, made by Dan. A bug crawled into George's ear and made him feel very uncomfortable. We flushed the ear with coconut oil and warm water.

July 28. It rained this morning at dawn and drizzled for quite a while. Held Sunday services. Fish at each meal. George's ear has not bothered him today, although he believes that the bug is still inside.

July 29. It rained again this morning. At 11:45 it poured. Henry went to the shipwreck for long poles to hold up the corners of the canvas. Dan repaired the roof. Frank and George came across a mound of bricks. July 30. We went out fishing for the first time from the raft, and stayed out for nearly five hours.

July 31. We took a monthly inventory of ourselves: Physical condition good. We live in a spacious cottage made from pieces of a shipwreck. Air and sunlight abundant; ventilation perfect. Nights are cool. Everyone feels fine each morning. The dining room, parlor and bedroom are under the same roof. The dining room extends onto the lanai. During meals the whole expanse of the ocean can be seen. The kitchen is out of doors. The stove is a few feet away from the cooking table. The garbage cans, piles of firewood, etc. are handy and arranged systematically. We ran out of potatoes two weeks ago. Onions will be used up in two or three days. One can of ham has spoiled. We have enough poi for the month of August. Rice will last two weeks more. We have half a bag of sugar and enough cream to last until the end of August. We have lots of corn, peas, and corned beef; sausages will be exhausted soon, and so will peaches and pineapples. Canned apples are good for weeks to come. Kerosene and water will last for months. There should be a ship on the horizon soon. A chop sui dinner will be given to the first to sight it.

August 6. There was a change in the way dawn appeared this morning. The sea was calm, glassy. Out on the ocean white flashed--fishes leaping and breaking the smooth surface. Booby birds skimmed the surface, catching fish. Some would fly high, nose dive, scoop up the fish and fly away. The calmness of the sea made these antics easy to watch. Toward sunset the entire ocean within our view from the cottage was covered by porpoises, here and there. They seemed to be passing in review. We estimated seeing as many as 800.

What is a night like on Jarvis? Despite its closeness to the equator, it is not warm or uncomfortable. It is cool and the breeze is soothing. At times two or three blankets are required to keep warm. We watch the phases of the moon and clusters of stars.

A word about the kind of weather reports we make. We record the kinds and amounts of clouds and visibility. We give readings of the wet and dry thermometers. The average velocity of the wind in miles per hour. We measure the amount and duration of rain. The most severe was the rain storm of July 12. At no time has there been thunder or lightning.

Aug. 13. We measured the distance around Jarvis as 5.05 miles, and tried to figure how many yards the .05 represented.

Aug. 14. At 3:50 P.M. it was windy and the sea was choppy. Suddenly there was a cry from Dan Toomey, "Hey, look at the ship out there!" It was about 2 miles off. All four of us ran out of the cottage and climbed the beacon. The ship appeared to be a black tramp freighter. It had a foremast and an aftmast and a smoke stack in between. The build of the ship was rather peculiar. Nothing else was visible except a little structure behind the smokestack. There was no flag flying. They came so close that we thought they would surely land, but instead it slowly drifted away. Its bow was pointed in the direction of Palmyra Island. It was out of sight at 4:45 P.M.

Aug. 15. This evening, beginning at 6:06, occurred a steady downpour of rain which lasted until 6:30. The roof is now almost rain-proof. About 3/4ths of a clean galvanized garbage can was filled with rain water.

Aug. 19. In the afternoon Dan speared four uhu, which we had for dinner. Our raft was washed ashore and is quite a wreck. A bos'n bird laid an egg inside the beacon. This will give us an opportunity to see exactly how long it will take to hatch.

Aug. 21. Henry and George repaired the raft and used it to go fishing. They caught nothing, not even a shark. George spent the afternoon writing about birds, and made trips into the field to verify his descriptions.

Aug. 22. An enormous turtle was captured at 9:00 this morning. About 4:00 this afternoon two turtle tracks were seen on the beach leading up toward the interior. A little later a turtle was seen close to shore, but soon disappeared. We visited the area at 9:00 P.M. and found a third fresh turtle trail. We found the turtle just above the beach crest on the west coast, and captured it. Henry and George also saw a strange bird near the shipwreck. It was about 6 inches long with a wing spread slightly less than a foot; wings and tail brown, with white around the neck, under the body and above the tail. Head and bill, which is an inch and a half long and curved down, are black.

Aug. 23. Today was turtle day on Jarvis. Much difficulty was had in attempting to drive it home from where Henry and George captured it. It was stubborn; it wanted to go inland or back to the beach. At 11:30 it refused to move. It had taken 5 hours and a half to make it move 150 yards in our direction. At 12:00, Henry got a knife and a pan; killed it and brought back a pan full of meat. George and Henry went back for the shell. The turtle meat was good; some was fried. At dinner we had turtle soup. Some of the meat was put out to dry. Dan spent the afternoon cleaning the shell.

Sept. 1. At 7:30 A.M. a two-masted sailing vessel was sighted on the western horizon. Strong winds were blowing and the ship came swiftly to our shores. We knew by the way the vessel moved around, just outside the channel, that it was going to anchor. Some difficulty was had, but finally a rowboat dropped the anchor on the reef. The ship lay less than a quarter of a mile out. When the first landing party came ashore we learned that this ship was the Auxiliary Yacht Kinkajou of Hawaii, bringing another scientific party. Going aboard, we learned that this expedition was headed by Dr. Francis Dana Coman of Johns Hopkins University. We shook hands with Dr. Coman and the skipper, Constantine Flink, and looked over the ship. It had

come from Baker and Howland, and brought all sorts of news. We learned that we were going to have a radio receiver and transmitter on the island. We also learned that the Itasca was to leave Honolulu on September 9. We learned that we were popular people in the feature sections of our home newspapers. There was a pack of letters from home telling us all about the things that were happening. Who could imagine how thrilled we were to see these people with all the good news and good things they brought. Dr. Coman was very friendly and told us to write letters home which he would take. We helped with the loading and unloading of the supplies.

Jarvis was a scene of activity. The skipper and crew were busily engaged in putting up the tents and radio poles, moving the provisions and supplies. Dr. Coman was being shown to various points on the island by Henry. He was interested in getting samples of guano. He seemed to have an inexhaustible knowledge of birds. He gave the common and scientific names of all the birds he saw. Dan and one member of the crew went out for lobsters. They were unable to find any, but they caught an enormous number of aholehole. George and Frank helped the crew.

Dr. Coman and the Captain dined with us tonight. Down on the beach Dan, Frank and the crew were cleaning fish by the light of lanterns. The Doctor remarked that we treated him like a hotel did, and he liked the food. The crew also had supper with us and everybody seemed to like the fish and food. Two of the Coman party will remain on Jarvis: they are William Chadwick, the radio man, and Louis Suares, a Kamehameha Schools student. Their camp is situated on the beach crest, about 200 yards from our cottage, right alongside the graveyard. After supper, they all went aboard the Kinkajou, including Dan and George. Staying on Jarvis were Henry, Frank, and Louis Suares. Dan and George chatted with the crew and listened to the radio; they heard stations in New Zealand and on the Pacific coast.

Sept. 2. Dr. Coman, some of the crew, the radio man, Dan and George came ashore at about 9:00 A.M. Dr.

Coman had breakfast with us as did the others who came ashore. He said he never ate better pancakes. After breakfast, Henry escorted Dr. Coman, Chadwick and Suares to various places on the island. They collected guano samples, which Dr. Coman said was a mission of the party now stationed on Jarvis. Dan, Frank and George kept company with the crew who came ashore. The Kinkajou has a small crew: first mate, chief engineer, three sailors and a cook, in addition to the Captain. Later Mr. Chadwick went to work on the radio apparatus, and the rest went swimming. The departure, at 11:30, was hearty. Dr. Coman again expressed his appreciation for what he called hospitality. It took over an hour to get up the anchor and set the sails. The Kinkajou finally got under way at 12:12 P.M. and was out of sight by 2:15. It was going to Christmas Island where it expected to meet the Islander, which was bringing more fuel.

In the afternoon Henry and George helped Mr. Chadwick, who was racing against time to get the radio apparatus hooked up for night traffic. He said he had some important schedules to meet. By dusk everything was completed. Suares had supper with us. We practiced good neighborliness and took food to Chadwick. After supper we all gathered in the radio shack to hear whatever news there was. The schedules did not materialize, but we heard the Islander calling the Kinkajou. Also, Mr. Chadwick contacted KYG, Globe Wireless Co. at Kawaihapai, and KHK at Wahiawa. He relayed two of Dr. Coman's messages. We checked our clocks by time signals from San Francisco Naval Radio, and found them 15 minutes behind.

Sept. 3. For the first time since leaving the Itasca we have eggs to eat: fried eggs for breakfast and some in our pancake dough. Fresh fruits, butter and rice were also received.

We gathered in the "radio shack" tonight, and Bill Chadwick sent messages to our folks at home through an amateur in Honolulu. He also sent an article for publication, written by Dr. Coman. The Itasca was contacted, but Bill was unable to reach Howland Island.

During the two weeks which passed between the arrival of the Kinkajou and that of the Itasca on September 15, a very interesting relationship developed between the personnel of the two camps. Henry Ahia spent many evenings at the "radio shack" with Bill Chadwick. Various messages were transmitted to Honolulu and the Itasca. Louis Suares worked harmoniously with his schoolmates. They fished together, ate many meals together, included him in their work and leisure time activities. The Kinkajou had brought a number of old magazines, which added to their stock of reading material. Frank received word that arrangements for his entrance to the University of Hawaii had been completed, and now he is certain about returning to Honolulu; but Dan and Henry plan to remain on the island. Much time was spent in improving the appearance of the camp. There was considerable heavy rain and drizzle on the 12th. Radio contact was made with Howland and arrangements were made for a radio program from Honolulu on the evening of Sept. 14, with greetings from relatives and friends.

Sept. 15. The Itasca was sighted at 10:27 A.M. and it stopped about 500 yards off shore an hour later. The first landing party consisted of Mr. W. T. Miller, Captain H. A. Meyer, Commander Derby, Sgt. Austin Collins, and Theodore Akana. They were shown our new cottage by Henry Ahia, and commented on improvements since the last visit. Kenneth Bell and Jacob Haili will replace Frank Cockett and George West. George will go to San Jose State College. Henry and Dan will remain for another three months. Mr. Miller gave Henry and Dan permission to go aboard the Itasca for lunch, accompanied by Louis Suares and Bill Chadwick. Parties of the ship's crew came ashore and went immediately to the shipwreck to collect souvenirs. Others helped to unload supplies and water drums. Captain Meyer (promoted since his previous visit to Jarvis) talked with Henry Ahia regarding our food and water supply, health and other things of importance. Unloading of supplies and water was completed by 3:30 P.M., and all of the "Colonists" came ashore for a visit, to exchange news and admire the island. They returned to the Itasca at 4:00 P.M. The storing of our food supplies commenced immediately, and it was all safe within the shelter of the ration tent before sundown.

Sept. 17. Jacob and Kenneth made a trip to the shipwreck before breakfast. Much of the day was spent checking the inventory list. Henry and Kenneth went spear fishing with Bill Chadwick. The large mullet they caught had worms in its flesh and was unfit to eat. Henry and Dan received a radio message from Honolulu that their parents and friends would speak with them on Saturday at 5:00 P.M. via radiophone, made possible by Kenneth Kum King, radio operator on Howland with the Coman Expedition.

Sept. 18. A double layer of wax paper was laid on the board roof of the cottage, and a canvas tent fly was put over the paper to hold it down. The evening centered around new musical instruments--guitar, ukulele and harmonica, with singing.

Sept. 19. Just before lunch, two large fish were noticed swimming around the bathing place. They were not sharks but were believed to be either 'o'io or 'a'awa. Dan's surrounding net was used to capture them, but one broke through the net and got away. The other measured 3-1/2 feet long, 2 feet 4 inches in circumference, and weighed 60 pounds. Some we had for supper, and the rest was dried.

Sept. 20. It was noted that Kenneth and Jacob seem to have adjusted themselves to their surroundings and are fitting into the routine of duty in excellent fashion. The combined members of both camps went spear fishing and caught a variety of fishes. In the evening Henry Ahia heard that Joseph Anakalea and Folinga Faufata were stationed on Howland, replacing William Toomey and William Anahu, who are returning to Kamehameha for their final year of high school.

Sept. 21. At 5:00 P.M. Henry heard his two brothers, Sam and Charles, speak to him over the radiophone; and Dan heard his dad. They told of interesting happenings in Honolulu--football, boat racing, and family news. Sept. 22, Sunday, a "day of rest." Dan, Kenneth and Louis visited the shipwreck to get lumber for surfboards.

Sept. 23. Kenneth, Jacob and Henry worked on leveling the airfield area and began to construct a large

T-shaped marker, 20 x 30 feet to be visible from the air. Sept. 25. Henry and Jacob constructed another marker on the extreme western side of the airfield.

Sept. 26. Kenneth worked on his surfboard, 6-1/2 feet long, the first to be constructed on Jarvis. Dan Toomey worked all day on one 12 feet long. Louis Suares went to the shipwreck for more lumber for his.

Sept. 27. Kenneth Bell caught a "quail" this morning and brought it back to the cottage. He intends to make a pet of it. The bird is quite tame but shy of our presence. We named the bird "Oscar." Henry and Kenneth, with a little scoop net, went into the field to catch love birds for pets. They captured two: one all white, the other lavender in color.

Sept. 28. Kenneth made a trip to the shipwreck before breakfast. He intends to lengthen his surfboard from a 6 footer to nine feet. Dan and Kenneth worked on their surfboards in the morning and went surfing in the afternoon.

Sept. 29, another Sunday. Surf riding in the afternoon. In the evening Henry visited the radio shack and heard a radio program between Honolulu and Howland. Hearing that Dan Toomey's dad wanted to speak to him, Henry raced to the cottage and got the other three. Don Mitchell, of the Kamehameha faculty, and various schoolmates also spoke. The occasion was Dan's 21st birthday.

Sept. 30. Inventory was taken of camp equipment, provisions and water supply. Kenneth Bell constructed dumbbells and bar bells, using old dry cells as weights. He made them of different weights--four to nine cells on each. Gym headquarters are in the camp supply tent. Dan caught a "quail" at 4:45 A.M. He was awakened by the whistling of the bird outside the cottage. Today was Henry Ahia's 23rd birthday.

Oct. 1. Hauled the last two of the 19 drums of water from the beach to the beacon. Oct. 2. Jacob Haili went to the shipwreck and brought back six pieces of lumber to make into a bed, 3 x 6 feet, without legs. Dan and Jacob

began their "body-building" exercises; Henry and Kenneth also did exercises. Henry went to the radio shack and heard some girl friends talk to the boys on Howland.

Oct. 3. After a strenuous day collecting specimens in the field, Henry went to the radio shack and the others organized the "Jarvinia Hot Shot Quartet."

Oct. 4. Jacob Haili worked on a contraption to perfect his "U-ma" ability [hand wrestling]. Dan rigged up a lighting system for reading at night, using five dry cells. Kenneth cleared a path from the beacon to the supply tent and began to draw a map of the island. Henry Ahia has a fine collection of sea shells.

Oct. 6. A large turtle was seen, believed to weigh in excess of 500 pounds. Our friend Oscar has been free to roam the beach, with clipped wings. It visits the cottage regularly for food and water.

Oct. 8. Shell collecting has become the fad of Jarvis. Henry has the largest collection; Dan and Jacob have just started. Kenneth walked to the shipwreck to survey some lumber. He intends to construct a house a few yards to the left of the beacon.

Oct. 9. Kenneth visited the shipwreck twice, returning with lumber. We are all kept busy surfing, exercising and reading. Since the departure of the Itasca the weather has been good; no rain, the ocean smooth. Oct. 10. Kenneth made two more trips for lumber; he is anxious to complete his house. Dan went lobster hunting on the reef to the north when the tide was low; he got a dozen and one 'u'u fish, eaten for supper.

Oct. 11. Henry and Dan discussed building either a frame house or a grass shack. Dan scouted for lumber, bringing back a load via the water route. He pulled it around the SW corner, as a raft--easier than carrying it across the island. Henry collected shells; Jacob also collected shells on the reef. Oct. 12. Kenneth visited the shipwreck twice, securing lumber. Dan made one such trip, pulling a load of lumber around the SW end.

Oct. 13. Kenneth made two trips to the shipwreck for lumber. Henry collected shells on the west beach. Dan Toomey and Louis Suares (of Coman camp) incorporated to build a house around the south and west sides of the beacon. It will be a two-story house with the inside of the beacon turned into a room.

Oct. 14. Kenneth began to construct his house, working on it all day. Henry went shell hunting along the western beach. Dan and Louis worked on their house all morning and went for more lumber in the afternoon.

Oct. 15. A heavy shower in the early morning, off and on for half an hour. Two more showers about 2:00 P.M.; the sky overcast most of the day. Kenneth gathered more lumber and worked on his house. Dan and Louis continued building a sturdy foundation for their two-story house.

Oct. 16. Kenneth made two trips to the shipwreck for lumber. Henry and Jacob made an oven out of an empty 5-gallon flour can. They baked biscuits in it. Dan, Louis and Bill Chadwick went fishing on the reef, SW of the beacon. They found two lobster holes and collected a total of 25 lobsters; eaten for supper and breakfast.

Oct. 17. Transporting lumber from the shipwreck still going full blast. Kenneth and Dan working hard on their house. Henry continues to collect shells on the SW beach. Henry, Jacob, Louis and Bill went fishing. Henry speared a six foot shark, the largest captured on Jarvis. Weather fine and cool. Oct. 18. More lumber hauling and house construction. Two days ago we had our last pork and beans. A quarter bag of potatoes spoiled on us. Oct. 19. House construction continues. Henry and Bill Chadwick collected shells. They spent the evening in the radio shack and learned that Kam gridders were victors over their long-time rivals, Punahou; score 19 to 6.

Oct. 20. Another Sunday. Dan collected shells before breakfast and also speared a large-size moana [goat fish] which was enjoyed for lunch. Kenneth continued to get lumber and work on his house. Dan Toomey rigged up a reading light, using two dry cells and a 2.4 volt bulb.

Oct. 21. Provisions were checked this morning by Henry Ahia. After that he and Jacob collected shells. Kenneth made two trips to the shipwreck for lumber and worked on his house. Dan and Louis did a little work on their house. There was a heavy shower at 4:00 A. M., total 0. 05 inch. In the evening Kenneth and Louis went into the field to collect booby eggs. They got a total of seven to eat for breakfast tomorrow.

Oct. 22. Kenneth early this morning went into the field again to get more booby eggs; only two of the seven he collected were good. He found 14, ten of which were good to eat cooked with corned beef hash; they did not have a fishy taste. Dan made five trips to the shipwreck.

Oct. 23. Kenneth spent all morning working on a map of Jarvis Island. In the afternoon he carried 14 bags of gravel for the floor of his house. In the evening he moved from the cottage into his newly built house. He rigged up a lighting system with five dry cells and an 8 volt bulb. Dan worked on his surfboard. After lunch he and Louis went to the shipwreck for more lumber, transporting it home on a cart which Louis had made. Henry and Jacob collected shells.

Oct. 24. Henry collected shells, beginning at the shipwreck and going three-quarters of the way around the island. Kenneth worked on his map, and with Dan and Louis selected lumber at the shipwreck. A common sight from the cottage in the evening: schools of porpoises swimming in endless numbers. When it is calm, we also see a few sting rays in the channel of the landing place. News was received by radio that the Itasca will sail from Honolulu to San Francisco within three days.

Oct. 25. A very light shower greeted us this morning at 6:00. The sky was completely overcast with cumulonimbus clouds. The wind (19 miles per hour) blew the clouds past the island. Later the sky cleared. Jacob, Kenneth and Louis walked to the SE end of the island to check on some coral ridges this morning. They located some old guano track rails to add to their maps. Henry worked on a map of the island in the morning and collected shells in the afternoon.

Oct. 26. Henry and Kenneth worked on their maps. Kenneth rigged up a table light with five dry cells and an 8-volt bulb. Dan erected a new flagpole on the beacon, above which it protrudes 12 feet. The beacon is 25 feet high. Dan and Louis at 9:30 went into the field to study different types of booby birds. They killed a few eels and collected some shells by flashlight.

Oct. 27. This morning we put bos'n bird eggs in our hot cakes. It made the cakes fluffy and gave them color. Out of 14 eggs collected four were good. The tide was unusually low around 9:00 A.M., so we did some fishing. Dan and Henry caught two lobsters, also two large red snappers.

Oct. 28. Dan made two trips to the shipwreck. He and Louis brought back 30 pieces of lumber on the cart. These were for the floor of the house they were building. Henry checked the ration supply, worked on his map, and collected shells. Later he worked on a T-shaped marker on the airfield. Kenneth gathered clam shells to decorate around his house. In the evening he collected bos'n bird eggs. The ocean began to get rough, with big breakers and a strong undertow. Kenneth, Jacob, Henry and Louis went surfing.

Oct. 29. Kenneth collected more eggs. A dozen of his 20 were good. They were cooked for breakfast. Henry worked on flattening a mound in the airfield. Others collected shells. After supper Dan and Louis worked on the floor of their house. Two cans of poi had a bad odor and were unfit to eat. This is the first time this had happened.

Oct. 30. Henry worked on his map and laid out his shells, over 300 worthy of recognition. He sorted out the best. In the afternoon he hunted more shells on the beach north of camp. Kenneth and Jacob made two trips to the shipwreck for lumber. They will make two 11-foot surfboards.

Oct. 31. Dan Toomey took an inventory of provisions, water and supplies. We have plenty, but not much variety in foods. Kenneth worked on his surfboard in addition to recording weather. Henry, Dan and Jacob hunted for shells, finding quite a lot in good condition. Large waves at 3:00 made surfing exciting.

Nov. 1. Jacob recorded weather and worked on his surfboard. Henry worked on his map in the morning and collected shells in the afternoon. Kenneth completed work on his surfboard. In the afternoon he went surfing with Jacob and Louis. The waves last night washed up higher on the beach than Dan and Henry had seen during their stay (about 7-1/2 months). We enjoyed a 3/8ths yellow moon and its reflection on the ocean.

Nov. 2. Dan worked on his house all day, between recording weather. Henry collected shells and leveled a mound in the airfield. Jacob worked on his surfboard. He went surfing with Kenneth, Henry and Louis. Kenneth sandpapered his surfboard and made a shade for one of the windows of his house. Henry visited the radio shack and learned the results of a football game: Kamehameha 30, Roosevelt High 13.

Nov. 3. Henry recorded weather, collected shells and went surfing. Others also went surfing. Kenneth collected eggs of a booby and a bos'n; boiling made them just like rubber. Dan and Louis spent the day at the shipwreck cutting more lumber. They started back with 60 pieces on the cart. After 300 yards the axle broke.

Nov. 4. A new axle stood the load for about 100 yards and also gave way. They off-loaded half the lumber and hauled the rest to camp on a third axle--a steel shaft. They worked on their house until 5:00 and then went lobster fishing, getting only one. Kenneth recorded weather. He was appointed by Henry to take charge of the medical supplies. He transferred them from the tent, where the weather instruments are located, to his house.

Nov. 5. Henry collected shells, leveled a mound, and made a windbreak for a coconut palm out of a gunny sack. In the evening he, Kenneth and Louis went torch fishing. Dan and Louis worked on their house; Kenneth on his map; and Jacob on his surfboard. In the evening there was a "mouse"-killing jaunt, over fifty by torch-light.

Nov. 6. Henry and Bill Chadwick went on a shark hunt. Dan worked on his house while recording weather. Kenneth and Jacob hunted for shells. Kenneth made a closet and a towel rack in his house. Jacob worked on his surfboard. Bill Chadwick hooked an octopus which measured about 8 feet from tip to tip. After considerable pounding and boiling, half was fried for supper and the rest dried.

Nov. 7. Fishing, between recording weather, Henry Ahia caught three good sized sharks. At about 9:30, Dan, Kenneth and Louis caught 197 aholehole in Dan's surround net near the channel at the SW end of the island. They used some of the fish as bait to catch sharks. Louis caught two sharks, and Kenneth caught two red snappers and four other fishes. Seventy aholehole were cleaned and dried, also all next day.

Nov. 9. Jacob worked on his surfboard, between recording weather, and went surfing with Kenneth, Henry and Louis. Dan Toomey (who keeps the log) went lobster hunting, catching four, which were eaten for lunch. In the evening, Dan and Suares caught over 300 aholehole in the surround net at the landing site. About 40 of the largest were kept, the rest thrown back into the sea. Eleven were cleaned for drying; five eaten for breakfast; the rest used for catching sharks by Henry and Kenneth. The beach SW of camp was considered the best area for shell collecting on the island. Much time is being spent in shell collecting and hunting for sharks, caught for their jaws. A heavy shower from 10:40 to 11:15, 0.09 inches of rain.

The usual activities on Nov. 11. Nov. 12. Kenneth constructed a flagpole and put it in front of his house, flying a small American flag. Dan and Louis fished for sharks and collected shells on the east shore. They caught three sharks and extracted the jaws of two. An eel tried to bite Dan's ankle. On the way back they discovered a lobster hole and collected 30 for supper and breakfast. Henry and Kenneth visited the radio shack and talked with Howland.

Nov. 13. Jacob carved his name on his surfboard between making weather records. Dan and Henry worked on

the roof of the cottage. At the radio shack, Henry and Kenneth heard signals from the Kinkajou. Nov. 14. Heavy shower at 5:50 A.M., 0.09 inch in five minutes. Kenneth, Jacob and Henry made fishing poles and caught four 'u'u trying them out; eaten for supper. Louder signals from the Kinkajou.

Nov. 15. Dan and Louis journeyed across the island to the SE corner to measure the height of the ground above sea level at about ten places. Nov. 16. Between taking weather observations, Kenneth cleaned the gymnasium tent and put paper on the roof of his house. Others collected shells. Henry's collection still the best.

Nov. 18. The ocean began to get rough today, with big breakers--good for surfing.

Nov. 19. Kenneth constructed a high jump stand, while Jacob dug the jumping pit. After lunch, the whole group participated in track events, high jump and shot-put. Dan and Louis caught a large school of aholehole; 50 were kept, about 30 cleaned and dried, the rest eaten for supper. Dan moved into the house he and Louis built.

Nov. 20. Henry cleaned and rearranged the cottage. Dan got more lumber for a 14-foot surfboard, with the help of Jacob and Louis. Nov. 21. Jacob went surfing with Louis. Henry made two shell collecting trips. Dan worked all day on a 14-foot surfboard; the 12-foot one he had made wasn't large enough for him to stand up on. Dan and Louis practiced the shot-put.

Nov. 22. Kenneth caught, cleaned, cooked and ate a young bos'n bird. He planted "mau" in front of his house. [Ma'o is the ilima-like Abutilon.] Jacob and Louis surfing.

Nov. 23. Jacob made a shelf to display his shells. Kenneth made a "harpoon gun." Dan worked on his surfboard. All went surfing. Bill Chadwick's radio brought news that the volcano was erupting near Hilo, from Mauna Loa. Nov. 24. A quiet day, the tenth Sunday since the departure of the Itasca. Nov. 25. Henry checked provisions.

Others went surfing, insect and shell collecting. Nov. 26. Kenneth and Jacob made sling shots and shot "mice." Everyone went body surfing in a very rough ocean, the waves rolling up to within a few feet of the beach crest. Nov. 27. Everyone was out looking for shells. Body surfing in the afternoon.

Nov. 28. The flag was flown in observance of Thanksgiving Day. We had ham in the absence of turkey; our "best dish on Jarvis." Nov. 29. Dan hunted shells and made two shelves for the "beacon house." Surfing in the afternoon. Kenneth planted pig weed and 'ilima in gallon cans and put them in the shade of the beacon. Henry cleaned and oiled some tools.

Nov. 30. Shell collecting dominated the day. Dan and Henry took inventory of supplies and provisions. We have run out of evaporated milk, corn, pineapples, Vienna sausage, and rice. We have a few more cans of ham and poi. Corned beef will be our main dish until the Itasca returns. Ample water and kerosene.

Dec. 1. Today's activities were mainly recreational: shell collecting, surfing. Dan cleaned rust off tools. Dec. 2. When not otherwise employed--plenty of reading and playing musical instruments. The ocean quiet again. Dan made a harpoon with which to spear sharks and large fish. Others read and collected shells. Henry visits the radio shack most evenings.

Dec. 3. Henry cleaned and oiled tools, putting them away in wax paper. He began to make three outdoor stoves out of empty kerosene cans. Dec. 4. Overcast sky and a light shower at 8:10 A.M. The sky cleared. Some surfing at 10:00, and shell collecting. Dec. 5. Between recording weather, Henry finished the outdoor stoves. Surfing in the afternoon. Dec. 6. Dan went on an early morning shell hunt. Surfing at 9:30. Henry got some fine shell specimens across the island. Dec. 9. Dan collected shells and at 9:30 went spear fishing, catching 13 aholehole, cleaned by Henry for supper. Kenneth and Louis studied plants in the field.

Dec. 8. Shell collecting and surfing. Kenneth made a kite and tried flying it. He tied the cord to the flagpole in front of his house and let it fly all day. Dec. 9. Dan, Kenneth and Louis went spearfishing. They caught 5 uhu, 1 moana, and 'u'u. Henry cleaned the fish for supper. Kenneth and Louis made two electric buzzers to practice the code, transmitted by wire between Kenneth's house and "Beacon house."

Dec. 10. Henry collected shells on the eastern shore; Dan on the beach north of camp. Between recording weather, Kenneth worked on his buzzer.

Dec. 11. Jacob recorded weather and went surfing with Henry and Louis. Dan, Kenneth and Louis went spearfishing after lunch, catching 8 aholehole and 1 uhu; cleaned by Dan and Henry and eaten for supper. Since November 30, our main dish has been corn beef, supplemented by fish and lobster, when the ocean is not too rough. We have run out of baking powder, canned poi, peaches and peas. We have one can of ham, which we are saving for some future holiday. We have lots of fruit juices and can get along until the Itasca arrives.

Dec. 12. Henry collected shells all morning and went surfing with Kenneth, Jacob and Louis in the afternoon. Dan recorded weather. The lack of sufficient food has compelled the two members of the Coman camp to dine with us.

Dec. 13. Dan and Louis went lobster hunting and fishing on the reef. They caught 7 lobsters, 1 'u'u, and 6 aholehole. These were eaten for supper. Dec. 14. Henry and Bill Chadwick made a trip to the shipwreck and hauled some lumber to camp. They plan to build a raft. Dec. 15. Dan took inventory of provisions and supplies. We have food to last at least 25 days. Henry worked on the raft and speared fish, catching half a dozen aholehole, which we ate for lunch. Kenneth constructed a path from his house to the beacon. Dec. 16. Henry and Louis went spearfishing in morning and caught a dozen aholehole, which we had for lunch. Again, in the afternoon they caught 16 aholehole and 3 lobsters for the evening meal.

Dec. 17. Henry, Dan and Louis went net fishing north of camp and caught 150 aholehole. They cleaned 45 for the next three meals, also 25 for drying. The balance were thrown back into the ocean. The next few days followed the same pattern. The number of aholehole caught were as follows: Dec. 18, 62; 19th, 50; 20th, 45; 21st, 56, 22nd, 60; 23rd, 36; 24th, 40.

Dec. 20. In the evening everyone wrote a few lines of Christmas greetings to folks back home, and Bill Chadwick sent these by amateur radio to Honolulu. On Dec. 21, Dan caught an octopus, about 6 feet across. He pounded and salted it. In the afternoon all joined in launching the raft built by Henry. The whole Jarvis Island personnel, while on the raft, were suddenly struck by a big wave which threatened to capsize the raft. A strong current, flowing out to sea, held the raft marooned in the channel for quite a spell. If the rope which held us to the shore had been weak, we no doubt would have been swept to sea. We finally managed to haul the raft to shore. Everyone was cool-headed during this exciting experience.

Dec. 23. Kenneth journeyed to the shipwreck and brought back a load of lumber to repair the roof of his house. Dec. 24. Henry cleaned up his cottage; and Jacob did the same in his, and also went surfing with Louis. Dan hauled gravel between recording weather.

Dec. 25. The flag was flown in observance of Christmas Day. The ham was cooked for Christmas dinner.

Dec. 26. Henry chopped wood, repaired his cot, painted his surfboard, and stewed a "quail" bird, which Louis had caught, with tomatoes and dill pickles for lunch. Some thought (or at least said) it was "delicious"; others were less enthusiastic, but at least it filled their stomachs.

Dec. 27. Dan, Henry and Louis went fishing with the surround net, catching 60 aholehole. An octopus, about 6 feet across, pounced on one of the fish in the net and succeeded in swimming to a hole. Dan hurried to camp for spears and they captured the octopus. The fishes were

cleaned for meals; the octopus was pounded and dried. Henry also caught a shark and extracted the jaw. Henry sandpapered his surfboard between recording weather. Kenneth painted his surfboard and made a pair of wooden slippers.

Dec. 28. Surfing and fishing were the order of the day; 56 aholehole caught. Henry learned at the radio shack that the Kinkajou was expected to arrive tomorrow.

Dec. 29. At 7:15 A.M. the Kinkajou was sighted on the southwestern horizon. The ocean was calm and the yacht used its engine to come up to shore. It did not anchor, but drifted off and came back by power. At 9:00 A.M. the skipper, Captain Constantine Flink, two Samoan members of the crew, and two Kamehameha School boys, Elmer Williamson and Arthur Harris, who had been stationed on Howland and Baker, respectively, came ashore. They brought letters from Honolulu. We learned that the Kinkajou had visited Samoa and 13 other islands in the South Seas. We also learned that the Itasca will sail from Honolulu for one of our islands on January 7. Kenneth Bell went on board the Kinkajou with the first returning boat and talked with Dr. Francis Dana Coman, of Johns Hopkins University, and Kenneth Lum King, of Honolulu, radio operator stationed on Howland for the Coman Expedition. Henry and Dan also went on board, and all were warmly received. They had lunch on the Kinkajou.

After lunch, Dr. Coman, Kenneth Lum King, and some members of the crew came on shore. A strong current and big waves had the boat marooned for about half an hour in the channel, and the oarsmen certainly were tired when shore was reached. Henry showed the visitors around camp. Dr. Coman went into the field to look over the guano prospects. He highly commended us on the improvements to our camp. Members of the crew visited the "Amaranth." We all wrote letters to folks in Honolulu in answer to the ones received. Dr. Homer F. Barnes, Principal in charge of the Kamehameha Schools, sent Henry Ahia and Toomey their pay checks for the six months from March to August. These checks were left with Dr. Barnes by Mr. W. T. Miller, to be forwarded to the boys as soon as possible. The boys endorsed the checks and sent them back to Dr. Barnes to be cashed. A

letter of thanks was also sent to Miss Bertha Van Auken, matron of the Boys' Dining Hall, for the things sent to us by her. Henry Ahia also wrote to Mr. Clarence V. Budd, thanking him for the magazines received from him. We also received copies of "Ka Moi," Kamehameha Schools weekly paper from Mr. Loring G. Hudson and thanked him for them. A letter addressed to the four boys of Jarvis was received from J. N. Taylor of Washington, D. C. Enclosed were two newspaper clippings about us here on Jarvis and the other two islands: one from the New York Times, Sunday, Sept. 1, 1935, a picture; and the other from the Sunday Star, Washington, D. C., October 20, 1935, a long news story describing the reason for the colonization of the three islands, and four pictures of the islands. There was a return stamped envelope, on which Mr. Taylor wished us to indicate that it came from Jarvis Island and close to the equator, as he is a stamp collector. He also asked us for our home addresses.

About 5:00 o'clock this evening, with all the equipment of the Coman camp stored on board the Kinkajou except one tent, three drums of water, and the radio antenna, which is still on the island, most of the crew went on board the Kinkajou. Dr. Coman, Kenneth Lum King, Elmer Williamson, Louis Suares, and two members of the crew had supper with us before going on board. The Kinkajou got under way at 6:15, and we all sat in the cottage watching it until darkness hid it from our vision, taking from the island Bill Chadwick, radio operator, and Louis J. Suares, fellow Kam student, who had been resident of Jarvis since September 1st. Food stuff left us from the Kinkajou includes sugar, canned tuna, canned grapefruit juice, dried apples, bacon and Crisco, which we certainly needed.

Dec. 30. Early this morning, before breakfast, Kenneth Bell covered the roof of his house with wax paper to keep the rain out. The velocity of the wind was low, the best time for such work. He also kept weather records. The rest of us read or talked about the coming of the Itasca. Henry trimmed Dan's beard.

Dec. 31. Henry had obtained a hacksaw blade from the Kinkajou, and early this morning, after breakfast, he

journeyed to the "Amaranth" to finish cutting off the steering wheel. However, the blade broke while he was sawing. He returned to camp with some souvenirs of the wreck for Don Mitchell, of the Kamehameha faculty. In the afternoon he went spearfishing, catching four aholehole, which we had for supper. Jacob was recording weather. Dan took inventory of provisions and other supplies. We enjoyed some Chinese sweet seeds which Jacob had received from Honolulu via the Kinkajou.

Jan. 1, 1936. Only the daily chores to write about. The whole group spent the day reading. Kenneth collected a few shells. Jan. 2. Henry recorded weather. The group passed the time reading. Jan. 3. Henry went spearfishing and got 10 aholehole and one uhu [parrot fish], which we ate for supper. Dan collected shells. Jan. 4. Henry went spearfishing and got a dozen aholehole. Dan and Kenneth speared two uhu on the reef. Jan. 5. Henry speared ten aholehole and two uhu on the reef. Our main diet is now fish, fried or boiled, with hard tack, jam, and canned tomatoes, cooked with white beans. We also dill pickles, sauerkraut and spinach. Kenneth packed up his personal belongings in boxes. Jan. 6. Dan speared six uhu, which we had for supper. Henry recorded weather and sandpapered the rust off some tools. Jan. 7. Henry speared 15 aholehole and two uhu. Half the aholehole were eaten for lunch, the rest for supper. While Henry was cleaning the fish a shark came up near the beach. Henry yanked it by the tail, clear out of the water and up on the beach.

Jan. 8. The ocean was calm this morning and the raft was put into the water. We all fished from the raft: uhu and popa'a (for bait). Henry trimmed Dan's hair. Later he went spearfishing and got a dozen aholehole for supper. Jan. 9. Henry speared ten aholehole and four uhu. Later he oiled all the tools. Jan. 10. The raft washed ashore and was partly wrecked. Henry chopped up the wood for firewood. Dan and Kenneth went lobster hunting and found eight and one moana. The flag was raised and it will continue to fly until the Itasca arrives.

Jan. 11. Henry caught a large red snapper at the southeast end of the island; we ate it for lunch. Dan packed

his belongings, ready for shipment. Jacob installed new dry cell batteries in his lighting system. Rain today from 2:00 to 2:45, 0.10 inch.

Jan 12. House cleaning, shell collecting, and fishing (20 aholehole and a lobster) filled the day. Jan. 13. Dan and Henry caught four lobsters and ten aholehole. More shell collecting. Jan. 14. Ten more aholehole, all eaten for supper. Kenneth made a trip to the shipwreck for lumber to make a floor for his house. We were all certain that the Itasca would come tomorrow.

Jan. 15. The Itasca was sighted at 9:30 A.M. by Henry Ahia. We were delighted to see her. Our food supply was about exhausted. All we had were eleven gallons of tomatoes and five pounds of beans. By eating fish we had made our three months supplies last for four months. Also at our meal table were two men of the Coman Expedition, who ran out of food on December 12 and ate with us until December 29.

The first boat in brought Mr. Miller, Captain Meyer, Sgt. Collins, and seven Kam boys, namely Solomon Kalama, Joseph Kim, W. Yomes, Alexander Kahapes, Henry Chumukini, George Kahanau, and Henry Mahikoa, the first three graduates of the school. Luther Waiwaiole, a graduate, and James Carroll, who is still attending school, were aboard, in charge of shipping our food supplies, taking their liberty later. We were glad to see our friends again. Henry Ahia and Dan Toomey, who had been on this island for ten months, prepared to return home.

Kenneth Bell was appointed leader on Jarvis; remaining with him were William Yomes, Henry Mahikoa, and Jacob Haili. Mr. Miller took motion pictures of the four boys who had lived on the island, and later of the four boys who were to stay. Kenneth and Jacob were invited on board the Itasca and were cordially greeted by Captain Brown, who seemed to be a jovial person. They were given a big dinner. At 3:00 P.M. they returned to the island, along with the crew going on liberty. A hacksaw was brought from the ship, and Sgt. Collins and a lot of sailors crossed the island

and brought back the steering wheel of the "Amaranth." Two 8 x 8 x 10 inch posts were also brought for the purpose of building a platform for the cannon that is in the Bishop Museum. This old cannon was found on Baker Island. Shells for the museum were also selected from those collected by the boys on Jarvis. At five o'clock a call was given for all visitors to return to the ship, and farewells were said. The Itasca left for Baker and Howland. Kenneth, Henry, William and Jacob started to carry the provisions to the supply tent. At seven o'clock Henry and William enjoyed their first meal since sailing from Honolulu.

Jan. 16. Jacob Haili recorded weather and showed Henry Mahikoa how to use and read the various instruments. Our daily routine started off with Henry and Jacob cooking and William and Kenneth washing dishes. After breakfast we continued to carry our provisions to the supply tent. Kenneth built shelves in our kitchen. During the afternoon Henry explored the island. At 5:00 Haili had the pleasure of clipping Mahikoa's hair.

Jan. 17. William Yomes started his first day on duty. He and Henry had learned the use of the instruments. Jacob and Kenneth helped him to describe the different clouds, but only a few types of clouds had appeared so far. Kenneth, Henry and William put the food tent in order and took inventory. We have 37 drums of fresh water. In the afternoon Henry and Kenneth collected shells. The new boys learned the Jarvis way of surfing.

Jan. 18. Henry Mahikoa came on duty for the first time. Kenneth and William repaired the road to the beach so that it would be easier to roll the drums of water up to the houses. The old road had been wrecked by the gigantic waves we had, at which time the water rose to about the level of our houses, 15 feet above sea level. Henry and Jacob checked an inventory of tools and equipment. Henry and Kenneth planted two coconuts in cans, 14 inches square. A lot of plants had been sent to Jarvis by the H.S.P.A. [Hawaiian Sugar Planters' Association] of Honolulu. We will also endeavor to plant the seeds taken from fruits given to us--avocado, prunes and dates. In the evening, before

supper, Henry sat on the beach, deciding whether to bathe, or fool the sharks and not bathe. The sharks, appearing to be away, he finally waded in about ten feet. He soon came out faster than he went in, a six foot shark at his heels. The shark was soon caught with a hook by William and Henry, making the event the first of their shark experiences on Jarvis.

Jan. 19. During the morning the four brought up two drums of water; 12 had been brought to the island this time. Then we went fishing. When Henry first saw the schools of aholehole, he got so excited that the spear he threw fell short. After fishing, we amused ourselves surfing. William Yomes planted two coconuts in cans. If the trees sent by the H.S.P.A. grow, we will have the pleasure of resting in their shade, and may possibly acquire more rain.

Jan. 20. Two more water drums were hauled up to the beacon. The tide today varied: low for a few minutes, then rising suddenly, to rage violently. William and Jacob did their first surfing in the afternoon.

Jan. 21. The young trees and shrubs seem to be growing nicely, with the exception of the coconut palms. Two more water drums were hauled up, made easy by using a one-inch rope 100 yards long. Both ends were tied to the beacon and the two parts laid parallel down to the beach 50 yards below the beacon. The drum was placed on the two lengths and the slack was thrown over and used to roll the drum up the hill. Kenneth showed William and Henry the different devices used in our gymnasium.

Jan. 22. Henry recorded weather. We also record the tide. We hauled up two more drums of water and then went fishing and later surfing. The newcomers are becoming expert. Jan. 23. Two more water drums hauled up. Kenneth dug up a coconut palm, which had been planted last March, and put it in a large can with a sand foundation. This is the only one of those planted in rich guano soil which had survived. William is quite a musician and can produce piano chords on a guitar.

Jan. 24. This morning the entire population of Jarvis united to roll the last two water drums from the beach to the beacon. Kenneth, Henry and Yomes made a trip to the shipwreck to bring back more lumber. Kenneth and Henry began building another room on Jacob's two-story house. Jan. 25. Kenneth and Henry obtained more lumber from the "Amaranth." Our coconut pals are growing nicely. A new moon found Jacob and William strumming their stringed instruments.

Jan. 26. Sunday was distinguished by the singing of a few humns, swimming in the afternoon, and music in the evening. Jan. 27. More lumber was brought over from the "Amaranth." We practiced Hawaiian songs in the evening. Mahikoa is the best tenor of the island; William, baritone; and Jacob, second base. Jan. 28. Kenneth and Henry carried seven bags of gravel for the new room, used for flooring, for wood is becoming scarce. In the afternoon everyone reported to the gymnasium for their daily exercises, which are taken seriously on Jarvis.

Jan. 29. Kenneth, William and Henry started a roofing job on the home of William and Henry. The tent fly, which had been used previously as protection against the rain, was removed and replaced with genuine roofing material and yard-wide strips of canvas. Some read the new magazines, contributed by several ladies and gentlemen in Honolulu, brought down on the Itasca; others hunted for shells. Music in the evening.

Jan. 30. All swam for fifteen minutes before lunch. The sharks seemed to mind their own business, so we left them alone. In the evening Kenneth and William combed the beach for more shells. Jan. 31. An inventory was made of our food supply, tools, equipment and various miscellaneous articles. All went for a swim in the channel, then to the gymnasium at 3:30 P.M. In the evening, to Kenneth's home for a card game; and last to the home of William and Henry for refreshments--cookies and orange punch.

Feb. 1. All worked on the "future, proposed landing field," leveling mounds and filling holes. When it became

too hot, back to camp for a swim in the channel before lunch. Unable to get to the Royal Hawaiian Hotel, we play our own music and dance with boxes or chairs.

Feb. 2. All spent spare time studying various chords on the guitar and ukulele. William taught the others an advanced lesson in the usage of minor and broken chords. Feb. 3. A coconut palm was transplanted at the left front of Kenneth's home. It seems to be the strongest of the four that were brought here. Large rollers thundered in on the beach and wrecked the slab walk up from the beach; about the fourth time it has been washed out. In the afternoon we collected shells for the Bishop Museum. Insects, birds' eggs and fishes are also being collected for the Museum.

Feb. 4. Additional roofing material was put on William and Henry's house. One hundredth of an inch of rain, which fell last night, proved that the previous roofing was inadequate. Jacob uses canvas to protect destructible equipment. Feb. 5. Henry and William have been here three weeks. Jacob and Kenneth have been away from Honolulu for five months. The island today was combed for insects. Quite a few kinds were found. Because of the lack of diving goggles, we have difficulty in spearing small fish as specimens that dwell in holes and under coral rocks. Feb. 6. A passing nimbus cloud brought a light shower, lasting only a minute or two. The longest recorded rain on Jarvis was 40 minutes. William hunted for shells halfway around the island.

Feb. 7. Kenneth planted a hala tree, brought from Honolulu, in front of the home of Jacob Haili. Ken's coconut palm seems to be in fine condition, growing well. One of the four coconuts brought from Palmyra died.

Feb. 8. A ship was sighted soon after breakfast. It came from the north and drifted by on the horizon and steamed away to the westward. It looked like a large steel freighter, with one mast and a derrick in the front part of the ship and another mast in the stern. Its color was gray, and it had one large, low smokestack. When it was seen at 8:05 by Kenneth, the American flag was hoisted over the beacon.

Feb. 9. All four went fishing. William caught an uhu, and the others 12 aholehole. These were cooked by Henry, who is a first rate cook. An outdoor stove, made of three kerosene tins, is used with wood as fuel. Two rods serve as rests for pots.

Feb. 10. Kenneth, Henry and Jacob covered the island, scanning the ground for relics that might have been left by the guano workers. A mirror frame, measuring 12 x 20 inches, was the only article they brought back to camp. Later, a swimming contest was held in the channel, racing against the strong current. Later in the afternoon we played baseball. The balls and gloves had been loaned to us by Mr. William Wise, athletic coach at the Kamehameha Boys School.

Feb. 11. While on duty, Henry Mahikoa began the job of reconstructing the coral slab walk that leads from the main house to the beach. Feb. 12. The American flag was hoisted today in honor of President Lincoln. William speared his first uhu, and Jacob, Henry and Kenneth brought in a few aholehole and uhu, which provided a hearty meal. In the afternoon William and Henry made a trip around the island, bringing back some rare shells.

Feb. 13. Jacob recorded weather. The others hunted insects. The insect that is of greatest abundance, and which breeds in pickleweed patches, is a cream colored moth. The most pesty insect is a black fly, about half an inch long, which resides in the feathers of frigate birds; it makes frequent visits to camp and bothers us. Luckily we do not have any mosquitoes or centipedes. A few insects have been brought here by the Itasca and the Kinkajou. They dwell mostly in the onions and potatoes. There is also a black bug [beetle ?] which ravishes all food-stuffs and anything that is not covered or protected.

Feb. 14. William Yomes on weather duty. The others started toward the airfield with picks and shovels. They stopped at 10:30 and returned to camp. The rest of the day spent in reading and music. Feb. 15. Kenneth installed a lighting system in his new room, used frequently now; and

also by Kenneth and William as their sleeping quarters. The walls are only half the height of the room, and they find it refreshing. It is also used as a lounging, reading, and music room.

Feb. 16. Henry and William hunted shells. Kenneth planted another hala. All the plants seem in fine condition. Feb. 17. Jacob Haili on duty. The others speared fish on the east side of the island.

Feb. 18. Kenneth tried collecting birds' eggs. He had quite a time getting some from frigate nests, for the birds would swoop down and attempt to peck him. He blew one egg in less than 30 seconds; but on another occasion he blew so hard the egg was smashed. Fortunately none was rotten. Feb. 19. Henry recording weather. The others hunted insects, returning with cockroaches, ants, bugs of various sorts, and lizards. Jacob and Henry planted pickleweed in front of their houses; then went surfing. Feb. 20. Kenneth recorded weather. The others went spear fishing on the east side. The tide was low and it was possible to walk along the edge of the reef. They found about 100 aholehole in a pool and about 60 were caught.

Feb. 21. Jacob on weather duty. The others went to the channel to catch sharks. Two, with white-tipped fins, small but with sharp teeth, were caught. They were different from the yellow-fin and gray-fin sharks. Feb. 22. William Yomes recording. Henry and Jacob went spear fishing. No aholehole seen until about 11:30. Then Jacob sighted a school of about 500. Henry blocked their escape, and Jacob speared until their two fishing bags were full, a total of 80 aholehole. The rest of the day was spent cleaning, scaling, salting and drying.

Feb. 23. Henry recording. He started making a larger fishing bag, ten by twenty inches, out of canvas, with cross-straps. He sewed two bug bags together to make a net, with a four foot mouth. Kenneth also made a fishing bag out of brown canvas. They have made fish drying an "industry."

Feb. 24. Kenneth Bell recording. He also planted four hala trees. Henry, William and Jacob set out at 8:30 for the western fishing grounds. The tide again was low. After combing the reef for about three hours, Bill sighted a school of aholehole, and these were corralled in a perfect coral trap. Bill sat in the three-foot passage to prevent the school from escaping. About 500 fishes were in a pool only 20 feet in circumference. Spearing being too slow, the boys used Henry's net and had soon captured about 300. They threw back the smaller ones and kept the rest. They emptied the fish on a large dry part of the reef, and were getting ready to make a second scoop when a five-foot eel came gliding out of a hole. Bill jumped away from the opening, and the eel glided through. They took their catch back to camp and, after lunch, spent the afternoon cleaning the fish.

Feb. 25. Jacob on duty. Henry visited several birds' nests and brought back their eggs. Kenneth, William and Jacob fished for different kinds of fish specimens. They brought back several. At noon, all went swimming in the channel. Afternoon and evening reading and swimming.

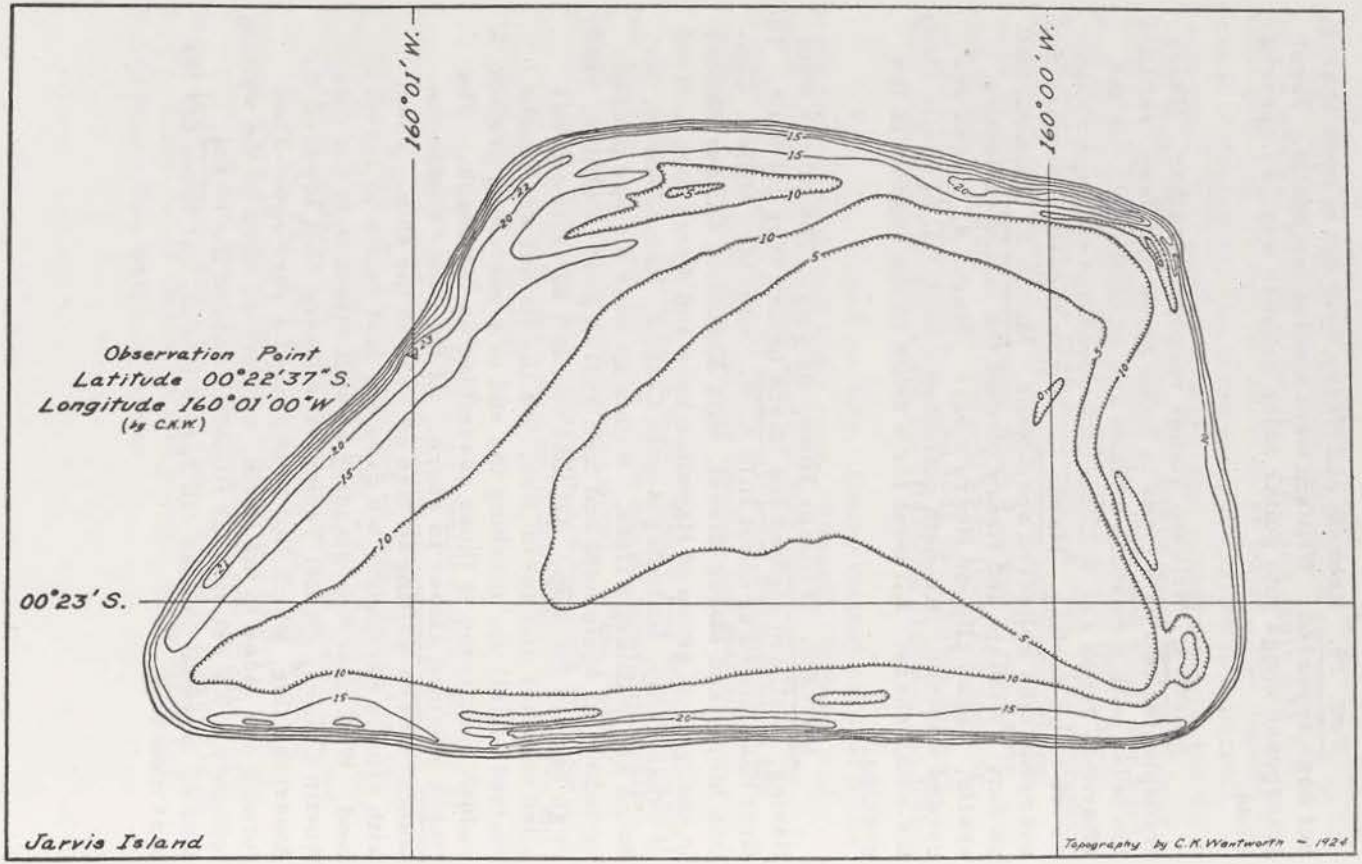
Feb. 26. William on duty. Henry and William caught two sharks. We can tell four kinds apart: gray-fin, white-tipped fin, yellow-fin, and hammerhead. When fishing, swimming or surfing, the gray-fins are the ones that bother our conscience most when we are in deep water. We are not afraid of them on the reef.

Feb. 27. Henry took over weather observations at 6:00 A.M. The others started filling in various gaps in the airfield. After two hours they had to stop because of rain. Jacob ran back to cover the bed and table in his room, but found them already wet. He slept that night under a large canvas. Feb. 28. The morning was fine, and wet bed clothes were spread over the "slab-rock" to dry. Henry went looking for eggs, coming back with two frigate eggs, three booby eggs, and one tern egg. William taught Jacob how to make cords on the "silent piano," a standard keyboard which Ken Bell had drawn.

Feb. 29. Kenneth and Henry went out to hook sharks, but none appeared. William went hunting for shells. Jacob transposed songs into guitar solos between weather observations.

March 1. William Yomes recorded weather. Henry transplanted two hala trees in holes three feet deep, refilling the holes with a mixture of sand and Honolulu soil. In the afternoon Jacob and William took advantage of large rolling waves to go surfing. March 2. Henry recorded weather and everyone else collected specimens. March 3. Kenneth Bell on duty. William and Henry circled the island collecting shells. Jacob clipped Henry's hair. March 4. Jacob recorded weather. Kenneth collected a sack full of shells along the south shore. All went for a swim in the channel in the evening.

March 5. William Yomes on duty. The others went fishing. William sighted the Itasca before they got back. The first boat landed at about 11:10 A. M., with Mr. Miller, Captain Meyer and Major Bissel, with Executive Officer Kenner in charge. A group of Hawaiian boys and Army men arrived to break camp, including Austin Collins, Ralph Wilson, Mr. Raine and William Wilson. Within an hour all was packed, including all equipment and food still in good condition, ready to go back to the ship. All that couldn't be salvaged was piled together and set on fire. As the flames and smoke started to roll up, marking the end of a year-long project, a sudden hush came to those assembled on the beach. The Itasca steamed closer to shore. At the water's edge the launches were waiting to take us back to the ship. Then, with simple ceremony, we gave our last salute to Jarvis Island. With everyone standing at stiff attention to the colors, Austin Collins, Daniel Toomey and Henry Ahia lowered the American flag, which had been raised a year ago. Then turning our faces to the north, we hurried down to the waiting launches. We set sail for Honolulu aboard the Itasca, bidding farewell to dear old Jarvis Island, our home for the past months.


160°01' W.
160°00' W.
Observation Point
Latitude 00°22'37" S.
Longitude 160°01'00" W
(by C.K.W.)
00°23' S.
Jarvis Island
Topography by C.K. Wentworth - 1924

5. HOWLAND ISLAND AND ITS AIRSTRIP

The mission of the party of "colonists" on Howland Island was summarized by Corporal Harry L. Theiss, who was in charge of the original party from March 30 to June 19, 1935, as follows:

1. Keeping a check on weather conditions.
2. Farming: cultivating coconuts, vegetables, flower seeds
3. The study of bird life.
4. Collecting specimens for Bishop Museum
5. Mapping the island
6. Fishing: recording the types caught (also as food)
7. Landing field: preparing most suitable area
8. Daily log: recording all happenings of importance
9. Additional occupations as may be advisable

A brief statement as to how these activities were carried out during this period was given by Theiss, abridged from his report, as follows:

1. The weather conditions were recorded on blank forms furnished the party. During the daylight hours the velocity and direction of the wind, thermometer and barometer readings, the visibility and sky(cloud) ceiling were recorded once every hour. During the night... readings were recorded every three hours, and any unusual weather conditions noted. The amount of rainfall was also recorded in the daily log. These records are now (1974) preserved by the NOAA Environmental Data Service, Asheville, North Carolina 28801, for Jarvis, Howland and Baker Islands. Much more extensive records are preserved for Canton Island, with a summary of those concerning rainfall given in "An Atlas of Pacific Islands Rainfall," by Ronald C. Taylor, 1973.

2. The original coconuts brought by the party (from Palmyra Island) were not suitable for planting, being without the outer covering. They were, however, put in the ground. As was to be expected, they did not grow. The

seeds furnished the party were planted and were not a success, due perhaps to the following reasons: the overabundance of guano in the soil; the lack of irrigation; and it is believed that the birds and rodents also destroyed them. The coconuts brought from Samoa were the right kind for planting and are still alive (June 1935), and it is believed that with proper irrigation, coconuts could be successfully grown on the island. The same is held to be true of other seeds by members of the party.

3. The study of bird life...was gone into thoroughly by each member of the party, and all are thoroughly familiar with the various types and habits of all birds on the island.

4. All members of the party were actively engaged in collecting specimens for Bishop Museum....

5. Several maps have been prepared showing among other things, terrain features, possible sites for a landing field, and all data of importance...

6. Nearly all of the fishing was done by the Hawaiian members of the party, and almost all the fish caught were palatable and of varying size...

7. A great portion of the island lends itself readily to the conditioning of a landing field. Very little labor was required as the ground selected was flat and level.

8. A log was kept daily by the leader of the group, and entries cover all items of importance.

9. The above kept most of the members of the party busy, and due to the nature of the climate, no additional occupations were indulged in by the party as a whole. Individuals engaged in other things such as: carpentry, the building of rain troughs, camp furniture, well digging, excavating, and the usual routine of camp life.

Under the head of "comments," Mr. Theiss noted that the morale was considered to be very high, in spite of

the following conditions: weather, monotony, isolation, and sameness of diet. Fishing was hampered by the lack of a boat and nets. It was almost impossible to get fish with a hook and line due to the sharp coral reefs. Most of the fish were speared or shot with the .22 caliber rifle. Sharks and turtles are abundant in the waters around the island. It is believed that certain types of food should have been brought in smaller quantities, as for instance, corned beef; almost half a large can was thrown away daily whereas, if smaller cans were used, there would not have been any waste. The same is true of jam and various other foodstuffs that come in large containers.

Recreation: Knowing the old soldier's dislike of having his recreation planned for him, the leader of the group left it more or less up to the individual. Most of the group engaged in card playing and walking over the island, and some of the occupations listed above may come under the head of recreation. The small calibre rifle furnished the party was also a source of recreation...

Clothing: After the initial sunburn the party all wore shorts and never anything more than an undershirt. The helmets were very good as long as they lasted, but were not of a strong enough type. The rubber-soled, canvas-top shoe was satisfactory around camp, but did not furnish enough protection for walking around on the coral. It is believed that a high-topped, rubber-soled and heeled boot would be satisfactory. It is also believed that regular sunglasses, instead of the type used, would be more satisfactory. The issue type lantern was found very unsatisfactory for general use. A quantity of gun oil should have been taken, not only for firearms, but also to keep the tools in condition, as metal rusts very easily in this climate. A small portable oven should be carried by any future parties. The type of drum used for water storage was found to be excellent. The... report on the health of the party is furnished by the medical member of the party, with recommendations for future parties.

Upon completion of the first two expeditions, Mr. Miller reported back to Washington, D. C. Included in his

report were movies showing the islands and their "colonists," and the story of 'Booby the Sheik," This latter had been written by Army Corporal Theiss while camp leader of the original Howland Island colony.

Mr. Miller was privileged to meet with Mr. Roosevelt, President of the United States, and in the course of their interview he read to him the Theiss masterpiece. The President is reported to have told Mr. Miller that he had no further worries about the colonization experiment if "that Army Lieutenant Meyer had men of this calibre on the job." Here is the full and unexpurgated text of:

"THE LOVE-LIFE OF 'BOOBY THE SHIEK'
OR THE PERFITY OF MRS. FRIGATE

Sitting on a rock about 10:30 P.M. last night watching the birds. Had my eye on one old matronly looking frigate sitting on a nest, all alone. Along came one of those dark geese-like boobies (a shiek if there ever was one). He stopped in front of Mrs. Frigate (whose husband was probably out fishing, or maybe doing a little cheating on his own account, even as you and I) and after attracting her attention with a well modulated 'Honk' began showing Mrs. Frigate his various accomplishments, among them his wonderful wing-span.

She eyed him rather coldly at first, but after 'Shiek Booby' showed her how ungainly and awkward he was on the ground, I believe he touched off a spark of sympathy in her breast, or perhaps it was just the mother instinct (Oh, yeah!) as she is none too graceful herself. The blowoff came when 'Shiek Booby' showed her a takeoff and a rather neatly executed two-point landing.

She eased over in her nest to make room (even as us mortals on the parlor sofa) and gave 'Shiek' the 'come hither eye,' not too brazen, but just the proper amount of simulated maidenly modesty to get 'Shiek' all aflutter.

'Booby the Shiek' had intentions not so honorable, judging by his actions on approaching Mrs. Frigate's nest.

The payoff came just about the time our hero thought he had won himself another home, when in a sudden rush of wings and feathers down swooped Mr. Frigate, back from fishing (or the wars) and his red bib was all shriveled up.

Booby gave another exhibition of a takeoff (but not so graceful, as when he was doing his stuff for the Mrs.), with Papa Frigate on his tail.

In about five minutes Mr. Frigate returned, and he evidently is a forgiving old bird, or else this sort of thing has happened before and he is used to it, for he acted as though nothing happened. However, if one looked very closely, you would see Mrs. Frigate gaze longingly in the direction of Booby's late flight, and from time to time she would gaze rather disdainfully on Mr. Frigate. Finally she drove him off on another fishing expedition, and he evidently did not need a second invitation (I wonder!). Some time I am going to check up on him.

I did not remain any longer as I had a sort of sneaking feeling of sympathy for 'Shiek Booby' and did not want to appear against him in the 'Alienation of Affections' trial of Frigate vs. Booby, which I imagine will soon be on the docket in whatever court they hold down here."

James Kamakaiwi was on Howland Island for over two years, from the original landing in 1935 to July 1937. The following are some quotations from the very comprehensive, complete, and fascinating reports made concerning life on Howland during the periods when he was leader. They are arranged by topics.

Table talk. (Dec. 29, 1935) "While we were having breakfast this morning we talked about the good things (deeds and all that) that we did and those that came our way, and also of our faults and ungentlemanly actions. Killarney and I scored a hundred per cent because we only spent two months of this period back home. We could not find any fault, so we scored ourselves highly. The other two we gave eighty per cent and a big laugh...

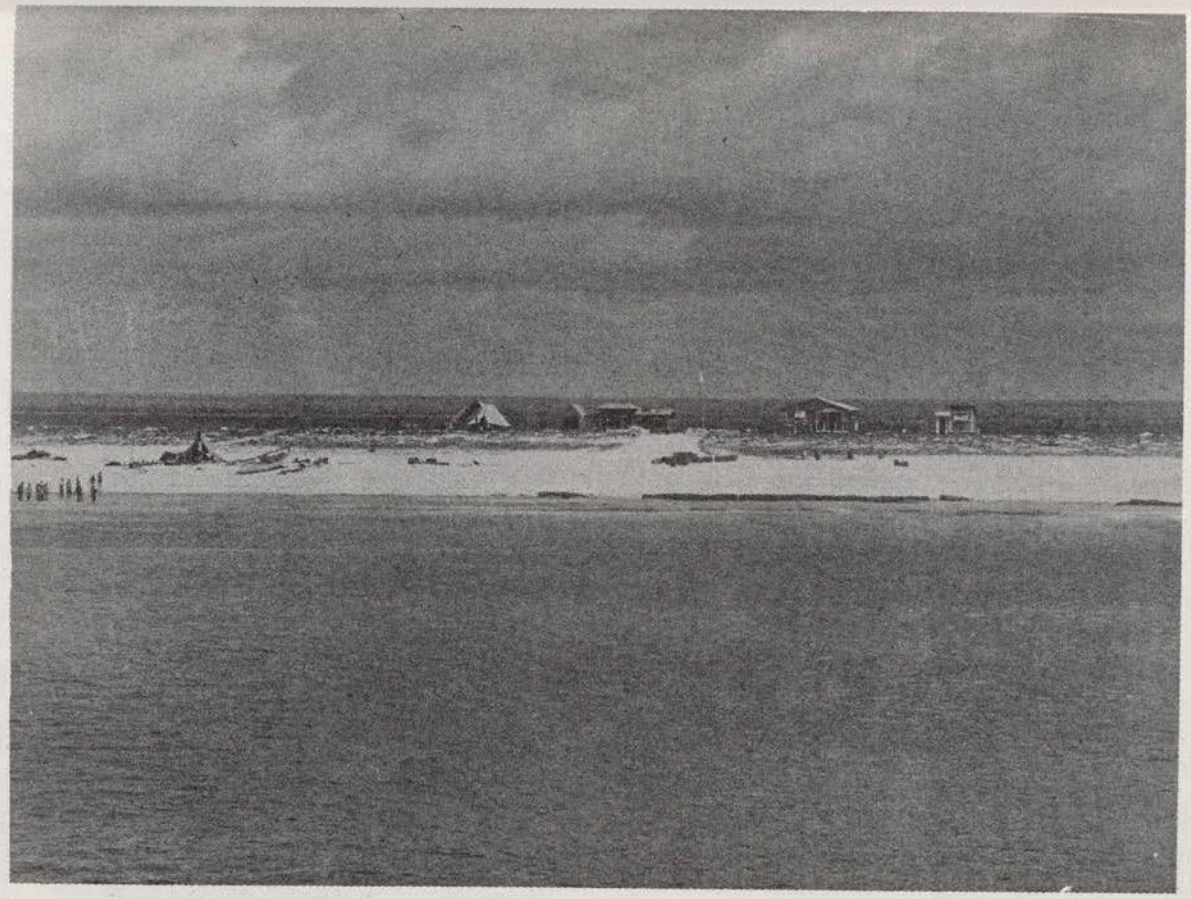
"Chopped meat from a bachelor Boobie was fried for supper by Anakalea. Spices had to be used to take away the fishy smell. It may do for emergency rations, but as a regular dish--I am anti-Boobie."

"Weather today was very warm, temperature being 92.5 at noon. Winds from E and NE averaged 7.84 miles per hour. Ceiling was covered with HSC today."

"Aerial Polo" (Feb. 9, 1936). We netted about 30 aholeholes, then returned to camp. On the way home I thought of the old trick with the Frigate birds, which Mr. Albert F. Judd, Trustee of the Kamehameha Schools, told us of, played when the early people landed on these islands. Two rats were tied at both ends of a cord and thrown into the air. The Frigate birds' attention was attracted by this act and they would come swooping for the rats. One bird would swallow one rat and the other rat would be dangling, when suddenly another bird would grab it. The two birds, swallowing their rats, would fly in different directions, and one rat would come dangling out of the other's throat. Then other birds would chase the bird with the rats, and the same thing would happen. When we reached camp we tried this trick, and used fishes instead of rats. We had the time of our lives watching the birds, and I never laughed so much since landing on the island. After dinner we could still see the birds fighting for the fishes."

(July 1, 1936) "This afternoon we enjoyed watching three Frigate birds playing 'aerial polo.' This game is played in the air, the birds using a rat as a polo ball, only this ball was in the possession of one bird while the other two tried their very best, like any polo player, to get the rat from the other. The birds kept this up until two of them dropped from over-exhaustion. The winner dropped the rat when the other two had fallen and flew away."

An ear infection. (July 11, 1936) "Markham is now suffering with a boil in his right ear, but we assured him that he'll be okay in about two or three days. I dropped lukewarm cooking oil in his ear this evening for half an hour, and it relieved the pain a great deal.



Itascatown, Howland Island, as it appeared
from the sea in January 1937.

The beginnings of the first colonists' camp on Howland, April 1, 1935.

By 1938 the camp on Howland Island was much improved. Taken from the top of the lighthouse.

(July 12, 1936) "Lukewarm cooking oil was applied to Markham's ear tonight, and I was able to draw out a lot of waste material. He is feeling much better now. He has four boils in his right channel, but he'll be all right in a day or two.

(July 13) "This morning Markham was still suffering with his ear, so I told him to rest and take things easy.

(July 14) "I attended to Markham's boil this evening and drew a lot of waste out.

(July 15) "Markham's boil is getting along nicely and he will be back to normal soon.

(July 17) "Since there are four boils in Markham's one ear, a lot of waste matter oozes out one evening, and then the next evening I found a lot more puss in the channel. There is still a lot more in his ear, which is very puzzling to me."

(July 18) Killarney and Markham spent the morning and early afternoon hours out in the fields, collecting specimens.

Wall construction. (Feb. 10, 1936) "After breakfast we had our usual morning talk and then all hands were on the job to help on the stone wall. We were fortunate in having a first class cement mixer in Joe who had the experience while working for the Ewa Sugar Company during his part-time days in school. Henry acted as our sand man, and Alex as our brick layer, while I was helper for all of them if they needed me. Between hours Henry saw to it that his readings were kept, as he was on duty for the day.

"It took us six hours to have a layer on three corners of the wall. At 3:30 we all went surfing, each boy had his own surf board...

(Feb. 12) "Again another day of hard work was put forward on the stone wall. Alex had his foundation built for his second floor, while Joe and Henry had the windows

in shape, using 2" by 4" boards as frames and canvas as a 'back stop.' Galvanized wire was placed vertical and horizontal from one board to another, thus forming a picture of a checker board design. The canvas was placed over it, and in that way the wind blowing from the outside will meet a fixture of braces holding the canvas in place instead of being sucked away...."

A map of Howland. (Feb. 12) "At 8:30 'mess call' was sounded by chief cook Kahapea. The smell of bacon and coffee seems to be floating around the camp. During the meal, Joe had a map of the island drawn to scale, showing us the reef and the shell beds on the island. He also had the dope on the currents, where it's the strongest and the weakest spot. Rock beds, where spear diving is most profitable, were also mentioned. This information was very valuable to us all, and we knew by his talk that he had done a good deal of work. The current problem was stretched to the point by having Joe estimate the distance of how far it will carry us if caught while diving for fish. In going to our work we three had taken, in obedience to Joe, strictly worded safety precautions."

Attacked by Frigates. (Feb. 15) "Joe, Henry and myself started another of those shell expeditions, but this time taking a new route, leaving the camp in charge of Alex. Working our way toward the east wall and then shifting the course to northwest, we sighted a squadron of fighting Frigate 'planes' on the horizon coming toward us. In our haste of leaving camp we forgot to bring our helmets along, thus causing us to conceal our heads with burlap sacks. With the arrival of the 'planes' swooping overhead, our course was shifted to the shortest route back to camp, thus making it an unsuccessful expedition. In camp, Alex kidded us because of our bodies, which showed signs of being shot from all angles. We were told beforehand to wear a helmet whenever a trip was made, but somehow there is an old saying, 'You can lead a horse to a water trough, but you can't make him drink!'"

Preparing fishing torches. (Feb. 19) "During my spare time I made an extra torch, which we planned to use

tomorrow night. The torch was made of three corn cans (2-1/2 size), placing them on top of each other. The top can had its bottom punched with two holes on the sides, making a small opening through which the oil may flow freely into the lower can. All cans were held securely by cords. Canvas or old sacks were then cut in pieces and rolled to fit in the top can. A flange about 10 inches in circumference was placed outside of the top can to keep the flares away from burning the holder."

(Feb. 20) "Supper was served at six, with pea soup, sliced ham, fried spuds, beets, corn, rice, coffee, cocoa and pears for dessert.... Leaving Henry with the dishes, we three saw to it that our spears and torches were made ready.

"With the last report taken care of, we lighted our torch and headed for the beach, toward north point. Within an hour's time we had enough fish and lobster to feed a breadline. Coming back to camp we collected shells that happened to be in our way. With the fish and lobster taken care of, we returned to our quarters and we sang songs..."

Holiday meals (Feb. 22) "Being a rather fine morning, Alex and I decided to go fishing, just below the camp. We were fortunate in having the tide low, and also the water was very clear. Within an hour of diving, we had enough fish and lobsters to last us a week. Hurrying home with our catch, we had it displayed in the kitchen and chief cook Joe had his choice in picking the best fish for our feast. The odd ones were cleaned and salted, and dried on the stone wall at the main gate. Lobsters were kept and placed in our temporary fish pond for further use.

"Forgetting our breakfast, we all chipped in preparing for our big meal by starving ourselves. Henry and Alex took care of the fish and lobsters, while Joe and I had the meat and bakery departments. I had a 10 lb. Hormel ham cut in slices (using half of the can) boiled with jelly and then baked apples added. Joe having his special built oven in heat, had his prize cake ready to be placed, only to be called back when I asked him if he had the baking powder in

it. With 45 minutes of cooking we had something like a hard bread. Like any other person, Joe had his excuse, saying that he had the fire too strong. After tasting it, I told Joe that he had used both recipes of Howland and Honolulu, thus creating a petrified cake. Not satisfied with it, he made apple and chocolate pie, according to his own recipe. While working on the chicken-ala King, an odor of something burning came direct from the oven. Lifting the cover, we had a magnificent sight--seeing two pies and unable to tell which one was apple. By putting two heads together, we somehow made out something like a sweet bread.

"Having had our troubles, Joe and I went outdoors to see how Henry and Alex were getting along. They, too, had a difficult time in their cooking. Leaving them to their thinking, we began to set the table. Everything was ready at 3:00, so we all went for a swim to freshen up. Joe wanted to eat at 4:00, but the old 'tummy' just couldn't wait, so we had breakfast, lunch and supper at 3:30 on the dot. Besides the things that I mentioned, we had fried and steamed fish, smothered with onions, mashed potatoes, beets, lobster salad and plain lobster, fried ham mixed with pineapples, peaches, coffee and fruit cocktail."

Morning ablutions. (June 20, 1936) "As if in a dream, we heard the soft tingling of old faithful 'Big Ben' saying 'get up boys it's six o'clock and there's lots of work to be done.' Thanking 'Old Ben' for his timely watch, we jumped out of our snug and warm beds, got our tooth brushes and paste out, and with towels in hand we skurried to the beach for an early morning swim..."

Improvising. (June 20, 1936) "While I remained in camp to trace out the panel connections, the other three went out to fish, down at the south reef. Killarney, who knows the fishing grounds well, showed the two newcomers (malihini) where the different species of fishes may be found. The dangerous channels were pointed out to the boys, so when they plan to go together, they will know about the dangers of the heavy undertow found in the channels pointed out. Killarney harpooned a twelve inch silver colored

aholehole; Kini Pea a seven inch weke; and Markham four little striped manini. These were fried for dinner, and were eaten with poi, the staple food of the Hawaiians. After dinner we sat around a torch light, fixing lanterns salvaged from the fire pile. As no lanterns of any make were given to us, we'll have to try making lamps out of the badly charred and burned ones. I have just completed one, using a strip from a blanket as a wick. It works perfectly and only a chimney is needed. Tomorrow I shall cut the bottom out of a round quart jar and use it as a chimney."

Weekly scheduling. (June 20) "After breakfast and after the dishes were washed, we sat around and discussed plans for the week's schedule. Starting from tomorrow on, we will spend three hours each morning building a kitchen out of coral stones, plastered with cement. When the sun is quite high we will have breakfast and later go out into the fields for specimens for the Bernice Pauahi Museum. Doing this work for an hour or more, we shall return to put our collections and collecting apparatus away. After resting about an hour or so, we will then go down to the south point to prepare an emergency landing place for about an hour or longer. Doing this work, as scheduled, each day, we will accomplish a lot despite the heat during mid-day and early hours of the afternoon. The late afternoon hours will be spent doing odd, constructive jobs around the camp.

"I have appointed Killarney Opiopio to take full charge of the scientific collecting, and to record in a log pad, issued him, whatever work is done in that line each day. Stewart Markham has been assigned work on the rat killing experiment. Poisoned 'torpedos' have been given to us by the Sugar Planters Association. These will be placed quite a distance from our camp area to assure our own safety.... Kini Pea and I will be responsible for the constructive end of things, such as the building of our kitchen and placing wind indicators on our airfield."

Toothache. (June 24, 1936) "Killarney went about his work, while Pea and I rested the whole day. Pea's boil is coming along fine, and my toothache is getting worse. I was forced to sit up and hold my jaws for the better part of

the night. At ten I placed cotton soaked with Eugenol in the cavity. This relieved the pain quite a lot. I hope it will stop soon, otherwise I will have to do the best I can to yank it out."

Adventures with birds. (July 5, 1936) "While Pea was out for a walk to study the Bos'n birds, Frigates and Goonies, we saw a young Goonie learning to fly. We watched this young rascal clumsily plunge to earth several times before it gave up. Maybe tomorrow he'll do better. Pea also told us that several of the cocky Frigates swooped down on him, trying to put a dent, or maybe a lump, on his head. He got mad at them, but took it out on the poor innocent Bos'n birds. He yanked fourteen red tail feathers from eight of these birds."

Bird wrestling. (July 10, 1936) "I saw a very good demonstration of the 'body slam' used in wrestling quite a lot. It was done by one of the birds with a long beak, which runs around on stilt-long legs, which we have nicknamed 'Jimmy Durante' birds. This fellow caught a cockroach with its spear point beak, and then gave poor 'roachee' half a dozen brutal body slams to the ground. 'Roachee' was sprawled unconscious on the ground for a few seconds before old 'Polly-nose' gave 'Roachee' a nice ride down his saliva-moistened throat. Weather today was fair, with the temperature outside 104°."

Mystery flares on the horizon. (July 22, 1936) "After supper we talked about our experiences in the different shop training offered by our old 'alma mater.' We have two auto-mechanics, a farmer and a carpenter. While we sat under the awning, enjoying each other's bits of talk, we noticed a red flare 15° west of south, at 9:40. Another one shot upward in the same spot at 9:53. We are certain that these flares were not caused by shooting or falling stars. Pea and I sat up until twelve-thirty, just in case we had to light up bon-fires."

Scaring curious sharks. (July 26, 1936) "After supper we all sat up until ten o'clock practicing semaphore, and later we talked about shark experiences this noon,

while out in water about four and a half feet deep. Pea and I were down in one of the channels, spearing red 'u'us, when we heard a splash just as he and I came up together for air. This splash was caused by Killarney, who happened to be under water when he saw this hideous six-footer glide slowly toward him and then stop, barely four feet from him. He got up fast, and then lunged his whole body forward just above the shark. This commotion just scared the life out of old Mr. Shark. Pea and I teased Killarney, and told him that the shark was just curious, and that he only wanted to take a good look at what he may have thought was a shallow water brass monkey. This was Killarney's first face to face glance at a shark under water."

Food and water inventory. (July 30, 1936) "After breakfast we policed our quarters and kitchen tent, and got everything in ship shape condition by nine. From nine on, Pea and I checked on our supplies and found that we have an abundance of food left, which ought to last us for two months or more. Our water supply is holding out very nicely. We still have twelve old water drums from the last expedition, and six drums that were given us on June 18. All these ought to last us for two and a half or more months.

"After a good swim and bath combination we sat about and looked out at the horizon as we expected the ship sometime this noon. No boat arrived, so we continued as usual."

Airfield construction. (Jan. 23, 1937) "Picking up her point through the courtesy of Howland's beacon light, the Duane found the island at break of dawn this morning. Food supplies and other necessary equipment for use in connection with our airport development program were landed during the course of the long hours of the day.

"A great deal of heavier implements are still aboard the Duane. It may take us a week to land all of this, as very low tides, as well as pounding surf at high tides, make it very dangerous to attempt to land all the gear...."

(Jan. 28, 1937) "At four (A. M.) I set up a beacon on the beach, as the Duane was to arrive early this morning from her one-day stay at Baker.

"Mr. Campbell and the 'Bills' and I went aboard ship for necessary supplies of cigarettes, clothing and toilet articles. We returned at late noon, and after a few minutes bade a fond aloha to all our departing guests.

"After all of the light things were brought up to camp, Mr. Campbell engineered the tractor while Joe Palama worked the grader for a trial test out on the NE and SW runway."

(Jan. 29, 1937) "After breakfast Mr. Campbell worked the tractor while Joe Palama got back of the grader, with Bill Tavares assisting, and worked all day on the runways. Bill Kaina and Richard Schoening, WPA members, and I started tearing up the pontoons.

"After lunch, our pontoon squad gave Frank Dias (mechanic) a hand and assembled the second tractor that came ashore in parts. We have everything together but the engine, which weighs nearly half a ton. Towards evening a hoist, with a chain cable, was used to hoist the engine onto the frame. Frank says he will have it running tomorrow sometime.

(Jan. 30, 1937) "After an early breakfast members of both parties gave their heartiest cooperation and worked from morning until sundown, breaking off only for lunch. Mr. Campbell continued with the grading work on the northeast and southwest runway, with one of his men and Bill Tavares, member of our party. The tractor is okay now."

(The journal continues with accounts of cooperation between the two parties.)

AMELIA EARHART AND HOWLAND AIRFIELD

The author (1974) asked Col. Meyer to give him a summary regarding the building of Howland's airstrip. The following is taken from his reply:

"A few months after Cruises 5A and 5B, the reoccupation phase, I was directed to attend a conference at General Drum's Headquarters. Here I met Mr. Richard B. Black, recently placed in charge of island activities in the central Pacific by the Department of the Interior. Mr. Black had just requested Army assistance in the construction of an airfield on Jarvis Island. Although there were no available funds from the Interior Department, speed in preparation and construction were essential, in view of the projected around the world flight from east to west by Miss Amelia Earhart.

"General Drum directed me to represent him and the Army in securing maximum cooperation and assistance. It was also arranged that I would act, with Mr. Black's authorization, as assistant leader, and would accompany the expedition.

"Decisions and instructions from Washington were slow in arriving, and somewhat noncommital. Mr. Robert Campbell, Department of Commerce representative, had orders to construct the airfield, hiring native laborers. As the hour of scheduled departure drew near, Washington had not cabled authority to him to spend the money for the hire of these workers. As a precautionary measure, I had selected a group of Army enlisted men from my own command (Co. F, 19th Inf.) to assist Mr. Campbell should the Department of Commerce not respond before the hour of departure. The authorization arrived a few minutes before the deadline, and I was relieved to release my military group from what would have been a very difficult and strenuous task for them.

"Two days after sailing from Honolulu, and enroute to Jarvis, Mr. Black received instructions to construct the airfield on Howland Island, a thousand miles west of the designated island of Jarvis.

This drastic change of location required much revamping of our planned preparations and activities. The physical characteristics of the islands were quite dissimilar as far as landing and construction operations were concerned. We were prepared, as far as additional heavy equipment and channel blasting were concerned. I had provided for this contingency should Howland or Baker islands be unexpectedly substituted by Washington.

"You have noted elsewhere the landing difficulties and reassembly of equipment for use by Mr. Campbell and his employees. When the Coast Guard Cutter William J. Duane (Cruise 8) departed Howland, the construction of the airfield was in progress.

"As the airfield neared completion (there was radio contact by this time), and time for the Earhart flight drew near, the Shoshone prepared to leave Honolulu on cruise 9 from Honolulu. On it were tractor and other equipment repair men, selected from Army enlisted personnel; airplane mechanics, selected from the U. S. Army Air Corps; and emergency equipment, for use in case of a faulty landing. At the request of Miss Earhart, several journalists and correspondents were on board as Coast Guard guests. I accepted designation to be her personal representative at Howland Island. This required an Army enlisted stenographer and photographer from the same source. I also received detailed instructions as to some of the many requests she would personally make upon arrival and prior to departure for the Western Pacific.

"Upon arrival at Howland, the Army enlisted men quickly made all needed repairs and the field was soon ready for landing operations. Army Sergeant Summers, using scrap lumber, water drums and miscellaneous materials, prepared what he guaranteed would be a hot shower bath, using solar heat only. His strips of canvas, strategically located, were designed to give her a certain degree of privacy. The Coast Guard developed an operational program of stationing boats and men, as well as survival groups along strategic places and all around the island. We made plans for emergency on shore, upon or after landing.

Sgt. "Pop" Summers constructs outdoor shower bath for convenience of Amelia Earhart.

The airstrip on Howland begins to take shape, 1937.

James Kamakaiwi and friends practice semaphore on Howland. They mastered the technique during their stay in the islands.

"First notification arrived that the landing would be made in the morning hours, and plans were made accordingly. It was essential that the very large colonies of Frigate and Booby birds be removed from her route of approach, as well as from the landing strip. For 72 hours I had kept an almost continuous watch, using binoculars, on the colonies of birds, studying their flight patterns, feeding and nesting habits. As a result of these observations, only a minimum of birds were disturbed.

"The second notification received at a late hour by Mr. Black was that Miss Earhart had changed the original plans, and contrary to all past advices, was going to leave Honolulu in the morning hours. This meant an arrival late in the day, probably even in darkness. This necessitated fast planning for relocation of emergency boats and personnel groups. It called for the immediate removal of several additional groups of birds, whose flight or nesting patterns could have been most dangerous to the fliers. It required frantic preparation, in a very few hours, of coconut fiber-clothing material flares, to provide some outline of the very short landing strip.

"The third and last notification received by Mr. Black was that a takeoff accident at Honolulu prevented further action, and that Miss Earhart was returning to the mainland.

"It was with unbelievable relief on the part of all of us that, although cancelled, the proposed flight had resulted in no tragic events.

"I have no first hand knowledge concerning the revival of action by Miss Earhart for her tragic Round-the-World flight from west to east, nor of the subsequent cruise to greet and search for her."

H. A. Meyer, Col. R/A Ret.

6. BAKER, THE HOSTILE ISLAND

Baker Island is called "hostile" by me because of the difficulties in landing on it. The Whippoorwill expedi- in 1924 scarcely got ashore at all, so learned very little about the natural history of the island. On several of the "Cruises" which supplied the "colonists," many attempts had to be made before all the supplies were ashore. Despite this "hostility," Baker was a major center of activity during the "Guano Period." And for a short period it was an important bomber base in World War II.

In this chapter the story of Baker is divided into four parts:

A. The 19th century guano activity.
B. Diary extracts from the first "colonists," 1935-1937.
C. Kinkajou difficulties.
D. Baker Island in World War II.

A. The 19th Century Guano Activities

The early history of Baker Island is summarized in Chapter 10. Here we will only add a few notes to try to make this period more real.

The American Guano Company's Letter of Instruction:

"Office, American Guano Cp.,
Bakers Island,
Oct. 17, 1860

Wm. Kinney, Esq.

You are hereby appointed agent of the American Guano Co. on Baker Island until orders from Dr. Judd. You have 32 men. You will take good care of them. Use them well. Feed them well and require a proper amount of work. In any question of moment you will confer with

The old stone house, "Judd Hale," was a conspicuous landmark on Baker, used by both American and British guano diggers. Its stone was used in building the lighthouse.

The northeast rim of Baker Island is faced with water-worn coral rocks. The fringing reef broadens at this point. Mighty waves have lifted logs to its crest.

First "colonists" on Baker Island, 1935.
Left to right: Surber, Wilson, Summers,
Wm. Kaina, and Abe Piianaia.

Landing on Baker through dangerous
surf was helped by using a tow line
shuttle from waiting boats off shore.

Mr. Colcord and endeavor to agree on all points. Take care of the property. Get down guano. Put the island in shape. Trusting in your ability to carry on the work prosperously and peaceably, I am

Respectfully Yours, etc.

(Sgd.) Samuel G. Wilder,
Agent, American Guano Co."

Baker Island diaries, 1863:

Sept. 24. "At 3 A.M. the Clipper Ship Asterion of New York, 1125 Tons, B.D. Hard, Master, with a cargo of guano from Howland's Island struck on a reef at the NE part of Bakers Island and became a total loss. The crew were all saved as well as some of the stores, etc."

Nov. 19. "First Officer of the Asterion with six men left Bakers Island in a whaleboat for Howlands Island, to induce the schooner Helen to come to Bakers Island and take off the ship wrecked crew. Since that time nothing has been heard of them."

Nov. 28. "Schooner Helen, 22 days from Honolulu returned, took ships company, and sailed for Honolulu."

B. Diary Extracts from the First "Colonists," 1935-1937

Abraham Piianaia was an early leader of the colony on Baker Island. His log from September 19, 1935 to January 18, 1936 contains numerous entries with scientific or human interest value. He kept a continuing record of the weather, the height and strength of the waves which boomed on the northwest point of the low island, correlating this with the washing away of the sandy beach; whether or not the boys could go swimming or catch fish.

On Sunday, September 22. "No work today; the boys west fishing but caught nothing, for the sea grows rougher. Saw the first Golden Plover on the island since we've been here; it looked tired and skinny."

Sept. 23. "New men unaccustomed to the intense heat, so we take things easy and work gradually until they can take the heat!"

Sept. 28. "The sand beach, which has been building up on the southwest corner of the island during the past four months, has been washed away by super-gigantic waves, between fifteen and twenty feet high, which have been pounding night and day.

"Between the force of the waves and the condition of the sea, fewer fish were caught than one might have expected. Many days it was too rough to go fishing." A good running record of the size and nature of the fish caught was kept.

Sept. 27. "The boys caught 12 manini and 2 octopus, so we had broiled fish and stewed octopus for dinner." Oct. 12. "15 manini and one squid." Nov. 5. "Unexpected calm of the sea; fishing 12 big ulaulanehe; ate two raw, one cooked, and dried the rest." Nov. 9. "caught a squid and 3 'lobsters." etc. etc." (For their scientific names see Chapter 10.)

The party on Baker, under the leadership of Abraham Piianaia, worked out a policy of changing the watch schedule every 26 days, "so that every man will have a chance to have different watches. Each will have a chance to do the cooking."

They found a well which had been dug by the guano digging inhabitants of Baker Island, and built a trail from the camp to this well, and lined it with water worn stones from the beach. It took the greater part of a month to complete the job. Over this trail they brought drums full of slightly brackish water from the well to the numerous sprouting coconut palms which had been set out. The log records their digging and conditioning the ground around these sprouting palms, and also cleaning out the well from time to time. Their own drinking water was from the drums brought on the Coast Guard cutters, floated ashore, and rolled up the steep shore to the camp.

Hooper appears to have been the experimenting member of the camp party. The log for Nov. 10 says, "Hooper built a windmill to charge a battery. It worked, only the battery didn't charge." Later, "Hooper found some drift wood, made a house frame, and thatched it with 'pili' grass." (Since there was no pili grass on the island, we suspect that it was thatched with Eragrostis bunch grass.) "He mounted it on four empty drums and it afforded a very cool arbor to sit under when it gets hot."

Nov. 16. "The rats had a grand time last night chewing off the leaves of our coconut trees. They chewed the stalks off right near the coconut shells. They must be very hungry."

Nov. 20. "Last night the rats chewed off more of our coconut palms. They must have been desperately hungry to do so. This has riled me, so we are having a rat drive tonight. Captured 22 rats. We saturated them with kerosene and burned them."

Nov. 22. "The sea was unusually calm. Schools of porpoises were in evidence throughout the day. At 1:45 there was a sudden whirlwind that picked up dirt, rubbish and pieces of dry grass, hurling it into the air. It lasted for about five minutes, then the wind died down again. In the evening there were several flashes of lightning toward the NNW. We continued our rat drive and caught and killed 20 more rats."

C. Kinkajou Difficulties

Dr. Dana Coman and associates began extended, private surveys of several Equatorial area islands in 1935. Small parties were landed from his chartered schooner, the Kinkajou, on Jarvis (see Chapter 4), Howland and Baker Islands. The following are some frank statements from the log kept on Baker regarding how the "colonists" on that island shared their supplies with his party:

Sept. 21, 1935. "Gave Julius Rodman of the Coman Expedition: 10 cans peas, 10 cans apple sauce, 4 cans

spinach, 1 gallon cooking oil, 10 pounds onions, 5 pounds potatoes, 5 pounds sugar, and 1 case of milk." Again, on October 31st: "Furnished Julius Rodman with 1 can Vienna sausage, 9 cans spinach, 6 cans sauerkraut, 12 cans corn, 12 cans apple sauce, 1 can cocoa, 1 case milk, 2 boxes Chinese noodles, 3 lime mix."

Nov. 25. "Sighted yacht Kinkajou at daybreak approaching the island from the eastward. At about 8:45 the first boat load ashore was caught in one of the huge waves that have been pounding on the reef since midnight. The boat was caught about 200-250 yards off shore and turned over. It was tossed hither and thither like a cork in a tub of boiling water. Four occupants of the boat were Captain Flink, Harold Gatty, Joe King and Toa Hall. Flink is master of the Kinkajou; Gatty, member of Coman's Expedition; King and Hall, Samoan boys, members of the crew. All men were saved and none seriously injured. Also saved the mail bag, some onions and lemons. All of the time the sea is getting rougher. Finally at 2:15 P. M. the sea was so mad that it unleashed one gigantic wave that swept over the whole west ridge of the island. It wrecked our terrace, swamped our campsite, taking everything in the way with it, going as far as 300 yards inland. At 4 P. M. another wave of similar proportions swept up and over the west ridge again. The four brick cisterns and the old campsite were half filled with seawater. The four men from the Kinkajou are remaining with us as our guests until the sea calms down. We are all doing our best to make them as comfortable as possible. In the meantime the sea is getting rougher and rougher."

Nov. 26. "The sea is still rough today. Where there was formerly tons of sand and yards of beach there is now nothing but white sea foam. Captain Flink will not attempt to go through the surf today. We spent most of the day fortifying camp against more onslaughts of colossial waves. Gatty and Capt. Flink gave us news of what was going on in the rest of the world. Samoan boys told us about living conditions in their native islands. They also sang some songs in their native tongue."

Nov. 27. "There seems to be no letting down in the conditions of the sea today. No attempt will be made to break through the surf today. Accompanied Capt. Flink and Gatty on a trip around the island, collecting guano and phosphate specimens. Samoan boys collected firewood with us. They also brought home some live tridacna clams which they taught us to eat. Ate some raw and some cooked. Tasted very good. Finished our last can of Vienna sausages today."

Nov. 28. "This is Thanksgiving day, but the sea doesn't seem to know it. It is still angry and rumbling like a spoiled tiger. Having no turkey, chicken or pig did not spoil our Thanksgiving Day party a bit. Caught two booby birds and introduced them to the cook. The cook curried one and stewed the other, and believe me, when dinner was over there was no booby bird left on the table. Everybody enjoyed it and was surprised to find it tasted so good. That was something to be thankful for."

Nov. 29. "The sea was slightly better today, and Captain Flink and a boat crew broke through the surf safely. However, on the trip back to the island the boat overturned in the surf. Lashed in the boat was 3/4 bag of rice, 1/2 bag of sugar, and one bag containing about 20 pounds sweet potatoes, one dozen lemons, 5 pounds onions, and one pumpkin. All of these were saved. The sugar was soaked, but it was immediately dipped in fresh water, then dried out. In several hours it was as good as new. The sea got rough again, so no more attempts were made to go through the surf."

Nov. 30. "The sea was still rough today, but Coman, Capt. Flink and Gatty decided to go to Howland to break their camp on that island, hoping that when they returned to Baker the sea would be calmer. Their first attempt to go through the surf was thwarted when the boat overturned. An hour later they went through successfully. The Kinkajou left for Howland at 2:30 p. m."

Dec. 1. "Sunday. No work today. Boys spent the day resting, after several days' hard work trying to send the Kinkajou's boat through the surf."

Dec. 2. "Sighted the Kinkajou returning from Howland at about 9:00 A. M. The sea was fair enough today and she came alongside the island at about 10:45 A. M. Again the first boat load ashore turned over in the surf. It went out successfully with a load of equipment. On the second load ashore, Coman sent us 6 cans corned beef, 6 large cans sardines and 6 cans salmon. He also asked us for some canned vegetables, so when the last boat went through the surf they took with them 12 cans corn, 12 cans spinach, 8 cans sauerkraut, 8 cans peas and 6 cans of tomatoes.

"Finally, at 4 P. M. the Kinkajou set sail for Pago Pago, Samoa, leaving us once more in peace and solitude, with vivid memories of heroic attempts to battle through the pounding surf. Fortunately no lives were lost and no one was seriously injured in the five times the boat overturned. In about 15 attempts to go through the surf from land, only four were successful."

D. Baker Island in World War II

In September 1943, a secret combined task force of United States Forces, protected and escorted by a Naval Task Force, initiated Military Operations on and around Baker Island.

The initial mission was to occupy Baker with some 2,000 officers and men and establish an air base for fighter and bomber planes.

Within a week air operations were instituted, using a newly constructed runway, 5,500 feet long and 150 feet wide; and the Navy and spotted and destroyed some Japanese planes. Objectives were to protect islands in Polynesia from enemy attack, and action against enemy installations in the nearby Gilbert Islands to the west. The base participated in the Tarawa-Makin operation and, in March 1944, when no longer required, it was evacuated.

7. A TRIP TO THE SOUTH SEAS

(A Diary of Cruise 4)

By James L. Carroll ("Colonist")

January 9, 1936. Left Honolulu at 4:00 P.M., on board the U. S. Coast Guard Cutter Itasca, heading almost directly south.

Jan. 10. Hitting rough seas. Almost all the boys are seasick.

Jan. 11. The boys are O.K. now. One exception is noted. We see many flying fish (malolo) and there is a bird gliding about. There has been a show every night after supper.

Jan. 12. Haven't seen land since we left.... We expect to reach Palmyra tomorrow.

Jan. 13. Sighted land for the first time since we left. It surely felt fine to see land again! Palmyra is a coral atoll. We anchored about 3 miles out because of the reef. The water is so clear that you can see bottom at over 50 feet. We got into life boats and went in as far as the motor launch permitted. Then we rowed in. It is the most beautiful group of islands that I have seen. The islands lie in a horseshow shape, each of which one can wade or swim to very easily. Each island has a dense growth of coconut palms and other vegetation. There is a beautiful lagoon in the center of the islands and it's filthy with sharks and fish. There are hermit crabs as big as your fist continually crawling over the islands. And the robber crabs are numerous too; they are very powerful. The crabs can climb coconut trees, knock nuts down, and break them open to eat.

Henry K. Ohumukini and I went fishing there with clubs instead of spears, and we found them very efficient. We went into water a foot deep and caught fish the length of our lower arm by chasing them and hitting them. All the

while we were fishing, sharks would be swimming around us, and we had lots of fun chasing them. We got some beautiful coral there too. I sure got sunburnt today.

Jan. 14. Sailing again, this time for Jarvis, where Henry Mahikoa and Bill Yomes will replace Dan Toomey and Henry Ahia. I cleaned some coral and they sure are pretty. Davy Jones came on board this evening and gave us a subpoena to appear tomorrow for trial; that's because we are crossing the equator.

Jan. 15. We had an early breakfast this morning. The initiation began at seven o'clock by having Neptune's court appear in full array. There were 68 pollywigs aboard that had to be initiated into shellbacks. The officers had their turn first, then the crew, and then the Hawaiian boys. When my turn came they chased me from the foredeck to the aft with a paddle. I was brought before the royal court of Neptune, where Davy Jones acknowledged my presence. I was ordered to kiss a block covered with some black stuff (shoe ink or tar or something) that didn't do me any good. I was ordered to open my mouth and they squirted some castor oil mixed with quinine into it. It was the worst thing I have ever tasted. But before I knew it, water was squirted into my face and down my trousers with a pump. The royal barber gave me the works by cutting off all my hair in front, and gave me a few "rat ears" in the back of the head. There was a tank behind the barber's chair, and I was dunked into it after my wonderful haircut. I was told to go through a canvas tube on the other side of which water was turned on through a fire hose for the last ordeal. All through the initiation I was hit by sand-bags and paddles. There were 68 polliwogs and they were initiated this morning. We made the best of our haircuts by clipping each other's hair till it looked halfway decent. I was almost baldheaded.

I was still writing in the ship's library when we reached Jarvis. When I looked out of the porthole, the ship had stopped already. I got out on deck and saw Jarvis, a barren, flat island so small that you could see the whole island with one glimpse. It was about a mile and a half across. Yesterday we had all the supplies for Jarvis on

deck, so now we loaded them into life boats. Luther [Waiwaiole] and I stayed on board to load and the other boys went with the landing party to unload and to carry the supplies up shore. Dan Toomey and Jacob Haili, two of the four boys who are on the island, came aboard, and we greeted them with joy. Dan has a fine growth of hair, and his beard was a sight to see. He wore a lei of sea-cow teeth, which he made at Jarvis. Both boys sure looked fine.

Jarvis has a reef all around it, but it has a channel through which you can reach the shore.

Bell showed me his house that he made from wood from the wreck of the "Amaranth," an old sailing vessel that was shipwrecked on Jarvis Island in August 1913. It is a small, one-room house with a porch to it. I attempted to cross the island to the wreck barefooted, but I gave it up when some burrs got into my feet, and I went back to Bell's house and borrowed his tennis shoes.

The island is covered with birds, and on the way over we could walk up to their nests on the ground, and they are so tame that they won't even fly away. Some people once used this island to get guano, and there are some graves here of some people who died during that time. I forgot to mention that Palmyra was owned by someone in Hawaii, and that it was visited annually for its copra.

Half of the "Amaranth" is still there--the rear half. We all climbed about it looking for something we could take back with us as a souvenir. I found an old chisel and some brass pieces on the wreck. I took them back with me. This island, like Palmyra, is lousy with fish.

The Bishop Museum wanted some lumber and the wheel off the wreck, so we got some from it and packed it to the landing place. An old cannon was gotten from the wreck some time ago, and it was sent to the museum.

We had a bite at the mess house on Jarvis before we left.

We bade the boys who were staying farewell, and left for Howland and Baker.

Jan. 16. I was occupied all day sorting shells and packing them for the museum.

Jan. 17. We had some poi for lunch, and did it taste good! That was the first time we had tasted poi since we left. I sure got sunburned working out in the sun today. I am blistering on my arms and shoulder. It is the first time I have ever peeled so much. The torrid sun beats down ruthlessly by the equator. We have been seeing a show every night after supper. The ship has talking pictures, and they show pictures like the ones in town at Honolulu.

The trip is pretty calm now, and we are having swell weather. I have finished packing the shells and coral from Jarvis and Palmyra this afternoon.

Jan. 18. We got the supplies for Howland on deck this morning, and got it ready to load. It is sure hot during the day--I have never sweated so much in all my life before. My back and arms have blistered all over, and I peel as easy as peeling a banana.

Jan. 19. We got up at five o'clock this morning, for we expect to get to the islands today. We got the supplies on the life boats, so that when we reach Baker we would be ready to leave right away. When we got to Baker Island the sea was pretty rough, and the surf there prevented us from landing for some time. Finally we found a way in on the south side of the island, a good half mile from the camp. I did not go ashore, but stayed on the ship to help with the loading.

During our spare time we fished. We saw a school of sharks at the stern of the ship, so I threw a large line, with a chunk of meat on the hook into the water. It did not take long for one of the sharks to bite the bait. George and I pulled the shark up--it was about five or six feet long--and since the skipper didn't want any blood on the deck, we let it go.

Luther and Joe [Kim] replaced Abraham Piianaia and William Kaina at Baker. The other two boys on Baker are Archie Kauahikaua and Herbert Hooper.

We left for Howland after lunch, but we had some engine trouble, so we never got there until dark.

Jan. 20. At sunrise we went in nearer to the island. A large school of porpoises escorted us in, and it sure was a sight to see. Under the water they look like sharks, but you soon dismiss that idea when they begin to leap in and out of the water. It is as fine an example of graceful strength as I have ever seen. They would leap out sometimes in groups of about half a dozen with such perfect precision that they appear and disappear in perfect time. It seemed to me that they had one mind and they lept in perfect accord as though they were of one body. It was a sight; this school of porpoises playing in front of our ship as the sun began showing itself from behind a cloud above the island, and as a flock of sea birds darkened the skies before the rays of the rising sun, and on the island, four boys running down to greet us, after they had extinguished a torch they had kept burning all night as a beacon toward the ship off the deadly reef.

We went ashore and greeted the boys on the island. I went into a tent that was their kitchen and had a bite of some fish and hardtack.

Aside from the boys who were to originally leave the island, Folinga wanted to go back, so that meant that another man was to take his place. Sol Kalama and Alex Kahapea replaced Killarney and Jim Kamakaiwi, and Henry Ohumukini took Folinga's place. That left Joe Anakalea as the only one from the old group to stay. Henry did not expect to stay, so when he was selected to remain he was pretty glad. He gave me a note to his mother and told me to take care of his things in school. I promised him that I would take a Samoan girl out one night for him, and bidding him farewell, I went back to the ship, headed for Swains and Samoa. It was a pretty tough parting, for we had been the best of friends at school. I wished him the best of luck.

There were a lot of things that had to be put away today, so I spent the day with the rest of the boys putting the things from the island in order.

Jan. 21. I got up pretty early this morning, and to my surprise a ship was sighted off the port side. It was the first ship we have passed on this voyage. I noted the course it was taking, and according to the map on the ship, it is heading for Australia. At ten o'clock this morning the ship we sighted was still in sight. It was a mere blot on the horizon on our starboard side. I spent the day fixing up the specimens from Baker and Howland. A bottle of formaldehyde broke, and we had a terrible time cleaning up the mess. In the evening, Captain Meyer spoke to us, and he said that he wanted some boys to stay on Swains Island for three weeks to get things for the museum. Swains is an island owned by a Mr. Jennings. No commercial ship ever stops there, but Naval ships visit the island every three months. Killarney Opiopio and Abraham Piianaia were selected to go. We are to leave them at Swains, go to Samoa, and return for them on the way back.

I was awakened from my sleep tonight to find a booby bird on my cot. It probably was driven in by the rain, for it had been raining for some time, and the skies have been brightened now and then by lightning. The bird flapped its wings all over me, but I was too sleepy to care much about it. I guess it flew away in the morning for I haven't seen it since, but he left some fish at the foot of my cot for remembrance.

Jan. 22. It has been raining all day. The captain told us that we have been crossing a rain belt below the equator. We have also heard that a hurricane has struck Samoa. I'm not so sure, but I'll find out when we get there. Killarney and I have been working all day on the shells.

Jan. 23. It is still raining. I don't think it will let up until tomorrow. I was going to finish my job on the shells today, but I had to scrub a closet and stairway, instead. You see, we take turns to do work in the kitchen, etc. We expect to get to Swains tomorrow morning. In

order that we won't get in while it is still dark, they have slowed the ship down to about nine knots.

Jan. 24. We got up pretty early this morning, and after breakfast we sighted land. At about 8:30 A.M. we stopped off shore, and the officers went ashore on life boats.

Swains is a beautiful island. It is about two miles wide all around. It is densely vegetated with coconut palms, and there is a fresh water lagoon in the center, with another little island in it.

We had a tough time landing here, for there is just about a seven yard channel through which we have to go. The life boats got all scraped up on the coral reef when we landed.

We were greeted by a group of natives that have never seen tourists, for boats do not regularly stop here. They wore clothes that they got from trading with people that have been there. Some wore dresses and trousers, while others wore loin cloths, or lavalava, as they do in Samoa. I immediately began to trade some trinkets which I bought for that purpose, and got five mats, several shell necklaces, a basket, and a calabash. Some of the boys who didn't bring any trinkets traded their shirts and undershirts for mats, etc. One man traded his britches for a lavalava, and his shirt for leis of shells, and wore the lavalava, for that was all he had left.

I went to the lagoon to see what it was like, after I got through trading. I noted taro patches all along the lagoon, and beautiful banana and hala trees were around there, too. The lagoon is rectangularly shaped, and is enclosed all around by the island. The little island within the lagoon is covered with coconut and hala trees. In size, it is the kind of island that you read about in joke magazines of two people getting stranded on.

Before we left Swains the natives gave us a treat with their dances. The natives of that island are a mixture of several south sea races. They speak Samoan, a little

broken English, and mainly the language of the Tokelau [Islands]. I was surprised with the beauty of the women there, and also of the men. There is a strain of the white man there--the head of the village, an Eli Jennings. He is the grandson of the first Jennings to own the island, and to annex it for protection under the American flag.

To get back to the dancers--for instruments they had a funnel shaped piece of tin roofing to beat on, and the clapping of hands to keep time. They sang songs typical of the Samoan and Tokelau groups. They sing in a peculiar nasal voice that blends together in the most enchanting manner. A few natives, young and old, men and women, danced to the music in a style typical of the Samoan siva-siva dance. In return, the Hawaiian boys sang "Na Ali'i," "Lei Awapuhi," "Kuu Lei Aloha," and "Aloha Oe." A native put on the Samoan sword dance with great skill. One of our boys danced the hula for them, and they enjoyed it very much.

One of the native boys asked me to get some shirts for him in Samoa. He told me that he would give me some mats when we returned.

The tide had gone down while we were at Swains, and when we tried to leave we found it a difficult task, for the waves were crashing on the reef. A canoe that had gone out to the Itasca tried to come in, and in doing so, cracked up its outrigger on the reef. We went way out on the reef to get into the life boats, and a huge wave came over it. Boy! I almost lost everything trying to keep my footing. I got into the boat in a hurry, and didn't take any chance to lose my things.

We are now on our way to Pago Pago, Samoa.

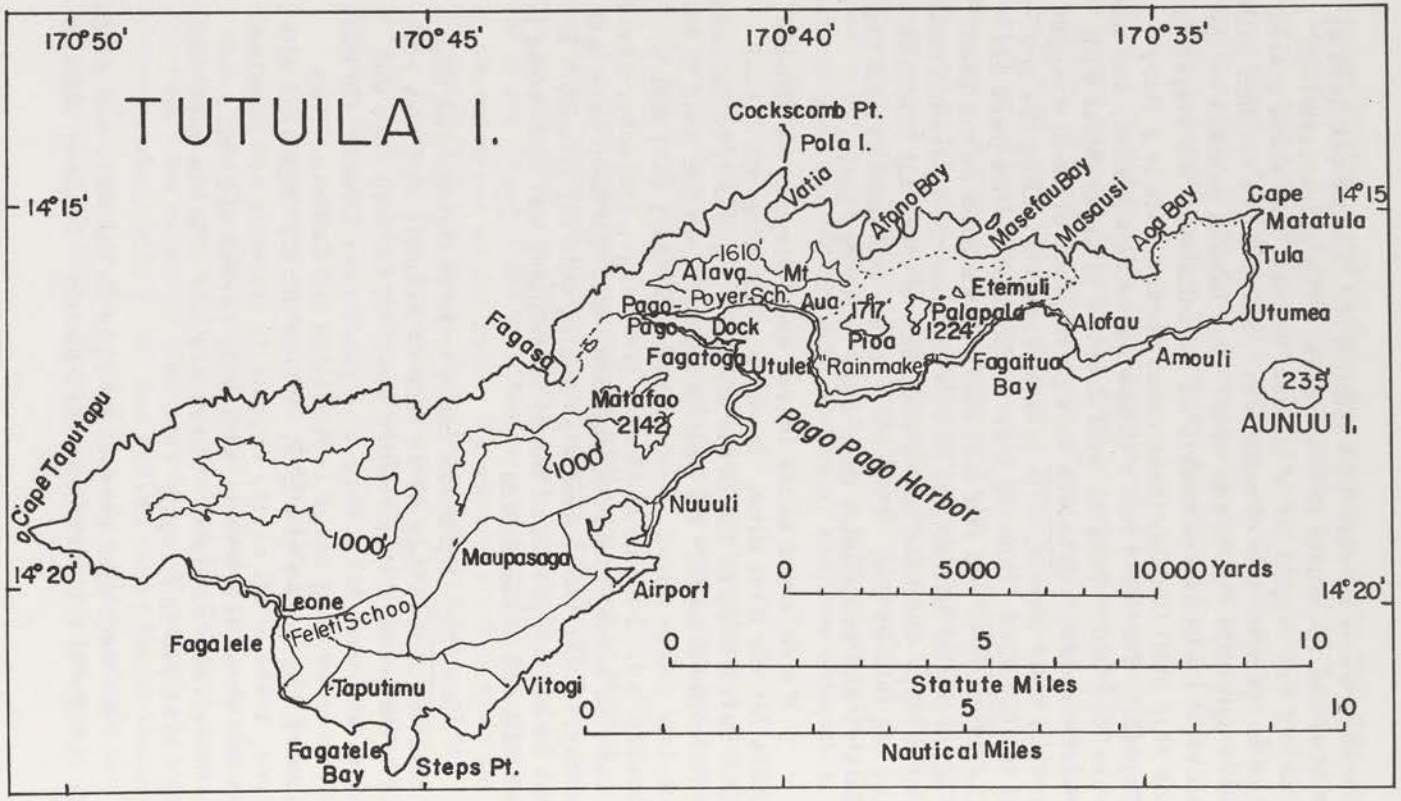
Jan. 25. We sighted the island of Tutuila early this morning. The place sure looks beautiful. Coconut trees just cover the mountain side over here. We went into the harbor at about 9:00 A.M. and docked at the Naval Station pier. The water in the harbor is very calm, and you can see bottom at 50 feet. The rumor of a hurricane was

verified when we saw the result of it. The people here say that it was the worst in five years. The galvanized iron roofing was ripped off of several houses, and some pieces are in the branches of tall trees. Most of the coconut palms have ugly tops due to the wind. The banana patches on the sides of the hills are nearly all demolished. We stayed on the ship until the Governor came aboard. He is a Navy Captain. The Navy has a native guard detachment, and they sure look odd. Imagine men dressed in undershirts with short sleeves, a lavalava or square piece of cloth wrapped around their waists, with blue stripes encircling the bottom of the lavalava, showing their rank, and a crownless hat gadget made of red felt that looks like a band on the head. They wear no shoes, and in this uniform they paraded down to the ship--the band and a company of men, all Samoans, and big fellows too. They also have a red band around their waists, and sometimes they wear cartridge belts.

We received shore leave, and I stepped on Samoan shore for the first time. It was a sweltering hot day--I have never been so hot in all my life. I guess it is because it is summer here. We walked around town and went to the electric power house, where I had a friendly chat with a Samoan lad. I inquired about a few things, including where I can find some friends of my aunt, who had been here last winter. After that I went sightseeing with my friends. It was so hot tonight that I would be dripping wet even when I sat still and never moved.

Jan. 26. We met a lot of boys yesterday and they promised us that they would take us around, and they sure did. We got on a truck with a bunch of Samoan boys and girls, and went for a swim at a place near Leone. On our way over we sang songs in Hawaiian and Samoan. The country was very attractive. It was thickly vegetated with ferns, trees of all sorts, especially coconuts and bananas. We saw some large bats, with wing spread of about a foot or more, now and then. There are lots of birds here that you never see in Hawaii.

We went past several villages on the way, and we saw the results of the hurricane very plainly. In many instances,


TUTUILA I.
170°50'
170°45'
170°40'
170°35'
14°15'
14°20'
Cockscomb Pt.
Pola I.
Vatia
Afono Bay
Masefau Bay
Masausi
Aoa Bay
Cape Matatula
14°15
Tula
1610'
Alava Mt
Pago-Pago Pover Sch.
Aua
1717'
Etemuli
Palapala
1224'
Alofau
Utumea
Amouli
Fagaitua Bay
235'
AUNUU I.
Fagasa
Pago-Pago Dock
Fagatogo
Utulei
"Rainmaker"
Matafao 2142'
1000'
Pago Pago Harbor
Cape Taputapu
Nuuuli
Maupasaga
Airport
0 5000 10000 Yards
Leone
Feleti Schoo
Fagalele
Taputimu
Vitogi
0 5 10
Statute Miles
0 5 10
Nautical Miles
Fagatele Bay
Steps Pt.

half the coconuts in a village would be down on the ground, and even coconut trees would be uprooted.

We stopped by the beach, and walked a little ways until we reached the place where we were to swim. It was an ideal place because there was a fresh water pool, where we could wash up after our swim, and because there was a high rock from which we could dive. We swam all afternoon, and then we got back and had our supper and went to bed.

Jan. 27. We stayed on board most of the time, shining brass, etc. We went to a show tonight on shore, and we didn't have to pay any admission.

Jan. 28. We left the ship at 8:00 A.M., after we got a few things together, and departed for some Samoan villages, across Mt. Rainmaker. We went across the harbor in a boat that took children to school on the other side. We had left our grips in one bunch on top of the launch roofing. We got across in a short while and, to our surprise, when we looked for our things they were gone. A group of older Samoan boys had taken the grips and were carrying them for us. We went to the Poyer School, where we met the principal, Mr. Grinager, and he had five boys from the Poyer School to accompany us over the hills. Previous to this, we met Chief Fa-Amau, a Samoan Chieftain who was in Honolulu about three years ago and had stayed at the Kamehameha Schools, where I first met him. He was very happy to see us all, and said that he would take us to the villages we wanted to visit. That was great, because when a high chief takes guests to his village or other villages, the guests are treated royally, especially if the guest is a racial kin.

On our way to the village of Aua, where we would turn off onto the trails, we saw some natives preparing for a fishing excursion. They were mashing a certain fruit [probably the large four-sided fruits of the futu tree, Barringtonia asiatica, commonly used to stupefy fish in Samoa and other Pacific islands] that stuns fish but is not poisonous to man. Later they will put the poison in the water and it will get them enough fish for a few days.

We got on the trail at Aua and headed for Afono where Dan Toomey and Jim Kamakaiwi will stay. It was pretty hard going because the trail was wet and most of us had rubber-soled shoes. We rested part way up, and the Samoan boys treated us with some coconuts, which they knocked down. Talk about sweating--we sweated so much that the perspiration literally poured from us. You could see it ooze out and run down in a stream. They sure have hot weather here. We reached Afono where we stayed a few hours. It took us about three hours to come over from Fagatogo, the naval station.

We were received by the high chief, named Matahu, in his house. I had the seat of honor on the chief's right hand side. It is the custom of the Samoans to have a kava ceremony whenever they have distinguished visitors, and we were considered as such. We sat cross-legged on a mat, and formed a circle around the inside of the round house. A man came into the house and placed a kava bowl in the center of the group and began to prepare the kava. The "kava"--the same as the Hawaiian "awa"--is the root of a certain tree a thick bush, Piper methysticum which is pounded up and mixed with water, and then strained to get the sawdust-like particles of kava root out. It is not strictly a ceremonial drink, and neither is it intoxicating like liquor, but if you take enough of it, it gives you a numbed sensation.

The man strained the kava with the bark fibers of the hau tree several times, and in order to strain each time he had to get rid of the refuse collected by the strainer. This he did by passing the strainer, which looks like a piece of hula skirt, out to an assistant, who cleans the strainer in a manner similar to cracking a whip.

When the kava was almost ready to serve, one of the chiefs proclaimed loudly that a kava ceremony was about to take place, and that it was meant for the guests. This he did by shouting out while seated, so that the villagers would know about it. After the proclamation by the chief, everybody started to clap their hands. We did not know why, so we didn't clap, but later Fa Amau told us to clap also, because it shows that you accept the kava.

The man who strained the kava then dipped a coconut shell cup into it and offered it to Captain Meyer. Folinga and I had our turn next, and we were the only Hawaiian boys to drink it, for we held the seats of honor. I cannot describe the taste of kava, for it is neither sweet nor bitter. It has a taste all of its own. I knew what it was going to taste like though, because I have tasted awa in Hawaii.

We left chief Matahu's "fale" and went to an oblong one which they call the guest house. There we sat among the lower chiefs of the village and we were entertained by them. We also sang some songs, and Jimmie danced for them. We passed a can of cigarettes around, and to show their appreciation or their liking for cigarettes, each man would take three or four for himself, and one man kept the can and what was left in it.

We saw several cases of elephantiasis here. Those that have the disease have large legs, swollen to almost twice the normal size. They seem to get about alright though, and live as happily as the rest. Cataract in the eye and infantile paralysis were not uncommon.

We gave our "tafola" to chief Matahu and the two boys who were to stay, and left for the village of Masefau with the Poyer school boys and Fa-Amau. Captain Meyer returned to Pago Pago, because he has to go to Apia, British Samoa, tomorrow morning.

We had another hard climb to Masefau, and we finally reached there about 3:30 P.M. Here we had another kava ceremony. This time we were told by chief Fa-Amau to say "Manuia" before we drink it, and also to spill some on the ground. "Manuia" is a word of blessing or a sort of toast, and the spilling of some kava on the earth signifies that you wish the earth to be fruitful for the people.

We took a dip and a shower and got ready for supper after the kava ceremony. We sure ate a variety of things that I had never eaten before. It was all Samoan style food: banana, taro, raw and cooked fish, pork, "palosami," "kulolo," and a Samoan lime drink. They gave each one of

us enough food for three people. I sat cross-legged all through the meal, and when I got up I couldn't straighten my legs out, and I stayed bow-legged for a minute or two.

Jan. 29. When we got up this morning, all the chiefs of the village were waiting for us in our hut to have another kava ceremony. We got dressed, and after the ceremony some of the chiefs gave us some kava root. If they gave us a kava root with some small shoots on it, it stands for a token of friendship.

After our breakfast, we visited the village school. It was a school for children from age 9 to 13. We met the teacher, a Samoan, who was very courteous to us. He had one of the younger boys lead the children in a few songs for us. The school house is like other Samoan houses, and the pupils sit cross-legged on mats.

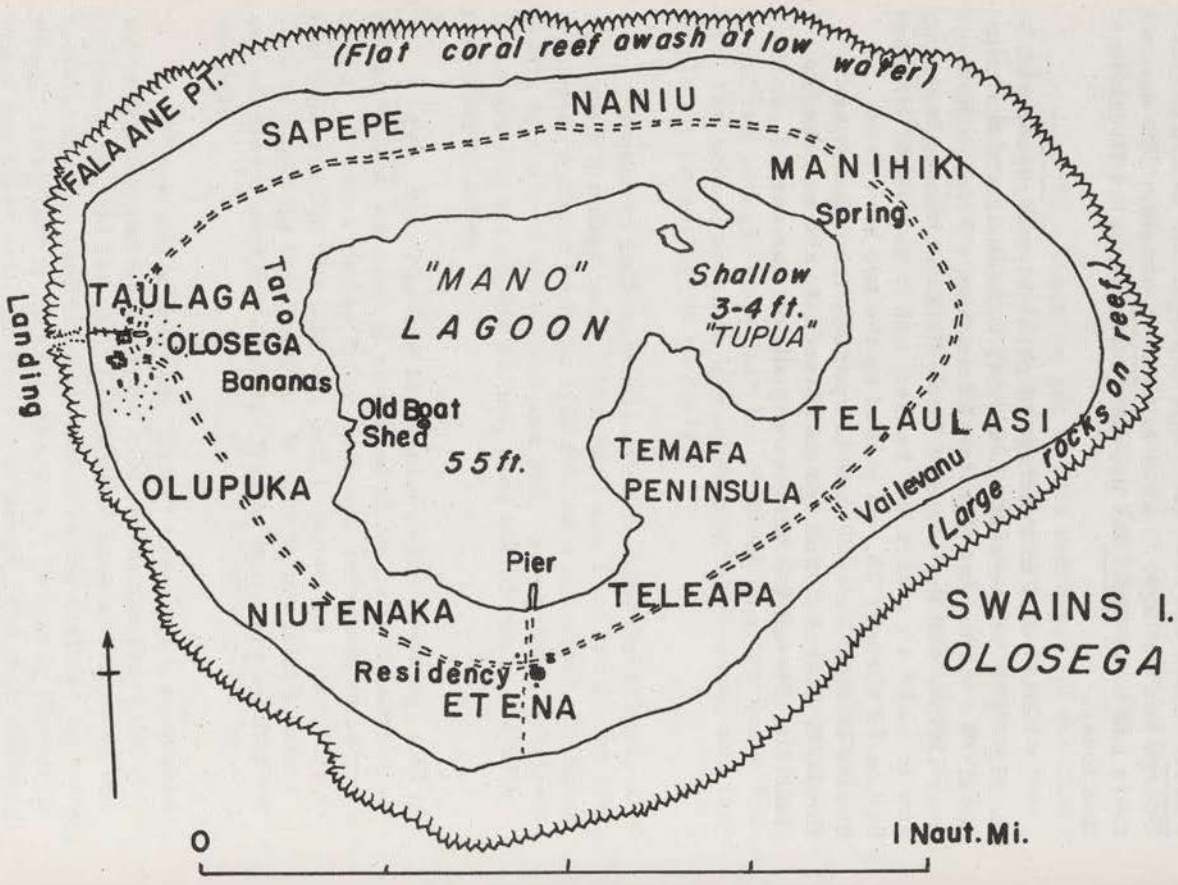
I went to collect shells after visiting the school, and I got quite a collection. I shouldn't say I got it all, for after I started, a dozen Samoan kids followed me about, bringing shells to me that were good and bad. Since then, whether I was looking for shells or not, they would run to me with a handful of them.

Jan. 30. I looked for shells in the morning, and in the afternoon we went to an island close by in a Samoan canoe. It was a pretty risky business because two currents met between the two islands, and because the canoe was so light it could tip very easily. We got to the island safely and started a hunt for shells. We got many shells that we wanted.

There was a feast or "fiafia" prepared for us when we returned, and we sure did eat. After the feast the Samoans danced for us. The natives have a custom of entertaining their visitors and then have the visitors do something. They call it "passing the fire." We sang Hawaiian songs for them until we ran out of songs, and then we sang some American songs. They made us join in their dancing, and we tried our best to dance the siva.

Jan. 31. We bade the villagers of Masefau "to fa suifua," and went over the ridge to Fagaitua, where we met George and Folinga. I wore a lavalava tonight. The natives there had their fiafia for us. We returned to the Naval Station today.

Note: Due to shortage of paper, I will just touch the highlights of the rest of our stay in Samoa, and the trip back. We visited the Barstow Foundation's Feleti School near Leone, and the home of Mrs. Falke at Leone, learning how to make a coconut leaf basket, and fire. After leaving Samoa [February 26, we picked up the two boys from Swains Island, Feb. 27; and the parties from Baker and Howland, March 1, and Jarvis, March 4, and returned to Honolulu, March 9] and the expedition was over.


(Flat coral reef awash at low water)
FALAANE PT.
SAPEPE
NANIU
MANIHIKI
Spring
"MANO"
LAGOON
Shallow
3-4 ft.
"TUPUA"
TAULAGA
Taro
OLOSEGA
Bananas
Landing
Old Boat
Shed
55 ft.
TELAULASI
TEMAFA
PENINSULA
Vailevanu
(Large rocks on reef)
OLUPUKA
Pier
TELEAPA
NIUTENAKA
Residency
ETENA
SWAINS I.
OLOSEGA
0
1 Naut. Mi.

8. THE SWAINS ADVENTURE

Two hundred miles north of Samoa lies a small coral atoll. It is a continuous, flat ring of land, a mile and a half long by a mile wide, and nowhere more than 20 feet high, surrounding a slightly brackish lagoon. Most of the land, from the crest of the narrow ocean beach to the very edge of the lagoon, is thickly covered with vegetation, about 800 acres of coconut palms and various trees and shrubs found widespread in the Pacific. From the sea, the island appears as a long low ridge on the horizon, somewhat roughened along its crest as if one were looking at the edge of a fiber doormat. An aviator would see a pale jade pupil in a dark green eye, separated by a narrow line of white and gray (beach) from the great expanse of deep blue sea.

On charts this atoll is labeled Swains Island. By the natives of the three Tokelau Islands (atolls which lie 90 to 170 nautical miles north to northwest) it is called Olosega (pronounced O-lo-seng'-ah). Copra traders refer to it familiarly as Jennings' Island, and on the list of islands claimed in 1856 by American guano companies, it is recorded as Quiros Island. These names outline its history.

On March 2, 1606, the famous Portuguese navigator of Spanish vessels, Pedro Fernandes de Quiros, discovered an island somewhere in this region, which, because of the brave and handsome men and unusually beautiful women who inhabited it, he called Isle de la Gente Hermosa ("the island of handsome people"). Quiros did not locate the island with any accuracy, stating only that it was about ten degrees south of the equator, but similarity of size and description gave rise to the belief that this is the island. There is also a possibility that Swains Island was one of the islands sighted by Mendana in 1595.

Captain William H. Hudson of the USS Peacock, one of the vessels of the United States Exploring Expedition, learned of the position of this island from Captain W. C. Swain of the American whale ship George Chamblan, from

Newport, R.I. Knowing also of the story of Quiros' discovery, he thought that he would try to verify both records while he was in the region. After a day's search, land was sighted on January 31, 1840. The weather was so bad during the four days spent in the vicinity that no landing could be made, a boat being smashed on the reef during one attempt. However, the position of the island was determined and a survey of part of its shoreline made. No sign of inhabitants was seen, and as the island's position differed a whole degree from the position recorded by Quiros, Captain Hudson called it Swain's Island, and that has been its official name ever since.

On October 13, 1856 an American, Eli Hutchinson Jennings, who had been born November 14, 1814 at Southampton, Long Island, New York, landed on "Olosega" (Swains Island) and founded a unique little community which has remained strictly a family affair up to the present time. He acquired title to the island from Captain Turnbull, an Englishman who claimed that he had discovered it. Mr. Jennings married a native Samoan woman of rank, daughter of a chief of Upolu, Malia by name. When he died December 4, 1878, at the age of 64, he left Malia all of his property, including title to the island, by a will which was recorded in the American Consulate at Apia.

Eli Hutchinson Jennings, Jr., was born on the island January 1, 1863. After being educated in San Francisco he inherited Swains Island upon the death of his mother Malia, October 25, 1891. Under his management the plantation prospered. Coconut palms, which had been abundant on the island even at the time of Quiro's visit in 1606, had been set out in rows around most of the ring, and many tons of copra were produced annually.

In September, 1909, the Resident Commissioner of the Gilbert and Ellice Islands Colony visited Swains Island and insisted on collecting a tax of about $85.00 for the British Government. Eli Jennings appealed to the American Consul at Apia, who in turn communicated with the State Department in Washington. On November 9, 1910, the State Department instructed the Consul that Jennings should file

a diplomatic claim against the British Government for recovery of the taxes. At the same time the State Department expressed doubt to the Consul as to whether they could back up the claim to sovereignty over the island since it had been occupied without any arrangement for American jurisdiction. Fortunately no such proceedings had to be tried, for the British High Commissioner for the Western Pacific informed the American Consul at Apia that the British Government considered Swains Island to be American territory, and the taxes collected from Mr. Jennings were returned.

This was the first of several episodes in which Swains Island thrust itself into international affairs. The second occurred during 1917-1919. On Swains Island the senior Jennings was virtually king. In addition to members of his family, there were generally a number of laborers brought from Samoa or the Tokelau Islands to work the copra plantation. The natives of the three Tokelau atolls were especially glad to come, for Swains Island was much more luxuriant and progressive than their own atolls, and danger of famine there was not nearly so imminent. It appeared that Jennings had ejected a few of the Samoan laborers and sent them back to Samoa. Not being pleased with this treatment, they filed charges of cruelty against Jennings in the native court of Western Samoa. On January 30, 1918, the British Embassy in Washington relaxed from war routine long enough to inform the State Department that His Majesty's Government understood that Swains Island was American territory, so perhaps it would like to settle this little row. A copy of the evidence presented in support of the charges was thereupon transmitted. This was referred to the Navy Department, who investigated the complaints and found that they were not justified. The State Department so advised the British Embassy on January 20, 1919, and the world war being over, this second crisis was passed.

Eli Hutchinson Jennings, Jr. died October 24, 1920, at the age of 57. In his will he left his property, including Swains Island, jointly to his daughter Anne Elizabeth, and his son Alexander. The daughter had married Irving Heatherington Carruthers, a British subject, and they lived in Apia. Mr. Carruthers was named sole executor and

trustee of the estate. In 1921 he tried to probate the will of his late father-in-law but no court could be found which would consider it. The American Consul at Apia had ceased to exercise extra-territorial jurisdiction on December 2, 1899, and had no authority to probate the will as he had done in the case of the two previous wills. To make matters worse, Mrs. Carruthers died intestate in August, 1921. The British High Court of Western Samoa granted letters of administration to Mr. Carruthers, who was appointed guardian of the five minor children; but his administration applied only to property in Samoa and not to Swains Island, over which the court still declined to exercise jurisdiction.

Both Alexander Jennings and Mr. Carruthers wanted the United States Navy Department to help out the situation; but that Department stated that it did not see that the island came within its authority, and declined to probate the will. And so another plea was made to the State Department, and finally to the President of the United States, to do something which would fix the status of Swains Island. This was finally accomplished on March 4, 1925, when a joint resolution of the House and Senate of the United States Congress was passed and signed, extending American sovereignty over the island and placing it under the jurisdiction of the government of American Samoa. In 1924 the property had been incorporated for the joint benefit of the family. The legal difficulties had been straightened out, and the prospects were bright for the future despite shipping problems and the comparatively low price of copra. The new arrangement made it possible to market the copra at Pago Pago, instead of Apia, and thus take advantage of the favorable price maintained by the U. S. Naval Government.

When I first visited Swains Island on April 6 and 15, 1935 on the first cruise of the U. S. Coast Guard Cutter Itasca to the Equatorial Islands and Samoa, I met Mr. and Mrs. Alexander Jennings and took their picture. Alexander Jennings was a robust, kindly man of middle age, quite well educated and capable. He was half Caucasian American and half Samoan. He was married to Margaret Pedro, a quiet, attractive, intelligent woman who had been born on Fakaofu, the southeasternmost of the Tokelau Islands. She was a

member of one of the wealthiest and most influential families on that atoll, and had Spanish and Portuguese blood as well as native Tokelau. Although her health had not been too good during the late 1930's and 1940's she outlived her husband, who died in 1958. Both parents being half Polynesian and half Caucasian, their children retained the same proportions of racial mixture. They had at least three children; the eldest, Wallace Hutchinson Jennings, is the present manager of the island.

The village, which is called Taulaga, and also the nearby copra drying and storage sheds are located at the western end of the island, where a small passage has been blasted through the narrow fringing reef to aid in landing, which must be made in outrigger canoes or small boats. In the village live from 20 to 25 families, most of them young married couples. The usual population of the island ranges from 100 to 160, including children. Official census figures are: 1930, 99; 1940, 147; 1950, 164; 1956, 80; 1960, 106; and 1970, 74. There is a church with a native pastor-school teacher, and a large general meeting house. Most of the buildings are built in native style, thatched with coconut leaves.

The Jennings family lives at a spot called "Etena" in a substantial, homelike, frame building, the "Residency," built in 1929 with a few thatched houses nearby, on the southern curve of the island, between the shore and the lagoon. Here a power-driven generator now furnishes electricity for light and radio. A road leads north to a short pier which extends into the lagoon, a fine place for swimming. The water of the lagoon, although too brackish to be drunk with enthusiasm, is by no means salt. The rainfall is moderately heavy, some years in excess of 100 inches, and the lagoon is without channels to the sea, although its surface rises and falls to a small extent with the ocean tide. Much of the lagoon is shallow, with a greatest depth of about 8 fathoms (48 feet).

The only commercial activity on the island is copra making. Five days a week, weather permitting, the men of the village go out into the groves to harvest coconuts and do other necessary work on the plantation. The nuts are husked

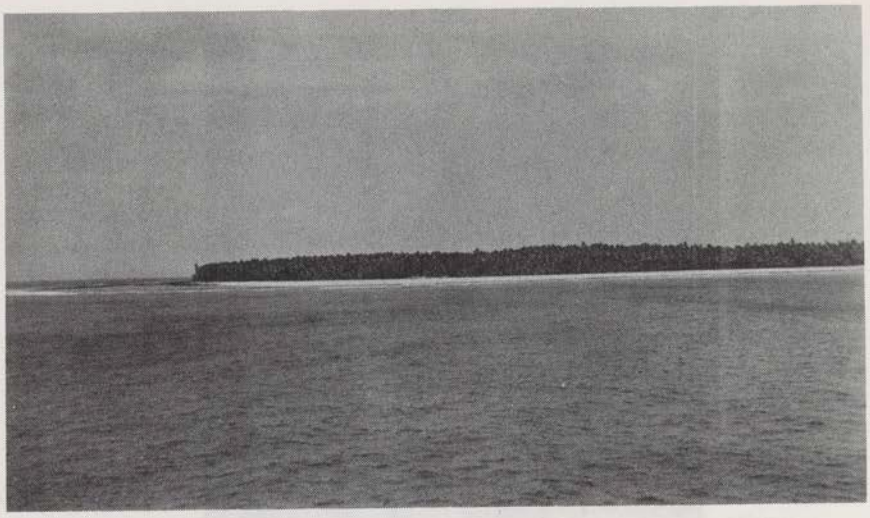
and piled along the "belt road" which circles the island about midway between ocean and lagoon. During the 1930's an ancient Ford truck plied this road, gathering the nuts and conveying them to the village. Here they were split, the kernels removed by the women and spread out on the racks to dry in the sun. When thoroughly dry, the white, translucent, somewhat rancid smelling product becomes the copra of commerce, stored in a large wooden building in the village near the landing, until it can be transferred by small boats to visiting ships. In these it is carried to commercial ports, such as Apia or Pago Pago, from which it is shipped to faraway manufacturing centers where it is made into soap, vegetable substitutes for butter, or even explosives.

On Saturdays the natives may work for themselves, either harvesting or cultivating taro, bananas, and other food crops, or going fishing. Fishing generally is done from canoes at sea where tuna and other large fish are caught. Some reef fishing also may be done, and there is one portion of the reef which is reserved against the time when it is too rough to put to sea or fish elsewhere. This area is used only with the permission of the owner. There are about 500 pigs and numerous chickens on the island. Most of them run wild, but such pigs may be killed only by permission of Mr. Jennings or his representative. Certain supplies, such as flour, tea, sugar, and the like are dispensed by the owner, especially when there is a shortage of other foods. Only rain water is considered good to drink, and this is not generally served at meals, coconuts being preferred. After consuming the liquid in the nut, it is a strict rule that the husk must be split in half and made available to the pigs and chickens. Otherwise the kernel might decay or be consumed only by rats.

Sunday is a day of rest, with usually at least two church services. Interesting details about these, the pastor and other daily activities, including cricket, the favorite outdoor sport of the island, are given below, condensed from the diaries kept by Abraham Piianaia and Killarney Opiopio. They were dropped off at Swains Island from the fourth cruise of the U. S. Coast Guard Cutter Itasca on January 24, 1936, on its way from Baker Island to Pago Pago, and picked up again on the return trip on February 23, 1936. During

Mr. and Mrs. Alexander Eli Jennings
and daughter at Etena, April 6,1935.

Sailors from the Itasca approach Etena "Residency."



The southwestern part of Swains Island viewed from the south, April 15, 1935.

The tram tracks leading from the landing place on Swains Island to the copra shed.

The old Ford truck gives the "Skipper" a tour of Swains.

A portion of the "Belt Road" around Swains Island, April 15,1935.

Looking north across Mano Lagoon from just west of the pier at Etena, April 15,1935.

Nearly the entire population of Swains Island and visitors from the Roger B. Taney in front of the new thatched meeting house in Olosega, Taulaga, near the landing, June 30, 1938.

this stay these two Kamehameha School boys, who had just spent ten months on Baker and Howland Islands, respectively, endeared themselves very much to the people of the island, and had the opportunity to learn much about the daily life and activities of these people. Arriving just after a serious hurricane which had caused much damage to food crops on the island, they took ashore food supplies from the Itasca, doctored injuries, and entered wholeheartedly into the everyday life of the people. Their diaries fill more than 50 pages each, with detailed notes regarding their observations and impressions of the island and its people.

DAILY LIFE ON SWAINS ISLAND

(From the combined diaries of Abraham Piianaia and Killarney Opiopio)

A recent hurricane which had swept Swains Island had done considerable damage to trees and crops. Alfred Schultz, who was in charge of the island in the owner's absence, was quite agreeable to our visit; but he stated that food supplies had been much diminished by the storm. So an outrigger canoe was sent out to the Itasca to get more food and supplies. These were furnished through the courtesy of Captain Brown. There was no sickness on the island in need of treatment, but some first aid equipment was sent ashore for us to use. All of this was brought ashore through the narrow channel which had been blasted through the reef many years before. At the beach, everything was loaded onto a small flat car which ran on rails to Iupeli, the large building on the edge of the village where copra was stored. Eight men were used to push the car up the slight incline. At Iupeli the supplies and our equipment were transferred to an ancient Model T Ford truck that had been on the island for ten years. It was all taken to Etena (which means Eden), the home of Mr. Jennings, where we were to make our headquarters on the spacious veranda. This is about a mile and a quarter from the village of Taulaga. The truck was driven by Aleli Jennings, nephew of Mr. A. Eli Jennings, owner of the island. At Etena there were three boys to help unload the truck. Their names are Kene, Teaviki and Umala. The first two are from the Tokelau Islands; the other is half

Tokelau and half Solomon Islander. They live and work at Etena.

After unloading our gear and fixing up our quarters, we had lunch with Mr. Schultz--fried bananas, beef and corn. The food was prepared and cooked by Teaviki. Mr. Schultz occupies one of the rooms in the Jennings house. After lunch we went swimming in the lagoon, which is named Mano (shark) and at 3:00 p.m. we rode down to the village with Aleli. When we got there, Jione, foreman of the island workers and a first cousin of Mr. Jennings, was dividing a bag of rice and a bag of flour from the Itasca among the villagers. After that we watched a game of cricket. It seemed funny that the national pastime of the British was being played here on a remote south sea island. There were two teams, one made up of men living below, or on the south side of the church; the other of men from above, or on the north side of the church. After the game was won by the south side, we were asked to entertain the group with a few of our Hawaiian songs. After that one of the old men, Joasa, stood up--all had been seated on the ground--and in a clear soft tone called out the names of the men who were to form the canoe crews for tomorrow's fishing trip. Opiopio was invited to be one of the oarsmen, to leave at 5:00 a.m.

Immediately after that we left for our quarters. We had supper with Mr. Schultz--fried ulu or breadfruit, beef and coffee. There were frequent heavy squalls today with scattered clouds along the horizon. Mr. Schultz told us that during the recent hurricane 5.21 inches of rain had fallen. He has a rain gauge which showed that today's rainfall had been .24 inch. The thermometer at the Jennings house had registered 90 degrees at noon, dropping to 81 in the evening.

After dinner we swapped yarns with the three boys who helped us work today. They all squatted on the floor and murmured words of surprise at some of the things we told them. At 11:00 p.m. we finally told them that we were tired and wanted to sleep. Our bunks were wide, comfortable canvas cots but mosquitoes made sleep a torture. They were all about the grounds and found their way up onto the veranda. There were only a few at ten o'clock, but after

midnight the house was flooded with them. The natives don't seem to mind their presence; they laughed at us the next day when we told them of our misery.

Saturday, January 25, Opiopio got up at 5:30 and went with Kene to Taulaga where three canoes (vaa) were to start out on their fishing trip at 6:00 to catch bonito. He was given a place in the largest canoe with five others, and assigned a paddle. There was an old Tokelauan named Tome, and the other four were all married. The tide was high, so they didn't have any trouble crossing the reef, which has a width of about 100 yards and then drops down into the blue. They pointed the canoe in a northern direction but remained close to the reef. Opiopio noted that the current came from the northwest. There was no strong wind blowing, but there were low scattered clouds along the horizon, with rain to the northwest.

As the canoes went along, one of the men sighted a huge flock of sooty terns (which is a sign that bonitos were below them) about a mile out. We paddled to the spot but the fishes were nowhere in sight. Following the birds again and again there were no fish. About ten o'clock we gave up the chase. By that time we were about three miles out. The other canoes came up to us and we all had a good talk about Hawaii. The canoes were allowed to drift until we were directly off Taulaga. Then the three canoes landed. There were twelve men in all; three each in the other canoes and six in ours. The natives here on Swains Island all came from the Tokelau atolls. They brought with them their hooks and lines. The hooks are made of pearl shell and the lines of coconut fiber. Tome chanted a few songs before we left. I asked him for those chants, but he refused.

The people here do not work on Saturdays but are allowed to spend their time fishing and attending to their banana, taro and papaya patches and working around their homes. The livestock on the island are for all the people. They share everything. No family is allowed to kill any pig or chicken except with permission from Mr. Jennings or the man in charge when he is absent. Usually Saturdays are the days chosen to slaughter the animals. Today, when I

came back from fishing, two pigs were killed. The pigs were chopped up into pieces according to the size of each family. Each family is expected to make the pork last throughout the week. Kene, who was with me, had a woven basket which he had made. Our share of the pork consisted of a ham and pieces of liver.

Instead of following the road, Kene and I took an old trail close to the lagoon on our way back to Etena. We saw a large lizard and also one with a blue tail among old coconut husks. There were several sooty terns and one or two white birds high above the tree tops. We carried the basket by means of a pole which was stuck through it, on our shoulders. Piianaia and Mr. Schultz waited for me to return before having breakfast. Our late breakfast menu consisted of fried pork and bananas, besides rice mixed with coconut juice and roasted liver cooked over hot coral.

The young boys who are staying with us at Etena are personal servants for Mr. Jennings. Only married couples are allowed to live in the village. Boys above fifteen and single are kept here. There are four of them, namely Kene, Teaviki, Iuta and Umala. Mr. Jennings has provided them with living quarters in one of the huts. He has a personal servant who is in charge of these boys. Their duty is to take care of the grounds, act as servants and find the fowl and pigs. They never go out to gather copra.

We all swam in the lagoon this noon. The lagoon is about a mile and a half long and a mile in breadth at its widest. According to Mr. Schultz, there is only a slight rise in the tide. During rainy seasons it rises about 10 inches at its highest. There is a little island off the north shore, with little coconut palms growing on it. The water is nearly pure in some spots. The natives use the lagoon for bathing and washing purposes. There is a little wharf made of native timbers at Etena.

Piianaia got up immediately after Opiopio left to go fishing and found the young men repairing one of the falegalue, or work houses, which had been partly destroyed by the hurricane which recently blew over the island.

With whatever English the boys could speak and whatever Hawaiian I could make them understand, I succeeded in getting them to tell me the name of the various parts of the fale and the kinds of wood used. I was told that there were only two work houses on the island, one being used as a carpenter shop and the other as a blacksmith's shop. The falegalue was built according to the Tokelau method of construction except that nails were used to hold the framework together instead of twine, and that several pieces of 2"x4" timber were used for some of the parts of the frame. The nails and timber were used so as to speed up the repairing of the shop in order to put it into use as soon as possible. The roofing, which is made of plaited coconut leaves, was also nailed on instead of being tied or lashed on with twine. The repairing of the house was called "station work."

On Saturday afternoon and evening, the people usually do most of the cooking of Sunday meals as no one works after sunrise on Sundays. I found Teaviki bustling around the kitchen of Mr. Jennings' house. He is the short fellow with bowlegs, and a heavyset chest and arms. Anyone stopping at Swains has surely seen this oddly built young man. Mr. Schultz asked me to teach Teaviki to cook something, so I taught him to cook hotcakes. Aleli was also present and took pencil and paper and wrote down everything I did to prepare the dough and cook the hotcakes. He showed interest in what I was doing and asked consistent questions as to why I did certain things. From the way things have been going, it looks as if Aleli, the three boys who helped us yesterday, and another powerfully built lad named Iuta, are going to be our constant companions, except when they have work to do.

Opiopio came back from Taulaga at about 11:00 a.m. He and Kene were carrying a coconut basket which was suspended from a pole on their shoulders. They had not caught any fish, so two pigs had been killed and they were bringing home some pork. We had a breakfast of fried breadfruit, rice cooked with coconut juice, pork and liver that was fried. Immediately after eating, Kene and Iuta went out to gather young coconuts for us to drink and eat. They picked and husked enough coconuts to last us two days. These they put

in a large coconut basket and placed the basket at the foot of our cots, so that we could wake up at any time during the night and take a drink. After drinking the milk of a coconut the nut is split in half and thrown out. I was told that this was done so that the pigs and fowls could eat the meat from the nut. If this was not done only the rats could get at the meat in the nut. I was told also that in former days anyone caught not splitting the nut after drinking the milk was fined 12 shillings for the first offense and one pound if caught again. This shows the importance of the coconut to life here--whether it be human or animal.

Piianaia went down to the village about 3:00 to play cricket while Opiopio stayed back to prepare the museum collecting instruments. The evening meal consisted of the remains of the noon meal with no additional food. After dinner Piianaia doctored Iuta, a boy who had come from one of the Tokelau Islands about four months before, who had raw scabs on both arms. He had only lysol and mercurochrome so he bathed his arms in warm water and painted the sores with mercurochrome.

He had been scratching his sores with dirty fingernails so I told him the danger of doing this and he promised not to scratch anymore. There had been a similar case in the village about two weeks ago. The boys sang several songs for us and we repaid them with songs from Hawaii. We went to sleep early, but there were still too many mosquitoes.

Sunday, January 26. We woke up at 7:30 and found everybody preparing for church. No one had breakfast until after church. Mr. Schultz wore a white tweed suit, maroon bow tie and a pair of low Oxford shoes which had come off the Itasca a few days ago. We left Etena at 8 a.m. and walked down to Pastor Peni's fale. His home seemed to be the neatest and cleanest we had seen. Besides being the pastor, Peni is also the island school teacher. He assigns one boy and two girls from school as his own workers and helpers, changing every week. He also has his own banana patch and his own quota of pigs and fowls. They are his as long as he remains on the island. He is an educated Samoan

who belongs to the London Missionary Society. He served 25 years in Papua, New Guinea, and later was transferred to Swains Island. He has a wife and one son who was educated in Oakland (Auckland?) and is now living in Western Samoa. The pastor's house is located close to the village; the grounds around the place are well kept and very pleasing to the eye. Reverend Peni was attired in a white jacket with stiff collar, khaki trousers, white canvas low cut shoes, a pair of glasses, and white topi (pith helmet). Mr. Schultz changed his shoes there, putting on low cut canvas shoes.

When we got to the church, which had been built in 1922, we were introduced to Peni's wife. The whole congregation was waiting for us. They wore their finest today. We were led in through the rear door by a man named Tito, who was waiting to show us to our seats. The church is a rectangular frame building, with wooden pews and stained glass windows. All the women sat on the right side of the church and the men all on the left. They sat four in a pew. All the children sat in the front part of the church with one old man who was the leoleo or policeman, to keep an eye on them. He had a small stick with strings of coconut husk tied to one end. This he used to hit anyone who falls asleep during the service. All the women with small children sat in the rear of the church in a part partitioned off from the main room. In the front center there is an elevated pulpit, behind which is the pastor's seat. Behind this a long stained glass window rises. Seats on both sides of the pulpit are for the Jennings family. Mr. Schultz was in one; Pastor Peni's wife in the other. We had a pew which we shared with only one other man, Joasa. When the pastor entered the church everybody stood up and remained standing until he reached the pulpit and then they sat when he gave them the sign to do so.

All the preaching and singing was in Samoan: a prayer, a hymn, a Bible passage, another song, the sermon, a closing song and the benediction. The pastor walks out; following are Mr. Schultz and the pastor's wife, then the congregation. All the people have fine voices and those of the men were deep and low. Some hymns were translated into Tokelauan. The sermon lasted about 45 minutes.

After church Piianaia and Opiopio visited several homes to care for several persons, especially children who were suffering from boils, bruises, ringworms, and injuries. They were accompanied by Aleli. One small girl had a four-inch gash beneath her chin which had been caused by a six-foot Kingfish which her father had caught. The little girl got too close to the fish while it was still alive.

When we got back to Etena it was noon. No food is cooked on Sunday, but Teaviki had a cold meal ready for us; chicken which had been cooked over coals; Pastor Peni had given us cooked taro leaves with coconut milk; Aleli some cooked pork; also breadfruit (ulu) cooked in coconut milk and some ripe bananas.

After lunch we went with Mr. Schultz and Aleli around that part of the lagoon known as Tupua on the swampy peninsula of Temafa or Tamafa, northeast of Etena. This had once been the site of a village with an old place of worship, with a broken fallen idol and several coral slabs, of possible archaeological interest but now covered with brush. After returning to Etena we went with Aleli to Metagofie, which means "beautiful view," on the bank of the lagoon. It is the site of an old broken-down storehouse for copra, and copra mill of which only the foundation remains. It was built by the first Mr. Jennings. The water close by is very cold and clear. The children of Swains Island use this place for swimming because of its deep water with low overhanging coconut palms. Aleli showed us a steering oar, "foe taiule," which he said was over 100 years old. Piianaia asked him for it for the museum. He got it for us. After supper, which consisted of the remains of lunch, we went to the beach to look for shells.

Mr. Schultz told us that mosquitoes were not generally as plentiful as they had been the last two nights. The house is screened, but somehow they find their way in. When we went to sleep we covered our faces with blankets.

Monday, January 27. Piianaia records the method by which a new fire is kindled, as done by Mele, wife of Tito.

The first thing she did was to hollow out a shallow hole in the ground and put in some pulu or coconut husks. She then procured a piece of puapua, the same wood used in making house frames (probably Guettarda speciosa). This she rubbed with a small piece of the same wood and in less than 2 minutes had it smoking. Then she nursed the smoking piece carefully, by shielding it from too much wind and after a while sparks developed. She transferred the sparks to one of the coconut husks and blew upon it until it burst into flames. The fire was then applied to the husks already in the umu or ground oven. While the flames were gathering headway she put on about 200 ipu or empty coconut shells that had been split in half. On top of this she spread a layer of coral from the beach; then left the umu to burn and get hot. In about half an hour, the umu was ready and the coral nearest to the coconut shells was red hot. Mele then placed several bananas on the umu and also a pot of water. I was surprised to see that the water boiled in less time than it takes to boil on an ordinary oil stove. After cooking, the food was taken off the umu, and more stones were spread over it. This was done to keep the fire from dying out during the day. The fire in an umu lasts all day and usually all night.

There was no food in the house, so we had to rely on our own provisions. For breakfast Mr. Schultz and the two of us had salmon, hardtack, jam and cocoa. The natives seldom keep a reserve supply of fish and they eat sparingly of fruit.

We worked on our reports most of the morning. A few men came to see us work. They were surprised to see us write so much. They sat on the floor in silence while we typed and asked Mr. Schultz and Aleli for information. At present no copra is being cut because the trails in the coconut forest are covered over by debris left by the recent hurricane. These trails have to be cleared before any of the nuts can be gathered for cutting. This morning Pastor Peni came to visit us. He brought us a piece of salted pork. Abraham tried to explain the cooking of pork and beans. The people here do not know of any way of preparing delicacies. The food here is always solid. That is, they do

not make soups or gravy. At lunch, Pastor Peni and Mr. Schultz were introduced to eating poi, with sardines and corned beef. Both agreed that poi is far better than their food on the island.

After lunch we went with some of the boys for a swim in the lagoon. The water is cool and very refreshing. We swam out to the small island. Kanavao, who is only a boy of about 10, surprised us by swimming anywhere the older boys swam.

At 1:00 p.m., Opiopio went fishing with Aleli, Ate Maka and Vaa Sua, the last two the best and most daring fishermen on the island.

Our diving equipment consisted of a pair of goggles and a rubber sling-shot to propel a straightened length of fence wire about four feet long with a prong at one end. We took along our can of preserving fluid. The tide was low at the time. We went out on the reef on the southeast shore, where the reef is widest, extending about 250 yards out. We took along with us a strand of coconut leaf, known as kalana, for stringing the fish, and also several strands of fau tree. These leaves were used for the diving goggles (mata ika) to keep them clear under water. There were large breakers but they did not keep the men away. I was given the honor of catching the first fish. We stayed out a few feet from the reef. We caught about five different kinds of fish, besides others for our dinner table. One of the men suggested that we return because the sea was rough and we had lost a spear and a pair of diving goggles. We stayed out about an hour and caught fifteen fish. Several were kept in the preserving can for the Museum.

At about 3:30, Mr. Schultz took us around the island belt road in the Ford truck, with Aleli driving. The island is divided into 10 districts. The first after leaving Etena (and going counterclockwise around the island) is Teleapa which extends from seashore to lagoon, but does not include the peninsula called Temafa or Tamafa. Tamafa is a low marsh land extending into the lagoon. The waters thereabouts are very shallow. It is possible to wade across to

the other side of the island. The ancient village of Tupera was situated on this peninsula. The next is Telaulasi, from shore to lagoon. This is where the reef is narrowist, extending only 90 to 100 yards out from shore. Fishing is prohibited here; anyone being caught fishing is fined one dollar. This is done for the protection of the people because it provides a sure reserve of fish when fishing is impossible on any other part of the reef. At such times Mr. Jennings allows the men to get their fish from here. In Telaulasi is one dwelling hut and one cook hut, the name of this particular spot being Vailevanu. This hut is used as a rest house, or a place to isolate anyone who may have contracted a sickness. It was built by Eli Jennings, II, and is not now furnished.

The next district is Manihiki. Across it is a clearing which extends from the beach to the lagoon. The district gets its name from the belief that at one time people from Manihiki Island (an atoll in the northern Cook group) built a road extending from the beach to the lagoon. About 60 yards to the right is an old abandoned pier. In these three districts the vegetation is very dense and the scenery very pretty.

The next two districts (across the northern side of the island) are Naniu and Sapape (or Sepepe). The next district (at the west end) is Taulaga. The word means "landing place" and it is here that landings are made from ships. The village is located here. The next district is Olupuka, named for the puka trees (Pisonia grandis) with large trunks of soft brittle wood bearing canopies of large, opposite leaves, sticky greenish flowers and spindle-shaped fruit. Here only a few coconuts are growing and a few taro patches are found. The last district before getting back to Etena is Niutenaka. Years ago a native by the name of Tenaka planted coconut trees here. The trees grew well and out of respect to the man who planted them the place was named Niu O Tenaka and as years went by the O was dropped out.

When we were in the village we doctored our patients again. There were a few new patients today with boils,

sores and rash. The only thing we could do for most of our patients was to tell them not to scratch their sores, to keep them protected from flies and to move their bowels regularly.

Back to Etena, our supper was made up of the remains of the last meal. We were entertained tonight by our Etena boys. They sang several Tokelau songs and demonstrated their art of fatele, or dancing. In Hawaii it's the hula, in Samoa the siva. In response we sang our own native songs.

January 28, 1936. This morning we found Mele, Tito's wife, sweeping the dry leaves and rubbish around the house. The broom she uses is typically Tokelau in construction. It is called salu, and consists of a round stick about four feet long at the end of which several stems of coconut leaflets are lashed. The stick is called au, the coconut midribs tuaniu and the twine used to lash them to the stick, fauato. I asked Mele to let me try sweeping with her broom and found it to be light and easy to handle. After I had handled her broom she shyly asked me to let her wash my clothes. I told her I would think it over. Not satisfied with this, she sent her husband Tito to ask me to let her wash my clothes. I let her have my shirt. When Aleli, who had been coming to see us every day, came this morning he said that several women in the village wanted to wash our clothes for us, one of them being his wife. I thanked him and told him that I had already let Mele wash my clothes. I went to the back of the house to see how she did our laundry. The soap she used came probably from her bartering with the ship. She used a long wooden club for beating the clothes after they were thoroughly rinsed in soap suds. Washing any visitor's clothes seemed to be an honor with the women folk.

Before lunch we went swimming in the lagoon with Kene. We took a cake of Lux soap with us and told Kene to help himself to it. He took one smell and started soaping himself vigorously; then jumped into the lagoon. He repeated this six times. Not satisfied with this, he washed his lavalava with the soap, making sure that it was scented like the soap. When he was through, he thanked us profusely

for letting him use the "sweet smeel" soap. I believed that he was the happiest person in Olosega for the rest of the day.

Mr. Schultz, or "Sulisi," as the natives call him, has a man clearing the pathway leading down to the lagoon. During the recent gale several coconut and fala (pandanus) trees were blown down across the pathway.

For lunch today we had chicken cooked over hot rocks, fried fish, boiled breadfruit and sauerkraut. The food was prepared outside in a little hut. The underground oven used is called umu tafaluova. The way the chicken was caught proved interesting. There were five dogs on hand, their names being Whisky, Itasca, Copra, Topi, and Sami. When the chicken to be caught was chosen, one of the boys would throw a stone at it and clap his hands. Immediately the five dogs would converge on the chosen fowl and capture it, holding it until one of the boys came to get it. The dogs in no way injured the chicken. I was told that the same method was used in capturing the wild pigs that roam the bush. After lunch Mr. Schultz asked us numerous questions concerning the U. S. Coast Guard. He wanted to know how many ships were in the service, the personnel on each, the armament they carried and their cruising range. He also told us what a great man Hitler is. I do not like his attitude or the way he treats the natives here.

After lunch we rode down to Taulaga on the truck, driven by Aleli. We went to the home of Mose and had a chat with him. He is suffering from a skin eruption. We gave him treatment, and for our services he gave us both coconut hats. We then went to the house where the women folk were making mats for the personnel of the ship. There were three women working on one mat. The weaving was done by sections. To get the black strands in the mat, the natives soaked a roll of laufala in a pan of lampblack in water for three days before using. A large mat, six by five feet, would take one woman about two weeks to complete, whereas when three work on it it would take only a week. At Aleli's home we were shown some Tokelau pearl shell fish hooks. These were about three inches long and half an inch wide. Several holes were bored through. The

maga or curved portion is attached to the ba (shank) by coconut fiber, called fausaga, and the line is called afo. The lure is called siga and is made of chicken feathers. The afo is made chiefly from a native bark called fau (Hibiscus tiliaceus). Aleli gave us two hooks and explained the reason why he did this. He said that years ago the hooks were very crude, but as the years went by the people improved the shape until now it is perfected. These pearl shell hooks are very valuable because of the reason that the pearl shells are not found on this island, but only in the Tokelau group.

This afternoon we were invited to participate in a game of cricket. We played on different teams, Piianaia for the South side and Opiopio for the North. The South won the first game, while the second was discontinued before it was finished because the women folk wanted to present us with gifts or talofa (mia alofa). We squatted on the ground while they brought strings of sea shells and laid them at our feet, twenty-four in number. We sat with the men closely huddled around in a group. Aleli was our interpreter. The women made a speech saying that they were sorry that they could not give us anything better than the shell leis, because they had much work to do restoring their banana fields and taro patches. After the speech, they sang and presented dances in which three of the older boys participated. They danced in perfect rhythm, and all of their motions were simultaneous. After the dancing and singing, which was accompanied by several boys beating their hands on an empty box, the old men of the village made a speech inviting us to a huge dinner on Thursday evening, at which time songs and dances were to be presented. We were expected to be present, and also to render some of our native songs and dances. After the old man's speech, we sang five or six Hawaiian songs, while everybody huddled in a circle around us. They wanted to know the meaning of the songs we sang, so we told Aleli, our interpreter, what the songs meant and he in turn explained what we told him. By the time we finished singing, the moon was up. All the women left for their homes, while the men remained to select a crew which was to go out fishing for the remainder of the night.

We went to Aleli's home where we doctored several children and a woman. One child had a boil, another a cut, another a gash on her foot. The woman had a large boil on her left breast. After this we sat around telling stories and answering questions about Hawaii, its people and language. We left for Etena at about 9:00 p. m. Although the moon was up, we had a hard time seeing the road because the tall coconut palms shielded the light. We got to Etena at 9:30 and with Kene we went down to the lagoon for a swim. The water was nice and cool, so we swam for quite a while. When we got back to the house, Teaviki had a meal ready for us, the leftovers from our noon meal. Tito also had a basketful of young coconuts at the foot of our bunks.

Wednesday, January 29. We had a fine sleep; there were hardly any mosquitoes. For breakfast we had two cans of sardines, hard bread and cocoa. Aleli came up from Taulaga in the Model "T," bringing us a basket of slabs of fish which the men had caught last night. It was called palu or polu, and must have been all of six feet long. Six other fish of the same kind had been caught, so everybody will have enough fish for a day or two.

This morning Mele was hauling baskets of clean coral stones from the beach for use in the falecooke. She said she did this once every two weeks because the old stones on the fire become greasy and dirty. After that she salted part of the fish that Aleli had brought. The salting was done in a deep wooden tub, called a tanoa, which had been made from the stump of a taiule tree. (Perhaps the same as Samoan talie, Terminalia catappa). Half of the remaining fish was boiled and the rest fried for lunch. Opiopio went fishing with Aleli, who took along his spear. They caught twelve different fish, but only three were preserved, and the others eaten at the noon meal. Piianaia and Aleli prepared a roster or list of all the families and people living on Olosega: 21 married couples, six single males, two women whose husbands are in Pago Pago at the time, and 54 children, 26 of them males. This makes a total of 104 people on the island on January 29, 1936. Nine other residents, including Mr. and Mrs. Jennings and their children, also make their home on Olosega. Not including

Mr. Jennings, 14 grown persons were born here, 28 in the Tokelau Islands, 4 in Samoa, and one on Ware (Wari Island in the western Louisiade Islands?). All except eight of the children were born here, the eight being born in the Tokelau Islands.

In the afternoon we went down to Pastor Peni's house with Mr. Schultz with a load of iper or coconut shells to be used for the family fire. We treated six patients with our own medicines, and advised them on precautions they must follow. Several of them have recovered. It seems to me that, if the natives have faith in the medicines, it is very easy to cure them. Piianaia observed several women in one of the houses working on a large pandanus mat. The women wove very fast, and whenever any one of them got tired, she was replaced by another woman. The kiddies had a great time following us around. I did not see any of the men folk around, and upon inquiring I was told they had gone into the bush to catch pigs for tomorrow night's feast or kaikai. They had taken five dogs with them to help catch the pigs, because the pigs which they intended to get were not the tame pigs that come about the village for food, but wild fellows that have lived in the bush all their lives.

When we got back to Etena we saw Mele and her husband preparing food for the fowl and pigs that live around Etena. The food consisted of coconut meat, part of which was grated and the rest cut up in small pieces with a copra cutting knife. This is one of the daily chores at Etena done by Mele and Tito when the boys who live there are not available. Coconut milk was fed to the hogs. Every day 100 nuts are fed to the pigs and 20 nuts are grated for the fowl. The empty shells are all saved to be used as fuel for the umu. When the food was ready a gong-like noise was made by striking an old tire rim with an iron bar; immediately pigs, chickens and geese would come double time from all directions.

Before dinner we went with Aleli for a bath in the lagoon. For the dinner meal we had the remains of lunch--fish, bananas and breadfruit. This evening the boys demonstrated for us the art of self defense as known in the Tokelaus.

They move with the agility of a cat, disarming and disabling their foes with ease. This art is taught to them when very young, and they are taught the holds and grips only on full moon nights.

I found a partly broken tanoa or wooden platter today. It was made from taiule (probably the same as Samoan talie, Terminalia catappa). Piianaia asked Aleli for it, and he said that he could take it back for the museum. It was the first that we had seen here. The people here do not use these wooden platters any more because they have tin platters now.

Thursday, January 30. We slept well again last night. Mr. Schultz told us that there were no mosquitoes to speak of.

Early this morning two of the native boys came up to the house to get a cart to gather nuts from the bush. There are only two very old horses on the island.

Piianaia read an old notebook containing part of the story of Olosega and the arrival of the Jennings on this island. The story had been translated from the Tokelau language; the writing was difficult to read, the book was torn and part of the story was missing. He copied what he could and tried to get the rest of the story from Aleli Jennings. At about 10:00 he and Opiopio went down to Taulaga and took one of the preserving boxes with them. They caught several insects on their way to the village.

None of the boys were around, as they were all out working for the Copra Company. The men go out and collect the nuts which the wind had blown off the palms. They are husked and piled by the side of the road. The truck then comes and takes them to the copra shed, where the women cut the kernel out of the shell with blunt copra knives. The extracted meat is dried in the sun for three or four days. The huskers are very efficient in their work and can clean 15 to 20 nuts per minute. The husks usually are piled in the brush until they rot, or are taken to the banana patches and used as a source of humus. At Jubilee, the copra house, the nuts are broken in half by the children over empty cans, and the milk fed to the hogs. The meat is taken out of the shell

with a short knife. Accidents can be caused by cracked nuts or slippery shells. The meat is caught in a basket, in which it is carried to the drying platform. The store room has a capacity of 100 tons of copra. We rode back to Etena on the truck of loli after the work had been completed.

In the afternoon, after lunch, Piianaia saw Iuta cutting off a stump of tausunu wood, and cut it to a piece about three feet long to make a canoe. His hewing tool was an old piece of iron lashed with coconut twine to an angular piece of wood from the crotch of a tree branch.

In the evening all the men in the village, except Mr. Schultz, Pastor Peni and Johnny the foreman, went to Taulaga where a native feast was being given in our honor. The food was not yet ready when we got there so we sat around singing some of our Hawaiian songs. Piianaia also sang some Samoan songs which he knew, which were well received, and performed a few card tricks, which mystified and delighted the natives. They made him repeat the tricks several times. One of the old men said he must be the devil in person to be able to do what he did with the cards.

Our meal consisted of two pigs, four chickens, four Tokelau puddings, one plate of Tokelau jam, 20 fried bananas, 10 fried fish, and two baskets of boiled bananas. Most of the food was cooked over beds of hot coals. The Tokelau pudding was made from mashed bananas, coconut juice, and a little sugar, wrapped in banana leaves and baked. The food was spread over a large mat or tray (or laulau) made of coconut leaves, on which banana leaves, laufae, were spread. Before we commenced, one of the old men made a short speech in the Tokelau language, saying that the feast was the best that they could prepare as the land was on the threshold of famine. He also said that for years the people of Olosega had heard of Hawaii, but never had they had the privilege of knowing any Hawaiians until we had come to Olosega and now that we are here, that we had partaken of their food, that we had entertained them, that we had doctored their young ones, the best that they could do for us is to love us and treat us as one of their own people. After this, he presented us with a laufala mat as a mea alofa or

gift from the people of the village. Piianaia then got up and thanked the man on behalf of Opiopio and himself for all they had done for them, telling them that he was sorry he had nothing to give in return for the gifts. The old man then answered, saying that the gifts were not given in the hope of getting anything from us, but were gifts from their hearts. He then said grace and we started eating.

Because he had been our constant companion since our arrival, Aleli was given the honor of eating from the same lau-lau that we ate from. The other men sat around other lau-laus in groups of threes and fours. None of the women were present because Pastor Peni did not want the children to be out late tonight as tomorrow was to be a school day. During the meal the men talked and joshed with each other, creating a very pleasant atmosphere and making eating a real pleasure. After dinner they asked us questions about happenings in the outside world. We both tried to impress upon them the fact that they need not be alarmed by world conditions, because the United States would take care of them in case of a world conflict. At the conclusion of our talk we were asked to sing several of our songs. As our parting piece we sang Aloha Oe, which is their favorite Hawaiian song. We finally left for home at about 9:00 in the truck driven by Aleli. The car did not have any lights and there was no moon, so the road through the coconut forest was pitch black. A lantern was used, but the light it cast was too feeble. Many times we came very near running over some pigs that made no effort to get off the road. After about fifteen minutes we got to Etena.

Mr. Schultz told us that on moonlight nights Mr. Jennings would go down to the village. He has a hut close by the seashore, which he uses after late fishing trips. The villagers are only allowed to enter the hut by permission of one of the members of the family. A visitor stands about 25 feet away from the house and calls to someone in the house. Only on rare occasions do any of the natives dine with any of the Jennings family at their home in Etena. No natives are allowed to ride on the truck except by permission, although many of the natives are related to the Jennings family. The people are allowed to leave the island if they are discontented with conditions on the island, but so far no one has left as they are always happy here.

Friday, January 31. Rain fell all night and throughout the morning. The natives were working copra today. Every day that copra is worked 5,000 nuts are husked and cut. This is the equivalent of one ton of dried copra. There are six men who husk the nuts, and each man husks 675 nuts as his day's quota of work. For each man who husks there are two who gather the nuts from the brush and bring them to the huskers. The husked nuts are left in a convenient place where they can be picked up by the truck and taken to the large copra shed at Taulaga. There they are turned over to 12 women who split the nuts in half and cut out the meat with special copra cutting knives. Each woman has her share of the nuts (385) to cut out each day. However, all of this is play to the natives and is usually finished by 11:30 a.m. --by the time that the first load gets to the women, so in reality the work only lasts about 3-1/2 to 4 hours on copra producing days; then they have the rest of the day to themselves.

In the afternoon Piianaia walked along the beach from Etena to Vailevana hoping to find some sea shells but saw nothing but coral. When he got back the boys told him that if he wanted to find shells he should go to the beach between Olupuka and Naniu. Opiopio went on a field trip to Temafa and Telaulasi, hunting for insects. He only caught two butterflies, one moth, a spider and a beetle. The land about Temafa is very low and swampy. He observed several native birds; a lovebird, a sooty tern and a vasavosa. He was told by Aleli that these birds roost on the coconut palms and fale trees, and that their diet consists of fish. Along the lagoon there is a fence made of native wood and iron wire. In the enclosures were several taro plants that were barely growing. The fence extends about 100 feet into the lagoon. He saw a wild boar roaming the bush that tried to charge. He had scars all over his face; two teeth about 3 inches out of his mouth. When he got home the boys told him that this boar was a very clever fellow for he had eluded them many times when they set traps for him. In the evening they went swimming in the lagoon. The natives bathe at a place called Toeligo o polo, meaning "bathing place for ducks." Long ago Mr. Jennings had a flock of ducks in the lagoon but they all died of starvation.

In the evening Mr. Schultz told them about his life in the tropics. He said he had graduated from a Berlin University at the age of 21, and immediately got a job in a south seas copra firm. He lived several years in Tonga and Fiji before establishing his home in Apia. During World War I he had invested all of his savings in his Fatherland, and after the war he had lost all of his money. We seem to be having rain every day, with wind from the north. Mr. Schultz told us that we were in the season of very bad weather, and that he wouldn't be surprised if it rained until the Itasca came back.

Piianaia remarked that Schultz crabbed at Mr. Jennings for not giving him enough papalagi (white man's) food, that the food of the islands was unfit to eat, and that the natives didn't know how to cook a good meal. In refutation to this Piianaia noted in his diary that all the food that the natives eat is supplied either from the island or the surrounding sea. The natives prepare their food in whatever manner they are acquainted with, using the extracted juice from the grated coconut in most of the vegetable and fish preparations, and cooking their meats over hot coals. They hardly drink any water, but husk a young coconut and drink its liquid contents whenever they are thirsty. However, despite this simple diet, the natives are all hale and healthy, showing great stamina and endurance both on land and in the sea, and possessing powerful and rugged physiques. He had noted that at the end of several days that boys had gone to sleep at night without a morsel of food for dinner; getting up early the next morning and starting right out working again without any breakfast, then finally having a meal at noon. Still they are contented with their lot, only grumbling when Mr. Schultz yells at them. They told us that when Mr. Jennings is here they receive no such treatment from him.

. . . .

An account of many other episodes which took place on Swains Island from February 1 to 27, 1936 are to be found in the diaries of Abraham Piianaia and Killarney Opiopio. They can be read in a little volume printed separately by the Pacific Scientific Information Center.

Friday, February 28. While we were out fishing, one of the canoe captains saw the Itasca on the horizon, so all the canoes headed for shore. We went up to Etena and got our things and specimens and brought them down to the landing. When the surfboat landed, there were Mr. Miller, Commander Brown and Captain Meyer. We all went up to Etena on the truck. When we returned, all the natives had gathered on the beach with gifts. One of the old men made a speech, translated into English by Aleli. The Commander accepted the gifts and made a speech in return, thanking the natives. When he finished, the men put on a dance in his honor. After saying goodby to all, we left for the ship. There were tears in the eyes of all the women, and the kiddies all clung to us before we got into the boat. In the meantime, the men had launched their canoes and were outside the breakers waiting for us. When we got to the ship, the men climbed aboard with whatever mats and beads they had, hoping to barter these things for shirts or whatever they could get. After an hour, the ship was ready to leave. As the men got off they said goodby to Opiopio and me.

Leaving Olosega was the hardest thing I have ever done in my life.

There is one more episode which should be mentioned. Written by a distinguished American novelist, James Ramsey Ullman, this appears in Sports Illustrated for May 1, 1961, with the title "Wild Wedding on a Small Island." It is a factual and entertaining story of a wedding on Swains Island, and brings the account of the Jennings family down to its fourth generation, when Wallace Hutchinson Jennings was the manager of the island and its copra plantation, after six years in the United States Air Force.

The special event which took Mr. Ullman to Swains was the marriage of the younger brother, David Eli Jennings, to Bessie Brown, of Apia. This young man, now age 24, had served three years in the United States Navy, and was thoroughly westernized. The couple planned to settle in Pago Pago, where David had the promise of a job in radio

communications; but so many Jennings weddings had taken place on Swains that the island was chosen for the ceremony rather than Apia, where the brides' family lived.

Some fifty passengers made the trip to Swains and back to Pago Pago on the Isabel Rose, chartered for the occasion. David's sister Lilly Billings came all the way from Oceanside, California. They were welcomed and entertained by Wallace and his widowed mother, Margaret Pedro Jennings. The guests added fifty percent to the population of Taulaga village.

The author tells his story graphically and well. He was taken on a circuit of the island in the family jeep; gives an impression of Etena, the "western style homestead." Meets the school teacher, the island's "proconsul," one of the three persons on the island, with the nurse and radioman, who did not work directly for the Jennings family. He notes that there had been no further labor troubles. And he gives a very graphic account of the wedding and two days of celebration which followed, a happy blending of American and Polynesian ways.

And finally, in the autumn of 1973, we learn that Wallace Jennings, with the help of the entire population of Swains Island, is industriously carving a 1500-foot airstrip through the forest. This should bring his island to within an hour's flight of either Tutuila or Upolu, and introduce the air age to this beautiful little island.

9. TWO SPECIAL CRUISES OF THE ROGER B. TANEY

THE ELEVENTH CRUISE

The Eleventh Cruise was of special interest because Dr. Ernest Gruening, Director of the Division of Territories and Island Possessions, U. S. Department of the Interior, and Honorable Joseph B. Poindexter, Governor of Hawaii, were on board. H. H. Warner, Director of the Agricultural Extension Service of the University of Hawaii, was also a member of the party. The U. S. Coast Guard cutter Roger B. Taney left Honolulu at 2200, October 23, 1937, sighted Kingman Reef at 0925, October 27, and spent about two hours at Palmyra that same afternoon. The next day they visited Whalers Anchorage, Fanning Island; had a party of about twenty from that atoll on board for a special motion picture show; and the ship's party visited both the Cable Station area and the copra plantation area at English Harbor.

On the morning of October 30 they visited Lagoon Passage, Christmas Island, to obtain sprouting coconut palms from that area, which is dryer than Palmyra, for planting on Jarvis and incidentally to see parts of the island. In return the manager of the island, Mr. Jerabek and his wife, and Mr. Cowie, radio operator, and a Czechoslovakian mechanic were taken to the Taney for dinner and movies.

Jarvis Island was reached at 12:45 on October 31, and the party inspected the island while supplies were being landed. November 1 was also spent at Jarvis to permit Mr. Black to give instructions to the "colonists" for building the tower for the new navigational light. The ship departed for Pago Pago at 1520, arriving at Pago Pago on November 5 at 1330. The official party was met and entertained by Captain MacGillivray Milne, U. S. Navy, the Governor of Samoa and his entire staff. The entertainment included a motor trip to Leone, where a kava ceremony was held; a sivasiva dance at the Leone Boys School; and a dinner for the special guests, and a motion picture show for all. On November 6, cars took the official party to Vaitogi to see the spectacle of the turtle and the shark, and

another kava ceremony. A stop was made on the return at Fagaitua. There a fine specimen of kava root was presented to Dr. Gruening, who requested permission of the chiefs for him to take it to his Chief, the President of the United States. A feast and siva completed the festivities, followed by a dance at the Station Pavilion.

On November 7, Dr. Gruening and Mr. Warner visited the experimental farm near Pago Pago, while several of the ship's officers hiked over the hills to the north side of Tutuila. Many Samoans visited the Taney, and a buffet dinner and movie completed the entertainment on the Taney, which departed at 2300.

The Taney arrived off Apia, Western Samoa, at 0800 on November 8, and 21-gun salutes were exchanged. Governor Poindexter and official party were entertained at the home of the Administrator at Vailima, and at 1050 the Commanding Officer of the Taney, Commander E. A. Coffin, made an official call at Vailima on the Administrator, Mr. A. C. Turnbull. At 1150 the Administrator returned the call via the Taney's motor launch, and was given a salute of 15 guns. The official party and senior officers were given a formal dinner at the residence of the Administrator. The next morning they attended a kava ceremony and siva-siva at Mulinuu, headquarters village of the district. The Administrator and his Lady were entertained by the commanding officer at a lunch on the Taney. The official party visited a school in the hills behind Vailima, and others were taken on trips by buses.

Permission having been obtained from the Administrator for the Taney to visit the district of Safatulafei on Savaii, the Taney got under way from Apia at 0700, November 10, taking aboard Mr. MacKay and a native policeman, to arrange for proper reception on Savaii. The official party and officers (26 persons) were taken ashore in two longboats, manned by twenty rowers each. On the beach they were met by a brass band, which played "The Star Spangled Banner;" shook hands with a long line of Samoan chiefs and many school children; were given the usual kava ceremony; and all those who could find seats in four

ancient automotive vehicles were taken for a drive along the road which bordered the shore. They were shown native women playing cricket, house building, a native hospital, women making fine mats, a native wedding, the store of a trading post, and preparations for a wedding feast. Living conditions were found to be very primitive. Returning to the landing, the party was given a sivasiva, and all were returned by longboats to the Taney. The crews came aboard, the longboats went adrift and had to be chased by the Taney's motor surfboat, and finally departed for shore, with gifts, so that it was 1720 before the Taney could proceed on her way to Swains Island.

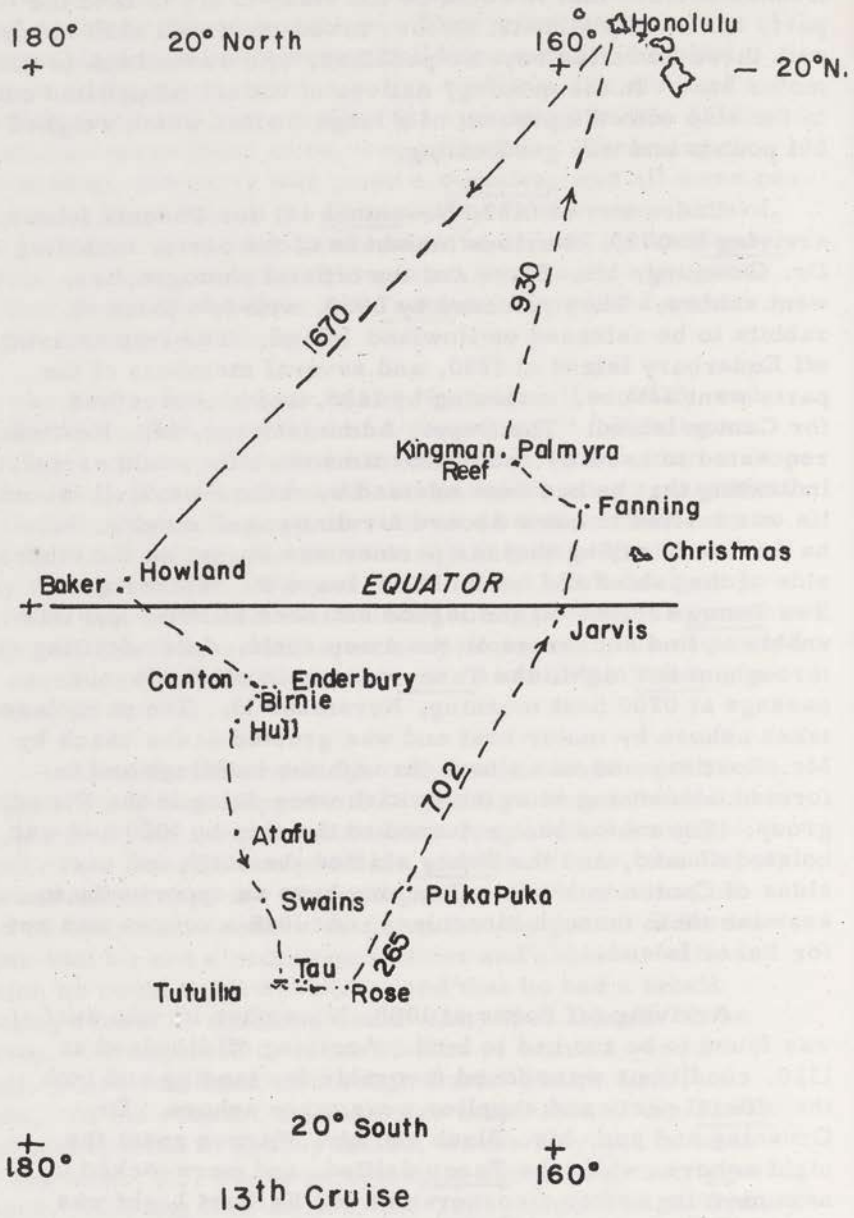
Arrived at Swains Island November 11 at 0925, and landed through the passage in a "monomoy," following an outrigger canoe. Welcomed by the owner, Alexander Jennings, who showed the official party his copra plantation, while the ship's company carried on a brisk trade for mats and Tokelau boxes. Returned to the ship at 1420 and under way for Hull Island. Passed Atafu Island, Tokelau group, at 0605, November 12. At 0715 an outrigger canoe approached, with four passengers and a native policeman, who requested an exchange for bread and tobacco. At 0810 the Taney proceeded on course.

At 0810, November 13, reached the southwest shore of Hull Island and stopped off at a village where the Union Jack was flying from a staff near a long shed. A small skiff came out with two paddlers and Mr. Jones, the Deputy Commissioner for the Phoenix group. He stated that he and 39 Tokelau islanders made up the population of the island; that he had a radio transmitter and receiver with which he could work Australia; and that he had a small sailing vessel in which he could visit other islands of the group. He expected to raise 90 tons of copra a year on Hull, which was handled through Burns-Philp, Ltd., of Apia. At his request his skiff was taken aboard the Taney and transported to Sydney Island, where they had no boat of any kind; Mr. Jones returning to shore in an outrigger canoe. Leaving Hull at 1105, the Taney anchored off Sydney Island in 90 fathoms at 1550. After making a reconnaissance of the landing place, Commander Coffin and Lt. Commander

Kenner decided that it would be too risky to try to land the party in the ship's boats; so they towed the small skiff ashore, with three Hawaiian boys as paddlers, who swam back to the motor boat. In the evening, natives of the island paddled out to the ship with the present of a large turtle, which weighed 261 pounds and was good eating.

Under way at 0152, November 14, for Phoenix Island, arriving at 0720. Various members of the party, including Dr. Gruening, Mr. Black and the official photographer, went ashore. They returned by 0930, with two pairs of rabbits to be released on Howland Island. The ship arrived off Enderbury Island at 1240, and several members of the party went ashore, returning by 1435, and a course was set for Canton Island. The Deputy Administrator, Mr. Rostier, requested to know by radio what time the ship would arrive, indicating that he had been advised by radio from Hull Island. He was invited to come aboard for dinner and movies, but he declined, saying that his partner was absent on the other side of the island and he could not leave the "homestead." The Taney arrived off the lagoon entrance at 1806, and was unable to find anchorage on the steep shelf. After drifting throughout the night, the Taney was again off the lagoon passage at 0700 next morning, November 15. The party was taken ashore by motor boat and was greeted at the beach by Mr. Rostier, and was shown through the buildings and informed concerning what the British were doing in the Phoenix group. The motor boat returned to the ship by 1000 and was hoisted aboard, and the Taney skirted the north and east sides of Canton to let Dr. Gruening have an opportunity to examine them through binoculars. At 1048 a course was set for Baker Island.

Arriving off Baker at 1000, November 16, the surf was found to be too bad to land. Arriving off Howland at 1320, conditions were found favorable for landing and both the official party and supplies were taken ashore. Dr. Gruening and son, Mr. Black and Mr. Warner spent the night ashore, while the Taney drifted, and were picked up next morning, after a cornerstone for Earhart Light was laid. All were aboard by 1015, November 17, and the vessel proceeded back to Baker Island. Arriving off Baker



at 1345, conditions were found favorable for landing on the west side. Supplies were landed safely and the official party was able to inspect the island. At 1930, November 17, all boats were hoisted and a course set for Honolulu, arriving November 23 at 0730, after a cruise of 5600 miles.

THE THIRTEENTH CRUISE*

What might otherwise have been a routine cruise became for us a real, 5,500 mile scientific expedition. Hawaii's Delegate to Congress, Samuel Wilder King, wanted first-hand information concerning islands of interest to America in the equatorial Pacific. Questions concerning them were constantly being put to him in Washington.

King, as a Lieutenant Commander in the U.S. Navy, had been the naval leader of a scientific expedition in 1924, on board the U.S.S. Whippoorwill, but the cruise had not included American Samoa.

To the little group of us--scientists, engineers, and technical experts, who were privileged to go along, the trip gave ample opportunity to explore a representative cross-section of the south seas. Visits were made to Islands high and low, barren and luxuriant, ranging from the virgin forests of Samoa's volcanic islands, to the treeless coral reefs and sand of Jarvis and Baker, and the dreary coral dot atop Kingman Reef.

The cruise took just a month. Landings were made on ten islands, all American, with stays of from a few hours to three days. Nine other islands were observed in passing. Some of these islands were atolls, in turn made up of 3 to 52 islets. In memory let us take you with us on this cruise, so that you, too, may know a little more about other parts of Polynesia over which fly the Stars and Stripes.

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* Adapted from a newspaper column, "The Stars and Stripes in the Central Pacific," Honolulu Star Bulletin, September 3, 1938, by E. H. Bryan, Jr.

First, a word about our vessel, the U. S. Coast Guard Cutter Taney. The name is pronounced "taw-nee," somewhere between the color and the Polynesian god, Tane. No private yacht could have been more comfortable. In fact, one might say that we traveled on a two and a half million dollar private yacht, manned by 108 courteous and efficient officers and men. Passengers, at the maximum, numbered 34, bringing the population of our floating hotel up to 142. Excellent food, movies every evening, careful consideration given to our slightest wish, no cruise could have been more delightful.

"Our host," Commander E. A. Coffin, did everything within his power to facilitate our making the most of the trip--landing us here, rowing us there, routing and timing the course of the vessel so that we were at the right spot at just the right time. The business of transporting supplies, water, radio and other equipment, and colonists, to five tiny equatorial islands, of course came first; but the expressed or anticipated desires of the "passengers" came a close second.

Each officer and man on the ship played his part to make the cruise one long to be remembered. Lt. Cmdr. John W. Kelliher, able executive officer, saw to it that all activities ran smoothly. He was our purser, freight clerk, boat dispatcher, counselor, and vocal entertainer. Lt. Cmdr. C. W. Lawson, in addition to his duties as Chief Engineer, saw to it that there was a talkie on deck each evening. Lieut. E. G. Brooks, navigating officer, "hit every island right on the nose"; and when his services were not required on board, his ability as a fisherman kept the entire ship supplied with huge ono, tuna, ulua, and other choice fish. And so on, for all the officers and men, but space does not suffice.

The list of passengers, besides Mr. King and the writer, includes Richard B. Black, in charge of the American Equatorial Islands for the U. S. Department of the Interior; J. Walter Doyle, Honolulu Collector of Customs; Edward B. Brier, engineer with the Hawaiian Dredging Company; Lieut. E. H. Strange, U.S.N., aerological

expert, and two assistants; Lieut. T. B. Anderson, U.S.A. Air Corps; Lieut. Charles Billingsley, U.S.A. and one assistant, Sergeant Ralph Wilson, making his 13th trip; Arthur Beach, radio engineer; George C. Munro, ornithologist, and two assistants, Walter Donaghho and William Emory, who helped him band birds on the islands; Jack O'Brien of the Hilo Tribune-Herald and Associated Press; Henry T. Zerbe, who helped to install radio equipment; and James C. Kamakaiwi, Sr., teacher at Ninole School, North Hilo, and father of a veteran "colonist."

Leaving Honolulu on the evening of Saturday, July 16, a smooth and uneventful run of 1670 miles was made to Howland Island, where we arrived at 9 A.M. on the 22nd. Itascatown, as the camp on the island is called, is located near the middle of the western, concave side. It consists of half a dozen frame houses and sheds, and the stone and cement lighthouse, which with the flagpole, flying the Stars and Stripes, adds another 20 feet or so to the height of the land, making the island visible in clear weather from a distance of ten or a dozen miles.

The entire western beach is sandy, with here and there slabs of sandstone thrown up by storms. Much of the rest of the shore is rough and rocky. Except for some small clumps of kou trees in a small depression east of the camp, the entire surface is flat and covered only by low herbs. The surface lent itself readily to the grading of airplane runways, prepared in 1937 for emergency use. This field was to have been used first by Amelia Earhart and her companion Frank Noonan, July 2, 1937. It still remains unused. The monument which supports the light is dedicated to these intrepid fliers who lost their lives in the cause of world aviation.

The writer found the island much improved over its condition at the time of his previous visits of March and April 1935. In addition to the airplane runways, the lighthouse, and the substantial dwellings, there was an air of wellbeing about the island. Five young kamani trees, three heliotropes, half a dozen wind-blown ironwood trees, and some newly sprouted coconut palms gave promise of future

shade, provided the colonists kept on watering them. The grounds were well laid out, with neat walls and paths edged with stones.

After a one-day stop, dropping off the ornithologists so they could band birds all night, we proceeded to Baker Island 36 miles away. Baker lies 13 miles north of the equator, and is a trifle smaller and even more barren than Howland. Meyerton, the camp, is located near the middle of the western side, on the crest, where long ago stood the camp of the guano diggers. Part of the sandstone walls of "Judd hale," former "governor's" residence, and bricks from two of the four large cisterns have been used in the building of the lighthouse. Toward the northeastern side are several low mounds, between which have been planted some ironwood trees and a clump of coconut palms, eight of which are still growing.

Landings on Baker are notoriously bad, well managed boats having been upset on more than one occasion. We were favored, however, with such calm weather that all supplies and equipment were put on shore by mid afternoon, and we were soon on our way back to Howland, a two-hour run, arriving at 6 P.M. Here we put ashore a radio operator, Herbert Chang, transferred from Baker, picked up the bird-banding party, and were under way at once for Canton.

We crossed the equator at about 4 A.M. the next morning, Sunday, July 24. The previous evening Davy Jones had come aboard and served summons on a large group of trembling "polliwogs." The charges against them were emphasized, at the hands of zealous shellbacks, by a deluge of ripe tern eggs and a good wetting down on deck.

Promptly at 10 A.M. Father Neptune and his Royal Party appeared. After many ordeals, including the water tunnel, the electric triton of the Royal Devil, confessing before the Royal Chaplain, kissing the knee of the Royal Queen and the foot of the Royal Baby, swallowing the royal pill (a very bitter one) at the hands of the Royal Doctor, being painted by the Royal Navigator, shorn and shampooed by the Royal Barber, and duly ducked in the royal tank, the

High Chief Leato and Talking Chief Pai (with the fue) on Tutuila, Samoa.

A typical Samoan fale.

Fita Fita Guard, Pago Pago Naval Station, 1936.

Samoan children at Vaitogi chant to attract the famous shark and turtle into a little bay.

King Neptune's Royal Party greets all sailors of the sea as they cross the equator for the first time.

King Neptune, his Royal Consort, and their Royal Baby insure that the Initiation ceremonies are "properly" carried out.

lowly polliwogs were admitted to membership as shellbacks in the realm of Neptunus Rex, mighty ruler of the deep. This being the writer's 9th crossing of the equator, he had a ringside seat as a member of the Royal Party. It was all good, although decidedly unclean fun, and a trifle barbaric. Sensitive souls should avoid making their first trip across the equator on a coast guard cutter.

Early in the morning of the 25th we sighted Canton Island, famed as the locale of the 1937 solar eclipse expedition. As we approached the habitations, just south of the main lagoon entrance on the west wide, we saw the British Jack and the Stars and Stripes floating from two flagpoles, side by side. Ashore we were as warmly greeted by G. V. Langdale, F. I. Fleming and their Fijian servant, Siamona, who make up the British colony, as we were by our own four Hawaiian boys and the scientific party, Hanslee Towill, surveyor, Alfred Voigt and Alexander McGalliard, radio technicians--which three we brought back with us, their missions accomplished. There was one greeting, however, which eclipsed them all. That was the one between James Kamakaiwi, veteran colonist, and his father.

Canton is the largest and most northerly of the Phoenix group. The vegetation is somewhat more luxuriant than that of the two islands which we had just visited. About eight of the coconut palms which had been planted a third of a century ago are still growing; and a large proportion of the many set out on the west side by the New Zealand eclipse expedition also seemed to have survived their first year.

Only a little guano was dug on Canton, but the atoll was well known to whalers. Today it possesses a two-fold value. Parts of the hard rim could be used, almost without grading, as a landing field for airplanes; and there are stretches of the lagoon between coral heads and reefs where seaplanes could alight and take off. Being on the direct route between Hawaii and Fiji, its future use in trans-Pacific aviation is an assured fact. It was with pleasure that we learned that Great Britain and the United States have agreed to its joint utilization, news which reached us at Fanning Island. Most cordial relations exist between British and Americans all through the central Pacific.

After landing supplies, new radio equipment, and a group of technicians to install it on Canton, we proceeded to Enderbury Island, 42 miles away, arriving in the early morning of the 26th. In contrast to Canton, which is a large lagoon surrounded by a narrow strip of land, Enderbury is nearly solid land with the lagoon reduced to a shallow puddle. Its vegetation is much like that of Canton. Three small clumps of coconut palms were in much poorer condition, alas, than when the writer first saw them in 1924.

After one day on Enderbury, we returned to Canton, spending another day there in exploring the lagoon by launch, and dedicating the Canton Island light to the memory of Captain Edwin C. Musick and the crew of the lost Samoan Clipper.

Next morning, July 28, we again headed south, passing close to the low pile of sand and coral which is Birnie Island, and reaching Hull Island in the early afternoon. Hull is an atoll, shaped like a conventional parallelogram, its eastern islets covered with low scrub forest, the main western islet planted with a fine grove of coconut palms. The enclosed lagoon of greenish water measures four miles by two.

The manager of the island, Capt. J. W. Jones, came off in his skiff, as did some of the 31 Tokelau natives who work the plantation, bringing with them native mats, fans, shell leis, and other objects for trade. Right there is where the ship's company was first infected with the strange malady which was diagnosed by Dr. J. M. Wolf, ship's physician, as "Trader-Hornitis."

When next day we reached Atafu, northern island of the Tokelau group, the condition became acute. A goodly share of the 244 male population came on board, loaded with mats, hats, Tokelau boxes--the native treasure chests--shell beads, and other fascinating but useless souvenirs. Some of us had anticipated the condition and had brought along extra soap, cigarets, undershirts, cast-off garments, and the like. Others literally traded the shirts off their backs.

The same scene was repeated at Swains Island, Tau, and Pukapuka, until an official census showed that 142 of us had acquired 4,267 articles including 59 baskets, 685 strings of shell beads, 115 kava bowls, 67 fans, 164 hats, 133 Tokelau boxes, 241 hula skirts, 114 canoe models, 356 tapas, and 1,613 mats.

We didn't particularly need these; we simply had the common South Sea complaint. I had my specialized quota, but practically all of what I acquired was for the Bishop Museum.

Half a day was spent at Swains Island, a doughnut of land thickly covered with coconut palms and trees, surrounding a peaceful lagoon. After three generations of ownership by the family of an American and a Samoan princess, the island was officially made part of American Samoa in 1925. Some of us rode in the single, aged Ford car along a section of the shady belt road from the landing and village to the "residency," which is appropriately called Eden.

Mrs. Eli Hutchinson Jennings, 3rd, made us welcome, in the absence of her husband, the owner, who was in Pago Pago on business. The 205 mile run to Tutuila was made over night.

Three days, July 31 to August 2, were spent at Pago Pago, allowing us to see a few of the sights of Tutuila. We were delightfully entertained by Governor E. W. Hanson, members of the naval colony, and the chiefs and people of American Samoa. The first afternoon the governor personally conducted a party of us to Vaitogi, on the south side of Tutuila, where we saw the famous turtle and shark swim about a rocky little cove in response to the singing of the Samoan children. We also inspected the island government experimental farm and caught a glimpse of Feleti School, established by the Barstow Foundation.

Native kava ceremonies were given in our honor by High Chief Leato, governor of the eastern district, at Alofau; and by High Chief Tuetele, governor of the western district, at Leone. Delegate King addressed an assembly of the teachers' summer session at Poyer School.

Of special interest, at the naval station, was the new public library, a substantial wooden building designed by Lt. Cmdr. P. J. Halloran, built after the style of a native Samoan fale. A dance and entertainment was given for us at the officers' club; and in return a buffet supper was served on board the Taney, with a talk by R. B. Black concerning adventures with Admiral Byrd in the Antarctic, illustrated by motion pictures.

Proceeding to the Manua group of American Samoa, 60 miles to the eastward, the islands of Ofu and Olosega were inspected in passing, and part of a day was spent on Tau. Here High Chief Tufele, a former student at the Hilo boarding school and a star athlete, came out in his longboat, rowed by decorated oarsmen, and took us to Luma where we were entertained with kava, a native feast, and siva dances. Tau is a volcanic island, 3,056 feet high, covered with luxuriant forests.

Next day, some of us went ashore for two hours on Rose atoll, tiny easten outpost of Samoa, 80 miles east of Tau. It consists of a circular ring of coral, about two miles across, with a single narrow entrance on the west, a sand pile on the north reef, and a small oval islet on the east rim, half of which is covered with a solid grove of buka trees, the tops of which, 90 feet above the sea, form the only landmark.

Our course from Rose to Jarvis, 985 miles, lay close to the Danger Islands. On board was a copy of Robert Dean Frisbie's "Book of Puka Puka," the reading of which produced an overshelming desire to pause and have a look.

We couldn't land, but we had a good look at the three islands of the group. Frisbie and the resident agent, Geoffrey Henry, and his wife came on board from Puka Puka, the northern islet, followed by half the inhabitants, with the result that from there on the ship was destitute of cigarets, soap, and undershirts; and the passengers were decidedly low on clothing. Frisbie and the resident agent needed staple foodstuffs and medicinal supplies, there having been no boat for over eight months, so our stopping was a great favor to them.

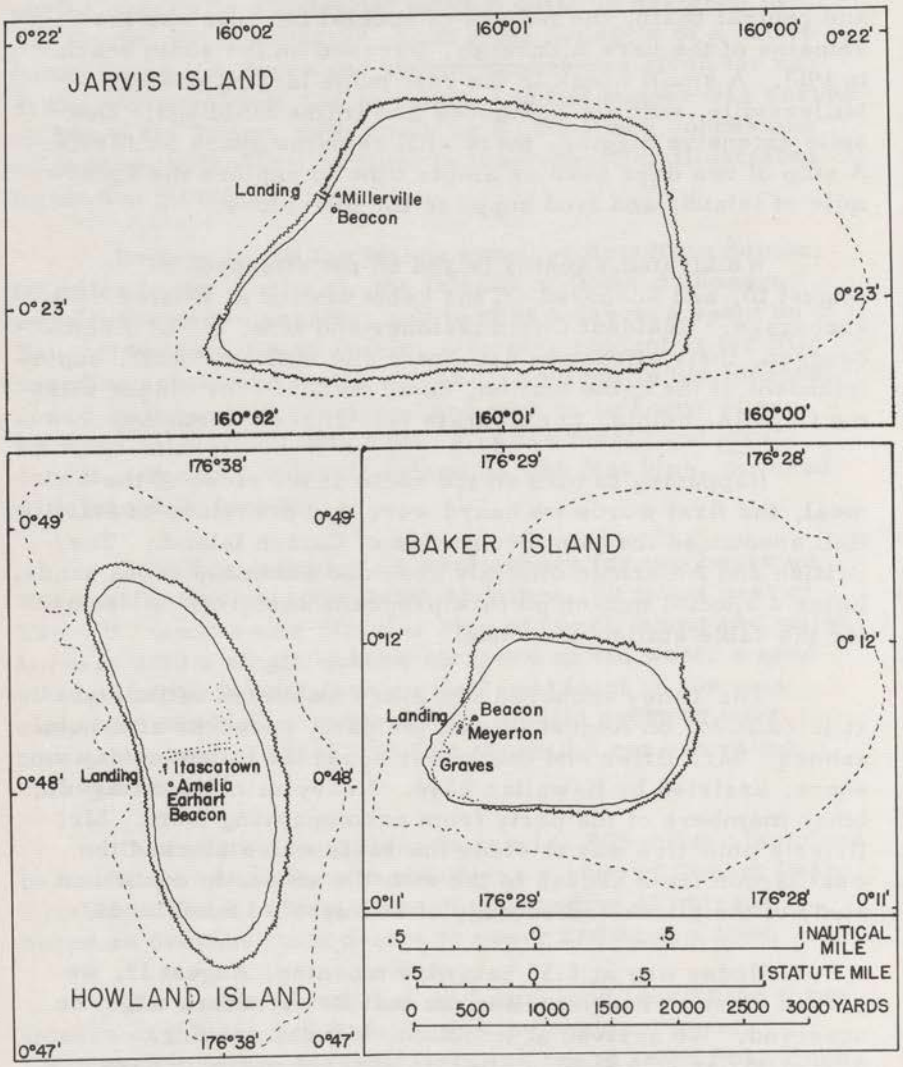
Jarvis, reached on August 8, was a repetition of Howland and Baker. Of sand and coral, with high beach rim and central basin, the feature of special interest was the remains of the bark Amaranth, wrecked on the south beach in 1913. A small break in the reef made landing easy at Millersville, with its lighthouse and frame buildings. Despite extensive digging, there still remains guano on Jarvis. A stop of two days gave us ample time to explore the square mile of island, and land supplies for the colony.

We sighted Fanning Island on the afternoon of August 10, and anchored off the cable station at Whaler anchorage. Resident Commissioner and Mrs. E. L. Leembruggen, their attractive daughter, and William Smith, superintendent of the cable station, came on board for dinner with the Captain, helping to celebrate Mr. Black's birthday.

Happening to turn on the radio at the close of the meal, the first words we heard were that Secretary of State Hull announced the joint occupation of Canton Island. The British and American officials rose and solemnly shook hands. Later a special motion picture program was given on deck for the cable station personnel.

The Taney anchored two miles westward of Palmyra at 12:20 P.M. on August 11, and the party spent the afternoon ashore. Mr. Brier and the writer spent the following day on shore, assisted by Hawaiian boys. Heavy rain discouraged other members of the party from accompanying them. Mr. Brier's objective was to study the reefs which blocked the west lagoon from access to the sea; the writer to continue a study of the plants and ecology of Palmyra's lush islands.

Under way at 6:55 Saturday morning, August 13, we passed close to Kingman Reef so that its structure might be observed. We arrived at Honolulu, Monday evening, August 15, at 7:30 P.M., after an absence of thirty days and 30 minutes, during which the U. S. Coast Guard Cutter Taney had covered 5,516 miles.



Maps of Jarvis, Howland and Baker Islands, drawn to the same scale, showing the fringing reefs and the limits of water less than 20 fathoms (120 feet) deep.

10. SCIENTIFIC DETAILS ABOUT THE ISLANDS

JARVIS ISLAND is located about 22 nautical miles south of the equator in the Line Islands. It is about 200 miles southwest of Christmas Island. It is a low, saucer-shaped coral island, measuring 1-3/4 miles east and west by a mile in greatest width. Its area is 1,024 acres, about 1.6 square miles. On the north, west and south sides the beach rises steeply from the fringing reef to a height of about 20 to 22 feet above sea level, forming a sandy ridge. The highest point on the island (23 feet) is on the northwest side. Seaward of this is a small break in the fringing reef, enlarged by blasting to facilitate landing. Here was located the colonists' camp, named Millerville in honor of William T. Miller.

The central portion of the island is depressed practically to sea level, in part the result of guano digging. The depression contours on the map, drawn by Chester K. Wentworth in 1924, are emphasized by the characteristics of soil and vegetation. The lowest, central portion is bare and generally moist. At times one would sink into it as one would walking across wet cement. Around this bare part, and up to a height of about five feet above sea level, the surface is covered by a meadow of pickleweed (Sesuvium), except for rough, bare flats from which guano has been sifted, leaving rows of coral rubble. The portion between 5 and 15 feet elevation is sparsely covered with herbs, of which purslane (Portulaca) is the dominant species, with scattered Boerhaavia vines and 'ilima bushes. The crest of the surrounding sandy ridge bears a narrow cover of Lepturus bunch grass.

In 1935, when the "colonists" first established their camp near the landing, there was a patch here of very dry "puncture vine" (Tribulus), eliminated because of its sharp thorns. And on the steep beach west of Millerville a few bushes of Abutilon, a large shrub resembling a fuzzy 'ilima (Sida). Both these plants doubtless had been introduced by visitors to the island, perhaps the guano diggers. The other plants on the island were of species found on most of

the drier islands of the Central Pacific (see list) and may have arrived by natural means.

The lower, outer edge of the beach is extended as a fringing reef, up to about a hundred yards in width. This dries at very low water. The water deepens gradually for another hundred yards or more on the north, west and south sides, and then drops abruptly to a considerable depth. However, off the east side is a large area of shoal water, which was sounded by the Itasca in 1935 and 1936. This shoal does not provide a safe anchorage, since the prevailing winds come from that direction; and the other three sides are so steep-to that ships cannot anchor with safety. Despite this, many of the sailing ships which carried guano from the island managed a "toe-hold" while loading guano; but on several occasions they courted disaster on jagged reefs should sudden shifts of wind occur. In smooth weather landing was not difficult at the break blasted through the reef on the northwest side; but on some occasions even the well-handled, self-bailing boats used by the Coast Guard found landing difficult here.

The history of Jarvis Island is given in my book, American Polynesia, so only the essentials of this account are repeated here.

Jarvis is said to have been discovered by Captain Brown of the English ship Eliza Francis, April 21, 1821. The island also has been called Bunker, Volunteer, Jarvis, and Brook or Brock, and some of these names appear on charts or lists of discoveries prior to 1821. Captain Michael Baker landed from the ship Braganza in 1835 and again in 1836, and from the Desdemona in 1845. The U. S. Exploring Expedition's ships Peacock and Flying Fish surveyed the island in December 1840.

It is stated that guano samples were taken in 1855. In March 1857, Alfred G. Benson , of New York, and Charles H. Judd, of Honolulu, landed from the Hawaiian schooner Liholiho (Captain John Paty) and claimed the island for the American Guano Company, under the Guano Act of 1856. A few months later the U.S.S. St. Mary's,

under Commander Charles Henry Davis, surveyed the island and made formal claim in the name of the United States.

February 27, 1858, C. H. Judd took 23 Hawaiian workmen to Jarvis on the ship John Marshall, Captain Pendleton, to commence digging operations. Buildings were erected and moorings laid. From 1858 to 1879 there is a continuous record of guano shipments from the island, making it one of the most extensively exploited of the guano islands. On July 26, 1879, the American schooner Jos. Woolley, under Captain Benj. Hampstead, "took all the men and material on board" and sailed in turn to Baker and Howland, where the guano works of these islands were also closed.

On June 3, 1889, the island was annexed by Great Britain. In 1906 it was leased to the Pacific Phosphate Company of London and Melbourne, but very little, if any, digging was done.

On August 30, 1913, the barkentine Amaranth of San Francisco, C. W. Nielson, master, with a cargo of coal from Newcastle, New South Wales, for San Francisco, stranded on the south shore of Jarvis. The story of this mishap, and the effect that it had on the "colonists" later, is told in detail in Chapter 4 of this book.

In 1924 a scientific party from Bernice P. Bishop Museum visited Jarvis on the U.S.S. Whippoorwill and made a biological survey of the island. At that time Dr. Chester K. Wentworth made a careful contour map of the island, now preserved in Bishop Museum. The accompanying map is based on this.

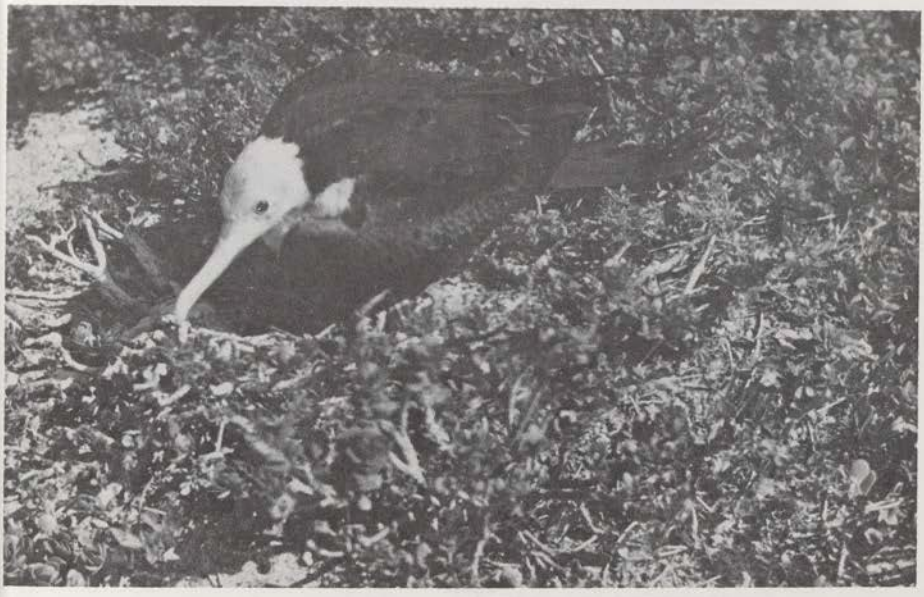
This brings the history down to March 26, 1935, when the "colonists" landed and the American flag once more was raised over Jarvis. In other parts of this book the history of this island is continued until the beginning of World War II, when the last of the "colonists" were withdrawn.

Even though uninhabited, the island continued under the jurisdiction and administration of the U. S. Department of the Interior. Yearly visits were paid to the island by U.S. Coast Guard cutters.

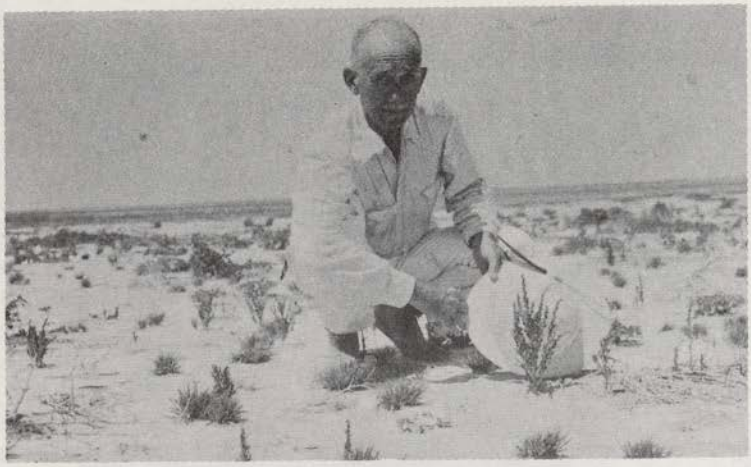
Jarvis was visited by a party of oceanographers, representing the Scripps Institution of Oceanography, during the International Geophysical Year, an 18-month period from July 1, 1957 to December 31, 1958. Harold G. Jewell, Jr., who now lives in Kaneohe, Oahu, was a member of the party for about 13 months. Mr. Jewell published an interesting account of his observations on Jarvis in the Hawaiian Shell News, volume IX (2), December 1960, to IX (4), April 1961. He was an enthusiastic shell collector, and gives identifications of many of his shells. In the April issue he speaks about his conversations, after his return, with various colonists who had been on Jarvis, especially Paul Gordon Phillips, who had been on the island from August 2, 1941 to the final evacuation of the island February 9, 1942. Mr. Jewell published a map of Jarvis, annotated with such information as the location of shell holes toward the eastern end of the island, which had been made by a japanese submarine which had surfaced off the west shore of the island. The four "colonists" on the island, Bernard Hall, David Hartwell, Karl Jensen, and Paul Gordon Phillips, thinking that this was a United States Navy submarine that had come to take them off the island, rushed down the beach joyfully waving their arms. The submarine unlimbered its deck gun and commenced to fire upon the completely defenseless unarmed "colonists." Fortunately, owing to poor marksmanship, no one was hurt. The "colonists" scattered and ran, hiding inland on the island.

Mr. Jewell also gives some notes on the geology of Jarvis. He says: "Close inspection of the topography... seems to indicate that the island was horseshoe-shaped with a lagoon opening toward the east. The lagoon gradually filled in and a low rim was built up on the east shore.... Gravity-metric measurements made on Jarvis during the I.G.Y. indicate a mound or peak underlying the island, of dense mass, probably volcanic basalt. If this is so, then Jarvis is a relatively thin overlay of coral limestone on a submerged, extinct volcanic formation. The surrounding [slope] drops abruptly to a fairly even ocean bottom at about 2800 fathoms (16,800 feet), in all directions except to the east where the depth increases more gradually."

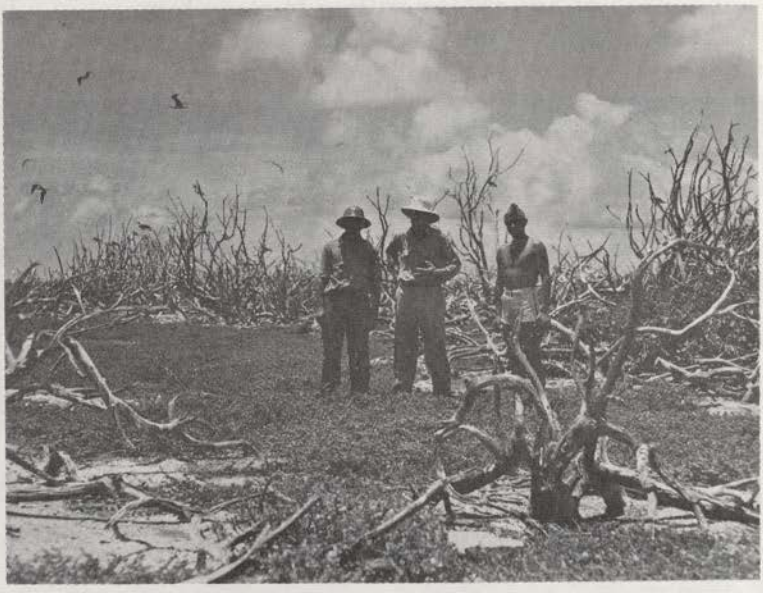
Boobies are always willing to play clown.



Frigates don't scare, but they are wary.



Albert F. Judd identified a plant, found on Jarvis by Private Graf, as a species of Amaranth.



The remnant of the kou tree "forest" on Howland is visited by members of a ship's party.

Mr. Jewell describes a violent storm that he experienced on Jarvis which started on January 14, 1958 and continued for days. It agrees closely with the storms described by the "colonists" during their stay 20 years earlier. Regarding changes in Jarvis he says: "In the Millerville landing area almost every evidence of the Hawaiian colonists has disappeared.... Only the very solidly built lighthouse is still standing."

Warren B. King presents an interesting note concerning the "conservation status" of Jarvis in recent years. It is based on the various visits of "POBSP" (Pacific Ocean Biological Survey Program) parties under the auspices of the Smithsonian Institution, Washington, D.C. He says: "The IGY scientists' house, a few sheds, trash, an old lighthouse, and a tramway are the only signs of human habitation remaining. The settlers brought cats with them, and these now feed on seabirds. Rats formerly occurred on Jarvis, but were probably extirpated by cats. POBSP personnel killed over 200 cats in 1964 and 1965, and in later visits in 1967 and 1968 eight or nine were seen in a day or two. Jarvis has a large Sooty Tern colony numbering 1,000,000, and large populations of both frigate birds and the three boobies, e.g. 9,000 Blue-faced Boobies. Elimination of the remaining cats would make Jarvis among the most important seabird islands of the Central Pacific. There is presently no special protection afforded the birds." Dr. King credits this information to the POBSP unpublished reports and personal communications from Roger B. Clapp. (Conservation status of birds of Central Pacific Islands, The Wilson Bulletin, vol. 85, No. 1, March 1973; reprinted in the Elepaio, vol. 34, nos. 6, 7, and 8, December 1973 to Feb. 1974.)

HOWLAND ISLAND is low, narrow and elongate, shaped like a flattened weenie roll. It measures a little over a mile and a half, roughly north and south, by a half mile wide, with a land area of 0.64 square miles or 410 acres. The maximum elevation is about 18 to 20 feet. The entire western beach is low and sandy; that on the eastern, or weather, side a little higher and more abrupt, faced with

sandstone slabs and coral rubble. Unlike Jarvis and Baker, there is no pronounced beach crest or central depression. The entire surface is fairly flat, except for some trenches near the north end, and toward the south in the vicinity of the kou (Cordia) patches, which may have been the result of guano digging or attempts at civilization. Much of the surface lent itself to the construction of the emergency air strip, built in 1937, and described in detail in Chapter 5.

The entire island is surrounded by a fringing reef which is widest at the north and south ends of the island, narrower along the east side, and only 100 to 200 feet wide along the west side. The reefs are just awash at low water. They deepen rapidly beyond their furrowed edge. There is shoal water off the two ends of the island for a few hundred yards.

Much the same kinds of plants occur on Howland as are described for Jarvis and Baker, with the addition of small clumps of kou (Cordia subcordata) trees, reduced by dryness and the nesting birds to low, dry branches. The usual species of sea and migratory birds are found on Howland. A small variety of Polynesian rat was so abundant from time to time as to cause distress to persons living on the island. (See article by Llewellyn Howland, Pacific Science, vol. 9 (2):95-106, 1955, with scientific observations by J. D. Greenway, Jr.)

The climate is warm and dry, although seldom disagreeably hot because of the cool breeze from the surrounding sea. A column of warm air rising from the sandy flat helps to prevent the formation of clouds directly over the island. This tends to prevent rain from falling in the daytime, but there may be light showers during the night, particularly in the early morning. The prevailing wind is from the eastward, a little south of east in summer and north of east in winter.

It is very likely that Howland and Baker, as well as islands in the Phoenix group to the south, were visited by parties of Polynesians. On Howland the evidence for this is slight. The presence of rats and kou trees, as well as

stone-paved paths on the southeast end of the island may date no further back than the guano digging period. There are definite Polynesian shrines on the three southern islands of the Phoenix group, as well as on various of the Line Islands. But most of these islands were more stepping stones on voyages, or places of refuge for fishermen blown off their course, than evidence of permanent Polynesian residence.

As was the case with the other islands of the central Pacific, Howland was "discovered" by a number of vessels. Captain George E. Netcher of New Bedford, who visited Howland on the whale ship Isabella, September 9, 1842, is credited with giving the island its name, it is said, for the lookout who first sighted it. But the island had definitely been seen earlier. It was called Worth Island, after Captain George D. Worth, who saw it from the New Bedford whaler ship Oeno, about 1822. The American whale ship Minerva Smyth, Captain Daniel McKenzie, of New Bedford, saw it on December 1, 1828. After that many whalers stopped there, and on it an occasional ship was wrecked.

Howland was another of the islands claimed by Americans under the "guano act" of 1856. On February 5, 1857, Alfred G. Benson and Charles H. Judd landed from the Hawaiian schooner Liholiho (Captain John Paty), raised the American flag, and took formal possession in the name of the American Guano Company of New York, by erecting a small house and "leaving various implements of business." They stayed until February 26th, removing a generous sample of the guano which they found in great abundance.

They did not begin work on Howland immediately. On this same cruise they also visited Baker and Jarvis, and commenced digging operations on these a short time later under Bonds 1 and 2 put up by the American Guano Co., October 28, 1856. Claim was not made to Howland until December 3, 1858 (Bond number 4). The reason for this was due to competition with the United States Guano Company. Representatives of the American Guano Co. were landed on Howland in June 1859. The same month the ship Ivanhoe arrived with representatives of the United States

Guano Co., but left disappointed. Despite this, the latter company placed their representatives ashore on Howland. In February, 1861, Captain Stone of the American Guano Company's brigantine Josephine landed on Howland and politely notified two agents of the United States Guano Co., whom he found there, to be ready to leave whenever the opportunity offered. Thereafter Howland was visited regularly by vessels of the American Guano Company, which brought supplies to the guano islands.

The years 1870 to 1872 marked the peak of guano digging on Howland. Between August and December 1870, with Captain Ross as superintendent, seven ships (German, British, and American) were loaded with 7,600 tons of guano in 109 working days, a record for this guano island. American guano digging enterprise seems to have come to an end on Howland in October 1878, when "Capt. Jos. Spencer, wife and 3 children, E. Wheeler, Chas. Hines, John MacWiggins, Gabriel Holmes, and 34 native laborers" returned to Honolulu aboard the Joseph Woolley.

John T. Arundel and Co. occupied Howland between 1886 and 1891, using 100 men from Niue and the Cook Islands to perform the physical labor. Interesting notes concerning this period are given by Albert F. Ellis in "Adventuring in Coral Seas."

Howland was visited by Trip "B" of the Whippoorwill Expedition from September 23 to 29, 1924. This U.S.S. minesweeper carried a party of scientists under the leadership of Dr. C. Montague Cooke, Jr., noted authority on land shells, and included Erling Christophersen, botanist; T. A. Jaggar, geologist; George W. Collins, geographer; Theodore Dranga, conchologist; Bruce Cartwright, archaeologist; George Munro, ornithologist; W. C. Ramsey, meteorologist; Theodore Cooke, marine zoologist; and Edward L. Caum, entomologist and official photographer.

The period from March 30, 1935 to the final evacuation of the island in February 1942 is discussed elsewhere in this book. The special emphasis is on the preparation of an emergency air strip for the coming of Amelia Earhart, and how this was never used.

Howland Island seems to have escaped being used by military personnel during World War II, owing to the extensive use made of neighboring Baker Island. After the wartime activities, like Jarvis and Baker it received yearly visits from the U. S. Coast Guard from September 1948 to date.

Quoting again from the article by Warren B. King:

> "The airstrip is now obscured by vegetation. The lighthouse and a few low stone walls remain to tell of human occupancy. Cats, introduced by the colonists, eliminated the once abundant Polynesian rats and then were extirpated in 1964 by POBSP personnel. Cats reappeared in 1966 after a visit to the island of U. S. Military, and are evidently still present.
>
> "Howland has a large Blue-faced Booby population (3,000 birds) and a Sooty Tern population of up to 200,000 birds. Wedge-tailed Shearwaters nest in small numbers in spite of the cats. This island would quickly become among the most significant seabird colonies in the central Pacific if the cats were removed and the island were given protection from disturbance."

BAKER ISLAND is roughly oval in outline, about a mile east and west by 1,260 yards wide. The area is 0.53 square mile or 339 acres. The beach rises abruptly from the shore line around its circumference, particularly at the western end, where a point has been built out from the rest of the oval. The height of the crest is about 15 to 20 feet above mean sea level. This barrier keeps the pounding surf out of the central basin. The beach on the west is sandy; that on the other three sides is largely composed of broken reef rock and sandstone shingle. The sandy point at the western end seems to be building out over the fringing reef which surrounds the remainder of the circumference. Its extent changes with the season. The irregular width of this reef can be seen in the sketch map.

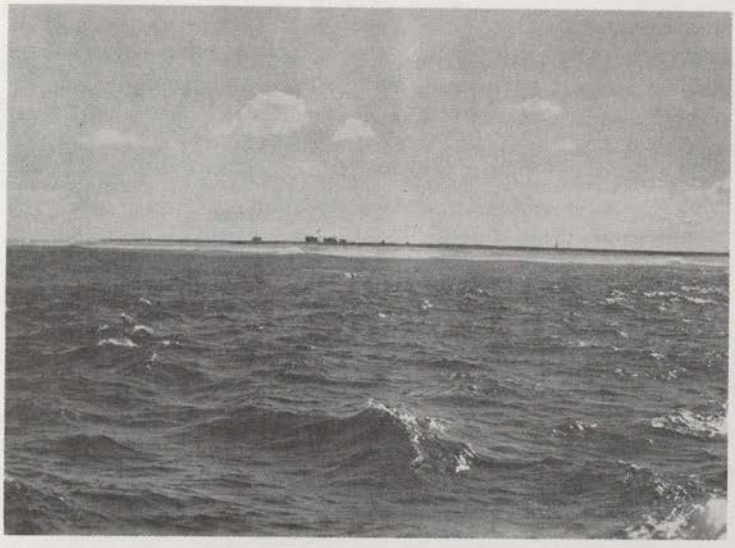
Within the beach crest is a basin, formerly containing a thick deposit of guano, most of which now has been

removed. We will describe the island as it appeared between 1935 and 1942, after which extensive changes were made. The surface of much of the floor of the basin was flat, except for small mounts on the northeastern side, which doubtless were piles of low-grade guano, not worth shipping, since former tram lines lead to them. At the eastern end were two small depressions, just behind the beach crest, the larger of which at times contained some salt water. The western ridge was cut in three places; the route of the old tram lines leading to at least two of these. They doubtless were used to facilitate shipping guano.

Meyerton, the settlement built by the "colonists" in 1935 and named in honor of Harold A. Meyer, was located atop the western ridge above the best landing place. Here in guano days were located several houses, one made of stone, and four brick cisterns, into which rainwater was led. All of these are now gone, the stone slabs having been used in building the lighthouse.

Before the coming of the "colonists," 1935, Baker Island had about 16 different species of plants. Five were obviously weeds, which could have arrived during the guano digging period, found growing near the guano camp site. The other eleven include the same species of plants found on other dry islands of this region. Lepturus bunch grass grows best on the barrier ridge; another grass (Digitaria) and a low sedge (Fimbristylis) were on the flat within; Boerhaavia, the two kinds of purslane, and a few Tribulus and Sida bushes form scattered patches; and there was an occasional Triumfetta vine on the beach slope.

Bird life, during historic times, was much less abundant on Baker than on other small islands of the central Pacific. This was owing, perhaps, to the numerous people on the island, but could have been caused by the presence on the island of numerous large voracious Norway rats, which fed on small birds and eggs. The principal birds observed on Baker were frigates, boobies, and the usual migratory species. Hermit crabs and two kinds of lizards were abundant. Marine life was plentiful and varied around the fringing reef and off shore.



Baker was a hostile island for landing operations from the sea.

The U.S. Department of Interior honored Captain Meyer, U.S. Army, in naming their Baker camp, 1937-8.

During quieter moments, supplies are landed on Baker's western shore from U.S.C.G. Itasca.

Looking southeast across Baker Island from two lonely graves of 19th century guano diggers, near the westernmost point.

Baker Island is said to have been discovered by Michael Baker, of New Bedford, who visited it in 1832 and again on August 14, 1839, in the whaler Gideon Howland, "to bury an American seaman." At the time of his second visit he raised the American flag and claimed possession of the island. Later he sold his claim to the American Guano Company. Another account states that the island was named for Captain Charles Baker.

But this was not the first discovery of the island. It was known as New Nantucket before 1821. One account states that this name was given to it by Captain Elisha Folger, of Nantucket, who visited the island in the whaler Equator in 1818. In December 1828, Daniel McKenzie visited Baker in the American whale ship Minerva Smyth. The ship Loper had been there in 1826, and Captain H. Forster, in the ship Jamaica, before that. It was reported as Phoebe Island by Henry Foster, in the bark Sussex, in 1843.

Messrs. Alfred G. Benson and Charles H. Judd, representing the American Guano Company, landed from the Hawaiian schooner Liholiho, February 12, 1857, to assert the company's claim to the island. The U.S.S. St. Mary's (Commander Charles H. Davis) landed, surveyed the island, and took official possession in the name of the United States in August 1857. They reported that ten whalers had touched at the island between June 21 and August 16, 1857. So frequently did whalers visit Baker during one period that it became the custom to leave messages and letters there, in a covered box, to be picked up and delivered. Mrs. Mary Kawena Pukui states that the Hawaiian name of Baker Island during the guano period was "Pua-ka-'ilima," the flower of the 'ilima.

J. D. Hague, chemist with the American Guano Company, in a lengthy report on the phosphate islands, calls Baker's guano deposits the finest he had seen. They were worked continuously by the American Guano Company from 1859 to 1878, many thousands of tons of guano having been dug, sifted from the limestone rubble, carried across to the landing on tram cars, and loaded with great difficulty through the pounding surf onto schooners and clipper ships,

which were moored precariously to buoys on the lee side. We cannot attempt to describe in detail the activities, adventures and hardships of this period, or to tell of the many shipwrecks, although a fairly complete history has been pieced together from scattered accounts.

After the American Guano Company ceased their operations in 1878, the island was practically abandoned until John T. Arundel and Co., a British firm, made the island their headquarters for guano digging enterprises in the central Pacific between 1886 and 1891. The story of this period is told briefly by Albert F. Ellis in his entertaining book, "Adventuring in Coral Seas." He and his brother James had gone to Hull Island in 1887, where they helped to plant about 20,000 coconut palms, and had lived as "king and prime minister" on the island. The father of these two boys had been manager for Messrs. John T. Arundel and Co., with headquarters on Baker, to which the boy, who later became Sir Albert, was transferred to work in the "laboratory" after five months on Hull. He gives interesting anecdotes of both Baker and Howland.

Trip "B" of the Whippoorwill Expedition visited Baker Island on September 23, 1924, but the sea was so rough that landing was too difficult to attempt to maintain a camp on the island and so the extra time was spent on Howland Island instead.

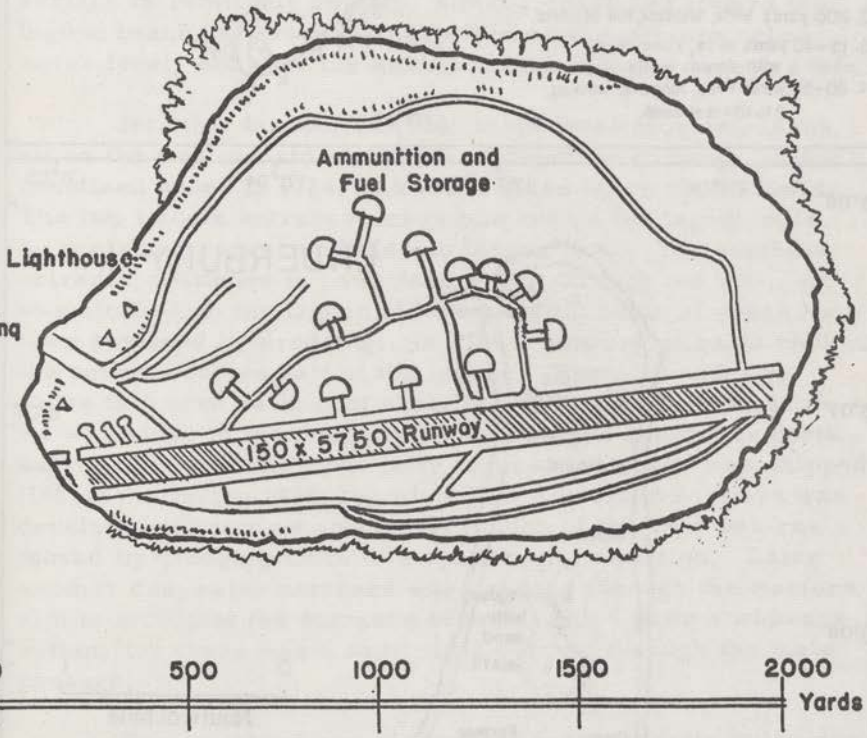
Activities on Baker from April 2, 1935 to February 1942 are narrated elsewhere in this book.

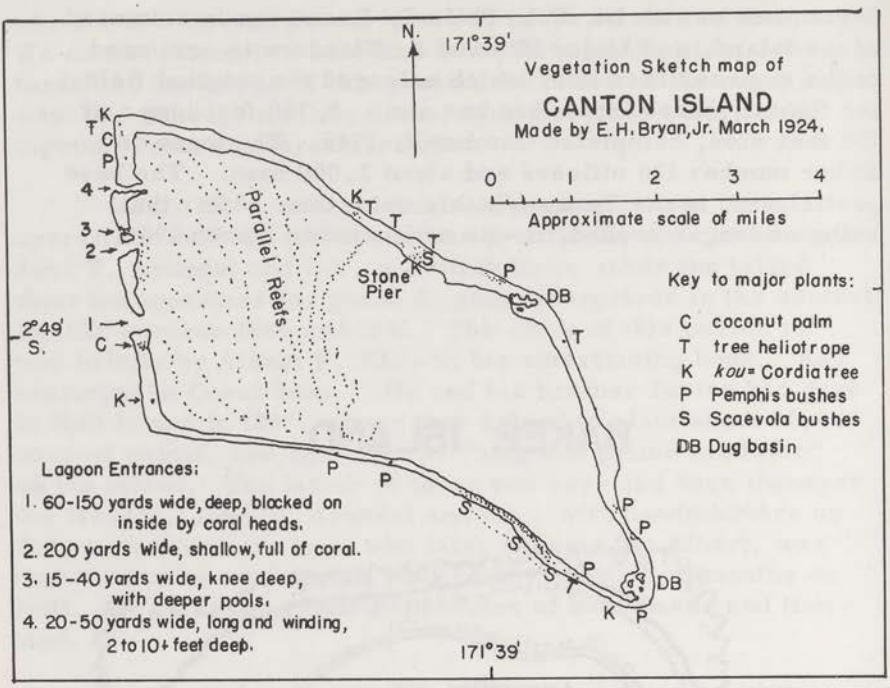
Shortly after this the writer was asked by a military headquarters to advise concerning islands in the equatorial Pacific where fighter strips might be built. Baker Island was one of those selected. The map on the following page tells its own story.

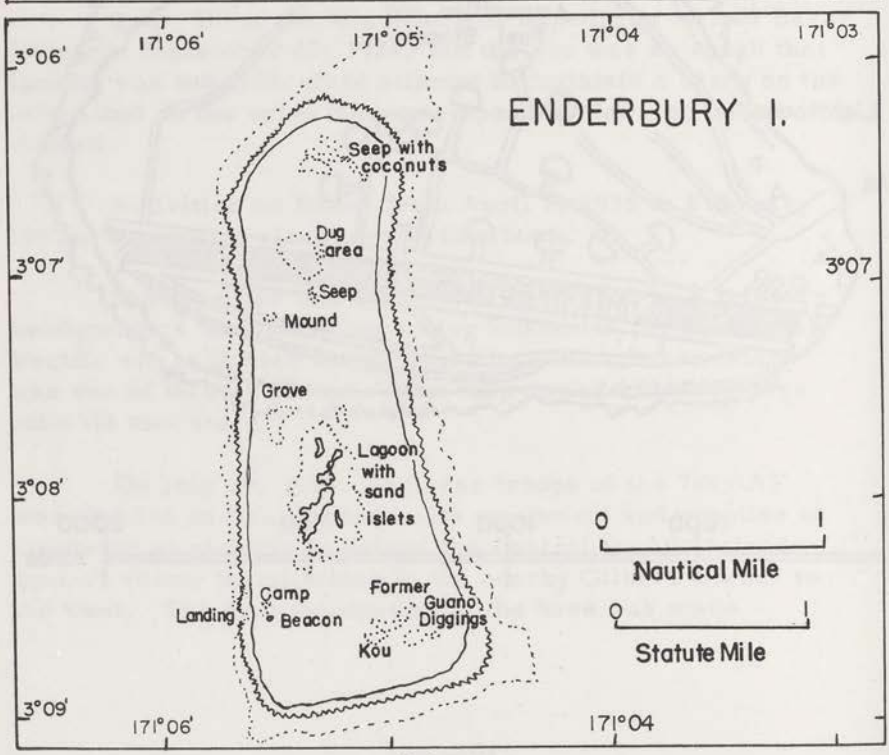
On July 30, 1943, Engineer troops of the 7th AAF were landed on Baker Island with equipment and supplies to construct an airstrip to defend the Central Pacific islands against enemy installations in the nearby Gilbert Islands to the west. The main occupation of the base was made

September 1, with Lt. Col. Philo O. Rasmusen in command of the island, and Major Edward A. Flanders in command of the engineer battalion, which enlarged the original field for fighter planes into a bomber strip, 5,750 feet long and 150 feet wide, completed October 2, 1943. The force on Baker number 120 officers and about 2,000 men. The base participated in the Tarawa-Makin operation. After that, being no longer needed, it was evacuated in March 1944.

BAKER ISLAND







CANTON ISLAND is an atoll, a comparatively narrow rim of land surrounding a large, triangular lagoon. Estimates of the dry land area vary from 3.5 to 4.6 square miles. The enclosed lagoon has an area of as much as 20 square miles. The shape of the atoll has been described as that of a pork chop. On the west it has an overall width of 4.5 nautical or 5 statute miles. From this it narrows to the southeastern point, a length of 9 nautical or 10-1/4 statute miles. The rim of land varies in width from 50 to 600 yards, and rises to a height of 5 to 20 feet above mean sea level. Much of the beach on the ocean side of the rim is composed of broken reef rock, which rises steeply from the inner edge of the narrow fringing reef to a crest. There are a few stretches of sandy beach on the ocean side, especially along the side which faces northeast. The nature of the beach is indicated on the map, as it was in 1924, when the writer first walked around the island. Within the beach crest the surface is relatively smooth, sloping downward toward the lagoon beach, where in places white sand continues below water level, out over the surface of the fringing lagoon reefs.

Into this lagoon, in 1924, there were four entrances, all on the western side. The most northern of these, which contained water in 1924, has since dried up or been filled in. The two middle entrances were blocked on the lagoon side by reefs and rocks, and also no longer flow. The southern entrance continues to have deep water through the rim, but was blocked on the lagoon side by a reef, parts of which have been removed by dredging. In 1924 a network of reefs choked the entire western half of the lagoon. Then, in order to cross this area, a boat of shallow draft would have to work its way close to the southern rim, and then diagonally northeastward to a small stone jetty from which guano was shipped (1885-6). During 1938-39, when Pan American Airways was developing Canton as an airport, much of the reef was removed by dredging from this southwestern portion. Later another deepwater entrance was dredged through the western rim to facilitate the entrance of small ships to an anchorage within, for there was a swift tidal current through the main passage.

Canton Island was discovered independently by several ships, most of them American whalers. Because of the fair

anchorage and easy landing, the western end of Canton was visited frequently by such ships. The island was referred to by a number of names, including Mary, Swallow, and Mary Balcout, which appear on maps or lists of islands in this part of the Pacific at least as early as 1820. The British claim a visit by H.M.S. Curacao, Captain Gibson, during the 1850's.

* "The name Canton came late, but stuck because of dramatic circumstances. On March 4, 1854, the New Bedford whale ship Canton, Captain Andrew J. Wing, piled up on its reef. The captain and crew, after a brief stay, took to their open boats, and after 49 days arrived at Guam. In 1872, Commander R. H. Meade, of the U.S.S. Narragansett, who surveyed the island during one of his efforts to bring Capt. "Bully" Hayes to justice, named it Canton, to commemorate this adventure.

"Although claimed by American guano diggers, Canton does not seem to have been worked by them. A little guano was dug by the John T. Arundel Company, 1885-1886. In 1899 the island was leased to Pacific Islands Co., but not developed. In 1916 it was among the islands leased to Captain Allen of the Samoan Shipping and Trading Co.; but aside from planting a few coconut palms, of which ten survived (at least to 1924), that company made no use of the island. The writer visited Canton with a scientific expedition in March 1924, and again July 25 and 27, 1938.

"Canton broke into the news in 1937, when American and New Zealand eclipse expeditions chose it as a spot from which to view the total eclipse of the sun of July 8. Enough radio and other publicity was produced to put any spot on the map.

"But more than the eclipse was observed. Both British and Americans noted, as had the writer, that here was

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* The quotations are from "American Polynesia" by E.H. Bryan, Jr.

a splendid lagoon on which seaplanes could settle, as well as a flat rim for land planes."

The writer had given this information to Charles Kingsford-Smith, when he was seeking an emergency landing place for the Southern Cross on its pioneer flight from Hawaii to Suva, Fiji, in 1928. "British and American parties each made a monument displaying the flag of its nation."

British officials landed on Canton from H. M. S. Leith August 6, 1936, and posted a sign asserting sovereignty in the name of King Edward VIII. On June 3, 1937, H. M. S. Wellington stopped and a second sign was nailed up on a coconut palm, in the name of King George VI. Meanwhile, on April 8, 1937, all the Phoenix Islands had been placed for safekeeping in charge of the Gilbert and Ellice Islands Colony, and its administrator had added his sign in October 1937. August 31, 1937, two British agents, with powerful radio equipment, were landed from H. M. S. Leith. One of these was replaced January 17, 1938, and another June 22, 1938. They received supplies from passing Canadian-Australian steamships.

On March 7, 1938, an American party of seven was landed from the U. S. Coast Guard Cutter Taney. They included surveyors, a radio engineer, and four Hawaiian "colonists," and set up their camp near that of the British. This had followed an administrative order signed on March 3, 1938 by President Franklin D. Roosevelt, placing Canton and Enderbury under jurisdiction of the Department of the Interior. It was a friendly "invasion," each party sharing the other's hospitality. They knew that the settlement of jurisdiction lay in Washington and London. This was finally accomplished in April 1939, Canton and Enderbury being placed for fifty years under joint British and American rule, and "therafter until such time as it may be modified or terminated by mutual consent." Air companies of both nations have equal right to such facilities as the islands may afford.

During 1938 and 1939 Pan American Airways laid out and developed an extensive airport, deepened and cleared

the lagoon, and initiated flights to New Zealand using Canton as one of the ports of call. An insect "filter" was established on Canton, to guard Hawaii and California against the importation of insect pests and plant diseases from the antipodes.

With the approaching threat of World War II, means were sought for ferrying land planes across the Pacific to Australia. The writer recommended to his Commanding General that the northern rim of Canton be used as a landing strip. A field was built which soon became the hub of central Pacific air movement. All plane traffic touched there. A separate strip was also built for fighter planes. It was stated that 30,000 American troops were brought to Canton, and many of them were stationed there for months. The entrance channel was enlarged and an auxiliary channel was dredged to a dock area for small vessels. A roadway was built around the atoll, crossing low places on causeways. Much of the surface was covered by barracks, storehouses, camp sites, a hospital, and fortifications. There was much interference with nesting sites of the wild birds.

Following hostilities, Canton Island continued to serve as a stepping stone for airplanes between Hawaii and Fiji; but with the development of more powerful planes, more and more made the flight direct, bypassing Canton. In 1966, the population numbered about 500. Then the military base was closed and the island largely evacuated. It was reinhabited by 200 U. S. Air Force personnel in 1969 and has been made into an essential part of a U.S. missile testing system.

During this period about 40 percent of the land area of the atoll was covered by man-made structures. This, together with the presence of feral cats, dogs, and Polynesian rats, has reduced the number of breeding birds. The clearing of shrubs on which formerly bred thousands of red-footed boobies and great frigatebirds, was another reason for the reduction of their numbers, according to visiting ornithologists.

ENDERBURY ISLAND lies 37 nautical miles ESE of Canton. In contrast to Canton, with its large lagoon, Enderbury is nearly solid land, the lagoon being reduced to

a shallow pond, a few hundred yards across and dotted with sand islets, covered with a mat of Sesuvium, which also carpets the surrounding basin.

The island measures a little less than three miles north and south by about a mile wide, 2.3 square land miles. The elevation around the rim is between 15 and 22 feet, with a small mound of low-grade guano rising as high again on the northwest side. The central part is depressed to sea level on the south, and toward the north has been dug over for guano until it resembles a large mine dump.

Much of the surface, in the 1930's, was carpeted with herbs, mostly bunchgrass, Sida bushes, and morning-glory vines, and there were several small clumps of trees. Most conspicuous of the latter were three small clumps of coconut palms, each surrounding a moist depression. When I first saw them in 1924, they numbered, from north to south, 22, 12, and 26 palms; in 1938 several of these were seen to have lost their crowns, but 14, 9, and 8 were noted as still living. Reports suggest that there are fewer today.

Near the south end there were two large and six small clumps of Cordia (kou) trees; also one small clump on each side of the guano mound (which is still a good landmark), and a few scattered trees. A grove of tree heliotropes covered a few acres near the center of the west side, with a small thicket on the southeast rim, and a single tree screening the camp from the sea. The annual rainfall averages about 18 to 20 inches.

Most of the beach is composed of sandstone slabs and coral rubble, alternating with short stretches of sand. The northern end is surfaced with jagged fragments of coral, which clink as one walks over them. No wonder that barefooted natives, either during the guano digging period or before, built paths of smooth, water-work stones across this northern area. It is easy to imagine that, at time of storms, waves could have swept across this low part of the island. The steep beach is fringed by reef which varies in width from 60 to 200 yards.

Birds used to be abundant on Enderbury, including great flocks of sooty terns, nesting on the ground, and several other species. These were reported still present in the 1960's by the Pacific Ocean Biological Survey parties representing the Smithsonian Institution, despite the presence on the islands of Polynesian rats and feral cats, introduced by man.

Enderbury was discovered and named in 1823 by Captain James J. Coffin, of Nantucket, when in command of the British whale ship Transit. The name is a misspelling of Enderby, a London whaling merchant. We have no record of earlier visitors, although it certainly was known to Polynesians.

The island was visited and surveyed by vessels of the U. S. Exploring Expedition on two occasions: the Vincennes, August 28, 1940, and the Peacock and Flying Fish, January 9, 1941. It was also examined by Lt. Hamphill of the U. S. Tuscarora.

Rights to dig guano on Enderbury were issued to the Phoenix Guano Company by the Secretary of State of the United States on December 31, 1859. Guano digging began about April 1860, but met with difficulties. The U.S. Guano Company, headed by Alfred G. Benson, was attempting to monopolize guano digging in the Central Pacific. They cast doubt on the validity of the claim of the Phoenix Guano Company and tried to gain control of Enderbury by force.

First there was neglect in supplying the island, which led to sickness. When Captain Lawton, of the American brig Agate, which supplied the guano diggers on Phoenix and McKean Islands, touched Enderbury on January 1, 1861, he reported, "Found two men confined to their berths with scurvy--had been on allowance about three months, and had five pounds of wormy bread left, plenty of water; neither of them was able to get out of the house; took one of them (John Brown) away; they had been nine months on the island expecting relief."

Then Benson sent a ship to Enderbury under command of Captain John Gunn to gain control of the island by force.

Gunn arrived at Enderbury in 1861, kidnapped the Phoenix Company agent, mounted cannons on the island, and left two men with instructions to fire upon anyone attempting to land on the island. Supply ships sent to Enderbury were repulsed and forced to return to Honolulu. The agents of the Phoenix Company were quick to retaliate. They returned to the island armed with an official document stating their rights, and sufficient force to remove the squatters, who left.

After that, Enderbury developed into an important source of guano. The peak of activity there came in the early 1870's. Captain Elias Hampstead, superintendent for the Phoenix Guano Company, with 60 Hawaiian laborers arrived in June 1870. In 64 working days, four vessels were loaded with over 6,000 tons of guano. In 1872 there was another record of 4,822 tons being loaded on three vessels in 33 working days. After three or four years the shipments gradually fell off. The last guano ships were recorded as going there from Honolulu in February and March 1877. The supply ship, Joseph Woolley, discontinued making calls there in July 1877. The ship C. M. Ward, Captain G. W. Richman, brought supplies including water and firewood during the 1870's.

There is no anchorage at Enderbury, and loading the cargo ships was a difficult and dangerous procedure. However, the mooring buoys must have been good, for the U.S.S. Narragansett under Commander R. W. Meade did not hesitate to use them, March 27 to 29, 1872, while they mapped the island. There were various wrecks, but few of them were guano carriers. The British bark Golden Sunset (E. H. Tidmarsh, master) went ashore December 11, 1866, with 20 passengers and a cargo of coal. Captain, passengers and crew were brought safely to Honolulu on the Hawaiian brig Kamehameha V, supply ship at the time.

The John T. Arundel Co. made use of Enderbury for a while during the 1880's. Albert F. Ellis related that they found a horse and a mule which had been abandoned on the island by the American company, which used the mule to pull their tram cars. In 1899 the island was leased by

Great Britain to the Pacific Islands Co., but there is no record available of its having been used.

Various British vessels visited Enderbury, including H. M. C. S. Nimanoa, with H. E. Maude, administrator for the Gilbert and Ellice Islands Colony, in October 1937.

The total eclipse of the sun, July 8, 1937, would have been a little better for observation from Enderbury than from Canton, but landing and anchorage facilities outweighed the slight advantage to the astronomers.

On March 3, 1938, Enderbury, like Canton, was placed under the administration of the U. S. Department of the Interior by administrative order of President Franklin D. Roosevelt. The American "colonists" landed from the U.S. Coast Guard Cutter Taney and established their camp there March 6, 1938. Who was on the island and how they lived in substantial stone and frame buildings and constructed a lighthouse, is told elsewhere in this book. Like Canton, Enderbury was placed under joint American and British control for a period of fifty years in April 1939.

In 1970 almost all signs of former habitation had ceased to be visible on Enderbury, except the lighthouse and one frame house. Then Holmes and Narver, contractors for the missile project on Canton, constructed a 200-foot radio antenna on one end of the island, two 40-foot sighting towers at the other end, and a road across the island from their air-conditioned trailer, near the antenna to the two towers. Supplies are brought to the personnel making use of these from Canton Island by helicopter. An effort has been made not to disturb the seabird colonies, any more than resulted from a few feral cats brought to the island earlier. The principal damage done to a large colony (some 800,000) sooty terns and some frigatebirds has been caused by hermit crabs.

Enderbury has been called the most important green sea turtle breeding island in the south central Pacific, according to the Pacific Ocean Biological Survey.

PLANTS NOT BELIEVED TO HAVE BEEN INTRODUCED BY RECENT MAN

J - Jarvis, H - Howland, B - Baker, E - Enderbury, C - Canton

Scientific Name	Common Name	Plant Family	Islands
Cynodon dactylon Pers.	Bermuda grass	Gramineae	B, C
Digitaria pacifica Stepf.	a crabgrass	"	B, E, C
Eragrostis tenella amabilis	Lovegrass	"	B
Eragrostis whitney Fosberg	a native lovegrass	"	J, B, E, C
Lepturus repens (Forst.)R. Br.	Wiry bunchgrass	"	J, H, B, E, C
Frimbristylis cymosa R. Br.	Button sedge	Cyperaceae	J, B, C
Boerhaavia diffusa L.	Boerhaavia creeper	Nyctaginaceae	J, H, B, E, C
Sesuvium portulacastrum L.	Sea purslane	Aizoaceae	J, E, C
Portulaca lutea Solander	Yellow portulaca	Portulacaceae	J, H, B, E, C
Portulaca oleraceae Linn.	Common purslane	"	H, B, E
Sida fallax Walp.	Ilima	Malvaceae	J, B, E, C
Ipomoea brasiliensis (L)Sweet	Beach morning glory	Convolvulaceae	B, E, C
Ipomoea alba Linn.	(White) moonflower	"	B, E, C
Cordia subcordata Lam.	Kou	Boraginaceae	E, E, C
Messerschmidia argentea (L. F.) Johnson	Tree heliotrope	"	H, E, C
Scaevola taccada v. sericea (Vahl) St. John	Naupaka, beach scaevola	Goodeniaceae	C

A number of other kinds of plants, especially weeds, were introduced by guano diggers and "colonists," or by the aviation people on Canton.

BIRDS COMMON ON THE EQUATORIAL PACIFIC ISLANDS

SEA BIRDS

PROCELLARIIDAE Petrels and Shearwaters

Puffinus pacificus chlororhynchus	Wedge-tailed Shearwater
Puffinus ilherminieri dicrous	Dusky Shearwater
Puffinus nativitatis	Christmas Island Shearwater
Pterodroma alba	Phoenix Petrel

HYDROBATIDAE Storm Petrels

Nesofregata albigularis (Finsch)	White-throated Storm Petrel

PHAETHONTIDAE Tropic Birds

Phaethon rubricauda melanorhynchos	Red-tailed Tropic-Bird
Phaethon lepturis rare on atolls	White-tailed Tropic-Bird

SULIDAE Boobies and Gannets

Sula dactylatra personata	Masked Booby
Sula leucogastra plotus	Brown Booby
Sula sula rubripes	Red-footed Booby

FREGATIDAE Man-o'War Birds

Fregata minor palmerstoni	Pacific Man-o'War Bird
Fregata ariel	Lesser Man-o'War Bird

LARIDAE Terns and Gulls

Sterna fuscata oahuensis	Sooty Tern
Sterna lunata Peale	Gray-backed Tern
Sterna anaethetus	Brown-winged Tern
Sterna sumatrana	Black-naped Tern
Thalasseus bergii cristatus	Crested Tern
Anous stolidus pileatus	Brown Noddy
Anous minutus melanogenys	Black Noddy
Gygis alba candida	Fairy Tern or "Love Bird"
Procelsterna cerulea nebouxi	Blue-grey Noddy

MIGRATORY BIRDS

ANATIDAE Ducks and Geese

Anas platyrhynchos	Mallard
Spatula clypeata	Shoveller

CHARADRIIDAE Plover

Pluvialis dominicus fulvus	Pacific Golden Plover

ARENARIIDAE

Arenaria interpres	Turnstone

SCOLOPACIDAE Sandpipers and their relatives

Numenius tahitensis	Bristle-thighed Curlew
Heteroscelus incanus	Wandering Tattler
Eriola or Pisohia acuminata	Sharp-tailed Sandpiper
Crocethia alba	Sanderling

MAMMALS AND REPTILES

Mammals are represented by rats. Rattus exulans, the Polynesian rat, has found its way to many low equatorial islands, to some of which it may have been distributed in Polynesian voyaging canoes. Some individuals of this species of rat are so small that they have been mistakenly called "mice." Other species of rats, such as Rattus rattus, have reached islands such as Howland, probably in wrecked ships. The Norway rat, Rattus norvegicus, has found its way to Baker Island, where it has done considerable damage to bird life. Various kinds of smaller birds have been preyed upon by rats, and in places nearly exterminated.

Cats have now reached many of these islands, either with "colonists," toward the end of the period of colonization, or with military personnel during World War II. On some islands cats have killed off the rats, but also have taken their toll of birds, so that they in turn were killed off by scientific parties from the Smithsonian Institution. A recent discussion of this interrelationship of rats, cats, and birds is given by Warren B. King in an article titled Conservation status of birds of Central Pacific Islands. It was published in The Wilson Bulletin, vol. 85 (1), March 1973. It has been reprinted in three installments in the Elepaio (Hawaii Audubon Society), vol. 34, nos. 6, 7, and 8, December 1973 to February 1974.

REPTILES

There are at least two species of lizards: the snake-eyed skink (Ablepharus boutonii poecilopleurus) and the morning gecko (Lepidodactylus lugubris). Both species are sidespread on Pacific Islands, and on some islands are periodically very abundant.

Around the coasts of many of the sandy islands, and coming ashore at times to lay their eggs in holes in the sand, are the Pacific green sea turtles (Chelonia maydas). This is the smooth-shell sea turtle which has been captured so extensively in the Pacific for both its meat and its shell that it is becoming very scarce, and is now being protected

in many places. Specimens have been reported as seen by "colonists" on nearly all the five islands. It can be recognized by its large size, reaching a length of four feet or more and a weight of 50 pounds. The plates of the shell do not overlap, but present a smooth surface. The hawksbill turtle (Eretmochelys imbricata) is smaller, having a maximum length of two and a half feet, and a weight of seldom more than 160 pounds. Its shell is covered with overlapping plates, highly prized as the source of "tortoise shell." The largest sea turtle in Pacific waters, the leatherback (Dermochelys coriacea), inhabits the open ocean, and the shell is soft and leathery. Although its shell may reach a length of 7 feet, and the animal a weight of 1,000 pounds, it has little economic value to man, the flesh being unpalatable.

MARINE ANIMALS AROUND THE ISLANDS

The Hawaiian "colonists" observed and collected a variety of marine animals around the islands on which they lived. In addition to collecting specimens for Bishop Museum, they captured a variety of fishes and spiny lobsters for food, and picked up numerous mollusks for their shells. For these reasons the following notes are given about fishes common around the islands, and species of shells along the shores. These do not pretent to be complete catalogs of the species. The common names used for fishes are the Hawaiian names used by the "colonists."

FISHES SEEN OR USED FOR FOOD

Sharks of various species are known from this region, and have been classified into several families and genera. A few were mentioned as having been seen, caught, or encountered. The most common was probably the "black-tip" reef shark, Carchinarinus melanopterus.

Eels include the spotted snake eel or puhi laau (Myrichthys maculosus) and the various species of Moray eels (Muraenidae): puhi kapa (Echidna nebulosa).

Family Belonidae, needle fishes, Belone platyura
Family Exocietridae, flying fishes, Cypselurus rondeleti
Family Holocentridae or squirrell-fishes, aha-ihi (Adioryx lacteoguttatus)
Family Mugilidae, gray mullet, uouoa (Neomyxus leuceseus)
Family Serranidae, groupers or sea bass, various species of Epinephalus
Family Kuhlidae, collectively called aholehole
Family Carangidae, various species of Caranx called ulua
Family Coryphaenidae, Coryphaena hippurus, mahimahi, found offshore
Family Lutjanidae, snappers or 'opakapaka, Lutjanus monostigma and L. fulvus
Family Mullidae, goatfishes, weke, Parupenus bifasciatus
Family Kyphosidae, rudder fishes, nenue and manaloa
Family Chaetodontidae, butterfly fishes, especially Chaetodon lunula
Family Cirrhitidae, hawkfishes, po'o-pa'a and 'o'opukai
Family Pomacentridae, damselfishes, such as Pomacentrus nigricans, species of Abudefduf, including kupipi, 'o'onui, aoaonui, and others
Family Labridae, wrasse-fishes of various genera
Family Scaridae, parrot fishes, such as the uhu, Scarus frenatus
Family Acanthuridae, surgeon fishes, such as the manini, which was very common
Family Scombidae, tunas and mackerels were caught on the open sea
Family Gobiidae, gobies, such as 'o'opu 'ohune, Bathygobius fuscus
Family Blennidae, various species of blenny
Family Echeneidae, ramoras, the shark sucker, Remora remora
Family Balistidae, trigger fishes, humuhumu
Family Tetrodontidae, puffers, such as makimaki and 'o'opuhue

CRUSTACEA

Numerous crustaceans and related marine invertebrate animals were observed and collected, but only the spiny lobster, known in Hawaii as ula, was important to the "colonists." Penulirus penicillatus is the name of the species reported from equatorial atolls. It was abundant, especially on Jarvis Island, obtained in large numbers from holes in the reef and much enjoyed as food, especially when canned food became scarce.

On land, members of another group of Crustacea, the large hermit crabs, many of them living in shells of deceased turbo mollusks, either served as an active garbage department or made a thorough nuisance of themselves. They belong to the family Coenobitidae, the most common called Coenobita perlata.

MOLLUSCA

The collecting of mollusk shells became a very popular pastime for the "colonists" on all the islands, especially Jarvis. Some of the specimens were presented to Bishop Museum. We are grateful to Harald A. Rehder, head of the Division of Mollusks of the Smithsonian Institution, Washington, D. C., for the following tabulation of identifications. Various persons had collected shells on the five Pacific islands in which we are interested, particularly Harold G. Jewell on Jarvis Island. Dr. Rehder furnished lists of species from four of the islands, and those from Canton are from material collected by Dr. Otto Degener.

BIVALVIA
(formerly referred to as PELECYPODA)

Family	Scientific Name	Distribution by islands
ARCIDAE, Ark shells		
	Arca sp.	C
	Barbatia amygadalumtostum (Röding)	J
ISOGONONIDAW, Purse shells, Toothed pearl shells		
	Isognomon costellatum(Conrad)	
	Pedalion perna	C
PTERIIDAE, Pearl oysters		
	Pinctada margaritifera Linnaeus	C
MYTILIDAE, Mussels		
	Modiolus auriculatus (Krauss)	J, H, C?
PECTINIDAE, Scollops		
	Gloripalluim pallium (Linnaeus)	J
TRAPEZIIDAE, Trapezium shells		
	Trapezium oblongum (Linnaeus)	J
LUCINIDAE, Saucer shells		
	Codakia (Epicodakia) bella (Conrad)	J
CHAMIDAE, Rock oysters		
	Chama broderipi Reeve	J
TRIDACNIDAE, Tridacna, "giant clams"		
	Tridacna maxima Röding	
VENERIDAE, Venus clams		
	Periglypta reticulata (Linnaeus) Antigona	J, H, B, E, C
TELLINIDAE, Tellin shells		
	Arcopagia (Scutarcopagia) scobinata (Linnaeus)	J
	Arcopagia (Pinguitellina)robusta(Hanley)	J

ASAPHIDAE GARIIDAE, PSAMMOBIIDAE
Rayed Cockles

Asaphis deflorata Linnaeus	C

GASTROPODA

TROCHIDAE, Top shells	
Trochus intextus Kiener	J, E, C
TURBINIDAE, Turban shells	
Turbo argyrostomus Linnaeus	J, H, E
Turbo intercostalis Henke	C
Astralium confragosum plicato-spinosum (Pilsbry)	J
Astralium confragosum (Gould)	H, B, E
NERITIDAE, Sea snail family	
Nerita plicata Linnaeus	J, E, C
VANIKORIDAE	
Vanikoro ligata (Reduz)	J
Vanikoro distans (Reduz)	J
LITTORINIDAE, Periwinkles	
Littorina coccinea Gmelin	E, C
PLAXIDAE, Grooved shells	
Planaxis sulcatus (Born)	C
CERITHIIDAE, Horn shells	
Cerithium fulcatum Pease	J
Cerithium breve Quoy	C
Cerithium echinatum Lamarck	C
Cerithium tuberosa Lamarck	C
HIPPONICIDAE, Hoof shells	
Sabia conica (Schumacher)	J, H
CYPRAEIDAE, Cowry family	
Cypraea moneta Linnaeus, Money cowry	J, H, B, C
Cypraea scurra Linnaeus	J
Cypraea depressa Gray	J, H, B, E
Cypraea poraria Linnaeus	J, B, E
Cypraea lynx Linnaeus	J

CYPRAEIDAE (cont.)	
Cypraea caputserpentis Linnaeus	J, H, E, C
Cypraea isabella Linnaeus	J, H, E
Cypraea hevola Linnaeus	J
Cypraea goodalli Sowerby	J
Cypraea intermedia Gray	C
Cypraea near annulata Gray	
Epona mariae (Schiller)	C
CYMATIIDAE, Triton shells	
Cymatium nicobaricum Röding	J, H, B, C
Cymatium pileare (Linnaeus)	J
BURSIDAE, Frog shells	
Bursa bufonia (Gmelin)	J, H, B
Bursa granularis Röding	J, B
MURICIDAE, Rock shells	
Chicoreus palmarosae (Lamarck)	J
THAIDIDAE, Dye shells	
Maculotriton digitalis (Reeve)	J
Maculotriton bracteatus Hinds	J
Maculotriton pusillus Pease	C
Drupa ricinus (Linnaeus)	J, H, B, E, C
Drupa grossularia Röding	H, B
Drupa morum Röding	J, H, B, E
Morula granulata (Duclos)	J, H, B, C
Morula uva (Röding)	J, H, E
Morula aspera (Lamarck)	J
Morula nodus St. Vincent	C
Nassa sertum (Bruguiere)	J
Thais armigera (Lonk)	J
Purpura (or Thais) hippocastaneum (Lamarck)	C
MAGILIDAE, Coralliophilidae Coral snails	
Coralliophila violacea (Kiener)	J
Coralliophila erosa (Röding)	J
CORALLIOPHILIDAE	
Quoyula madreporarum (Sowerby)	E

COLUMBELLIDAE, Little Dove Shells	
Columbella palumbina Gould	J
Columbella varians Sowerby	J
Pyrene obtusa (Sowerby)	J
BUCCINULIDAE, whelks	
Pollia udosa (Linnaeus)	J
"Cantharus" farinosus (Gould)	J
Pisania (Taeniola) decollata (Sowerby)	J
Pisania (Prodotia) marmorata (Reeve)	J
Engina lineata (Reeve)	C
Engine mendicaria (Linnaeus)	C
COLUBRARIIDAE, Dove shells	
Colubraria tortuosa (Reeve)	J
Colubraria viridula (Reeve)	J
NASSARIIDAE, whelks	
Hinia paupera (Gould)	J
Alectrion lilacina (Gould)	J
FASCIOLARIIDAE, Spindle shells	
Peristernia squamosa (Pease)	J, B
Peristernia gemmata (Reeve)	J, H
Latirus amplustre (Dillwyn)	J, H
Latirus prismaticus Martyn	C
Latirus iris (Lightfoot)	H, B
MITRIDAE, Miter shells	
Mitra luctuosa A. Ads	J
Mitra (Strigatella) litterata Lamarck	J, H, B, C
Mitra (Strigatella) pellisserpentis Reeve	J
Mitra (Strigatella) luctuosa Lamarck	J
VASIDAE, Vase shells	
Vasum [Cynodonta] ceramicum (Linnaeus)	C
Vasum armatuom Broderip	E
HARPIDAE, Harp shells	
Harpa ampuretta Röding	J

MARGINELLIDAE, Marginellas	
Hyalina elongata (Reeve)	J
CONIDAE, Cone shells	
Conus tulipa Linnaeus	J
Conus sponsalis Hwass	J, B, C
Conus chaldeus (Roding)	H
Conus erbaeus Hwass	J, H, B, E, C
Conus geographus Linnaeus	J
Conus lividus Hwass	J, H, B, C
Conus rattus Hwass	J, H
Conus catus Hwass	J, H, E
Conus glans Hwass	J
Conus nussatella Linnaeus	J
TEREBRIDAE, Auger shells	
Terebra crenulata Linnaeus	J
PULMONATES	
ELOBIIDAE, Marsh shells	
Melamphus sp. (Ear snails)	C

PALMYRA ISLAND

There are at least two good reasons for including a short account of Palmyra in this book. One is that many of the trips of the Coast Guard cutters which took "colonists" to the five equatorial islands, or kept them supplied, stopped at that atoll en route. But it is even more important to show that not all equatorial Pacific islands are barren, so the emphasis will be on describing the plant life.

At the time of our story, in the 1930's, Palmyra consisted of about 52 small islands, with a combined area of 242 acres of dry land. They were strewn around three small lagoons like a necklace of emerald beads. The largest islet, Cooper, had an area of only about 50 acres; several measured only a fraction of an acre. They were simply piles of sand, 3 to 6 feet high, resting on a platform of coral reef, much of which was just awash at low tide, so that one could easily wade the narrow channels between most of them. The highest elevation reached by these piles of sand was about 12 feet; and yet they were covered densely by trees and shrubs to a height of 50 or more feet, so that the atoll was visible from a distance of 12 to 15 miles on a clear day.

The coral platform on which the islets rested measured about 5-1/2 miles east and west by about 1-1/2 miles wide. At either end there was a shoal, that on the west extending westward another 5 miles. In the middle of the platform, framed by the line of islets, were three lagoons of moderate size, having depths of from 120 to 160 feet. They were separated from each other and the sea by narrow barriers of reef, which came nearly to the surface.

The exact number of islets, and their size and shape, has varied from time to time since the discovery of the atoll. Today there are fewer islets, but more acres of dry land. Some of this growth has been caused by the sea, as sand has been piled on the reef; some were altered by man as he dredged the barriers between two of the three lagoons and between the western lagoon and the sea. Today it is possible to reach all of the former islets by road; and

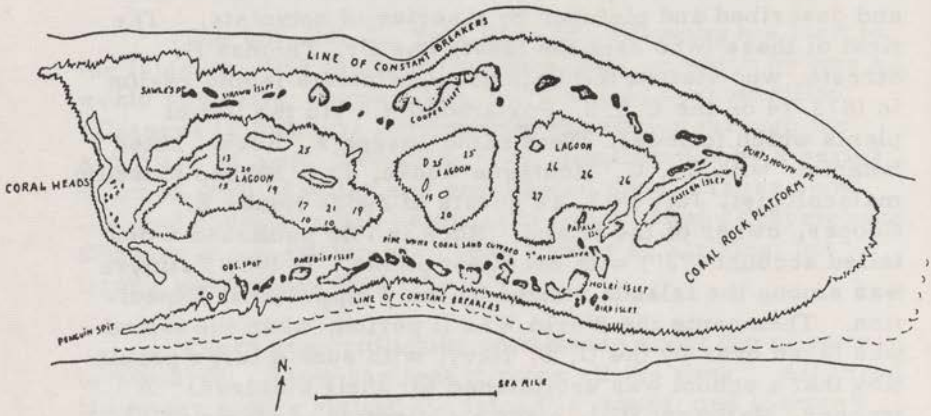
there is also a road along a causeway from north to south on the coral ridge separating the eastern and central lagoon basins.

The late Dr. E. Yale Dawson, following his visit to the island in 1958 to study marine algae, on which he was a world authority, wrote a long and detailed account titled "Changes in Palmyra atoll and its vegetation through the activities of man, 1913-1958." He illustrated it by a series of maps, two of which are reproduced here. These show the land changes much better than could lengthy descriptions. Changes in vegetation have been almost as striking; but first a word about the climate.

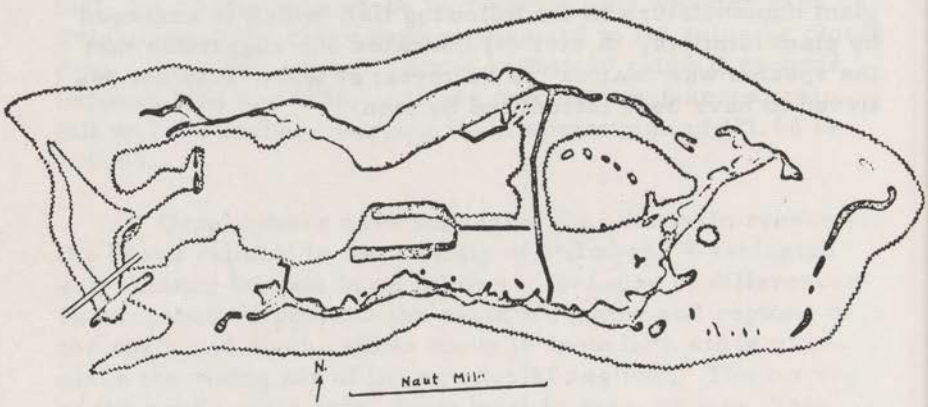
There are conflicting statements about the climate of Palmyra. Some say that it rains all the time. All three times the writer visited the island it rained; and it wasn't like Hawaii's "liquid sunshine," but more like "Kona storm" rain. Only a heavy annual rainfall could maintain such luxuriant vegetation on such a low island. Yet persons who have lived there for long periods say that the weather can be clear and sunny for days on end. Edwin Benner, Jr., who lived on Palmyra from October 29, 1920 to December 10, 1921, kept a diary in which he recorded the weather each day. This showed 290 clear days as opposed to 114 rainy or cloudy days during this period. Some "official" rainfall records, between 1942 and 1958, indicate that the mean annual rainfall was 152 inches, varying from a minimum of 121.66 to 200.03.

Geographers have suggested that the main reason for the heavy rainfall in the vicinity of Palmyra, Washington and Fanning Islands is as follows: Because of differences in temperature between the earth's equator and regions to the north and south, winds move in from both sides to replace the rising air of the equatorial regions. The turning of the earth on its axis, from west to east, causes these winds to move westward, producing the two sets of trade winds. They meet in the central Pacific along a line which is a few degrees north of the equator, the exact position varying with the seasons. Here the warmer winds pass up and over the tops of the cooler. In doing so, they are cooled, and down comes the excess moisture in the form of rain.

In contrast to the meager, dry vegetation found on islands to the north and south of this wet region, Palmyra, Washington and Fanning are covered by a luxuriant growth of trees and shrubs, with ferns. These have been studied and described and pictured by a series of botanists. The first of these (who said the least) was Dr. Thomas H. Streets, who visited the Palmyra-Christmas Island region in 1873-74 on the U.S.S. Portsmouth ("1") in the list of plants which follows). Next came Joseph F. Rock, noted botanist, with Dr. C. Montague Cooke, Jr., Bishop Museum malacologist, July 1913, as guests of Judge Henry E. Cooper, owner of the island. Rock in 1916 published a detailed account ("2") with excellent plates. In 1924 Palmyra was among the islands visited by the Whippoorwill Expedition. Then came the World War II period, when the island was taken over by the U. S. Navy, with such a large population that a school was established for their children. A teacher, Margaret Hill, made a collection of plants ("3") in October 1949, and 25 of these were identified at Bishop Museum by Marie C. Neal and E. H. Bryan, Jr., who himself had made observations of Palmyra plants. Finally, "4" is the list given by Yale Dawson, most of his specimens having been identified by Dr. F. R. Fosberg. We are indebted to Dr. Harold St. John for checking the plant nomenclature in the following list, which is arranged by plant families. A star (*) indicates our suggestion that the species was "native" to Palmyra; at least, it is not believed to have been introduced by man.



Palmyra atoll in 1913, as seen by J. F. Rock.



Palmyra atoll as seen by E. Yale Dawson in 1958.

PLANTS COLLECTED AND OBSERVED ON PALMYRA ISLAND

	Collector or observer
FERNS	
* Microsorium scolopendria Burm. "Maile-scented fern" (Formerly, Polypodium phymatodes)	(2), (4)
Phlebodium aureum (L.) J.Sm. "Hares-foot fern" (Rock says, "evidently confused with P. phymatodes.")	(1)
* Nephrolepis hirsutula (Forst.) Presl.	(4) "Abundant"
* Asplenium nidus Linn. "Bird's nest fern." "Very abundant on windward side," (1), "On the ground and as an epiphyte," Bryan, 1938.	(1), (2), (4)
Blechnum brownei Juss.	(4)
Psilotaceae	
* Psilotum nudum (L.) Beauv.	(4)
FLOWERING PLANTS	
Pandanaceae (Pandanus family)	
* Pandanus rockii Martelli	(2)
* Pandanus pulposus Mertelli var. cooperi Rock	(2)
Gramineae (Grass family)	
* Cenchrus echinatus L. var. hillebrandianus (Hitchcock) F. Brown, "Burr grass"	(3)
Chloris inflata link. "Swolen "finger-grass"	(3)
Eleusine indica (L.) Garetn. "Goosegrass"	(3), (4)
* Lepturus repens (Forst. F.) R. Brown	(4)
Called Monerma by Rock	(2)
Var. palmyrae F. Brown	(4)

Graminae (cont.)

Paspalum fimbriatum H. B. K. = P. orbiculare Forst. (4)
Sporobolus indicus (L.) R. Br. (called S. poiretti) (4)

Cyperaceae (Sedge family)
* Cyperus javanicus Houtt. (4)
Cyperus polystachyas Rottb. (3), (4)
* Fimbristylis atollensis St. John (misidentified as F. cymosa R. Br.) "Common on scraped ground" (4)

Palmae (Palm family)
* Cocos nucifera L. forma palmyrensis Beccari (Numerous coconut palms also introduced, as early as 1885. By 1913 estimated 25,000 bearing palms.) (Bryan) (2), (4)

Araceae (Aroid family)
Scindapsus aureus (Lind. ex Andrae) Eng. (Cultivated) (4)

Casuarinaceae (Casuarina family)
Casuarina equisetifolia Stickm. (Common ironwood) (4)

Urticaceae (Nettle family)
* Laportea interrupta (I.) Chew (formerly called Fleurya interrupta) (2), (4)
Pilea microphylla (L.) Liebm. (Rockweed) (3), (4)

Polygonaceae (Buckwheat family)
Coccoloba uvifera (L.) L. "Sea grape" (3), (4)

Nyctaginaceae (Four-o'clock family)
* Boerhaavia diffusa var. tettandra (Forst. f.) Heimerl. (Called Boerhaavia tetandra by Rock) (4) (2)
* Pisonia grandis R. Brown ("Dominant on Eastern I.") (Bryan) (2), (4)

Portulacaceae (Purslane family)
Portulaca oleracea L. "Common purslane" (2), (4)

Cruciferae (Mustard family)
* Lepidium bidentatum Montim. (Called Lepidium oahuense Chem. & Schl. by Streets) (1) "common" (2)

Leguminosae (Pea family)
Crotalaria incana L. "Fuzzy rattlepod" (4)
Leucaena leucocephala (Lam.) de Wit. (Formerly L. glauca) (4)

Semaroubaceae (Ailantus family)
* Suriana maritima L. (noted as common) (1) ("no sign of it") (2), (4)

Euphorbiaceae (Spurge family)
* Euphorbia atoto Forst. f. (3)
Euphorbia cyathophora Murr. (4)
Euphorbia heterophylla L. var. cyathophora Murr. "Fire plant" (3)
Euphorbia hirta L. "Hairy spurge" (3)
Euphorbia glomerifera (Milsp.) Wheeler (4)
* Phyllanthus debilis Willd. (4)

Tiliaceae (Linden family)
* Triumfetta procumbens Forst. f. (4)

Malvaceae (Mallow family)
Hibiscus tiliaceus L. "Hau" (3), (4)

Guttiferae (Mangosteen family)
Calophyllum inophyllum L. "Kamani tree" (4)

Combretaceae (Terminalia family)
Terminalia catappa L. "Tropical almond" (3), (4)

Onegraceae (Evening primrose family)
Ludwigia octivalvis (Hacq.) Raven "Primrose willow" (Recorded as Jussiaea erecta and J. suffruticosa var. ligustraefolia) (3), (4)

Apocynaceae (Periwinkle family)

* Ochrosia oppositifolia (Lam.) K. Sch. (2), (3), (4)

Convolvulaceae (Morningglory family)

* Ipomoea tuba (Schl.) G. Don with creamy white flowers (Syn. Ipomoea glaberrima Boher) (2), Bryan, (4)

* Ipomoea brasiliensis (L.) Sweet "Beach morningglory" (Formerly misidentified as I. pes-crapae) (4)

Borraginaceae (Heliotrope family)

* Messerschmidia argentea (L. f.) Johnson. "Tree Heliotroupe" (Formerly Tournefortia argentea) "One of the most abundant trees on the atoll" (Bryan, 1938) (2), (3), (4)

Verbenaceae (Verbena family)

Stachytarpheta australis Mold. "Porter weed" (4)

Stachytarpheta indica Vahl. (3), (4)

Vitex ovata Thurn. "Beach vitex" (Also called V. negundo bicolor and V. trifolia var. simplicifolia) (3), (4)

Acanthaceae (Acanthus family)

Graptophyllum pictum (L.) Friff. "Caricature plant" (Doubtless from cultivated gardens) (4)

Hemigraphis reptans (Forst. f.) T. Andres (Probably from cultivation) (4)

Pseuderanthemum cartuthersii (Seem.) Guillaum (Probably from cultivation) (4)

Rubiaceae (Coffee family)

Borreria laevis (Lam.) Griseb. "Buttonweed" (4)

* Guettarda speciosa Linn. (3)

Goodeniaceae (Naupaka family)

* Scaevola taccada var. sericea (Vahl) St. John (Formerly S. frutescens) "Beach scaevola" (3), (Bryan), (4)

Compositae (Daisy family)

Erigeron bonariensis L. "Hairy horseweed" (Formerly Conyza bonariensis and E. Albidus)	(3), (4)
Emilia sonchifolia (L.) DC	(4)
Erechtites valerianaefolia (Wolf) DC	(3), (4)
Pluchea Fosbergii Cooperrider & Galang (A spontaneous hybrid between P. indica and P. odorata)	(3), (4)
Pluchea indica (L.) Less	(3), (Bryan), (4)
Pluchea odorata (Linn.) Cass	(3), (Bryan), (4)
Synedrella nodiflora (L.) Gaertn. "Node weed"	(3), (4)
Vernonia cinerea (L.) Less. "Ironweed"	(3), (4)

Other plants reported from gardens: (4)

Araucaria (Araucariaceae)
Asparagus "fern" (Liliaceae)
Acalypha, croton (Euphorbiaceae)
Bombax (Bombacaceae)
Cordyline, "ti" (Liliaceae)

Much has been written about the history of Palmyra Island. A summary up to 1930 is given in "American Polynesia and the Hawaii chain," with more details in "Palmyra, necklace of Emerald Isles," (Honolulu Advertiser, Magazine Section, February 4, 1940) both by the author. Later details appear in the article by Yale Dawson, together with descriptions of the island and the changes which it has undergone.

The attempts to form a "Palmyra Development Company" did not materialize, but the island continues to be owned by the Fullard-Leo family, with various ideas for its use still undeveloped. It continues to be a beautiful spot in the Mid-Pacific.

SUMMARY CHART 1. INITIAL ORGANIZATION PERIOD, under the U. S. Department of Commerce

Cruise No.:	1	2	3	4
U.S.C.G. Cutter:	ITASCA	ITASCA	ITASCA	ITASCA
Commanded by:	Derby, W.N.(Cmdr.)	Derby, W.N.(Cmdr.)	Derby, W.N.(Cmdr.)	Brown, F.W. (Cmdr.)
Expedition Leader:	Miller, Wm. T.	Miller, Wm. T.	Miller, Wm. T.	Miller, Wm. T
Assisted by:	Meyer, H.A. (A)	Meyer, H.A. (A)	Meyer, H.A. (A)	Meyer, H.A. (A)
Left Honolulu:	20 March 1935	9 June 1935	9 Sept. 1935	9 Jan. 1936
"COLONISTS"				
JARVIS Island	25 Mar. & 22 Apr. *Collins, Austin (A) Aune, Edward (A) Graf, Wyman (A) Ahia, Henry Toomey, Daniel	15 June 1935 *Ahia, Henry Toomey, Daniel Cockett, Frank West, George	15 Sept. 1935 *Ahia, Henry (S) Toomey, Daniel (S) Haili, Jacob Young, Edward	15 Jan. & 4 Mar. 1936 *Young, Edward Haili, Jacob Mahikia, Henry Yomes, William
HOWLAND Island	30 Mar. & 18 April *Theiss, Henry (A) Duff, Leonard (A) Lawler, Vernon (A) Kamakaiwi, James Dyen, Samuel (A)(#) Opiopio, Killarney (from 18 April)	19 June 1935 *Kamakaiwi, James Opiopio, Killarney Anahu, Wm. N. Toomey, Wm. T.	19 Sept. 1935 *Kamakaiwi, James (S) Opiopio, Killarney (to Swains I.) Anakalea, Joseph Faufata, Folinga	19 Jan. & 1 Mar. 1936 *Anakalea, Joseph Kahapea, Alexander Kalama, Solomon Ohumukini, Henry
BAKER Island	2 Apr. & 18 Apr. *Summers, Carl (A) Surber, George (A) Wilson, Ralph (A) Kaina, William N. Piianaia, Abraham	19 June 1935 *Piianaia, Abraham Kaina, William N. Kalama, Samuel Ching, Archie	19 Sept. 1935 *Piianaia, Abraham (to Swains I.) Kaina, Wm.N. (S) Hooper, Herbert Kauahikaua, Archie	19 Jan. & 1 Mar. 1936 *Hooper, Herbert Waiwaiole, Luther Kauahikaua, Archie Kim, Joseph
Spare on the cruise		Harris, Arthur Williamson, Elmer		Carroll, James (S) Kahanu, George (S)
Returned to Honolulu:	27 April 1935	26 June 1935	--Sept. 1935	9 March 1936

* Island leader.
(A) Army.
(#) On Howland from 31 Mar. to 18 Apr.
(S) On Cruise 4 to Samoa.

SUMMARY CHART 2. REGOLONIZATION PERIOD, under the U. S. Department of Interior

SUMMARY CHART 2. RECOLONIZATION PERIOD, under the U. S. Department of Interior

Cruise No.:	5	6	7	8
U.S.C.G. Cutter:	(A) ITASCA (B) TIGER	ITASCA	ITASCA	WILLIAM K. DUANE
Commanded by:	(A)Kenner,F.T.,LtCmdr. (B)Doebler, H.J.,Lt.	Kenner,F.T.,LtCmdr.	Kenner,F.T.,LtCmdr.	Roach, P.F., Cmdr.
Expedition Leader:	(A)Meyer, H.A. (A) (B)Collins, Austin (A)	Miller, W.T. & Black, Richard B.	Black, Richard B.	Black, Richard B. Assisted by Meyer, H.A. (A)
Left Honolulu:	13 June 1936	25 July 1936	10 Oct. 1936	13 January 1937
"COLONISTS"				
JARVIS Island (B)	19 June 1936 *Ahia, Henry Blake, Hartwell Kahanu, George Lee, Frederick	30 July 1936 *Kalama, Solomon Haili, Jacob Lum, Yau Fai Sproat, Manuel	22 Oct. 1936 *Kalama, Solomon Ahia, Charles Lum, Harold C. Haili, Jacob	18 January 1937 *Kim, Joseph Ahia, Charles Kim, Bak Sung Young, Edward
HOWLAND Island (A)	18 June 1936 *Kamakaiwi, James Opiopio, Killarney Markham, Wm. S. Pea, Kini	6 Aug. 1936 *Opiopio, Killarney Anakalea, Joseph Leong, Ah Kin Yomes, William	26 Oct. 1936 *Kamakaiwi, James Lum, Paul Yat Anakalea, Joseph Tavares, William	22 January 1937 *Kamakaiwi, James Lum, Yau Fai Kaina, William Tavares, William
BAKER Island	18 June 1936 *Piianaia, Abraham Kaina, William Bell, Kenneth Young, Edward	6 Aug. 1936 *Piianaia, Abraham Kaina, William Kim, Joseph Young, Edward	26 Oct. 1936 *Akana, Albert K. Burke, Eugene Leong, Ah Kin Victor, Gabriel	27 January 1937 *Akana, Albert K. Burke, Eugene Lum, Paul Yat Victor, Gabriel
Spare on cruise (A)	Crocket, Herbert Newton, Edmond Jacobson, Victor		Faufata, Folinga	
(B)	Kaninau, Charles			
Returned to Honolulu: (A)	23 June 1936	17 August 1936	31 Oct. 1936	5 February 1937
(B)	25 June 1936			

* Island leader.

SUMMARY CHART 3. UNDER THE U. S. DEPARTMENT OF INTERIOR

Cruise No.:	9	10 A&B	11	12
U.S.C.G. Cutter:	SHOSHONE	ITASCA	ROGER B. TANEY	ROGER B. TANEY
Commanded by:	Finlay, G.T., Cmdr.	Thompson, W.K., Cmdr.	Coffin, E.A., Cmdr.	Coffin, E.A., Cmdr.
Expedition Leader:	Black, R.B.	Black, R.B.	Black, R.B.	Black, R.B.
Assisted by:	Meyer, H.A. (A)			
Left Honolulu:	10 Mar. 1937	(A) 18 June 1937 (B) 29 July 1937	23 Oct. 1937	28 Feb. 1938
"COLONISTS"				
HOWLAND Island	15 Mar. 1937 *Kamakaiwi, James Lum, Yau Fai Kaina, William Tavares, William	(A) 25 June 1937 *Kaina, William Lum, Yau Fai Anakalea, Joseph	16 Nov. 1937 *Ahia, Charles Tavares, William Lum-King, Kenneth Anakalea, Joseph	23 Mar. 1938 *Kinney, James Medeiros, Henry Lum-King, Kenneth
BAKER Island	16 Mar. 1937 *Akana, A. K. Burke, Eugene Leong, Ah Kin Victor, Gabriel	24 June 1937 Ahia, Charles A. Lum, Paul Yat Williamson, Elmer Akana, Theodore	17 Nov. 1937 Akana, Theodore Chang, Herbert Williamson, Elmer	--Mar. 1938 Akana, Theodore Chang, Herbert McCorriston, Mike
JARVIS Island	24 Mar. 1937 *Kim, Joseph Kim, Bak Sung Young, Edward Pea, A.K.	(B) 2 Aug. 1937 *Kim, Joseph Kalama, Solomon Leong, Ah Kin Pea, A.K. Kini	31 Oct. 1937 *Akana, Albert Burke, Eugene Kaninau, Charles Leong, Ah Kin	--Mar. 1938 *Akana, Albert Burke, Eugene Kininau, Charles Wong, Alexander
CANTON Island			(Visited 14 Nov. 1937)	7 Mar. 1938 *Kamakaiwi, J. C. Haili, Jacob Pires, Manuel Kaahea, Henry
ENDERBURY Island			(Visited 14 Nov. 1937)	6 Mar. 1938 *Kim, Harold Anakalea, Joseph Lum, Y.F. Tavares, William
Spare on cruise	Lum, Kum	Kahelewai, Carl Haili, Jacob		
Returned to Honolulu:	29 Mar. 1937	(A) 24 July 1937 (B) 6 Aug. 1937	23 Nov. 1937	21 Mar. 1938

Returned to Honolulu: 29 Mar. 1937 (A) 24 July 1937 (B) 6 Aug. 1937 23 Nov. 1937 21 Mar. 1938

SUMMARY CHART 4. UNDER THE U. S. DEPARTMENT OF INTERIOR

	13	14	15	16
Cruise No.:				
U.S.C.G. Cutter:	ROGER B. TANEY	ROGER B. TANEY	ROGER B. TANEY	ROGER B. TANEY
Commanded by:	Coffin, E.A., Cmdr.	Coffin, E.A., Cmdr.	Coffin, E.A., Cmdr.	Coffin, E.A., Cmdr.
Expedition Leader:	Black, Richard B.	Black, Richard B.	Kenner, Frank T.	Kenner, Frank T.
Left Honolulu:	16 July 1938	25 Nov. 1938	15 Mar. 1939	20 May 1939
"COLONISTS"				
HOWLAND Island	22 July 1938 *Kinney, James Medeiros, Henry Chang, Herbert Kahalewai, Samuel	30 Nov. 1938 Tavares, Wm. Fialkowski, Henry Wilhelm, Frederick Burke, Eugene	21 Mar. 1939 *Burke, Eugene Hutchinson, Wm. Lee, H.K. McCorriston, E.M.	10 June 1939 *McCorriston, Thomas Robinson, Alexander Bederman, Thomas Pea, William I.
BAKER Island	23 July 1938 McCorriston, M. Chang, Herbert Boyd, Andrew Lee, H. K.	1 December 1938 Akana, Bernard Ching, Lawrence Boyd, Andrew Lee, H.K.	20 March 1939 *Suares, Louis Crowden, Lawrence Akana, Bernard Ching, Lawrence	10 June 1939 *Suares, Louis Stein, Charles Jensen, Hans Au, Charles
CANTON Island	25 July 1938 *Kamakaiwi, J. C. Lee, Frederick Leong, A.K. Roberts, John Kaahea, Henry	2 December 1938 *Kamakaiwi, J.C. Lee, Frederick Calley, C.D., Jr. Pea, A.K. Waiwaiole, Luther	24 March 1939 *Fialkowski, Henry Kahalewai, Sam Pea, A.K. Waiwaiole, Luther	28 May & 6 June 1939 *Kahelewai, Sam Lee, Frederick Wilhelm, Frederick Beatty, R.H.
ENDERBURY Island	26 July 1938 *Kim, Harold Braun, Clarence Pires, Manual Wood, Joshua	3 December 1938 Braun, Charles Leong, A.K. Paoa, Melvin Roberts, John	23 March 1939 *Kinney, James Paoa, Melvin Beatty, Rupert Tavares, William	7 & 12 June 1939 *Kim, Harold Harbottle, Isaac Rahe, Bernard Paquette, Maurice
JARVIS Island	8 August 1938 Wong, Alexander Akana, George Kahalewai, Carl (+) Haili, Jacob	11 December 1938 *Lee, Francis Pires, Manual (#) Wong, Alexander Stillman, F.M.	30 March 1939 *Akana, George MacKellar, Ian Stillman, F.M. Lee, Francis	15 June 1939 *Kinney, James Paoa, Melvin Phillips, M.W. MacKellar, I.A.
Spare on cruise	Bush, Harry		Akana, Luewellyn Rahe, Bernard W.	Burke, Walter K. Piianaia, Abraham (passenger on cruise)
Returned to Honolulu:	15 Aug. 1938	18 Dec. 1938	1 April 1939	20 June 1939

(+) Died 10 Oct. 1938; replaced by . Haili.
(#) Appendicitis; replaced by A. Wong 10 Jan. 1939.

SUMMARY CHART 5. UNDER THE U. S. DEPARTMENT OF INTERIOR

Cruise No.:	17	18	19	20
U.S.C.G. Cutter	ROGER B. TANEY	ROGER B. TANEY	ROGER B. TANEY	ROGER B. TANEY
Commanded by:	Kenner, F.T., LtCmdr.	Coffin, E.A., Cmdr.	Coffin, E.A., Cmdr.	Coffin, E.A., Cmdr.
Expedition Leader:	Kenner, F.T., LtCmdr.	Kenner, F.T.	Kenner, F.T.	Kenner, F.T.
Left Honolulu:	4 Oct. 1939	4 Mar. 1940	18 July 1940	3 Oct. 1940
"COLONISTS"				
HOWLAND Island	12 October 1939 *Stillman, Francis Pea, William Robinson, Alexander Bederman, Thomas	9 March 1940 *McCorriston, E.M. Lieson, Robert W. Henderson, Waldron Pea, William	23 & 29 July 1940 *Suares, Louis Keliihananui, J.K. Lieson, Robert W. Henderson, Waldron	--Oct. 1940 *Suares, Louis Keliihananui, J.K. Lieson, Robert W. Henderson, Waldron
BAKER Island	12 October 1939 *Suares, Louis Au, Charles Jensen, Hans Stein, Charles	10 March 1940 Paoa, Melvin Toomey, John K. Phillips, Woodrow Jensen, Hans	24 & 28 July 1940 Jensen, Karl Toomey, John K. Phillips, Woodrow Kepoo, Joseph	--Oct. 1940 Jensen, Karl Toomey, John K. Kepoo, Joseph
CANTON Island	9 October 1939 *Paquette, Maurice Lee, Henry K.	12 March 1940 *Stein, Charles Lee, Henry K. Zagara, D.P.	25 July 1940 *Stein, Charles Bederman, Thomas Zagara, D.P.	[Withdrawn]
ENDERBURY Island	10 October 1939 *Kim, Harold Rahe, Bernard Wilhelm, Fred	13 March 1940 *Kim, Harold Hartwell, David Roberts, Oliver Smith, H. M.	27 July 1940 *McCorriston, Mike Hartwell, David Roberts, Oliver Smith, H.M.	--Oct. 1940 *McCorriston, Mike Smith, H.M. Roberts, Oliver Hartwell, David
JARVIS Island	15 October 1939 *Kinney, James MacKeller, Ian Kalama, David Ching, Lawrence	17 March 1940 *Kinney, James MacKeller, Ian Kalama, David Ching, Lawrence	1 August 1940 *Lee, Henry K. Stillman, F.M. Kalama, David Ching, Lawrence	--Oct. 1940 *Lee, Henry K. Stillman, G.C.L. Kalama, David Ching, Lawrence
Spare on cruise	Roberts, Oliver	Keliihananui, Joseph Jenson, Karl E.	Kahapea, Wm. N. Ruddle, F.G.	Pea, William Paoa, Melvin
Returned to Honolulu:	21 Oct. 1939	23 Mar. 1940	6 Aug. 1940	22 Oct. 1940

SUMMARY CHART 5. UNDER THE U. S. DEPARTMENT OF INTERIOR

SUMMARY CHART 6. UNDER THE U. S. DEPARTMENT OF INTERIOR

Cruise No.:	21	22	23	24
U.S.C.G. Cutter:	ROGER B. TANEY	ROGER B. TANEY	?	?
Commanded by:	Gelly, G.B., LtCmdr.	Olson, L.B., Cmdr.		
Expedition Leader:	Stockstill, Roy E.	Stockstill, Roy E.	?	?
Left Honolulu	--May 1941	23 July 1941	--Nov. 1941	--Feb. 1942
"COLONISTS"				
HOWLAND Island	27-28 May 1941 Bederman, T. W. Keliihananui, J. Knell, H. C. Zagara, D. P.	28 July 1941 Bederman, T.W. Keliihananui, J. Whaley, Richard Mattson, Alvin K.	Bederman, T.W. Keliihananui, J.) Whaley, Richard) Mattson, Alvin K.	Picked up: 31 Jan. 1942 Bederman, T.W. Killed Dec. 18, 1941 Mattson, Alvin K.
BAKER Island	25-27 March 1941 Rankin, Ernest W. Pea, William K. Jensen, K.E. Kepoo, Joseph	28 July 1941 *Burke, Walter Makua, Blue Jensen, K.E. Kepoo, Joseph	--Nov. 1941 *Burke, Walter Pease, J. K. Coyle, J. W. Makua, Blue	31 January 1942 *Burke, Walter Pease, J. K. Coyle, J. W. Makua, Blue
CANTON Island	(Withdrawn 22 Mar. 1940)			
ENDERBURY Island	23 March 1941 *Jensen, H.P.,Jr. Kilbey, John C. Kaulu, Albert F. Smith, H.M.	30 July 1941 *Jensen, H.P. Kilbey, John C. Kaulu, Albert F. Riley, James K.	--Nov. 1941 Kepoo, Joseph Brahn, J.F. Riley, J.J.	7 February 1942 Kepoo, Joseph Brahn, J.F. Riley, J.J.
JARVIS Island	1 April 1941 *Lee, H. K. Henderson, Waldron Phillips, M.W. Hartwell, David K.	2 August 1941 Lee, Henry K. Phillips, P.G. Renken, E. K. *McCorriston, E.M.	--Nov. 1941 Jensen, K.E. Phillips, P.G. Renken, E.K. Hartwell, D.K. Hall, Bernard H.	9 February 1942 Jensen, Karl E. Phillips, P.G. Renken, E.K. Hartwell, David K. Hall, Bernard H.
Spare on cruise		Paoa, Melvin		
Cruise without pay	Kalama, Solomon			
Returned to Honolulu:	7 April 1941	6 August 1941	--	--Feb. 1942

SUMMARY CHART 7

CRUISE 1. 1935

Abbreviated Log:

20 March. Sailed from Honolulu
23 March. Visited Palmyra I.
25 March. Jarvis I. Established camp, 25 & 26 March
30 March. Howland I. Estab. camp, 30-31 & 1 April
2 April. Baker I. Established camp 2-3 April
6 April. Visited Swains I.
7 April. Arrived Pago Pago
14 April. Departed Pago Pago
15 April. Visited Swains I.
18 April. Baker & Howland Is.
22 April. Jarvis Island
23 April. Passed Washington I.
27 April. Docked at Honolulu

Official Party:

W.T. Miller, Expedition Leader
H.A. Meyer (A), Assistant
Edwin Gunner (A)
J.G. Howard (A)
Herman W. Schull, Jr. (A)
13 enlisted men (A) on furlough
E. H. Bryan, Jr.
7 "colonists"

CRUISE 2. 1935

Abbreviated Log:

9 June. Sailed from Honolulu
13 June. Visited Palmyra I.
15 June. A.M. Jarvis I.
19 June. A.M. Baker Island
P.M. Howland I.
23 June. Visited Johnston I.
26 June. Returned to Honolulu

Official Party:

W.T. Miller, Expedition Leader
H.A. Meyer (A), Assistant
H.DeW. Porterfield (A)
Albert F. Judd
Donald D. Mitchell (Kam School)
M.E. Griffin (A)
R.A. Meredith (A)
6 Boy Scouts
8 "colonists"

CRUISE 3. 1935

9 September. Left Honolulu
12 September. Anchored Kingman Reef
13 September. Anchored Palmyra I.
15 September. Jarvis I.
19 September. A.M. Baker I.
P.M. Howland I.
-- September. Returned to Honolulu

Official Party:

W.T. Miller, Expedition Leader
H.A. Meyer (A), Assistant
6 "colonists"

CRUISE 4. 1936

Abbreviated Log:

9 January. Sailed from Honolulu
13 January. Visited Palmyra I.
15 January. Jarvis I.
19 January. A.M. Baker I.
P.M. Howland I.
20 January. Howland I.
24 January. Swains I.
26 January. Pago Pago Harbor
26 February. Departed Pago Pago
27 February. Swains I.
1 March. A.M. Baker I.
P.M. Howland I.
5 March. Jarvis I.
9 March. Returned to Honolulu

Official Party:

W.T. Miller, Expedition Leader
H.A. Meyer (A), Assistant
Linton Werndon (N)
Clayton L. Bissell (A)
Ralph W.D. Woods (N)
Emery W. Stephens (N)
Richard J.H. Coun (N)
6 enlisted men (A) on furlough
9 "colonists" (on trip S.)
21 "colonists" (on trip N.)

(A) = Army.
(N) = Navy.

(A) - Army.

SUMMARY CHART 8

CRUISE 5A. 1936

Abbreviated Log:

13 June. Departed Honolulu
18 June. Baker I. Reestablished camp
18 June. P.M. Howland I. Reestablished camp.
23 June. Returned to Honolulu

Official Party:

H.A. Meyer, Capt. U.S. Army, Expedition Leader
3 enlisted men (U.S. Army)
11 "colonists"

CRUISE 5B. 1936

Abbreviated Log:

13 June. Departed Honolulu
19 June. Arrived Jarvis I. Reestablished camp.
25 June. Returned to Honolulu

Official Party:

Austin Collins, Expedition Leader
5 "colonists"

CRUISE 6. 1936

Abbreviated Log:

25 July. Departed Honolulu
28 July. Palmyra I.
30 July. Jarvis I.
2 August. Left Jarvis I.
6 August. Baker I.
6 August. Howland I. (landed)
7 August. Baker I.
8-9 August. Howland I.
10 August. Departed Howland I.
17 August. Arrived Honolulu

Official Party:

W.T. Miller, Expedition Leader
Richard B. Black (Interior Dept.)
Harry T. Stewart (Hawaii Dept. of Public Works)
Robert Hite
Richard Stafford
8 "colonists"
to the islands and returning

CRUISE 7. 1936

Abbreviated Log:

16 October. Departed Honolulu
20 October. Stopped at Palmyra I.
22 October. Jarvis I.
26 October. A.M. Howland I.
P.M. Baker I.
27 October. Spoke S.S. Pelican, found for Howland I. conference
30 October. Stop at Palmyra I.
31 October. Returned to Honolulu

Official Party:

Richard B. Black (Interior Dept.)
Col. Perry G. Smoot, Adjutant General of Hawaii
Judge Samuel B. Kemp
Luigi Giacometti of Hilo
F.L. Lillymann (A), Stenographer
9 "colonists"
to the islands and returning

SUMMARY CHART 9

CRUISE 8. 1937

Abbreviated Log:

13 Jan. Departed Pearl Harbor
15 Jan. Changed course to Fanning because of sick crewman
17 Jan. Landed sick man at Fanning I.
18 Jan. Jarvis I.
19 Jan. Departed Jarvis
22 Jan. Howland I.
23-26 at Howland I.
27 Jan. Baker I.
28 Jan. Howland I.
1 Feb. Fanning I., where crewman had died on 30 Jan.
2 Feb. Departed Fanning I.
5 Feb. Arrived Pearl Harbor

Official Party:

Richard B. Black, Exped. Leader
Capt. H.A. Meyer (A), Assistant
Lt. Cmdr. Frank Kenner (USCG) (special landing officer)
Robert Campbell and 9 W.P.A. workers, Dept. of Commerce, Bureau of Airways (Howland airfield)
Charles F. Borne, 1st Lt., Army Air Corps
Lt. C.L. Lee, U.S. Navy
D.H. Ellsworth (C.P.A.A.) (USN)
5 "colonists"

CRUISE 9. 1937

Abbreviated Log:

10 March. Departed Honolulu
15 March. Arrived Howland I.
16 March. Arrived Baker I.
17 March. Arrived Howland I.
20 March. Departed Howland I.
24 March. Arrived Jarvis I.
25 March. Delivered mail to Fanning I.
26 March. Visited Palmyra I.
29 March. Arrived Honolulu

Official Party:

Richard B. Black, Exped. Leader
Lt. Cmdr. Frank T. Kenner (USCG)
David J. Zaugg, Asst. Surgeon, PHS
Capt. H.A. Meyer (A), Advisor
Lt. Arnold E. True, USN Aerographer
1st Lt. Daniel A. Cooper (USA Air Corps)
Arundel H. Keane, Associated Press
V.M. Culver, United Press
6 enlisted men (A) on furlough
5 U.S. Navy personnel
3 "colonists"

CRUISE 10A. 1937

Abbreviated Log:

18 June. Departed Honolulu
24 June. Arrived Baker I.
25 June. Arrived Howland I. Participated in the search for Amelia Earhart and Fred Noonan
24 July. Returned to Honolulu

Official Party:

Richard B. Black (Interior Dept.)
Frank T. Kenner (Assistant)
Capt. Alexander Neilson (Army Eng.)
Lt. Daniel Cooper (USAC)
Sgt. Anton Hansen, AC photographer
K.A. Perry, Aviation Mech. Mate
R.D. Woodall, photographer 1st cl.
Albert Akana, Sr. and Henry Lau (Radio Tech.), guests on cruise
8 "colonists"

NOTE: Also taking part in the search were: Aircraft carrier LEXINGTON; destroyers CUSHING, LAMSON, and DRAYTON.

CRUISE 10B. 1937

Abbreviated Log:

29 July. Left Honolulu
Stopped at Fanning to deliver mail.
2 Aug. Jarvis I.
6 Aug. Returned to Honolulu

Official Party:

Richard B. Black (Interior Dept.)
Donald D. Mitchell, Kam. School
2 "colonists" each way

CRUISE 11. 1937

Abbreviated Log:

23 Oct. Departed Honolulu
27 Oct. Sighted Kingman Reef
27 Oct. Visited Palmyra I.
29 Oct. Fanning Island
30 Oct. Christmas I.
31 Oct. Jarvis I.
1 Nov. Departed Jarvis I.
5 Nov. Arrived Pago Pago
7 Nov. Departed Pago Pago
8 Nov. Apia, Samoa
10 Nov. Underway for Savaii I.
11 Nov. Swains I.
12 Nov. Sighted Atafu I.
13 Nov. Sighted Hull I., anchored off Sydney I.
14 Nov. Visited Phoenix, Enderbury & Canton Is.
16 Nov. Baker I. (too rough)
16 Nov. Howland I.
17 Nov. Baker I.
23 Nov. Arrived pier 12, Honolulu

Official Party:

Dr. Ernest Gruening (Director, Div. of Territories & Island Possessions)
Hon. Joseph B. Poindexter, Gov. of Hawaii
H. H. Warner (Director, Agric. Extension Serv.)
Richard B. Black, Cruise Director
Edmund T. Gorman, Aviation Advisor
5 sons of executives
Roy Miller, Photographer, USN
Carl Summers (Asst. to Black)
T.H. Sunn (Cler. Asst. to Black)
Roy J. Jenkins, USN, (to Pago Pago)
6 "colonists" south; 6 back

CRUISE 12. 1938

Abbreviated Log:

28 Feb. Left Honolulu
-- Mar. Howland I.
-- Mar. Baker I.
6 Mar. Enderbury I.
7 Mar. Canton I.
8 Mar. Enderbury I.
9 Mar. Canton I.
-- Mar. Howland I.
-- Mar. Baker I.
-- Mar. Jarvis I.
21 Mar. Returned to Honolulu

Official Party:

Richard B. Black (Interior Dept.)
Frederick E. Edgecomb (U.S. Lighthouse Service)
Hugh H. Waesche (Kilauea Obs.)
Samuel H. Lamb (Haw. Nat. Park)
Perry O. Paxton (Capt.Army Eng.)
Jack Young, Young Bros.
Henslee Towill and Alfred Voigh, surveyors, to Canton
Alexander McCalland
9 "colonists" (south)
(3 returned to Hawaii)

CRUISE 13. 1938

Abbreviated Log:

16 July. Left Honolulu
22 July. Howland I.
23 July. Baker I.; back to Howland
25 July. Canton I.
26 July. Enderbury I.
27 July. Canton I.
28 July. Passed Birnie & Hull Is.
29 July. Passed Atafu I.
30 July. Stopped at Swains I.
31 July. Arrived Pago Pago
3 Aug. Left Pago Pago; visited Tau
4 Aug. Visited Rose atoll
5 Aug. Stopped at Pukapuka
8 Aug. Arrived Jarvis I.
9 Aug. Left Jarvis I.
10 Aug. Whalers Anchorage, Fanning I.
11 Aug. Palmyra I.
12 Aug. Left Palmyra I.
13 Aug. Passed Kingman Reef.
15 Aug. Returned to Honolulu

Official Party:

Samuel Wilder King, Deleg. to Cong.
Richard B. Black (Interior Dept.)
J. Walter Doyle, Collector of Customs
E.H. Bryan, Jr., Bishop Museum
Arthur R. Beach, Radio Engr. (A)
Edward B. Brier, Haw. Dredging Co.
George C. Munro, Birdbander, US Biol.
W. R. Donaghho, Wm.C. Emory (Munro)
Henry T. Zerbe (Mutual Telephone Co.)
James C. Kamakaiwi (colonist's father)
Herbert E. Strange, Lt. (U.S. Navy Aerologist)
Theodore B. Anderson,1st Lt. (Army Air Corps)
Charles Billingslea, 2nd Lt. (A)
3 Navy Assts.; 1 Army Asst.
12 "colonists"

EMERGENCY CRUISE 13A. 1938
ROGER B. TANEY, E.A. Coffin

4 Oct. Left Honolulu
7 Oct. Jarvis I.
10 Oct. Returned to Honolulu

Carl Kahelewai, sick with appendicitis, died 8 Oct. on return voyage.

Richard B. Black, Cruise Dir.
Jacob Haili, replacement

CRUISE 14. 1938

Abbreviated Log:

25 Nov. Left Honolulu
30 Nov. Howland I.
1 Dec. Baker I.
2 Dec. Canton I.
3 Dec. Enderbury I.
11 Dec. Jarvis I.
18 Dec. Returned to Honolulu

Official Party

Richard B. Black
Major James C. Van Ingen (aerologist)
Capt. J.T. Barney (U.S.A.)
Capt. James B. Newman, Jr.(U.S.A.)
Lt. Frank H. Shepardson)
Lt. Merlin I. Carter) U.S.Army unofficial observers
Cmdr. C.H. Cotter (Dist.Pub.Wks.)
John C. Boyle, PAA Airport Mgr.
Charles Marion (U.S. Lighthouse Service)
Henry M. McMahon, photographer
Various Army enlisted men

EMERGENCY CRUISE 14A. 1939
ROGER B. TANEY, E. A. Coffin

7 Jan. Left Honolulu
10 Jan. Jarvis I.
13 Jan. Arrived Honolulu

Manuel Pires relieved by Alexander Wong. Threat of appendicitis. Successful operation 21 January.

CRUISE 15. 1939

Abbreviated Log:

15 March. Departed Honolulu
20 March. Baker I.
21 March. Howland I.
23 March. Enderbury I.
24 March. Arrived Canton I.
25 March. Departed Canton I.
28 March. Arrived Jarvis I. (too rough to land)
30 March. Jarvis I. Landed and departed
31 March. Visited Palmyra I.
1 April. Returned to Honolulu

Official Party:

Col. J.M. Huey (USMC, Ret.)
Lt. Col. John D. Kilpatrick (USA)
Major J.W.McDonald (USA) & son
Major H.M. Woodward (USA,C.W.S.)
Frank O. Boyer
Capt. A. R. Sewall (USA)
Capt. C.D. Calley (USA)
Capt. J.J. Billo (USA)
Carl F. Eifler (Customs)
7 enlisted men (USA)
Arthur Harris (Honolulu P.D.)
11 "colonists"

CRUISE 16. 1939

Abbreviated Log:

20 May. Departed Honolulu
21 May. Stop at Hilo, Hawaii
28 May. Canton I.
31 May. Arrived Pago Pago
3 June. Left Pago Pago
6 June. Canton I with PAA materials
7 June. Enderbury I.
8 June. Canton I.
10 June. A.M. Baker I.
P.M. Howland I
11 June. Departed Howland I.
12 June. Enderbury I.
14 June. Jarvis I. (no landing)
15 June. Landed Jarvis I.
17 June. Stop at Palmyra I.
20 June. Returned to Honolulu

Official Party:

Frank T. Kenner (Interior Dept)
Col. W.J. Roberts (USA)
R.C. Campbell (Civ.Aeron.Authority)
A.C. Campbell, news photographer
Major H.H. Pohl (Asst. U.S.Dist.Eng.)
H.H. Warner (U.H. Agric. Extension)
John A. Young (Young Bros.)
Frank O. Boyer (Dearborn Chem. Co.)
William Norwood (Hon.Star-Bul.)
L. Bartells
R.C. Knowles (Av.Cadet, USN)
Abraham Piianaia
6 PAA personnel, Canton managers
14 "colonists", 13 returning

SUMMARY CHART 12

CRUISE 17. 1939

Abbreviated Log:

2 Oct.	Departed Honolulu
3 Oct.	Turned back because of crewman appendicitis
4 Oct.	Return to Honolulu
9 Oct.	Canton I.
10 Oct.	Enderbury I.
12 Oct.	Baker I. & Howland I.
15 Oct.	Jarvis I.
16 Oct.	Departed Jarvis I.
17 Oct.	Stopped at Palmyra I.
21 Oct.	Returned to Honolulu

Official Party:

Frank T. Kenner, Leader
Ashley Browne (U.H.Agric.Ext.)
Lawrence Browne (Weather Bureau)
Lt. Col. I. Spalding (USA)
Major H.W. Ulmo (USA)
I.H. Polk (Civ. Aeron. Authority)
John Young (guest)
9 PAA employees to Canton;
11 others returned to Hawaii
25 new Coast Guardsmen
6 "colonists" south
9 "colonists" to Honolulu

CRUISE 18. 1940

Abbreviated Log:

4 March.	Departed Honolulu
9 March.	Howland I.
10 March.	Baker I.
12 March.	Canton I.
13 March.	Enderbury I.
14 March.	Canton I.
17 March.	Arrived Jarvis I.
18 March.	Left Jarvis I.
20 March.	Arr. Palmyra I.
21 March.	Left Palmyra I.
23 March.	Returned to Honolulu

Official Party:

Frank T. Kenner, Leader
Col. C.C. Stokeley (USA)
Lt. Col. G.E. Arneman (USA)
Lt. Col. Isaac Spalding
Capt. G.E. Burritt (USA)
Capt. J.P. Evans "
1st Lt. Francis Hill "
Ashley Browne (UH Agr. Ext.)
Philip Brooks (Bank of Hawaii)
W.F. McBride (C.A.A Engineer)
I.H. Polk " "
5 enlisted men (USA)
12 "colonists" south; 11 north

CRUISE 19. 1940

Abbreviated Log:

18 July.	Departed Honolulu
23 July.	Howland I.
24 July.	Departed Howland; arrived Baker I.
25 July.	Canton I.
27 July.	Enderbury I.
28 July.	Baker I.
29 July.	Baker & Howland Is.
1 Aug.	Jarvis I.
2 Aug.	Departed Jarvis I.
6 Aug.	Returned to Honolulu

Official Party:

Frank T. Kenner, Leader
Hon. J. Walter Doyle (Customs,Honolulu)
Major J.R. Bibb (USA)
Capt. R.C. Ross "
R.H. Van Zwaluwenburg (HSPA Entomol.)
A.O. Durham (Civ. Aeron. Auth.)
T.G. Lewton, Jr.
5 enlisted men (USA)
Martin Vurpillatt (PAA)
John Texeira (PAA)
Won Pat (PAA)
8 "colonists" south, 7 north

SUMMARY CHART 13

CRUISE 20. 1940

Abbreviated Log:

3 Oct. Left Honolulu
Canton I.
Enderbury I.
Howland I.
Baker I.
Jarvis I.
Palmyra I.
22 Oct. Returned to Honolulu

Official Party:

Brig. Gen. Walter H. Frank
Capt. Brooke Allen (aide)
Lt. Col. Frederick Herr
Judge Delbert E. Metzger
D.L. Givens (CAA agent)
W.H. Hill "
I.H. Polk "
T.G. Banks "
4 "colonists" south
8 "colonists" north

CRUISE 21. 1941

Abbreviated Log:

17 March. Departed Pearl Harbor
22 March. Canton I.
23 March. Enderbury I.
25 March. Arr. Baker I.
27 March. Left Baker I.;
arr. Howland I.
28 March. Left Howland I.
1 April. Jarvis I.
4 April. Palmyra I.
7 April. Returned to Honolulu

Official Party:

Lt. Roy E. Stockstill (Acting Field Representative)
Cmdr. C.R. Eagle (USN)
Lt.Col. L.W. Ballantyne (MC,USA)
Capt. Ernest Moore (AC, USA)
Robert C. Campbell (C.A.A.)
Solomon Kalama (former "colonist")
9 "colonists" south
9 "colonists" north

CRUISE 22. 1941

Abbreviated Log:

23 July. Departed Honolulu
28 July. A.M. Howland
P.M. Baker
30 July. Enderbury I.
30 July. Canton I.
2 Aug. Jarvis I.
6 Aug. Returned to Honolulu

Official Party:

Roy E. Stockstill (Acting Field Representative)
9 "colonists" south
8 "colonists" north

CRUISE 23. 1941

-- Nov. Left Honolulu
" Howland I.
" Baker I.
" Canton I. (no "colonists")
" Enderbury I.
" Jarvis I.
" returned to Honolulu

7 "colonists" each way.

CRUISE 24. 1942

Removed all the 14 "colonists" from Howland, Baker, Enderbury and Jarvis. Joseph Keliihananui and Richard Whaley had been killed on Howland Dec. 18, 1941.

ROSTER OF "COLONISTS"

ON THE EQUATORIAL ISLANDS, 1935 to 1942

	Cruise No. To	Dates on Island	Cruise No. From
Ahia, Charles	7	JARVIS 22 Oct. 1936-24 Mar. 1937	9
Ahia, Charles A.	10A	BAKER 24 June 1937-16 Nov. 1937	11
	11	HOWLAND 16 Nov. 1937- -Mar. 1938	12
Ahia, Henry H.	1	JARVIS 23 Mar. 1935-15 Jan. 1936 * 15 Jan. 1936 on; to Samoa	4
	5B	*JARVIS 15 Jan. 1936-30 July 1936	6
Akaka, Luewellyn	15	Spare on cruise	15
Akana, Albert K., Jr.	7	*BAKER 26 Oct. 1936-25June, 1937	10
	11	JARVIS 1 Nov. 1937- 8 Aug. 1938	13
Akana, Bernard	14	BAKER 31 Oct. 1938-10 June 1939	16
Akana, George	13	JARVIS 8 Aug. 1938-11 Dec. 1938	14
	15	*JARVIS 30 Mar. 1939-15 June 1939	16
Akana, Theodore	11	BAKER 17 Nov. 1937-23 July 1938	13
Anahu, William M.	2	HOWLAND 19 June 1938-19 Sept. 1938	3
Anakalea, Joseph	3	HOWLAND 19 Sept.1935- 1 Mar. 1936 (* from 19 Jan. 1936)	4
	6	HOWLAND 6 Aug. 1936-26 Jan. 1937	8
	10A	HOWLAND 19 July 1937- -Mar.1938	12
	12	ENDERBURY 7 Mar. 1938-26 July 1938	13
Au, Charles	16	BAKER 10 June 1939-10 Mar. 1940	18
Aune, Edward (Army)	1	JARVIS 23 Mar. 1935- 5 June 1935	2
Beatty, Rupert H. (R.&A.)	15	ENDERBURY 23 Mar. 1939-7 June 1939	16
	16	CANTON 8 June 1939-10 Oct. 1939	17
Bederman, Thomas Wright	16	HOWLAND 10 June 1939- 9 Mar. 1940	18
	19	CANTON 25 July 1940- -Oct. 1940	20
	21	HOWLAND 28 May 1941-31 Jan. 1942	24
Bell, Kenneth	5A	BAKER 18 June 1936- 7 Aug. 1936	6
Blake, Hartwell	5B	JARVIS 19 June 1936- 1 Aug. 1936	6
Boyd, Andrew	13	BAKER 23 July 1938-20 Mar. 1939	15
Braun, Charles	14	ENDERBURY 3 Dec. 1938-23 Mar. 1939	15
Braun, Clarence	13	ENDERBURY 26 July, 1938- 3 Dec.1938	14
Bruhn, James Ferdinand	23	ENDERBURY - Nov. 1941- 7 Feb. 1942	24
Burke, Eugene	7	BAKER 26 Oct. 1936-25 June 1937	10
	11	JARVIS 1 Nov. 1937- 8 Aug. 1938	13
	14	HOWLAND 30 Nov. 1938-10 June 1939 (* from 21 Mar. 1939)	16

*Island Leader

	Cruise No. To	Dates on Island	Cruise No. From
Burke, Walter Kalani	16	(spare on cruise)	
	22	*BAKER 28 July 1941-31 Jan. 1942	24
Bush, Harry	13	(spare on cruise)	
Calley, Charles D., Jr.	14	CANTON 2 Dec. 1938-24 Mar. 1939	15
Carroll, James	4	(spare on cruise); to Samoa	
Chang, Herbert	11	BAKER 17 Nov. 1937-22 July 1937	13
		HOWLAND 23 July 1937-30 Nov. 1938	14
Ching, Archie	2	BAKER 19 June, 1935-19 Sept. 1935	3
Ching, Lawrence (Mao Hua)	14	BAKER 1 Dec. 1938-10 June 1939	16
	17	JARVIS 15 Oct. 1939- 1 Apr. 1941	21
Cockett, Frank	2	JARVIS 15 June 1935-15 Sept. 1935	3
Collins, Austin (Army)	1	*JARVIS 25 Mar. 1935-15 June 1935	2
Cowden, Lawrence C. (radio)	15	BAKER 20 Mar. 1939-10 June 1939	16
Coyle, James W.	23	BAKER - Nov. 1941-31 Jan. 1942	24
Crockett, Herbert	5A	(spare, 13-23 June 1936)	
Duff, Leonard (Army)	1	HOWLAND 30 Mar. 1935-19 June 1935	2
Dyen, Samuel (Army)	1	HOWLAND 31 Mar. 1935-18 Apr. 1935	2
Faufata, Folinga	3	HOWLAND 19 Sept. 1935-20 Jan. 1936 (to Samoa)	4
	7	(spare on cruise)	
Feigenbaum, Ralph (radio)	17	(Did not make cruise; returned with a sick member of Taney crew, 3 Oct. 1939)	
Fialkowski, Henry	14	HOWLAND 30 Nov. 1938-21 Mar. 1939	15
		*CANTON 24 Mar. 1939- 8 June 1939 (employed by P.A.A.)	
Graf, Wyman (Army)	1	JARVIS 25 Mar. 1935-15 June 1935	2
Haili, Jacob	3	JARVIS 15 Sept. 1935- 4 Mar. 1936	4
	6	JARVIS 30 July 1936-19 Jan. 1937	8
	12	CANTON 7 May 1938-25 July 1938	13
	13A	JARVIS 7 Oct. 1938-11 Dec. 1938	14
Hall, Barnard	23	JARVIS - Nov. 1941- 9 Feb. 1941	24
Harbottle, Isaac	16	ENDERBURY 7 June 1939-10 Oct.1939	17
Harris, Arthur	2	(spare on cruise) (Also on Baker with Dana Coman expedition)	
Hartwell, David Kawila	18	ENDERBURY 13 Mar. 1940-23 Mar.1941	21
	21	JARVIS 1 Apr. 1941- 2 Aug. 1941	22
	23	JARVIS - Nov. 1941- 9 Feb. 1942	24
Henderson, Waldron	18	HOWLAND 9 Mar. 1940-25 Mar. 1941	21
	21	JARVIS 1 Apr. 1941- 2 Aug. 1941	22
Hooper, Herbert	3	BAKER 19 Sept. 1935- 1 Mar. 1936 (* from 19 Jan. 1936)	4

	Cruise No. To	Dates on Island	Cruise No. From
Hutchinson, William L.	15	HOWLAND 21 Mar. 1939-11 June 1939	16
Jacobson, Victor	5A	(spare on cruise June 13-23, 1936)	
Jensen, Hans Peter	16	BAKER 10 June 1939-24 July 1940	19
	21	*ENDERBURY 23 Mar.1941- -Nov. 1941 (Commended for good camp, 28 July)	23
Jensen, Karl Emil	18	(spare on cruise)	
	19	BAKER 24 July 1940- -Nov. 1941	23
	23	JARVIS - Nov. 1941- 9 Feb. 1942	24
Kaahea, Henry	12	CANTON 7 Mar. 1938- 2 Dec. 1938	14
Kahalewai, Carl	13	JARVIS 8 Aug. 1938- 8 Oct. 1938 (Appendicitis; died on Taney Oct. 10)	13A
Kahelewai, Samuel	13	HOWLAND 22 July 1938-30 Dec. 1938	14
	15	CANTON 23 Mar. 1939-10 Oct. 1939 (* from 28 May 1939)	17
Kahanu, George	4	(spare on cruise, including Samoa)	
	5B	JARVIS 19 June 1936- 1 Aug. 1936	6
Kahapea, Alexander	4	HOWLAND 19 Jan. 1936- 1 Mar. 1936	4
Kahapea, William N.	19	(spare on cruise)	
Kaina, William N.	1	BAKER 2 Apr. 1935-19 Jan. 1936 (to Samoa)	4
	5A	BAKER 18 June 1936-26 Oct. 1936	7
	8	HOWLAND 25 Jan. 1937-16 Nov. 1937 (* from 18 July 1937)	11
Kalama, David H.	17	JARVIS 15 Oct. 1939- 1 Apr. 1941	21
Kalama, Solomon	4	HOWLAND 20 Jan. 1936- 1 Mar. 1936	4
	6	*JARVIS 30 July 1936-19 Jan. 1937	8
	10B	JARVIS 2 Aug. 1937- 1 Nov. 1937	11
	21	(made cruise without pay)	21
Kalama, Samuel	2	BAKER 19 June 1935-19 Sept. 1935	3
Kamakaiwi, James C., Jr.	1	HOWLAND 30 Mar. 1935-18 June 1935	
		*HOWLAND 19 June 1935-20 Jan. 1936 (to Samoa)	4
	5A	*HOWLAND 18 June 1936-10 Aug. 1936	6
	7	*HOWLAND 26 Oct. 1936-25 July 1937	10
	12	CANTON 7 Mar. 1938-24 Mar. 1939	15
Kaminau, Charles	5B	(spare on cruise)	
	11	JARVIS 1 Nov. 1937- 8 Aug. 1938	13
Kaulu, Albert Kelii	21	ENDERBURY 23 Mar. 1941- -Nov. 1941	23
Kauahikaua, Archie	3	BAKER 19 Sept. 1935- 1 Mar. 1936	4
Keliihananui, Jos. K.	18	(spare on cruise)	
	19	HOWLAND 23 July 1940 Killed 18 Dec. 1941	

	Cruise No. To	Dates on Island	Cruise No. From
Kepoo, Joseph	19	BAKER 24 July 1940- - Nov. 1941	23
	23	ENDERBURY - Nov. 1941- 7 Feb. 1941	24
Kilbey, John Gibson	21	ENDERBURY 23 Mar. 1941- - Nov. 1941	23
Kim, Bak Sung (student Aerologist)	8	JARVIS 19 Jan. 1937- 2 Aug. 1937	10B
Kim, Harold	12	ENDERBURY 6 Mar. 1938- 3 Dec. 1938 (* from 13 Mar. 1939)	14
	16	*ENDERBURY 7 June 1939-27 July 1940	19
Kim, Joseph	4	BAKER 19 Jan. 1936- 1 Mar. 1936	4
	6	BAKER 7 Aug. 1936-26 Oct. 1936	7
	8	*JARVIS 19 Jan. 1937- 1 Nov. 1937	11
King, Kenneth Lum (radio)	11	HOWLAND 11 Nov. 1937--22 July 1938 (Had been on Howland with Dana Coman expedition, Aug.-Nov. 1935)	13
Kinney, James E.A.	12	HOWLAND 23 Mar. 1938- 3 Dec. 1938 (Special bird-banding assignment)	14
	15	ENDERBURY 23 Mar. 1939- - June 1939	16
	16	JARVIS 15 June 1939- 1 Aug. 1940	19
Knell, Henry Crockett	21	HOWLAND 28 Mar. 1941-28 July 1941 (Badly burned 25 July 1941)	22
Lawler, Vernon (Army)	1	HOWLAND 30 Mar. 1935-19 June 1935	2
Lee Francis	14	JARVIS 11 Dec. 1938-15 June 1939	16
Lee, Frederick	5B	JARVIS 19 June 1936- 1 Aug. 1936	6
	13	CANTON 8 Aug. 1938-24 Mar. 1939	15
	16	CANTON 6 June 1939-10 Oct. 1939 (Left to have dental work done)	17
Lee, Henry Kong (R & A)	13	BAKER 23 July 1938-20 Mar. 1939	15
	15	HOWLAND 21 Mar. 1939-11 June 1939	16
	17	CANTON 9 Oct. 1939-25 July 1940	19
	19	*JARVIS 1 Aug. 1940- - Nov. 1941	23
Leong, Ah Kin (Aerologist)	6	HOWLAND 6 Aug. 1936-26 Oct. 1936	7
	7	BAKER 27 Oct. 1936-27 Jan. 1937	8
	9	BAKER 16 Mar. 1937-24 June 1937	10A
	10B	JARVIS 2 Aug. 1937- - Mar. 1938	12
	13	CANTON 25 July 1938- 3 Dec. 1938	14
	14	ENDERBURY 3 Dec. 1938-23 Mar. 1939	15
Lieson, Robert W.	18	HOWLAND 9 Mar. 1940-27 May 1941	21
Lum, Harold Chin (Aerologist)	7	JARVIS 22 Oct. 1936-19 June 1937	8
Lum, Kum	9	(spare on cruise)	
Lum, Paul Yat (Aerologist)	7	HOWLAND 27 Oct. 1936-15 Mar. 1937	9
	10A	BAKER 25 June 1937-17 Nov. 1937	11
Lum, Yau Fai	6	JARVIS 30 July 1936-23 Oct. 1936	7
	8	HOWLAND 22 Jan. 1937-17 Nov. 1937	11
	12	ENDERBURY 6 Mar. 1938-26 July 1938	13

	Cruise No. To	Dates on Island	Cruise No. From
MacKellar, Ian A. (R & S.A.)	15	JARVIS 30 Mar. 1939- 1 Aug. 1940	19
McCorriston, Edward Mike	12	BAKER 21 Mar. 1938- 1 Dec. 1938	14
	15	HOWLAND 21 Mar. 1939-12 Oct. 1939	17
		(* 10 June 1939 - 12 Oct. 1939)	
	18	HOWLAND 9 Mar. 1940-23 July 1940	19
	19	ENDERBURY 27 July 1940-23 Mar. 1941	21
	22	JARVIS 2 Aug. 1941-23 Nov. 1941	23
Mahikoa, Henry	4	JARVIS 15 Jan. 1936- 4 Mar. 1936	4
Makua, Blue	22	BAKER 28 July 1941-31 Jan. 1942	24
Markham, William Stewart	5A	HOWLAND 18 June 1936- 6 Aug. 1936	6
Mattson, Alvin Kanaina	22	HOWLAND 28 July 1941-31 Jan. 1942	24
Medeiros, Henry	12	HOWLAND 23 Mar. 1938- 1 Dec. 1938	14
Newton, Edmond	5A	(spare on cruise 13-23 June 1936)	5A
Ohunukini, Henry ["Ohumukuii"]	4	HOWLAND 19 Jan. 1936- 1 Mar. 1936	4
Opiopio, Killarney	1	HOWLAND 18 Apr. 1935-19 Jan. 1936	4
		(Swains I. 24 Jan.-27 Feb. 1936)	
	5A	HOWLAND 18 June 1936-26 Oct. 1936	7
Paoa, Melvin Edward Lilikalani	14	ENDERBURY 3 Dec. 1938- 7 June 1939	16
	16	JARVIS 15 June 1939-15 Oct. 1939	17
	18	BAKER 10 Mar. 1940-24 July 1940	19
	20	(spare on cruise)	20
	22	(spare on cruise)	22
Paquette, Maurice	16	ENDERBURY 7 June 1939-10 Oct. 1939	17
	17	*CANTON 10 Oct. 1939- -Mar. 1940	
		(Released to P.A.A. 12 Mar. 1940)	
Pea, Aki Kini	5A	HOWLAND 18 June 1936- 6 Aug. 1936	6
	9	JARVIS 24 Mar. 1937- 1 Nov. 1937	11
	14	CANTON - Dec. 1938- 8 June 1939	
		(Released to P.A.A. on Canton)	
Pea, William Kane	16	HOWLAND 10 June 1939- 23 July 1940	19
	20	(spare on cruise)	20
	21	BAKER 25 Mar. 1941-28 July 1941	22
Pease, James K.	23	BAKER - Nov. 1941-31 Jan. 1942	24
Phillips, Manley Woodrow	16	JARVIS 15 June 1939- 15 Oct. 1939	17
		(Returned for hospitalization)	
	18	BAKER 10 Mar. 1940- - Oct. 1940	20
	21	JARVIS 1 Apr. 1941- 2 Aug. 1941	22
Phillips, Paul Gordon	22	JARVIS 2 Aug. 1941- 9 Feb. 1942	24
Piianaia, Abraham	1	BAKER 2 Apr. 1935-19 Jan. 1936	4
		(* from 19 June 1935) (Swains I.)	
	5A	*BAKER 18 June 1936-26 Oct. 1936	7
	16	(On cruise as a passenger)	16

	Cruise No. To	Dates on Island	Cruise No. From
Pires, Manuel	12	CANTON 7 Mar. 1938-25 July 1938	13
	13	ENDERBURY 26 July 1938- 3 Dec. 1938	14
	14	JARVIS 11 Dec. 1938-10 Jan. 1939 (Appendicitis, Jan. 1939; removed by Cruise 14A on Roger B. Taney)	14A
Rahe, Bernard	15	(spare on cruise)	15
	16	ENDERBURY 7 June 1939-13 Mar. 1940	18
Renken, Ernest Kalane	21	BAKER 25 Mar. 1941-28 July 1941	22
	22	JARVIS 2 Aug. 1941- 9 Feb. 1942	24
Riley, James Joseph	22	ENDERBURY 30 July 1941- 7 Feb. 1942	24
Roberts, John	13	CANTON 25 July 1938- 2 Dec. 1938	14
	14	ENDERBURY 3 Dec. 1938-23 Mar. 1939	15
Roberts, Oliver K(ahahawai)	17	(spare on cruise)	17
	18	ENDERBURY 13 Mar. 1940-23 Mar. 1941	21
Robinson, Alexander	16	HOWLAND 10 June 1939- 9 Mar. 1940	18
Ruddle, Francis	19	(spare on cruise)	19
Smith, Henry M(arble)	18	ENDERBURY 13 Mar. 1940-30 July 1941	22
Sproat, Manuel	6	JARVIS 30 July 1936-22 Oct. 1936	7
Stein, Charles	16	BAKER 10 June 1939-10 Mar. 1940	18
	18	*CANTON 12 Mar. 1940- - Oct. 1940	20
Stillman, Francis M.	14	JARVIS - Dec. 1938-15 June 1939	16
	17	HOWLAND 12 Oct. 1939- 9 Mar. 1940	18
	19	JARVIS 2 Aug. 1940- - Oct. 1940	20
Stillman, George Christian Lappe	20	JARVIS - Oct. 1940- 1 April 1941	21
Suares, Louis	15	*BAKER 20 Mar. 1939-10 Mar. 1940 (Commended, 10 June 1940)	18
	19	*HOWLAND 23 July 1940-28 May 1941	21
Summers, Carl (Army)	1	*BAKER 2 Apr. 1935-19 June 1935	2
Surber, Ralph (Army)	1	BAKER 2 Apr. 1935-19 June 1935	2
Tavares, William	7	HOWLAND 27 Oct. 1936-18 July 1937	10A
	11	HOWLAND 16 Nov. 1937- 2 Mar. 1938	12
	12	ENDERBURY 6 Mar. 1938- - Dec. 1938	13
	14	HOWLAND 30 Nov. 1938-31 Mar. 1939	15
	15	ENDERBURY 23 Mar. 1939- 7 June 1939	16
Theiss, Henry (Army)	1	HOWLAND 30 Mar. 1935-19 June 1935	2
Toomey, Daniel K.	1	JARVIS 25 Mar. 1935-15 Jan. 1936 (to Samoa)	4
Toomey, John Kauwe	18	BAKER 10 Mar. 1940-25 Mar. 1941	21
Toomey, William T.	2	HOWLAND 19 June 1935-19 Sept. 1935	3
Victor, Gabriel	7	BAKER 26 Oct. 1936-25 June 1937	10
Waiwaiole, Luther	4	BAKER 19 Jan. 1936- 1 Mar. 1936	4
	14	CANTON - Dec. 1938- 8 June 1939	16

	Cruise No. To	Dates on Island	Cruise No. From
West, George	2	JARVIS 15 June 1935-15 Sept. 1935	3
Whaley, Richard	22	HOWLAND 28 July 1941 (Killed on Howland, 18 Dec. 1941)	
Wilhelm, Frederick	14	HOWLAND - Nov. 1938-21 Mar. 1939	15
	16	CANTON 6 June 1939-10 Oct. 1939	17
	17	ENDERBURY 10 Oct. 1939-13 Mar. 1940	18
Williamson, Elmer	2	(spare on cruise)	2
	10	BAKER 25 June 1937-21 Mar. 1938 (With Dana Coman expedition on Howland, 3 Aug.- Nov. 1935)	12
Wilson, Ralph (Army)	1	BAKER 2 April 1935-19 June 1935	2
Wong, Alexander	12	JARVIS - Mar. 1938-11 Dec. 1938	14
	14A	JARVIS 10 Jan. 1939-30 Mar. 1939 (Replacement for Manuel Pires)	15
Wood, Joshua K.	13	ENDERBURY 26 July 1938- 3 Dec. 1938	14
Yomes, William	4	JARVIS 15 Jan. 1936- 4 Mar. 1936	4
	6	HOWLAND 6 Aug. 1936-27 Oct. 1936	7
Young, Edward	3	JARVIS 15 Sept. 1935- 4 Mar. 1936 (* from 15 Jan. 1936)	4
	5A	BAKER 18 June 1936-26 Oct. 1936	7
	8	JARVIS 19 Jan. 1936- 2 Aug. 1937	10B
Zagara, Dominic Paul (radio)	18	CANTON 12 Mar. 1940- - Oct. 1940	20
	21	HOWLAND 28 May 1941- 28 July 1941 (2nd degree burns, 25 July 1941)	22

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Durham, A.O.	Civil Aeronautics Authority	19
Eagle, C.R.	Cdr. (SC), U. S. Navy	21
Edgecomb, Frederick E.	U. S. Lighthouse Service	12
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Emory, William C.	Assistant to G.C. Munro, bird banding	13
Evans, J.P.	Capt., U.S. Army	18
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Gorman, Edmund T.	1st Lt.,U.S.A.; tech.asst. to Dr. Gruening	11
Griffin, M.E.	Mess Sgt., U.S. Army	2
Gruening, Dr. Ernest	Director, Div. of Territories... Dept. Interior	11
Gruening, Peter	(son of Dr. Gruening)	11
Gunner, Edwin	Col., U.S. Army	1
Hanslik, H.N.	United Press	10
Harris, Arthur	Honolulu Police Dept.	15
Hill, Francis	1st Lt., U.S. Army	18
Hite, Robert		6
Howard, J.G.	Lt., U.S. Army	1
Huey, J.M.	Col., U.S.M.C. (Ret.)	15
Hunley, Walter L.,Jr.	(son of Chief Machinist W.L. Hunley)	11
Judd, Albert F.	President Trustees, B.P.Bishop Museum	2
Kamakaiwi,James C.,Sr.	(father of a "colonist")	13
Keane, Arundel H.	Associated Press representative	9
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Miller, Roy	Photographer 1st Class, U.S. Navy	11
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Moore Ernest	Captain (AC), U.S. Army	21
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Sewall, A.R.	Capt., 13th F.A., U.S. Army	15
Shepardson, Frank H.	Lt., U.S. Army	14
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Ulmo, H.W.	Major, U.S. Army	17
Van Ingen, James C.	Major (aerologist)	14
Van Zwaluwenburg, R.H.	Entomologist, H.S.P.A. (to Canton)	19
Waesche, Hugh H.	Geologist, Kilauea Observatory	12
Voigh, Alfred	Surveyor (for Canton I.)	12
Warner, H.H.	Hawaii Agric. Extension Service	11,16
Werndon, Linton	Lt.Cmdr., U.S. Navy	4
Woodward, H.M.	Major, U.S. Army, C.W.S.	15
Woods, Ralph W.D.	Lt., U.S. Navy	4
Young, John A. "Jack"	Manager, Young Brothers	12,16
Young, John A., Jr.		17
Zaugg, D.J.	Assistant Surgeon, P.H.S.	9
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JUNIOR PASSENGERS

Boy Scouts:	Robert Cooper, Wilfred Derby, Jr., Owen Fowler, Jack Hutchinson, Gerrit P. Judd, Jack Marr	2
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Bayham, W.L.	Corp., 18th Air Base Sq.		15
Bellinoff, A.	Pvt.		18
Bonaouoro, Otto	Pvt., U.S.A.		4
Brooks, A.S.	Pvt., 18th Air Base Sq.		15
Carey, John F.	Master Sgt., 11th F.A.		19
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Curley, Wilfred J.	Sgt. MP Co. Haw. Dept.		19
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Dyon, Samuel	U.S. Navy	Howland	1
Fielder, Glenn W.	U.S. Navy		13
Graf, Wyman W.	Pvt. 11th Med.Rgt.	Jarvis, Mar.23-June 15, 1935	
Griffin, Sumner E.			1
Grasso, J.	PFC Hq.Det.Hwn.Div.		15
Hanson, Anton	Staff Sgt. (Photographer)		10
House, Freeman W.	Aerog. 3c. U.S.B.		9
Hunt, K.A.	Staff Sgt., U.S.A.		18
Jenkins, Roy J.	F.2 c.'SN		11 to Pago Pago
Justice, Arthur C.	Corp. M.D.Co.		19
Keen, Aaron D.	R.M.2c., U.S. Navy		13
Kline, Murry M.			1
Knopping, Joseph	Staff Sgt., U.S.A.		10
Kruvutake, Richard E.	Sgt. 11th F.A.		11,19
Lafay, W.F.	Sgt., U.S.A.		18
Lawler, Vernon J.	Pvt.1c, 11th Med.Reg.	Howland, Mar.30-June 19, 1935	
Lawton, P.C.	1st Sgt., 13th F.A.		15
Lillymann, Frank L.	Corp. (stenographer)		7

			Cruise No.
McAninch, J.C.	Sgt., 19th Inf.		15
McGalliard, Alexander,Jr.	Sgt.		13 picked up at Canton
McGee, L.R.	PFC Hq.Det.Haw.Div.		15
McLaughlin, Robert V.	G.M. 1c		13
McMahon, Henry M.	Corp., U.S.A. (photographer)		14
Meredith, R.A.	Staff Sgt.		2
Metzger, Ray R.	A.C.M.M. (U.S.Navy)		9
Perry, K.A.	Aviation Mech. Mate		10
Polansky, S.	PFC, 18th Air Base Sq.		15
Raine, Clarence T.	Cpl., 9th Sig. Serv.		4
Robson, Lynn H.	Sgt. Air Corps (weather observer)		19
Scholer, Victor E.	A.M.M.2c., U.S. Navy		9
Shipe, F.W.	Staff Sgt.		18
Story, James L.	Sgt., 4th Obs.		10
Summers, Carl R.	Cpl., 35th Inf.	Baker, Apr.2-June 19, 1935	1,5A
	Sgt. (Asst. to R.B. Black)		11
Sunn, T.H.	Clerical asst. to R.B. Black		11
Surber, George D.	Cpl. 11th Med.	Baker, Apr. 2-June 19, 1935	
Taylor, Clifford C.			10
Thacker, Lloyd W.	Staff Sgt., 50th Obs.		9,10
Theiss, Harry L.	Corp. 27th Inf.	Howland, Mar.30-June 19, 1935	
Van Diver, A.H.	Staff Sgt.		18
Van Dyke, Gerald M.	Staff Sgt., U.S. Army		4
Voigt, Alfred	Master Sgt.		13 picked up at Canton
Wilson, Ralph C.	U. S. Army	Baker, Apr. 2-June 19, 1935	4,5A,9,13
Wilson, William R.	Pvt.Sp.1cl.3rd Eng.		4
Wirts, Leonard A			1
Woodall, R.D.	Photographer, 1st Cl.		10