

Earhart hunters ready to go

Associated Press

INDIANAPOLIS — The search for the answer to aviator Amelia Earhart's disappearance 54 years ago in the South Pacific will proceed, thanks to an anonymous donation of \$200,000, organizers of the expedition said yesterday.

The International Group for Historic Aircraft Recovery (TIGHAR), a non-profit foundation, has raised \$400,000 to outfit an expedition next week to the uninhabited island of Nikumaro,

a remote atoll 2,000 miles southwest of Hawaii, said spokesman Gary Quigg.

About 10 TIGHAR members, under the leadership of Richard Gillespie, will participate in the search. The research vessel Acania will leave Honolulu Monday, and is scheduled to return Nov. 2.

The TIGHAR team will search an area extending from the island's southeast shore to a lagoon a quarter-mile from the ocean, Quigg said. The island is four miles long and two miles wide.

Lost aviatrix's plane found on Pacific atoll

HOUSTON: A team of aviation buffs using space-age technology have found the remains of Amelia Earhart's plane on a South Pacific island, the *Houston Post* reported on Saturday.

The discovery will be unveiled at a news conference on today in Washington, the newspaper said.

Accompanied by navigator Fred Noonan, Ms Earhart was attempting to become the first woman to fly across the Pacific when her plane disappeared on July 2, 1937.

Richard Gillespie, executive director of The International Group for Historic Aircraft Recovery, said the group found part of the fuselage of Earhart's twin-engined Lockheed 10-E Electra and personal effects in the jungle on Nikumaro last autumn.

The three-kilometre-long atoll is in the island nation of Kiribati.

An American-made size nine shoe was found, the size worn by Ms Earhart. The articles have

been verified as hers by the National Transportation Safety Board, Mr Gillespie said.

Last June Oceanecoring International, a Houston-based company, told Reuters it had been hired by the group to use a highly sophisticated underwater sonar device to scan the ocean bottom for remains.

The company employed the technology used to find pieces of the space shuttle Challenger in the Atlantic and in 1990 a door that fell from a jet into the Pacific.

A 1989 expedition by the group to Nikumaro found an aluminium box used by navigators to store maps that appeared similar to one in a photograph of the ill-fated plane, Mr Gillespie said.

When Ms Earhart's plane disappeared, Navy ships reported hearing distress signals for three days. Records of those signals were used in 1986 to plot the location of the wreck.

— Reuter

The Canberra Times 16-3-92

True love usually comes just once in a lifetime. Two years ago, when Mitsubishi Electric went looking for an Information Technology partner, they found Apricot Computers. Admiration was mutual and anonymous. After all, it was an ideal partnership. In

became obvious to us that Apricot had developed an enviable world-wide reputation for superior innovation and connectivity. design genius, our international strength and mutual goal of superior quality control

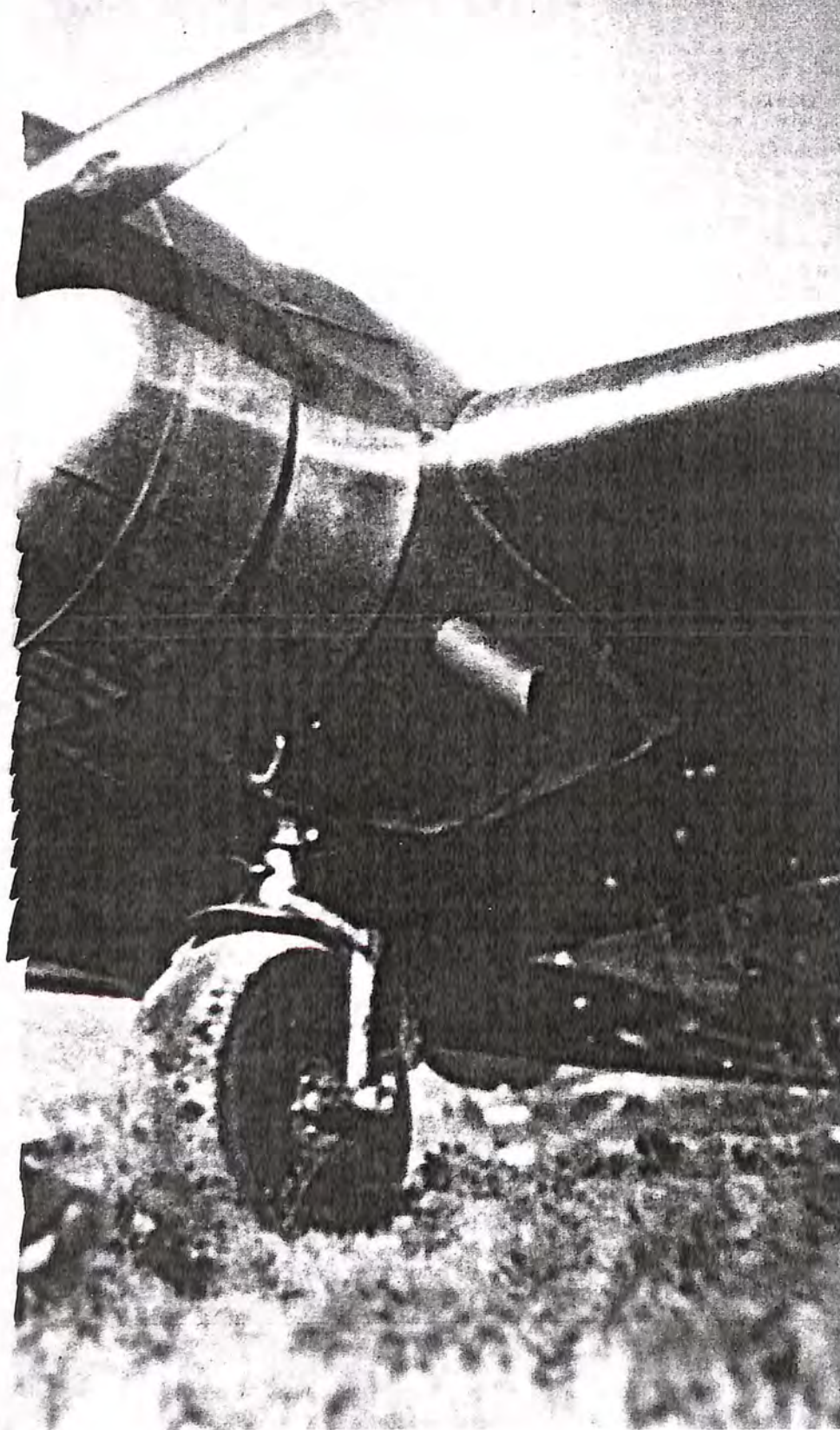
IS THIS WHAT
HAPPENED TO

Amelia



*Is a fragment of metal
found on Nikumaroro
Island, in the mid-
Pacific, from the belly of
Amelia Earhart's
Lockheed Electra?*

Earhart?



Fifty-five years ago, the world's most famous woman aviator vanished in the vastness of the Pacific. Did the Japanese capture and execute her? Did she crash into the sea? For years, the questions have been a matter of intense speculation. American investigator Richard Gillespie believes he has solved the mystery.

A gleaming silver Lockheed Electra crouches on an airstrip in the New Guinea jungle. In the cockpit sits a boyishly lanky woman with bright bold eyes, a tousle of short curls and a startling facial resemblance to the young Charles Lindbergh. With a nod to her navigator, a lean, dark-haired man in his 40s, she edges the twin throttles forward. As the engines crescendo to a scream, tropical birds burst from the bordering trees in screeching clots of colour. Loaded with more than three tonnes of gasoline, the Electra trundles down the runway toward a cliff that falls sheer into the sea. With only metres to spare, it lurches off the ground, sails over the brink, then swoops almost to the sea before easing into a slow climb. The navigator notes the time in his logbook: 10am, July 2, 1937. At 39, Amelia Earhart has begun her final flight. Within 24 hours, she will vanish into silence and mystery, a mystery that has haunted the world's imagination for more than half a century, a mystery that is now solved.

Earhart is the most famous female avi- ▷

SIPA/AUSTRAL

GANNON SUPPLIED a stunning piece of information. During the navy's hunt for Earhart, no search party ever landed on Nikumaroro Island, and only a brief inspection was made from the air.

ator of all time. She was the second person after Lindbergh to fly the Atlantic solo, first to fly from Hawaii to the US mainland, she set speed and altitude records, wrote books, co-founded an airline, lent her name to a line of luggage and designed practical fashions for women. In a profession dominated by men, Earhart inaugurated a struggle that eventually opened aerospace careers to women.

On March 17, 1937, Earhart took off from Oakland, California, on her greatest adventure: a 45,600km flight that would make her the first pilot to circle the globe near the equator. But on take-off from Hawaii for the second leg of the trip, her landing gear collapsed and the plane belly-flopped in a shower of sparks. Back at the Lockheed factory in California, where the Electra was repaired, new aluminium was riveted to the mangled underside. These changes, which made Earhart's aircraft subtly different from every other Electra, would ultimately help unravel the riddle of her disappearance.

Earhart started off again 62 days after the accident. But this time, still accompanied by navigator Fred Noonan, she flew east instead of west — across the US, the South Atlantic, Africa and India, then through the Dutch East Indies (now Indonesia) to Australia and on to Lae, New Guinea, where she took off across 4000km of trackless ocean toward a speck of coral in the Pacific called Howland Island.



Earhart with navigator Fred Noonan.

At Howland, the US Coast Guard cutter Itasca was standing by to guide in the Electra. At 6.15am, Earhart reported that she was about 320km out and asked the cutter to take a bearing on her signal. The Itasca explained that she was using too high a frequency and requested a Morse code signal on a lower frequency. No reply. The Itasca did not know that Earhart had removed her low-frequency antenna to save weight and that, incredibly, neither she nor Noonan knew Morse code. At 7.41am, Earhart's voice came through loud and clear: "We must be on you but cannot see you but gas is running low. Been unable to reach you by radio!" At 7.50am, Earhart called again: "We are circling but cannot hear you." She then asked for a signal on a very high frequency. The Itasca sent the signal. She received it, but her radio was unable to home in on high frequency emissions. Her last message came at 8.45am: "We are on the line 157/337. . . We are running on line." The Itasca called and called. Silence.

What happened to Earhart and Noonan? In the 55 years since that grim morning, their disappearance has spawned an industry of speculation. Hundreds of articles, a feature film, several television specials and more than 30 books have looked at the mystery and offered solutions. Many assume Earhart ran out of fuel and crashed at sea. Others claim she was a US spy who was captured by the Japanese and died on Saipan in the Philippine Sea.

The public was fascinated. I wasn't. As an aviation risk manager, and later as executive director of The International Group for Historic Aircraft Recovery (TIGHAR), a non-profit foundation, I had investigated hundreds of airplane accidents and was well aware of the difference between anecdote and evidence. I told Pat Thrasher, my wife and partner in TIGHAR, that "the Earhart thing is a sensationalised circus and we should stay out of it". And then, on July 17, 1988, two retired military aviators, Tom Gannon and Tom Willi, walked into my office in Wilmington, Delaware.

Instead of anecdotes they presented evidence. Step by step they re-created the exact navigational situation faced by Noonan as fuel ran low, radio navigation proved useless and no island appeared ahead. On a chart of the central Pacific they showed how, even without radio bearings,

he could follow a standard procedure: aim his octant at the rising sun and plot a "line of position". Using celestial tables, Gannon pointed out that on the morning of July 2, 1937, the rising sun would have provided the precise line of position Earhart said she was running. By flying southeast along that line, Noonan could be sure that, even if he missed Howland, he would reach an island in the Phoenix group in about two hours. Clearly, it was the safest, sanest course to follow. I traced the line on the chart and read the name of the island: Nikumaroro.

Gannon supplied a stunning piece of information. During the navy's hunt for Earhart, no search party ever landed on Nikumaroro (then known as Gardner Island), and only a brief inspection was made from the air — a full week after Earhart vanished. The planes were launched from the battleship Colorado, the only large US warship in the central Pacific, which had to steam 3200km before the search could begin.

"You mean nobody really looked in the most likely place?" I asked. Gannon's silence spoke volumes. I knew then that we'd have to go after Earhart. We checked Gannon's story against official reports from the 1937 search and what we found floored us. The navy had even stronger reasons than Gannon and Willi to believe that Earhart had landed on an island in the Phoenix group. Almost 24 hours after her last message to the Itasca, a navy flying boat re-established radio contact. Earhart's signal, barely audible but persistent, was also picked up by HMS Achilles and by stations all over the Pacific. Lockheed advised the navy that, given the continuing signals, the plane must be on land and able to operate an engine to recharge its batteries. Pan Am stations at Hawaii, Midway and Wake island also took radio bearings and told the navy that triangulation "places plane [in] Phoenix group". After three days, Earhart's signal stopped.

Four days later, on July 9, three biplanes from the Colorado flew over Nikumaroro. They saw no airplane on the atoll, but Lieutenant John Lambrecht's report noted that "signs of recent habitation were clearly visible". However, "repeated circling and zooming failed to elicit any answering wave from possible inhabitants". Lambrecht decided "none were there" and flew off, unaware that those signs of recent habitation were hugely significant. Before 1937, Nikumaroro's last known inhabitants were a work party of islanders who had departed in 1892. The searchers had gone ▶

to the most likely place, seen something that shouldn't have been there, and left without investigating. Clearly, the navy's search, though extensive, had been tragically inadequate. What had not been done in 1937 had to be done now. We would have to search Nikumaroro.

It took a year to raise \$A300,000, assemble a team of volunteers and attend to a thousand logistical details. But on September 17, 1989, after a 2000km trip from Fiji via Pago Pago, we peered over the bow



GAMMA/PICTURE MEDIA

Clockwise from below: Earhart's planned route across the Pacific; Nikumaroro Island, then known as Gardner Island; and the island as Gillespie's team found it.



SIPA/AUSTRIAL

of a converted Japanese tuna trawler at a thin green line on the horizon: Nikumaroro. The marginally habitable atoll is 5.5km long by half a kilometre wide, a slender ringlet of jungle surrounding a tranquil lagoon. Fresh water depends entirely upon rainfall, which sometimes is less than 3cm a year. Nevertheless, in 1938, 17 months after Earhart disappeared, the British settled 10 Gilbert Islanders on the atoll and started a coconut plantation. The US Coast Guard built a radio outpost on the island's south-east tip in 1944. But two years later, the station was dismantled and in 1963 the Gilbertese left.

Deserted since then, the island is covered with scaevola, a writhing entanglement of iron-hard stalks that towered before us. We waded in with machetes, ignoring bees, spiders, rats and giant coconut crabs that have claws as big as a man's hand and can husk a coconut like you'd peel an orange. But the real enemy is heat. Temperatures in the shade exceed 37°C, and the midday sun can fry an egg.

While 12 of us hacked through underbrush, four scuba-divers scoured the shark-infested fringes of the reef. Nikumaroro is surrounded by a level table of hard coral that extends outward from the beach about 200 metres before dropping almost vertically to the ocean floor 600 metres below.

For two scorching weeks, we hacked scaevola and combed beaches with metal detectors. But we found no trace of a flying machine. Suddenly, it hit me; we were looking in the wrong places. Earhart would have landed on the reef flat, at low tide an ideal runway, and her plane must have washed off the reef into the abyss. To search those depths, we would need side-scan sonar. For now, we had to make do with the tools we had. After 21 days, we had found only a few interesting metal objects including a cut-up aluminium box with a number stamped into it. But on a final sweep, three members of the expedition came upon a small grave in a remote jungle clearing. They snapped a photo and hurried back to the ship.

As Nikumaroro dropped astern, it was sobering to contemplate how little we had garnered for our \$300,000. Yet, convinced that the atoll held the key to the Earhart mystery, I resolved that TIGHAR would come back and find it. I was unaware that a piece of it was already in our hands.

The aluminium box, like Aladdin's lamp, was full of surprises. The characters stamped into it, 28F 4023, confirmed that it was an airplane part — a navigator's bookcase. The numbers also established that it had been designed for a Catalina, a navy flying boat. But closer inspection



IGOR SAKTOR

produced an unexpected discovery; the holes drilled for screws that attached the box to the airplane were in the wrong places. This box was not suitable for mounting on a Catalina. Could it have been mounted on an Electra? The FBI's forensic experts studied the box and reported: "Nothing was found which would disqualify this artefact as having come from the Earhart aircraft." And at Indiana's Purdue University, TIGHAR member Gary Quigg found a snapshot showing Earhart and Noonan standing beside the open door of the Electra just days before they vanished. Inside, under the navigator's chart table, was an object that looked like our bookcase. Was it the same box? There was no way to be sure.

Richard Evans, a former member of the Coast Guard stationed on Nikumaroro during World War II, opened another promising line of inquiry. Evans said he had seen "a water collection device" on the island's northern shore in 1944. The Gilbertese told him they had not built it. Evans sketched a rectangular tank that bore

THIS WAS clearly airplane wreckage. Everything about it — the rivet, the wire, the faintly visible letters 'AD' — told a story. Rousing our last energies, we tore that beach apart.

a remarkable resemblance to the 670-litre fuel tanks shown in photographs of the Electra's cabin — photographs Evans had never seen. He also sketched a strip of heavy cloth mounted on poles and rigged to funnel rainwater into the tank below. The dimensions of the cloth match those of custom-made engine covers carried aboard Earhart's aircraft. Was this structure the "signs of recent habitation" to which Lt. Lambrecht referred?

A grim new piece of the puzzle was provided by Floyd Kilts, another retired Coast Guardsman. In 1960, Kilts told the *San Diego Tribune* a story he had heard on Nikumaroro in 1946. The islanders reported that in 1938, newly arrived Gilbertese labourers had found "the skeleton of a woman and the skull of a man". Beside the woman's bones lay "a pair of American shoes, size nine narrow". Kilts's story was corroborated by Bauro Tikana, who clerked for Nikumaroro's British administrator in 1939. Tikana said natives had told him about bones found on "the other end of the island". And it was on "the other end of the island" that we had found a grave. Could this be Earhart's grave?

We had to find out. We had to get back to Nikumaroro with the right equipment to excavate that grave and the right technology to explore the deep water around the island. For the underwater search we hired Oceaneering International, the company that found debris from the space shuttle Challenger. Oceaneering would provide side-scan sonar and a small robot submarine equipped with a video camera. To transport the expedition we leased the *Acania*, a 250-tonne research vessel. The operation would cost \$560,000, most of it contributed by the public.

On October 1, 1991, the *Acania* sailed from Honolulu with 10 TIGHAR members aboard, including seven who had taken part in the first expedition. Nikumaroro surfaced on the horizon nine days later. From a distance the island seemed unchanged, but we got a shock when we went ashore. Nearly 20 metres of ocean-front jungle had been hurled inland by giant waves.

Two days later, a base camp had been established and search operations were underway in stunning heat. Kris Tague, John Clauss, Veryl Fenlason, LeRoy Knoll and Alan Olson swept the beach with metal detectors. At the grave site, Dr Tommy Love, Asya Usvitsky, Russell Matthews and I began the excavation. Aboard *Acania*,

the Oceaneering team towed a sonar "fish" that scanned for wreckage.

On the eighth day, 53cm down into the grave, we uncovered a box-shaped tangle of tiny roots about the size of an orange crate, apparently the remains of a coffin made of green wood that had sprouted. Hoping, dreading, we gathered around the grave. Using dental tools, I parted the tangle of roots and exposed a small brown bone. I handed it carefully to Love, who inspected it under a field microscope.

"Finger? Toe?" I was wishing out loud.

"No. I'm afraid it's a tibia. These are the bones of a newborn baby."

We had travelled halfway around the world and spent more than \$500,000 to dig up the remains of an unknown infant. Finally, I said: "We need to put this grave back the way we found it." We carefully replaced the bones, reset the stone markers and brought fresh seashells to lay on the bare earth.

By the middle of day eight, two days before we had to leave, we were all depressed. Despite costly preparations, the second expedition had proved even less successful than the first. All we had to hang on to was a curious find. Not far from the grave, Love had discovered the heel of an old shoe with the trademark: "Cat's Paw Rubber Co., USA". We later retrieved the

remains of what appeared to be a woman's size nine shoe sole, a small brass eyelet and another heel, unlabelled — perhaps the same pair of "American shoes, size nine narrow" spotted on the island in 1938.

The next afternoon Pat made the discovery we had all been hoping for. In a welter of fallen palm fronds and coconuts lay a sheet of torn aluminium about 60cm long by 40cm wide. It was stitched with rows of rivet holes and one rivet was still in place. From a corner of the sheet hung a tangled 75cm length of thin copper wire with some of its rubber insulation intact. This was clearly airplane wreckage. Had it lain hidden in the sand for years, perhaps since it was washed ashore from the wreck of the *Electra*, only to be churned up by the recent storm? There was reason to think so. And what a wonderfully complex sheet of aluminium it was. Everything about it — the rivet, the wire, the faintly visible letters "AD" on its surface — told a story.

Rousing our last energies, we tore that beach apart. Olson found what looked like the broken faceplate of an aircraft radio. And Fenlason found a metal ring attached to a rusty 10cm steel pin. As the throb of the ship's engines announced our departure, we assembled our finds: 24 plastic bags each containing an artefact. Mere debris? Or aviation history's Holy Grail? ▽



Richard Gillespie points to the shoe Earhart was wearing when she left Lae, just before she disappeared. He claims to have found it, 55 years later.

After four months of rigorous analysis, the contents of our plastic bags proved more eloquent than we could have dared hope.

Artefact 2-2-G-7 (shoe parts): the Cat's Paw heel and shoe sole were evaluated with the help of William F. Foshage Jr and Robert L. Oginz of the Cat's Paw division of the Biltrite Corporation in Waltham, Massachusetts. They report that the artefacts are the remains of the left shoe of a pair of women's 10-eyelet blucher-style Oxfords, about size nine. The heel is a Cat's Paw replacement heel, somewhat worn. The style was made in the US in the mid-thirties. Photos of Earhart in Lae confirm that this is a precise description of the shoes she was wearing when she disappeared. Shoes worn by British administrators or American servicemen were different and the Gilbertese settlers always went barefoot. Conclusion: there is a high probability that Artefact 2-2-G-7 came from one of Earhart's shoes.

Artefact 2-2-V-1 (aluminium sheet): the sheet was examined in the US by Joseph Epperson, a metallurgist at the National Transportation Safety Board, and by Richard Horrigan, head of aircraft restoration at the Smithsonian Institute's National Air and Space Museum. Photographs of the artefact were studied by Delbert Naser, an official at Alcoa, and by Herman Stevens, a retired Lockheed shop foreman. Using scanning electron microscopy, Epperson confirmed that the sheet is made of an alloy known as 24ST. Microscopic examination confirmed that the sheet was given a surface treatment called Alclad. Lockheed states that Earhart's aircraft was made of 24ST Alclad. The sheet is about one millimetre thick and roughly 45cm wide by 60cm long. Since none of the edges is finished, the original sheet must have been larger. Skin 35R, which covered the area on the belly of an Electra where the rear antenna post was normally placed, is a millimetre thick and measures 95cm wide by 1.8 metres long. Conclusion: skin 35R and this sheet are compatible.

Alcoa's analysis of the last two letters of Alclad, which appear on the sheet, presented data that proved it was made before World War II. Identical labelling appears on an Electra built at the same time as Earhart's. Horrigan identified the rivet as type AN455 AD 3/3. Common in the mid-thirties, it was replaced by type AN470 during World War II. Lockheed specifications call for AN455 AD 3/3 rivets on skin 35R of the Electra. The single-strand copper wire attached to the sheet has been identified as antenna lead wire that was standard in the thirties but discontinued before World War II.

Stevens compared the sheet and Lockheed's repair orders. These repairs, he says, would have been carried out accord-

ing to standards unfamiliar to modern mechanics and the repaired belly would differ markedly from the belly of a standard Electra. It would, however, display a rivet pattern identical to the pattern on the sheet found on Nikumaroro. "It's the only way you could do it," Stevens says. Epperson also compared the repair order and the rivet pattern. His comment: "Looks like you've got it nailed."

Epperson further noted the singular manner in which the sheet ripped along a rivet line, then met resistance that caused the tear to jump sideways. Epperson says this indicates the presence of a reinforcing object on that line. Several photographs show clearly that the rear antenna mast on Earhart's Lockheed was mounted near the fuselage centreline in precisely the same position as the reinforcing object Epperson postulates.

When the analysis of the sheet was complete, every feature matched the Earhart aircraft. Might the same be said of some other aircraft? Most unlikely. The rivet, the labelling and the antenna wire all confirm that the aluminium sheet came from a prewar aircraft. But before World War II, only three planes flew anywhere near Nikumaroro: Sir Charles Kingsford Smith's Fokker, now in a museum; a US

Navy Grumman Duck, which completed a 1939 mapping flight without flight incident; and Earhart's Electra.

What if an aircraft built before the war had been lost there during the war? No aircraft was ever reported lost near Nikumaroro. What if a prewar aircraft was lost during the war on another island and pieces of it were brought to Nikumaroro? Only four aircraft were known to be lost within 800 kms of the island in World War II. None was built before the war.

Every possibility has been checked, every alternative eliminated. There is only one possible conclusion; we found a piece of Earhart's aircraft. There may be conflicting opinions, but there is no conflicting evidence. I submit that the case is solved.

Yet mystery remains. How long did Earhart and Noonan survive? Did they die of dehydration? Do their bones rest in the scaevola, picked clean by crabs? Somewhere on Nikumaroro — buried in its burning sands, hidden in its unforgiving jungle, lost among the sharks that shadow its shores — lies more wreckage, another shoe, and who knows what other silent witnesses to the last days of two brave people whose luck had run out. The story is there. The departure date for Expedition III is July 2, 1933. □

An Opposing View

Richard Gillespie's bold claim that he has solved the Earhart mystery will not go unchallenged. If he is right, most other Earhart experts are wrong. Understandably disturbed, one expert, Elgen Long, asked a well-qualified aeronautical engineer to examine Gillespie's photographs and documents. Frank Schelling, head of the P-3 Aircraft Structures Branch at the US Navy Aviation Depot in Alameda, California, said this: "Gillespie's case doesn't stand up. After studying the Lockheed repair orders and inspecting a photograph of the aluminium fragment found on Nikumaroro, I examined the belly and other surfaces of an Electra that was manufactured one year before Earhart's. During that year, no structural changes were made. I saw no area of the aircraft where the fragment would fit. That fragment did not come from an Electra.

"For one thing, the rivet patterns don't even come close to matching up. Rivets attach the fuselage skin to long structural members called stringers, which run the length of the fuselage. In the standard aircraft examined, these stringers are 9cm apart in the area the fragment is supposed to have come from.

But on the fragment, the rivet lines, corresponding to the location of stringers, are 10.5cm apart. In addition, the rivets on the Lockheed 10 are spaced 3.75cm; on the fragment the rivets are spaced 2.5cm apart. The aluminium sheets on the belly of a Lockheed 10 are fastened to the keel by a double row of staggered rivets. But on the protruding flap, which would have extended across the keel, there is no trace of a second row.

"Gillespie maintains that the rear antenna post was mounted where the flap protrudes. I disagree. An antenna post must be mounted on a flat surface, and the keel is V-shaped at that point.

"One further point: Gillespie claims that when the aircraft was repaired by Lockheed, the stringer locations and the rivet spacing were changed. He believes that this accounts for the differences between the fragment and the structure of a standard Lockheed 10. Not so. If Lockheed's engineers had intended to change stringer locations and rivet spacing, they would have so specified in their work order. Lockheed would have repaired the aircraft as close as possible to its original configuration to maintain structural integrity." □

On the verge of solving the Earhart mystery

By David North

THEY went to Nikumaroro last year hoping to find the wreck of Amelia Earhart's plane. They thought it would be in the waters of the Kiribati islands.

They came back with 10 pounds or so of aluminium aircraft debris, which they are now "90 per cent" sure came from her ill-fated trip around the world in 1937.

Earhart, the first woman to fly across the Atlantic Ocean and the first female to make the crossing alone, disappeared in the Pacific in 1937 with co-pilot Frederick Noonan.

The International Group for Historic Aircraft Recovery (TIGHAR) said the pieces of wreckage had several features which indicated it could have come from Earhart's Lockheed Electra 10.

A team of American aviation archaeologists, led by Richard Gillespie and his wife, Patricia Thrasher, visited Nikumaroro in 1989, and came away with a likely relic and a strong argument that they had found where Earhart and Noonan had crashed and died. (See *PIM*, April 1991, pp. 24-27).

TIGHAR calculated that Earhart was flying on a line running northeast-southwest through Howland and Nikumaroro Islands when they ran out of fuel. The theory goes that at least one lived a few days on Nikumaroro, that the plane's right engine continued to work and it powered a radio which sent out SOS messages for a couple of days. Operating on that theory the TIGHAR team chartered a vessel to inspect Nikumaroro in 1989. They found features on the island that fit the theory. They also found an aluminium box, identified as a case for navigation equipment which apparently was manufactured at about the right time. The FBI Laboratory in Washington said that it didn't come from a US military airplane of the World War II era, and could have held Noonan's equipment.

The TIGHAR theory at the time was that the plane was swept off the tidal flat by the ocean and it might be in the deep water just off the edge of the island.

Some think that they may have been taken into custody by the Japanese, taken to Saipan and killed. Another theory was that the plane simply landed in the ocean and sank and that the radio messages were not from the flyers.



90 per cent sure: Richard Gillespie, leader of the TIGHAR on Nikumaroro last year. Picture: R. Matthews, TIGHAR

One of the principal thrusts of the 1991 TIGHAR expedition was the search in the waters at the edge of the island.

The R/V *Acania* was chartered in Honolulu for the trip, and it carried the latest equipment including a Remote Operated Vehicle (ROV) for searching waters too deep for divers.

Neither divers nor sonar found an intact plane under water, nor any piece of one. More searching of the densely wooded island revealed a baby's grave and about 30 pieces of what it is sure is airplane debris.

A find of greater potential importance was that of the pieces of aluminium located near the site of the village.

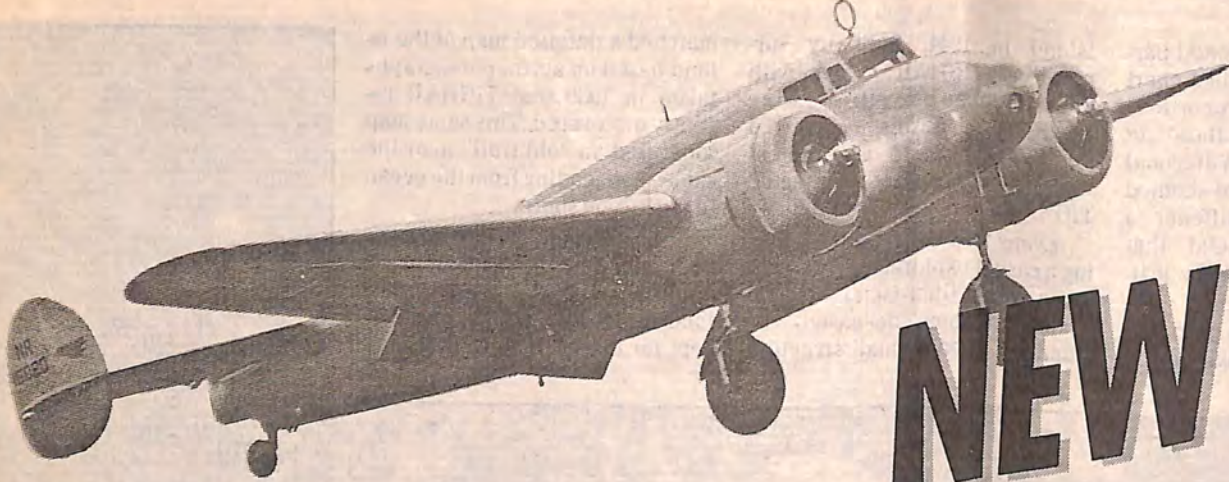
Gillespie explains there are different patterns of rivet holes from plane to plane, and several different kinds of rivets. So, if you put together all these variables, there is a predictable pattern to what remnants of a plane look like.

Once the parts are thoroughly

analyzed Gillespie hopes that they can be identified as coming from a specific plane. If the plane turns out to be a Lockheed Electra 10, then the TIGHAR team can be expected to announce that they have found the remnants of Earhart's plane.

Another possibility is some or all of the airplane debris came from off-island, which is why TIGHAR is interested in PIM readers' memories of the use of aircraft debris in the Pacific. There are unconfirmed reports that a large airplane crashed on Sydney Island, some 200 miles east of Nikumaroro during World War II. Islanders were said to have removed most of the plane's parts. Were the aluminium parts on Nikumaroro from that plane?

It is now up to the laboratories to figure out what kind of plane produced the aluminium scraps. Perhaps the mystery of Amelia Earhart is about to be solved. □



NEW PIECES IN THE EARHART PUZZLE

San Francisco Chronicle

Two years ago this month, an expedition from The International Group for Historic Aircraft Recovery (TIGHAR) departed for the uninhabited South Pacific island of Nikumaroro in the Gilbert Islands to research a promising new theory on the 1937 disappearance of Amelia Earhart and navigator Fred Noonan. Though TIGHAR found no plane in the dense bushes, the trip generated evidence that bolstered the group's theory, as Linda C. Puig reported in *This World*, in December 1989.

Tomorrow, TIGHAR sets sail for Nikumaroro once again, with Asya Usvitsky of Oakland and Kristin Tague of San Mateo among the 16-person expedition team. The group's goal: To find and photograph Earhart's airplane and to find and recover artifacts from the Earhart/Noonan survival camp. Sophisticated underwater detecting equipment will aid the search, while two years of continued research on the group's theory has established surprising new evidence pointing to one spot on the island.

Will the missing flier be found at last?

By Linda C. Puig

When TIGHAR's expedition team left the haunting, inhospitable Nikumaroro Island two years ago, the disappointment was palpable. Dashed were the visions of finding a great silver airplane lurking in the underbrush. Two weeks of dodging sharks and hacking through unforgivingly dense brush in 120-degree heat had produced only 19 artifacts that appeared nothing more than pieces of scrap metal.

Little did the team guess that one of those artifacts would become the cement that would lead the team back to Nikumaroro.

"Last time, we went to a place we didn't know much about because our research indicated it was the most likely place for the Earhart flight to have ended," said Richard Gillespie, a former aircraft crash investigator, who is TIGHAR's executive director. "The question we wanted to answer at that time was, 'Is this the right place?'"

"This time, we find ourselves going back to a place where we now know the Earhart flight ended, and the question we now have to ask is, 'What remains there to be found?'"

What makes Gillespie so convinced is the ream of hard evidence that TIGHAR has gathered and analyzed over the last four years. The nonprofit group's rigorous scientific standards and results have been praised by archeologists and aviation historians alike.

"On academic standards alone, the case could be considered solved," Gillespie said. "But we're under no illusions. It's going to take more than that to convince the public that this is what happened to Earhart."

The "scrap metal" that moved the investigation into a new phase was an aluminum box found in the abandoned cook house of one of the villagers who settled Nikumaroro 18 months after Earhart disappeared on a round-the-world flight in 1937. (The tiny settlement of 80 Gilbert Islanders was a British colony. The British eventually abandoned it, transferring the last inhabitant to the Solomon Islands in 1963. It has been uninhabited since then.)

Initially there appeared to be a ready explanation for the presence of the box on Nikumaroro. A part number identified it as a navigator's bookcase, built by the Consolidated Aircraft Corporation in San Diego for installation in the company's flying boat known as the PBY *Catalina* and used to resupply the U.S. Coast Guard on the island (then called Gardner Island) during World War II.

But there were some discrepancies. The TIGHAR bookcase lacked certain accoutrements that were part of the standard



Linda C. Puig is a free-lance writer in Reseda, Los Angeles County.

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EARHART

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PBY bookcase. It also exhibited modifications not found on the wartime planes. For example, the artifact doesn't have mounting holes where it should for installation on a PBY, but it has them where it shouldn't.

Further research revealed that no PBY was ever damaged at Gardner, and the nearest PBY parts depot during the war was in Hawaii.

But Earhart outfitted the plane for her world flight between November 1936 and June 1937. Did such a bookcase even exist during that time, some five years before PBYs appeared in the South Pacific? Apparently so, according to TIGHAR research, which indicated the part was first manufactured between late 1936 and late 1937.

TIGHAR persuaded the FBI's forensic laboratory to analyze the artifact for any substances, such as acrylic, that would be inconsistent with the 1936-37 era in which Earhart prepared her plane.

The FBI's conclusion, after two months of extensive analysis: "Nothing was found which would disqualify this artifact as having come from the Earhart aircraft." In addition, there was no sign of the phenolic resin with which the U.S. military coated its planes. If TIGHAR's artifact was from a PBY, it was installed and treated differently from any other.

"We can say with great certainty that this thing didn't come out of a PBY," Gillespie said.

So the clues were becoming intriguing. But how could TIGHAR actually link the bookcase found on Nikumaroro with Earhart's plane? The following items helped:

- An inventory of the contents aboard Earhart's plane included books on celestial navigation, which Earhart and Noonan, her navigator, were to use for the Pacific portion of their world flight. These books would require convenient storage; a navigator's bookcase such as TIGHAR's artifact was specifically designed to accommodate such books.

- The same inventory mentioned no means of storing the soft-cover publications, leading to the hypothesis that whatever they were in was a fixture installed in Earhart's Electra plane.

- TIGHAR obtained a receipt for an octant that Earhart borrowed from the Navy, establishing the possibility that Earhart borrowed an uninstalled bookcase from the Navy as well.

Then, this past spring, TIGHAR discovered a photograph of Earhart and Noonan standing in front of the Electra's open cabin door in Darwin, Australia. A blown-up and lightened version of the picture, dubbed the "Darwin Photo," clearly showed a

boxlike structure positioned partially under the navigator's chart table. The structure's proportions appeared similar to those of TIGHAR's artifact, and a diagonal line visible in the photo seemed to correspond to the stiffener (a diagonal piece of metal that strengthens the box) on the artifact's left side.

TIGHAR's research into the circumstances of the flight at the

Richard Gillespie examining the navigator's bookcase shortly after its discovery on the island of Nikumaroro



time the photo was taken (five days before Earhart disappeared) turned up no alternative identity for the structure and, in fact, strengthened the theory that it was a navigator's bookcase.

Finally, a May 1991 photogrammetric evaluation of the photograph, in which the print was digitized and clarified using various computer hardware and software, established that the object in the photo is a three-dimensional box roughly the size of TIGHAR's artifact.

Marooned on the reef flat of Nikumaroro, Earhart and Noonan would have needed to remove the navigational tools and reference materials crucial to plotting their position. A bookcase would have provided the logical means to transport and safeguard these vital materials on the island.

But the uninhabited island's harsh climate would have created more pressing problems, such as finding shelter, food and water. While awaiting rescue, Earhart and Noonan would need to find a shelter from the equatorial sun that would also enable them to watch the horizon. As TIGHAR's first expedition established, Nikumaroro was flush with large fish and birds. But obtaining drinking water would depend upon finding a way to catch rainwater.

Enter Richard Evans and Herb Moffitt, former U.S. Coast Guardsmen stationed on Gardner

Island in 1944. Publicity surrounding TIGHAR's work with the aluminum box attracted the attention of Evans, a retired Pennsylvania state government worker, who then contacted TIGHAR.

Evans told Gillespie that during a casual exploratory hike with three other Guardsmen (two of whom are now deceased), he stumbled upon a small structure

matched a detailed map of the island based on aerial photographs taken in 1939 that TIGHAR recently discovered. This same map identified an "old trail" near the same spot, leading from the ocean to the lagoon shore.

"In an area where there's been no human development, no one's been working there, the island hasn't had anyone on it except for the last few months, and

'On academic standards alone, the case could be considered solved,' Gillespie said. 'But we're under no illusions. It's going to take more than that to convince the public that this is what happened to Earhart.'

apparently designed to collect rainwater. There, flapping in the wind, was a heavy canvaslike material (about 8 feet long by 3 feet wide) mounted on 6-foot poles made from tree branches. One corner was detached, allowing rain falling on the cloth to drain into a tank on the ground below. The tank, as Evans recalled, was about 5 feet long by 2 feet wide by 2 feet deep and was propped up with huge slab of coral.

Moffitt, contacted by TIGHAR, also remembered seeing some five-gallon can with a wire handle and a pile of bird bones and feathers "like someone had been having a feast."

Both men placed the site near the first big stand of trees up the beach from the Coast Guard station. Their recollected site

here's an old trail," Gillespie said.

TIGHAR knew this site on the northeastern shore of Nikumaroro as some of the most remote, unpleasant beachfront on the island, with devilish winds and crashing surf. No work party ever tried to clear the dense scavola brush to plant coconuts on this part of the island when it was settled after Earhart's disappearance. Nor could TIGHAR fathom any reason for anyone to camp on the harsh and windy ocean beach rather than on the sheltered lagoon shore just a few hundred yards inland — unless they needed to watch the ocean horizon.

"If you're marooned and awaiting rescue, you've got to see the horizon," Gillespie said.

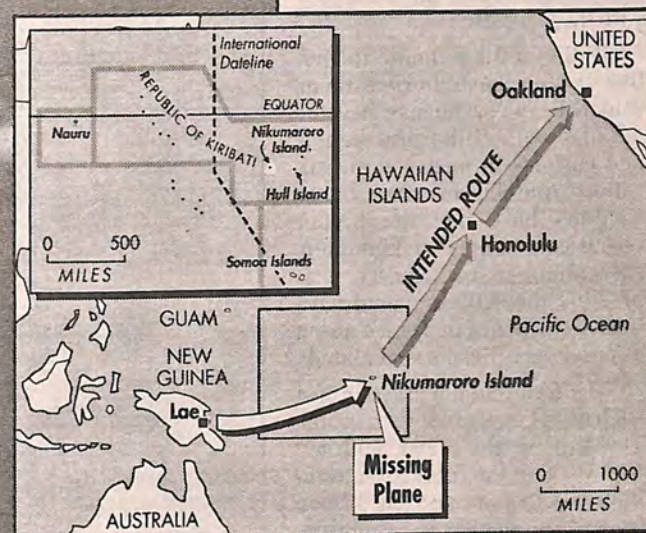
Research indicated that the tank Evans saw probably was alu-



Grave on Nikumaroro suspected of being that of Amelia Earhart or the navigator Fred Noonan

minum, as a steel tank of those dimensions would not have required coral piled around it to keep it upright and would have been extraordinarily heavy to carry. Gilbertese colonists who settled the island used concrete

View of
Nikumaroro
taken in 1939
by U.S. Navy
survey aircraft



and Moffitt reportedly discovered the campsite.

Interestingly, a tantalizing "bones" tale that TIGHAR has been tracing also points to the same section of the island. As originally told by a retired Coast Guard carpenter 14 years after he heard it from an islander, the early Gardner colonists discovered a female skeleton next to American shoes (size nine narrow, Earhart's size) and a cognac bottle. As the story went, the island's Irish magistrate immediately thought of Earhart, so he put the bones in a gunnysack and embarked for Fiji to get positive identification. Only 24 hours out of Fiji the magistrate took ill and died. Superstitious about the bones, the natives threw the gunnysack overboard.

TIGHAR had been able to verify enough of the story's key elements to conclude that it wasn't a complete fabrication. But the story went nowhere without a more direct source.

Then, in May of this year, TIGHAR received a letter from the man who had been the magistrate's clerk and interpreter on Nikumaroro, Bauro Tikana. He confirmed that settlers found bones when they started clearing the island to plant coconut trees. But they were near a 1929 shipwreck and assumed to be from the crew of the ship, Tikana wrote. He also labeled "false" any discovery of a female skeleton with American shoes.

TIGHAR knew of the shipwreck and, through its research, had discounted the possibility that any of the crew were responsible for the rain-collecting device and campsite that Evans and Moffitt described. The wreck was at the opposite end of the island, nearly three miles away. Nevertheless, hearing that the bones discovered were near the shipwreck was deflating.

However, in a second letter in August, Tikana wrote that bones had also been found at the other

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nically with Earhart's own description of specially made propeller and engine covers for her plane. The material, known as Grenfell cloth, is water repellent. To cover the propellers and engines, the cloth would have had to be about 8 feet by 3 feet.

To Gillespie, Moffitt's memories of the adjacent campsite suggested birds being scalded with boiling water to remove feathers, then cooked over an open fire. That method doesn't jibe with the Gilbertese method, which is to wrap birds in leaves and roast them in a covered pit — further indication that the campsite had nothing to do with the island settlers, as Evans and Moffitt had assumed in 1944. In fact, Evans said, the settlers knew nothing about the campsite when they were asked about it several months

"We have evidence of birds being eaten not in the native style but in a Western style, so some Westerner was eating birds there on the island," Gillespie said.

Another item supporting the theory that the campsite was that of Earhart and Noonan is a recently discovered photograph believed to have been taken by Lieutenant John Lambrecht. Lambrecht, one of three Navy search pilots who flew over Gardner days after Earhart's disappearance, wrote in his official report that he saw "clear signs of recent human habitation." TIGHAR contends Lambrecht snapped a shot of the area on the island where he spotted those signs of habitation, but buzzing the island failed to elicit any response. The photograph, which TIGHAR found in Navy archives, shows the same beachfront where Evans

cisterns and corrugated iron sheeting to catch rainwater.

The 149-gallon main fuel tanks in the fuselage of Earhart's plane had similar dimensions (4½ feet long, 2 feet wide and 3 feet deep)

to those described by Evans. They were aluminum and easily removed through the aircraft door.

Evans' recollections of the size and type of cloth erected over the rain-collecting device also fit

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end of the atoll — the same end with the campsite.

If the settlers found bones, they would have buried them, said Gillespie, who has become familiar with Gilbertese beliefs and customs through his investigation. And because the bones wouldn't have had the proper burial ceremonies, making them susceptible to bad ghosts, it is possible the settlers would have buried the bones in as nice a spot as possible, Gillespie speculated.

TIGHAR found a grave in just such a spot on its first expedition. The tiny single grave, outlined with coral in the Gilbertese tradition, is almost across the lagoon from the suspected campsite. Gillespie called it the "prettiest spot on the island."

"It's a grave where there shouldn't be a grave," he said.

Gillespie is eager to investigate the grave site further, but to do so probably will require permission from the Republic of Kiribati, which now governs Nikumaroro and other islands.

"In the Gilbertese tradition, [opening a grave] is about the most dangerous thing you can do," Gillespie said. "I want to get my hands on what's in there, but I don't want to set off an international incident."

Nikumaroro, which lies about 2,000 miles southwest of Hawaii, first became the focus of TIGHAR's investigation after a rigorous scientific investigation. That investigation was spurred by two retired military navigators living in Fort Walton, Florida. Thomas F. Gannon and Thomas Willi flew to Delaware to meet with Gillespie.

To Gillespie's surprise, the pair said nothing about natives they'd talked to or rumors about the Japanese. Instead, they talked about old navigational skills, such as celestial observation, dead reckoning and line-of-position tracking, a technique that refers to a line drawn through opposing points on a compass. Noonan was an expert in these traditional navigational skills.

Using that line-of-position technique, the two retired navigators concluded that, given known estimates of remaining fuel, only two islands were available to Earhart and Noonan for an emergency landing: McKean Island, a barren dot of land slathered with guano, and neighboring Gardner, deemed the more likely site. Nikumaroro was uninhabited until December 1938, when a short-lived British colony settled there.

Further research centered on records of Gardner and more than 24 radio transmissions received on Earhart's frequency after her disappearance. Bearings on six of the signals inter-



Amelia Earhart and her husband, George Putnam, looking over a map of her intended flight around the world in 1937

Should the current expedition find Earhart's plane, another is planned for December to retrieve it. An NBC film crew will accompany both expeditions.

sected at Gardner.

More recently, TIGHAR learned that there was even rudimentary two-way communication with someone in the vicinity of Gardner. On July 4, 1937, two days after Earhart disappeared, a powerful commercial radio station in Honolulu asked the Earhart plane to reply on a certain channel with four dashes if the broadcast was heard. Pan American Airways, monitoring the signals, noted four distinct dashes on the channel immediately following the broadcast and traced them to the vicinity of Gardner. The closest radio in the area at the time was on Hull Island, about 120 miles east of Gardner, and it had no transmitter.

"There's simply no source for this reply unless it's Earhart," Gillespie said. "In an academic sense, this just floors me."

TIGHAR research indicated that Earhart would have passed over Gardner sometime near 10 a.m. on July 2. Tidal hindcasting indicates that would have been low tide, a period during which the hard, ragged coral reef dries. Earhart would have seen a broad, flat expanse on which to land her plane.

"At low tide, the place looked like an empty parking lot," Gillespie said.

spie said.

The forced landing would have ruptured tires or disabled the plane in some way. Beginning that night and for the next three days, more than 24 radio transmissions were received on the frequency Earhart had switched to in her last confirmed message. The first of those, reportedly received at 10:30 a.m. by a British administrator on the island of Nauru, was a woman's voice saying: "Land in sight." Some radio contacts included broken female voice transmissions that operators who had previously worked with Earhart recognized as her voice, while others transmitted just a carrier wave or inexpertly keyed Morse code. Neither Earhart nor Noonan was adept at the coding.

Stranded on Gardner's reef, Earhart's plane would have been partially afloat in three to four feet of water during high tide. According to Lockheed engineers, operation of Earhart's radio recharge the batteries, the aircraft had to be on land and able to operate at least one engine.

Low tide on Gardner would have offered the perfect opportunity, Gillespie postulated. So he compared the hours of radio ac-

tivity to tidal charts.

All but one transmission came during low tide.

The one anomalous transmission could result from the fact that the nearest hindcasting tidal data came from Canton Island, some 350 miles away. If tidal activity on Nikumaroro differed by as little as an hour, every single transmission would have occurred during low tide.

With the correlation of radio transmissions to the tides, broken messages previously thought to be unusable began to make sense. One said: "Don't hold — with us — much longer — above water — shut off." Others referred to a "motor sinking" and "water-logged."

In less than a week, the tidal cycle would have pulled the plane off the edge of the steep reef to depths of at least 2,000 feet. That was 10 times deeper than TIGHAR divers or equipment could hope to go during the first expedition. This could explain why, when Navy search planes flew over the island a week after Earhart vanished, they spotted no plane wreckage.

No fresh water existed on the inhospitable island in 1937. TIGHAR workers knew from their own experience that a week would be the limit of human endurance without water. That could account for why Navy search pilot Lambrecht received no answering wave after seeing "clear signs of recent human habitation" on an island uninhabited at the time.

"Every time we turn around and a new piece of evidence comes in, it's like a jigsaw puzzle and a new piece pops in place," Gillespie said.

Gillespie and crew will have their hands full this expedition. The plan is to have two land teams — the Magic Team, trained in and equipped with high-tech metal-detecting devices, and the Eyeball Team, using direct observation — excavate a 500-meter area along the northeastern shore sector by sector.

"You don't go looking for what you hope will be there, you look at what is there," Gillespie said. "All we have to do is be careful enough to not miss it."

Meanwhile, TIGHAR's ship will sail around the island to one mile out towing what looks like a rocket, slightly larger than the size of a desk. This is the "side-scan sonar fish," and it will scour the bottom for Earhart's plane, which TIGHAR believes was pulled off the reef on which it landed by tidal activity. The device sends sound waves that bounce off solid objects, giving a televised readout similar to that of a sonogram during pregnancy.

If the sonar fish identifies any object similar to a plane, the ship will send down a remote-operated vehicle to take a closer look. Houston-based Oceanering International Inc. has used this technology, which Gillespie described as more sophisticated than that used with the *Titanic*, to collect debris from the space shuttle *Challenger* disaster and several deep-water airplane crashes.

Should TIGHAR find Earhart's plane, another expedition is planned for December to retrieve it. An NBC film crew will accompany the team on the current expedition, and will cover the December trip as well, if there is one. ■

FREDERICK ALLAN GOERNER
Twenty-four Presidio Terrace
San Francisco, California 94118

February 28, 1992

Professor H.E. Maude
42/11 Namatjira Drive
Weston
A.C.T. 2611,
Australia

Dear Professor Maude:

Again I am indebted to you for sending along the material about Gardner (Nikumaroro), and I thank you very much.

I am enclosing the material which you wished returned.

I am also enclosing a recent article I wrote for the S.F. CHRONICLE Newspaper on the occasion of the 50th anniversary of the Japanese attack upon Pearl Harbor. Because you served on the intelligence staff at Pearl Harbor, you may find it of interest.

Mr. Gillespie, the charlatan, is at it again. He returned from Gardner with another piece of metal is trying to claim is "90%" certain to have come from the Earhart plane. It is more baloney designed to dupe the gullible and uneducated.

He also is trying to get around your recollections about Gardner that nothing was found in October, 1937 that could connect Earhart with the island.

He states he visited an Eric Bevington in England who says you did not explore the island yourself because of a bad back. According to Gillespie, Mr. Bevington says investigation of the island at that time was cursory at best and that "signs of habitation were found in exactly the spot where TIGHAR in 1991 found the remains of a pair of size nine American shoes, and a cap of a bottle of traveler's medication manufactured in the U.S." Apparently Bevington kept a diary of your visit to Gardner, but Gillespie does not try to say that Bevington supports the TIGHAR contention that Earhart and Noonan perished on the island just months before your arrival. If you are in contact with Mr. Bevington, it might be in the interest of truth to determine what Mr. Bevington ACTUALLY said to Gillespie. Gillespie can twist any statement to fit his own scenario.

Gillespie dug up a grave on Gardner during his recent visit, but it contained the remains of small child. In addition to the

sailors who were killed in 1929 in the wreck of Norwich City, there may be several graves of Gilbertese. The island was occupied for so long, there must have been deaths.

Gillespie's attempt to disparage your expertise and integrity angers me, but that's the kind of confidence man he is.

Alas! My health problems have culminated in the need for a quite serious operation which will be conducted next Thursday in Washington, D.C. My recovery will be protracted. Perhaps as long as two or three months. During that period, I probably will not be able to communicate with you, but when I do return to San Francisco, I will give you an update on Gillespie's gambits and there is some more history about Gardner that you may wish to have.

I trust that you and your dear bride and partner, Honor, are well. You, both, have my complete admiration. I hope you produce MANY more books in addition to the two upon which you are now working.

Most Sincerely, and with thanks again,

Fred Coerner

P.S. I am attaching a recent article about Mr. Gillespie which is the beginning of his demise. The author is a well respected aviation expert.

About Mr. Gillespie



CREDIBILITY

I've been meaning to write this letter for the last five years — guess I've been too busy or didn't think it was important enough. While your publication has been the bible for many Warbird enthusiasts, you've also provided a forum in "Airlines" for many of us to express our opinions. Some letters I've agreed with, some I haven't — all were worth the time to read.

I'd like to share a story with your readers. A few years ago, I was visiting a friend and we were discussing my trip to the Far East. One of my stops was Papua, New Guinea. When I mentioned this fact, my friend excitedly told me he had just read in a newsletter that a group called Tighair was en route to PNG that very next month to recover a rare B-17E Flying Fortress from a grass swamp. To say I was skeptical and surprised was an understatement, since I had been in PNG the week before and spent hours with museum director Mr. Bruce Hoy discussing aircraft and related topics. Mr. Hoy was emphatic that no aircraft, parts, wrecks, etc., were to leave PNG without being processed through the museum and the official government agency that oversees antiquities. Since my conversations with Mr. Hoy had been frank and, at times, strident, I was sure he would have mentioned this fact — if he had known about it.

My curiosity rose, so my friend and I called Mr. Rick Gillespie of Tighair and questioned him about the recovery. He described how he was taking a group to PNG to do the deed. He went on to say that if either of us wanted to be a part of this historic event that, for a substantial contribution, we could be included. At this point, I asked him who he was dealing with in PNG and he stated that he had excellent political connections in the US and that PNG would do whatever they wanted. I asked him if he had ever heard of Mr. Hoy — he hadn't.

At this point, I suspected a con job and told him so. He became indignant and told me that they were so well-connected that, in the future, they would become the single entity that anyone would have to deal with if they wanted to recover any US aircraft. They were already working with various senators and congressmen to have Tighair

so designated through legislation. I was, and still am, ticked.

These people took donations from hundreds of folks by leading them to believe they had the authority and ability to recover this rare B-17 variant. I called Mr. Hoy in PNG and, at that time, he had never heard of Tighair and stated emphatically that no one had permission to recover that aircraft. I am told that Tighair did eventually go to PNG, attended some cocktail parties, and announced that the backward local government was not cooperating. The arrogance and gall overwhelms. They had never sought permission to recover the B-17, nor even made the local government aware they were coming.

Over the last few years, I have read or have seen documentaries and press releases about Tighair. They found a piece of wood in a Maine forest that proves Nungesser and Coli made it across the Atlantic before Lindbergh. Bunk! They found a PBY junction box on Howland Island in the Pacific that is irrefutable proof that Amelia Earhart crashed there. Bull! They have located and recovered over a thousand rare aircraft. Not so! They tout themselves as being the authority on aircraft recovery and restoration and are also the world's leading aviation archeologists. False!

Tighair has attacked the nation's leading aviation museums, suggesting these institutions are inept and incompetent and if they'd just send their staffs to Tighair's seminars (for a fee, of course) they'll straighten their staffs out. They have also attacked Warbird owners in general, wanting to ground all Warbirds. Never! Like Butch said to Sundance, "Who are these guys?" Folks, I believe this organization is not what it claims. I don't believe they recovered a single aircraft. I know they haven't restored a single aircraft. To suggest they are authorities about something they have never done is ludicrous.

What Tighair does well is manipulate the media, press conferences, press releases, photo ops, sound bites, and docu-drama extravaganzas. In the process, myth becomes reality and hype overcomes common sense. I would suggest that all aviation enthusiasts, owners, restorers, museums, and archeolo-

gists pay attention to what these people are up to. If we don't keep an eye out, these self-appointed experts may convince some bubble-headed vermin that lives inside this nation's capital that they are for real and give them some legitimacy through legislation in exchange for a press release and a "go see" sound bite. Any individual or group who seeks to be appointed to rule over the rest of us bears close monitoring, lest one day these self-professed experts end up in control of our hobbies, jobs, and lives.

Keep 'em flying,
Roy L. Stafford
9102 Hurlong Rd.
Jacksonville, FL 32210

INVADERS

I am a Norwegian Warbird enthusiast who has a great interest in the Douglas A/B-26 Invader. It is a shame that an aircraft which fought through three major wars has received so little written information. I am currently trying to get in touch with pilots and ground crews to get information on military and civilian Invaders. I am also very interested in the Invaders used in the Congo and Biafra during the 1960s. The 50th anniversary of the first flight of the Invader will be on 10 July 1992, and I hope something will be done to commemorate the event.

Trygve Johansen
Mindes Vei 16
3500 Honefoss
Norway

J. DON'S FANTASTIC FLYING MACHINES

The article in the November 1991 issue really piqued my interest, especially the photograph of the Laird Swallow used by Alexander Industries of Denver, Colorado. It is interesting to note the role Wichita, Kansas, played in early aviation — from designing aircraft to the aviation pioneers who got their start there.

In April 1920, Matty Laird (builder of the Swallow) first tested his three-place OX-5 biplane built in a shed in Wichita. The plane earned the nickname "Swallow" from one of the Wichita hotel men who witnessed the flight, commenting, "It flies like a swallow." The Laird Swallow became the first

This World

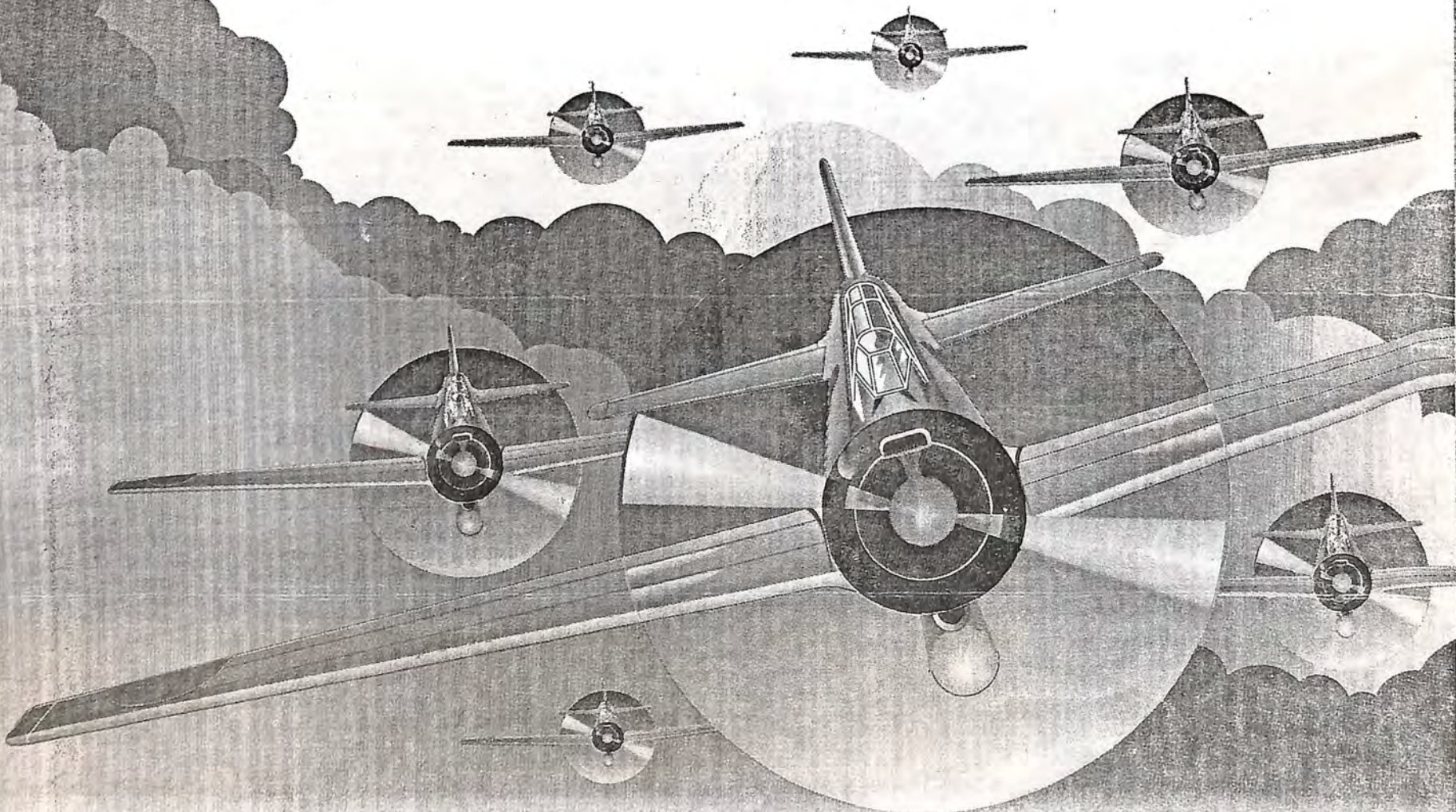
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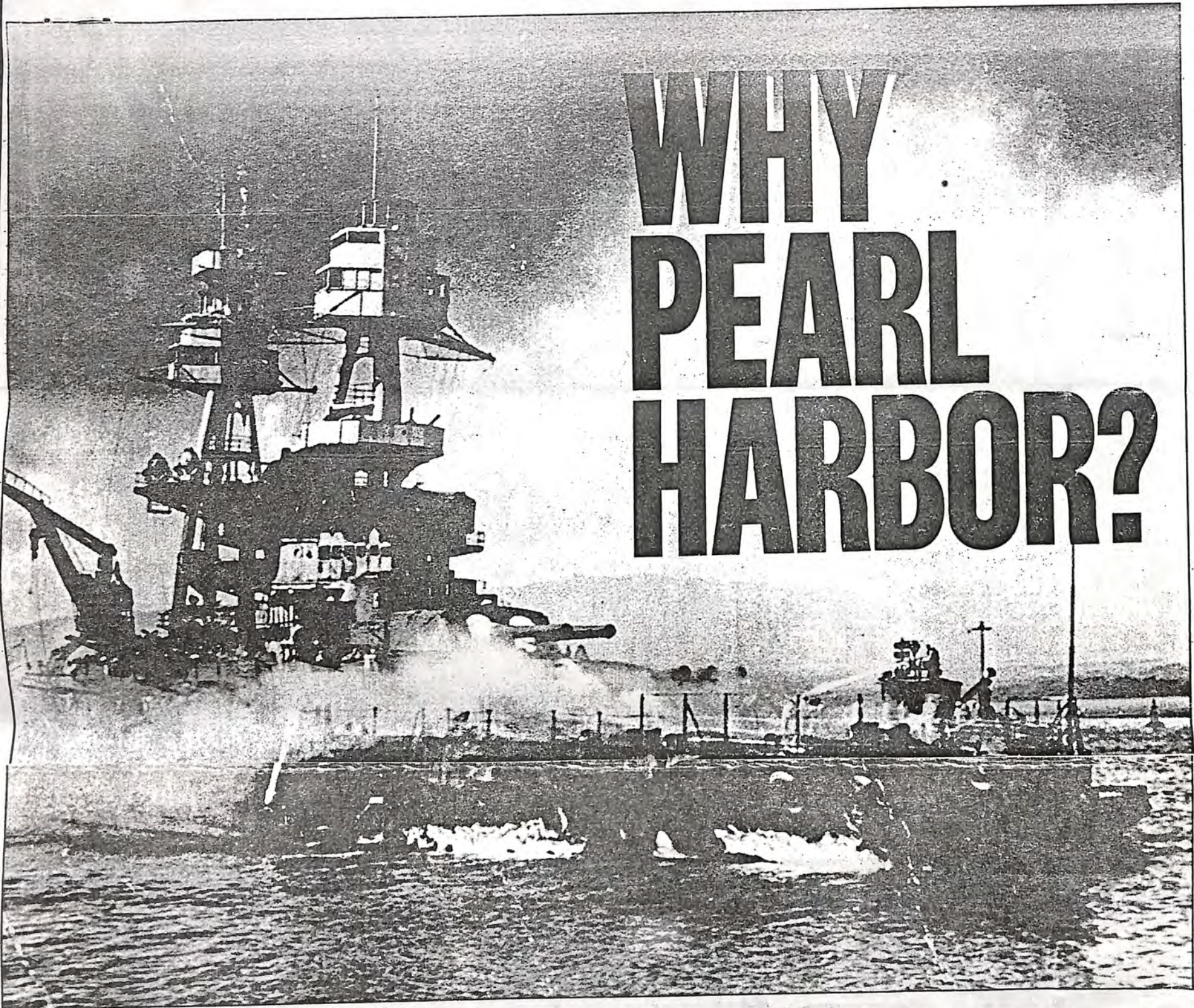
HOW
READERS
CAN
HELP

THE CHRONICLE
SEASON OF SHARING

PEARL HARBOR: WHO KNEW WHAT, AND WHEN?

*Old questions still unanswered,
new secrets just unearthed*





WHY PEARL HARBOR?

Fifty years and the declassification of key documents have shed only partial light on who knew what about Japan's plans to bomb the U.S. base on December 7, 1941 — and when

By Frederick Allan Goerner

A

IR RAID, PEARL HARBOR. THIS IS NOT DRILL!"

The startling words were transmitted from the Ford Island naval radio station in Pearl Harbor, Oahu, Hawaii, at 0758 the morning of December 7, 1941, to an incredulous American military and public.

Even as the words tumbled forth, Japanese torpedo planes were dropping their lethal cargoes on American battleships moored along Ford Island, and Japanese dive bombers and fighter planes were blasting and strafing Wheeler and Hickam fields and the Kaneohe Naval Air Station.

San Franciscoan Frederick Allan Goerner is a trustee of the Nimitz Museum Foundation and Pacific War Studies Center in Fredericksburg, Texas. He is a former CBS correspondent and a recipient of the Sigma Delta Chi National Journalistic Fraternity Award for best news reporting in America.

The Japanese were temporarily making impotent the American Pacific Fleet, but they were also initiating a conflict that would reduce their own nation in less than four years to ruin and disgrace.

Younger Americans should understand that the events of December 7, 1941, were a historical fulcrum to the 20th century. The Japanese attack brought the United States into World War II, and the balance of power in the world and the lives of all Americans in following generations were massively affected.

World War II enlisted more than 16 million American men and women into the armed services. America endured more than 290,000 battle deaths. Another 115,000 American service personnel died from accident and disease, and more than 670,000 were wounded.

Fifty years later an often acrimonious debate continues, and many questions remain unanswered. Why were American forces at Pearl Harbor taken so completely by surprise? How could Japan have sailed an entire battle fleet, including six aircraft carriers, across the Pacific without detection? Why had no one listened to the mili-

tary strategists who had been predicting such an attack for 20 years? If the U.S. military had broken Japanese secret codes, why didn't somebody know what Japan was going to do?

Six investigations during World War II, and two inquiries in the year after the war, including a joint congressional probe, failed to produce satisfactory answers. Argument continues, and vicious accusations still abound. Hundreds of books and articles have been written about Pearl Harbor trying to assign responsibility to individuals and/or departments of the American government and military. For some the subject is extraordinarily bitter and larded with vituperation.

There are many who allege President Franklin Roosevelt withheld vital intelligence from Admiral Husband Kimmel, commander of the U.S. Pacific Fleet, and General Walter C. Short, commander of

The USS Hoga sprayed water on the USS Nevada following the surprise attack

PEARL HARBOR

Continued From Page 7

U.S. Army forces at Pearl Harbor, to allow the attack to occur as a means of branding Japan an immoral aggressor and to bring America into World War II on a tide of passionate patriotism. Roosevelt was at once one of the most loved and most hated of America's presidents. Even 50 years later, dozens of authors and scholars are trying to establish that FDR was somehow a traitor to his country and to the U.S. Navy he loved so much.

And a recently published book alleges that Prime Minister Winston Churchill knew the Japanese carrier fleet was sailing toward Hawaii but, in order to bring the United States into the war, did not share that intelligence with President Roosevelt.

Only now, 50 years later, are historians beginning to understand what really happened on the morning that changed the world.

World War II took more than three years of my own life as I served with the U.S. Navy Seabees in the Pacific, and I had often wondered about the Pearl Harbor debacle. It was not until 1961, however, that a CBS documentary I was writing brought me into contact with Fleet Admiral Chester Nimitz, who commanded U.S. Pacific naval forces during most of the war. It began a friendship that lasted until the admiral's death in 1966.

Nimitz had been ordered to Pearl Harbor to replace Admiral Kimmel, who would receive the bulk of the blame for American unpreparedness, just days after the attack. Roosevelt directed Nimitz to "get the hell out to Pearl and stay there until the war is won."

On Christmas morning, 1941, the U.S. Navy flying boat carrying Nimitz circled Pearl Harbor. He could see most of the main anchorage, which was covered with black fuel oil and floating debris. The cap-sized battleships *Oklahoma* and *Utah* were clearly visible, and farther down the harbor he could see *Arizona*, *West Virginia* and *California* sunk in deeper water with only the topsides exposed. Dozens of small power boats were circling in the harbor, picking up the bloated bodies of dead sailors who had been blown off their ships by Japanese bombs and torpedoes. There were 2,403 Americans killed in the attack, including 68 civilians.

Nimitz found Kimmel a disheartened man. A spent bullet had struck Kimmel during the attack, but he had not been wounded. He told Nimitz he wished the bullet had killed him.

Kimmel returned to the U.S. mainland in what many considered to be disgrace. Nimitz restored American confidence, projected American forces across the Pacific and accepted the final Japanese surrender aboard the U.S.S. *Missouri* in Tokyo Bay, September 2, 1945.

Nimitz' Recollections

To my surprise, Nimitz did not consider the Japanese attack upon Pearl Harbor to be a complete disaster; in fact, he believed it to have been a Japanese strategic failure. He pointed to the inflexibility of the Japanese plan, with its emphasis upon attacking battleships (most of which were later repaired and saw war action) and ignoring Navy storage tanks, which contained 4,500,000 barrels of fuel oil. Had those been destroyed, the U.S. victory in the Pacific might have been delayed six



Above: Admiral Husband Kimmel; Right: Admiral Chester Nimitz

months or more.

Nimitz also felt Admiral Chuichi Nagumo, the Japanese attacking force commander, had missed the opportunity to truly disable American forces by limiting the attack to two air strikes. Had the Japanese plan been more bold, an invasion and occupation of the Hawaiian Islands might have succeeded. That would have been a complete disaster for the United States.

As to Kimmel's responsibility for American unpreparedness for the air attack, Nimitz would not assign it. He called it "a hazard of command," and he indicated it could have happened to anyone, himself included. He stressed that almost everyone in the U.S. military had believed the Japanese would strike at Malaya and probably Guam and the Philippines. That was a fatal estimation. Instead of stretching its imagination — planning for what the Japanese could do — American military intelligence was busy speculating about what the Japanese would do.

Nimitz felt it might be considered a blessing that Kimmel had not gotten brief notice of the true Japanese intention. He might have commanded the American fleet to sail for open water, and had the Japanese planes bombed and torpedoed the ships there, they would have been lost forever in deep water and the human casualties would have been much greater.



Nimitz also believed that ignorance and arrogance — both American and Japanese — played major roles in Pearl Harbor. In 1941, Americans were generally ignorant about Japan and its people, believing America completely superior in leadership, equipment and fighting ability. The prevalent military and civilian atti-

Arrogance and Ignorance — both American and Japanese — played major roles in the surprise attack on Pearl Harbor

tude was that Japan would not dare attack America.

At the same time, many in Japan saw America as a weak and divided nation that could never match Japan in spirit and willingness to sacrifice. Japan believed it could overwhelm American forces early in a war, and that America would ask for peace on Japan's terms.

Nimitz did not accept any of the theories about a Roosevelt conspiracy to withhold information obtained through secret Japanese codes, but he believed it would be many years, perhaps several decades, before highly classified records dealing with American cryptography activities prior to Pearl Harbor would be released and the full truth known. When that day arrived, he admonished, historians should pay particular attention to what exactly the British cryptologists knew before the attack.

Kimmel's Agony

In the winter of 1967, I journeyed to see Admiral Kimmel at his home in Groton, Connecticut. It was a cold, snowy day, well matched to his attitude. He was brought into the small living room in a wheelchair. His balding head glistened in the overhead light, and he squinted at me as if trying to determine whether I was friend or foe. At 85, the fire still burned.

To call Kimmel bitter is an understatement. He raged at me. He called Roosevelt "a damned traitor," and he put Admiral Harold Stark, in 1941 the chief of naval operations, in the same category. "Stark picked me up when I returned to D.C. from Pearl Harbor, and he lied about everything."

Kimmel believed that Roosevelt, Stark and Army Chief George Marshall had purposefully withheld vital intelligence that would have given him a chance to prepare for the Japanese air attack, and then they had made him the scapegoat, ruining his career and abandoning him to be scorned by history. He told of vile letters he and his family had received over the years and said lies had been told about him and repeated as truth by the media. In one anecdote, Kimmel's wife, Dorothy, was supposed to have returned from Hawaii by plane, bumping wounded Americans so her furniture could accompany her. The truth was, Dorothy Kimmel had not been at Pearl Harbor. The entire story was fabricated.

For more than two hours, Kimmel wove an intricate scenario of disappearing records, reluctant witnesses, deceit and chicanery.

His voice became a shout as he said, "That's why I'm still living. I'm going to be vindicated! Some people are working on it right now."

Kimmel died five months later, without the vindication he so wanted.

Questions on Codes

The same year, 1967, I began a friendship with Colonel William Friedman, the legendary cryptologist who headed the U.S. Army team that penetrated Japan's diplomatic code in 1940. A small, trim man given to wearing bow ties, he was both brilliant and delightfully egocentric. There was scarcely a subject about which he did not have a determined opinion.

Though Friedman was restricted by security regulations from discussing codes, including those that preceded Pearl Harbor, he stated without equivocation that he did not subscribe to the Roosevelt conspiracy theory and believed that Kimmel unfortunately would always wear a mantle of ignominy. Friedman told me of a lengthy classified Pearl Harbor report he had prepared for the National Security Agency some years before, and he suggested that if I could someday engineer its release, the answers would be there.

Friedman died in 1969, but his secret report, written in 1957, has only recently been declassified. His conclusions about Pearl Harbor in many respects parallel those of Admiral Nimitz, though the two had never spoken about the matter.

Friedman believed it was fortunate Kimmel had not been warned before the attack and had not attempted to meet the Japanese force at sea. "Not only would there have been a greater loss of American lives," he wrote, "but none of our battleships could have been raised and repaired." Friedman also thought the Japanese had made a massive strategic mistake by failing to attack the American submarine base, fuel depots, dry docks, machine shops and other repair facilities.

With respect to the Japanese diplomatic code, known as Purple, Friedman confirms that the code was first "cracked" in September 1940, and that American military intelligence continued reading Japanese diplomatic traffic through the end of the war. He also declares without reservation that at no point in any of the intercepted messages was there mention that the initial Japanese target would be Pearl Harbor, nor was there mention of the date or the time hostilities were scheduled to begin.

Friedman reveals that two of the ultra-secret Purple code machines — intricate electrically driven rotor devices that were used for decoding Japanese diplomatic messages — had been given to England in January 1941, but none had been sent to Pearl Harbor. While Kimmel believed this to be part of a great conspiracy, Friedman stated that the product of the Purple code would not have provided any insight to Kimmel that had escaped those who were studying the intercepts in Washington, D.C.; thus simple wartime priorities, and no cabal, accounted for the fact that Pearl Harbor did not have the Purple code machines.

Friedman, however, was as puzzled as most Americans as to why the commanders at Pearl Harbor had not been better prepared for an air attack, secret sources notwithstanding.

"U.S. war plans," he wrote in his secret report, "took into account the possibility that the Japanese might begin a war without a preceding declaration, that is by surprise attack, and although this possibility was placed first on the list of contingencies, with Pearl Harbor as the focal point of the attack, and although the war plans even envisioned that such an attack could come from aircraft flown from carriers, it is an almost inexplicable fact that all of

this was forgotten by the end of the same year (1941)."

Inexplicable indeed. Yet neither Friedman nor Nimitz would accept any charges that Roosevelt betrayed his country.

"If Roosevelt was so clever a politician and so Machiavellian in his strategy as to think up a way of maneuvering the Japanese into firing the first shot," Friedman continued in his report, "should one doubt he lacked the intelligence to have gone one step further?"

If Roosevelt had had such advance knowledge, Friedman reasoned, he could have alerted Pearl Harbor commanders to Japanese intentions and set a powerful trap for the Japanese carrier force. Every available American plane and warship would have descended upon the Japanese and destroyed the entire force before the Japanese carriers could launch their planes. The fact that a Japanese carrier strike force had been caught red-handed within a few hundred miles of Pearl Harbor would have convinced the American public of Japan's intended surprise attack, and it would not have mattered who fired

How could Japan have sailed an entire battle fleet, including six aircraft carriers, across the Pacific without detection? Why had no one listened to the military strategists who had been predicting such an attack for 20 years?

the first shot. With the heart of the Imperial Japanese Navy destroyed as the war began, the capture of Wake Island and the Philippines might have been averted and ultimate victory achieved in a much shorter time with far smaller loss of lives.

Yet Friedman felt there was enough blame for everyone.

"I think that Kimmel and Short were not as culpable as I first thought they were back in 1941-1942," he wrote in his secret 1957 report. "The Washington authorities were culpable, too — maybe a lot more culpable than were these two officers. I think the intelligence services came off rather easily — too easily in the fixing of responsibility and pointing out derelictions. I think the intelligence staff might have used more imagination but this was not because they were staffed with obtuse officers or persons of low-grade intelligence. As a matter of cold fact, they were badly understaffed because in both the Army and Navy intelligence didn't count. This raises the question: Does it count for more today in the Armed Services?"

Friedman's 1957 question is still unanswered in 1991, as Congress attempts to chart the future for the Central Intelligence Agency and the dozen other military and civilian intelligence operations charged with providing early warning to American forces.

Secrets Unearthed

Almost every month new additions are made to the Pearl Harbor historical record. After three trips to Japan, I finally found the Japanese records that confirmed what had long been rumored. The Japanese violated their own security 16 hours and 10 minutes before the first bombs exploded at Pearl Harbor — by

shooting down a British flying boat that had been shadowing the Japanese invasion fleet headed for the Malay Peninsula and Singapore. Thus the first shots of the Pacific War were fired by one Ensign Eiichi Ogata, who first sighted the British plane about 20 miles from the southern tip of Indochina.

Earlier this fall, James Rusbridger, a retired British MI6 secret agent, and Captain Eric Nave, who was a major figure in Britain's code-breaking efforts against the Imperial Japanese Navy before the Pacific War, published "Betrayal at Pearl Harbor," in which they allege, with considerable evidence, that the British cryptographers had full command of a top-secret Japanese naval code known as JN-25 at the time of Pearl Harbor, and that Churchill knew the Japanese carrier fleet had sailed toward Hawaii. Churchill, they maintain, did not share that intelligence with Roosevelt. This revelation recalls Nimitz's admonition, "Particular attention should be paid to what the British knew."

It may be some time before the world knows what Churchill actually did with his secret intelligence. His records for Novem-

admiralty. He was held in protective custody during the remainder of the war, and he never returned to America. There are many in England who believe Rutland brought word of Japanese intentions in the Pacific, but his information only buttressed what was already known from Japan's JN-25 secret code.

Japan Revises

Japan, too, is still greatly concerned with the historical record of its 1941 attack on Pearl Harbor. The Japanese government and military seem bent on convincing the uninitiated that Japan intended to officially declare war upon the United States before dropping the bombs.

Lieutenant General Masatake Okumiya, Japan Defense Force (Retired), was a 1930 graduate of the Imperial Japanese Naval Academy and one of the first dive-bomber pilots for the Japanese navy. He participated in the sinking of the U.S.S. *Panay* in 1937 and served in the diversionary force for the attack on Midway. Okumiya has just published an article, "The Japanese Perspective," in the Pearl Harbor 50th Anniversary Commemorative Issue of the U.S. Naval Institute's *Naval History*, in which he alleges that the Imperial General Headquarters decided in a December 4, 1941, meeting that Japan must adhere to the international treaty it had signed at The Hague in 1907, and submit a declaration of war to America before attacking Hawaii.

According to Okumiya, it was originally decided to give America one hour's notice. This was then reduced to 30 minutes. Japan's ambassadors Kichisaburo Nomura and Saburo Kurusu in Washington, D.C., were ordered to deliver the declaration at a specific time, but because of decoding difficulty at the Japanese Embassy, Nomura and Kurusu were late with the message. Thus, says Okumiya, Japan should not be blamed for a "sneak" attack.

The problem with Okumiya's rationalization is that the message delivered by Nomura and Kurusu was not a clear declaration of war — late delivery or no. The final lines read more like an ultimatum:

"The Japanese Government regrets to have to notify hereby the American Government that in view of the attitude of the American Government it cannot but consider that it is impossible to reach an agreement through further negotiation."

Even if the Japanese leaders considered that a proper declaration of war, they must have known that a declaration delivered as your planes are within minutes of their target is not within the spirit of the treaty.

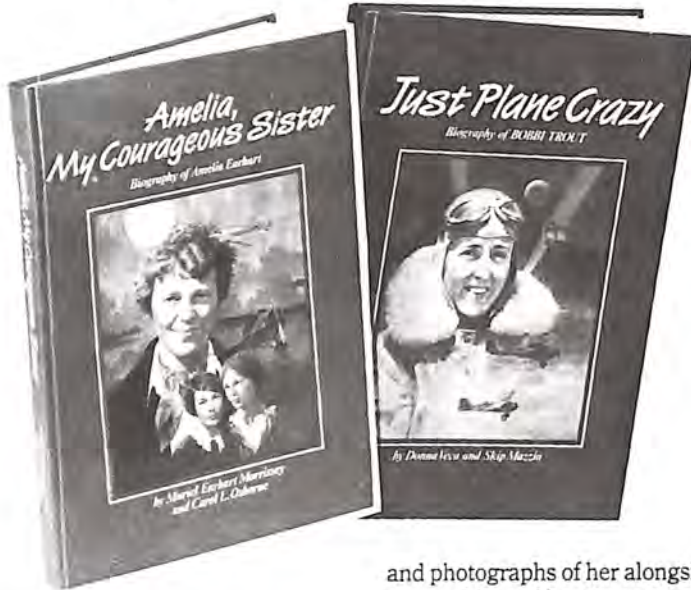
Okumiya also states, without citing any evidence, that "President Franklin Roosevelt had set a trap for Japan: If it were to strike the first blow against the United States, he could use this as a pretext to enter World War II."

The truth is, for more than a decade Japan had plans for an attack upon Pearl Harbor and a subsequent invasion of the Hawaiian Islands. The Japanese trained for the Pearl Harbor operation for almost a year, and they rejoiced as a nation that America had been caught by surprise.

The Imperial Japanese Navy accomplished what it had set out to do. It temporarily immobilized the American Pacific Fleet. But just as surely, it plunged a dagger into its own and its nation's heart.

As Admiral Nimitz told me, "In those falling bombs at Pearl Harbor, Japan was hearing the sound of its own defeat. Perhaps nothing else could have brought Americans together so completely."

BOOK REVIEWS



AERO Magazine, July 1988

Amelia, My Courageous Sister

Biography of Amelia Earhart. By Muriel Earhart Morrissey and Carol L. Osborne

The last two decades have produced many books and dramatic presentations about Amelia Earhart. All, however, have missed the boat up until this book, written by one who perhaps knew A.E. best. Muriel Earhart Morrissey puts the whole story into perspective. As provocative as the mystery of Amelia Earhart's disappearance is, it is not as important in the long run as who Amelia Earhart was.

For the first time in this reader's experience, Amelia Earhart becomes a real person, not merely a legend with a name. These 20 chapters were lovingly—yet not cloyingly—put together to tell the story of a fascinating personality. Morrissey and Osborne begin by introducing us to Earhart's forebears, providing the personal touch that carries the reader through the rest of the book. The many old family photographs and copies of pages from the family Bible further draw the reader into the world Earhart knew as a child. Separated by just two-and-a-half years, Amelia and Muriel shared childhood adventures, as well as financial and familial ups and downs. These kinds of intimate stories, plus their mother's not-quite-conventional attitude, help the reader understand how an Amelia could develop.

Although she was known to the world as a pilot, aviation was just one facet of this remarkable woman. She was well-educated in many areas—poetry, automobile mechanics, foreign languages and chemistry. We see copies of her report cards

and photographs of her alongside her first automobile and her first aircraft, a Kinner Airster. We are struck by her single-minded dedication to whatever she decided to pursue. We are inspired by her integrity in not only doing her best but in the intelligent application of her abilities to aid others. How many people know, for instance, that Amelia Earhart was a nurse during World War I? Or that she had chosen social work as her career while she dabbled in aviation as a hobby?

If persistence was characteristic of A.E.'s endeavors, practicality was no less typical. Upon getting her first automobile, she saw the need to train as an auto mechanic. When she had a frightening experience in the Airster, she insisted upon training in aerobatics and practiced spins and other maneuvers until she felt ready to proceed. Such decisions made good common sense to Amelia, who had been allowed to do the unusual throughout her childhood.

The last chapters of the book unveil facets of her marriage to George Putnam, of her relationships with famous personalities of the day, such as Presidents Hoover and Roosevelt, and of her last flight. Plans for leisurely travel, time for friends and, possibly, children, were put on the back burner until after this one long, last flight.

Amelia's fame was both puzzling and exhausting to her. To her, it only made sense to be truly devoted to a chosen endeavor. It was typical of Amelia that she chose to deflect this fame from herself and toward further developing the science of aviation. The importance of aviation as a useful tool for mankind was what was important to Amelia—not her personal achievement.

To readers of this personal account of Amelia Earhart's life, it is Amelia, after all, who is important.—*Merry MacTavish*

Just Plane Crazy

Biography of Bobbi Trout. By Donna Veca and Skip Mazzio

This biography of a female flier, billed by the publisher as a companion volume to its Amelia Earhart biography (July AERO), contains valuable material for the aviation history buff. Bobbi Trout, just 10 years younger than Earhart, has carved her own unique niche in the annals of both aviation and feminist history and deserves more recognition than she has been given.

Osborne Publisher, Inc., uses the same format for each book: information about family history and childhood is followed by each woman's later interest and progress in aviation. *Just Plane Crazy*, however, falls short of the quality presented in *Amelia, My Courageous Sister*. Although each biography contains plenty of pictorial and other documentation, the photographic reproduction and editorial content here don't measure up to the content of the companion volume.

Another difference between the books is the perceived audience. *Just Plane Crazy* is not only written about someone who is "just plane crazy," it is written specifically for readers who are "just plane crazy." *Amelia, My Courageous Sister*, on the other hand, is a book that can hold the interest of almost anyone, perhaps because of the celebrity status and subsequent unsolved mystery she represents.

But for the aviation—particularly, aviation-history—buff, *Just Plane Crazy* provides valuable details of the Women's Air Reserve and Trout's many endurance records. Although Trout was content to be nonconformist in pursuing her flying career, the modern reader may be taken aback to learn that this female flier was greatly embarrassed by having to attend social functions in her aviator's pants rather than a cocktail dress.

Although the book's focus remains on aviation, the authors go beyond the statistics in other ways, as well, depicting many sides of this pioneer aviatrix. Trout is unusual for her mechanically inventive mind, manufacturing the EG-Cel, a plastic container for eggs, and the Safety-View mirror, along with partner Pat Lewis. Trout's later business successes include real estate, printing and insurance. After retiring, the never-tired Bobbi tried her hand at photography and motorcycle riding and took many excursions by motorhome into the high Sierras.

Just Plane Crazy is a valuable resource book for the aviation history buff—or for the next time you get together in the hangar and want to one-up your buddy in aviation trivia. —*Merry MacTavish*
(Continued on reverse side)

The News Chief

4-17-88

THE BOOKWORM



Velma Daniels

"Amelia, My Courageous Sister," by Muriel Earhart Morrissey and Carol L. Osborne is so thoroughly enjoyable that I was sorry when the last page was read. Exciting! An air of mystery settles over the story as Amelia Earhart's sister gives the true facts about her disappearance.

Pages from Amelia Earhart's journals, flight logs, letters, innermost thoughts from her diary, pictures never before published — all are a part of this literary celebration of the 50th anniversary of the disappearance of Earhart as she attempted to fly around the world, but was last heard from over the Pacific Ocean trying to attempt to make Howland Island.

Aviation. This is where our thoughts have centered during this past week in Central Florida as people from all over the world have come for the Sun n' Fun Fly-In. The release of Amelia Earhart's biography coincided with this aviation extravaganza. But this has been a long awaited literary event for many questions about Amelia Earhart and her flight have been left unanswered for five decades. The answers are given as Earhart's life is traced from early childhood to the date of her death — and the brouhaha that has continued through the years.

You do not have to be an aviation enthusiast to enjoy Morrissey's book. Everyone with a sense of history, a longing to know more about Earhart's personal life, or just a curiosity about what motivated her to set her goals high, will feel completely satisfied after reading this book.

AMELIA, MY COURAGEOUS SISTER by Morrissey & Osborne. 320 pp, 600 illust. Hardcover: (ISBN 0-940997-00-2). \$23.95f. Softcovers: (ISBN 0-940997-02-9). \$19.95f.

JUST PLANE CRAZY by Veca, Mazzio & Osborne. 320 pp, 600 illust. Hardcover: (ISBN 0-940997-01-0). \$23.95f. Softcovers: (ISBN 0-940997-03-7). \$19.95f.

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In the beginning, for this is where this biography begins, we see Amelia and Muriel ("Meelie" and "Pidge" were their nicknames), as happy little girls with adoring grandparents and struggling parents whose lives centered around their daughters. Grandmother and Grandfather Otis were wealthy and objected adamantly to the marriage of their daughter Amy to Edwin Stanton Earhart, a young attorney turned railroad claims agent. Amelia and Muriel led sheltered childhoods, but even then the spirited and seemingly fearless nature of Amelia was apparent. When the girls were still very young, Amelia was confronted by the smacking teeth and the angry charging of her black mongrel dog, "James Ferocious." After calming the family pet, she exclaimed, "I wasn't brave — I just didn't have time to be scared!" In later years, although she admitted that she was often worried both on the ground and in the air, she never let panic interfere with her course of action.

Even as Morrissey writes about her sister, the reader senses the charisma of Amelia Earhart — her joy of life and her curiosity for conquering the unknown in the air waves. She loved to fly even as a young girl. She worked hard to buy her own plane. She dared to think dreams of flying around the world. She was an excellent student and demanded perfection in every area of her life.

Romance played a big part in the life of Amelia Earhart. The author tells of her engagement to Sam Chapman of Los Angeles, but though "she really loved him and seemed ideally suited to one another, her reluctance to continue the relationship stemmed from Sam's outspoken disapproval of working wives..." At the time of her disappearance, Amelia was married to George Palmer Putnam of publishing fame.

Earhart's list of aviation accomplishments is awesome. She broke the altitude record at the Los Angeles meet in October 1922. Then in June 1928, she was the first woman to fly the Atlantic in the "Friendship."

In February 1937, Amelia told a group of New York reporters,

"I think I have just one more long flight in my system. After that? My lovely home in North Hollywood, Calif., sunshine, books, friends, leisurely travel — many things."

But there was not to be another flight after the 1937 adventure — and the mysteries surrounding the fatal flight have hung with a heaviness until now when Amelia's sister sets the record straight.

There are some startling facts addressed in this biography. Though Amelia Earhart was an ace pilot — knew just about everything there was to know about an airplane — she knew relatively little about the newly installed radio system in her plane on the fatal flight. Could this be the cause of the crash — if there was a crash? Or was she on a spying mission for the U.S. government? Or did the only other person with her on this flight, Fred Noonan, navigator, begin to nip at his bottle she found aboard — thereby getting off course?

The solution to the mystery is not spectacular, but it certainly seems to clear up all speculation.

"Amelia, My Courageous Sister" Biography of Amelia Earhart. Morrissey/Osborne. Aviation Book Company. Softcover, \$19.95. Hardcover, \$23.95.)

VELMA DANIELS

THE BOOK WORM



WINTERHAVEN, FLORIDA

The News Chief

6-12-88

"JUST PLANE CRAZY," by Donna Veca and Skip Mazzio, is the biography of Bobbi Trout, who was an early aviation pioneer and contemporary of Amelia Earhart. Bobbi Trout, at 81, is still zipping around the California coast in her little red Porsche and busily engaged in aviation ventures. She is the sole survivor of the 19 women pilots who started in the first "Powder Puff Derby" in August, 1929. What was it like to be a woman pilot in the 1920s and '30s? Bobbi gives you insight into those early days and keeps the reader excited with her breathless stories of adventure. "Just Plane Crazy" is chocked full of photos.

("Just Plane Crazy." Veca/-Mazzio, Aviation Book Company. \$19.95.)

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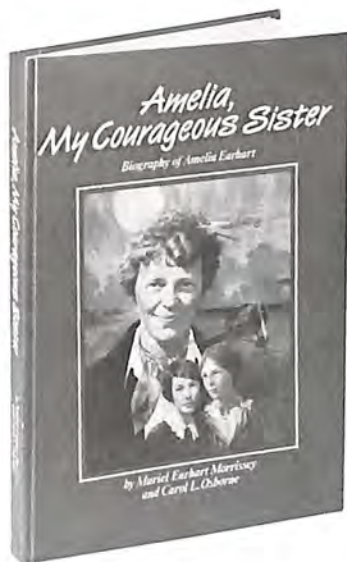
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AVIATRIXES AMELIA EARHART (left) AND BOBBI TROUT (right) in 1936.



Credit: Albert L. Bresnik, Amelia's Official Photographer



Credit: Thomas J. Ringers via Joan M. Hill.



AMELIA EARHART IN THE COCKPIT OF HER LOCKHEED ELECTRA 10.

AMELIA TAKING OFF FROM LAE ON HER LAST FLIGHT.

TROUT REFUELING DURING RECORD NON-STOP FLIGHT IN 1931.

BOBBI TROUT, TODAY, STANDING BY PHOTO OF AMELIA EARHART.

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by Muriel Earhart Morrissey and Carol Osborne, Aviation Historian

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"This book will clear up many untruths that have been circulated in recent years" . . . Western Flyer Monthly.

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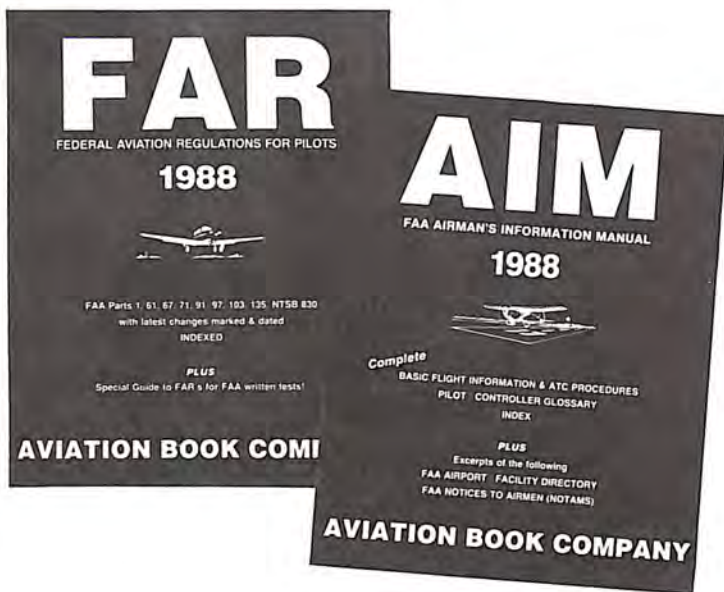
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Earhart riddle solved — 'year on desert island'

By MAURICE CHITTENDEN
in London

AVIATION historians claim to have solved one of flying's great mysteries, the disappearance of Amelia Earhart over the South Pacific 55 years ago.

A team of researchers using sonar technology has found part of the wreckage of her plane and one of her shoes on the remote island of Nikumaroro, a 3km-long atoll in the island nation of Kiribati.

They believe the aviator and Captain Fred Noonan, her navigator, may have survived a crash-landing and lived on the atoll for a year before dying in a severe drought.

The International Group for Historic Aircraft Recovery (Tighar) plans to reveal details of its discoveries in Washington today.

The size nine shoe, found in jungle undergrowth on the island, has been identified as Earhart's by the US National Transportation Safety Board.

"We will present proof that the Earhart mystery has been solved," Tighar's executive director, Mr Robert Gillespie, said last night.

The group gave no details of how it found the plane, but last June a Houston-based company, Ocean-eering International, said it had been hired by Tighar to use a highly sophisticated underwater sonar device to scan the ocean. Earhart and Noonan vanished on July 2, 1937, after taking off from Lae, New Guinea.

The Sunday Times, Reuters

The Australian 16.3.92

42/11 Namatjira Drive,
Weston, A.C.T. 2611,
Australia,
20 December, 1991.

Frederick A. Goerner,
24 Presidio Terrace,
San Francisco,
California 94118, U.S.A.

Dear Mr Goerner,

Thank you for your letter with its wealth of interesting news and comments. We are both in good fettle again and engaged in the usual Christmas rush. Somehow it always seems the busiest time of the year and I cannot remember when I was able to take the day off.

I was glad to hear about Laslo for I had always wrongly blamed Swinbourne's bureaucratic insistence for probably causing his death. Two of Swinbourne's sons were here last week and I ^{was} able to give them a curriculum vitae covering their father's career.

I do hope that your bout with cancer has ended with its eradication. An astonishing number in this Retirement Village are former cancer sufferers who have since been given clean bills of health. The husband of my New Zealand niece, however, has acquired his through handling asbestos and apparently cannot be treated (as yet).

The TIGHAR people appear to be rather careless in publishing information before establishing its accuracy and I am anxious that you should have the most authentic information available about Nikumaroro in case you should be publishing anything correcting their assertions. I am therefore sending a Report I made for the British Government in 1940 on the history of Gardner: it had better be cited as from 'Information in an official Report by H.E. Maude, 1940', as the whole report was marked 'Secret' at the time. There is however nothing secret in the piece sent to you; nor indeed in the entire report now that the islands belong to the Republic of Kiribati and are no longer claimed by Britain or the U.S. or any other power.

The Report states that there were 20 Niue workers on Gardner in 1892 in charge of a Mr Challis: so the skeleton of a Polynesian in all probability belonged to one of them, or less likely to one of the workers for the Samoa Shipping and Trading Company after 1914, as they occasionally visited Gardner. Also it records that there were 111 bearing coconut trees, in five clumps, on the atoll in 1937, more than ample for the needs of Amelia Earhart and her navigator.

On p.61 of his book Adventuring in Coral Seas, Albert (Bertie) Ellis writes of the pre-colonising period: 'There are several wells of fairly good water on each of the three islands [Hull, Sydney and Gardner], equal in quality to that found in the Gilberts; and fish, sea-birds and turtle, together with the coco-nuts, would make a food-supply somewhat similar to that which the Gilbertese are accustomed to'. So much for the theory that Earhart and Noonan died from hunger and thirst: I have never had an answer from Gillespie as to why if they landed on Nikumaroro did they disappear in the brief period prior to our arriving there and combing the island. I'm afraid that I'm not his favourite, for he has never mentioned me once, nor had the courtesy to acknowledge the receipt of my letter replying to his queries.

I believe that Amelia is supposed to have landed the plane on the reef at the S.E. point of the atoll; and should it be alleged that this rather remote part was not examined in the earlier stages of settlement it should be pointed out that this was where my colleague Eric Bevington and his party of would-be explorers spent their first night. See his book The Things we do for England - if only England Knew, published by him in 1990 at Holmans Cottage, Burley, Hants BH24 4AZ. You can buy a copy quite cheaply from him direct, and it will be worth a fortune in years to come. But I send a photocopy of the relevant pages (see especially p.17): the copy is not as good as I would like but the book would not go flat enough.

I have also discovered that report by P.B. Laxton which I mentioned as being the best account ever written on Nikumaroro and its colonization. I do not expect that King

sent you anything and in any case I did not let him have the photos, so I am adding it to the rest. Please post it back in due course as it should go into the archives with the thousand and one other items already there. Which reminds me to thank you for returning the Nesbitt article - you need not have worried about the Settlement Scheme Progress Report as it was a duplicate.

Now to answer your queries. Yes, I knew Tuiniceva, the Fiji Government archivist. I once told him that he had the most important and interesting job in the Fiji Government and he asked me to mention it to the secretariat heads, in the forlorn hope that they would put his salary up. But he has nothing to do with the Gilberts or any other Western Pacific High Commission territory. The WPHC used to have a central archives just across the Government House Road from Fiji; P.D. (Paddy) Macdonald was the last archivist and when the WPHC became defunct he was ordered to pack them up and send them to the Foreign Office (which had taken over the old Colonial Office when the British Empire dissolved).

I am told that the WPHC records still lie unpacked, as nobody in the FO, or in England, has any interest in Pacific Islands records. We in Australia, New Zealand and Hawaii who are interested have been clamouring to have them sent back; but one difficulty is that each territory now has its own archives and it is difficult to separate items as so many refer to several territories.

I did not see any 'signs of recent human habitation' on Nikumaroro, nor did I hear of anyone else seeing anything. They would certainly have talked if they had. Again I do not think that the survivors from the wreck of the Norwich City built a stone marker beacon. There is no stone on the atoll (not even a pebble) and the excavation of the reef coral and its removal and piling up till the beacon stood above the level of the trees would have been a terrific job.

What would have been the purpose of this colossal undertaking? Admittedly Arundel had to erect beacons on the islands he leased under license, but that was to warn shipping away from a navigational hazard; and in the case of Gardner he was excused as the great height of the trees made

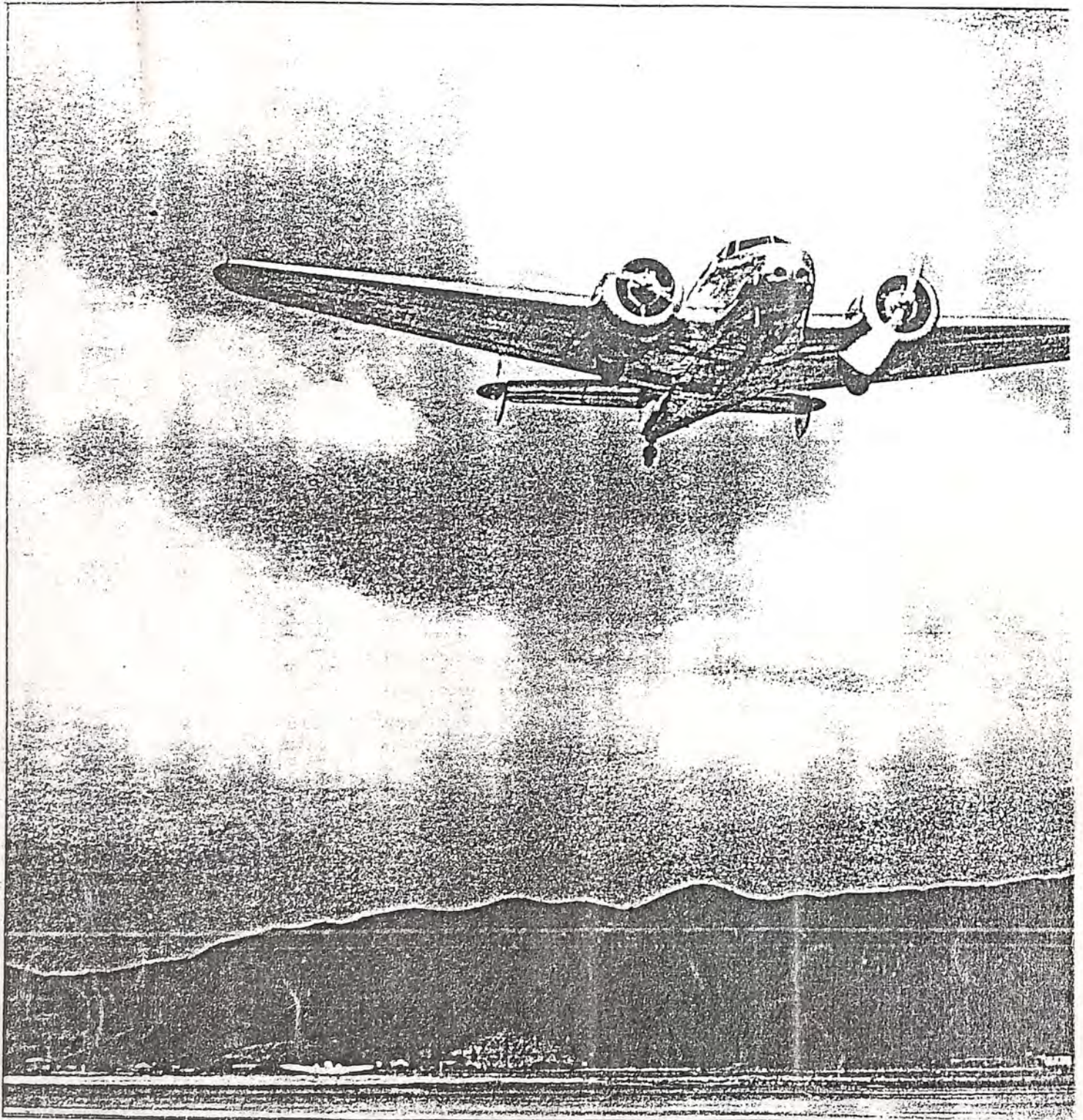
it quite unnecessary. The normal method of signalling to passing ships that there were castaways on an island was to light a large fire ashore as soon as the ship was sighted. I could quote many instances of this being done.

As to what Lambrecht actually saw I cannot say, but American airmen were not usually familiar with the terrain aspect of atolls and were apt to report natural objects as signs of human occupation. Major Holland told me that he was in the cockpit of an American warplane passing over Tamana when the captain mistook the regularly laid-out village, with each house carefully spaced and of identical size, for a Japanese encampment and was about to drop his bombs on it when Holland assured him that he knew the village well and the good people who lived there.

Wishing you all the best for Christmas and the New Year. We shall be quiet as usual, engaged in finishing Book (6) on Nui Atoll, from the time of its first settlement by canoes from Nonouti, Tabiteuea and Beru about the year AD 1550, in our current series for the Gilbertese. That will leave us with only two more to finish before we can depart with a clear conscience - but alas we are both getting increasingly slow. Our main collaborator is Reid Cowell, with his superb knowledge of the niceties of the Gilbertese language. He has no stomach and only one lung left now, but it seems to make no difference to his ability to work, or his tremendous interest in whatever he is engaged on.

Yours ever,

S. M.



WHAT DID HAPPEN TO AMELIA

One of the most interesting aspects of any enquiry into the disappearance of Amelia Earhart is that there were several voice-to-voice transmissions from her before the Electra was lost. The exact content of some of these messages has been the subject of some dispute but, even making allowances for differences in records, they provide important clues to the fate of the aircraft and its occupants.

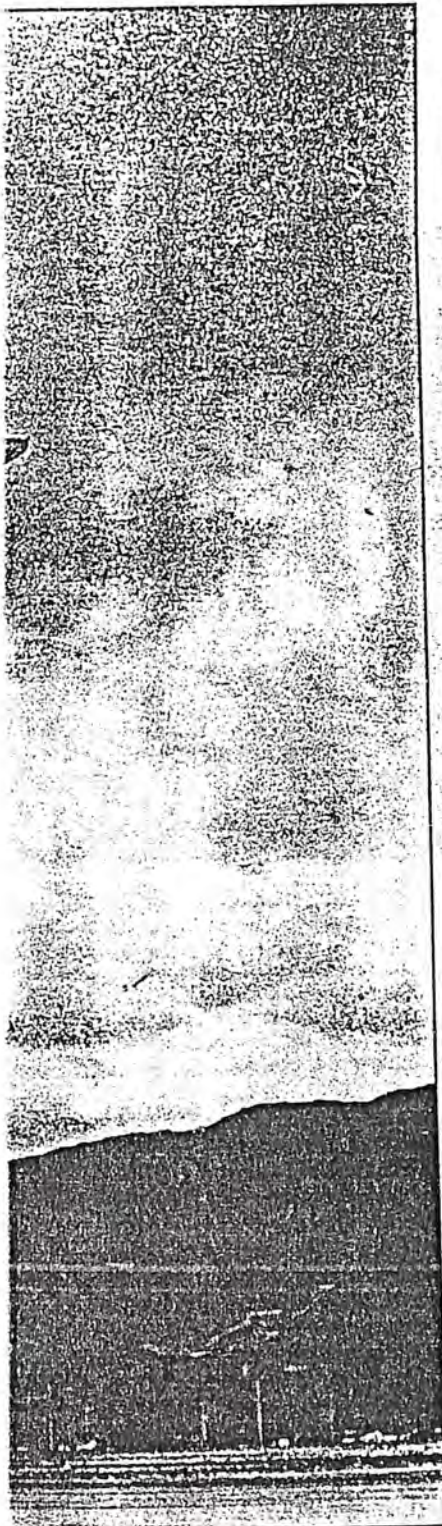
Throughout her world flight, Amelia broadcast every half-hour as a matter of routine, using her call-sign KHAQQ, but not knowing with any certainty whether she could be heard. The crystals available

ROY NESBIT concludes his major two-part investigation into the mysterious fate of the legendary American aviatrix

for the radio set installed in the Electra gave her the facility of calling on 6,210kHz, which was the frequency normally used during the day, and on 3,105kHz, which was the night frequency. It is difficult to establish the range of these medium-frequency transmissions. The equipment was considered to have a range

of up to 400 miles, but transmissions were better over sea than land. Moreover, there is a phenomenon of "skip distance", when sky waves bounce off the layer of ionized gases round the earth's atmosphere, known as the "Heaviside layer", giving much longer ranges than the ground waves, especially at night. Even in those days, radio operators could quote instances of receiving freak messages, sometimes from thousands of miles away.

It is simpler to relate Amelia's messages in terms of GMT, since she took off at precisely 0000hr GMT on July 2, 1937 and then flew through a number of time zones. Indeed, it seems obvious that Amelia



Above, Amelia Earhart was 38yr old at the time of her disappearance on July 2, 1937, while over the Pacific Ocean on a round-the-world flight.

navigator obtains a single position line at right angles to the direction (or azimuth) of the body. Thus, Noonan could obtain a position fix from several position lines at night, but during the day he had only the sun to give a single position line.

At Lae, the radio operator heard Amelia very clearly during the first hours of her flight. She reported at one stage that she could see clouds ahead and was reducing altitude from 10,000ft. At 0720hr GMT, she gave the only positive position report of the flight. This was 04°33' South 159°06' West, which was 13 miles west of the Nukumanu Islands. This position is significant for three reasons. The first is that she was over 900 miles away, so there must have been excellent radio conditions at the time. Secondly, the Electra was making a groundspeed of only 128 m.p.h., which indicates that there were headwinds. Her forecast wind had been very light, only 12 m.p.h. from the south-east. But an examination for the reported winds for the day, at the Meteorological Archives at Bracknell, shows that the wind for the day was about 25 m.p.h. at medium height, from due east; this was recorded farther east along her track, at Nauru Island, a territory administered jointly by Britain, Australia and New Zealand. Thirdly, the position shows that the Electra was on an almost direct route to Howland Island.

It is probable that Amelia flew over Nauru at night, at about 1100hr GMT. The radio operator there picked up transmissions which seemed to be Amelia's voice, but had difficulty making out the content. There are varying reports of what he heard, including "land in sight", "a ship in sight" and "lights ahead". The American tug *Ontario* was well to the south of Nauru and the radio operator heard nothing. It is likely that she saw the lights of Nauru from the phosphate workings on the island, for she had been notified in advance of these.

From Nauru, the route of the Electra must have taken it over the British Gilbert Islands, a long string lying athwart its

track, but it seems that the authorities there had not been asked to assist in any way. I could find nothing in the records at the Public Record Office.

The most dramatic calls were picked up by the US Coast Guard cutter *Itasca*, positioned near Howland Island specifically to assist in the last stages of the navigation. At 1745hr GMT, only 15min before the Electra was due to arrive, they heard Amelia call "200 miles out and no landfall". Significantly, 1745hr was the time of sunrise over the island, but Amelia had not yet seen the sun. She seems to have been emphasising their lateness and was probably beginning to get worried. Noonan must have been able to work out their position by dead reckoning, probably assisted by astro fixes during the night.

Then, at 1816hr GMT, Amelia was heard to call "approximately 100 miles from *Itasca*, position doubtful". The Electra could not have flown 100 miles in the 31min since the previous message and, even making allowances for "rounding" of distances, it is probable that Noonan had made a revised estimate of their position. He could have done this by checking longitude at sunrise which, assuming that his revised position was fairly correct, would have occurred at about 1755hr GMT. Without using his sextant, Noonan would have noted the exact time that the first rays of the sun appeared above the sea horizon. By comparing this time with the known time of sunrise over Howland Island and converting time into distance, the result would have given approximately 160 miles travelling distance to the island. Taking into account the probable ground-speed of the Electra, the remaining distance would have been 115 miles (or 100 nautical miles in the measurement which navigators used) when Amelia sent this message. This sunrise method of checking longitude was not normally used by air navigators for, as will be seen shortly, there were inherent dangers in calculations, but it was a method which Noonan would have been familiar with as a marine navigator. Indeed, it was the only action he could have taken at that stage of the flight.

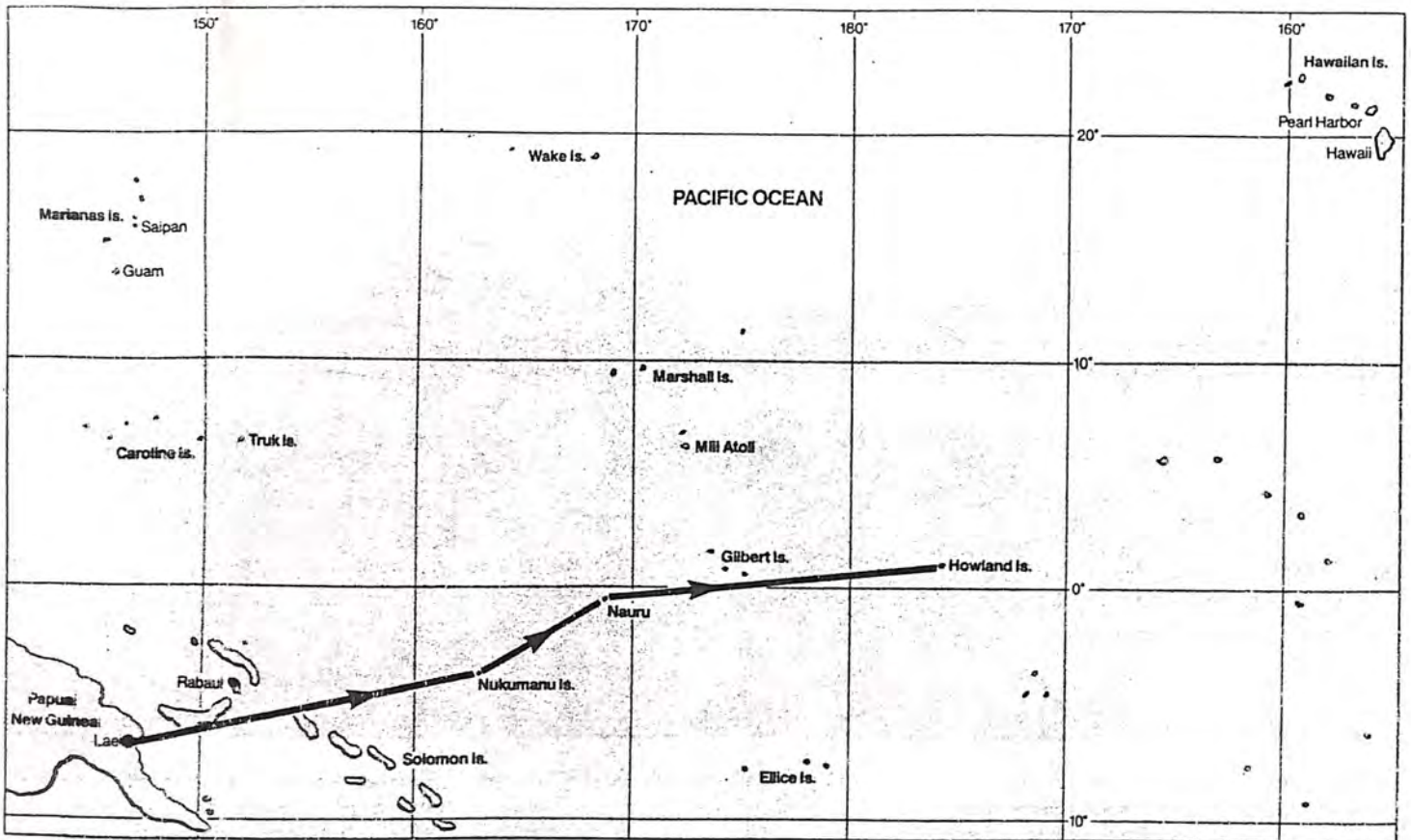
"Must be on you now . . ."

At 1912hr GMT, there was a further message, "Must be on you now, but cannot see you. Thirty minutes gas remaining, no landfall, position doubtful. We are flying at 1,000ft." According to one account, the portion "thirty minutes gas remaining" was actually "gas running low". In fact, the Electra was in the air for at least another 83min, but the fuel gauges would not have enabled Amelia to determine exactly how much fuel remained. It is interesting to note that 1912hr GMT is the revised ETA at Howland Island which Noonan would have calculated if he had used the sunrise method of checking longitude and assumed that there were no errors in his calculations.

At 1928hr GMT, the operator heard her at maximum strength say "circling, trying to pick up island". At this point, she also requested a bearing on 7,500kHz, but this was not a frequency on which bearings could be taken. The American sailors expected to take bearings on 500kHz, but

EARHART?

nose this take-off time deliberately, so that she could check her progress easily on her watch, knowing her calculated flight time. Her ETA at Howland Island was 800hr GMT, which was only a few minutes after sunrise there. The early part of the flight was in daylight, during which period they must have passed over several islands to give visual pinpoints, while the night flight took place mainly over the open sea. Noonan would have expected to use astro-navigation at night, when there were plenty of stars and planets to select, provided the sky was clear enough. An astro shot gives the angle between the horizon and the body and from this the

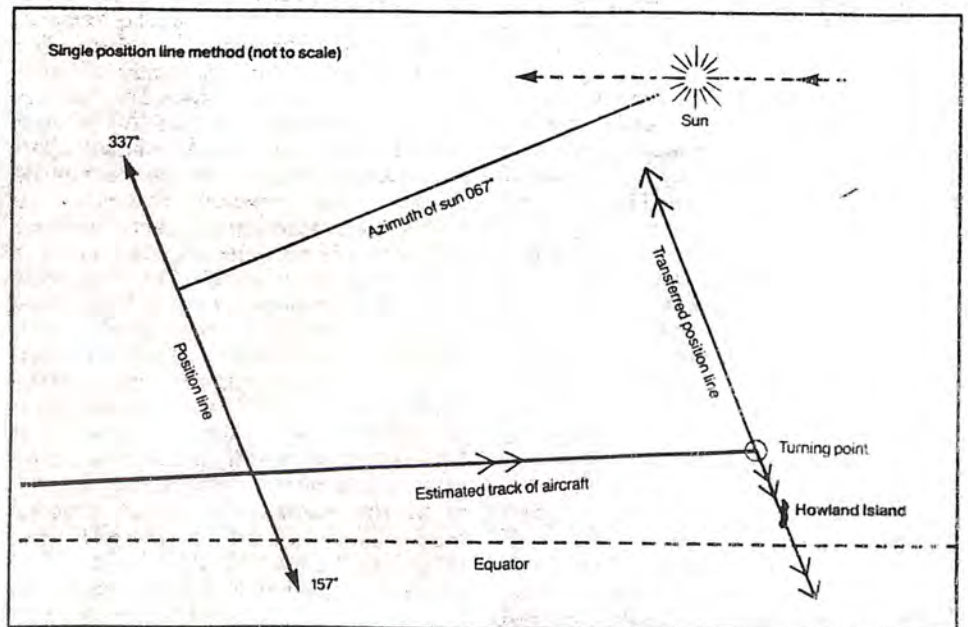


they did not know that the trailing aerial for this frequency had been removed from the Electra. It seems that Amelia was unable to make out any of the voice-to-voice transmissions sent to her, at least at this stage of the flight.

Then, at 2013hr GMT, Amelia sent another message, "line of position 157 to 337 degrees". She repeated this message 12min later, adding "heading north and south", at which stage her voice was considered "broken and frenzied". No further transmissions were heard from her.

This "line of position" has caused some confusion among researchers. However, it means a great deal to astro-navigators, who would regard it as a position line obtained from an observation of the sun. It seems to indicate that Noonan was trying to use a technique which was used by marine navigators, probably for a century or more. It was also known to air navigators and the first to record it was Francis Chichester who, before achieving fame as a round-the-world yachtsman, was a highly experienced pilot and astro-navigator. Some of the instruction in the RAF before and during the Second World War was based on his writings.

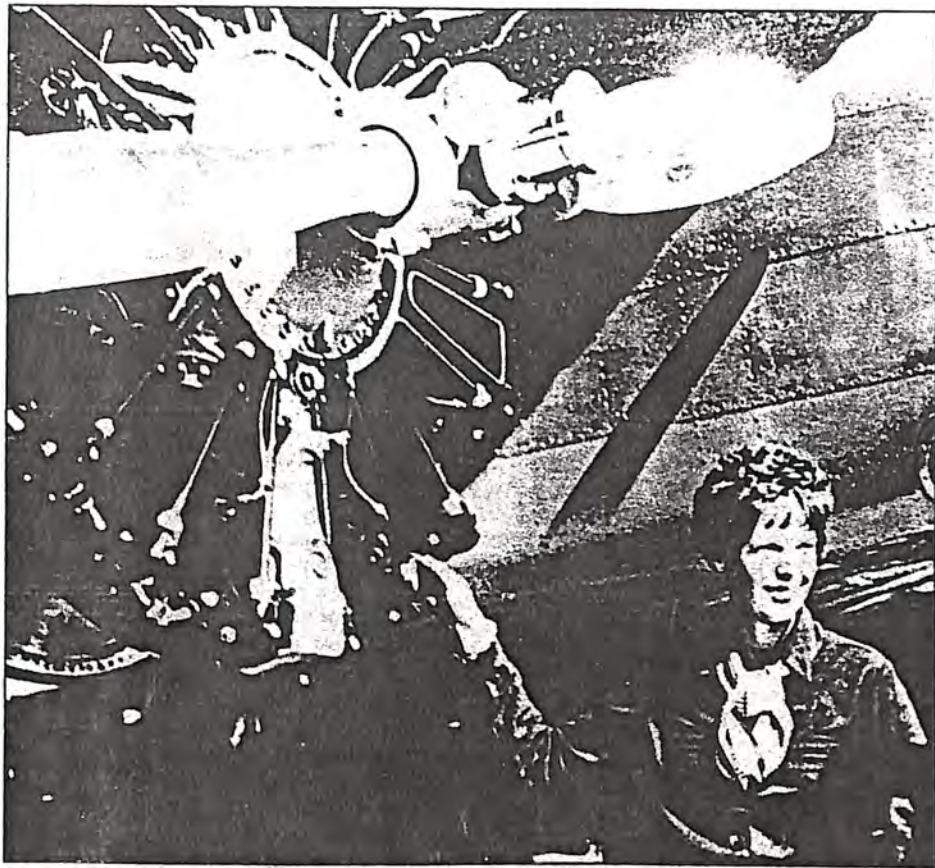
Chichester described the procedure in his book *Astro-Navigation* and called it "Running Down a Position Line". To find an island in daylight with only the sun to give a position line, the navigator did not head straight for his destination but deliberately aimed for one side or the other, sufficiently far to know for certain which side he was on. He then took an astro shot of the sun with his sextant. Using his tables, he then calculated the single position line, which is always at right angles to the azimuth (or direction) of the sun, and drew it across his estimated track on his chart. He then transferred the position line along his track until it cut through the



island and gave a turning point. His estimated ground speed gave the ETA at the turning point so that, if he then flew along the transferred position line towards the island, he would reach it eventually provided his calculations were correct. To illustrate his own experience in using this method, Chichester quoted an occasion in 1931 when he flew eastward in a Moth seaplane across the Pacific from Norfolk Island to Lord Howe Island, a distance of about 550 miles. He extracted the relevant figures from his tables in advance for the time he expected to take the sextant reading, which he took while still piloting the aircraft. A simple sketch shows how this technique might have worked on the approach to Howland Island.

It is certain that Noonan knew of this method but less certain that he was able to use it on this flight. A position line of 157°

to 337° means that the azimuth of the sun was 067°. Looking at the relevant tables for the day, it is evident that this was the azimuth of the sun from the Electra at sunrise, 1755hr GMT. But the sun rose almost vertically at the Equator and this azimuth was maintained for about an hour, although the altitude increased to about 14° in that time. Thus, Noonan might have taken a sun shot in that period and tried to use the Chichester method, but it is unlikely that he was able to do so. There was evidently much cloud about and the sun would have disappeared behind it, with the Electra flying below at 1,000ft. The cutter *Itasca* was in clear weather but the sailors could see heavy cloud to the north and west. Furthermore, fuel was running low and it is unlikely that Amelia would have agreed to fly a dog-leg to Howland Island, especially with her



Above left, Amelia's probable route from Lae to Howland Island. Left, the method of finding an island by means of a single position line obtained from a sextant shot of the sun. It is probable, however, that Amelia's navigator was unable to attempt this method and that they aimed direct for Howland Island. Above, Amelia in front of her Lockheed Electra.

limited appreciation of navigation. Lastly, if a dog-leg had been attempted, the ETA at Howland Island would have been later than 1912hr GMT when Amelia said "must be on you now". It is far more likely that a position line was obtained at sunrise and that they tried to fly direct to Howland Island.

If this reasoning is correct, it is possible to suggest what went wrong. Marine navigators used the sunrise position line (by visual observation and without a sextant), for the sea was their horizon. But the higher one flies, the earlier one can see the sun rise over the more distant horizon. At a height of 1,000ft this "dip correction" (as

it is called) results in an extra distance of about 35 miles. At 3,000ft, it is 62 miles. Thus, the reading from the tables required a correction. One might expect Noonan to have known of this, but he was primarily a marine navigator and he was probably mentally exhausted after working solidly for 18hr. If he had made this oversight, it would have resulted in the Electra flying up and down the position line at least 35 miles to the west of Howland Island and caused Amelia to report that she was "flying north and south".

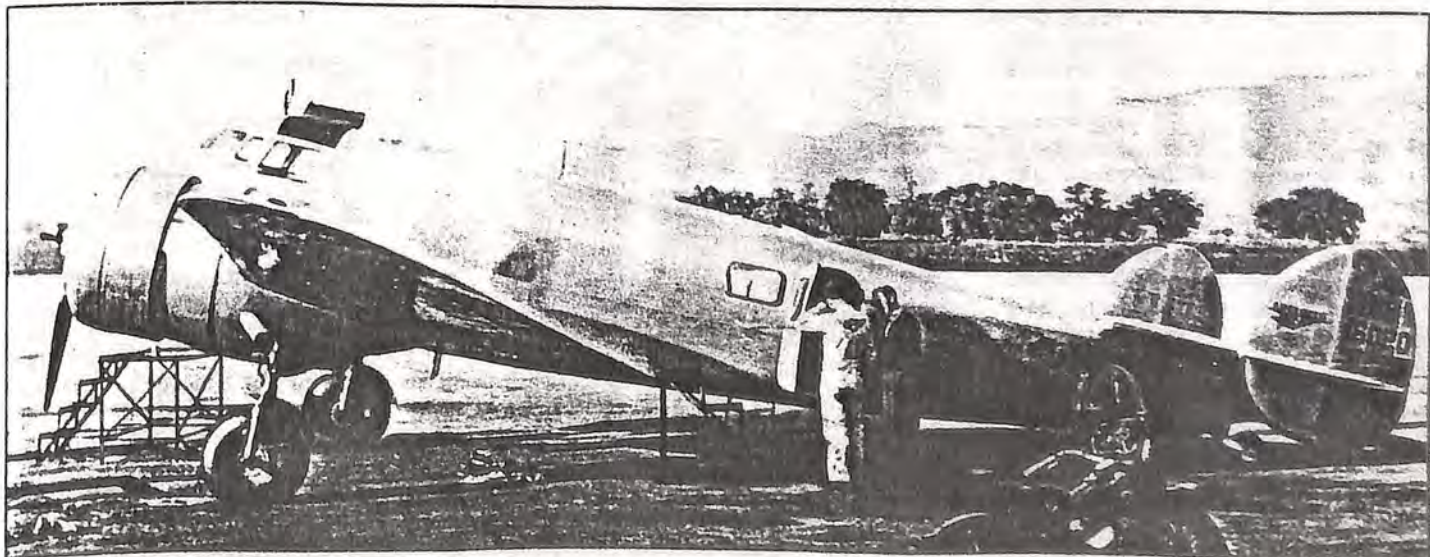
I have tried to put myself in Noonan's position and to think what I would have done when Howland Island failed to appear. I have never been in such a predicament but there were certainly many occasions when I was unsure of my position as a result of adverse weather. One episode which comes to mind was soon after the end of the war when I was navigating a Dakota of 52 Sqn from Dum Dum in India to Pegu in South-east Burma. We were

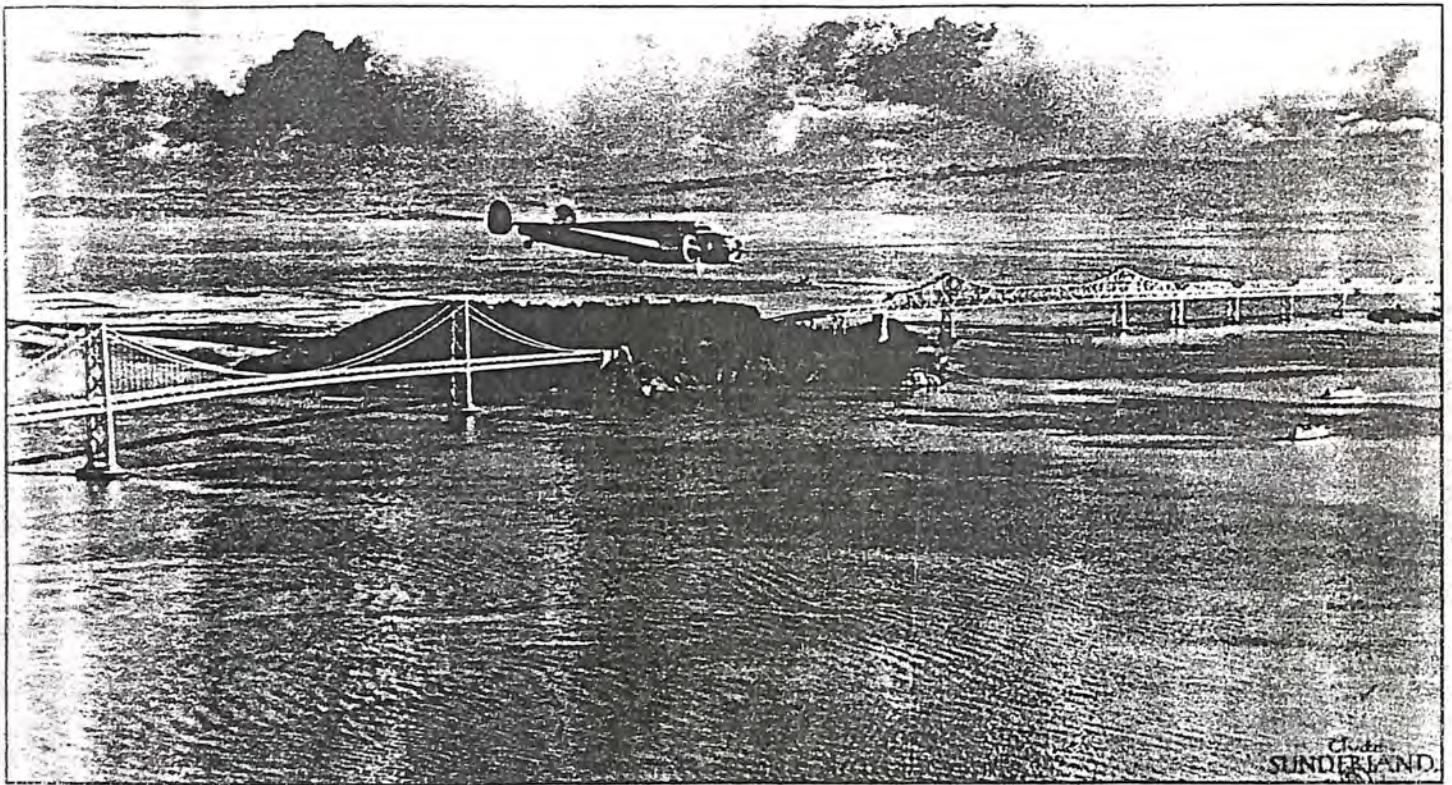
carrying a very heavy load of freight and, for some reason that I cannot remember, the flight had to be made entirely at night and in very bad weather. The only way to find the airfield at Pegu was by astro and I spent much of my time moving between my chart table and the astrodome, looking for breaks in the cloud above. The air was very turbulent and the bubble in the sextant chamber was dancing about; it was difficult to hold the instrument steady. I had only intermittent glimpses of stars but I managed to take several astro shots and transferred the position lines on my chart to give fixes. But I was still worried about accuracy. There was nothing beneath us except low cloud, hills and jungle, and we had no parachutes. Although our fuel situation was not yet serious, I was unhappy about hunting over South-east Asia for somewhere to land. It crossed my mind that I had survived 6yr of war to end up as an undiscovered corpse in the burnt-out wreckage of a Dakota in the jungle. We came down through the cloud, a procedure I always hated when there were hills about, and to my relief the faint lights of Pegu appeared before us.

On that occasion, I was prepared to begin a "square search" for the airfield, and it is my guess that Noonan must have had similar thoughts. This was a well-known procedure whereby the navigator plotted a series of tracks at right angles to each other, at twice the visibility distance apart, in the form of squares which steadily increased in size. Theoretically, the objective would be found eventually, provided there was enough fuel. But the messages received from Amelia do not indicate that a systematic search of this type was begun. Instead we have the messages "circling" and "heading north and south". This sounds as though Amelia was chasing shadows on the surface of the sea, formed by the cumulus clouds above, or was flying towards more distant clouds in the hope that these were the smoke which the *Itasca* was making.

The above record of messages received from Amelia is not intended to represent a full list, but they are the ones which strike me as the most significant for an analysis of the probable route of the Electra.

Below, Amelia's specially-modified Electra, NR16020, photographed upon its delivery from Lockheed.





Amelia's Electra over San Francisco Bay.

Within a few hours of the last message, the captain of the *Itasca*, Commander Walter K. Thompson, headed his vessel to the north-west, for he reasoned that the aircraft was most likely to have come down somewhere beneath the stormclouds in that area. At this stage in aviation development, it was believed that all-metal aircraft could float for a long time, provided the fuel tanks were empty. This belief in buoyancy was soon dispelled when all-metal aircraft came down in the sea during World War Two, for it was found that they sank almost immediately. Moreover, it was known that the *Electra* had on board a rubber dinghy equipped with lifebelts, flares, Very pistol, emergency rations and even a signal kite. It was hoped that, at the very least, Amelia and Noonan had been able to clamber into this dinghy and were awaiting rescue.

Meanwhile, the US Navy put into operation a large search, with Catalina flying-boats as well as surface vessels. Destroyers, minesweepers, and even a battleship with reconnaissance aircraft were diverted to the area. The New Zealand cruiser *HMS Achilles*, which was sailing not far away, heard messages from KHAQQ which included "quite down, but radio still working". Unfortunately, the log of this cruiser for 1937 is not in the Public Record Office. It seems probable that this was one of the many radio hoaxes sent out by sick-minded people soon after the *Electra* was reported missing. These messages are not worthy of reporting here, but it is sufficient to say that some were given credence at the time. For the most part, they implied that the *Electra* was floating somewhere but still able to transmit. Paul Mantz, Amelia's technical adviser, pointed out that there was no hand-crank mechanism for electricity and that transmission was impossible unless the *Electra* was on a reef somewhere with an engine ticking over. Nevertheless, at one stage the false messages caused the *Itasca* to be ordered away from her area of

search to examine the sea south of Howland Island.

George Putnam seized on some of these hoax messages as giving evidence of survival, and made a nuisance of himself with the authorities. A spirit medium who was a friend of Amelia told Putnam that his wife was still alive in the floating *Electra*, although Noonan was injured. Another medium announced that she was in communication with Amelia, who was dead and lying in 12ft of water in a certain position, after having jumped out by parachute; Mantz pointed out that the parachutes had been left behind in Darwin. An immense area of the ocean was searched, covering a radius of 700 miles from Howland Island. There was a flurry of excitement when flares were believed seen, but these proved to be a shower of meteors. An aircraft carrier arrived to help. The search was reported to have involved ten ships, 102 aircraft and 3,000 men, and to have cost \$4 million. Nothing whatsoever was found.

Persistent rumours

There have been persistent rumours and many researches since that date, some of them resting on the belief that Amelia was on a spy mission and was captured by the Japanese. To some extent, these were prompted by a film which appeared in 1943, entitled *Flight to freedom* and starring Rosalind Russell and Fred MacMurray. Obviously based on Amelia's last flight, the couple were sent on a disguised spying mission across the Pacific, but they survived and lived happily ever after, although their identities had to remain incognito. In 1949, Amelia's mother expressed the belief that her daughter was on a secret mission, primarily because she did not discuss the details of the flight with her. However,

Eleanor Roosevelt said that her husband had never hinted that there was anything secret about the flight.

A very painstaking study was published in 1966, entitled *The search for Amelia Earhart* and written by Fred Goerner after some 6yr of investigations, primarily on behalf of the Columbia Broadcasting System. These investigations were begun following a report from Mrs Josephine Blanco Akiyama, who in 1937 was an 11yr-old girl living near Tanapag Harbour in Saipan, one of the Marianas Islands which had been mandated to Japan after World War One. Mrs Akiyama remembered seeing a low-flying aircraft crash in the waters, after which Japanese soldiers brought two white people ashore, one of which she was told was a woman. She thought that they had been summarily executed.

Goerner was determined to track down more evidence of this event and paid three visits to Saipan as well as other islands. He evolved a theory from the testimony which he collected from a number of sources, including local Saipanese and Roman Catholic priests, all of which added up to a convincing account. He surmised that the purpose of Amelia's flight was to spy on the island of Truk in the Carolines, which had been annexed by Japan and heavily fortified in preparation for World War Two. After observing airfields and fleet-servicing facilities, they headed for Howland Island but ran into bad weather. Reluctant to ask for bearings which would give away their position, they waited until 1745hr GMT before telling the *Itasca* that they were about 200 miles away. Noonan made his sun shot at about 2120hr but they could not find Howland Island and turned back to the Gilbert Islands, administered by Britain, with about 2hr of fuel left. But they were so far off track that they landed at Mili Atoll in the south-east Marshall Islands, which had been mandated to Japan. The time was about 2310hr GMT, about the

maximum time that the Electra could have remained in the air with full tanks. Amelia sent out distress signals but was captured by the Japanese and taken eventually to the administrative headquarters at Saipan in the Marianas, together with Fred Noonan, who was slightly injured. Here she died of dysentery, but Noonan was executed. Various witnesses supported this story in the islands concerned, but without knowing names.

Goerner's well-researched account is quite believable at first reading and it certainly gained much credence. But, in my opinion, there are some flaws. One is that he used a cruising speed of 200 m.p.h. Amelia's Electra was capable of a maximum speed of only 190 m.p.h., according to Lockheed, and this could be sustained for only a very short period. Another query is that the suggested timing would have brought the Electra over Truk at night, when Amelia would have been able to see very little. Night photography from the air was not developed in 1937; moreover, none of the many customs officials who inspected the aircraft saw any aerial cameras or flash-bombs. A further snag is that no evidence was ever found in Japanese records, and officers who would have known of such an episode stated emphatically that there were no such westerners in the islands. A Saipanese policeman said that there was a woman spy who died there in 1937, but she was a Eurasian.

Nevertheless, Goerner's account has been accepted by many throughout the world. For instance, the German former diplomat Hans-Otto Meissner, who visited Saipan shortly after the Electra disappeared, stated in his book *Inseln in der Südsee* that he had come to believe that the reason why the Japanese allowed him limited freedom was in case he discovered something about Amelia Earhart. Tourists who take a guided tour of Saipan nowadays are shown the cell "where Amelia Earhart was imprisoned".

A refinement on Goerner's theory arrived in 1985 with the publication of *Amelia Earhart: the final story*, written by the former USAF pilot Vincent Loomis together with the aviation writer Jeffrey Ethell. Loomis dismissed the spying theory and concluded from the evidence of the radio transmissions that the Electra was following the most direct route to Howland Island at its known airspeed. He interpreted correctly the position line technique which Noonan might have used, deliberately aiming to the north of his objective, but reasoned that Amelia turned her aircraft in the wrong direction, after failing to reach Howland Island when they first turned right. She assumed that she was south of the island and then flew north-west for a long distance, before heading back in the expectation of ditching somewhere in the Gilbert Islands. Like Goerner, he believed that they arrived at Mili Atoll. To support his theory, he visited Mili and obtained testimony from the islanders, who confirmed that an aircraft had crashed there and a pair of flyers had been captured by the Japanese. He even found a Japanese medical orderly who remembered giving first aid to someone who answered the description of Noonan. The two aviators were

then taken to Saipan and died there.

These very short accounts do not give full justice to two very well-written and interesting books. Both seemed very convincing to me when I first read them. But this was before I found the material at the Public Record Office.

Commonwealth territory

It will be appreciated that, in order to fly over territory which was part of the British Commonwealth, Amelia first had to obtain the necessary authority. Among the correspondence I have discovered there is an original letter written by Amelia on her headed notepaper and bearing her signature. This is available for scrutiny by anyone who has a reader's ticket at the Public Record Office. It was written on February 13, 1937 to Lt-Col Sir Francis Shelmerdine, who at the time was Director of Civil Aviation in this country. I believe that it is worth repeating in full.

"My dear Sir Francis,

"At the suggestion of Jacques de Sibour, good friend of Mr Putnam's and mine, I am venturing this letter. It supplements a radiogram sent today to de Sibour, a copy of which I attach.

"In that cable I tried to outline pertinent facts of the contemplated flight. The State Department here has generously co-operated throughout and apparently is encountering no difficulties in securing necessary permissions. However, I am informed this morning that permissions involving Arabia have not yet been received.

"You will understand, of course, that the plane has an international licence and in all matters pertaining to the proposed flight has the thorough approval of the United States Department of Commerce. Only with that

Amelia in front of her 1929 speed record Lockheed Vega 5A Executive.



approval could the State Department act.

"So far as the ship is concerned, your interest is no doubt in its fuel tankage; i.e. 1,150 gallons. Such amount provides a maximum cruising range of more than 4,000 miles.

"My longest hops over the Pacific are about 2,500 miles—at which time I shall carry probably 1,000 gallons of gasoline. So, actually before reaching the territory there will have been take-offs with that amount of gasoline.

"Beyond the Pacific there will be no necessity for take-offs involving much more than 700 gallons of gas. Even at pretty generous cruising speed that would give me 2,000 miles cruising range. For your information, I have already made numerous take-offs with more than 700 gallons on board, following them up with extensive flights.

"The day before yesterday, for instance, I flew from St Louis to New York, a distance of more than 900 miles, averaging 197 miles an hour, without high favouring winds. The gas consumption is working out very satisfactorily. Apparently the consumption, on normal cruising at 65 per cent power output, will not exceed 25 gallons per hour per engine.

"By actual thorough-going test the ship can remain aloft on one engine on normal loads. As I have fuel dump valves in all but one tank it is possible to lighten the load very quickly.

"I presume that you will know just what has been done in connection with the applications made by the State Department for permission. I have, by the way, informed the Department that I am taking up this general matter with you, supplementing whatever they have done—course entirely agreeable.

"This letter then is to request such permissions as may be necessary and any special instruction and guidance which it is in order that I should receive.

"I am deeply grateful for your interest and such co-operation as you may be able to extend.

Sincerely yours,
Amelia Earhart"

The accompanying telegram was also dated February 13, 1937, sent by George Putnam to Jacques de Sibour at his telegraphic address of Stanair, London. It is also worth repeating in full, giving it normal punctuation for clarity.

"De Sibour only. Permission thus far not received by State Department is Arabia. Amelia writing Shelmerdine via steamer *Hansa* sailing tomorrow, grateful his co-operation, hopeful he can start action pending letter's receipt. You know route Lockheed Electra, two H Wasp engines larger than regular equipment, capable of staying aloft on one with normal load. Designed gross load 10,500lb. Maximum gross load contemplated on present journey outside of Pacific hop within 40 per cent overload, with cruising range 2,000 miles. All tanks have dump valves. Total tanks 1,150 gallons but maximum contemplated outside Pacific is 700 gallons. Fuel consumption normal cruising per hour by weight

310lb. Test take-offs with 850 gallons have been made and with 1,000 will be made. Two-way radio, voice and telegraph, automatic pilot. Has NR licence, full official approval. Probably solo, though possibly accompanied navigator Harry Manning, both freshly inoculated typhoid, smallpox. Carrying certificates, no firearms or motion-picture equipment.

Putnam"

In a cordial reply dated March 5, 1937, Sir Francis Sheldermine gave permission for the flight, following approval by the Foreign Secretary, Anthony Eden, provided Aden was the only landing ground in the stretch over Arabia. He reminded Amelia that they had last met on a yacht belonging to Richard Fairey, which was in fact *Ecadne*.

The amount of fuel located at landing points is also included in these records. At Lae it was 700 US gal of Stanavo Ethyl 87 octane, with 70 US gal of oil. When the direction of the flight was altered, after the crash at Luke Field, authority was given for the new arrangement, and the quantity of petrol at Lae was increased to 800 US gal.

For any research into Amelia's disappearance, the most important information contained in these records is that she intended to carry no more than 1,000 US gal on her "Pacific hops" and was practising take-offs, building up to that amount. This agrees with her flight from California to Honolulu when she carried 947 US gal, as well as her intended flight from Honolulu to Howland Island when she tried to take off with about 900 US gal but crashed.

Of course, it may be argued that when Amelia reached Lae on her flight in the west-to-east direction, she changed her mind and somehow contrived to take off from a grass runway in a grossly overloaded aircraft containing 1,150 US gal. But there were witnesses who confirmed that she stuck to her original plans. These were the reporters and air correspondents

at Lae. Their evidence can be examined by anyone who has a reader's ticket at the British Museum Newspaper Library at Colindale in North London. The most detailed report was written by the air correspondent of a very responsible newspaper, the *Daily Telegraph* of Sydney, Australia, who obtained his information from Noonan and reported it on July 5. The Electra was loaded with a total of 950 US gal. Noonan also stated that the machine was overloaded to the extent of two tons. The normal "gross take-off weight" of the Electra was 10,300lb, while the weight on take-off at Lae with 950 US gal was just over 14,300lb, as near as can be calculated. Two US tons are 4,000lb.

So precise were details recorded by this air correspondent that other items mentioned were iced water, hot coffee, hot tomato soup, sandwiches, four hard-boiled eggs and three cakes of plain chocolate.

Last desperate message

According to the predicted figures from Lockheed, in the first part of this article, 950 US gal gave the Electra an endurance of 20hr 13min. However, the weight of the Electra had been reduced slightly after these figures were compiled, and a somewhat longer endurance must have resulted. Amelia's last desperate message was received 20hr 25min after take-off from Lae. It is evident that she must have come down in the sea a few minutes later, when she believed that she was somewhere near Howland Island.

It may seem extraordinary that such a small safety margin was allowed for the flight, but this is typical of the risks that attended such long-distance flights in those days. Amelia is likely to have thought of the crash at Luke Field, when the Electra was loaded with about 900 US gal, and balanced the danger of taking off in an aircraft even more overloaded with the danger of running out of fuel. In the flight from California to Honolulu, she had taken off with 947 US gal and landed with over 4hr remaining, having flown

2,400 miles. The flight from Lae to Howland Island was only 150 miles longer, and the reserve of fuel may have seemed adequate. But they were beaten by adverse winds, poor weather conditions in the last stage of the flight, and inadequate direction-finding facilities.

All the navigational evidence points to the fact that Amelia and Noonan came down in the sea near Howland Island, probably about 30 miles to the west or the north-west. What happened when they tried to ditch can only be a matter of conjecture. According to Commander Thompson of the *Itasca*, the sea was very turbulent when his vessel sailed to the north-west, with waves of up to 6ft. The captain of a Catalina which arrived on the scene soon afterwards, from Honolulu, was astonished to experience snow showers and severe icing at the Equator. Paul Mantz, who remained consistently level-headed when the tragedy became known, gave his opinion in the light of his knowledge of Amelia's flying capabilities. He said that Noonan must have missed the island and the Electra must have come down in the sea. Then he suggested two possibilities. One was that Amelia tried to land too high above clear water, so that the Electra stalled and killed them both. The other was that, if the sea was very rough, she might have made a bad judgement and flown into a heavy roller, with a similar result.

Presumably, Noonan scrambled over the fuel tanks to strap himself into the copilot's seat during the ditching. But the dinghy was stowed in the rear part of the fuselage. If he was uninjured, he would have had to get back, jettison the passenger door and throw out the dinghy while the metal aircraft was sinking. It is unlikely that he would have had time to do this.

Amelia always thought that her end might come in such a way. She wrote her own epitaph several years before her last flight: "Hooray for the last great adventure! I wish I had won, but it was worth while anyway".

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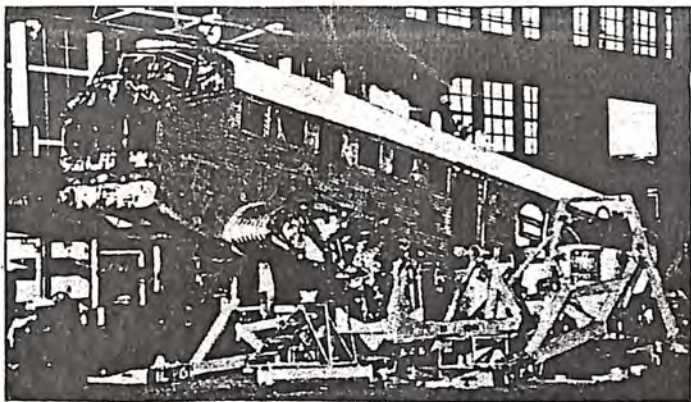
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Collaboration with:

- Ron C. Cooke, in West Germany.
 Sqn Ldr Dudley Cowderoy RAFVR
 Barry Davidson, Civil Aviation Authority.
 John Fairey, airline pilot.
 Clive Leach, former airline pilot.
 Flt Lt Ernest Schofield DFC RAFVR
 Mrs Adèle Stephenson, airline pilot, formerly with Air Pacific of Fiji.
 Michael J. Youngman, in the USA.



via Raymond Cuyper

Following its success in returning Westland Lysander OO-SOT to the air (see Grapevine, December 1988), the Brussels-based Sabena Old Timers have taken on the restoration to airworthiness of ex-Portuguese Junkers Ju 52/3mg "OO-AGU", above.

GRAPEVINE

Continued from page 69

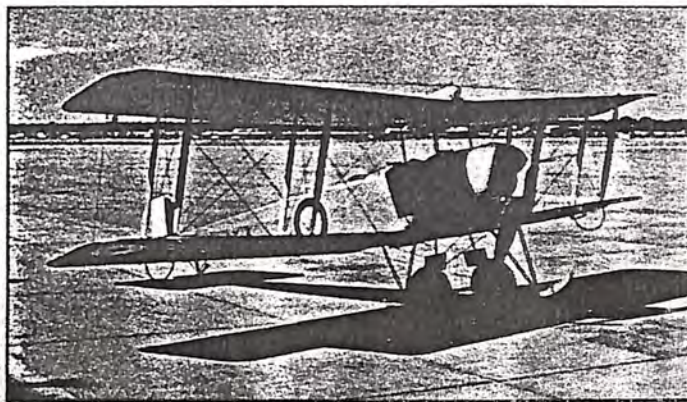
owners in Canada, and well-known red Spitfire XIV G-FIRE, crated up at the Fighter Collection and despatched to Bob Pond in the USA.

Also due to leave the Imperial War Museum's airfield as we went to press were two of the museum's own aircraft. North American P-51 Mustang 44-73979 and Focke-Wulf Fw 190 Werknr 733682, both recently restored by the British Aerial

Museum, were to be taken to the IWM's main building in South Lambeth, London, for installation in the newly-built galleries due to open to the public on March 19.

Lockheed Starfighters have been in the news recently, with a Hampshire-based preservation group's remarkable acquisition of an ex-Luftwaffe example for static display, and with several ex-Belgian Air Force machines being offered for sale.

At the end of last summer, former Luftwaffe F-104G Starfighter 22+35 arrived at Lasham Airfield, home of the Second World War Aircraft Preservation Society (whose interests clearly extend beyond 1945). Contrary to reports which have appeared elsewhere, 22+35 did not arrive by sea and road, but was flown direct to Lasham from Manching airbase,



R. W. Livingstone

West Germany, by the society's vice-president Bob Coles.

The society regards the Starfighter as its "biggest scoop yet", and quite rightly; the Luftwaffe does not present airworthy jet fighters to just anybody. Negotiations took 6yr, and Coles pays tribute to those "friends of ours in the Luftwaffe who made the acquisition possible. We would particularly like to extend thanks to Oberstleutnant Alfred Krüger for his work on our behalf, and to Oberleutnant Hornfischer and Flt Sgt Hertz of Luftwaffenschleuse 11 at Manching for preparing the aircraft for the flight to the UK".

Built by Messerschmitt in 1964, 22+35 (Werknr 7113) flew mainly from Memmingen with Jagd-bombengeschwader 34, and logged a total flight time of 3,330hr 10min.

Meanwhile, in Belgium, Zaventem-based Radcomm

Above, on display at the Australian Bicentennial Airshow at RAAF Richmond, NSW on October 12-16 last year was the Australian War Memorial's Avro 504K, newly restored to RAAF configuration. It will form the basis of a forthcoming Preservation Profile.

Enterprise reports that it had bought all of the Belgian Air Force's remaining Starfighters and is offering some of them for sale. They include Sabca-built single-seaters and American-built two-seat trainers, says the company, and "are in excellent condition with low engine and airframe hours". Spares, stripped airframes and manuals are also available. For further details see the advert on this page or telephone Radcomm on 010-32-2.720.48.95 and ask for Johan Vanneste on ext 294 or Jef Maes on ext 203.

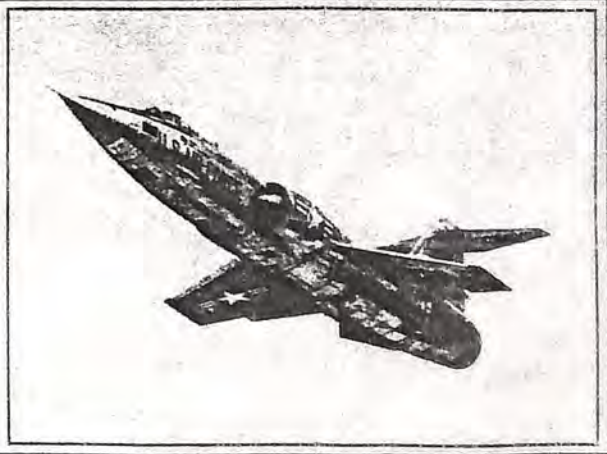
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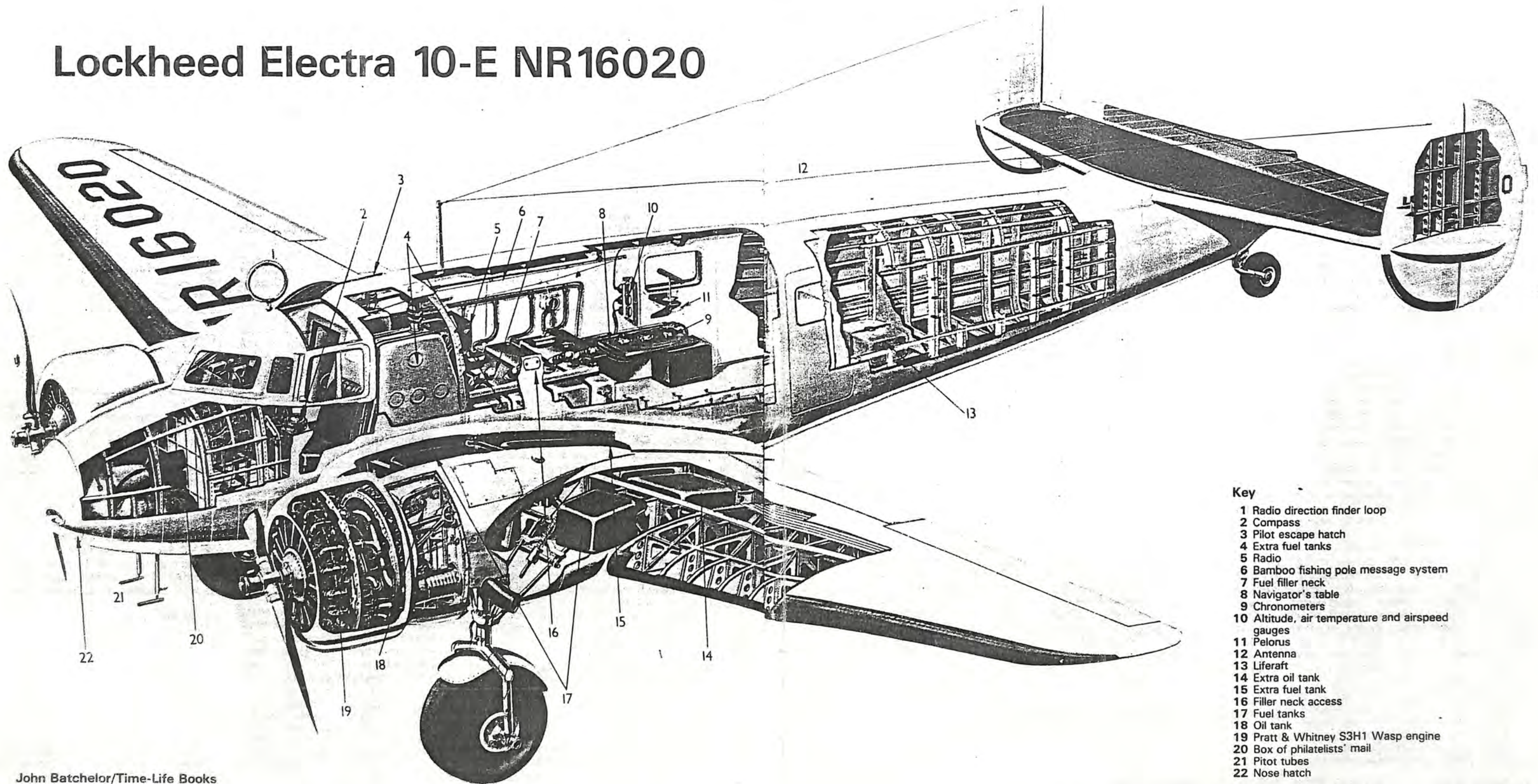
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- 20 Box of philatelists' mail
- 21 Pitot tubes
- 22 Nose hatch

John Batchelor/Time-Life Books

nickname "Lady Lindy" as the female equivalent of Charles Lindbergh, to whom she bore some physical resemblance. Another of his names for her was "First Lady of the Air". Her fame continued to grow, so much that she needed constant police protection in public to avoid being mobbed, while women eagerly copied her appearance and clothing to present themselves with the "Amelia Look". She was awarded the civilian Distinguished Flying Cross.

The following year, Amelia bought another Vega, NC965Y, had it painted red with silver trimmings, and repeated her Atlantic crossing. In August of that year she created another speed record by flying from Los Angeles to Newark in New Jersey, and then broke this record the next year. On January 11-12, 1935, she became the first person to fly from Hawaii

to California, and indeed the first person to fly solo on a Pacific crossing. Meanwhile, she wrote her second autobiography, *The fun of it*, and continued her hectic life of lecture tours and publicity, receiving shoals of fan mail and numerous awards. She became quite a close friend of Eleanor Roosevelt, the wife of the President. As a sideline, she earned additional money from the sale of "first day covers" of postage stamps commemorating her achievements.

Amelia's other accomplishments were a solo flight from Los Angeles to Mexico on April 19-20, 1936 and then a solo flight to Newark in New Jersey the next month. But by now she was nearly 38yr of age and could not expect her flying adventures to last for many more years. There was only one further record she intended to achieve, a flight round the world along a

route which kept as close as possible to the Equator. This required a bigger and faster aircraft than the single-engined Vega. Aided by considerable funds from research foundations, she bought in 1936 a twin-engined Lockheed Electra 10.

This aircraft was the product of some of the finest technology available at the time. The standard Electra had been in service with civil airlines since 1932 and was also employed by the American armed services. It had a span of 55ft, a length of 38ft 7in and a height of 10ft 1in. It was a low-wing monoplane of all-metal construction, with a retractable undercarriage and constant-speed propellers. But the standard Electra was modified considerably to meet Amelia's requirements, being given the suffix "E" for Earhart.

I am extremely grateful to the Lockheed Aeronautical Systems Company of

Burbank, California, for providing me with full details of this modified aircraft. Amelia's Electra 10-E, number NR16020, was fitted with more powerful engines than the standard 10-A; these special engines were two Pratt & Whitney type S3H1s, each providing a maximum horsepower of 550 for one minute at 2,000 r.p.m. The standard machine was designed to accommodate ten passengers, but the interior of the special Electra was modified to take extra petrol tanks, bringing the total to six tanks in the wings and six in the fuselage, with a capacity of 1,151 US gal in all. This gave a theoretical range of 4,000 miles when flying at a true airspeed of 145 m.p.h. at an altitude of 4,000ft but, as will be seen later, tests for take-off with full capacity were never carried out.

The machine was fitted with one of the

first Sperry automatic pilots, later named "George" by RAF pilots, which would relieve the strain on Amelia during flights which were expected to last for as long as 18hr. A Cambridge fuel analyser monitored the air/fuel ratio from the exhaust gases, and a dial in the cockpit enabled Amelia to select the correct settings of r.p.m. and boost for the most economical performance. There was an RCA loop aerial for direction-finding, of a type fitted in RAF aircraft in the same period. There was two-way voice and Morse radio equipment, Western Electric model 130C-HF transmitter and model 20B receiver. Later, a gadget named a "sky-hook" was installed, designed to obtain in flight samples of air-content for microscopic examination in laboratories. The machine was sometimes referred to as the "flying laboratory", but its correct

name was *Lady Lindy*. It was coloured silver, with orange along the leading edges of the wings and tailplane.

It became apparent that Amelia could not attempt to fly across the Pacific Ocean without navigational assistance. Her knowledge of the art of navigation, especially celestial, was only rudimentary. In her solo flights up to this time, her procedure had consisted mainly of flying compass courses as accurately as possible and then trying to pick up visual pinpoints. When flying across oceans, she had always headed towards large land masses, which she was bound to reach eventually if there was sufficient fuel and no engine failure. But now it would be necessary to find small islands with little reserve of fuel, and expert navigation was required. For this purpose, two men were asked to join Amelia's team for the long-

distance sector across the Pacific Ocean.

The first was Capt Harry Manning, the commander of the US Liner *President Roosevelt*. Amelia had sailed with him on her return to New York following her flight in the Fokker during 1928. He had tried to teach her the elements of celestial navigation but it has to be recorded that, like many other adventurous pilots, she found spherical trigonometry a tedious subject, best left to those who like mathematical problems. Manning was asked to take leave of absence to accompany her on the first part of the Pacific crossing, when he would be the first navigator.

The second navigator was Frederick J. Noonan, born in Chicago of Irish ancestry. He had served in the British Mercantile Marine during World War One and had been torpedoed on three occasions. With over 20yr at sea, Noonan had qualified as a master mariner, as had Manning, and was thus an experienced astro-navigator with a good knowledge of the theoretical background. In 1930 he had left the sea for a flying career with Pan American Airways. He became a navigator with some experience as a pilot, as well as an airport manager and inspector. In 1935 he had flown as navigator on the Martin 130 China Clipper, the four-engined flying-boat which flew across the Pacific from California to Hong Kong. His problem was that, like Amelia's father, he indulged too much in alcohol, and he was out of a job by early 1937. However, on March 27, 1937, he had married Mary B. Martinelli, at Yuma, and was able to assure Amelia that he was a reformed character. He was then aged 44 and hoped to set up a navigation school, perhaps with Amelia's involvement, after he returned from his part of the Pacific crossing.

Most of the facilities for navigation were good in the Electra 10-E. A fair-sized navigation table was installed aft of the fuel tanks. There were chronometers beside the table, shock-mounted in rubber, for in astro-navigation it is essential to know Greenwich Mean Time (or Greenwich Civil Time, as it is often called in the USA) to the second. There were gauges for airspeed, altitude and air temperature, a drift recorder, and a pelorus or bearing compass. A bubble

sextant was provided for measuring the altitude of the sun, moon, planets and stars; this was similar to the RAF's Mark IX, giving an artificial horizon which obviated the need for the clear sea horizon required by marine sextants. Special hatches were fitted for taking these sights. But there was one serious defect in the facilities for navigation. There was no intercommunication system in the Electra 10-E and the only way the navigator could reach the pilot was by crawling over a catwalk across the fuel tanks. A simple system was devised whereby written messages could be passed to the pilot, clipped on the end of a long bamboo fishing pole. But the essential ingredient for successful long-distance flying, teamwork, was impaired by the poor communication system.

Precision flyer

Another person who played a prominent role in Amelia's project was Albert Paul Mantz. Born in Alameda, California, he was aged 33 in 1937 and was acclaimed as one of the most skilful stunt pilots in the Hollywood film industry. However, he did not like this term and preferred to call himself a "precision flyer", which indeed was a far more accurate appellation, for he dedicated himself to his career with remarkable intelligence and technical knowledge, reducing his risks to an acceptable minimum. He was still flying, apparently indestructably, as recently as 1965, when he was tragically killed on location in Buttercup Valley during the filming of *Flight of the Phoenix*.

Paul Mantz's association with Amelia had lasted for several years, both in terms of business and friendship. When Amelia took delivery of her Electra, he reduced his other activities to concentrate on preparations for the forthcoming flight. Together with Amelia, he made numerous flights in the aircraft, which was of course considerably overweight with the extra fuel tanks. The "operating weight" of the aircraft was 9,600lb; this included all basic

Amelia Earhart's Lockheed Model 10-E Electra NR16020, almost certainly pictured at the time of its delivery to owners Purdue Research Foundation, in July 1936. Most of the windows were blanked out and special tankage brought the total fuel capacity up to 1,200 US gal.

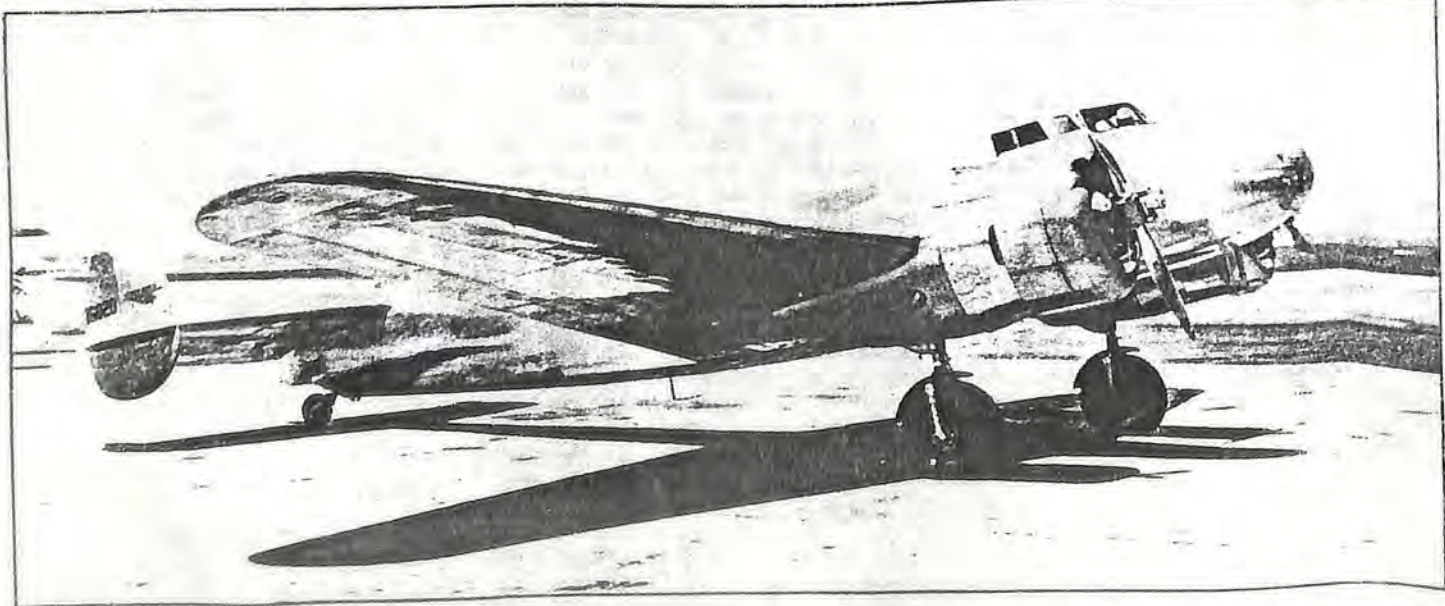
equipment, oil, crew and crew equipment, but without petrol. If then, for example, take-off was with 700 US gal of petrol, the gross weight was 13,600lb, about 3,300lb more than the normal loaded weight of the standard Electra 10-A. The machine thus required careful handling, especially on take-off.

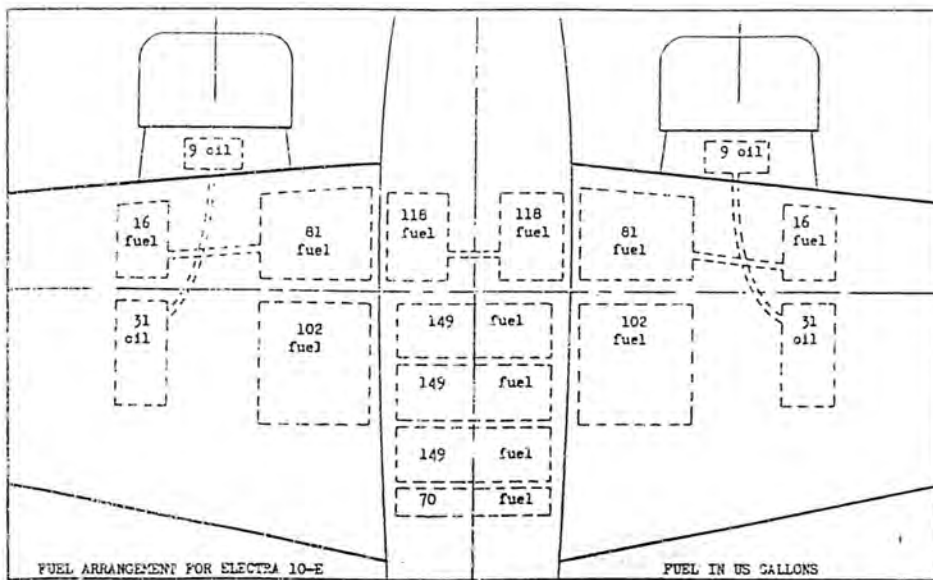
One problem to which Mantz had to address himself was Amelia's lack of experience in flying twin-engined machines. He took her up on every possible day and devised a system of numbers and mnemonics for the cockpit drill. He was not completely happy with the result for, although Amelia learnt to follow the procedures exactly, she did not seem to develop a natural aptitude in the machine. One habit he sought to correct was her tendency to jockey the throttles on take-off to correct slight swings, instead of solely using the rudder once the machine had gathered sufficient speed. Nevertheless, a great deal of practice took place and Amelia also spent time in a Link trainer to improve her blind-flying techniques. It was arranged that Mantz would accompany her on the first part of the Pacific crossing, from California to Hawaii, to act as copilot and to correct any faults in her flying.

The final person who should be mentioned as part of the planning team is Vicomte Jacques de Sibour. He was a pilot who had flown in World War One and he was an official of Standard Oil of New Jersey, which was to provide fuel for the entire flight. His wife, Violette, was also a pilot; she was one of the daughters of the American magnate Harry Gordon Selfridge, who founded the store of his name in London. The couple were close friends of the Putnams and had had much experience of flying across Africa and India. Operating mainly from London, de Sibour arranged special fuel dumps at each planned and alternative landing place along the entire route. One of the facts I have discovered at the Public Record Office is that the petrol was Stanavo Ethyl 87 octane, while the oil was Stanavo 120. The petrol was in drums each containing 50 US gal (44 imp gal), bearing the name "Amelia Earhart" in large red or white letters.

The planned route began in Oakland,

via Lake Underwood





California, and the first landing place was Wheeler Field in Honolulu, Hawaiian Islands. From there, it continued in a westerly direction, taking advantage of prevailing winds and timed to avoid poor climatic conditions in the countries to be visited. Publicity was arranged enthusiastically by George Putnam. In addition to her flying, Amelia was to carry boxes of philatelists' mail, to be posted at various stages en route. Quite astonishingly, she was required to write a detailed diary and to post each section to her husband, who would edit it and publish a book soon after her return. It has to be said that she performed this additional task with humour and verve, so that the results up to the time of her last take-off were indeed published, under the title *Last flight*. Although the content is partly a sort of travelogue which seems rather naive in the more knowledgeable world of today, the book also contains many aeronautical details which are important for any research into her disappearance.

Bound for Honolulu

At about 1630hr local time on March 17, 1937, Amelia took off from Oakland on the first leg of her flight, bound for Honolulu. Her crew consisted of Paul Mantz as copilot, with Harry Manning and Fred Noonan as navigators. The machine carried 947 US gal of petrol for the flight of 2,400 miles. Somewhat surprisingly, this included 100 octane petrol, which was loaded into the forward wing tanks on one side. This higher octane gave slightly more power and longer combustion for take-off but, thereafter, 87 octane was used. This higher octane might have subjected the exhaust valves to overheating, but replacement parts were provided for the Pratt & Whitney engines at the landing places en route. Even with such a heavy load, the Electra left the ground in a short run of 1,897ft.

Six days before this date, Lockheed had sent a cable to Amelia in Oakland, giving fuel consumption figures for the Pacific crossing at the heights she intended to fly. These figures are reproduced here, and it will be seen later that they are extremely important in the analysis of her last flight. The average true airspeed for the Pacific crossing at these heights was 150 m.p.h.

It was a smooth and uneventful flight to

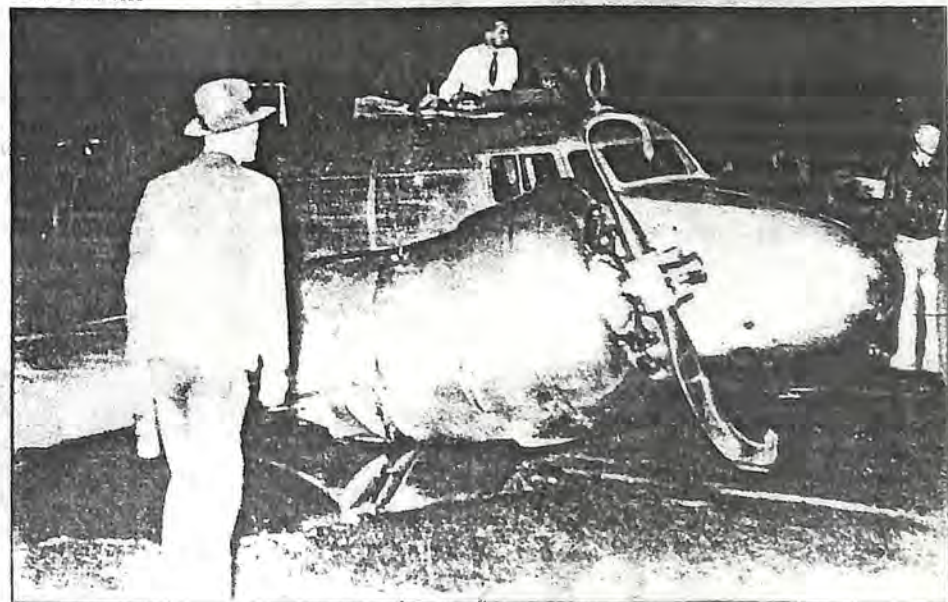
Diagram showing allocation and amounts of fuel and oil for Amelia Earhart's Lockheed Model 10-E Electra at the time of its final flight.

Honolulu. The loop aerial was used to help in the navigation during the final 100 miles to Wheeler Field. The winds were favourable and the Electra arrived in 15hr 47min, giving an average groundspeed of 152 m.p.h. It was a good start and a large crowd welcomed the successful crew. Amelia recorded that "more than four hours of petrol remained"; this tallies closely with the figures sent by Lockheed, which indicate that 4hr 21min of flying should have remained.

From Wheeler Field, they flew to Luke Field in Ford Island, from where a concrete runway of 3,000ft gave a longer take-off distance over the waters of Pearl Harbor. Paul Mantz was to be left behind there, but Manning and Noonan were to continue as navigators. The next stop was to be the American territory of Howland Island, 1,800 miles away. The aircraft was loaded with almost 900 US gal of petrol,

A portent of worse to come. The heavily damaged Electra at Luke Field, Ford Island on March 19, 1937. It was shipped back to Burbank for repairs, which cost \$14,000, and was back in the air two months later. Earhart raised some of the money to pay for it through giving lectures.

Via John Underwood



more than the flight required, but the weather ahead was uncertain and Amelia preferred to carry enough for about 19hr of flight.

Disaster struck on take-off the following morning, when the aircraft was seen to swing to the right shortly before it reached take-off speed. The machine ground-looped and the starboard undercarriage leg collapsed. By some miracle, there was no fire and the occupants were not injured. Amelia said afterwards that she reduced power on the port engine to correct the swing. This must have resulted in loss of power at a critical moment, when the aircraft was almost airborne. Some observers said that the swing was caused by a tyre blowing, but Amelia thought that the starboard shock-absorber (or oleo as it is normally called) might have given way. She wrote that while they were slithering to a stop her thoughts were, "If we don't burn up, I want to try again".

There was no alternative but to return to California, while the damaged *Lady Lindy* was crated and sent back to Lockheed for rebuilding. Among the items repaired were the starboard wing, the fuselage, the tail unit, both engine supports and the landing gear, at a total cost of about \$14,000. To minimise future danger on take-off, special shock struts were fitted to the undercarriage. As a further safety precaution, equalizer lines were added to the cabin fuel tanks, in such a way that it became impossible for the centre of gravity to move out of safe limits.

This rebuilding was completed by May 17, by which time climatic conditions around the world had altered and it was thought that the new attempt should be made in the reverse direction, from east to west. Harry Manning had returned to his Atlantic command, but Fred Noonan was prepared to accompany Amelia all the way round the world, instead of merely on the Pacific crossing.

Efforts were made to reduce the weight of the Electra in minor ways, and these included one decision which probably contributed to their deaths. The trailing aerial which enabled them to ask for bearings on 500 kHz, the frequency on which these were usually taken and transmitted

Fuel consumption for Pacific crossing (predicted by Lockheed)

Altitude	Time	r.p.m.	Manifold air pressure (boost)	Mixture	Fuel per hour.
0-8,000ft	1hr	2,050	28½ in Hg	0.078	100 US gal
8,000ft	3hr	1,900	28 in Hg	0.073	60 US gal
8,000ft	3hr	1,800	26½ in Hg	0.072	51 US gal
8,000ft	3hr	1,700	25 in Hg	0.072	43 US gal
10,000ft	Thereafter	1,600	24 in Hg	0.072	38 US gal

from the ground stations, was removed. Amelia disliked having to wind out and in the 250ft aerial, while neither she nor Noonan was adept at Morse code signalling. Mantz was appalled when he heard later of this, but in my recollection it was characteristic of the attitude to air navigation at the time. When I joined the RAF in 1939, navigators who resorted to the use of radio bearings were considered deficient in their jobs, while the bearings themselves were often judged unreliable and potentially dangerous. Meticulous dead-reckoning, accurate map-reading, and astro-navigation were regarded as the hallmarks of good air navigation in those days.

On May 20, 1937, three days after the rebuilt *Electra* was delivered, Amelia and Noonan took off from Oakland and flew via Tucson and New Orleans to Miami, where they arrived on May 23. There was a small fire in the port engine at Tucson and minor repairs were required. Then, at 0550hr on June 1, they took off for San Juan in the American island of Puerto Rico, and arrived without incident. They reached Carapito in Venezuela the following day, and spent the night there. Then they flew to Paramaribo in Dutch Guinea, where they spent another night. The next day involved a flight to Fortaleza in Brazil, and the following day was spent servicing the engines and checking the instruments. On June 6 they flew to Natal in Brazil. Throughout the flight, the aircraft was closely inspected by customs officials every time they landed, as well as fumigated to destroy any insects.

Off course over Africa

The flight across the South Atlantic, a distance of about 1,900 miles, was made on June 7. There was an odd incident on the final part of this flight. They were heading for Dakar in Senegal but, by my reckoning, must have passed about 20 miles to the north of the promontory on which the port is situated. Then they continued to the coast, which runs in a south-west to north-east direction. This indicated to Noonan that Dakar was to the south-west, but Amelia refused to fly the course he gave her and followed the coast to the north-east. Eventually they landed at St Louis in Senegal, 163 miles from their destination, and of course Amelia had to admit her mistake. Although she was fulsome in her praise of Noonan and his abilities in the notes she sent to her husband, it is evident that Amelia had no great faith in air navigation and preferred to rely on her instincts. Perhaps the poor communication in the *Electra* was a factor in her wrong decision, but the error was a bad omen for her last flight.

The next day, they flew to Dakar and rested there for two days while a fuel gauge was repaired. They studied maps of the terrain ahead and discussed the weather forecasts, which were not favourable.

The trip across Africa lasted four days. On June 10 they flew to Gao in French Sudan, on the river Niger. The next day brought a flight to Port Lamy in French Chad, and on June 12 they flew to El Fasher in Anglo-Egyptian Sudan. They found navigation across Africa somewhat difficult, since little of the country had been well mapped, and Noonan used astro for much of the time. On the following day they flew to Massawa in Italian Eritrea, with a short stopover at Khartoum en route. Then there was a short hop down the coast to Assab in Eritrea, to prepare for the flight on 1,950 miles to Karachi. Owing to political unrest, they were not permitted to fly over any part of the Arabian peninsula other than Aden, and they decided to fly in one long hop to India.

The flight to Karachi was accomplished on June 15 without any difficulty. They were very pleased to be welcomed by Jacques and Violette de Sibour and to have their aircraft serviced by Imperial Airways and the obliging RAF. It should be recorded here that, especially from India onwards, Amelia and Noonan were besieged by eager newspaper reporters. Some of these wrote for women's pages but others were air correspondents who were more concerned with technical details. It will be seen in the second part of this article that the more technical reports are very important in establishing the fate of the *Electra* and its occupants.

On June 17 they flew to Dum Dum, near Calcutta, where they landed after a torrential downpour, for they had met the monsoon. However, they reached Akyab in Burma the following day, flying low to keep under the dangerous clouds. On June 19 they attempted to reach Rangoon, but the monsoon rains beat on the aircraft with such violence that they turned back to Akyab, to find that paint had been stripped off the leading edges of the wings.

The weather was no better the following day, but they pressed on to Rangoon and spent the night there. They were very relieved when they flew clear of the monsoon the next day and reached Singapore, after refuelling at Bangkok. Following an overnight stop, they flew to Bandoeng in Java, Dutch East Indies, where the *Electra* developed some sort of instrument fault which Amelia does not specify. The engines were also serviced. These repairs delayed them for a day, but then the instrument trouble recurred on the flight to Surabaya the next morning. At this point in her account, Amelia

mentions "long distance flying instruments" and it is a reasonable assumption that trouble had recurred with the gas analyser, which had two dials and had required repair at Dakar after the South Atlantic crossing. Alternatively, there may have been an electrical fault in the engine instrument panel, or even something wrong with the directional gyro. Whatever it was, Amelia decided to fly back to Bandoeng, where there were facilities for repair.

The were not able to leave until June 27, when they flew to Koepang in the Dutch island of Timor. After a night's rest, they flew over the Timor Sea to Darwin in Australia, and again stayed overnight. Here, in another attempt to reduce weight, they left their parachutes behind, judging that these would be of no use over the Pacific.

Landing at Lae

On June 30 they flew to Lae in New Guinea, which was then an Australian mandated territory, and landed there after a flight of 7hr 43min against headwinds and around towering cumulus clouds. The airfield was at the end of the Markham river, overlooking Huon Gulf. It consisted of a grass runway cut out of the jungle in a north-west to south-east direction, 150ft wide and 3,000ft long, ending in a cliff which dropped 20ft to the sea below. Beyond was their next objective, Howland Island, 2,556 miles away. This was only two miles long by half a mile wide, 20ft above sea level at its highest point. The Americans had built an airstrip on it, partly to receive the *Electra*.

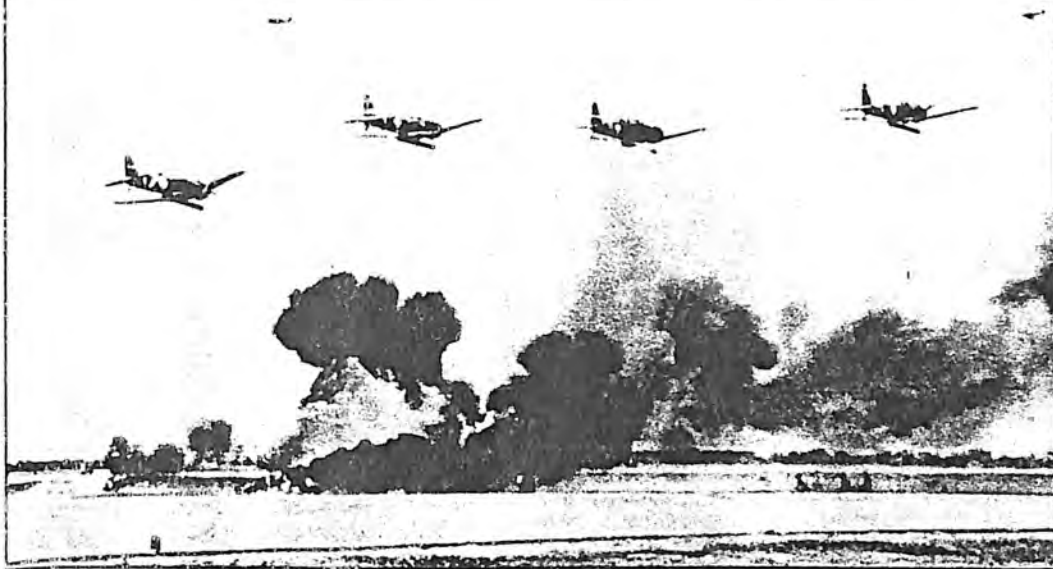
Two vessels were detached from the American base at Honolulu to help with the navigation, if required. One was the oceangoing and armed tug *Ontario*, 1,120 tons, which was ordered to stand by half-way along the route. The other was a vessel of the US Coast Guard, the armed cruising cutter *Itasca*, 1,975 tons, which was positioned near Howland Island to take and transmit radio bearings and messages, as well as to provide a visual signal by making smoke. The Americans in California were hoping to welcome their heroine on Independence Day, July 4, for the *Electra* would gain a day when crossing the International Date Line.

Amelia and Noonan waited for favourable winds all the next day, but it was not until 1000hr local time (0000hr GMT) that they were able to take off. According to eyewitnesses, the *Electra* lifted off sluggishly about 100ft from the end of the grass runway, sank down towards the sea, and then began a slow climb to the east. In her last letter, Amelia wrote that it was "loaded to capacity". The last words in her account which reached George Putnam were: "Not much more than a month ago I was on the other shore of the Pacific, looking westward. This evening I looked eastward over the Pacific. In the fast-moving days which have intervened the whole width of the world has passed behind us—except this broad ocean. I shall be glad when we have the hazards of its navigation behind us."

To be concluded next month

Aeroplane Monthly, January 1989

Harlingen highlights



Left, four Kates make their attack after the first Zeros have swept over.

surviving fighter force while a B-17 made an approach pursued by a Zero fighter, unaware that the Japanese attack was under way. B-17 *Texas Raider* flew a circuit, then approached low with one engine smoking and only one mainwheel lowered. Overall it was a quite excellent portrayal of the original event.

The Pacific War was represented by a B-25 Mitchell (Tokyo Raid), with the naval battles brought to life with two Wildcats, three Avengers, a Corsair, a Helldiver and a Skyraider. Fighter formations and displays included up to six P-51s, a P-39 Airacobra, a P-63 Kingcobra, an F8F-1 Bearcat and a Sea Fury.

The massed American bombing raids in Europe and North Africa were remembered with flypasts of two B-17 Fortresses, the LB-30 (B-24D) Liberator, B-26 Marauder, A-26 Invader, A-20 Havoc and PV-2 Harpoon, together with a Mosquito. Unfortunately, the A-20 spun in about 5 miles from Harlingen as the formation turned and was totally destroyed [see last month's *Grapevine*]. The flagship of the Confederate Air Force, Harlingen-based Boeing B-29 Superfortress N529B, then flew by to remind the spectators of the devastating fire raids on Japan mounted from the Marianas Islands, culminating in the two atom bomb attacks which shocked Japan into unconditional surrender in August 1945.

The missing man formation of four P-51s and a P-63 approached, and as the Kingcobra climbed, not only were the war dead remembered but also Max

EDWIN SHACKLETON reports from Texas on the Confederate Air Force's Airsho 88

The Confederate Air Force at Harlingen opened its gates on October 6-9 for "Airsho 88" in an unbroken spell of dry, sunny weather. Warbirds and military aircraft from all parts of the USA were flown in to augment the Headquarters Fleet at Harlingen (pronounced with a soft "g"), together with American military and civilian participants.

The first two days were taken up with preview and practice displays, working up to a full public show at the weekend. The public was allowed to walk around all of the display aircraft before flying commenced, and again after each day's show. The airfield was cleared at 1800hr—rather surprisingly—and the unique collection of aircraft was then left deserted.

Static and flying display aircraft arrived progressively over the first days, most of them performing fly-bys to add interest. The Rockwell B-1B from Grand Forks AFB was eagerly awaited, and gave good views on an overshoot before taxiing in just ahead of a B-17. A support (camouflaged) KC-135R and an interesting TC-135W from Offet AFB followed. An unusual formation from Jim Robinson's Combat Jets Flying Museum arrived with an HS 125 leading a Sabre, MiG-15, Starfighter and Hunter. Kermit Weeks in his Mosquito, RS712, led a formation with a Sea Fury and two Mustangs.

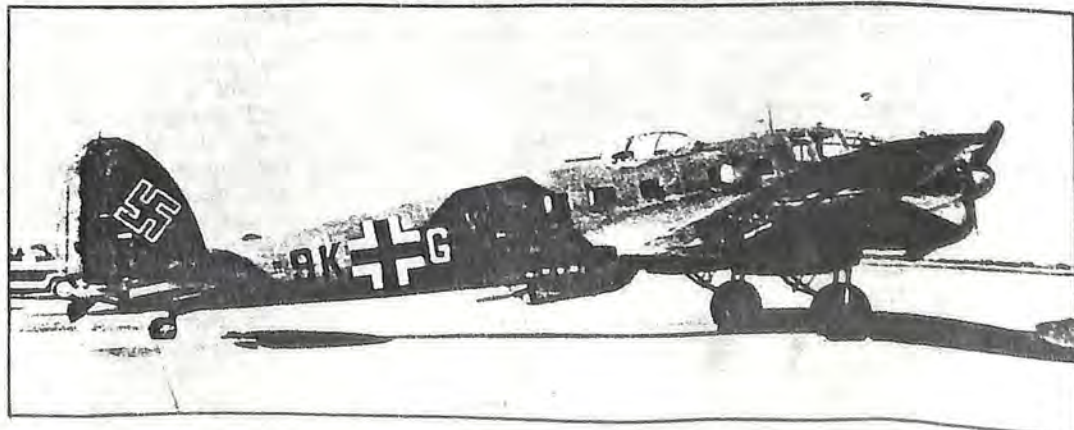
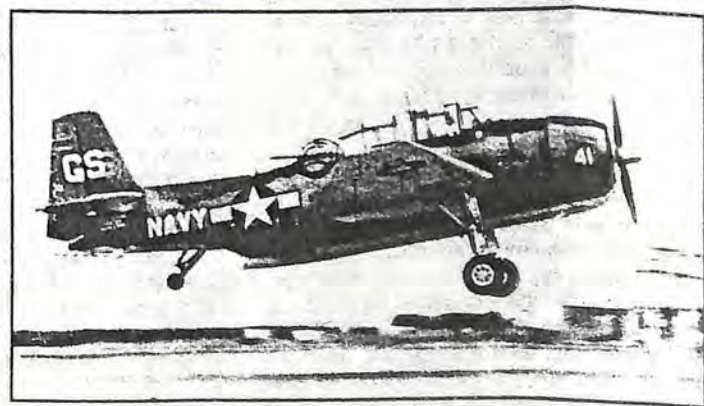
The daily show started with aerobic routines with Pitts S-2A, T-34, Pilatus B4 glider,

Right, this "Heinkel He 111" (CASA 2-111) recently took part in the much-criticised Piece of cake TV series. Above right, a Grumman TBM Avenger takes off.

girl-on-wing Stearman and parachute descents before the main events. The CAF has become very proficient in organising formation and stream flypasts and the take-off of some 40 aircraft showed that this was to be repeated for Airsho 88. Right-hand stream circuits within the airfield boundary were accomplished by PT-26 Cornell, Fleet Finch, Ryan PT-22, two Bird Dogs, an Interstate L-6, two L-5 Sentinels, Taylorcraft L-2, J-3 Cub, Reliant and YO-55 Ercoupe, while overhead passed separate formations of 16 T-6s, three T-34s and seven BT-13 Valiants. This opened the World War Two Airpower Demonstration which was intended to illustrate the phases of the military build-up from the Spanish Civil War through the Polish Invasion and the Battle of Britain, the American Volunteer Group in China to Pearl Harbor, the B-25 attack on Tokyo to the European and Pacific air battles and the final tribute with the missing man formation.

Undoubtedly the greatest display spectacle was the Pearl Harbor re-enactment using the

replica aircraft produced for the *Tora, Tora, Tora* film. Eight Zeros, four Kates and three Vals formed the attacking force with the CAF Pyrotechnics Team providing the special explosives effects with dynamite, petrol and flour. While the replicas dived, gyrated and criss-crossed before the crowds to the many explosions, the public address system blared raid warning sirens and other sound effects. A Wildcat and Curtiss P-40 took off amidst the smoke to illustrate the



Aviatrix Earhart given tribute by Zonta Club

Sister Muriel visits Burbank club to talk about book

By MARTHA MICHAEL
Correspondent

One of the most famous pilots to ever fly out of Burbank received a grand tribute by the Zonta Club last week.

In honor of Amelia Earhart Day proclaimed by Burbank Mayor Michael Hastings, Earhart's sister, Muriel Earhart Morrissey discussed her book, **Amelia, My Courageous Sister** with the business and executive women's service club.

Eighty-five-year-old Morrissey and her co-author, Carol Osborne provided insight about Earhart's mysterious disappearance while attempting to circle the globe in 1937.

"Amelia's disappearance has been exploited by sensational theorists over the years," said Osborne. "Nobody was putting the real story together. We wanted to set the record straight."

The authors claim to have the most factual account of Earhart's life and death available in print.

Osborne, an aviation historian and heir to the aviation memorabilia of Prof. David Hatfield of Northrop University, offered her theory.

"I think she stopped short of where she should have — somewhere in the vicinity of Howland Island," Osborne told the group. "The only answer is that she's at the bottom of the ocean."

"Don't believe those sensational books on the market," agreed Harvey Christen, a retired Lockheed employee and friend of Amelia Earhart. "Howland isn't exactly where it says on the charts.

She just ran out of gas and ditched somewhere."

Christen met Earhart in 1929 while working as her errand boy at Lockheed. He often disguised her from the press and secretly drove her to his parents' house in Pasadena on weekends.

Of her skills Christen said, "She got performance out of airplanes in a very expert manner."

Aviation pioneer Bobbi Trout also served on the panel.

A record-breaking pilot, Trout was the fifth woman to earn her air transport license and flew in many of the same derbys Earhart did in the 1920s and 30s.

Trout's biography, **Just Plane Crazy**, was recently released with **Amelia, My Courageous Sister**.

Morrissey also cited stories from her childhood with Amelia in Atchison, Kan.

Drawing an account from her book, she said, "Amelia and I built a roller coaster in the backyard. Amelia climbed in the cart on top of the shed and told me to let her go. As she slid, she shouted, 'It's just like flying!' That interest stayed. She always wanted to see what was just over the horizon, otherwise she probably wouldn't have taken that last flight."

According to Morrissey, the Earhart family was understanding about Amelia's challenges.

"We believed if Amelia wanted to do it, there was no point to getting upset, because she was going to do it," Morrissey told the group.

In a presentation before the club, air traffic controller Debbie Plymate reported that Earhart's FAA registration number had been traced and received retirement.



Photo by LARRY GUM

Making a special appearance at the recent Burbank Zonta Club meeting in recognition of Amelia Earhart Day were Carol L. Os-

borne, left, and Muriel Earhart Morrissey, Amelia's sister. The two have co-authored the new book "Amelia, My Courageous Sister."

"The number N16020 has been officially retired and relinquished to Muriel as a lasting tribute to Amelia and her memory," said Plymate.

Zonta also honored two winners of the Amelia Earhart Fellowship granted last fall.

What began as a \$500 loan in

1938 is now a \$6,000 fellowship, according to club leaders. There were 32 fellows granted the award in 1987. The Zontas have awarded 444 fellowships internationally, totaling \$1,796,325 over the last 50 years, they said.

Applicants for the fellowships must be in post-graduate work in

the aerospace or aviation fields. Recipients are judged largely on grades and recommendation letters.

"The fellowship has definitely helped financially and also provided a nice, supportive feeling," said Melissa Orme, a second-time fellow, studying aerospace en-

gineering at USC.

Of Amelia's death, Morrissey said, "One accepts the finality of the Lord. There's sadness, but no bitterness."

Amelia, My Courageous Sister will be available to the public soon through the Aviation Book Company of Glendale.

Harry and Honor - I couldn't have written a more enjoyable letter!

NOTE: Roy Stafford is a legitimate and established aircraft recovery expert.

You'll love
This one!!!
Bill



CREDIBILITY

I've been meaning to write this letter for the last five years — guess I've been too busy or didn't think it was important enough. While your publication has been the bible for many Warbird enthusiasts, you've also provided a forum in "Airlines" for many of us to express our opinions. Some letters I've agreed with, some I haven't — all were worth the time to read.

I'd like to share a story with your readers. A few years ago, I was visiting a friend and we were discussing my trip to the Far East. One of my stops was Papua, New Guinea. When I mentioned this fact, my friend excitedly told me he had just read in a newsletter that a group called Tighair was en route to PNG that very next month to recover a rare B-17E Flying Fortress from a grass swamp. To say I was skeptical and surprised was an understatement, since I had been in PNG the week before and spent hours with museum director Mr. Bruce Hoy discussing aircraft and related topics. Mr. Hoy was emphatic that no aircraft, parts, wrecks, etc., were to leave PNG without being processed through the museum and the official government agency that oversees antiquities. Since my conversations with Mr. Hoy had been frank and, at times, strident, I was sure he would have mentioned this fact — if he had known about it.

My curiosity rose, so my friend and I called Mr. Rick Gillespie of Tighair and questioned him about the recovery. He described how he was taking a group to PNG to do the deed. He went on to say that if either of us wanted to be a part of this historic event that, for a substantial contribution, we could be included. At this point, I asked him who he was dealing with in PNG and he stated that he had excellent political connections in the US and that PNG would do whatever they wanted. I asked him if he had ever heard of Mr. Hoy — he hadn't.

At this point, I suspected a con job and told him so. He became indignant and told me that they were so well-connected that, in the future, they would become the single entity that anyone would have to deal with if they wanted to recover any US aircraft. They were already working with various senators and congressmen to have Tighair

so designated through legislation. I was, and still am, ticked.

These people took donations from hundreds of folks by leading them to believe they had the authority and ability to recover this rare B-17 variant. I called Mr. Hoy in PNG and, at that time, he had never heard of Tighair and stated emphatically that no one had permission to recover that aircraft. I am told that Tighair did eventually go to PNG, attended some cocktail parties, and announced that the backward local government was not cooperating. The arrogance and gall overwhelms. They had never sought permission to recover the B-17, nor even made the local government aware they were coming.

Over the last few years, I have read or have seen documentaries and press releases about Tighair. They found a piece of wood in a Maine forest that proves Nungesser and Coli made it across the Atlantic before Lindbergh. Bunk! They found a PBY junction box on Howland Island in the Pacific that is irrefutable proof that Amelia Earhart crashed there. Bull! They have located and recovered over a thousand rare aircraft. Not so! They tout themselves as being the authority on aircraft recovery and restoration and are also the world's leading aviation archeologists. False!

Tighair has attacked the nation's leading aviation museums, suggesting these institutions are inept and incompetent and if they'd just send their staffs to Tighair's seminars (for a fee, of course) they'll straighten their staffs out. They have also attacked Warbird owners in general, wanting to ground all Warbirds. Never! Like Butch said to Sundance, "Who are these guys?" Folks, I believe this organization is not what it claims. I don't believe they recovered a single aircraft. I know they haven't restored a single aircraft. To suggest they are authorities about something they have never done is ludicrous.

What Tighair does well is manipulate the media, press conferences, press releases, photo ops, sound bites, and docu-drama extravaganzas. In the process, myth becomes reality and hype overcomes common sense. I would suggest that all aviation enthusiasts, owners, restorers, museums, and archeolo-

gists pay attention to what these people are up to. If we don't keep an eye-out, these self-appointed experts may convince some bubble-headed vermin that lives inside this nation's capital that they are for real and give them some legitimacy through legislation in exchange for a press release and a "go see" sound bite. Any individual or group who seeks to be appointed to rule over the rest of us bears close monitoring, lest one day these self-professed experts end up in control of our hobbies, jobs, and lives.

Keep 'em flying,
Roy L. Stafford
9102 Hurlong Rd.
Jacksonville, FL 32210

INVADERS

I am a Norwegian Warbird enthusiast who has a great interest in the Douglas A/B-26 Invader. It is a shame that an aircraft which fought through three major wars has received so little written information. I am currently trying to get in touch with pilots and ground crews to get information on military and civilian Invaders. I am also very interested in the Invaders used in the Congo and Biafra during the 1960s. The 50th anniversary of the first flight of the Invader will be on 10 July 1992, and I hope something will be done to commemorate the event.

Trygve Johansen
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Norway

J. DON'S FANTASTIC FLYING MACHINES

The article in the November 1991 issue really piqued my interest, especially the photograph of the Laird Swallow used by Alexander Industries of Denver, Colorado. It is interesting to note the role Wichita, Kansas, played in early aviation — from designing aircraft to the aviation pioneers who got their start there.

In April 1920, Marty Laird (builder of the Swallow) first tested his three-place OX-5 biplane built in a shed in Wichita. The plane earned the nickname "Swallow" from one of the Wichita hotel men who witnessed the flight, commenting, "It flies like a swallow!" The Laird Swallow became the first

1989
Christmas
message

Warmest wishes come to you from Muriel, Neta, Bobbi and Carol. We early aviators are struggling to keep up with 1990--as it passes us at the speed of sound.

Muriel had a good year. She was active with Zonta, her reading club and tending her summer garden, as health permitted. She was very proud of her grandson, Caleb, who graduated from Yale and is now on travel in Africa. Muriel sees her other grandchildren, and of course her 3 great-grandchildren, on a regular basis. Dec. 29th she celebrates her 90th year--and Carol will be in Medford to celebrate with her.

Neta, Carol and their families survived the Loma Prieta Quake of '89, safely. Bobbi had the good sense to be in Carlsbad. Neta, 95 years young on Feb.14., was at home in Los Gatos when the quake struck. Thanks to her family and *Witness* friends, much of the debris was cleaned up--but her home was seriously damaged.

Bobbi is surprisingly active at 84, on Jan. 7th, traveling the highways of California in her little red Porsche and her 33 foot Revcon motor home, which is now for sale. She's still doing TV interviews, most recently "Eye on LA." Bobbi was honored in July, by the Van Nuys Airport, along with astronaut Kathy Sullivan, Kelly Johnson and 14 other notables. As Muriel has stated in the past, "There is only one Bobbi!"

Carol is the new Security Training Media Chief at LMSC, writing and producing security training videos and posters: utilizing experience she gained when she documented early aviation history. She had a conversation with Dr. Robert Ballard, who discovered the Titanic and the Bismarck. He has "our books" and has expressed an interest in Amelia's last flight. We are anxiously looking forward to any remarks he may make. Carol loves her new job, continues to consult for TV/books, and receives visits from aviatrix Bobbi Trout.

A Happy 1991 to all. Let's be sure to keep in touch!



Carol L. Osborne

AERO Magazine, July 1988

Amelia, My Courageous Sister

Biography of Amelia Earhart. By Muriel Earhart Morrissey and Carol L. Osborne

The last two decades have produced many books and dramatic presentations about Amelia Earhart. All, however, have missed the boat up until this book, written by one who perhaps knew A.E. best. Muriel Earhart Morrissey puts the whole story into perspective. As provocative as the mystery of Amelia Earhart's disappearance is, it is not as important in the long run as who Amelia Earhart was.

For the first time in this reader's experience, Amelia Earhart becomes a real person, not merely a legend with a name.

... Although she was known to the world as a pilot, aviation was just one facet of this remarkable woman. She was well-educated in many areas—poetry, automobile mechanics, foreign languages and chemistry. We see copies of her report cards

... How many people know, for instance, that Amelia Earhart was a nurse during World War I? Or that she had chosen social work as her career while she dabbled in aviation as a hobby?

... Amelia's fame was both puzzling and exhausting to her. To her, it only made sense to be truly devoted to a chosen endeavor. It was typical of Amelia that she chose to deflect this fame from herself and toward further developing the science of aviation. The importance of aviation as a useful tool for mankind was what was important to Amelia—not her personal achievement.

To readers of this personal account of Amelia Earhart's life, it is Amelia, after all, who is important.—*Merry MacTavish*

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AVIATION BOOK COMPANY, GLENDALE, CA 91201
Aviation Book Publisher Since 1964

BOOK REVIEWS

AERO Magazine, August 1988

Just Plane Crazy

Biography of Bobbi Trout. By Donna Veca and Skip Mazzio

This biography of a female flier, billed by the publisher as a companion volume to its Amelia Earhart biography (July AERO), contains valuable material for the aviation history buff. Bobbi Trout, just 10 years younger than Earhart, has carved her own unique niche in the annals of both aviation and feminist history and deserves more recognition than she has been given.

Osborne Publisher, Inc., uses the same format for each book: information about family history and childhood is followed by each woman's later interest and progress in aviation.

... But for the aviation—particularly, aviation-history—buff, Just Plane Crazy provides valuable details of the Women's Air Reserve and Trout's many endurance records. Although Trout was content to be nonconformist in pursuing her flying career, the modern reader may be taken aback to learn that this female flier was greatly embarrassed by having to attend social functions in her aviator's pants rather than a cocktail dress. ... Trout is unusual for her mechanically inventive mind, manufacturing the EG-Cel, a plastic container for eggs, and the Safety-View mirror, along with partner Pat Lewis. Trout's later business successes include real estate, printing and insurance. After retiring, the never-tired Bobbi tried her hand at photography and motorcycle riding and took many excursions by motorhome into the high Sierras.

Just Plane Crazy is a valuable resource book for the aviation history buff—or for the next time you get together in the hangar and want to one-up your buddy in aviation trivia.
—*Merry MacTavish*

The News Chief, April 1988

"Amelia, My Courageous Sister," by Muriel Earhart Morrissey and Carol L. Osborne is so thoroughly enjoyable that I was sorry when the last page was read. Exciting! An air of mystery settles over the story as Amelia Earhart's sister gives the true facts about her disappearance.

Pages from Amelia Earhart's journals, flight logs, letters, innermost thoughts from her diary, pictures never before published

... The answers are given as Earhart's life is traced from early childhood to the date of her death — and the brouhaha that has continued through the years. ...

But there was not to be another flight after the 1937 adventure — and the mysteries surrounding the fatal flight have hung with a heaviness until now when Amelia's sister sets the record straight.

There are some startling facts addressed in this biography. Though Amelia Earhart was an ace pilot — knew just about everything there was to know about an airplane — she knew relatively little about the newly installed radio system in her plane on the fatal flight. Could this be the cause of the crash — if there was a crash? Or was she on a spying mission for the U.S. government? Or did the only other person with her on this flight, Fred Noonan, navigator, begin to nip at his bottle she found aboard — thereby getting off course?

The solution to the mystery is not spectacular, but it certainly seems to clear up all speculation.



Left to right: Muriel Earhart Morrissey, Bobbi Trout and Neta Snook Southern. Photo taken Thursday, March 24, 1983 in Neta's Los Gatos home.

THE BOOKWORM



Velma Daniels

The News Chief, June 1988

"JUST PLANE CRAZY", by Donna Veca and Skip Mazzio, is the biography of Bobbi Trout, who was an early aviation pioneer and contemporary of Amelia Earhart. Bobbi Trout, at 83, is still zipping around the California coast in her little red Porsche and busily engaged in aviation ventures. She is the sole survivor of the 19 women pilots who started in the first "Powder Puff Derby" in August, 1929.

...

What was it like to be a woman pilot in the 1920s and '30s? Bobbi gives you insight into those early days and keeps the reader excited with her breathless stories of adventure. "Just Plane Crazy" is chocked full of photos.



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Softcover ISBN 0-940997-03-7



AVIATRIXES AMELIA
EARHART (left) AND
BOBBI TROUT (right) in
1936.



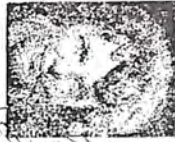
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JUST TO KEEP IN TOUCH

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★ ROUND ★ THE ★ WORLD ★ FLIGHT ★
AMELIA EARHART



AROUND ★ THE ★ WORLD
FLIGHT

2nd TAKE OFF

★ ROUND ★ THE ★ WORLD ★ FLIGHT ★

1937

1937

Reproduction of one of six existing flight covers Amelia gave her mother in May 1937.
Amelia had 5,000 on board.

This is The Associate Press that was on The wires.
I do not know what The 5 Feb 1992 Associated Press
papers actually printed.

v1713 ext -----

u nbx AM-DE--EarhartPlane Bjt 02-05 0572

AM-DE--Earhart Plane, Bjt, 550<

Group Claims It's Almost Sure It's Found Part of Earhart's Plane<

By THERESA HUMPHREY=

Associated Press Writer=

DOVER, Del. (AP) — A group attempting to solve the mystery surrounding the disappearance of Amelia Earhart said it's 90 percent sure a sheet of aluminum found on a Pacific island belonged to her plane.

The Wilmington-based International Group for Historic Aircraft Recovery (TIGHAR) found the piece of aluminum aircraft skin in October during an expedition to the South Pacific island of Nikumaroro. TIGHAR went there to search for traces of Earhart.

"As a tool for making a conclusive identification, the artifact is better than a fingerprint. In fact, it's more like having the whole finger," TIGHAR said in a statement released Tuesday.

Richard Gillespie, executive director of the group, was in Washington and could not be reached for comment Wednesday.

Earhart and her navigator Fred Noonan, disappeared July 2, 1937, while trying to complete an around-the-world flight in a twin-engine Lockheed 10-E Electra.

TIGHAR theorizes Earhart and Noonan missed their target of Howland Island and landed on uninhabited Gardner Island, then called Nikumaroro.

Others involved in the mystery surrounding Earhart's disappearance have repeatedly discounted TIGHAR's theories and are convinced the plane did not crash land at Nikumaroro.

"Gillespie and TIGHAR are slicing the baloney a little thicker this year," said Fred Goerner of San Francisco. "Finding a piece of metal on one of those islands is no trick at all. Planes flew to the island all during World War II."

Goerner said "tens of thousands" of aircraft were manufactured during that period by Lockheed and others, using the same type of materials and construction.

"It's just another step in the progression of the aggrandizement of Gillespie and the TIGHAR organization," said Goerner, who wrote "The Search for Amelia Earhart."

Goerner's book said Earhart was a spy captured by the Japanese and she died in captivity. That theory was later proved incorrect.

Although most Earhart researchers the plane disappeared in the South Pacific, Goerner and others contend TIGHAR is searching on the wrong island.

TIGHAR's statement said 90 percent of the aluminum sheet's features, such as the rivet pattern and dimensions, "have been matched with a specific location on the Earhart aircraft."

The statement also said a "detailed report" of Earhart's final preparations has been found. The report was written by Eric H. Chater, who was general manager for Guinea Airways at Lae, New Guinea. Earhart and Noonan departed there July 2. TIGHAR claims the report had been lost.

Goerner, however, said he has had a copy of the report for 30 years.

"The Chater report has been around forever. Somebody finally sent (Gillespie) a copy of it after all these years," Goerner said.

TIGHAR's statement also says it interviewed Eric Bevington last month in England. Bevington was part of an expedition led by Henry E. Maude in October 1937 to evaluate the island for future colonization.

TIGHAR's statement said Bevington's diary may provide support to artifacts it has found on the island that it hopes belonged to Earhart and Noonan.

The statement failed to mention TIGHAR has also been in contact with Maude and that Maude discounts the group's theories.

AP-HNL-02-05-92 1605PST<

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love!
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The case for Amelia

San Jose Mercury News
June 30, 1987



Eugene Louie — Mercury News

Muriel 'Pidge' Earhart Morrissey, left, with Carol Osborne, center, and Bobbi Trout at news conference

Earhart was no 'spy,' researchers say

By Frank Sweeney
Mercury News Transportation Writer

A half-century ago Thursday, the plane flown by famed aviatrix Amelia Earhart disappeared over the Pacific as she attempted to circle the globe at the equator. The riddle of her death has spawned rumors of a spy conspiracy that have endured through the years.

One prominent theory is that Earhart was on a pre-World War II mission over Japanese-held islands, that she was captured and executed, and that the United States covered up the evidence. Other

theories are less complimentary.

On Monday afternoon, at a news conference at San Jose International Airport, Earhart's only sister, several aviation historians and two of her contemporaries gathered to debunk the "rumors and fabrications."

Simply put, they said, Earhart made a fatal navigational error, ran out of fuel short of the microscopic island that was her destination on that leg of the trip and crashed in the Pacific.

"That's the end of the story as far as I am concerned," said Muriel "Pidge" Earhart Morrissey,

87, Earhart's younger sister who now lives in Medford, Mass.

Morrissey and Carol Osborne, a Santa Clara aviation historian, have co-authored a book, "Amelia, My Courageous Sister," which discloses for the first time formerly classified Navy and Treasury Department documents.

The evidence, they said, shows there was no spy mission planned for the round-the-world flight.

"All the documentation shows she was just a quiet, private person trying to set records."

1988
Christmas
message

Warmest thoughts come to you from Muriel, Bobbi and Carol. Christmas and New Years have flown by, 1990 is coming by jet — and we are still running on OX5 time.

1988 was a busy and exciting year, beginning with a book autograph party in Los Angeles. We were guests of Zonta in Burbank for their AE Day.

Summer found us in Atchison, Kansas at the Forest of Friendship where we helped celebrate their annual 99/AE recognition days. Bobbi then flew off to be guest of honor at the opening of Silverwood Theme Park, a reconstructed pioneer town and aviation museum in Northern Idaho. Carol stayed home to "mind her job."

Van Nuys Airport honored Bobbi on its 60th anniversary. It's now the busiest commercial airport in the U.S. Later Bobbi was honored in San Diego as *Silverwings* "Woman of the Year." Bobbi and Carol continue to video tape our aviation pioneers.

This winter found us traveling: Bobbi between her condo in Carlsbad, CA., and her home with Carol in Santa Clara, CA.; and Carol spending two weeks with Muriel in West Medford, MA., celebrating Muriel's 89th birthday. We are now preparing to meet in Atchison again this summer.

Let's all be sure to keep in touch!

P.S. This fall PBS TV series: THE AMERICAN EXPERIENCE will air a one hour documentary about the 1924 Douglas Round-the-World flight. Carol was an aviation historian/consultant to this program.

December 11, 1990 historic meeting in New York (from left): Muriel, Gail (Muriel's friend), Bo, Eddie (Bo's grandson), Bobbi, Liz (Louise's daughter), and Louise.



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So Professor Harry & Honor -

Warmest wishes come to you from Muriel, Bobbi and Carol. Christmas and New Years have flown by, we are well into the next decade, yet we're still running on OX5 time.

Muriel had a good year, beginning December 29, 1989, when her daughter, Amy, organized a 90th birthday celebration. Muriel's many friends were in attendance. This year, the celebration was smaller. Muriel just returned from a 3-day trip to the "big apple."

Bobbi and Carol joined Muriel in New York to make a commercial for BellSouth, based on Amelia's (AE) accomplishments. This meeting was a historical event: Dr. Louise DeSchweinitz Darrow (AE's 1919 Columbia University friend) at 93; Bo McKneely (AE's mechanic on her Lockheed Electra) at 82; Muriel (only days from turning 91); and Bobbi (3 weeks prior to her 85th birthday) were all present. In January 1991 the TV commercial began to appear in those states services by BellSouth, and on CNN. BellSouth gave us FIRST CLASS treatment all the way--from living in a 3 bedroom suite, to being escorted in stretch limousines. New York's holiday lights were beautiful when we took our walks along Park Avenue.

While in New York, Carol took Bobbi and Bo to visit the local FBI headquarters, as guests of Jim Fox (Assistant Director and an "old" friend from the San Francisco FBI office). They arrived just in time to attend the FBI's annual Christmas party and, of course, to hear first hand that John Gotti (Godfather of Organized Crime) had been arrested!

Carol loves her job in Security Education. Her Lockheed Ethics poster portraying C.L. "Kelly" Johnson (1910-1990), WHO ACHIEVED MORE THAN 50 YEARS OF ACCOMPLISHMENTS WITH INTEGRITY, was a great success. A poster personally autographed by Kelly made its way into the Smithsonian's collection. Carol produced her first edited video tape, with the assistance of Jim Fox, and the video tape is now being used throughout Lockheed and the FBI. Its titled: Our National Security: FBI, Drugs and Glasnost.

Last October Carol was the guest of Vera and Harvey Christen (retired Lockheed friends--colleagues of the Amelia/Lindbergh/early aviators), at a special "Stardusters" (Lockheed retirees) meeting. The three of them were guests in January 1991 at Zonta's Amelia Earhart Day.

Last March Bobbi and Carol attended Embry-Riddle Aeronautical University's "Women In Aviation" gathering. It was the first of its kind and MOST SUCCESSFUL. We are preparing for the Second Annual "Women In Aviation" gathering, to be held March 21-23, 1991, at Parks College, St. Louis University, Illinois. Dr. Peggy Baty, Dean of Students, had transferred from Embry-Riddle to Parks College and will again act as hostess to at least 400 attendees--we hope to see you there!

Have a great 1991 and let's be sure to keep in touch!

The BellSouth writer, ad appears in the following magazines: Barron's, BusinessWeek, CIO, Communications Week, Forbes, Fortune, Institutional Investor, Newsweek, Time Top, and The Wall Street Journal.



Carol (l) and Joe Gurr(r) being interviewed on 6 Sept. 1990. Three weeks later, Joe suddenly passed away. He installed the radio in AE's airplane in 1937. (The scarf worn by Carol once belonged to AE--the same scarf AE is wearing on the cover of Amelia, My Courageous Sister.)

much love,

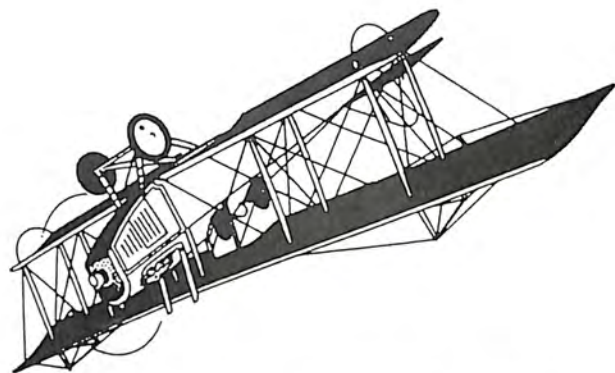
Carol

- ① I would love to have a photo of you + your husbands, if you have an extra -
 - ② Do you know where I could buy a copy of a magazine, Pacific Island Monthly, ~~July~~ April 1991? IT IS SUPPOSE TO BE ON TIGAR TRIP, OR would their story be a silly one?
- Dateline 1/4/91: Bobbi just broke her right wrist! She won't be writing anyone for a few months.
- Did they (magazine) interview you?*

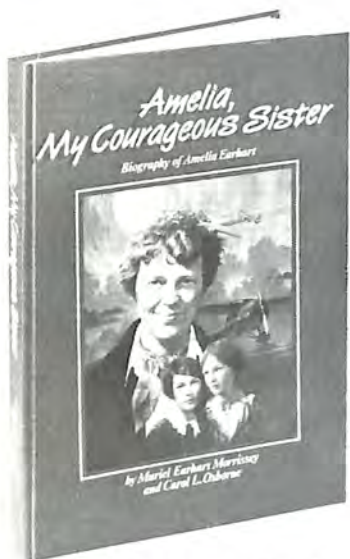
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Curtiss JN4D "Jenny." Bobbi and Carol continue to video tape our aviation pioneers. They will be at the OX5 reunion, Sept 25-28, 1991, Safari Hotel, Scottsdale, AZ--SEE YOU THERE!

Our 1990 Christmas message from
 Muriel Earhart
 Bobbi Trout & me



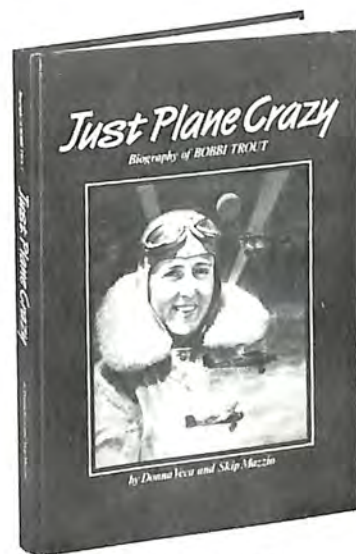
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AVIATRIXES AMELIA EARHART (left) AND BOBBI TROUT (right) in 1936.



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JUST TO KEEP IN TOUCH

OUR LONG AWAITED "SMITHSONIAN WEST!"

July 1981 photo of Carol (l) and her friend, Neta Snook Southern (r), who began flying in July 1917. Neta barnstormed 1918-1920, was the first woman to operate a commercial flying field, and is the EARLIEST LIVING WOMAN FLYER. Neta has NOT had an active year, in fact, she has not been well. We wish her better health.



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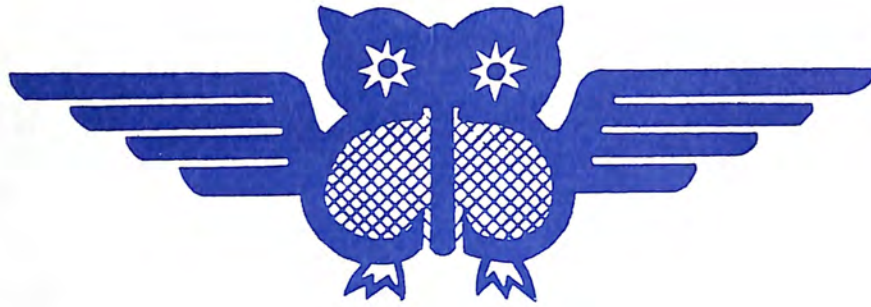
\$28 MILLION AVIATION MUSEUM PLANNED
 REDWOOD CITY -- Plans were unveiled Tuesday for a \$28 million aviation and history museum to be built in downtown San Mateo. By sheer coincidence, the County's aviation history would be museum highlighting San Mateo County's first site of America's first airship flight *..... The complex would feature the San Mateo County Historical Museum, the Hiller Aircraft Museum and the San Mateo County Arts Council Museum..... (S.M. Times 7/18/90)
 *Frederick Marriott flew THE AVTOR airship July 2, 1869", stated Merv Klemme.



THE WINGS CLUB

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Carol's friends, Jim Fox and Agnes Glasheen (Jim's FBI Assistant), who joined us Dec. 1990 for our luncheon at the New York Wing's Club.



Copy of the
Minutes of

THE ORIGINAL
meeting of
The Early Birds of Aviation
held
January 2, 1929
at
Hotel Carlton
Washington, D.C.

Donated by Early Bird
Robert A. Warren

THE EARLY BIRDS

Hotel Carlton, Washington, D.C.

Bulletin 1

2 January 1929

THE EARLY BIRDS - those who soloed and those few who piloted gas balloons or airships in the first thirteen years of dynamic flight - have organized to "form better personal relations and establish social and business intercourse among airmen; to encourage and promote, foster and preserve a national interest in aeronautics; and for the increase and diffusion of aeronautic knowledge among men" so saith the constitution.

THE CHICAGO MIGRATION. Sixty-four claimants to prehistoric honors were present in person and by representatives for the organization meeting. Look 'em over.

A. Livingston (Doc) Allan	Louis Gertson	Walter J. Shaffer
Horatio Barber	Edgar S. Gorrell	M. H. Simmons
G. Edw, Earnhart	George A. Gray	B. Russell Shaw
Giuseppe M. Bellanca	Ernest C. Hall	O. H. (Bud) Snyder
Overton M. (Rusty) Bounds	B. R. J. (Fish) Hassell	Robert J. Stewart
Caleb S. Bragg	E. A. (Al) Johnson	Edward A. Stinson
Capt. Vernon L. Burge	James M. Johnson	Marjorie Stinson
Walter J. Carr	Robert R. (Bob) Johnson	Henry E. Toncray
Joseph L. Cato	Ernest Jones	Otto W. Timm
Clyde V. Cessna	Laurence J. Lesh	Frank R. (Val) Valiant
Frank T. Coffyn	James V. Martin	L. A. (Jack) Viles
J. Lansing Callan	Lily Irvin Martin	Jean F. (Jeff) De Villard
Lt. Col. Chas. DeF. Chandler	Maj. T. DeW. Milling	Dr. Henry W. Walden
Parker C. Cramer	Arthur H. Mix	A. P. Warner
Earl S. Daugherty	P. G. B. (Bud) Morriss	W. D. Waterman
Richard H. Depew, Jr.	Edward Nelson	Howard F. Wehrle
Ralph C. Diggins	Earle Ovington	Horace B. Wild
Laurence La T. Driggs	W. D. (Billy) Parker	Charles F. Willard
Raffe Emerson	Porter Adams	George W. Williams
Anthony H. G. (Tony) Fokker	Augustus Post	Capt. Hugh L. Willoughby
Ivan R. Gates	Clarence O. Prest	Joseph B. Witt
	Capt. H. C. Richardson	

The place was Chicago, and the date was December third of last year. It was the first reunion of the Early Birds. From all over the country they came ---- from the East. from the West. from the South and from the North. Some by air, some on the cushions of old-fashioned Pullmans; a few - perhaps - - rode the roads. tho' that's doubtful.

Anyhow - they came - by scores. What a night that was when they first started drifting in! Chaps who hadn't seen each other for fourteen, fifteen and sixteen years. What reminiscences - what yarns - occasionally what (lies?) But - - - they came - and they met - and The Early Birds grew in one day from a sound idea into a concrete, living, pulsating organization - - an organization unique in its make-up and an organization with a bond stronger, perhaps, than any other bond to be found in the association world of today.

THE MEETINGS were held at The Stevens, one of those huge tremendous prison affairs they style a hotel. You know, the kind of a place where the waiters walk a mile for an order and where the floor-clerks are so far away from the center of things that they talk with a foreign accent. A place where every local call is a long distance one and is treated and charged the same way if you're lucky enough to get it put through.

Anyway - the meetings took place in the morning and afternoon. The present constitution and by laws were adopted although many a clause was the subject of discussion and the present instrument is not by any means that which was brought up for approval - - it's a much better one and much more complete.

During the discussions and adoption B. Russell Shaw occupied the Chair and Ernest Jones acted as Secretary.

Following the adoption of the constitution and by laws a nominating committee selected at random and uninstructed was appointed by the chair and given a stipulated period of time for the purpose of preparing a slate.

Some ten minutes later they returned to the meeting room and presented a ticket which was elected unanimously despite the fervid protestations of one P. G. B. Morriss who declined the presidency in no uncertain terms. Many were the reasons he advanced - - clever were some of the excuses he found - - useless were his words. The election held although Bird Morriss insisted on nominating another ticket from the floor as a question of privilege. Anyhow and anyway, this Bird was persuaded to take the job for a year inasmuch as he had been so active in the organization work involved and familiar with the policies outlines and confirmed.

OH, YES, OFFICERS! Every outfit has to have 'em but they can be fired out the following year and a new gang installed.

P. G. B. Morriss, president
Brig. Gen. B. D. Foullois, vice-president
Anthony H. G. Fokker, vice-president
Jean F. De Villard, vice president
Capt. H. C. Richardson, treasurer
Ernest Jones, secretary

Richard H. Depew, Jr.
Dr. H. W. Walden
Raffe Emerson
Walter R. Brookins
Earle Ovington
Trustees

DUES. Proposals to have honorary members, honor members, sustaining members in addition to plain or ordinary members was hit by a prop, despite the fact that a number of cheerful souls had already sent in \$100 and \$25 checks in anticipation. A special Patron Membership was, however, made for those Early Birds whose worldly goods permit them to carry a little more of the overhead burden. Ordinary members pay \$5 a year and the patrons are privileged to pay \$50 or more annually. The proponents of the larger sum are more than enthusiastic in their desire to put The Early Birds on their feet, so to speak, to insure contact with all those yet to be coralled and perfect a real reunion next time. Needless to say we are extremely grateful to those Patron Birds who are doing their bit to carry the very necessary overhead now experienced.

IN THE EVENING one hundred and thirty-odd Birds and their close friends (not necessarily Scotch) gathered for the annual Banquet and Frolic. What a night! Bird Morriss - after a splendid dinner - introduced the toastmaster of the evening by telling how, in looking about for someone to take this important job, they had decided

to find someone whose mouth might better be kept closed. With this in mind they picked on the publisher of "Who's Who in Aviation," a man they all knew and a gentleman who also held the responsible post of President of the Aeronautical Chamber of Commerce.

Lester Gardner then accepted the honor and promised not to dig up the dirt but to stick to complimentary bits of information. In turn, with a few well rounded phrases regarding the record of each member present Toastmaster Gardner brought up for inspection and presentation everyone there.

Between the brief reminiscences entertainment was provided by professional talent - some provided free - some not so free but nearly as good.

The Frolic ended around midnight with "Bill" Stout saying that he'd give his right arm if he could qualify for membership - with "Fish" Hassell singing the song of the ice-cap - with Shorty Cramer trying to appear to be eight inches taller than Bird Sikorsky, Bird Fokker bowing elegantly to everyone present and Beckwith Havens attempting to hide himself behind Ingils Uppercu. Frank Willard, who draws Moon Mullins, told the company how in 1915 he tipped a canoe over a mile from shore expecting Bird Morriss to fly out and save him (as pre-arranged) and how said Bird Morriss managed to get his Roberts two-cycle started but in wiggling his Benoist boat down the beach he tipped the starting crank off the top of the radiator and bust his blade. Also might be mentioned the fair Marjorie Stinson whose shyness added much to the evening as most of the he-birds present made mental reservations to give Marge lessons in overcoming self-consciousness. Oh - yes - and don't overlook Charles Dickinson, one of the guests of honor who received the biggest hand of the night and who rated it too. Brother Dickinson, who learned to fly at sixty two - and that's some ten or eleven years ago, is still going strong and surely showed up this man Patterson who found he couldn't fly at fifty. And a Tribune man too!

THE '29 REUNION. No specific date has yet been set for the next Migration. It is thought that it might be fitting to hold it during the air races and thus permit The Early Birds to do their bit to boost the races and the meetings held that week, What do you think? Opinions on this important matter will be gratefully received as it is the plan of the present administration to carry through the wishes of the present members - to bring the organization into the lime-light just as much as is consistent but to keep the individual officers out of it entirely.

As a matter of fact Chief Crow Morriss put it very aptly when he said that officers of this organization were elected to WORK and not to pose - that they should go under cover during their term of office.

THE EARLY BIRDS IN WASHINGTON - - Another huddle of The Early Birds was held at Washington, December 15, 1923, during the International Aeronautics Conference - a joint luncheon with the local chapter of the NAA. At the head table were:

Bird Chandler, first chief of the aeronautic division of the Signal Corps, 1907; 9th Army airplane pilot, 1911; 3rd Army balloon pilot.

Bird Towers, third airplane pilot of the Navy, 1911 and now oldest in point of service.

Bird Lahm, 1st Army officer to fly in an airplane and one of first two pilots taught by Wilbur Wright and one of 1st two Army airship pilots, not to mention balloon experience.

Major Georges Thenault, commander Lafayette Escadrille, now air attache in Washington.

Bird Fokker who taught himself to fly his own airplane in 1911.

Capt. W. I. Chambers who initiated aeronautics in the Navy.

Bird Richardson, developer of the Navy catapult, authority on hulls and floats and a raft of other achievements.

Bird Glenn Curtiss made famous by Pete McLaughlin of Gold Bug Inn.

Bird Ericson, who did so well with Tony Jannus in Baltimore before joining the Curtis Company.

C. Francis Jenkins showed for the first time motion pictures of the flight of Orville Wright and Lieut. Selfridge at Fort Myer, 1903, and some astounding very-slow pictures of pigeons in their various flight maneuvers. Edward R. Armstrong, now building his first seadrome for the New York-Bermuda route, described and illustrated his system of floating airports.

Mr. ARCHAERNIS is disclosed by Fairfax Naulty as the earliest and most primitive bird known. It is or was remarkable for having a long, tapering tail of many vertebrae with an elliptical arrangement of feathers along each side and jaws armed with teeth. Oh. bird!

COMMANDER BYRD in the Antarctic received the EBs first radiogram. "Early Birds of America all pilots before nineteen sixteen heartily wish you all success."

GOVERNORS' MEETING. The first meeting of officers and trustees, all forming the governors under the constitution, was held December 15, 1923, at the Naval Air Station, Anacostia, D.C., the following being present in person: P. G. B. Morriss, A. H. G. Fokker, Capt. H. C. Richardson, Richard H. Depew, Jr., Dr. Henry W. Walden, Raffe Emerson, Ernest Jones. Commander Towers, Fairfax Naulty and Edward R. Armstrong were also present. Following are the committees appointed:

Membership - Commander John H. Towers, chairman; Brig. Gen. B. D. Foulois Richard H. Depew, Jr., J. Lansing Callan and Ernest Jones.

Resolutions - Frank L. Valiant, chairman; Dr. Henry W. Walden, Augustus Post.

Welfare - Col. Edgar S. Gorrell, chairman; Samuel S. Pierce, E. M. Laird, C. V. Cessna, C. B. Coombs, Charles H. Day, Ralph Diggins, Howard Rinehart, Major T. DeW. Milling.

Reunion - Earle Ovington, chairman; B. R. J. Hassell, Louis Gertson, Ivan R. Gates, Beckwith Havens, Maj. T. DeW. Milling, B. Russell Shaw, Marjorie Stinson, L. A. Vilas, C. V. Cessna, Lt.-Col. Chas. DeF. Chandler.

Auditing - Ivan R. Gates, Chairman; Marjorie Stinson, Charles F. Wittemann.

Trustees - The Trustees are formed into classes as provided in the by-laws: one year, two years, and so on. Hereafter the term of office for each trustee is five years..Following is the classification for the take-off:

Richard H. Depew, jr. 5 years

Dr. Henry W. Walden, 4 years

Raffe Emerson, 3 years

Walter R. Brookins, 2 years

Earle Ovington, 1 year

Certificate of Membership - is being developed, the same to state the qualifications on which the member has been accepted, the usual card to issue in the interim. A committee has been appointed to take up the question of a button, badge or seal.

. . Bulletins to members were authorized as from time to time deemed necessary.

THE HOTEL CARLTON, Washington, D.C., has been offered the Birds as headquarters and, for the present at least, will be used as the address of the national headquarters of the organization. Visitors can communicate with many members in Washington by telephone.

YEARBOOK. Bird Valiant has offered to print the constitution and by-laws and list of members - free of charge. As soon as the Membership Committee has overcome the peak load and some more of the oldtimers can be rounded up, the valient Mister Valient will have an opportunity to make good.

AMONG THE MISSING are still scores of names of pioneers with whom contact has been lost. Readers are asked to refresh their recollections, submit names of eligibles, furnish addresses and make contacts.

"DON'T WORRY" should be the motto of a wholesome number of Birds whose applications, queries, aid and advice have not yet been answered. Too many holidays and conferences, excursions and one thing and another! This bulletin is an attempt at an answer to most of the letters. After the Big Rush is over we can get down to real-honest-to-goodness mail.

WANTED is the address of O. H. "Bud" Snyder, present at Chicago in person but negligent as to leaving notice of his whereabouts.

FOOTPRINTS ON THE SANDS OF TIME. Biographies of some of these EBs read like romance, only more so. They glided with Lillienthal, they built their own airplanes and flew them in exhibitions, day and night, in bygone years, they flew and ballooned in Mexico, France, Egypt, Belgium, Austria, Serbia, Central America, Cuba, Japan, Russia and wherenot. There are world record makers, "expert" aviators of Aero Club licenses and MAs of Signal Corps days, transcontinental tourists, students of the Wrights, wartime instructors, helicopter experimentors and builders of transoceanic planes. Belong, too, the first private airplane owner and the first groom married in the air, piloting the while. Boy, what tales they could tell!

PAST ARLY BIRDS. The Los Angeles Metropolitan Airport, at its dedication ceremonies December 16, 1923, unveiled a bronze plaque on the administration building:

"In honor of the pioneer aviators who
Have given their all that the science
of aeronautics could be perfected, enabling
It to take its place in the world's
Commerce, this airport is dedicated.
December 17, 1923, on the 25th anniversary
Of the first flight of man".

Following the ceremony Airport Manager Bird Waterman publicly introduced several of the Early Birds present on the platform.

It is with keen regret that we note the passing of our member Earl Daugherty. Strangely enough his membership dues were received and deposited within an hour of the fatal accident.

HERE THEY ARE, a list of members and candidates for membership in The Early Birds to date, subject to the machinations of the Membership Committee, errors and omissions fire and collision. Oh yes, qualifications. "Membership shall be limited to those persons who piloted a glider or airplane, gas balloon or airship prior to December 17, 1916, upon evidence deemed sufficient by the Membership Committee.

A. Livingston (Doc) Allan, Curtiss Air Station, Atlantic City, N.J.
Edward R. Armstrong, Holly Oak, Del.
Horatio Barber, 420 Lexington Ave., New York City
Floyd E. Barlow, 723 11th St., Rapid City, S.D.
G. Edward Barnhart, 1547 E. Walnut St., Pasadena, Calif.
Giuseppe M. Bellanca, Bellanca Aircraft Corp., Newcastle, Del.
Edward A. Bellande, Maddux Air Lines, 3901 Angeles Mesa Drive, Los Angeles, Calif.
Joseph S. Bennett, 33 Silver St., Norwich, N.Y.
Overton M. (Rusty) Bounds, 1607 W. 19th St., Oklahoma City, Okla.
H. L. Bredouw, 3724 Walnut St., Kansas City, Mo.
Eric T. Bradley, 16 Wall St., New York City.
Caleb S. Bragg, 135 E. 74th St., New York City
Walter R. Brookins, Brookins Mfg. Co., Dayton, Ohio.
Frank M. Bryant, Box 346, Bellflower, Calif.
Gilbert G. Budwig, 1711 H. St., Washington, D.C.
Capt. Vernon L. Burge, Mitchel Field, Garden City, N.Y.
Arthur C. Burns, 1433 Canfield St., Los Angeles, Calif.
Frank H. Burnside, 15123 Arden Ave., Lakewood, Ohio.
P. V. Burwell, 101 Norwood Rd., Baltimore, Md.
J. Lansing Callan, Box 303, Hammondsport, N.Y.
Norbert J. Carolin, Vero Beach, Fla.
Walter J. Carr, 215 N. Webster St., Saginaw, Mich.
Philip A. Carroll, 55 Wall St., New York City.
Joseph L. Cato, 4401cott Ave.; Buffalo; N.Y.
Clyde V. Cessna, 615 S. Green St., Wichita, Kans.
Lt. Col. Chas DeF. Chandler, 3024 Tilden St., Washington, D.C.
Dr. William W. Christmas, 301 W. 103th St., New York
Edna E. Christofferson, 533 Morgan Bldg., Portland, Oreg.
Charles W. Clark, 2042 Bedford Ave., Brooklyn, N.Y.
Virginus E. Clark, 20 Wingate Ave., Buffalo, N.Y.
Frank P. Coffyn, 2238 Canyon Drive, Hollywood, Calif.
Steward W. Cogswell, Box 220, Port Washington, L.I., N.Y.
Clarence B. Coombs, Interairways of Canada, Box 275, Hamilton, Ont.
Harry D. Copland, 1473 Boulevard, West Hartford, Conn.
Parker D. Cramer, Clarion, Pa.
W. Redmond Cross, 44 Wall St., New York City.
Greely S. Curtis, 13 Tremont St., Boston, Mass.
Glenn H. Curtiss, Country Club Estates, Hialeah, Fla.
Maj. H. A. Dargue, Office, Chief of Air Corps, Washington, D.C.
Earl S. Daugherty, 2495 Pine Ave., Long Beach, Calif. (Deceased)
Charles H. Day, 909 E. 23rd St., Paterson, N.J.
Richard H. Depew, Jr., Fairchild Airplane Co., Farmingdale, N.Y.
Jean Francis (Jeff) DeVillard, Hotel Devonshire, 19 E. Ohio St., Chicago, Ill.
Ralph C. Diggins, 1727 Fairfax Ave., Los Angeles, Calif.
Laurence LaF. Driggs, 20 E. 76th St., New York City
Carl H. Duede, Box 213, Stuart, Iowa.
D. Earl Dunlap, Johnson Airplane & Supply Co., Dayton, O.
Raffe Emerson, 307 N. Michigan Blvd., Chicago, Illinois

Commodore Frithiof G. Ericson, 325 W. 45th St., New York
R. W. (Bob) Fawcett, 23 Porter St., Pontiac, Mich.
Maj. S. W. Fitzgerald, % Brooks Field, San Antonio, Tex.
Anthony H. G. Fokker (Tony), 100 East 42nd St., New York City
Robert G. (Bob) Fowler, 122 Martin Ave., San Jose, Calif.
Brig. Gen. B. D. Foulbais, Office Chief of Air Corps, Washington, D.C.
Ivan R. Gates, 909 E. 23rd St., Paterson, N.J.
Louis Gertson, 6413 N. St. Anthony Court, Chicago, Ill.
Col. Wm. A. Glassford, Arizona Club, Phoenix, Ariz.
Maj. Lewis E. Goodier, Jr., 423 W. Leicester St., Winchester, Va.
Major Edgar S. Gorrell, Stutz Motor Car Co., Indianapolis, Ind.
George A. Gray, Evening Star Bldg., Washington, D.C.
David Gregg, 713 W. Paterson St., Flint, Mich.
Emil Gustafson, 2117 S. 51 St. Court, Cicero, Ill.
Thomas F. Hamilton, 332 Lowner Ave., Milwaukee, Wisc.
Ernest C. Hall, 107 E. Market St., Warren, Ohio.
Stedman S. Hanks, American Airport Corp., 527 Fifth Ave., New York City
Lt. Col. Harold E. Hartney, 24 Essex Road, Great Neck, N.Y.
B. R. J. (Fish) Hassell, Rockford, Ill.
Beckwith (Becky) Havens, Loening Aeronautical Corp., 31 St. & East River, New York.
William E. Haupt, 1502 N. Carlisle St., Philadelphia, Pa.
Howard J. Heindell, Newcastle, Del.
Philip Holmes, 222 Highland Ave., Carrollton, Ky.
Frederick A. Hoover, 3365 Iroquois Ave., Detroit, Mich.
Miles Imes, 12 S. Clinton St., Chicago, Ill.
Edward A. (Al) Johnson, Vandalia, O.
James M. Johnson, Buhl Aircraft Co., Marysville, Mich.
Robert R. (Bob) Johnson, 4309 Delmar Blvd., St. Louis, Mo.
Walter E. Johnson, 106 Holmsted St., Bridgeport, Conn.
Maj. B. Q. Jones, Army War College, Washington, D.C.
C. S. (Casey) Jones, Curtiss Field, Garden City, L.I., N.Y.
Ernest Jones, 605 Department of Commerce, Washington, D.C.
Wilbur R. Kimball, 47 W. 91st St., New York.
Edward A. Korn, 315 W. Allegan St., Lansing, Mich.
John K. (Tex) L-Grone, 435 Knickerbocker Pl., Kansas City, Mo.
Brig. Gen. Frank P. Lahm, Duncan Field, San Antonio, Tex.
E. M. (Mattie) Laird, 4500 N. 33rd St., Chicago, Ill.
Dean Ivan Lamb, Newark Airport, Newark, N.J.
Albert B. Lambert, 457 No. Kings Highway, St. Louis, Mo.
Walter E. Lees, 2019 Seward Ave., Detroit, Mich.
Bruce G. Leighton, 35 Phelps Rd., Ridgewood, N.J.
W. Lenert, Lenert Aircraft Co., Pentwater, Mich.
Laurence J. Lesh, 1555 E. 57th St., Chicago, Ill.
Grover C. Loening, 25 E. 67th St., New York.
G. L. McCarthy, McCarthy Aircraft Co., Portland, Mich.
J. C. (Bud) Mars, 231 W. 96th St., New York City
Tex Marshall, First Nat. Bank Bldg., Kalamazoo, Mich.
James V. Martin, 324 Stewart Ave., Garden City, N.Y.
Mrs. (Lily) James V. Martin, 324 Stewart Ave., Garden City, N.Y.
Maj. Hamilton K. Maxwell, 15 W. 45th St., New York
Chas. W. Meyers, % Great Lakes Aircraft Corp., 16800 St. Clair Ave., Cleveland, O.
Maj. T. DeW. Milling, Office Chief of Air Corps, Washington, D.C.
Arthur H. Mix, 2417 E. 4th St., Dayton, Ohio.
Robert S. Moore, % F. Wesel Mfg. Co., Scranton, Pa.
P. G. B. Morriss, 103 Chester Ave., Stewart Manor-Garden City, N.Y.

H. A. Munter, 309 Prospect St., Seattle, Wash.
J. J. Murray, 1209 Larrabee St., W. Hollywood, Calif.
Fairfax Naulty, 64 Van Buren Ave., Hartford, Conn.
Edward Nelson, 709 St. Clair St., Manitowoc, Wisc.
Maj. Douglas B. Netherwood, 3520 Rodman St., Washington, D.C.
Earle Ovington, Casa Loma, Santa Barbara, Calif.
W. L. (Billy) Parker, Star Aircraft Co., Bartlesville, Okla.
Frec Parker, 1410 So. G St., Elwood, Ind.
Samuel S. Pierce, 344 Newbury St., Boston, Mass.
Porter Adams, 300 Sixteenth St., Washington, D.C.
Clarence J. Prest, Arlington, Calif.
Augustus Port, 116 W. 75th St., New York City.
Capt. H. C. Richardson, Bureau of Aeronautics, Navy Department, Washington, D.C.
E. A. Riggs, Star Aircraft Co., Bartlesville, Okla.
Howard M. Rinehart, 15 W. Bowman Ave., Dayton, Ohio.
Roland Romfs, 225 Ascan Ave., Forest Hills, L.I., N.Y.
Lyle H. Scott, 323 Second St., Marietta, Ohio.
Walter J. Shaffer, 931 N. 63rd St., Philadelphia, Pa.
Wm. Gray Schauffler, Jr., 1321 Connecticut Ave., Washington, D.C.
Edw. G. Schultz, 260 Traymore Ave., Beechview, Pittsburgh, Pa.
B. Russell Shaw, Arcade Bldg., St. Louis, Mo.
Igor I. Sikorsky, College Point, L.I., N.Y.
M. H. Simmons, 172 W. Norman Ave., Dayton, Ohio.
Robert Simon, Fairchild Airplane Co., Farmingdale, N.Y.
Cecil R. (Sinnie) Sinclair, 4515 Minnehaha Ave., Minneapolis, Minn.
J. Floyd Smith, Y. M. C. A., Trenton, N.J.
O. H. (Bud) Snyder
Percival H. Spencer, 305 Main St., Hartford, Conn.
Anthony Stadlman, Lockheed Aircraft Co., Burbank, Calif.
Robert J. Stewart, 116 Oak Drive, Catonsville, Md.
Edward A. Stinson, Stinson Aircraft Co., Detroit, Mich.
Marjorie Stinson, Wardman Park Hotel, Washington, D.C.
E. F. Stone, U.S.C.G. Lestroyer "Monoghan", New London, Conn.
John R. (Don) Sutton, 75 E. 55th St., New York.
William Thaw, Morewood Place, Pittsburgh, Pa.
William T. Thomas, 510 E. Seneca St., Ithaca, N.Y.
Otto W. Tamm, 901 N. San Fernando Rd., Glendale, Calif.
Henry E. Toncray, Lone Oak, Tex.
Comdr. John H. Towers, Bureau of Aeronautics, Navy Department, Washington, D.C.
Frank L. (Val) Valiant, Business Pub'rs. Int'l Corp., 460 W. 34 St., New York.
Clifford C. (Van) Vandivort, Montauk, Mo.
L. A. (Jack) Vilas, Polf Woods Farm, Hot Springs, Ark.
H. Roy Waite, 303 Lecatur St., Washington, D.C.
Dr. Henry V. Walden, 375 West End Ave., New York
A. P. Warner, 1229 Chapin St., Beloit, Wisc.
Waldo D. Waterman, 407 W. Rustic Rd., Santa Monica, Calif.
Fling O. Weeks, 999 Third St., Milwaukee, Wisc.
Howard F. Wehrle, Kinnear Mfg. Co., Columbus, Ohio.
Horace B. Wild, 123 W. 59th St., New York.
Charles F. Willard, 1217 N. Poinsetta Pl., Hollywood, Calif.
Geo. W. Williams, Box 212, Temple, Tex.
Capt. Hugh L. Willoughby, Sewalls Point, Fla. (winter); Newport, R.I. (summer)
Charles C. Witmer, Estrella Drive, Santa Barbara, Calif.
Joseph B. Witt, Box 1363, Muskogee, Okla.
Charles R. Wittemann, 313 Stratford Rd., Brooklyn, N.Y.
Orville Wright, Dayton, Ohio
Edward H. Young, Washington, D.C.

Lockheed Life

August 1981

INSIDE:

- '81 Guggenheim Medal to 'Kelly'
- C-141 'stretch' over South Pole
- Cutting the cost of sunpower



**Newest Member of the U-2 Family:
TR-1 Aircraft Unveiled**



'INTERNATIONAL AIR TATTOO' VIEW

Two huge Lockheed-built transports — the U.S. Air Force C-5 Galaxy (top) and the USAF C-141 StarLifter (bottom) — dominated this display of aircraft at the 1981 International Air Tattoo last month in Greenham Common, England. Take a close look and you'll also see a number of other Lockheed-built aircraft — C-130 Hercules, P-3 Orion, and F-104 Starfighter. Other Lockheed-built planes participating were the S-3A Viking, CP-140 Aurora, and T-33 jet trainer. The biennial event, organized on behalf of the British Royal Air Force Benevolent Fund, drew more than 300,000 spectators to displays and flights involving 300 aircraft from 21 countries.

Stretched C-141B: Antarctic mission

A newly modified Lockheed C-141B StarLifter, boasting a stretched fuselage and in-flight refueling capability, demonstrated its extended range with a nonstop flight from New Zealand to the South Pole and return.

It was the first time a cargo plane had flown such a mission over Antarctica.

On the 6530-mile flight, the U.S. Air Force jet airdropped 13,000 pounds of mail and fresh vegetables over the McMurdo station, main U.S. scientific base in Antarctica, and 2800 pounds over the South Pole station. Ice, winds, and bitter cold usually prevent midwinter supply by other means.

There were three in-flight refuelings on the 15-hour flight that originated and ended at Christchurch, New Zealand. Even in the darkness of the Antarctic winter, the Gelac-

modified C-141B brightened life for staff at McMurdo and the South Pole. Airdrop packages contained the first mail they had received since February.

NASA 'Voyager' honor to LEC's Andy Anderson

E. C. (Andy) Anderson, space recorder program manager at Lockheed Electronics Company, was awarded the NASA Public Service Medal for his outstanding contributions to the Voyager spacecraft mission.

The NASA citation to Anderson pointed to his "program leadership in producing magnetic tape transport mechanisms for the data storage subsystem which has performed flawlessly throughout the Voyager mission."

Representatives of 13 organizations, from the more than 200 companies and institutions participating in the Voyager program, received the NASA award in ceremonies at Jet Propulsion Laboratory in Pasadena.

LEC recorders on Voyagers 1 and 2 sent home to Earth data and photos from the 1979 planet Jupiter flybys and from Voyager 1 on its recent swing around planet Saturn (*Lockheed Life*, December 1980). Voyager 2 is scheduled to make its "close encounter" with Saturn Aug. 25.

They talk to computers — that also talk back

Lockheed people who talk to computers believe voice-activated systems are now ready for more widespread and meaningful applications.

That's the general feeling of 23 Lockheed technical people from four companies and the corporate staff who met at Lockheed Electronics Company in Plainfield in a conference on voice interactive technology featuring reports and discussions on progress to date and future possibilities.

Each of the Lockheed companies represented — Calac, Gelac, LMSC, and LEC — has either a prototype / experimental, or operational computerized system that responds to actual voice commands, with an understanding of up to 128 words. Some even talk back — but in a polite manner (i.e., "repeat command," "more data needed"). These time-saving and cost cutting systems can also be "trained" to accept commands from only certain voices — a security safeguard. (March *Lockheed Life* described Gelac prototype.)

This October in the San Francisco Bay area, LMSC will sponsor the first industry-wide conference of both Lockheed and non-Lockheed users of computerized voice data entry systems to compare industrial applications, equipment, problems and solutions.

S-3 'mod' job coming up?

There'll be some changes coming up on the Lockheed-built Navy S-3A Vikings, turning them into S-3Bs.

Under a recently awarded full-scale engineering development contract from the U.S. Naval Air Systems Command, Lockheed-California Company will work on an improved avionics system for the S-3A antisubmarine warfare aircraft. This is a follow-on to the 1980 Navy contract Calac received to develop specifications for an S-3A weapons system improvement program.

Eventually, a total of 160 carrier-based Vikings could be retrofitted under the program. Modification of the S-3As is expected to start in 1987.

LEC: Mk 86 contract

Under a U.S. Navy follow-on contract for \$17 million, Lockheed Electronics Company will build two Mk 86 computerized weapon control systems for *Ticonderoga*-class Aegis guided missile cruisers and six Mk 86 subunits to be assembled as a land-based operational training system along with display and control consoles. The Mk 86 controls large gun and missile firing against surface, shore, and air targets.

THE COVER

In rollout ceremonies at Palmdale, Calif., the new Air Force TR-1 met the press and public for the first time July 15. This Calac-built descendant of the famed Lockheed U-2 is 63 feet long and has a 103-foot wingspan (wide-angle lens of camera slightly distorts wing in main photo). TR-1 and U-2 aircraft stories on Page 5.

Photographs: Bob L. Green/af. Cover Design by Bernard Hashimoto

L-1011 status

The status of the L-1011 TriStar jet transport program was reviewed in the announcement of Lockheed Corporation's mid-year financial results, released to the news media July 22. The following is summarized from the news release.

"While the production problems that led to last year's write-offs are now behind us, the TriStar program remains a cause of concern," Board Chairman Roy Anderson said, referring to the 1980 second quarter write-off of \$70 million in L-1011 excess production costs.

"We are now producing at a rate that will complete 18 (TriStar) aircraft in 1982," he said. "It will be necessary to reduce the production rate for 1983 deliveries, and we have initiated that process.

"A final decision on the rate for 1983 deliveries will be made during the fall, based on an assessment of orders in hand, near-term airline planning, and the market outlook at that time. As previously indicated, a prolonged depressed market involving continued production at uneconomic rates would adversely affect the overall TriStar program financial results," he said.

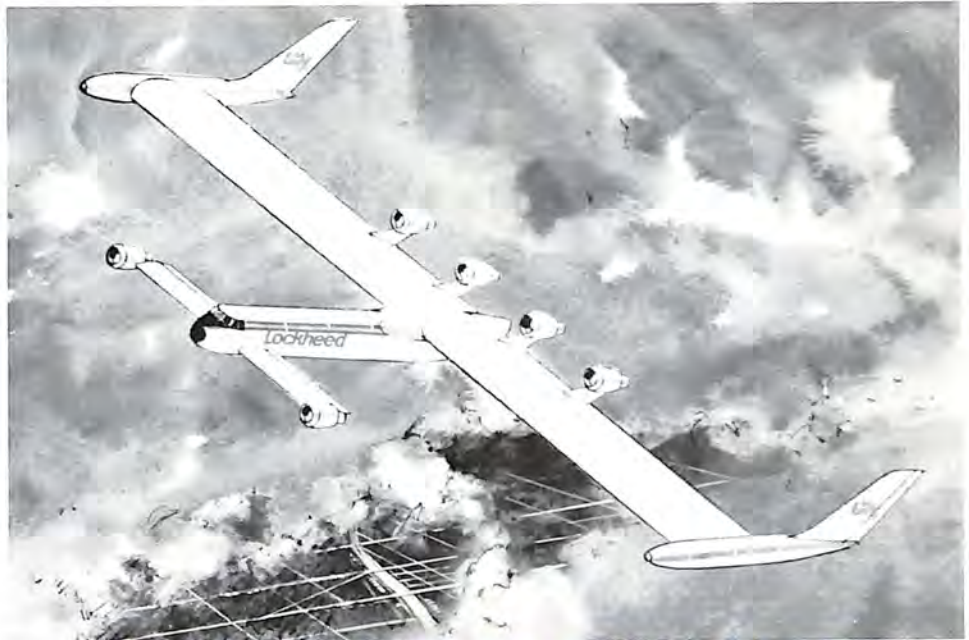
Anderson noted that there were three new firm orders for TriStars during the first six months of 1981, but three previously announced orders that were subject to financing or government approval were canceled since the required conditions were not met. There were 34 undelivered firm orders at mid-year, compared with 47 at year-end 1980 and 53 at June 29, 1980.

"We expect some increase in the order rate during the remainder of the year, but no near-term major change in the market slowdown that has affected all four manufacturers of current-model wide-bodied transports since 1980," Anderson said.

For the longer term, Anderson stated that several airlines have expressed interest in advanced-technology engines that would reduce fuel usage and extend the range of the TriStar starting in the mid-1980s. Two such engines, offered by Rolls-Royce and by General Electric Company, have been evaluated, and results of the evaluations are being reviewed by interested airlines.

Financial results for the first six months of 1981 include (figures for same period of 1980 in parentheses):

- Net earnings — \$51.1 million dollars (\$14.6 million loss); 1981 figure includes \$22.8 million extraordinary income in the first quarter.
- Sales — \$3 billion (\$2.5 billion).
- Sign-ups of new and follow-on orders — \$2.7 billion (\$2.3 billion).
- Funded backlog — \$5.9 billion (\$5.9 billion); approximately 60% of the backlog consists of orders from the U.S. government, 12% domestic commercial, and 28% is from foreign countries.



Chuck Hodgson

HYDROGEN-FUELED 'SPANLOADER'

This liquid hydrogen-powered "spanloader" is one of the possible aircraft concepts of the 1990s eyed by Lockheed corporate Senior Advisor Willis Hawkins, retired corporate senior vice president — aircraft, at the World Aerospace Education Organization meeting in Amsterdam last month. Hydrogen could be an alternate fuel as petroleum is depleted. Pictured cargo carrier could carry a 560,000-pound payload 4170 nautical miles. Its gross weight would be 1.2 million pounds. Wingspan would be 367 feet (today's C-5 Galaxy, world's largest aircraft, has a wingspan of 223 feet). Spanloader would carry hydrogen fuel in wing, fuselage, and tip pods. Cargo load would be in the wing. At Amsterdam, Hawkins spoke on "Aerospace in the 21st Century."



Dave Scholl

READYING AN RPV

An Aquila remotely piloted vehicle on a test stand at Lockheed Missiles & Space Company is readied by Howard Flynn, an electronics installer at the Sunnyvale plant. Now under development at LMSC for the U.S. Army, the Aquila (Latin for eagle) can be carried in standard Army trucks for launch near a battlefield to fly either pre-programmed or manually directed missions over hostile territory, sending back unjammable real-time television pictures to a command and control center. Following a three-hour mission at speeds up to 110 mph, the retrievable RPV can be prepared for another mission within 30 minutes. Gelac is a major subcontractor on the Aquila.



Bob Ferguson

CORRAL FOR 4910 'HORSES' — A Lockheed-California Company employee at Burbank applies finishing touches on a nacelle that will house one of four 4910-equivalent-shaft-horsepower turboprop engines for the P-3C Orion antisubmarine patrol aircraft. The P-3C — after it's powered with "horses" — will go to the U.S. Navy.

Kelly Johnson: '81 Guggenheim Award

Lockheed's Clarence L. (Kelly) Johnson, internationally renowned designer of many of the world's most famed aircraft and founder of the "Skunk Works," is the 1981 Daniel Guggenheim Award winner.

Johnson, 71, was the unanimous choice of the Guggenheim Medal Award Board, comprised of previous winners of the prestigious aerospace honor.

Presentation of the award to Johnson will take place later this year.

The award is bestowed on Johnson, the board noted, "for his brilliant design of a wide range of pace-setting, commercial, combat, and reconnaissance aircraft, and for his innovative management techniques which developed these aircraft in record time at minimum cost."

Among the 40 aircraft listed as Johnson designs during nearly 50 years at Lockheed, most of these years at his Advanced Development Projects (Skunk Works) in Burbank, were the:

P-38 Lightning fighter of World War II, Constellation airliner, F-80 Shooting Star (America's first production jet), high altitude U-2, F-104 Starfighter (first double-the-speed-of-sound production aircraft), and the 2000 mph A-11, YF-12A, and SR-71 (first

triple-sonic military aircraft).

More than 30 honors and awards, including enshrinement in the Aviation Hall of Fame in 1974, have been bestowed on Johnson over the past 45 years.

Johnson retired as a Lockheed senior vice president in 1975 but continues to serve as a senior advisor.

First winner of the Guggenheim Medal "honoring persons who make notable achievements in the advancement of aeronautics" was Orville Wright in 1929.

Other medalists include William Boeing, Donald Douglas, Glenn Martin, Juan Trippe, James Doolittle, Lawrence Bell, Frank Whittle, Leroy Grumman, Igor Sikorsky, Geoffrey DeHavilland, Charles Lindbergh, Theodore von Karman, James Kindlerberger, James McDonnell Jr., Robert Goddard, and Marcel Dassault.

Sponsoring organizations for the award are The American Society of Mechanical Engineers, Society of Automotive Engineers, and the American Institute of Aeronautics and Astronautics.

Seven more Herks, orders top 1650

The Lockheed Hercules is still selling strong — after more than a quarter-century.

Lockheed-Georgia Company last month announced orders for seven new Hercules aircraft:

- The U.S. Air Force's Aeronautical Systems Division requested six more C-130H Hercules transports as part of a continuing airlift modernization program for the nation's Air National Guard and Air Force Reserve.

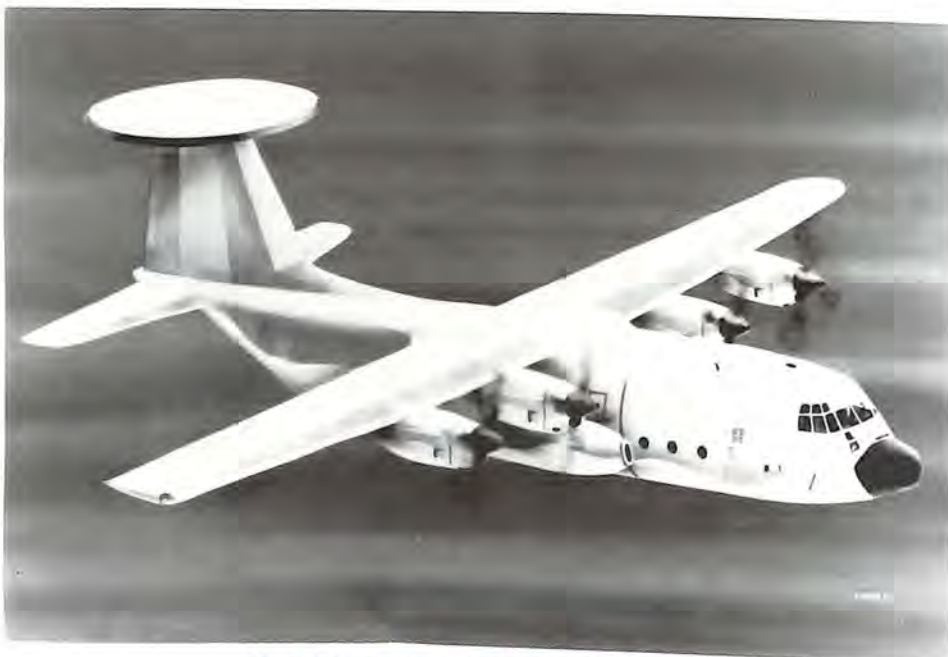
- The government of Gabon, which now operates three Hercules propjets, purchased an L-100-30 Super Hercules that will have "quick change" capabilities — a less-than-an-hour conversion of the aircraft from cargo carrier to 91-passenger transport via roll-on palletized seats or to a "combi" version that will handle any mix of passengers and cargo.

Orders for Hercules aircraft have now passed 1650, with customers in more than 50 nations.

This month marks the 27th anniversary of the first flight of the initial Hercules. The C-130 prototype first flew in August 1954 at Burbank. The production program was shifted to Gelac at Marietta.

Sweden: five more C-130s

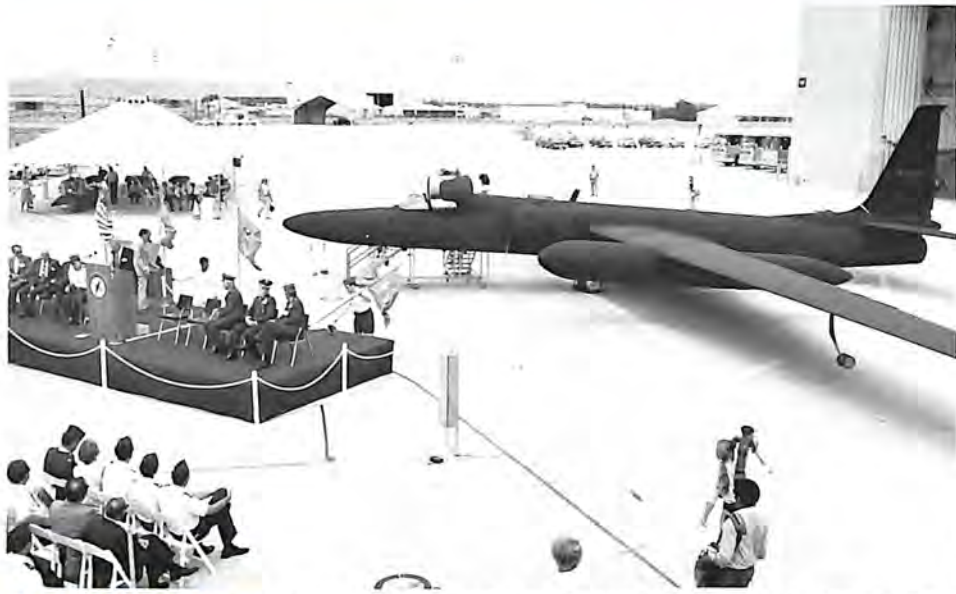
With the recent delivery of five new C-130H Hercules from Lockheed-Georgia Company, the government of Sweden this month will have a total of eight of the Gelac-built propjet transports in its fleet.



Joe Lipsky

C-130 'ARE' ON THE WAY?

No, we're not being ungrammatical. ARE stands for a proposed airborne radar extension, using a modified Lockheed C-130 Hercules as the platform and an updated APS-125 surveillance radar as the prime electronic system. Lockheed Aircraft Service Company developed the ARE concept, which provides early detection of approaching airborne threats, as a cost-effective alternative to the present complex AWACS (advanced warning and control system) E-3A and E-2C aircraft. Mounted on the shortened vertical stabilizer of the Gelac C-130 is a rotordome, 24 feet in diameter. The APS-125 ultra-high frequency wavelength doppler radar system could detect and track intruding aircraft to nominal ranges of 200 nautical miles over land or water (where surface ships also could be spotted). Coupled with other identification and monitoring systems, EC-130R could track 300 targets simultaneously and monitor 256 electronic threats.



TR-1 IN THE NEWS — Television cameras and news photographers zero in on the newly unveiled TR-1 following rollout last month at Palmdale where the Lockheed-California Company produced the latest member of the U-2 family. At the microphone is Ben Rich, general manager of Calac's Advanced Development Projects. Other speakers: C. L. (Kelly) Johnson, U-2 designer and ADP founder; Calac President Ed Cortright; Air Force Gen. James Mullins; and AF Lt. Gen. John Albert. The TR-1 aircraft "first look" received prominent attention on all seven major television channels in Los Angeles, CBS and NBC network news, Voice of America, radio stations and the Associated Press wire, and in newspapers and news/aviation magazines.

Bob Ferguson

TR-1, 'son of U-2,' meets the people

"Son of U-2," the U.S. Air Force TR-1 made its first public appearance July 15, and the new long-winged aircraft showed a score of news people it is a huskier look-alike of its famed forebear.

As the hangar doors opened, the black-painted TR-1 rolled out to the accompaniment of taped "Star Wars" music and to the applause of 200 civilian and military guests at the Palmdale plant where Lockheed-California Company final assembly takes place. The TR-1 (for tactical reconnaissance) aircraft is the first of 35 the Air Force plans to buy.

The TR-1 "meet the people" introduction last month was quite a contrast to that of the U-2, which was born in secrecy at the Lockheed Advanced Development Projects "Skunk Works" and continued to be a hush-hush aircraft long after its first flight in 1955.

Like the U-2, the TR-1 is powered by a single turbojet engine and can cruise at more than 430 mph above 70,000 feet.

Although there is a strong resemblance, between the two aircraft, there is a substantial difference in size. The original U-2 is 49 feet long and has a wingspan of 80 feet. The TR-1 is 63 feet long and has a 103-foot wingspan.

Mission of the TR-1 also differs from that of the strategic U-2. The Air Force notes the main mission of the TR-1 is to provide all-weather, day or night "standoff" battlefield surveillance to support U.S. and allied military forces. Without penetrating enemy airspace, the TR-1 — with a range exceeding 3000 miles — will be able to identify targets

and threats well behind enemy lines. The highly sophisticated sensors of the TR-1, operating from extremely high altitudes, will be able to record data in a radius extending several hundred miles.

In a pre-rollout news conference, Tom Bahan, TR-1 program manager for the Air Force, pointed out the TR-1 will be able to monitor radar sites, tank movements, and troops. "And, unlike a satellite, the TR-1 aircraft will be capable of return investigation," he added. "We have to know what's on the other side."

"The Soviets have nothing comparable," said Fred Cavanaugh, TR-1 program manager for Lockheed ADP, in answer to a reporter's question.

Because the aluminum TR-1 airframe is almost identical to that of the later model U-2R, which dates back to 1968, Lockheed was able to use much of the same U-2R tooling and dies in producing the TR-1.

The resulting savings to the taxpayer are estimated at up to \$200 million, including the value of five years of research and development time.

The savings also show in the price: The TR-1 is coming off the Lockheed-California Company production line with a relatively low flyaway price tag of \$12.5 million.

The first TR-1 is scheduled to make its initial flight in early August, said Bob Anderson, senior engineering project manager, U-2 TR-1. Destination will be Beale AFB, Calif., for a "show and tell" review.

1955: U-2 'went up like a homesick angel' — LeVier

When the TR-1 version of the U-2 rolled out last month, among the spectators at the Palmdale plant ceremonies was Tony LeVier, retired Lockheed-California Company test pilot who made the first flight of the U-2 26 years ago.

"It sure brought back memories," said LeVier. "The TR-1 looks just like an overgrown U-2. Those wings never seem to end. But we never had a rollout for the U-2. We just took it out and flew. No fanfare. The U-2 was too secret."

In fact, LeVier even used an alias while he was on the program. "I went by the name of Anthony Evans — my mother's maiden name was Evans — and fraternized only with U-2 people during that period to make sure we didn't spill anything to outsiders."

Although the official U-2 first flight date is listed as Aug. 1, 1955, LeVier said the U-2 actually got into the air — inadvertently — in late July from a desert dry lake bed.

"I was only supposed to taxi it. But when I got to 70 knots, it suddenly became airborne — about 20 feet off the ground. We found out then how fast and at how low a speed the U-2 takes off. We never had any real problems with the U-2 test program. It was a relatively clean airplane."

LeVier on a later test flight took the U-2 to a 50,000-foot altitude with ease.

"It went up like a homesick angel," recalled LeVier, using his favorite analogy.



Bob Ferguson

U-2 'PIONEERS' — Rollout of the TR-1 at Palmdale brought together once more U-2 designer Kelly Johnson (left) and Tony LeVier, who piloted the secret Lockheed U-2 on its first flight 26 years ago. Both men are now retired, but like the "unretired" U-2 ancestor of the TR-1 — still active in aviation.



BRINGING SOLAR POWER COSTS DOWN TO EARTH

Design by Bernard Hashimoto

Sunshine may be free, but turning it into electricity is sky-high expensive.

It costs about \$7 per "peak" watt — when the sun is hottest and brightest — via today's photovoltaic silicon crystal cells, now used primarily to power spacecraft batteries.

Scientists at the Palo Alto Laboratories of Lockheed Missiles & Space Company believe they have developed a way to bring the manufacturing costs of large area photovoltaic (literally: light electric) cells down to earth — to as little as 10 cents per peak watt within 10 years.

At that price, nonpolluting and radiation-free solar cell electricity could be competitive with nuclear power on earth and a lot less controversial, says Dr. Arthur Jonath, principal investigator on the U.S. government-funded program at the Palo Alto lab, where manufacturing experiments are taking place.

Here's how the price would translate into today's electricity bill:

Averaging it out over a 20-year life span for the new large-area photovoltaic panels, which could cover rooftops and other outside areas, solar-derived electricity would cost the typical residential consumer about the same as conventional source electricity, notes Dr. W. W. Anderson, consultant on the LMSC program. That's approximately seven cents per kilowatt hour today.

Working with Jonath and Anderson on the program, sponsored by the U.S. Department of Energy's Solar Energy Research Institute, are LMSC's Dr. John Crowley and Dr. Hugh MacMillan.

L-1011 'research' tour

In a tour of five government facilities in the eastern U.S., Calac's test L-1011 TriStar, "Ship One," demonstrated its capabilities as a research aircraft. First L-1011 off the Lockheed-California Company production line in 1970, Ship One is a flying laboratory for new technology and improvements on other TriStar jetliners.

On the recent Ship One tour were visits to the FAA Technical Center, Atlantic City; Naval Air Development Center, Pa.; NASA-Langley Research Center, Va.; Andrews Air Force Base, Md.; and NASA-Lewis Research Center, Cleveland

The key to the manufacturing cost breakthrough is changing the atomic structure of the cell's chief material, silicon, the abundant element that is the principal ingredient of sand and is refined to become glass.

Present-day photovoltaic cells use extremely pure silicon crystals, which have a regular symmetrical atomic structure. Commercial production is labor-intensive, slow, and costly. It takes 62 steps to make a single wafer-thin crystalline solar cell that averages about 20 square inches in area (postcard size).

By changing the silicon atomic structure to an amorphous — "glassy" (no orderly pattern) — form, LMSC scientists produced an ultra-fine film that is more effective, far less expensive, and a hundred times thinner than crystals (four one hundred thousandths — .00004 — of an inch for film compared to four thousandths — .004 — of an inch for crystals).

In a process called magnetron sputtering, scientists bombard a silicon electrode in a vacuum chamber with positive gas ions. This causes the electrode to eject (sputter) a film of atoms that is deposited onto a glass, stainless steel, or plastic "substrate" sheet for easier handling.

Film/substrates could be manufactured into huge rolls, similar to newsprint, and then cut to specifications for mounting onto large-frame photovoltaic collectors that may measure a desktop size square yard-plus in area. Collector "farms" — perhaps 50-million watt plants — could be located in uninhabited desert areas, where sunlight is intense and the land cheap or government-owned, and linked to central power stations, Jonath adds. A protective coating would shield the substrate sheets against hail and sandstorms.

A pilot plant for manufacturing the amorphous silicon sheets would cost about \$5 million, according to Anderson. A major operational production facility would cost about \$80 million, he estimates.

Solar-derived electricity, which now plays only a minuscule role in providing commercial power on earth, could contribute between 5% and 10% of U.S. energy needs by the year 2000, Jonath says.

LMSC has been investigating the new manufacturing process for the past six years. The U.S. Department of Energy has supported the program since 1977.



Willie Martinez

Chuck de Bedts

Chuck de Bedts named v.p.-int'l marketing

Chuck de Bedts, who has journeyed to more than 50 countries over the past two decades to sell Lockheed aircraft, has been named corporate vice president — international marketing.

He was previously Lockheed-California Company vice president — commercial marketing and vice president for airline industry affairs, headquartered in Burbank. In the early 1970s, de Bedts was stationed in London as vice president of Lockheed Aircraft (Europe) S.A., where his efforts contributed substantially to the sale of the L-1011 TriStar jetliner to British Airways.

With Lockheed-Georgia Company's marketing organization from 1960 to 1969, de Bedts helped sell C-130 and L-100 airfreighters, C-141 StarLifter transports, and JetStar executive aircraft. Among his executive posts at Gelac: director of military sales, assistant director of government sales, and JetStar sales director.

Fresh out of college, de Bedts in 1949 was an aspiring writer "and starving to death in New York" when he hired on with Lockheed Aircraft Overseas Corporation, which sent him to Keflavik, Iceland, in the materiel organization. He transferred to Lockheed-Georgia in 1951.

Indonesia: patrol Hercules

The Lockheed-Georgia Company will deliver the new maritime patrol version of the C-130 Hercules in late 1981 to the nation of Indonesia whose numerous islands include thousands of miles of coastline.

To be operated by the Indonesian Air Force, the new C-130H-MP has a highly accurate sea search radar and advanced computerized navigation systems in addition to long range patrol capability and fuel economy.



40 YEARS AGO: FACTORY-FRESH P-38 TRIES OUT ITS WINGS

McGuire AFB memorial: P-38 Lightning

A World War II P-38 Lightning has flown its final mission — to McGuire Air Force Base, N.J.

The P-38 fighter, one of nearly 10,000 Lockheed built and one of the few still around, will be mounted on a pedestal at the main gate of the Air Force base as a permanent memorial to Medal of Honor pilot Maj. Thomas McGuire, for whom the facility is named. Major McGuire, a New Jersey native, died in action in January 1945 at the age of 25 while leading a P-38 patrol that battled Japanese combat aircraft over the Philippines.

For the past 20 years, the Air Force has been looking for a P-38 for McGuire AFB, but discovered that available Lightnings were in very short supply because the few remaining twin-boomed fighters had become highly prized collectors' items for aviation buffs, stunt pilots, and flying clubs.

'The P-38 saved my butt'

The April *Lockheed Life* article on the recent death of Gen. Benjamin Kelsey, U.S. Army Air Corps project pilot for the P-38 in 1939, brought back some World War II memories for former Lightning pilot L. L. (Durk) Durkin of LaCanada, Calif.

Durkin was a member of the 428th Fighter Squadron that in March 1945 became the first Allied air unit to fly a mission against the Nazis from a captured airfield in Germany. This was in the Rhineland near Aachen.

"The P-38 saved my butt," says Durkin, recalling when his Lockheed-built aircraft took four direct hits from German guns. Although the enemy firing knocked out one of the P-38's engines and destroyed vital instrumentation as it put daylight through the bottom of the cockpit, an unscathed Lt. Durkin landed his plane safely.

Notes Durkin in tribute: "I firmly believe the P-38 was the only fighter that could have made it back."

However, early this year Gary Larkin of RMP Aviation, Colfax, Calif., donated a P-38 to the Air Force Museum at Wright-Patterson AFB, Ohio. An agreement was made to transfer the plane to McGuire AFB. Dave Tallichet, one of the few pilots qualified to fly P-38s today, took the Lightning from Dayton to McGuire, which is 20 miles south of Trenton.

The 40-year-old P-38 — hottest plane of its day with a speed of more than 400 mph — "came in just fine," reported McGuire AFB spokesman Maj. Robert Andrews.

Emergency surgery on Hercules 'Hospital'

Landing on a gravel airstrip near the remote Saudi Arabian village of Solayel, the C-130 Hercules modified into a hospital aircraft by Lockheed Aircraft Service Company was the scene of two successful emergency surgeries, the English language *Arab News* reports. A member of the surgical team noted that "by road it would have taken us 15 hours to reach Solayel" from the city of Riyadh. The Hercules made the flight in two hours.

AS-41: commissioning, open house at LSCC

The U.S. Navy will commission the new AS-41 submarine tender Aug. 15 as the USS McKee in ceremonies at the Lockheed Shipbuilding and Construction Company at Seattle where the big ship was born.

The commissioning event takes place in the wake of the July 19 open house at LSCC where 3000 employees and family members toured the 644-foot long ship.

They're out for blood: five more 100-pinters

It takes blood and plenty of it to get into the exclusive "100 club," which now boasts five new members: Lockheed people who have donated 100 or more pints of blood.

Latest to reach the 12½ gallon mark:

Tom Robinson, Lockheed-California Company in Burbank, 105 pints.

Bernard Jackson, Jim Roark, Hershel Rogers, and Milton Summey of the Lockheed-Georgia Company in Marietta, 100 pints each.

They join 33 other 100-pint donors, listed previously in *Lockheed Life* (Oct. 1980, Aug. 1979.)

There may be other 100-pint donors at Lockheed, but for a number of facilities individual employee totals are kept at the local blood bank centers instead of Lockheed. If you know of any 100-pinters who have not yet been given recognition in *Lockheed Life*, please let us know.

Still Lockheed's champion blood donor is Walter Gotsch of Gelac, who has given 168 pints since the current national program started in 1948.

Tops at Calac remains Burbank's Bill Welsh, 145 pints.

At LMSC, Jim Roberts of Sunnyvale continues to lead, now at the 133-pint total.

And at White Sands, N.M., Ramiro Torres with 112 pints is LEMSCO's number one blood donor.

A previous *Lockheed Life* issue listed W. A. Scantland as a 100-pint blood donor. He's better known as Ashley Scantland, Calac, now up to 115 pints.



Staff photo

THESE 'GOOD GUYS' FINISH FIRST — Each LMSC blood donor reaching the five-gallon contribution mark receives a 'Good Guy' statuette with name engraved. Those giving 10-gallons get an engraved plaque. At Calac, the LERC Amateur Radio Club recently presented special coffee cups to 73 employees who had given at least eight gallons. Multigallon donors throughout the corporation receive special pins or cards in recognition of their gifts of life-saving blood, made available through blood banks to Lockheed employees and their families and others.



Dave Woods

E-E-EASY DOES IT

Lockheed Engineering and Management Services Company employees Terry Crabb and David Martinez ready a cradle for 25 tons of steel tank at NASA's White Sands, N.M., Test Facility as safety observer Buzz Mora keeps a keen eye on the operation and heavy load. After refurbishment and cleaning, the 40-foot tank will be used as a gas reservoir in test operations at the nearby U.S. Army missile range. (Relax, all you Lockheed safety engineers around the circuit. It's just the camera angle that makes it appear the huge cylinder is directly over the two men. Actually, crane / cable-suspended tank is off to one side and men are clear of big container.)

Preserving an aviation history dream

Aviation enthusiast Carol Osborne, a logistics analyst at Lockheed Missiles & Space Company in Sunnyvale, first met nationally known aviation historian David D. Hatfield less than eight months ago when she was doing research on Amelia Earhart.

The January 1981 meeting at the Los Angeles area's Northrop University, where Hatfield founded the American Hall of Aviation History to house his lifetime collection of memorabilia, led to a close friendship.

Hatfield died in June at the age of 78. To her surprise, Osborne discovered she had been named by Hatfield to be executor of his

estate. This included a quarter-million historic aviation-related negatives and photographs along with rare newsreel and other motion picture footage, and thousands of documents, manuals, maps, magazines, posters, paintings, and newspaper articles dating back to the turn of the century. Much of the material deals with Lockheed aircraft. Hatfield donated part of this collection to start the Aviation History Hall in 1967.

At the time of his death, Hatfield — author of several books and a consultant for films on early aviation days — was preparing a proposed 250-hour video tape documentary that started with legendary beginnings in mythology. He had completed almost 160 hours of videotape on the project.

Hatfield, a barnstorming pilot in the early 1920s and later an engineer who taught himself the art of aerial surveying, knew many of aviation's pioneers. Allan Lockheed and early Lockheed aircraft builder Tony Stadlman were among his friends.

"I want to do what I can to make Dave's dream come true," Osborne said. "I want to preserve all this priceless material for scholars and the public. That's what Dave wanted."

XFV-1 'tailsitter' finds new home: Pensacola, Fla.

Back in 1954, Lockheed built the experimental Navy XFV-1 — designed to take off from a standing start on its tail, level for swift horizontal flight, and land on its tail wheels.

But in test flights, the "tailsitter" had a tough time landing in the upright position. The engine lacked the very fine control necessary for safe operation, although the XFV-1 made successful vertical takeoffs and in-the-air conversions from vertical to horizontal flight. The project never went beyond the prototype.

However, more than a quarter-century later, the XFV-1 will be doing some long-distance traveling — via ground transport.

After display at the Lockheed-California Company open house at the Burbank plant in 1978, the XFV-1 was donated by the Navy to the San Diego Aerospace Museum in Balboa Park.

The San Diego museum planned to display the tailsitter in its courtyard. Unfortunately, it was discovered the courtyard wouldn't stand the weight of the moving equipment and the aircraft. To display the XFV-1 inside the museum would require the building of another structure, something the museum can't afford. Meanwhile, the city of San Diego won't allow the aircraft to be displayed in front, outside museum walls.

The solution: a new home for the traveling tailsitter. Sometime this year the XFV-1 will move to the U.S. Naval Air Museum in Pensacola, Fla.



U.S. NAVY XFV-1 (1955)
Tailsitter at Lockheed-Burbank

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From the desk of

2-11-92

CAROL L. OSBORNE

Honor - I was delighted
To visit with you!
You'll enjoy the enclosed.
I'm grateful you are
documenting some of your
stories on tape. Our future
generations will appreciate
your efforts.

Much love from
America -

Carol L. Osborne

*Second Annual
National Conference on*

Women in Aviation

Sponsored
by
Parks College
of
Saint Louis
University

March 21-23, 1991
Clarion Hotel
St. Louis, Missouri



Welcome!

The 1991 Women In Aviation Conference is being held due to the overwhelming response from last year's "first annual" meeting in Prescott, Arizona. Not only was the suggestion to hold a second conference made last year, but several of the speakers and topics found in this year's agenda were selected based on ideas from those participants.

The theme this year is to look at women's contributions to aviation historically and currently. Particular emphasis is given to our "career series" where we have assembled women from a variety of aviation occupations to serve on panels. They will address issues and questions relative to their chosen careers.

Parks College of Saint Louis University is proud to sponsor this year's Women In Aviation Conference. It is our goal to promote women in this traditionally male field and to encourage more females to pursue the exciting and challenging opportunities available to them in aviation. We hope you enjoy the conference and look forward to seeing you next year in Las Vegas!



Sincerely,

Peggy Baty

Peggy Baty, Ed.D

Academic Dean

Parks College of Saint Louis University
Conference Director

Conference Schedule

Thursday, March 21

4:00-6:30 p.m.

6:30-7:00 p.m.

7:00-9:00 p.m.

Registration and Check-In

Shuttle to Saint Louis Public Library

Reception to honor the WASPs and Jeana Yeager

Sponsored by the Saint Louis Public Library

Friday, March 22

8:00-4:30 a.m.

9:00-9:20 a.m.

Registration and Check-In

Welcome and Opening Remarks

Dr. Paul Whelan, Vice President, Parks College of Saint Louis University

Dr. Alice B. Hayes, Provost/Executive Vice President, Saint Louis University

Welcome and Introductions

Dr. Peggy Baty, Conference Director,

Academic Dean, Parks College of Saint Louis University

James B. Busey, FAA Administrator

"No Guts, No Glory" *Brooke Knapp*

9:20-9:40 a.m.

9:40-10:30 a.m.

10:30-10:45 a.m.

Refreshment Break - Sponsored by General Aviation Manufacturers Association

10:45-11:45 a.m.

11:45 a.m.-1:00 p.m.

1:00-1:40 p.m.

1:40-2:15 p.m.

2:15-3:15 p.m.

Concurrent Sessions

Lunch (on your own)

"Women as WASPs" *Adela Scharr*

"Early Aviators & Innovators" *Nancy Hopkins Tier and Edna Gardner Whyte*

"Amelia Earhart and Pancho Barnes: A One Woman Show" *Karen Golden*

3:15-3:30 p.m.

Refreshment Break

3:30-4:30 p.m.

Concurrent Sessions

6:00-7:00 p.m.

7:00-8:30 p.m.

Reception - Sponsored by United Airlines

Banquet

Program Speaker - EAA Founder - *Paul H. Poberezny*

Saturday, March 23

8:00 a.m.-12:00 noon

8:30-9:15 a.m.

9:15-10:15 a.m.

Registration and Check-In

"Life in the FAA" *Arlene Feldman*

"The History, Not the Mystery, of Amelia Earhart" *Carol Osborne*

10:15-10:30 a.m.

Refreshment Break - Sponsored by National Business Aircraft Association

10:30- 11:30 a.m.

Concurrent Sessions

11:30 a.m.-1:00 p.m.

Luncheon

Program Speaker: *Wally Funk*

1:15-2:15 p.m.

Concurrent Sessions

2:15-2:30 p.m.

Refreshment Break

2:30-3:30 p.m.

3:30-3:45 p.m.

"Aviation Pioneers" *Bobbi Trout* and *Jeana Yeager*

Wrap-up and Closing

A Special Thank You to our Sponsors

Airline Pilots Association

American Airlines

Beechcraft

Delta Air Lines

General Aviation Manufacturers Association

McDonnell-Douglas Aircraft Corporation

Midcoast Aviation

National Business Aircraft Association

Parks College of Saint Louis University

Southwest Airlines

Saint Louis Public Library

TransWorld Airlines

United Airlines

Zonta Club of St. Louis

Concurrent Sessions

Friday, March 22

10:45 - 11:45 a.m.

1. "Women in the FAA - Careers Panel"
Darla Gerlach, Kay Roam, Diane Jestis
2. "Women in Early Russian and Soviet Aviation"
Dr. Christine White - Assistant Professor of History, Pennsylvania State University
3. "Pregnancy and the Work-Place: Airline Industry Considerations for Female Cockpit Crew Members"
Dr. Jacque Boyd - Adjunct Faculty, Texas Christian University
4. "Women in Military Aviation - Careers Panel"
Lt. Col. Barbara Bartley, Cathy LaSauce, Peggy Glasgow
5. "No Bumps, No Excrescences: Amelia Earhart's Failed Flight into Fashion"
Karla Jay - Professor, English Department, Pace University, New York

3:30 p.m. - 4:30 p.m.

1. "Female Airline Pilots - Careers Panel"
*Members of ISA+21 (professional organization of women airline pilots)
Betsy Carroll Smith, Lucy Young, Anne Mitchell, Vicki Karnes*
2. "Anne Morrow Lindbergh: Not Just Along for the Ride"
Mary Ellen Klein Ph.D. - Dean of Enrollment Management, University of Findlay, Findlay, Ohio
3. "Gender Issues: Is the Paramilitary Model the Best Approach?"
Shirley Rickert - Professor, Department of Supervision, Indiana University/Purdue University
4. "National Transportation Safety Board and Accident Investigations"
Wally Funk - NTSB Investigator
5. "Differences in Career Choice Dynamics Among Male and Female Flight Students at Southern Illinois University"
Mary Ann Eiff - Aircraft Mechanic, Southern Illinois University, Carbondale

I would like to help fund the Earhart Project. I enclose my check payable to TIGHAR for _____; please send me the items checked below.

	How Many?	Amount Each
Poster		\$20.00
Wearables T-Shirt Sizes (please circle one): S M L XL		\$25.00
Project Book and Companion Set		\$135.00
Certificate and Inclusion on Permanent Memorial Name on certificate and engraving to read:		\$250.00
Commemorative Model of NR16020 Name on plaque to read:		\$1,000.00
Project Sponsor Name of Sponsor:		\$5,000.00
Participating Sponsor Please send me additional information.		\$50,000.00

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Sponsorship Options



Support for The Earhart Project comes entirely from **charitable contributions**. Choose the level of sponsorship that best fits your means and interest.

\$20 — Poster

In appreciation for your contribution you'll receive TIGHAR's 1937 World Flight poster commemorating the flight that started the mystery.

\$25 — Wearables

You'll receive a 100% cotton T-shirt, an embroidered patch and an enameled lapel pin all featuring the distinctive Earhart Project logo. Amelia's Lockheed Electra flies in black silhouette against a golden tropical sun above the blue Pacific.

\$135 — Project Book and Companion Set

TIGHAR's work fully documented in two volumes. The 6th Edition of *The Earhart Project, An Historical Investigation* (\$100 if purchased alone) and *The Earhart Project Companion, Second Edition*, reproducing the original sources which document the investigation (\$50 if purchased alone).

\$250 — Certificate and Inclusion on Permanent Memorial.

Individuals who contribute at least \$250 toward The Earhart Project will receive a special Certificate of Appreciation suitable for framing, and will have their names included on a permanent memorial to be installed at a suitable location yet to be determined (the Earhart Birthplace Museum in Atchison, Kansas and Purdue University in West Lafayette, Illinois have been suggested). For Japanese contributors the minimum contribution for this recognition is 10,000 yen.

\$1,000 — Commemorative Model of NR16020

Contributors of at least \$1,000 will receive a specially built 1/32 scale (approx. 13" wingspan) model of Earhart's Lockheed "Electra." Hand carved from solid mahogany, each highly detailed model includes a stand with an individually inscribed plaque.

\$5,000 — Project Sponsor

Project Sponsors receive all of the above plus official recognition in the Project Book and an invitation to all team functions, including the expedition send-off reception aboard R/V *Acania* in Honolulu on Sunday evening, September 29, 1991.

\$50,000 — Participating Sponsor

Ten positions on the December 1991 archeological expedition to Nikumaroro will be filled by Participating Sponsors on a first come basis. Contact Project Director Richard Gillespie for details.

Concurrent Sessions

Saturday, March 23

10:30 a.m. - 11:30 a.m.

1. "Women Aerospace Engineers - Careers Panel"
Employees of McDonnell Douglas Corporation
2. "Airline Pilot Hiring Practices for Women"
Judy Tarver - Pilot Recruiter, American Airlines, Dallas, Texas
3. "Spins and Safe Flight"
Bill Kershner - Aviation Author, Iowa State University Press
4. "Bernard Shaw's Flying Feminist"
Felicia Bender - University of Missouri, Columbia
5. "A Chance in Bethel: Bush Pilot of Alaska"
Jennifer Fratzke - Alaskan Bush Pilot

1:15 p.m. - 2:15 p.m.

1. "Women as Aviation Mechanics and Technicians - Careers Panel"
Mary Ann Eiff, Diana Nichols, Janese Thatcher
2. "Aviation in the Soviet Union"
Patricia Church - High School Teacher, Bakersfield, California
3. "Aviation Education Resources for the Classroom"
Sandra Campbell - FAA Public Relations Director, Central Region
4. "Tennessee's Experiment: Women as Military Flight Instructors in World War II"
Janene Leonhirth - Student, Middle Tennessee State University
5. "Rewriting Women into the Sky: Piercy and Keil on WASPs in World War II"
Robert Bender - Professor of English and Women Studies, University of Missouri, Columbia
6. "Interviewing Skills/Dress for Success"
Bob Mitchell - Senior Employment Representative/College Relations, McDonnell Douglas Corporation

James B. Busey



As Administrator of the Federal Aviation Administration, James B. Busey is the federal government's top ranking air safety official. He directs a work force of approximately 50,000 people who are responsible for aircraft and airport safety functions.

Busey enlisted in the Navy in 1952 and was assigned to the Naval Aviation Cadet Program. He received his commission and Navy Wings of Gold in August 1954. His 37-year career as a Naval Officer included tours in Vietnam, where he received the Navy Cross for combat action. Other key assignments included tours in Washington, D.C. following his promotion to Rear Admiral in 1979, where he served successively as the Auditor General of the Navy and the Deputy Chief of Naval Materiel, Resource Management.

Following an operational flying assignment as a Wing Commander in California, he was promoted to Vice Admiral and returned to Washington in July 1983 as Commander of the Naval Air Systems Command. In 1985, he was appointed Vice Chief of Naval Operations and promoted to full Admiral.

Busey is a native of Urbana, Illinois. He attended the University of Illinois in Urbana and the Naval Postgraduate School where he received his bachelor of science degree and his master's degree in management.

Arlene Feldman



In June 1988 Arlene Feldman became the first woman to be a Regional Director in the Federal Aviation Administration. She was transferred to the FAA's highest rank in the New England Region from FAA's Western Pacific regional headquarters where she had been the Deputy Director since April 1987. Prior to that she served as Deputy Director and Acting Director of the FAA Technical Center in Atlantic City, New Jersey.

She has also served as Director of Aeronautics for New Jersey, and earlier worked as a supervising attorney in the law department of the United States Railway Association.

Feldman, also a pilot, has served as a volunteer Accident Prevention Counselor for the FAA and a consultant in aviation law to members of the legal profession and aviation groups. She is active in the 99s, the international organization of licensed women pilots, and is the first honorary member of the Professional Women Controllers.

Feldman is a member of the Lawyer/Pilot Bar Association and a graduate of the University of Colorado and Temple University School of Law.

Wally Funk



Wally Funk has been flying for over 33 years, and has over 13,400 hours of flying time. At the age of 16 she entered Stephens College in Columbia, Missouri. She graduated in 1958 with an associate of arts degree and rated first in her class of 24 pilots.

She received her bachelor of science degree in secondary education and earned her commercial, single-engine land, multi-engine land, single-engine sea, instrument, flight instructor and all ground instructors ratings at Oklahoma State University.

Her first job at the age of 20 was at Fort Sill, Oklahoma as a civilian flight instructor of officers in the U.S. Army. A year later she was the fourth woman accepted on the Women in Space Team Program.

In 1971 she was the first woman to successfully complete the FAA General Aviation Operations Inspector Academy course., and two years later was promoted to FAA Systemsworthiness Analysis Program as a specialist, and the first woman in this position in the United States. Funk accepted the position of Air Safety Investigator for the National Transportation Safety Board (NTSB) in Washington, D.C. in December 1974,

To spend more time in aviation safety education, she resigned from the NTSB in 1985 and became chief pilot for Emery Aviation College in Greeley, Colorado overseeing their entire flight program.

Karen Golden

Transportation Courtesy of Southwest Airlines



Karen Golden is an accomplished professional storyteller, musician and public speaker. Her programs are a combination of original and traditional tales, many from the Jewish tradition, combined with music, played by Karen on saxophone, accordion, flute and recorder.

Golden has performed and given workshops on the art of storytelling and public speaking at universities, museums, synagogues and many other places. She also teaches Hebrew and a creative course on Judaism for parents and children.

Golden has a bachelor of arts degree in philosophy and Middle Eastern studies from the University of Michigan and a master of arts degree in communication from The Hebrew University of Jerusalem in Israel, where she lived for six years.

William K. Kershner

Transportation Courtesy of American Airlines



W.K. Kershner has nearly 40 years of experience in flying more than 90 types and models of airplanes from 40-HP Cubs to jets. He currently teaches aerobatics and spins in Sewanee, Tennessee.

He holds the commercial and airline transport pilot certificates and is the author of several flight training manuals including *The Student Pilot's Flight Manual*, *The Advanced Pilot's Flight Manual*, *The Instrument Pilot's Flight Manual* and *The Flight Instructor's Manual*. His years of experience as a flight instructor have prompted the design of *Pilot Logbook: Airplane*.

Brooke Knapp



Brooke Knapp is President of The Knapp Group, a private investment company engaged in portfolio acquisitions of income producing real estate, citrus fruit production and other assets.

She has a ten-year history of involvement in aviation, including founding and serving as president of Jet Airways, Inc. a business aviation service and management company that she ran for eight years. She currently serves as Chair of the California Commission on Aviation and Airports and sits on the Board of Directors of the National Aeronautic Association. She has set or broken over 100 world aviation speed records, including the record for fastest speed around the world for civilian aircraft.

Knapp is a graduate of the University of California, Los Angeles, and has been awarded two honorary doctorate degrees. She has received the FAA award for Extraordinary Service, the Harmon Trophy, the J.H. Doolittle Fellowship Award and the F.A.I. Paul Tissandier Award.

Paul H. Poberezny



Paul H. Poberezny is best known as founder of the Experimental Aircraft Association. Each year the EAA's international fly-in convention draws nearly one million people and roughly 15,000 airplanes to Oshkosh, Wisconsin. Poberezny organized the first fly-in in 1953, the same year he founded EAA in the basement of his home.

As a youngster, Poberezny built model airplanes from scratch and at age 16, had restored a Waco glider and taught himself how to fly. By the time he was 17, he soloed in a 1935 five-cylinder Porterfield. His career includes nearly 30 years of distinguished military service, during which time he was a pilot, test pilot and combat veteran. Prior to retiring with the rank of colonel, Poberezny became the only man in the armed forces to attain all seven aviation wings the military had to offer.

In all he has logged more than 29,000 hours of flight time. He has piloted 378 different types of aircraft, including more than 170 amateur-built airplanes, and designed and built more than 15 different airplanes. Poberezny has also served as publisher of EAA publications, which include five monthly magazines and numerous technical manuals and research papers. He has received hundreds of trophies, awards and honors for his contributions to the world of flight.

Carol L. Osborne



Carol L. Osborne was born and reared in California. After graduating from Chico State University in California, she entered the field of aerospace as a financial analyst at Ford Aerospace Corporation.

For the past 18 years she has been with Lockheed Missiles and Space Company, first in subcontract administration, followed by logistics analyst of parts for the Trident Fleet Ballistic Missile Program, and most recently in the security education and awareness media field.

Osborne has a great interest in aviation and our country's early aviation pioneers. For the past eight years Osborne and Bobbi Trout have been working together on a video-taping project of well-known early aviators. In 1986 Osborne established Osborne Publishers, Inc. to publish two books about her findings.

Adela Riek Scharr



Adela Riek Scharr began her aviation education career in 1935. In 1940 she was the first woman with a commercial license hired to fly passengers. Soon, as the first woman ground instructor in the area, she taught flight courses for colleges and universities, as well as giving private instruction.

On Labor Day in 1942, the Army Air Corps sent a telegram to Scharr asking her to volunteer to fly to Wilmington, Delaware. Several days later she arrived, as the seventh of 26 women who became the Women's Auxiliary Ferrying Squadron (WASF), later to be incorporated as the Women Air Service Pilots (WASP). She was a civilian pilot until its deactivation in December 1944, ferrying liaison and primary trainers, fighters, and bombers. During this time she was the first woman to fly a P-39 Airacobra.

Later, as a member of the Air Force Reserve, she became experienced in a jet trainer (the T-33), helicopters, and the C135 four-engine jet.

Scharr has a bachelor of science degree in education, and a master's degree from University of Missouri, Columbia. She also completed a correspondence course of the Command and Staff School at Maxwell AFB for senior officers.

Nancy Hopkins Tier



Nancy Hopkins Tier started flying in November 1927 at Hoover Field in Arlington, Virginia. She first soloed in April 1928. In 1930 she was entered in the "Women's Dixie Derby", a 2,000-mile air race from Washington to Chicago. She was also the only woman to enter the 5,000-mile Ford Reliability Air Race in 1930. Tier won the New England Air Race in 1971, and has placed often.

Tier joined the Civil Air Patrol in 1942, where she served for 18 years. She was the first woman to receive the rank of Colonel as Wing Commander of Connecticut. She also served eight years on the National Commander Advisory Staff and received the Exceptional Service Award and the Meritorious Award.

Tier has been on the Board of the International Women's Air and Space Museum since its inception. Her other memberships include the OX5 Pioneers; AOPA; Early Bird Associate; EAA; Silver Wings National Aeronautical Association; International Cessna 170 Association; Connecticut Antique Airplane Club, and charter member of the 99s. She has recently been designated a United Flying Octogenarian with over 62 years of continuous flying, 3,200 hours in command.

Bobbi Trout



Evelyn "Bobbi" Trout was born in Greenup, Illinois in 1906, but by 1920 she settled in southern California. From the day Trout saw her first airplane, she knew she would learn to fly. Her first ride was in 1922 in an OX5 powered Jenny.

By age 22 she had earned enough money to take flying lessons, and became the fifth woman in the U.S. to obtain her transport license. She became a demonstration and test pilot for the Golden Eagle Aircraft Company. One of many records Trout has set was the world's record for solo endurance flight for women in 1929, of 12 hours and 11 minutes. She flew in the first Women's Air Derby from Santa Monica to Cleveland, and also set a refueling endurance record in 1929.

Trout made plans to attempt a trans-Pacific flight from Hawaii to the Los Angeles in the summer of 1932, however the flight was cancelled because of the depression and lack of financial backing. Amelia Earhart later accomplished this feat in 1935.

Trout was a captain in the Women's Air Reserve from 1931 to 1941, and a member of the Civil Air Patrol in the first part of WW II. She ended her flying activities in 1984, flying a OX5 Jenny as she celebrated her 55th anniversary of the first woman to fly all night.

Edna Gardner Whyte

Transportation Courtesy of American Airlines



Edna Gardner Whyte has been a pilot for over 60 years. She also developed and owned Aero Valley Airport near Dallas, Texas, after she was 70 years old.

A native of Minnesota, Whyte started flying in 1926. She soloed in 1927 and was given a student license in 1928. As a Navy nurse stationed in Washington, D.C. in 1933, she was also a flight instructor in her free time. The Navy nurse corps also gave her the opportunity to build flying hours in aerobatic contests, air shows and cross country racing.

Upon leaving the Navy she started her own flight school in New Orleans, and had over 10 aircraft. With the outbreak of WW II, the Navy called her to Fort Worth to train pilots for the war.

After four years, she applied for her commission, and served on active duty in the Philippines, before returning home to set up another flight training school for veterans.

Whyte has taught more than 4,500 students and has earned hundreds of awards and honors for air racing and her contributions to the aviation industry.

Jeana Yeager

Appearing Here Courtesy of Midcoast Aviation Transportation Courtesy of Saint Louis Public Library



Jeana Lee Yeager was born in 1952 in Fort Worth, Texas. Most of her early years were spent in Texas, where she developed a love of horses and became an expert rider and trainer.

In 1977, Yeager moved to Santa Rosa, California, where she studied energy, aerospace design, and commercial engineering draftsmanship. She also learned to fly airplanes as a first step towards piloting helicopters. She soon broke and set several new F.A.I. and N.A.A. world records for speed and distance in Vari-Ezes and Long-EZ's.

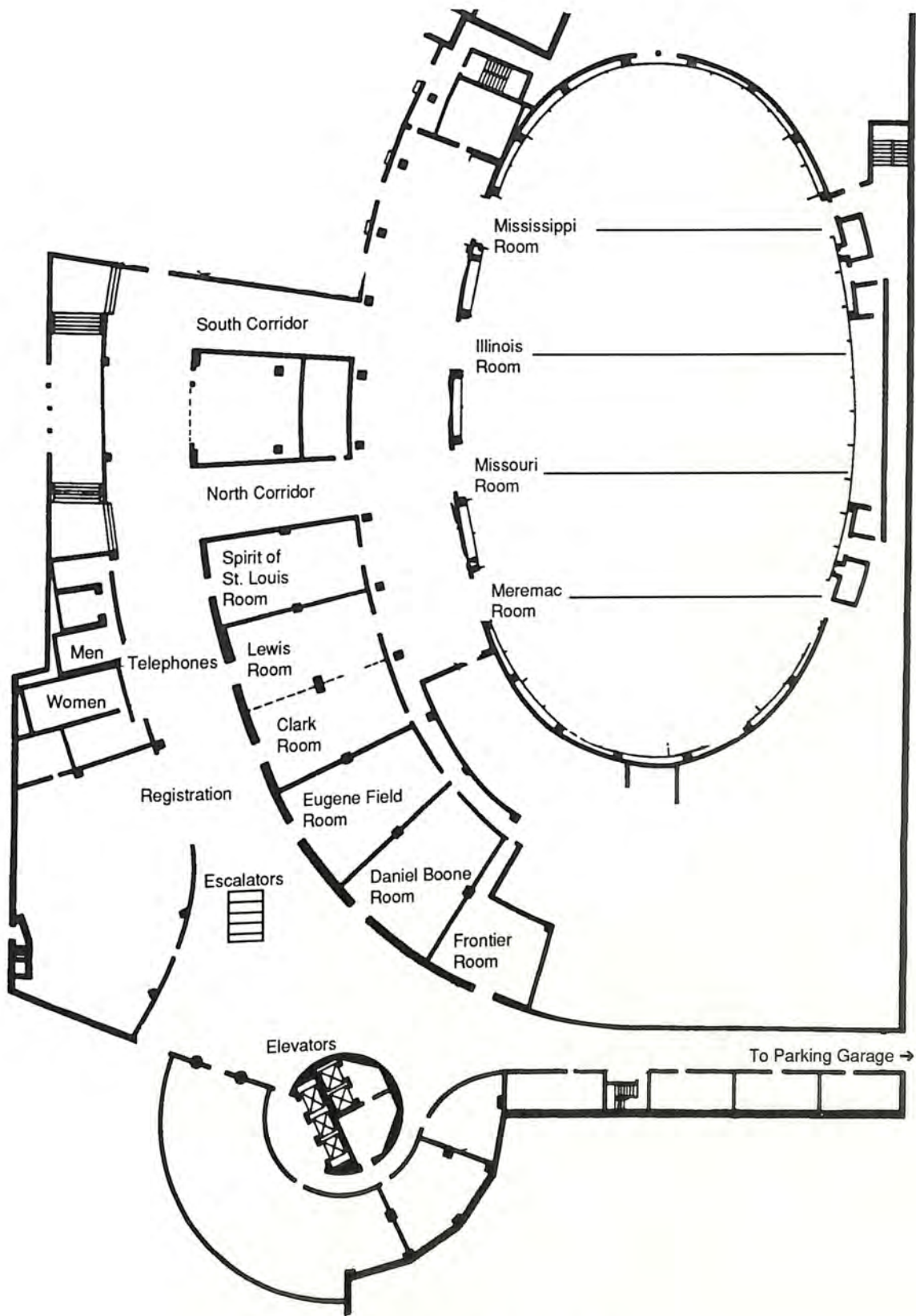
In March of 1981, with partner Dick Rutan, Yeager founded Voyager Aircraft, Inc. devoting herself exclusively to the building, testing, developing, and flying of the Voyager for its first around-the-world, non-stop, non-refueled flight.

On December 14, 1986, Rutan and Yeager began their history-making flight in the Voyager, flying the maximum circumference of the globe, non-stop, non-refueled in nine days, three minutes, and forty-four seconds.

Among Yeager's awards and honors are the Presidential Citizen's Medal of Honor; the 1986 Collier Trophy; the Gold Medal from the Royal Aero Club of the United Kingdom; the Medalle de Ville Paris and the Grande Medallion from the Aero Club of France; and other awards.

Exhibitors

Airline Pilots Association
Aviation Book Company
Federal Aviation Administration
International Women's Air and Space Museum
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McDonnell Douglas Aircraft Corporation
Minnesota Technical College
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First in Aviation Education

One New with Earhart in 1st Powder Puff Derby

By Willys Peck
Special to Extra

They gave a banquet a few weeks ago to commemorate the exploits of some gutsy ladies, including Bobbi Trout, 83, of Santa Clara.

"They" were the people at the Museum of Flying at Santa Monica Airport.

Trout, Amelia Earhart and the other ladies — the slightly musty phraseology is appropriate — were contestants in the first National Women's Air Derby, which was promptly enshrined in aviation lore as the Powder Puff Derby by humorist Will Rogers.

The Aug. 18 banquet was 60 years to the day after the time that Trout and 18 other women took off from Santa Monica, heading for Cleveland and the National Air Races there.

Of the 19, only Trout is still alive. She attended the banquet with Mae Haizlip of Pacific Palisades, the 20th contestant, who took off a day later because her plane was not ready on time.

The race was a press agent's dream in an era when women's exploits were played to the hilt. Most of the headlines and news stories would raise the hackles of today's feminists. "Girl fliers" was frequently used. Trout herself was referred to in Associated Press stories as the "tomboy aviatrix." Headline designations like "cross-country dash for fair sex" were common.

Trout, at 23 a demonstration and test pilot for the R.O. Bone Co., which manufactured Golden Eagle airplanes, flew one of her employer's products. It was a parasol type on which the single wing was mounted a few inches above the fuselage. The plane was powered by a 100-horsepower Kinner radial

engine that pulled it at about 120 mph.

The planes in the 1929 derby were a heterogenous assortment of biplanes and monoplanes, divided into two categories according to horsepower. Trout was in the CW or light plane class; her friend Earhart was in the DW class of heavier planes, with her elegant Lockheed Vega.

Although the 2,200-mile course was laid out to give pilots nightly layovers at prearranged accommodations, there was plenty of tough flying along the route through the Southwest and Midwest.

Trout had her problems: She flipped her plane over, damaging the wing and propeller, while making a forced landing in Arizona after her engine conked out. She damaged an aileron while making another forced landing in Indiana because of an electrical problem.

The combined delays kept her out of contention for a prize, but she finished the course.

The winner in the light plane class, Phoebe Omlie, logged 25 hours, 10 minutes, 36 seconds of racing time. Louise Thaden, winner in the large-plane class, won with a time of 21 hours, 21 minutes, 43 seconds.

Trout recalled that there was plenty of trouble for pilots. The greatest tragedy was the death of

Marvel Crosson, who crashed under mysterious circumstances in Arizona.

There were dark mutterings of tampering with some of the planes, Trout said. There were claims of acid having been poured on rigging wire and sand found in a gas tank. None of the reports was confirmed or, for that matter, fully investigated.

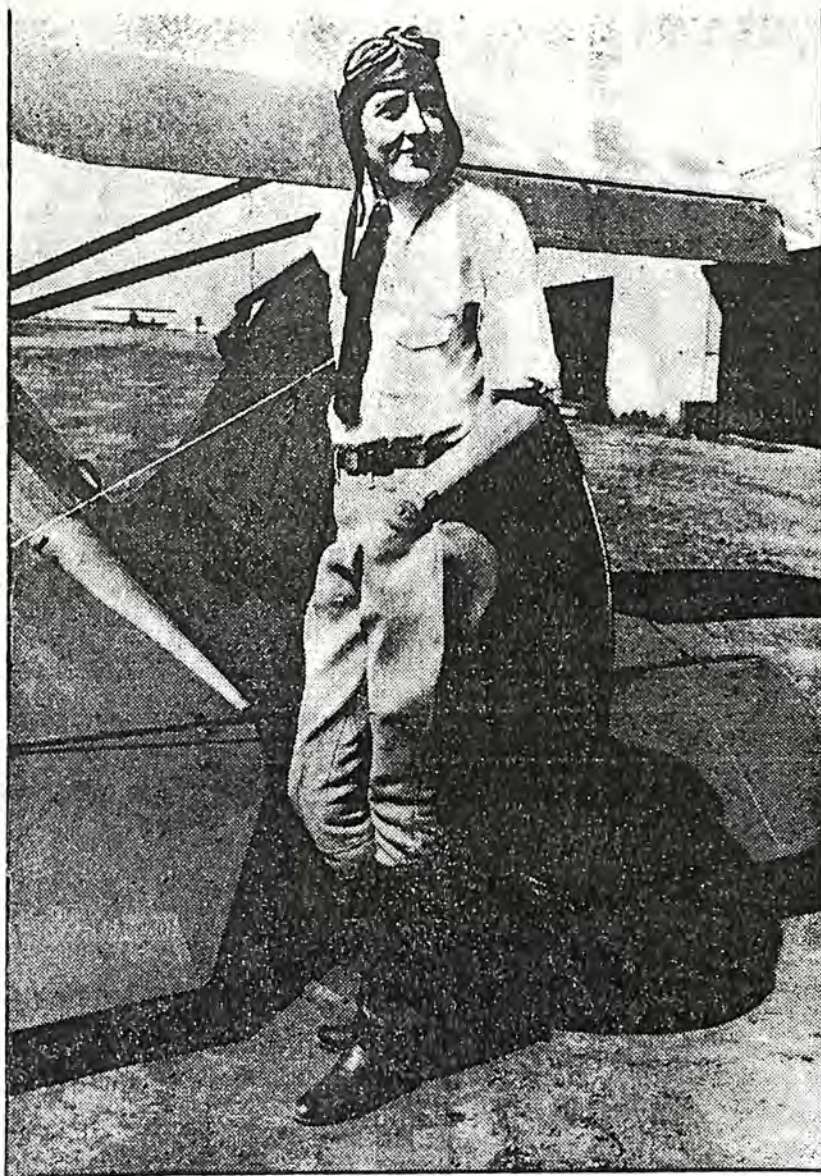
Even the redoubtable Earhart had trouble. In Yuma, Ariz., her wheels hit a hummock on landing, nosing the plane over and bending the propeller.

Despite tragedy, that first Powder Puff Derby was a success, ensuring its continuation over the years.

For Trout, who adds a new dimension to the concept of spry octogenarian, it was just one chapter in a long and colorful career in aviation. It was a career that began when aviation was a man's game, and the few women who ventured into the field had to have an extra measure of determination.

She has set her recollections down in a book, "Just Plane Crazy," published in 1987. She divides her time between Santa Clara and Carlsbad, in San Diego County.

She's not active in flying any more, but her red Porsche is an indication of the venturesome spirit that led her into the air.



Special to Extra

Bobbi Trout in 1929, with her Golden Eagle plane

San Jose Mercury News

Wednesday, September 20, 1989

Page 6 Extra 2c

Lost flier's remains found?

Gannett News Service

A small grave on an uninhabited South Pacific island may contain the remains of famed aviator Amelia Earhart, whose mysterious disappearance 54 years ago has never been solved.

Earhart, navigator Fred Noonan and their twin-propeller Lockheed 10E Electra vanished on July 2, 1937, while on the last leg of a flight around the world.

"We believe Nikumaroro is the place from which they radioed for help for three days before tidal forces washed their plane off the island," said Richard Gillespie of The International Group for Historic Aircraft Recovery.

"It's speculation, but it's certainly a possibility" that the bones found in the grave are Earhart's, he said.

"We believe Earhart and Noonan were marooned on Nikumaroro, awaiting a rescue that never came."

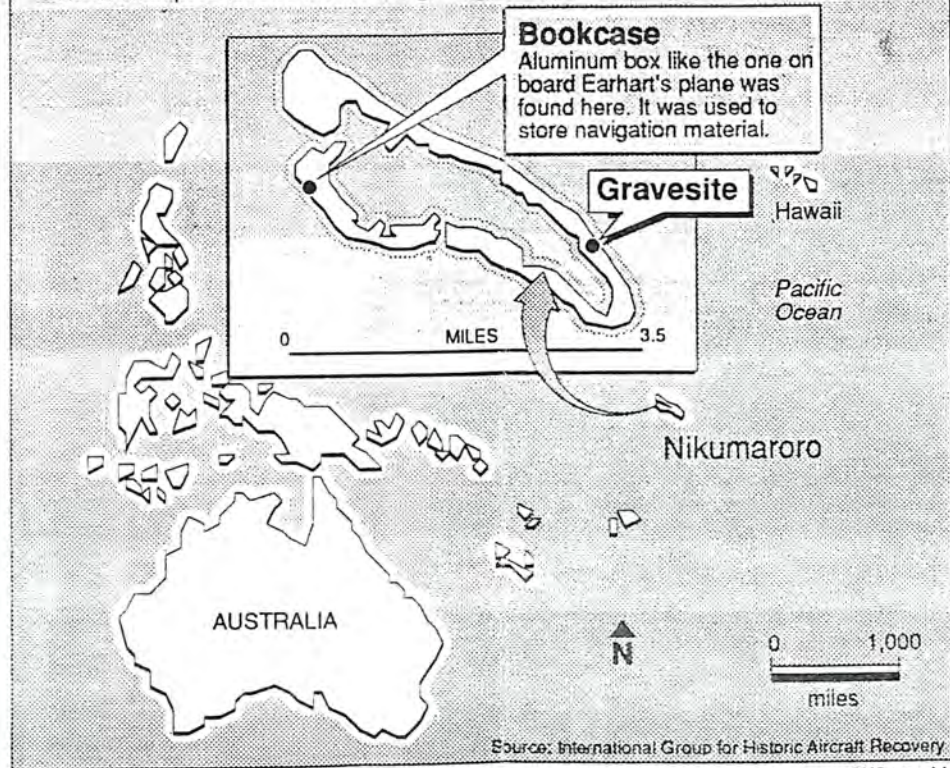
Gillespie plans to lead an expedition to Nikumaroro in December to investigate the grave site, which was discovered — and dismissed as unimportant — during the group's first expedition in 1989.

"At the time, because it wasn't part of an airplane ... it wasn't thought to have any possible connection," he said.

Recently, Gillespie said, his investigators spoke with a man who said he was present in 1938 when the first settlers came to Nikumaroro from the Gilbert Is-

In search of Earhart's grave

The International Group for Historic Aircraft Recovery is expected to announce today it has located a grave on the South Pacific Nikumaroro atoll that may hold the remains of aviator Amelia Earhart. Earhart and Navigator Fred Noonan disappeared in 1937 on an attempted around-the-world flight.



lands, and uncovered human bones as they cleared the jungle for planting.

"It is Gilbertese custom to bury whatever bones might be found, and because

they were the bones of a stranger, they would have buried them on that side of the island, not on the other side, near their village," he said.

Noriega's co-defendant pleads guilty

Associated Press

MIAMI — Manuel Noriega will face drug trafficking charges alone after the remaining co-defendant in his drug and racketeering trial pleaded guilty today.

The plea came just before final pretrial motions were to be heard this morning by U.S. District Judge William Hoever, with jury selection scheduled for Thursday.

Accused drug pilot Daniel Miranda will face a maximum 30-month sentence, will receive a permanent U.S. visa and will have his pilot's license restored under the plea bargain, said his attorney, Michael O'Kane.

Miranda, who already served three months in the federal Metropolitan Correctional Center before being released on bond, may have to serve no more than 30 additional days in prison, his lawyer said. The Panamanian pilot was accused of flying drug profits from Fort Lauderdale to Panama.

Miranda agreed to testify against the ousted Panamanian dictator if called upon. Sentencing was delayed until after the trial.

In another last-minute move before today's hearing, federal prosecutors asked that one of the 11 counts Noriega faces be dropped. The judge agreed, signing an order overnight dropping the charge.

The charge dropped alleged Noriega caused Tony Aizprua, a drug pilot-turned-informant, to travel from Fort Lauderdale to Panama in 1984 in furtherance of the cocaine-trafficking conspiracy.

The charge carries five years in prison, a fraction of the 145 years the former Panamanian dictator faces if convicted on all

Ex-Chile leader calls mass graves 'a big savings'

Tracking down 'Early Birds' — aviation pioneers

By Vernon L. Daigle

Special to The Examiner

SANTA CLARA — Carol Osborne and Bobbi Trout hope they can get to the "Early Birds" before time does. They'll have to hurry, though.

The youngest Early Bird is at least 85.

To be a member of the Early Birds, you have to have flown a plane solo before December 17, 1916, the 13th anniversary of the Wright Brothers' flight. Only 20 people alive today can make that claim and, as they die, a rich history of those early days of aviation dies with them.

As the clouds of World War I gathered, the federal government got into the business of turning out and licensing pilots. Before that, anyone who wanted to fly was pretty much on his or her own.

Osborne and Trout, are trying to record on videotape as much of that history as possible before it's too late. Comparing their efforts to a recent television mini-series Osborne said, "What if people could listen to Christopher Columbus? They wouldn't need that program. And that's what we're trying to do. We want to get the story about early aviation from the people who lived it."

There were 35 Early Birds when Osborne and Trout started their quest four years ago. Fifteen of them have since died. Despite spending every spare minute they had on the project, Osborne and Trout have managed to interview only six of the remaining 20.

Osborne blames the whole business of racing around the country trying to track down these aviation pioneers on Neta Snook Southern, the woman who taught Amelia Earhart to fly.

But she laughs when she says it. "If Amelia had never met Neta, I would never have met Neta myself and none of this would have happened," she said.

It was an interest in Amelia Earhart that led Osborne to Southern's door, and it was through Southern

that she eventually met aviation historian David D. Hatfield.

Osborne recalls that first meeting: "He just had rooms full of pictures of all kinds of aviation pioneers, pilots, you name it."

When Hatfield died, he left his video equipment to Osborne. From that moment on, she has devoted all of her spare time, and a great deal of her own money, in trying to videotape as many aviation pioneers as possible. "This is the best way I know of to honor Dave," she says.

Her goal is to be an aviation historian herself. She estimates she's spent an average of \$10,000 a year on the project. And this, she points out, doesn't include all the free help she gets from Trout, herself an aviation pioneer, having been the first woman to fly all night, in 1929.

Her feat was front-page news and the newspapers dubbed her the "Flying Flapper."

"I help Carol as much as I can, but she pays all the expenses," Trout says of their joint effort.

One of the Early Birds they have taped is a colorful character by the name of P. H. Spencer. On the tape he describes how he designed and built the Spencer Air Car, an aircraft able to land either on water or land.

He also tells about one of his favorite customers, William Randolph Hearst Jr., who bought one of his planes back in 1932. "He was a rather well-dressed, pleasant young fellow," Spencer recalls of Hearst. "He already knew how to fly but I checked him out on his water landings and takeoffs. He was a pretty good pilot too."

The two men struck up a friendship that lasts until this day. "Every summer I fly up to his ranch and we have lunch and talk," Spencer said.

There are a lot of tales wrapped up in Spencer. After all, he's been flying longer than anyone alive, and at 87, he is still designing and building planes.

The two women have branched out to include other aviation pioneers who are not Early Birds but have been

around long enough to add important facts about the days when the community of pilots was still very small.

Some of the people they've interviewed are known only to those close to aviation. Others, like Jimmy Doolittle, are straight from the pages of history.

Osborne said it was through Trout that Doolittle came to be on their list.

"Bobbie knows almost all of these people. The way we got Jimmy Doolittle was, Bobbi just picked up the phone and said, 'Jimmy, we'd like to interview you for history' and Jimmy said, 'Sure, anything I can do to help,'" Osborne said.

The one area that Trout has not been able to help in is the one they need the most: money.

"We have to find a means of getting some money if we're going to get to the rest of the Early Birds on time," said Osborne.

Expenses are high. Most of the people they need to reach can't come to them because of their age and are scattered across the United States. One Early Bird, Sir Thomas Sopwith, of Sopwith Camel fame, lives in England.

For the moment, Osborne and Trout are not concerned with what eventually becomes of the hours and hours of aviation lore they've accumulated. For now, it is safely stored in an anti-magnetic vault.

"What I'd like to see happen in the future is to have a nice PBS program made from the tapes. But, now, the most important thing is getting to as many of the remaining Early Birds as we can. That's what we're concentrating on for the moment," Osborne said.

You'd think that anyone with such a passion for aviation, would be a pilot, but that's not the case. Osborne has only nine hours of flying to her credit. "I couldn't afford the time or the money right now," Osborne says. "Besides, there's plenty of time for that later on. There isn't that much time left to get to the people we're trying to reach."



Carol Osborne with some of the aviation memorabilia she has collected in her project

Martin E. Kinnel

s' — aviation pioneers

By Vernon L. Daigle

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s' — aviation pioneers

By Vernon L. Daigle

Special to The Examiner

SANTA CLARA — Carol Osborne and Bobbi Trout hope they can get to the "Early Birds" before time does. They'll have to hurry, though.

The youngest Early Bird is at least 85.

To be a member of the Early Birds, you have to have flown a plane solo before December 17, 1916, the 13th anniversary of the Wright Brothers' flight. Only 20 people alive today can make that claim and, as they die, a rich history of those early days of aviation dies with them.

As the clouds of World War I gathered, the federal government got into the business of turning out and licensing pilots. Before that, anyone who wanted to fly was pretty much on his or her own.

Osborne and Trout, are trying to record on videotape as much of that history as possible before it's too late. Comparing their efforts to a recent television mini-series Osborne said, "What if people could listen to Christopher Columbus? They wouldn't need that program. And that's what we're trying to do. We want to get the story about early aviation from the people who lived it."

There were 35 Early Birds when Osborne and Trout started their quest four years ago. Fifteen of them have since died. Despite spending every spare minute they had on the project, Osborne and Trout have managed to interview only six of the remaining 20.

Osborne blames the whole business of racing around the country trying to track down these aviation pioneers on Neta Snook Southern, the woman who taught Amelia Earhart to fly.

But she laughs when she says it. "If Amelia had never met Neta, I would never have met Neta myself and none of this would have happened," she said.

It was an interest in Amelia Earhart that led Osborne to Southern's door, and it was through Southern

that she eventually met aviation historian David D. Hatfield.

Osborne recalls that first meeting: "He just had rooms full of pictures of all kinds of aviation pioneers, pilots, you name it."

When Hatfield died, he left his video equipment to Osborne. From that moment on, she has devoted all of her spare time, and a great deal of her own money, in trying to videotape as many aviation pioneers as possible. "This is the best way I know of to honor Dave," she says.

Her goal is to be an aviation historian herself. She estimates she's spent an average of \$10,000 a year on the project. And this, she points out, doesn't include all the free help she gets from Trout, herself an aviation pioneer, having been the first woman to fly all night, in 1929.

Her feat was front-page news and the newspapers dubbed her the "Flying Flapper."

"I help Carol as much as I can, but she pays all the expenses," Trout says of their joint effort.

One of the Early Birds they have taped is a colorful character by the name of P. H. Spencer. On the tape he describes how he designed and built the Spencer Air Car, an aircraft able to land either on water or land.

He also tells about one of his favorite customers, William Randolph Hearst Jr., who bought one of his planes back in 1932. "He was a rather well-dressed, pleasant young fellow," Spencer recalls of Hearst. "He already knew how to fly but I checked him out on his water landings and takeoffs. He was a pretty good pilot too."

The two men struck up a friendship that lasts until this day. "Every summer I fly up to his ranch and we have lunch and talk," Spencer said.

There are a lot of tales wrapped up in Spencer. After all, he's been flying longer than anyone alive, and at 87, he is still designing and building planes.

The two women have branched out to include other aviation pioneers who are not Early Birds but have been

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Tracking down 'Early Birds' — aviation pioneers

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Carol Osborne with some of the aviation memorabilia she has collected in her project

Martin E. Kimek

On September 3, *This World* published the story of an expedition to the South Pacific to find the lost plane of pioneer aviator Amelia Earhart. That expedition, launched by The International Group for Historic Aircraft Recovery (TIGHAR), left the following day. Today we offer a report on the expedition's findings. But first, let us recap the reasons this search was launched.

Popular theories about Earhart's fate have abounded since she and navigator Fred Noonan vanished while trying to fly around the world in 1937. Some believe Earhart was captured and killed by the Japa-

nese, others that she became the infamous World War II propagandist Tokyo Rose. Still others insist that she is alive and living in seclusion in the United States.

As easily as those theories can capture the imagination, none was derived through scientific method or is supported by hard data.

Richard Gillespie, TIGHAR's project director and a former insurance investigator specializing in plane crashes, and his wife, Patricia Thrasher, executive director of the nonprofit organization, had little interest in Earhart's disappearance until

several years ago, when they were contacted by two retired military navigators living in Florida.

Those two navigators, Thomas Gannon and Thomas Willi, had re-interpreted Earhart's last confirmed radio transmission using traditional "line-of-position" navigational techniques and concluded that there were only two spots of land available to Earhart for an emergency landing.

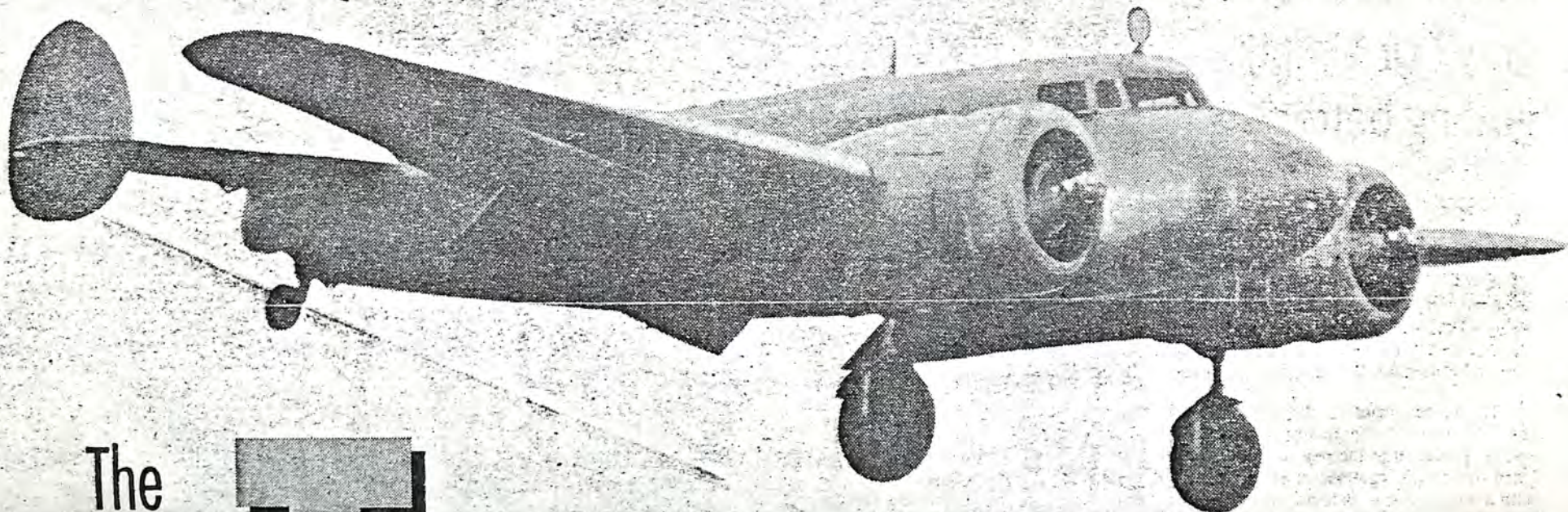
Those two possible landing sites were Gardner Island (now called Nikumaroro) and McKean Island.

Intrigued by the new theory, Gillespie

and Thrasher began a rigorous investigation of the downing of the plane, focusing on radio transmissions, Navy archives and records of human activity on the islands.

Nikumaroro, a foot-shaped atoll in the Phoenix Island chain 2,000 miles southwest of Hawaii, seemed the more likely site for Earhart's Lockheed Model 10E Electra to have put down.

On Labor Day, with a budget of \$250,000, the 16-member expedition set out for those two remote islands. They returned October 17. This is an account of their journey.



The expedition to find Amelia Earhart's plane finds new clues and the promise of more to come

TRACING AMELIA'S

BY LINDA C. PUIG

Before reaching Nikumaroro, expedition members vaguely understood that their three weeks on the utterly remote and uninhabited atoll would be different. They never suspected how different.

They would hack through unforgivingly dense vegetation alive with rats and crabs that had never encountered humans. Birds would hover curiously in front of their faces, and sharks would shoot between their legs or swim abreast of walkers on the beach. Divers scouring the coral reef that rims the island would marvel at the abundance, diversity and innocence of the multi-colored sea life.

Even bodily functions would perform differently. Drinking a quart of water an hour, members would go for days without urinating. They would sweat it out instead in withering temperatures that routinely rose above 120 degrees Fahrenheit.

In the end, the expedition would find no airplane lurking in the bushes or clinging to the reef. Nikumaroro would surrender just so many secrets. But artifacts and other important discoveries would bolster and re-

Linda C. Puig is a free-lance writer in San Marcos, San Diego County. Two new biographies of Amelia Earhart are reviewed in today's Review section.

fine TIGHAR's theory that Earhart and Noonan crash-landed on the island 52 years ago and probably died there.

"Having assembled a lot of puzzle pieces and having been to Nikumaroro, we've seen a board where all those pieces fit very nicely," said Gillespie. "We're more convinced than ever that we're on the right track."

Once in Fiji, expedition team members immediately set off on Earhart's trail, hunting down British colonial records of the short-lived settlement on Nikumaroro.

TIGHAR was particularly interested in any information on the reported discovery by early colonists of a female skeleton next to American shoes and a cognac bottle. There were no native women on the island at the time, much less native women wearing American shoes.

A tale of the discovery had first surfaced in the San Diego Tribune in 1960, when a retired Coast Guard carpenter named Floyd Kilts related a tale he had heard 14 years earlier from a native storyteller while dismantling a Coast Guard outpost on Nikumaroro. As the story went, the island's Irish magistrate immediately thought of Earhart, so he put the bones in a gunnysack and embarked for Fiji to get positive identification. Only 24 hours out of Fiji, the magistrate fell ill and died. Superstitious about the bones, the natives threw the gunnysack overboard.

It was the kind of story that fuels the imagination. Already, TIGHAR had been able to verify enough of the story's key elements to conclude that it wasn't a complete fabrication. Most notably, the group learned that a young Irish magistrate named Gerald Gallagher had overseen the settlement of the island in 1938, a year after Earhart's disappearance.

Before leaving Fiji, the ghost of Gallagher rose before them. At a reception for TIGHAR at the home of the U.S. chargé d'affaires in Fiji, Gillespie chanced to meet a retired Australian sailor now in his 80s whose craggy, weatherbeaten features, bowed legs and Popeye voice struck Gillespie as "right from central casting." Stan Brown was his name, and he had known Gallagher.

To a captivated Gillespie, Brown described Gallagher's last voyage to the island he had built into a colonial showpiece. On a supply run in 1941 from Fiji to Nikumaroro, Gallagher developed appendicitis and later, peritonitis. An operation on the ship was out of the question. Finally ashore, the island doctor operated as Brown, then a young officer on the supply ship, held a lantern over the stricken magistrate. The operation came too late. Gallagher died and was buried on the island.

Suddenly Gallagher had become more than just a character in a South Pacific yarn. Had Gallagher really found a woman's skeleton on the beach? Had a pair of American

Members of the expedition land team comb the shore of Nikumaroro for evidence Earhart and Noonan may have landed there

BY JESSICA KRAKOW/SPECIAL TO THE CHRONICLE



FOOTSTEPS

shoes and a cognac bottle rested beside her? TIGHAR already knew that the magistrate was a meticulous record keeper. Surely he would have recorded the discovery of a woman's skeleton in his papers.

Searching through the papers, however, would have to wait. TIGHAR learned the records the expedition sought had been moved to London several years earlier. The British Foreign and Commonwealth Office helped Gillespie track them down, while he and Thrasher made plans to review them in January.

Buoyed by the chance encounter with Brown, the expedition boarded the ship *Pacific Nomad* for the week-long, 1,000-mile voyage to Nikumaroro. For the 16 members of the expedition — including a San Francisco biochemist, a registered nurse from Louisiana, a Minnesota dairy farmer, a graduate student in history from North Carolina, a Washington, D.C., archeologist, a California businessman, a physician and a commercial property developer from Texas, a retired engineer *cum* amateur archeological diver from Florida, and a Colorado communications expert — it was a time to get to know one another.

The ship stopped only once. After 2½ days at sea, the crew reprovisioned in American Samoa (Pago Pago). From there to Nikumaroro, nothing but gently rocking waters and indescribably blue skies passed before their eyes.

"We really left civilization behind," said Gillespie.

When they finally spied Nikumaroro, the mood of the team was exuberant but the feeling eerily *déjà vu*. "It was a little bit like being someplace we'd been before because we had studied it so much," Gillespie said.

The foot-shaped island encircles a 3½-mile-long lagoon. An extremely shallow coral reef extends as far as 600 feet from the island shore, then plunges into a blue-black abyss 2,000 to 12,000 feet deep. Later, the reef and the abyss would provide an intriguing explanation for what might have happened to Earhart in 1937. But as the *Pacific Nomad* approached the atoll, they only frustrated the ship's attempt to anchor.

Ironically, the only spot possible was onto the S.S. *Norwich City*, an old British freighter that had been shipwrecked on the reef in 1929, killing 11 men. Even the freighter gave the expedition team members hope that they were on Earhart's trail. One of the post-crash radio transmissions believed to originate from Earhart's lost plane referred to a "ship on reef south of equator," which is precisely the location of the shipwreck off Nikumaroro — four degrees south of the equator.

"Everybody always thought Earhart was talking about her airplane [as the ship]," Gillespie said. "Maybe she wasn't; maybe she was talking about the island's most prom-

See Page 10



AMELIA

Continued From Page 9

inent feature."

As much as the expedition team had studied Nikumaroro, nothing could have prepared them for the astonishing abundance of crabs and rats they found when they stepped ashore. Spider webs glistened between each and every strand of vegetation, weaving a cloak over the island's secrets. Curious birds hovered at face level and escorted team members ev-

erywhere. In the reef-flat tide pools, aggressive moray eels even chased workers.

"It was a bit disorienting," Gillespie said. "All the rules you were used to don't apply there."

Soon after the team's arrival, the ship's captain was walking in the Buka Forest, a still, spooky area where buka trees grow tall and shady. As he came upon some graves, outlined with rocks in the Micronesian tradition, a lone common white fairy tern flew up to him and fluttered for several moments in his face. The birds, known in the South Pacific as *kiakias*, are delicate and fragile-

looking with virginal white plumage and large black eyes that seem to beg to communicate.

The bird's action unnerved the Fijian captain, especially since the island's reigning goddess, Nei Manganibuka, was said to be a white woman. He remembered then that he and the crew had skipped the customary Fijian ritual requesting permission from an island's deity to come ashore, so he ordered a ceremony for the following day.

Expedition members and crew sat in a circle on the beach, listening to the Fijian incantations and invocations to Manganibuka. The dive team sported formal *sulu* wrap-around skirts they had purchased in Fiji; others wore a less formal version wrapped around jeans. To conclude the ceremony, everyone sipped *yaqona*, a mild narcotic drink made from the ground root of a pepper plant, from coconut shells. "It looks and tastes like dishwater that someone's washed his dirty socks in," Gillespie said.

Still in a ceremonial mood, the group then took part in another ritual from the Republic of Kiribati, the island nation that has governed Nikumaroro since it formed in 1979. They walked single file to a certain point on the beach and knelt, pressing their palms into the sand to symbolize the request for permission to grace the island. They then pressed the sand to their cheeks and left it there for the wind to brush away.

The ceremonies might have pacified the nervous Fijians, but they did little to help the "jungle rats" (as the land team called itself) with the daunting physical challenge of hacking through the nearly impenetrable *Scaevola* bushes. Aerial photographs of the island had not conveyed the reach of the uncivilized plant.

Scaevola grows 10 to 12 feet high in tight thickets along the beach. Branch tips curl like arthritic fingers that claw at those caught walking the wrong direction. Dead *Scaevola* is even more hellish. When the dense shrubs die, they don't rot away but transform into a brittle, woody tangle that repels machete blows. The only major accident of the trip occurred when one worker's machete bounced back and sliced his knee.

"It's hard to describe [*Scaevola*] without lapsing into profanity," said Jessica Krakow, a 29-year-old biochemist with the University of California at San Francisco. "It was the sworn enemy of the land team."

Making the search of the island even more difficult was the relentless heat. Wallowing away at the *Scaevola* thickets or waving metal detectors along the unshaded beach, the team members found their clothes soaked through in 10 minutes. To compensate for the loss of fluids, they drank a quart of water every hour. The water exited the body as sweat, not urine.

"The only thermometer I had only went to 120 [degrees], and that pegged in two minutes," Gillespie said.

Despite the hardships, expedition members grew to love the island, especially the ruins of the village that Gallagher had established as the administrative center for the entire Phoenix Islands. In Gallagher's honor, the villagers named it Karaka — Gallagher's name in their native tongue.

It was evident even from the eerie rubble and ruins that Gallagher had tried to build a colonial town to rival the nattiest British posts in India. Roads were paved with crushed coral; flat coral pieces served as curbs. A concrete bath house, a radio shack and Gallagher's house were still standing. A flagpole lay in the public courtyard

A FINAL DAY ON MCKEAN ISLAND

Had come all this way — riding the wings of a theory that could solve one of America's favorite mysteries — just to die like this.

That's what TIGHAR project director Richard Gillespie thought as he stood knee-deep and sinking, as in quicksand, in a foul-smelling guano pit on McKean Island.

"I broke my own rule and was out there by myself," he said. "I thought, 'This is going to be an unpleasant way to go — bird dung.'"

Fortunately, Gillespie's yells brought other team members running, and he was pulled out of the guano.

McKean Island was the last stop on TIGHAR's six-week expedition. Good thing, too. The single day there was the most hazardous and bizarre of the entire journey for both land and dive teams.

Just getting onto the island was perilous. The surf broke heavily over the flat coral reef fringing the island. The land team had to wade through that surf to reach the shore, and the dinghy returning them to the *Pacific Nomad* had to break through angry swells.

"If there was ever a time I thought we might lose someone, it was then," Gillespie said.

Divers who thought sharks were numerous on Nikumaroro found them cramming McKean's waters like fans at a Super Bowl. "We'd count them up on the [underwater] videotape," dive team leader Joe Lat-

vis said. "You'd see how many sharks you could get in one frame, and you'd get six or seven sharks. Then you'd say, wait a minute, this is only a 45-degree angle, and you'd look off to your left and see six or seven more, and it was that way all around you."

One explanation for the sharks became apparent after the team landed on the tiny dot of land measuring about three-quarters of a mile in diameter. The island supports a massive bird population.

"It was satanic, almost," said Veryl Fenlason, a dairy farmer from Minnesota who served as mechanic for the land team's metal detectors. "The birds hovered over you and just screeched at the top of their lungs." Baby chicks splashing and playing in the water off the island fed the sharks like never-ending hors d'oeuvres.

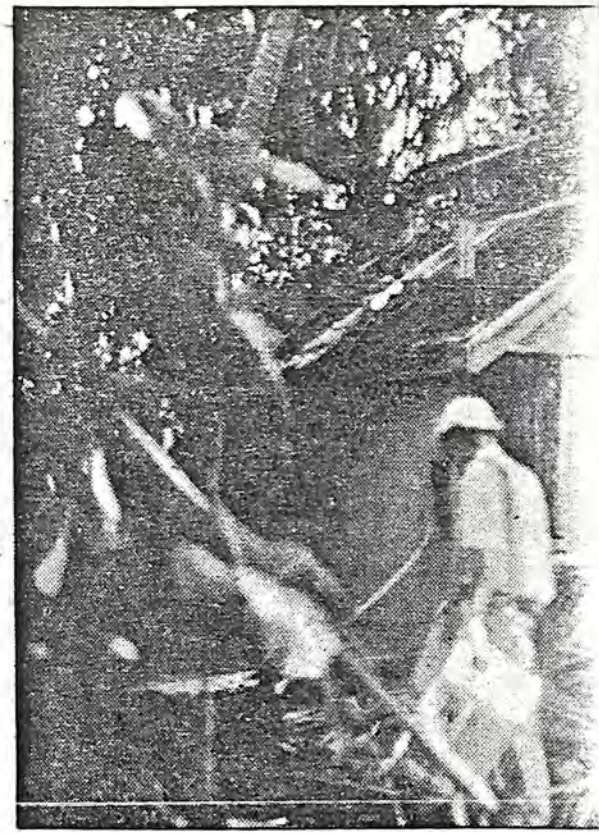
That aviator Amelia Earhart and her navigator Fred Noonan landed on McKean Island seemed only a remote possibility. What is not slathered with guano is sparsely covered with grass. Visibility for Navy search pilots who flew over the island a week after Earhart's disappearance would have been high. Still, McKean couldn't be eliminated as a possible crash site until explored for aircraft wreckage.

The group found none. But the guano pit that nearly swallowed Gillespie did register large metal pieces at depths of nearly 18 feet. TIGHAR is inclined to believe that those are probably relics from 19th century guano extraction operations.

"My money's on Nikumaroro," Gillespie said. — L. P.



Remote McKean Island, swarming with millions of birds



A kitchen shed and bathtub bunker are all that remain of the house built by island magistrate Gerald Gallagher

outside his home, and a four-foot sarcophagus resembling a concrete pup tent still graced Gallagher's grave. Most of the residences, supported by rock foundations but made of natural materials, had long since disintegrated. The 8,000 coconut trees that settlers neatly planted 51 years ago had nearly taken over.

Despite Gallagher's best efforts, the place never really caught on. By 1941, the year Gallagher died, there were fewer than 80 inhabitants, while neighboring islands boasted hundreds. In 1955, Great Britain began transferring the island's residents to the Solomon Islands. Nikumaroro was completely abandoned by 1963. Part of the problem was the shortage of water. Ironically, the expedition found a still-operable cistern containing 3,000 gallons of water.

"It was kind of sad," Krakow said. "People put a lot of effort and care into their village, and they just had to leave. Nothing ever seems to work out right on Nikumaroro."

In one of the old village's administrative buildings, searchers discovered an unopened safe. But Gillespie refused to open it. He argued that the island had been abandoned in an orderly fashion, so there was no reason to believe that anything of value had been left behind. "I said, 'No, we're not going to open the safe,'" said Gillespie. "This is not Gerald's." Besides, the i-Kiribati government, which administers the island, would allow the team to remove only items possibly related to Earhart or her plane.

To search the whole island, members of the land team had to wade across portions of the lagoon in chest-high water infested with black-tip reef sharks.

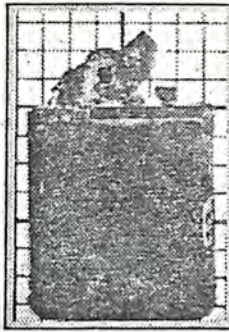
"We had heard that there were more sharks per gallon of water here than in any other part of the South Pacific," Gillespie said. "We found it was true."

The sharks looked like curious, ugly dogs and weren't known to be hazardous to humans. But crossing the lagoon took some getting used to. Each person had a particular area to watch — right, left, forward, rear.



BY JESSICA KRAKOW/SPECIAL TO THE CHRONICLE

Was it Noonan's lighter? 'Well, it didn't say "to Fred from his buddies at Pan Am,"' Gillespie said. 'We're making no claims about it other than it's an American lighter found in the particular area where we were searching for just that type of thing.'



BY MARY DAWITT/SPECIAL TO THE CHRONICLE

TIGHAR project director Richard Gillespie inspects an artifact found in the jungle

"OK, I got a fin about 20 feet out, but he's circling and doesn't seem to be coming in," was a typical report, said Gillespie. Krakow added: "You'd be amazed how good your peripheral vision gets when you're wading around with sharks."

Every once in a while, sharks zoomed in for a closer look, veering off just feet away or even zipping between legs. "The first couple of times, your heart stops," Gillespie said. "But when you find out they're not going to take off with your ankle, you begin to get used to it."

The dive squad, which circled the entire reef scouting for signs of Earhart's plane, had even more remarkable and unnerving encounters with pelagic white-tip sharks, one of the most dangerous species known. These sharks weren't new to the divers, but they had never encountered them in such numbers. Their experience hadn't told them what sort of mob mentality might grip a pack of them.

The four TIGHAR members and the ship's dive master took all kinds of precautions. They rolled into the water simultaneously and stuck close together. "We tried to play their game of keeping in a rat pack," said Joe Latvis, the dive-team leader. They worked out a system in which a Zodiac inflatable boat piloted by a Fijian crew member met each diver as he surfaced, for leaving a diver dangling from the surface increases the odds that a shark will mistake him for food.

"We came to trust these Fijians implicitly," said Latvis, a 41-year-old retired engineer from Dade City, Florida. "The Zodiac was always right there."

Once, however, the rubber boat's motor failed just as Latvis surfaced hundreds of yards away with no remaining air. In moments, Latvis saw the white-tips circling him in decreasing diameter. The sharks began to exhibit the characteristic signs of aggression: sharp and agitated right-angle turns, hunched backs and downward-facing pectoral fins. But before disaster could strike, the boat's motor restarted and picked Latvis up.

"We all had a good laugh about it after that, but at the time it didn't seem so funny," Latvis said.

One day, a diver came upon a lightly encrusted battery off the island's western end. Nearby were pieces of tubing. It was the first find for divers after days of frustrated search. "They were more than a little bit excited," Gillespie said.

The very next day, however, the land team found similar batteries strewn about the island's radio station, lessening the likelihood that the submerged battery was related to Earhart's plane.

The longer the expedition team remained on the island, the more a particular scenario began to suggest itself. The focus of that scenario was the island's southwest beach, which seemed to match descriptions of the area where the female bones reportedly were found. One of the radio distress calls received on Earhart's frequency after her disappearance also supports that location. That transmission said: "On coral southwest of unknown island."

"We figured if Earhart and Noonan had died on that beach, and their bones were

found there, some item or piece of gear would have remained there," Gillespie said.

It wasn't long before his metal detector discovered a Ronson cigaret lighter. The brass lighter was a "Whirlwind," a model made before World War II and not during the war. The company resumed manufacturing the model, sold in America, for a brief period after the war, and then discontinued production. Noonan was a smoker; Earhart was not.

Was it Noonan's?

"Well, it didn't say 'To Fred from his buddies at Pan Am [where Noonan had worked]," Gillespie said. "We're making no claims about it other than it's an American lighter found in the particular area where we were searching for just that type of thing."

Conceivably the lighter could have belonged to one of the 25 U.S. Coast Guard personnel stationed at the eastern tip of Nikumaroro for three years during World War II. The commanding officer has told TIGHAR that his men rarely made it to the area where the lighter was found.

Whether or not the lighter belonged to Noonan, Gillespie is convinced all the evidence supports TIGHAR's revised theory about the fate of Earhart and Noonan.

According to fuel consumption estimates and line-of-position navigation techniques (a term that refers to a line drawn through opposing points on a compass), Earhart and Noonan would have passed over the island close to 10 a.m. on July 2. Tidal hindcasting indicates that would have been at low tide, a period during which the hard, craggy coral reef dries. Earhart would have seen a broad, flat expanse on which to try to land the plane.

The forced landing would have ruptured tires or disabled the plane in some way. Beginning that night and for the next three days, more than 24 radio transmissions were received on the frequency Earhart had switched to in her last confirmed message. The first of those, reportedly received at 10:30 a.m. by a British administrator on the island of Nauru, was a woman's voice saying, "Land in sight." Some radio contacts included broken female voice transmissions that operators who had previously worked with Earhart recognized as her voice, while others transmitted just a carrier wave or inexpertly keyed Morse code. Neither Earhart nor Noonan was adept at the coding.

Stranded on Nikumaroro reef, Earhart's plane would have been partially afloat in three to four feet of water during high tide. According to Lockheed engineers, wet batteries would have made operation of Earhart's radio impossible. They also said that to recharge the batteries, the aircraft had to be on land and able to operate at least one engine.

Low tide on Nikumaroro would have offered the perfect opportunity, Gillespie postulated. So he compared the hours of radio activity to tidal charts.

All but one transmission came during low tide.

The one anomalous transmission could result from the fact that the nearest hindcasting tidal data came from Canton Island, some 350 miles away. If tidal activity on Nikumaroro differed by as little as an hour, every single transmission would have occurred during low tide.

With the correlation of radio transmis-

sions to the tides, broken messages previously thought to be unusable began to make sense. One said: "Don't hold — with us — much longer — above water — shut off." Other words were "motor sinking" and "water-logged."

In less than a week, the tidal cycle would have pulled the plane off the edge of the steep reef, where the ocean floor is at least 2,000 feet deep. That was 10 times deeper than TIGHAR divers or equipment could hope to go. This could explain why, when Navy search planes flew over the island a week after Earhart vanished, they spotted no plane wreckage.

No fresh water existed on the inhospitable island in 1937. TIGHAR workers knew from their own experience that a week on the island would be the limit of human endurance without water. That could account for why, soon after the plane vanished, search pilot Lieutenant John Lambrecht described in his official report that buzzing the island failed to "elicit an answering wave" after he had seen "clear signs of recent human habitation."

"Trying to survive on that beach in that heat on an island with no fresh water — they're not going to be in any shape to respond to a search plane flying overhead a week later, if they were alive at all," Gillespie said.

In the end, however, TIGHAR's theory is still just that.

"The expedition found no instant, easy answer to the Earhart puzzle," Gillespie said. "What it did find was a place where the pieces of that puzzle fit together to make a clear and rational picture. There is still a great deal of work to be done to find out whether or not the picture is an accurate one."

The *Scaevola* made a thorough examination of the entire island impossible. "Six or eight of us armed with machetes didn't really make a dent in the *Scaevola*," Krakow said.

But TIGHAR did find 19 intriguing pieces of aluminum in the debris of the old village. Subsequent analysis will determine whether they are aircraft parts. One large part had a serial number. When the expedition members returned, they learned it was part of a navigator's bookcase from the *PBY Catalina*, an American flying boat used to resupply the Coast Guard during World War II.

"I'm almost relieved that it wasn't from Earhart's plane," said Gillespie, for it would conflict with his theory that the plane had been lodged on the reef until it was carried off by the sea.

For Gillespie and Thrasher, the next step is to travel to London to examine Gallagher's personal records. All other work on the search for Earhart's lost plane is on hold for now, waiting to learn if the archival work in London pans out. Gillespie and Thrasher believe they will find the reference to female bones discovered on the southwest beach. Such a mention, depending on its level of detail, could conclude the search or prompt another expedition to the island.

"If Gallagher wrote up the discovery of those bones and where on the island they were buried, and if that grave is still in existence, it will be extraordinarily important," Gillespie said.

Krakow would return to the island in a heartbeat. "It was magical," she said. "It was one of the moments of my life I'll always remember with wonder. This is such a beautiful planet."

maybe you have in your head or in notes (the ha)

TIGHAR TRACKS

A PUBLICATION OF THE INTERNATIONAL GROUP FOR HISTORIC AIRCRAFT RECOVERY



WINDS ALOFT

The breezes that have been building for the last few years have become winds of change blowing through the aviation historic preservation community. For some, the freshening gale is generating new lift, while others are bracing themselves for severe turbulence.

Smithsonian *Air & Space Magazine*, for example, has set a journalistic altitude record with a courageous article in the April/May issue entitled "The Battle Over Warbirds." Writer Stephan Wilkinson (TIGHAR #0180) has examined the appalling attrition of irreplaceable aircraft through flying accidents and come up with some revealing observations about the whole issue of airworthy restorations.

On the wind-blown shores of England, The Royal Air Force Museum at Hendon has invited TIGHAR to conduct a two day seminar at the museum on Principles of Aviation Historic Preservation. To be held September 1 & 2, 1990, at the height of the Battle of Britain 50th Anniversary commemoration and just before the Farnborough Airshow, this first-of-its-kind public seminar on the ethical, methodological, and practical aspects of saving rare aircraft will be a milestone in the field. A special airfare and accommodations package will be available for TIGHAR members in the U.S. who wish to attend. Watch for details in the next TIGHAR Tracks.

At the Owl's Head Transportation Museum in Maine, the new winds have blown in new policies about the flying of original aircraft as well as precautions in the flying of one-of-a-kind replicas. The recent acquisition of an immaculate and airworthy 1913 Etrich-Taube replica marks this outstanding museum's redefinition of its theme as a repository for functioning examples of pioneering 20th century transportation technology.

At the Experimental Aircraft Association, headquartered in Oshkosh, Wisconsin, the winds of change are buffeting the Board of Directors who have ordered an independent audit of the entire Experimental Aircraft Association and Foundation by the accounting firm of Ernst & Young, amid allegations that the museum's and foundation's facilities, funds, and airplanes have been used in unethical and illegal ways to personally enrich individuals at the organization's top. Whatever the outcome of the investigation, it is hoped that some fresh air will breath new life into one of general aviation's greatest associations.

What the rest of 1990 will bring remains to be seen, but it's certainly off to a prodigious start. This fresh wind in the wires of aviation historic preservation is a tailwind that can take the fledgling science to new heights. TIGHAR and its members stand ready to help it fly.



XVIII DEPARTS

As this TIGHAR Tracks goes to press Project Midnight Ghost Expedition XVIII is ready to depart for eastern Maine to resume the search for L'Oiseau Blanc, the White Bird of vanished French aviators Charles Nungesser and Francois Coli. The snows of the sixty-third winter since their disappearance have left the wooded hills of Washington County and, from April 16 to May 16 TIGHAR search teams will comb the hillside now suspected of holding the long sought crash site. Eighteen TIGHAR members have registered to participate in the expedition, and will be coming from places as diverse as California, Connecticut, and Kansas.

In Paris on April 3, 1990 a press conference was held at the Aéroclub de France at which Roland Nungesser, nephew of Charles Nungesser, prominent French political figure, and Secretary of the Comité pour le Souvenir Nungesser et Coli (Committee for the Memory of Nungesser and Coli) encouraged French support of TIGHAR's efforts. Jean Taquet, Director of TIGHAR/Europe, received the compliments and best wishes of five generals, two astronauts and a bevy of government dignitaries as well as media representatives. It is hoped that this attention will result in financial aid for the project.

On May 4-6 Monsieur Nungesser and the Committee's President, Fernand Andreani (Legion of Honor, retired Air France Concorde captain, and holder of the Paris to New York commercial speed record) will visit Expedition XVIII in Maine. 🐾

THE FIFTH EDITION

The Fifth Edition of the Earhart Project book has taken longer to write than was originally anticipated due to the wealth of new information and evidence which has emerged as a result of TIGHAR's 1989 Survey Expedition to the central Pacific. Final production is now in progress.

The new work, while technically an updating of the Fourth Edition published August 20, 1989, is in fact approximately 85% new material, including:

- The truth concerning Earhart's aircraft, her flight, and the area in which she vanished.
- The documented events of the day Amelia Earhart disappeared, including her misquoted last remarks.
- Documented evidence that Earhart was on Nikumaroro and in rudimentary two-way radio communication with the searchers for three nights following her disappearance.
- The TIGHAR Survey Expedition to the Phoenix Islands with the results of post-expedition research and the analysis of artifacts recovered on Nikumaroro.

The Earhart Project Fifth Edition is available for a contribution to the project of \$100 or more. TIGHAR members who have already supported the project and obtained an earlier edition can get the Fifth Edition for a contribution of \$25 or more. 🐾

DEAR TIGHAR

Our recent round of voting to choose an airplane for the TIGHAR decal resulted in some interesting points of view from our members, and some great artwork from TIGHAR member and artist Michael Rodericks. As you will recall from the last issue of TIGHAR Tracks, we are producing two decals: one with l'Oiseau Blanc, because it was the clear winner in the voting; and one with the Flying Tigers P-40, because it was a strong runner-up. Here are some of the votes:

PBY Catalina

1. It was a workhorse used throughout the world by both the U.S. and Commonwealth countries. You could land *most anywhere and people were glad to see you (come and go).*
2. This symbol should represent the goals of TIGHAR ... A PBY had a crew ergo teamwork vice the undesirable attributes of a fighter pilot (lone glory); multi-purpose (combat, cargo, passengers) vice single purpose; endurance — they stayed up forever (well almost) you could cook and sleep on them unlike the P's and F's — up for a short time, shoot your wad and must get back 'cause you're running out of energy ...

Wayne Padgett
Daly City, CA

Sikorsky S-42 Type Flying Boat

The Sirkorsky S-42 type flying boat flew the Pacific, Bermuda, and Atlantic survey flights for Pan Am in the 1930's. She set a number of international air records in 1934 and blazed the overseas air trails for both Pan Am and other U.S. airlines.

Jonathan L. Johnson
Gronon, CT

The Wright Flyer

After all, it is the granddaddy of all this airplane stuff.
Vance Blaettler
San Diego, CA

The Flying Wing

Recently went to Castle AFB Museum and saw the original wing photographs. Seems appropriate for TIGHAR, since the B-2 is a 50 year old throwback?
Bob Kiel
San Carlos, CA

There were those who voted for, not an airplane, but a symbol:

A barn door, half open, with a generic engine/cowling/prop showing through it.

You're right to question the appropriateness of a gaudy "warbird" but what specific aircraft is more (or less) worthy? ... what we're involved with is "the airplane sleeping in the weeds/swamp/bushes/barn," not flying. It's the mystery beyond the barn door that appeals, not the airplane in full flight.
Stephan Wilkinson
Cornwall-on-Hudson, NY

We were surprised not to have more votes for the Spirit of St. Louis than we did:

Spirit of St. Louis or other late 20's or early 30's type aircraft

1. Immediately recognizable as an aircraft.
2. The "Spirit" is still internationally recognizable.
3. Aircraft from this period are old enough that they make

SHOW YOUR COLORS

With the weather warming up (for everyone except TIGHAR's members in Australia and New Zealand) it's time to show your support with a colorful TIGHAR Project patch and T-shirt.

In honor of the Fifth Anniversary of Project Midnight Ghost, there's a new logo now available. Against the red, white and blue of the French cockade, l'Oiseau Blanc is shown in head-on view above the green Round Lake Hills of Maine.



As preparations get underway for TIGHAR's return to Nikumaroro, The Earhart Project logo, with its black silhouette of the Electra set against the golden tropical sun above the blue Pacific, captures the spirit of the Earhart mystery.

Patches are 100% embroidered, four inches in diameter. T-shirts are white, 100% cotton.



Project Midnight Ghost Shirt — \$20.00

Project Midnight Ghost Patch — \$10.00

The Earhart Project Shirt — \$20.00

The Earhart Project Patch — \$10.00

PMG Patch and T-Shirt Set — \$25.00

Earhart Project Patch and Shirt Set — \$25.00

Special Value!! Order BOTH SETS and pay only \$45.00!!

Name _____

Address _____

Telephone _____

Amount enclosed _____

T-Shirt Size (**VERY IMPORTANT!!**) _____

S M L XL

1990
Gathering of TIGHARs
June 6,7,8
Dayton, Ohio

Last year's Gathering at the United States Air Force Museum was such a success that we're returning to Dayton with an expanded program of TIGHAR events you won't want to miss.

TIGHAR Night at the U.S. Air Force Museum

Once more the museum's senior curator (and long time TIGHAR) Jack Hilliard will preside for a behind-the-scenes tour of the restoration shops and a TIGHARs-only evening with one of the world's greatest aircraft collections.



Project Seminars

This year, by popular demand, we're allocating much more time to updates and open discussion about the progress of TIGHAR's many projects. There'll be slides, videotape, artifacts, maps with little arrows and labels, and, inevitably, expedition veterans debating about whether it's worse to freeze in Maine or fry on Nikumaroro. We'll also be doing some serious planning for upcoming expeditions, including initial applicant interviews for next year's Earhart Project return to the Phoenix Islands.

Register Now

We've changed our venue to the Stouffer Center Plaza Hotel. A special flat rate of \$72 per night (1,2, or 3 people) for the Club Floor is available, but you've got to call the hotel at (513) 224-0800 (NOT the toll-free Stouffer's national reservations number) and tell them you're with the TIGHAR Gathering to get it. Send your registration to TIGHAR and make your hotel reservations early. Space is not unlimited and we really need to know how many TIGHARs to plan for. Any rooms not reserved in our block will be released on May 18. You must make your reservation prior to that date to get the special rate.

If you would be interested in staying on in Dayton for the Introductory Course in Aviation Archeology please indicate that on your registration slip below. If enough members are interested we'll hold the course Saturday and Sunday, June 9 & 10. Tuition for the course is \$249.00.

YES!! I will be at the 1990 Gathering of TIGHARs ! I enclose my \$50 registration fee.

Name _____

Address _____



I would like to take the Introductory Course in Aviation Archeology in Dayton on June 9 and 10. Please send me more information.

the point that we see our mission as recovery and preservation of historically significant aircraft.
4. I like the Curtiss P-40, but it represents only a part of the total picture. The "Spirit" is probably more totally representative.
Dean Knutson
Minneapolis, MN

Speaking of P-40s:

1. It is attractive (has aesthetic appeal).
 2. Fits the TIGHAR name.
 3. Why change a good thing?
- Bill Whittington
Portola Valley, CA

Everyone in the world knows the P-40, the Flying Tigers, etc. Sometimes people stop and ask me about the logo and what it is, then I get to tell them about our "TIGHARS." My French friends think it's à propos. I agree. Don't change a thing.
Ron Pittner
Paris, France

Well, I spent nine years with the Flying Tiger line ... and I am a big fan of anything that keeps the image alive. ... I can assure you that advertising agencies used by the Flying Tigers line were always quick to point out that the name and the symbol (a shark-mouthed P-40) have **incredible** recognition value among the general public and the aviation community. Few people really know the facts behind the Tiger myth, but almost everyone associates it with a bygone aviation era. Whatever symbol you choose — count me in — your work is great!
Rick Siciliano
Houston, TX

And here are some of the many votes for l'Oiseau Blanc:

I believe the White Bird would better illustrate the historic aircraft recovery idea of our organization. Also because of its configuration (bi-plane) it looks historic.
George Wojcicki
Rochester, NY

I know some of my smart-ass friends will say no old biplane was made without wheels — so I will proceed to straighten them out by telling them the whole story.
C.G. Frantz
Sugar Grove, IL

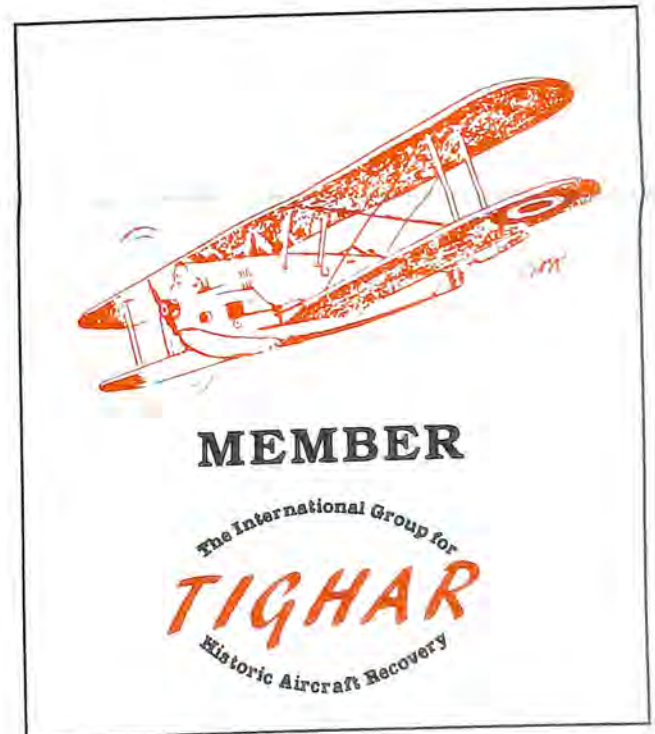
...TIGHAR was started from the inspiration to try to find the White Bird wreck. ... if they really made it to the U.S., Nungesser, Coli and the plane deserve wider recognition just as some other historic planes are instantly recognizable by the public.. [A]s a small tribute to these brave fliers. Not to slight others such as Earhart and Noonan, but none undertook as risky and difficult a flight with so little recognition for their achievement.
Rick Eldridge
Virginia Beach, VA

... No aircraft is more representative of TIGHAR's ideals, goals, and efforts than l'Oiseau Blanc.
Doug Carson
Boulder Creek, CA

And one last thought ...

Icarus
The first man to get lost in the air, and we're still looking for him — daylight hours only.
Jim English
N. Chatham, MA


Thanks for all your great comments. We'll be sending out decals in May. 🐾



STRICTLY BUSINESS

STRICTLY BUSINESS

At last, at last, at long long last ... The TIGHAR Membership Directory is assembled, printed, stuffed, and ready to mail. Aha! you say. So why don't I have my Directory? Well, it's like this. This is a good Directory, and it's pretty thick. Which means it's pretty heavy. Which means it's pretty expensive to mail. AND it's free to all members, which is a pretty good deal. But without the cash generated by sales, it may be a pretty long time before we can get them all out the door if we have to wait until we can make up the postage bit by bit, cash flow being pretty tight just about everywhere this time of year. SO if you have a few extra dollars — we'd be pretty grateful if you'd contribute them and help us get this thing out the door. A thousand fifty page directories take up a lot of floor space ...

Don't forget the other TIGHAR books, yours for contributions of \$35.00 — TIGHAR Tracks, The First Five Years; \$50.00 — Nungesser and Coli Disappear Aboard l'Oiseau Blanc; and \$100 — The Earhart Project Book, Fifth Edition. Collect them all! Each of these books represents years of work, and is a major scholarly achievement in the field of aviation archeology. 

TIGHAR (pronounced "tiger") is the acronym for The International Group for Historic Aircraft Recovery, a non-profit foundation dedicated to promoting responsible aviation archeology and historic preservation. TIGHAR's activities include:

- Compiling and verifying reports of rare and historic aircraft surviving in remote areas.
- Conducting investigations and recovery expeditions in co-operation with museums and collections worldwide.
- Serving as a voice for integrity, responsibility, and professionalism in the field of aviation historic preservation.

TIGHAR maintains no collection of its own; neither does it engage in the restoration or buying and selling of artifacts. Instead, the foundation devotes its energies to the saving of endangered historic aircraft wherever they may be found, and to the education of the international public in the need to responsibly preserve the relics of the history of flight.

TIGHAR Tracks, published nine times each year, is the official publication of The International Group for Historic Aircraft Recovery. A subscription to *TIGHAR Tracks* is included as part of membership in the foundation (minimum donation \$35.00 per year). The editors welcome contributions of written material and artwork. Materials should be addressed to: Editors, *TIGHAR Tracks*, 1121 Arundel Drive, Wilmington, DE 19808 USA, Telephone 302/994-4410. Photographs and artwork will be returned on request.

Editors: Patricia R. Thrasher, Richard E. Gillespie

MEMBERSHIP FORM

I would like to join TIGHAR. Enclosed is my donation of

\$35.00 for a one year membership

\$60.00 for a two year membership

\$125.00 for a five year membership

\$1,000 for a life membership

As a member of TIGHAR, I will receive the following benefits:

- Annual subscription to TIGHAR Tracks (published nine times a year)
- Membership patch, decal, and directory
- Expedition and educational opportunities

Name _____

Address _____

Telephone _____

Please return this form with your membership dues in U.S. funds only, to TIGHAR, 1121 Arundel Drive, Wilmington, DE 19808 USA; Telephone 302/994-4410, 9 a.m. to 5 p.m. EST/EDT, M-F. ALL DONATIONS TAX-DEDUCTIBLE WITHIN THE LIMITS OF THE LAW.



TIGHAR TRACKS

A PUBLICATION OF THE INTERNATIONAL GROUP FOR HISTORIC AIRCRAFT RECOVERY



What if the world leaders in aviation historic preservation sat down together in a public forum to tackle the most important issues facing air museums today? That's exactly what will happen on September 1 & 2 when TIGHAR's open international seminar *Aircraft to Artifact* convenes at the Royal Air Force Museum in London. On the stage of the museum's 200 seat theatre will be a panel which will include:

Michael Fopp, PhD	Director, Royal Air Force Museum, Hendon
Thomas Crouch, PhD	Chairman, Aeronautics, National Air & Space Museum, Washington, D.C.
David Lee	Ass't Director, Imperial War Museum, Duxford
David Hallam	Senior Conservator of Metals, Australian War Memorial, Canberra
Stephan Grey	Owner, The Fighter Collection, Duxford

In the audience will be directors and representatives of Seattle's Museum of Flight, the San Diego Aerospace Museum, the Royal Netherlands Air Force Museum, and many more. But this is not a closed session for professionals only. Anyone who is interested in the future of aviation historic preservation is welcome and encouraged to attend.

This first-of-its-kind seminar comes at a time when air museums, both flying and static, are under increasing pressure to rethink long held attitudes and practices. This year has seen new and tragic records set in the loss of flying and non-flying historic aircraft (see *A Banner Year for Scrapmetal*,

next page). New discoveries are solving old mysteries (see *The Grail*, page three) and bringing extremely rare aircraft to light (see *No Longer Lost*, page six). It is a time for fresh ideas and hard questions. Among those to be addressed at Hendon are:

- Preservation — We can't save everything, so what are the priorities?
- Restoration — Have we been destroying historic aircraft by turning them into like-new replicas?
- Interpretation — Do our static and flying displays describe the aircraft we have, or those we wish we had?
- Operations — What should fly, and what shouldn't?

In addition to the presentations and discussions, attendees will participate in workshops throughout the RAF Museum, including an interior inspection of the B-17, Lancaster, and Sunderland. On Monday, September 3rd, an optional visit to the museum's reserve collection and restoration shops at Cardington has been arranged, as well as a tour of the famous Shuttleworth Collection.

It is fitting that this unique and important seminar take place in England during the 50th anniversary commemoration of the Battle of Britain. Like the Royal Air Force, TIGHAR is committed to preserving the past that it may serve the future. North American TIGHAR members and others interested in attending *Aircraft to Artifact* should contact Patricia Thrasher at TIGHAR headquarters for registration and tuition information. In Great Britain and Europe, contact Michael Tagg, TIGHAR Seminar, RAF Museum Hendon, London NW9 5LL, phone 81-205 2266. 

A BANNER YEAR FOR SCRAP METAL



It's only August and the 1990 toll of historic aircraft losses is already staggering.

A storage hangar fire at the Musée de l'Air, Le Bourget, Paris on May 17 destroyed 43 aircraft including a Lockheed F-5G (photo-recon version of the P-38), Spitfire IXB, B-25, A-26, Dewoitine 520, Bolingbroke, Lysander and many others. This tragedy once more makes it painfully clear that the safeguarding of historic aircraft must go beyond simply removing the risk of flying accidents. Permanent preservation must include display, restoration and storage facilities which provide protection from natural and man-made disaster. Undetected residue from welding operations is believed to have caused the late-night fire at Le Bourget.

The calamity of losing irreplaceable aircraft is compounded when there is also loss of life and so far this year at least 10 aircraft have been lost and no fewer than 10 people have been killed in warbird crashes.

	P-51	Crashed in Minnesota	2 fatal	
	P-51	Crashed at airshow in Canada	2 fatal	
	P-51	Ditched off Galveston, TX	no injuries	
	P-51	Crashed on landing, Seattle, WA	no injuries	
	P-63	Crashed at airshow, France	1 fatal	
	Seafury	Crashed in forced landing, England	2 injured	
	T-6	Crashed at airshow, Niagara Falls, NY	1 fatal	
	T-33	Crashed in New Mexico	2 fatal	
	Venom	Crashed on takeoff, Oklahoma	1 fatal	
	SAETA	Crashed at airshow, Alabama	1 fatal	

The causes vary from inflight airframe or engine failure, to weather, to incompetent aerobatics. The pilots range from the highly competent professional to the low time amateur. What is consistent is that the airplanes, and the people, are gone forever.

TIGHAR's position on this distressing situation is this:

- The rate of warbird losses is alarmingly high and, unless checked with better safety standards and procedures, will mean the premature extinction of flying examples of these aircraft.
- A far more serious problem is the misconception that the flying of old airplanes is historic preservation. It is not. It is entertainment.
- Entertainment is a perfectly legitimate use for examples of types which are still relatively plentiful and often inspires interest in historical study and genuine preservation. But pretending that a last-of-type or an individually historic aircraft has been saved by making it a "warbird" is folly.
- The point of historic preservation is to save what was really there at an important time in history. Extensive restoration, particularly to airworthy condition, is necessarily a destructive process and results in a hybrid replica, which then usually masquerades in colors the individual aircraft never wore. When an individually historic aircraft goes this route, the airshow crash is merely the last step in its destruction.
- Historically important individual aircraft must be identified and set aside for permanent preservation, but that can't happen without a wider public recognition of what preservation is.

TIGHAR is committed to helping the aviation historic preservation community develop intelligent and practical standards for the treatment of historic aircraft, and to the education of aviation enthusiasts worldwide. As long ago as the 17th century British antiquarian John Aubrey recognized that historic properties can be as much at risk from uninformed enthusiasm as from the forces of nature. Although written when flight was still but a dream, his words ring true over 300 years later:

Let us bend our best efforts to the saving of antiquities, that they might escape the teeth of time and the hands of mistaken zeal.



PROJECT MIDNIGHT GHOST EXPEDITION XVIII 4/16 — 5/16, 1990

Call it perseverance, conviction, or just plain stubbornness, TIGHAR's search for l'Oiseau Blanc continues to comb the Maine wilderness for the lost French flyers described by Charles Lindbergh as having "vanished like midnight ghosts." Evidence continues to mount that Nungesser and Coli's White Bird crashed in the Round Lake Hills of Washington County on May 9, 1927. This spring's expedition, the eighteenth since 1984, meticulously gridded and searched over 2,440,000 square feet of the third and



highest of the three hills. Twenty-five TIGHAR volunteers battled steep and treacherous terrain, one of the wettest springs on record, and the infamous Maine black flies to eliminate one of two areas now suspected of concealing the scant remains of the wood and fabric aircraft.

In October Expedition XIX will tackle the remaining area. Use the registration form in this issue of *TIGHAR Tracks* (see *Engagements Volontaires*) to sign up for some of the most miserable fun you'll ever have.



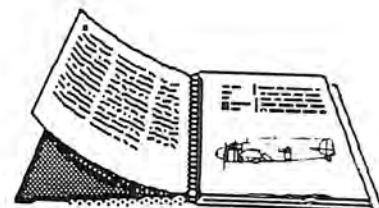
“... absorbing, persuasive and well-written. It is a superb example of what historical investigation should be.”

— Professor Mark R. Peattie
Harvard University



The Earhart Project

Fifth Edition



Here's a preview of what you'll receive ...

- **Amelia Earhart and the Loch Ness Monster**

A serious look at how two twentieth century legends evolved along startlingly similar lines, and an in-depth study of how the notion of Japanese culpability in the Earhart disappearance grew **from Hollywood fiction to widespread popular acceptance**.

- **July 2, 1937**

The day the Electra didn't arrive at Howland Island — and why. No conjecture, just **the documented facts** of a tragic but perfectly explainable failure.

- **The Cruise of the Colorado**

Official documents detail how the U.S. Navy accurately assessed what had become of the missing flight, dispatched a battleship to search the correct area, and **yet failed to find Earhart and Noonan**.

- **The Post-Loss Radio Signals**

The first complete compilation and analysis of the many radio signals received from the missing plane for three days after its disappearance. The official record clearly documents **not only distress calls but rudimentary two-way communication** with the searchers.

- **The Earhart Project**

In September and October of 1989, sixteen TIGHAR volunteers conducted an archeological survey of the uninhabited Pacific island of Nikumaroro — one of the most remote and fascinating places on earth. They left with **artifacts which may solve the Earhart mystery**.

- **Photo Section and Maps**

Never-before-published photographs and detailed original maps enhance this 100 page report. **ORDER YOURS NOW!!**

Enclosed is my contribution of \$100 or more to The Earhart Project. Please send me my copy of the Fifth Edition of The Earhart Project Book.

I already have my copy. Here's my contribution toward the Return to Nikumaroro. Let's go find that airplane!!

Name _____

Address _____

Amount enclosed \$ _____

Send to: TIGHAR • 1121 Arundel Drive • Wilmington, DE 19808 • USA

ENGAGEMENTS VOLONTAIRES



Expedition XIX is scheduled for member participation from Monday, October 1 through Saturday, October 27, 1990. Participation in Expedition XIX is open to all TIGHAR members. Completion of the Introductory Course in Aviation Archeology is recommended but not required.

This is a Category II TIGHAR Expedition: Moderate difficulty; participants should be in good physical condition with good stamina.

The expedition base is Machias, Maine. By car: about an hour and a half north of Bar Harbor on U.S. 1. By airline: major carriers serve Bangor; from there Machias is about 2 hours by rental car. By general aviation: Machias has an excellent 3,500' paved and lighted airstrip with avgas (no JetA) available.

Searchers stay at a modern, comfortable motel and eat breakfast and supper at a local restaurant. Lunch is a sandwich in the field. TIGHAR will provide daily transportation to and from the search area. Participants are responsible for their own transportation to and from Machias, Maine, and for their accomodation and meal expenses during their stays. Each participant also makes a \$100 contribution toward the general cost of the expedition.

Experience has shown that four days is a practical minimum for participation, while one week is about as much as the average volunteer can take before his or her body (or mind) gives out.

The search effort can efficiently use only about six volunteers at any one time, so early coordination with TIGHAR headquarters is essential to schedule your participation. Please fill out the form below and send it to Richard Gillespie at the address on the form. For more information, call Ric at (302) 994-4410.

I would like to participate in Expedition XIX on these dates:

ARRIVE OCTOBER _____

DEPART OCTOBER _____

Name _____

Address _____

Daytime Telephone Number (VERY IMPORTANT!!) _____



THE GRAIL



It is, quite simply, the most promising clue ever discovered in the 53 year search for Amelia Earhart and, with the help of TIGHAR's members, may soon become the long-sought proof that solves the mystery of her disappearance. Found by TIGHAR on the island of Nikumaroro, September 18, 1989, its aluminum structure and features aroused suspicion that it might be an aircraft component. Subsequent research revealed that the numbers stamped into the metal identified it as Part Number 28F 4023, a Navigator's Bookcase manufactured by the Consolidated Aircraft Corporation of San Diego, California for their Model 28 flying boat, known to the U.S. Navy as the PBY Catalina. Because PBYS were used to resupply the U.S. Coast Guard radio station on the island during World War II, the bookcase was, at first, thought to have come from one of those aircraft (see TIGHAR Tracks Vol. 5, No. 5, December 1989). However, further research has now shown that explanation to be incorrect.

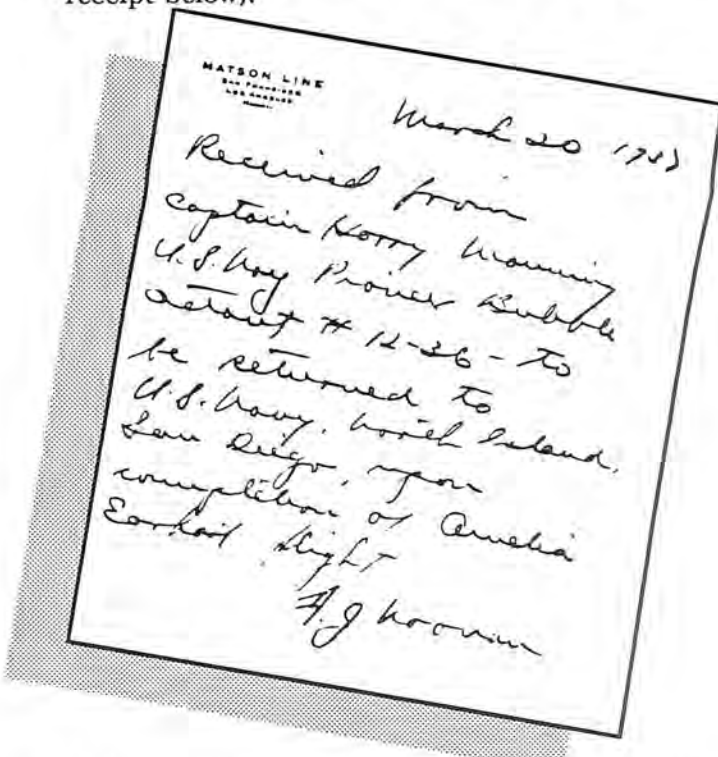
- Wartime PBYS carried a later model bookcase than the one found on the island.
- Paint remnants on TIGHAR Artifact 2-1 do not appear to meet U.S. government specifications.
- The mounting holes and fixtures on our bookcase are all wrong for installation in a PBY and the unique features present are so professionally rendered as to eliminate the possibility of a field modification.

Analysis and opinion by experts at the United States Air Force Museum Restoration Facility at Wright-Patterson Air Force Base, Ohio and at the Smithsonian's Garber Facility, Silver Hill, Maryland, indicate that TIGHAR Artifact 2-1 was obtained from the manufacturer before PBY mounting holes were drilled and that specialized mounting features were added to install the bookcase in some other aircraft — an aircraft that did not have to meet government specs.

The presence of such an artifact on Nikumaroro is, to say the least, intriguing. There has never been an airstrip on the island nor a known airplane wreck (wartime or otherwise). There is, however, an impressive body of evidence that the island's reef-flat was the landing place of the lost Earhart/Noonan flight. Could the bookcase have come from that airplane? Here's what we know so far:

- The Electra's navigator would have need of just such a bookcase in which to stow precisely the navigational reference materials (Air Almanac, Sight Reduction Tables, etc.) it was designed to accommodate.
- Early versions of the bookcase (such as Artifact 2-1) were available in late 1936/early 1937 when the Electra was being outfitted for the 'round-the-world flight.

- The navigator's station aboard the Electra was not part of the original construction by Lockheed but was designed, probably with Harry Manning's advice, and built, probably at Paul Mantz's facility, sometime between September 1936 and early February 1937.
- Harry Manning was borrowing navigation equipment with which to outfit the Electra from the U.S. Navy at North Island, San Diego (see receipt below).



This little gem was discovered by Russ Matthews (TIGHAR #0509) during his examination of the Harry Manning Collection at the American Merchant Marine Museum at King's Point, New York on June 10, 1990. It is a hand written receipt dated March 20, 1937 for U.S. Navy Pioneer Bubble Octant # 12-36 given to Manning by Fred Noonan and specifying that the instrument is "to be returned to U. S. Navy, North Island, San Diego upon completion of the Earhart flight." March 20th is the day Amelia groundlooped the Electra on takeoff in Hawaii with Manning and Noonan aboard. After the accident Manning, his confidence in AE's ability much shaken, abandoned the project and turned over all the navigational responsibilities, and the equipment he had assembled, to Fred Noonan. The significance of this receipt is that it proves that the navigator's octant used for the flight was borrowed from the U.S. Navy at San Diego. We suspect the same was true of the navigator's bookcase. Nice goin'. Russ.

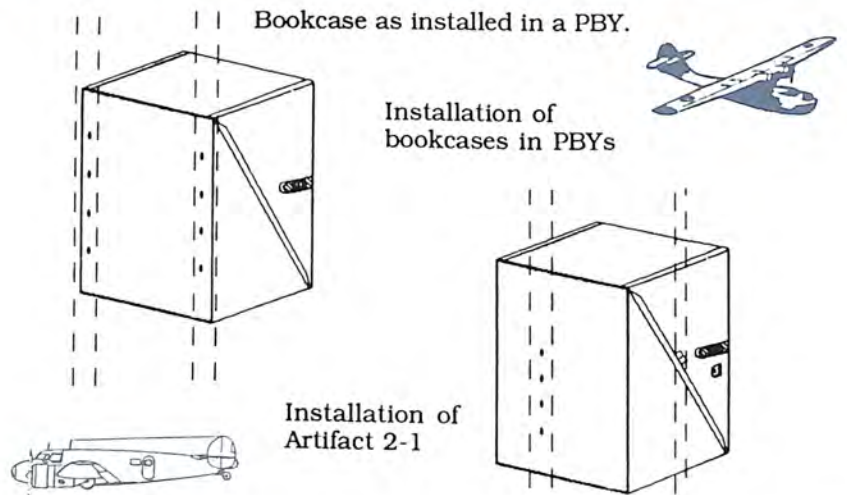
But if the bookcase was aboard the Electra why did it and no other part of the airplane end up on the island? If TIGHAR's hypothesis concerning the aircraft's fate (that it was landed on the dry reef-flat at low tide and was subsequently washed over the reef edge a few days later) is correct, the bookcase is, perhaps, the only aircraft part that would be found on the island. If you were Fred Noonan seeking to rescue your crucial navigational materials from an

aircraft awash on a reef-flat wouldn't you remove five screws and take your bookcase ashore? Later, during the period when the island was inhabited (1938-1963), someone cut the bookcase apart to convert it to their own use. TIGHAR found the discarded portion among the debris of the abandoned village.

Given what we now know about the artifact, the aircraft and the island the bookcase's presence aboard the Earhart Electra is not merely an enticing possibility but, rather, the most sensible explanation of its presence on Nikumaroro. What we need now is proof and for that **we need your help**. If we can find a photo or official sketch which shows our bookcase in that airplane Artifact 2-1 will become nothing less than the Holy Grail of aviation historical investigation — the diagnostic artifact that solves the Amelia Earhart mystery. With that proof in hand, funding for next year's return to find and photograph the airplane in the deep water near the island would be virtually assured.

So far, we've found documented information about the navigator's station aboard the aircraft to be very scant. The only photos we have show AE and Manning sitting on the navigator's table and looking out the forward, starboard window. They show very little of the actual set-up. Descriptions in Earhart's book *Last Flight* and in contemporary newspaper articles are brief and not very helpful. The cut-away drawing of the Electra which appeared in the Time/Life book *Women Aloft* purports to show the navigator's station but we've tracked down the man who supplied the information to the artist and he admits he was speculating. Analysis of the few photos available shows the drawing to be incorrect. Included here are the best reconstructions we've been able to make so far. There seems to be one place where the bookcase would reasonably fit but there may be others.

TIGHAR members who would like to assist in the search for this crucial piece of evidence — in this quest for the Holy Grail— are urged to contact Project Director Richard Gillespie at TIGHAR. He'll tell you what sources have already been covered and help you direct your search. Despite the admittedly Arthurian overtones of this whole thing, Ric has promised not to insist on vows of purity and chastity (although he reserves the right to confer an occasional knighthood). Let us hear from you. ❀



Artifact 2-1



Artifact 2-7, Cigarette Lighter

More On the Lighter

Work is continuing in an attempt to find out all we can about the cigarette lighter found on Nikumaroro's southwest beach (see *TIGHAR Tracks* Vol. 5 No. 5). So far we can find no unique markings or features which might allow us to connect the artifact to a particular source but W.T. Chase, Head Conservator at the Smithsonian Freer Gallery of Art, has performed a laboratory examination of the lighter and has offered his opinion that the accumulation of cuprite crystals (a product of oxidation) visible under magnification indicates that the lighter had been in the highly corrosive sands of Nikumaroro for "fifty to sixty years." That puts it within the time frame of the Earhart disappearance in 1937 and the USS Bushnell survey in 1939 rather than the World War II and postwar period. That corresponds with Miami lighter expert Jack Seiderman's opinion that the lighter was sold in the U.S. sometime in the early 1930s. What is clear is that an expanded metal detector survey needs to be done along the island's beach front and that work will be incorporated in next year's return to Nikumaroro.

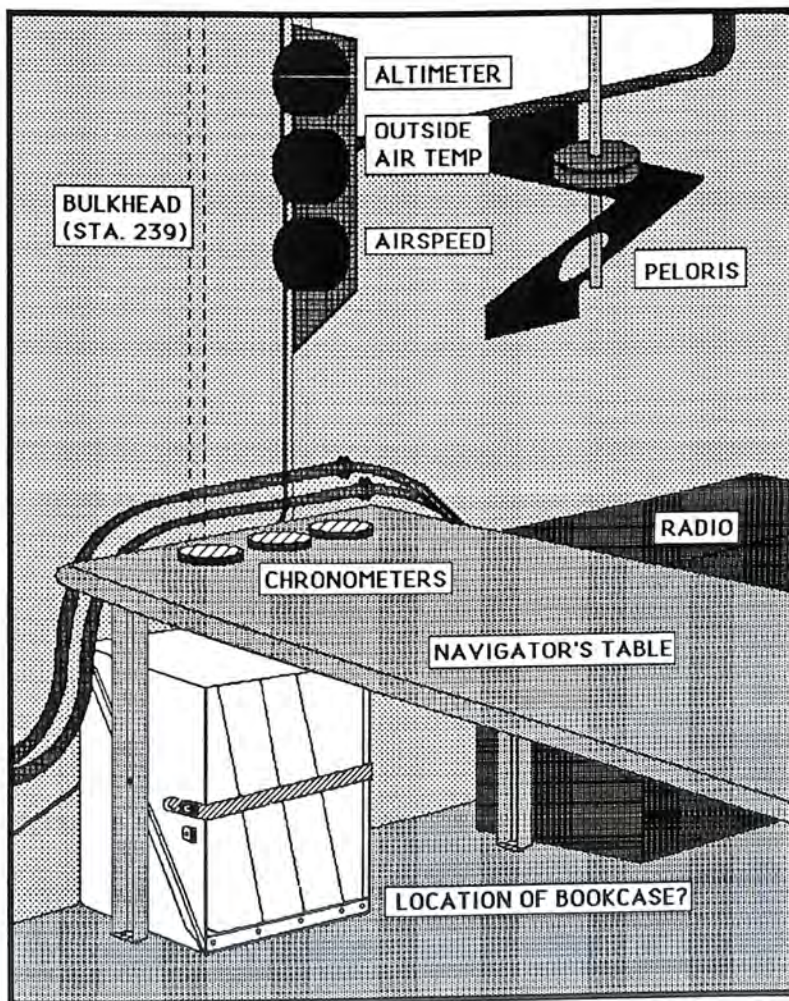
Not Even Close, and Definitely No Cigar

Previous attempts to establish physical proof of Earhart's fate have been disappointing. In 1960 Fred Goerner (*The Search for Amelia Earhart*, Doubleday, 1966) recovered an aircraft generator from the bottom of Tanapag Harbor, Saipan. Earhart's former technical advisor, Paul Mantz, announced at a press conference, "[I]t looks just like the generator I put aboard AE's plane," but an inspection by the Bendix Corporation later established that the part "...did not come from the plane in which Amelia Earhart disappeared ..."

In 1961 Fred tried again with bones dug up on Saipan. Pathological analysis found the hypothesis that they were the remains of Earhart and Noonan to be "not supported."

A 1979 expedition to the Marshall Islands recovered a fragment of what was thought to be the mysterious "silver container" allegedly buried by Earhart and Noonan prior to their supposed capture by the Japanese (*Amelia Earhart: The Final Story*, Loomis/Ethell, Random House, 1985) Analysis, however, showed it to be a nondescript piece of sheet metal.

In 1988 *Witness to the Execution* (T.C. "Buddy" Brennan, Renaissance House) proclaimed a fragment of cloth found buried on Saipan to be the blindfold used in Earhart's execution by the Japanese. Brennan's witness, a Mrs. Blas, claimed to have seen the soldiers "tear the blindfold from her face and throw it into the hole" before shooting her. No explanation is offered for this procedure (at *TIGHAR* we generally leave the blindfold on when we shoot prisoners) nor for the absence of any bones in the alleged grave. Analysis of the "blindfold" showed it to be simply a piece of cotton cloth.

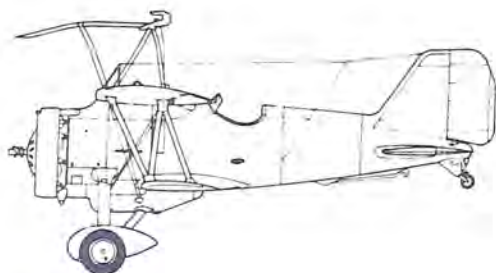
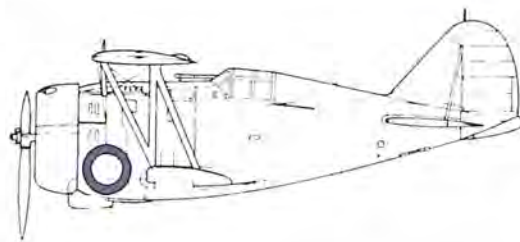


Navigator's station, NR16020, starboard side looking aft.

NO LONGER LOST

Recent discoveries and recoveries have brought some extremely rare aircraft to light and, once more, pointed up the need to bring more professionalism to the field of aviation archeology.

The U.S. Navy has raised Grumman F3F-2, Bu. No. 0976 from 1,800 feet of water off the California coast. First found and in virtually undamaged condition in 1988, an amateur salvage attempt wrecked the right wings and empennage before the Navy was able to recover the aircraft this year. Now at the San Diego Aerospace Museum for restoration, the fighter will eventually go to Museum of Naval Aviation in Pensacola. This is a rare second chance for this classic pre-war type which had been extinct since an inflight fire claimed the only surviving aircraft in 1974 (a fuel cap was not secured prior to an aerobatic flight).

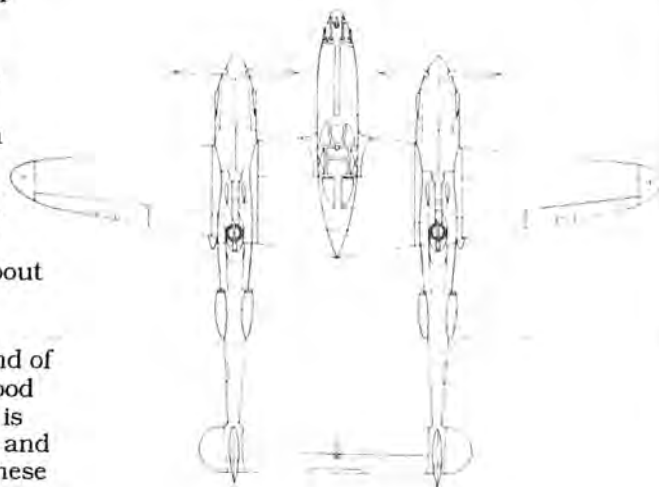


In an encore performance the Navy made another historic discovery off California when, on June 24, the research submersible Seacliff located the wreckage of the airship Macon in 1,500 feet of water. Lost on February 12, 1935, the 785 foot-long dirigible had four Curtiss F9C Sparrowhawks in the hangar deck when violent winds forced her down. The fighters were ordered jettisoned but reportedly only one went over the side before she settled into the water. The Seacliff photographed two of the aircraft in excellent condition and the Navy is attempting to keep the exact location secret while it organizes a recovery. There are, however, reports of a leak and a repeat of the F3F-2 debacle is feared. TIGHAR has offered its assistance to the Navy to see that these aircraft are recovered quickly and competently. The only other Sparrowhawk known to exist is in the National Air & Space Museum in Washington.



Meanwhile, the on-going drama of the so-called "Lost Squadron" of P-38s and B-17s under the Greenland icecap continues. As of TIGHAR's most recent conversation (July 20) with Patrick Epps, co-founder of the Greenland Expedition Society, the situation was this:

- A ten foot square room had been excavated over one engine of a B-17. The cowl looked good but at least one cowl flap was crushed. They were not sure which direction to dig to get to the fuselage (!) and no one could say what condition it might be in when, and if, they got there.
- A sixteen, now expanded to eighteen-foot, hole had been dug about halfway down to one of the P-38s but glacier melt-water was becoming a serious problem.



Epps is now less than optimistic about getting a P-38 out by the end of this season and has revised his estimate of their condition from good to fair. There is now less talk of flying aircraft off the ice, but there is more awareness that particular care should be taken to document and preserve the interiors before the aircraft are disturbed. If intact, these airplanes are time capsules of information about how it was all done in 1942.



Seattle's Museum of Flight has acquired title to one of the two surviving B-17Fs and has retired the aircraft from flying displays. Formerly owned and flown by the late Robert Richardson, serial number 42-29782 was bequeathed to the museum on the condition that it be set aside for permanent preservation. The only other F is *Memphis Belle*, part of the USAF Museum collection and preserved in Memphis, Tennessee. TIGHAR congratulates the Museum of Flight on this important acquisition. (Note: the Museum of Flight will host the 1991 TIGHAR Gathering. See *THE YEAR OF THE TIGHAR*, next page).



THE YEAR OF THE TIGHAR



Major TIGHAR events scheduled for the next twelve months

1990

- September 1 & 2 *Aircraft to Artifact — Exploring the Principles of Aviation Historic Preservation.* International TIGHAR Seminar, Royal Air Force Museum, Hendon, London, England.
- September 22 New England Regional TIGHAR Gathering. Immediately following the Manchester, New Hampshire warbird airshow on Saturday, September 22, TIGHAR will hold a Gathering for TIGHAR members at The Highlander Inn near the airport. The general public will also be invited to this buffet dinner and social evening. More information will be available shortly.
- October 1-27 Expedition XIX, Project Midnight Ghost. Washington County, Maine.
- November 3 & 4 *Introductory Course in Aviation Archeology,* Owl's Head Transportation Museum, Owl's Head, Maine (call or write TIGHAR to register).

1991

- January 19 & 20 *Introductory Course in Aviation Archeology,* San Diego Aerospace Museum, San Diego, CA.
- April 15 - May 3 Expedition XX, Project Midnight Ghost (if required).
- May 15 - 17 TIGHAR Annual Gathering, Museum of Flight, Seattle, Washington.
- May 18 & 19 *Introductory Course in Aviation Archeology,* Museum of Flight, Seattle, Washington.
- June 8 & 9 *Introductory Course in Aviation Archeology,* TIGHAR Headquarters, Wilmington, Delaware.
- September/October Return to Nikumaroro, Earhart Project Expedition.



STRICTLY BUSINESS

STRICTLY BUSINESS

By now you should have your Directory. If you don't, or if there is anything wrong with it, please get in touch with us ASAP so we can do something about it. We are most grateful to all those who contributed to the Directory Mailing Fund. We now have our floor back.

TIGHAR needs some office furniture, but have you noticed the price of the stuff? If you have an office and are thinking of redecorating, please consider donating your old office furniture to TIGHAR for a tax deduction. It doesn't need to be beautiful, just sturdy. We need large desks, filing cabinets, bookcases (lots of bookcases), and various other accoutrements of a growing-but-not-yet-large business. Any help anyone can give us will be greatly appreciated. Call Pat Thrasher at TIGHAR for further information.

TIGHAR is also looking for donations of aviation magazines, the older the better, for our reference library. AS TIGHAR grows, we plan to have a research facility which is open to our members; meanwhile, we are trying to build our collection. Again, a suitable tax deduction is yours for donating such papers to TIGHAR. Get in touch with Ric Gillespie to find out what we have and what we need. Clean out your attic and garage without guilt!

Our other major need is for more members. Spread the word! Tell your friends!! Let us send you a stack of newsletters to pass out, and join in the fun!

TIGHAR (pronounced "tiger") is the acronym for The International Group for Historic Aircraft Recovery, a non-profit foundation dedicated to promoting responsible aviation archeology and historic preservation. TIGHAR's activities include:

- Compiling and verifying reports of rare and historic aircraft surviving in remote areas.
- Conducting investigations and recovery expeditions in co-operation with museums and collections worldwide.
- Serving as a voice for integrity, responsibility, and professionalism in the field of aviation historic preservation.

TIGHAR maintains no collection of its own; neither does it engage in the restoration or buying and selling of artifacts. Instead, the foundation devotes its energies to the saving of endangered historic aircraft wherever they may be found, and to the education of the international public in the need to responsibly preserve the relics of the history of flight.

TIGHAR Tracks, published nine times each year, is the official publication of The International Group for Historic Aircraft Recovery. A subscription to *TIGHAR Tracks* is included as part of membership in the foundation (minimum donation \$35.00 per year). The editors welcome contributions of written material and artwork. Materials should be addressed to: Editors, *TIGHAR Tracks*, 1121 Arundel Drive, Wilmington, DE 19808 USA, Telephone 302/994-4410. Photographs and artwork will be returned on request.

Editors: Patricia R. Thrasher, Richard E. Gillespie

MEMBERSHIP FORM

I would like to join TIGHAR. Enclosed is my donation of

\$35.00 for a one year membership

\$60.00 for a two year membership

\$125.00 for a five year membership

\$1,000 for a life membership

As a member of TIGHAR, I will receive the following benefits:

- Annual subscription to *TIGHAR Tracks* (published nine times a year)
- Membership patch, decal, and directory
- Expedition and educational opportunities

Name _____

Address _____

Telephone _____

Please return this form with your membership dues in U.S. funds only, to TIGHAR, 1121 Arundel Drive, Wilmington, DE 19808 USA; Telephone 302/994-4410, 9 a.m. to 5 p.m. EST/EDT, M-F. ALL DONATIONS TAX-DEDUCTIBLE WITHIN THE LIMITS OF THE LAW.

The International Group for
TIGHAR
Historic Aircraft Recovery

TIGHAR TRACKS

A PUBLICATION OF THE INTERNATIONAL GROUP FOR HISTORIC AIRCRAFT RECOVERY

This never-before-published photograph was taken by a youth named Dustin Carter at Burbank Airport on the morning of May 21, 1937. It shows Amelia Earhart's Electra being loaded for the unpublicised departure of her second world flight attempt. AE stands near the tail in conference with an unidentified person while Fred Noonan unloads gear from the trunk of his wife's convertible. Mary Bea Noonan watches from beside the front fender. She will never see her husband again.

DEPARTURE

Whatever drama occurs during the expedition that is departing as this *TIGHAR Tracks* goes to press, it will be hard-pressed to match the cliffhanger of the final fund-raising.

Friday night, September 13 (Departure minus 14)

Fax arrives from Oceaneering International. They will start mobilizing their personnel and equipment on Wednesday the 18th. TIGHAR's contract calls for payment in full 48 hours before mobilization. Please wire \$146,970 Monday morning. We're still about \$200,000 short of the expedition's total budget. There's no way we can meet that payment.

Monday morning, September 16 (departure minus 11)

Call to Oceaneering. We don't have the money. Can you do the job on spec?

Monday night, September 16 (departure minus 10.5)

Call from Oceaneering. *Disaster*. The boss says no. No money, no sonar, no ROV, no chance to find the airplane.

Tuesday, September 17 (departure minus 10)

Defiance. We'll go anyway and do just the onshore search. Do our best with what we have. Some counsel postponement. That would be death to TIGHAR's credibility. We go as scheduled if we have to swim to Nikumaroro.

Wednesday, September 18 (departure minus 9)

Grim determination. We're not going to give up without a fight. Call to Oceaneering. How long will you hold everything ready to go? One week, until Wednesday the 25th. Okay, we've got one week to raise \$200,000.

Monday, September 23 (departure minus 3)

Desperation. Despite burning up the phone and fax lines and singlehandedly supporting Federal Express, we've only been able to scare up a few more thousand from the faithful. Those who have the capability to do more won't.

Tuesday morning, September 24 (departure minus 2)

Oceaneering calls. They're under pressure to release our equipment for other jobs. Tomorrow is definitely the last day. *Hoping against hope*.



From an original negative in the Carter/Johnson collection acquired by TIGHAR courtesy of John T. Johnson (TIGHAR #0939C).

Tuesday afternoon, September 24 (departure minus 1.75)

An old friend has gone to his friends. He and they will lend TIGHAR the money knowing full well that this is not what you'd call a secure loan. That kind of faith is really humbling. That kind of debt is terrifying. But The Earhart Project is fully funded.

Wednesday, September 25 (departure minus 1)

Jubilation. The biggest check (and the biggest obligation) in TIGHAR's history arrives by FedEx. Oceaneering is paid and mobilized. Trucks will roll, airplanes will fly, and the ship will sail – all as planned.

While all of this was going on there were a hundred other crises, minor only by comparison, which had to be resolved. Only a heroic effort by White's Electronics of Sweet Home, Oregon overcame technical difficulties to specially modify ten PI3000 metal detectors in time for the expedition. Robbins Engineering Instruments of Gloucester, New Jersey went to great lengths to equip the expedition with hi-tech surveying gear and to train us in its use. Pacific Stihl of Chico, California arranged for the donation of power equipment for use on the island and United Airlines efficiently handled the complex travel arrangements.

The expedition sails from Honolulu on September 30 and is scheduled to return October 30. No press announcements will be made during the expedition or afterward until we've had time to analyze the results. At present we anticipate holding a press conference on November 15. It is very important that TIGHAR members continue to support the project while the expedition is in progress. TIGHAR headquarters will remain open and staffed during the entire month of October (see "While We Are Out," page 5). TIGHAR has gone into significant debt to complete the funding for this expedition but, as Amelia said, "The future is mortgaged, but what are futures for?"



Columbia Still Sleeps

The evaluative excavation of a barn foundation suspected of containing relics of the W.B.2 Columbia, announced in the last *TIGHAR Tracks*, didn't happen. The dig was set for July 19-21 but because of delays in publication many members who wanted to participate just didn't have enough time to arrange their schedules. The excavation has, therefore, been postponed until after this fall's Earhart expeditions. When the dig is rescheduled we'll make sure to leave plenty of lead time. Given the jungle of poison ivy on-site in July the postponement was merciful. 🐾



Photo courtesy Frank Strnad Collection.

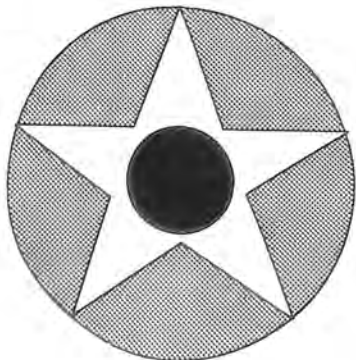
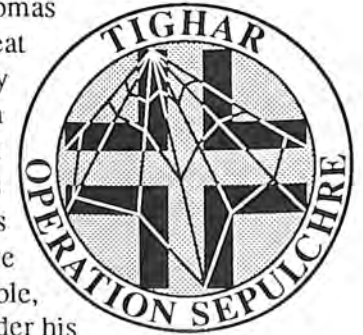
Drawing a l'Oiseau Blanc

TIGHAR's oldest and most difficult project, the search for The White Bird of French transatlantic aviators Charles Nungesser and Francois Coli, is pressing forward thanks to the efforts of Jay Veith (TIGHAR #0767CE), Bill Alexander (TIGHAR #0403E), and Don Ward (TIGHAR #1134CE) who have been trying to track down various reports of television and magazine accounts describing the discovery and removal of the wreckage by hunters. It's the most tedious kind of research, hunched over a stack of old magazines at the Library of Congress or squinting at poorly microfilmed newspaper articles. So far, although they've uncovered a wealth of information, the elusive source of all the rumors has not yet been found – but their search goes on. It's one thing to glory in the chase amid the grandeur of the Maine woods, but it's another to fight boredom and frustration in the solitude of archives and libraries. We salute their commitment. 🐾



“Palishaw” Found

Remember the mysterious “Specialist Palishaw” who allegedly took photos of Luftwaffe aircraft in an underground bunker? (see *TIGHAR Tracks* Vol. 7, No. 1) Thanks to Walt Holm (TIGHAR #0980C) Thomas Palshaw (not Palishaw) has been found alive and well and living in Connecticut. It would be great to say that Walt tracked him down through an old parking ticket or something but the real story is sort of dumb and embarrassing. It turns out that Mr. Palshaw visited TIGHAR's booth at an airshow years ago and we had his name and address all nicely written down in an old project file where Walt found it. While Palshaw is familiar with the stories of underground airplanes at Mainz-Finthen he denies being the person who saw or photographed them and, in fact, says he never saw the pictures. However, Walt has tracked down someone who does claim to have seen the photos and is now trying to nail down who really did go into the bunker. For his trouble, Walt Holm has been designated the new Project Director for Operation Sepulchre and, under his direction, the project is moving closer to finding out if there really are WWII German aircraft awaiting discovery in underground hangars. 🐾



Doolittle B-25

Plans to determine the precise location and condition of the only Doolittle Tokyo Raider which may reasonably still exist are in the diplomatic permission phase. Colonel Zhang Yongyin, Assistant Air Attache for the embassy of the People's Republic of China, will personally seek approval for TIGHAR's request to investigate the crash site in Chinese coastal waters when he completes his tour of duty and returns to Beijing this fall. Col. Zhang is an enthusiastic supporter of the project and will do his best to clear the rather difficult diplomatic obstacles to an on-site investigation and eventual recovery. 🐾

THE EARHART PROJECT



NEW EVIDENCE

On the eve of the expedition's departure, new evidence continues to come in. Late developments include:

- **Testimony obtained by Lou Schoonbrood (TIGHAR #1198) of The Netherlands who interviewed Gerson Van Messel, formerly a pilot with KNILM (Dutch East Indies Airlines).**

Captain Van Messel was at Andir Airport, Bandoeng, Java when Earhart and Noonan were there in late June 1937. AE and Fred visited him at his home there and he discussed the Electra's navigation station with Noonan. He remembers that Fred told him that he had recently moved the storage facility for his maps and books because "the original storeplace was in his way." TIGHAR had already determined that the navigator's bookcase found on Nikumaroro in 1989 shows signs of having been removed from its original mounting and reinstalled in a temporary fashion.

- **Corroboration of accounts that bones were found by the first settlers on Nikuamroro in 1938.**

Bauro Tikana, formerly clerk and interpreter to the British magistrate on the island in 1940, reports that he was told by laborers that they had found bones on the southeast end of the atoll when they first arrived in 1938. TIGHAR had long known of a similar tale related by a now deceased Coast Guardsman who was on the island in 1946 (see "Bones" in *TIGHAR Tracks* Vol. 6 No. 1), but that story contained many inaccuracies and had to be considered suspect. This recent corroboration by a living witness, however, lends the basic account much more credibility and indicates, in a general sense, where on the island the discovery was made.

- **Recognition of the possible significance of a grave found by the 1989 TIGHAR expedition.**

Tikana's account of bones being found at the southeast end of the atoll prompted a review of the various island features cataloged by the 1989 expedition. It happens that a small and isolated grave was found and photographed on that end of the island on October 6,

1989 but was presumed, at the time, to be that of a Gilbertese child. In the light of Tikana's information, the grave seemed oddly distant from the village two miles away. Anthropologists familiar with Gilbertese burial practices agree that it appears unlikely that the grave is that of an island resident and is probably that of an *I-Matang* (EE-matahng), a white outsider. The grave's small size (about 1 m by .5 m) could, of course, be due to the burial of bones rather than a body. The 1991 expedition will examine the grave more closely and take appropriate measures based upon the results.

- **Corroborating documentation from U.S. Naval Intelligence files which indicates an unexplained human presence on Nikumaroro's eastern beachfront immediately following the Earhart disappearance.**

A photograph taken during the U.S. Navy's aerial search of the island on July 9, 1937 (one week after Earhart's disappearance) was found at the National Archives on July 15, 1991. It confirms



U.S. Navy photo, National Archives

Recently discovered photograph of Gardner Island taken on July 9, 1937 during the U.S. Navy's search for Amelia Earhart.

several suspicions TIGHAR has had about that operation: that the tide was high at the time of the search flight thereby masking the fact that the reef-flat provided an inviting landing area when dry at low tide; that the search was conducted from a relatively high altitude (the photo appears to have been taken from about 1,000 feet) due to concern over possible bird strikes; and that the section of the island considered most interesting by the searchers, and possibly the place where they saw the "signs of recent habitation" described in the official report, is precisely the section of beach where U.S. Coast Guardsmen saw an abandoned campsite in 1944.

- **Confirmation that a November 1939 U.S. Navy survey of Gardner Island by a team from the U.S.S. Bushnell did not survey the ocean beachfront on the southeast end.**

Critics of TIGHAR's hypothesis have cited the Bushnell survey as proof that there was no sign of Earhart or Noonan on the island a scant two years after their disappearance. However, the map generated by that survey was recently found by

TIGHAR researchers at the National Archives. The surveyors' notations show very clearly, if ironically, that the one neglected section of beachfront, the one place where no one bothered to go, is the very area where other evidence places the Earhart/Noonan campsite. That evidence was not available to TIGHAR at the time of the 1989 expedition and, as in 1939, that particular beachfront received little or no attention. Needless to say, that will not be the case on this expedition.





EVIDENCE, CONCLUSIONS, AND EXPECTATIONS



The following is a summary excerpted from
The Earhart Project, Sixth Edition.

A realistic assessment of the known facts shows that the loss of Lockheed NR16020 conforms to a general pattern established in countless other (and no less tragic) aviation losses before and since and is, in that regard, unremarkable. Nonetheless, the disappearance of the Earhart World Flight has, through endless sensationalization, entered the realm of folklore and any attempt to establish what really occurred must confront barriers of credibility thrown up by more than half a century of speculation. The only weapon against that formidable obstruction is a rigid adherence to accepted academic standards. Using those criteria TIGHAR has established as unwarranted the supposition that the flight ended with fuel exhaustion and a crash at sea. Likewise, abundant documentary evidence leaves little doubt that the allegations of clandestine government involvement or Japanese culpability are groundless.

To sort out what really did happen requires that we accept as fact only that information which meets the most rigorous criteria for credibility. We must disregard all anecdotal and circumstantial evidence (even, or indeed especially, that which appears to support our own hypothesis) and restrict our assessment to the scant data that meet the test. From the panoply of purported evidence assembled over the years, only four sources of fact qualify for this distinction.

1. USCG Itasca Radio Log #2 entry for 08:44 on 2 July 1937. Record of Earhart's last inflight transmission heard by the Coast Guard.

Significance: Establishes Earhart's final course of action to be one which would logically bring her to Nikumaroro.

2. Pan American Airways System Memorandum dated July 10, 1937. Record of post-loss signals received and bearings taken by stations at Oahu, Midway and Wake.

Significance: Establishes the presence of an active transmitter in the vicinity of Nikumaroro from July 2 to July 5, 1937.

3. Weekly Newsletter - Aircraft Search for Earhart Plane, dated 16 July 1937. Description of aerial search of Nikumaroro by aircraft from U.S.S. Colorado on July 9, 1937.

Significance: Establishes the presence of unexplained human activity on Nikumaroro one week after the Earhart disappearance.

4. TIGHAR Artifact 2-1 recovered from Nikumaroro on October 6, 1989. Part of a Navigator's Bookcase, Consolidated Aircraft Corp. Part Number 28F 4023.

Significance: Establishes the presence on Nikumaroro of an airplane component consistent with the Earhart aircraft.

This is not a great deal of information but it does, as one would expect of legitimate evidence, provide a clear, if still incomplete, picture of what transpired in the central Pacific in July of 1937. The sequence of events that is indicated by the evidence conforms to aeronautical navigational procedures conventional within the context of the times and is specifically precedented in Earhart's own experi-

ence. The navigational emergency which precipitated the landing at a destination other than that intended was caused by a failure in Earhart's and Noonan's weakest area of expertise - radio. Faced with that failure, and that emergency, the crew appears to have responded rationally and prudently with a course of action that brought the flight to a safe conclusion. In the final analysis, what went wrong was that nobody found them. And yet, the fact that the U.S. Navy's search for the lost flight was ineffectual cannot be laid to any lack of commitment or desire on the part of the searchers. The official records make clear that a best effort was put forward by all involved and if, with the luxury of unrestricted time and access to worldwide resources, we can see in those records vital clues that were invisible to those who wrote them, we must remember that while we are engaged in an historical investigation, they were racing the clock to carry out a rescue.

The overall picture of what was intended, and of what went wrong, is now clear and the issue of where and how the flight ended would appear, in an academic sense, to be adequately resolved. It would, however, be folly to suppose that fact will replace folklore in the public consciousness without dramatic, intuitive proof that Earhart and Noonan landed and perished at Nikumaroro. Fortunately, there is every reason to believe that such proof is extant and discoverable at the site. The anticipated physical proof can be divided into three categories.

THE AIRCRAFT

The Lockheed can be expected to lie in the deep water immediately adjacent to the atoll. Its distance from the fringing reef, and therefore its depth, will depend entirely upon how long it floated and drifted before sinking. From the standpoint of preservation it is to be hoped that it is below 500 feet. There the effects of corrosion and coral encrustation should be minimal and the aircraft structure can be expected to be much as it was when it arrived there in 1937. A realistic

Grave on
Nikumaroro
discovered
by 1989
TIGHAR
expedition.



TIGHAR
Photo by
John Clauss.



Sponsorship Options

Support for The Earhart Project comes entirely from charitable contributions. Choose the level of sponsorship that best fits your means and interest.

\$20 — Poster

In appreciation for your contribution you'll receive TIGHAR's 1937 World Flight poster commemorating the flight that started the mystery.

\$25 — Wearables

You'll receive a 100% cotton T-shirt, an embroidered patch and an enameled lapel pin all featuring the distinctive Earhart Project logo. Amelia's Lockheed Electra flies in black silhouette against a golden tropical sun above the blue Pacific.

\$135 — Project Book and Companion Set

TIGHAR's work fully documented in two volumes. The 6th Edition of *The Earhart Project, An Historical Investigation* (\$100 if purchased alone) and *The Earhart Project Companion, Second Edition*, reproducing the original sources which document the investigation (\$50 if purchased alone).

\$250 — Certificate and Inclusion on Permanent Memorial.

Individuals who contribute at least \$250 toward The Earhart Project will receive a special Certificate of Appreciation suitable for framing, and will have their names included on a permanent memorial to be installed at a suitable location yet to be determined (the Earhart Birthplace Museum in Atchison, Kansas and Purdue University in West Lafayette, Illinois have been suggested). For Japanese contributors the minimum contribution for this recognition is 10,000 yen.

\$1,000 — Commemorative Model of NR16020

Contributors of at least \$1,000 will receive a specially built 1/32 scale (approx. 13" wingspan) model of Earhart's Lockheed "Electra." Hand carved from solid mahogany, each highly detailed model includes a stand with an individually inscribed plaque.

\$5,000 — Project Sponsor

Project Sponsors receive all of the above plus official recognition in the Project Book and an invitation to all project functions, including press conferences and receptions held after the expedition returns.

I would like to help fund the Earhart Project. I enclose my check payable to TIGHAR for _____ ; please send me the items checked below.

Poster		\$20.00
Wearables (T-Shirt, Patch, Pin) T-Shirt Sizes (please circle one): S M L XL		\$25.00
Project Book and Companion Set		\$135.00
Certificate and Inclusion on Permanent Memorial Name on certificate and engraving to read:		\$250.00
Commemorative Model of NR16020 Name on plaque to read:		\$1,000.00
Project Sponsorship Name of Sponsor:		\$5,000.00

Name _____

Address _____

Daytime Telephone _____

*Please make your check payable to TIGHAR in U.S., Canadian, or any European Community currency.
All donations tax-deductible in the U.S. to the extent permitted by law.*



TIGHAR • The International Group for Historic Aircraft Recovery
1121 Arundel Drive • Wilmington, DE 19808 • USA
Telephone (302) 994-4410 • Fax (302) 994-7945



picture might be that of an airplane with a somewhat crumpled nose (from impact with the bottom) and considerable skin damage to its under-surfaces, wings and empennage from being washed off the reef. Damage to the interior could be severe due to the breaking free of fuel tanks which would pile up in the aft fuselage, then crush from water pressure as the airplane sank. Any organic material (cloth headliner, leather seats, etc.) will almost certainly be long since devoured by various marine organisms but the aluminum airframe, the cockpit glass and cabin windows (if not shattered earlier), instruments and radios, the rubber tires, the engines and propellers should be essentially intact. All of the metal will, however, be impregnated with chlorides from the seawater and highly unstable if disturbed without proper preservation materials and procedures being applied immediately upon recovery. It is important to remember that the recovery of any artifacts from Nikumaroro or its surrounding waters is conditional upon the approval of the government of the Republic of Kiribati which exercises ownership control over them.

ARTIFACTS ONSHORE

Anecdotal accounts of an unexplained "old campsite" on the eastern beachfront and documentary evidence of an unexplained human presence in the same area immediately following the Earhart disappearance indicate a high probability for the discovery on the island of further artifacts associated with the Earhart flight. The navigator's bookcase found in the abandoned village in 1989 exhibits surprisingly little corrosion (as did aluminum objects in the debris of the island's 1944 USCG Loran station) giving reason to expect that other aluminum artifacts associated with Earhart and Noonan still survive in relatively good condition. Ferrous objects fare much worse in the island environment and can be expected to be heavily rusted and in poor condition. Possible opportunities for positive identification of Earhart/Noonan artifacts include specifically identifiable items catalogued in the inventory of the aircraft done following the March 20, 1937 crash at Luke Field., such as:

- Bausch & Lomb field glasses, 6X30, serial no. 221939
- One quart fire extinguisher, Pyrene, serial no. Q-990198
- One and one half quart fire extinguisher, Pyrene, serial no. 116610
- Kodak Duo 6-20 camera, lens no. 865715, shutter housing no. 5116031
- Bone handle, double blade jackknife, no. 22309
- High pressure hand pump, serial no. 799

Also known to be aboard the aircraft in March of '37 was a Pioneer bubble octant borrowed from the U.S. Navy, serial no. 12-36. Other unique objects, such as the 149 gallon fuel tank possibly used as a water collection device, may be positively identifiable by comparison with photographs.

HUMAN REMAINS

Anecdotal accounts indicate that the skeletal remains of Earhart, Noonan, or both may have been discovered by Gilbertese laborers in the early days of the island's colonial period. From what is known of Gilbertese tradition it is virtually certain that if that happened, the bones were buried and the grave marked in the customary fashion (an outline of coral slabs – see photo at left). Such a site was found by TIGHAR in 1989 in a location that does not seem consistent with the burial of a colonist. During the 1991 Expedition, the grave will be examined. Identification of Earhart's or Noonan's remains should not be difficult given the state of the art of forensic pathology. If identification is made disposition will, of course, be at the discretion of next of kin.



While We Are Out —

When you call TIGHAR these days, you may hear an unfamiliar voice. Meet Suzanne Hayes, TIGHAR's new part-time employee, TIGHAR member #672C. Sue comes to us via the Old Rhinebeck Aerodrome where she worked for several years, before moving on to the Smithsonian Institution and then (for a real step up) to us. If you notice you're getting your orders and receipts a lot faster than you used to, Sue's the reason.

IMPORTANT MESSAGE			
TO <u>All TIGHAR Members</u>			
DATE <u>October</u>	TIME _____	A.M.	P.M.
WHILE YOU WERE OUT			
M <u>TIGHAR</u>			
OF _____			
Area Code & Exchange		<u>(302) 994-4410</u>	
TELEPHONED		PLEASE CALL	<input checked="" type="checkbox"/>
CALLED TO SEE YOU		WILL CALL AGAIN	<input type="checkbox"/>
WANTS TO SEE YOU		URGENT	<input type="checkbox"/>
RETURNED YOUR CALL			
Message <u>Will be in all month.</u>			

Operator _____			

An artist and writer, as well as an experienced office worker and a good airplane mechanic, she's just the kind of all-rounder we need our members and employees to be. Welcome aboard, Sue!

One very important consequence of having Sue come to work for us is that TIGHAR's office will be open every business day during the upcoming Earhart Expedition. Mail will be opened, messages taken, calls returned, orders filled, renewals acknowledged, bills paid, and plants watered. So keep those cards and letters coming, folks — we always want to hear from you, and now we won't go deaf while we're in the Pacific.

FOUR TIGHARS AND A MARTIN



Until the morning of August 10, 1991 there was one Martin B-10 known to exist in the world. Now there are two; an example repatriated from Argentina, rebuilt and painted in Army Air Corps colors, and displayed at the United States Air Force Museum, Wright-Patterson AFB, Ohio, and the decrepit corroded remains of an original B-10B researched, tracked down, found, and evaluated by a special TIGHAR team on the west coast of the United States. Its exact location will, for now, remain confidential.

Like almost all TIGHAR projects, this one started with a rumor. On February 8, 1991 a historical researcher at a USAF base called TIGHAR for advice on how to follow up on a local story that a B-10 had once crash landed somewhere on a nearby tidal mudflat. We said we'd try to help and, as a first step, enlisted a qualified TIGHAR member to act as liaison. Kris Tague of San Mateo, California (TIGHAR #0905CE)

did some preliminary research and it soon became apparent that the possibilities and the work called for a full TIGHAR team.

Kris was made Director of Special Project #1, and three other highly qualified TIGHARs, John Clauss of Homewood, California (#0142CE), Asya Usvitsky of Oakland, California (#1100CE), and Russ Matthews of Princeton, New Jersey (#0509CE), were assigned to the job. It was also clear that the project would have to be kept quiet because the mudflat was not far from a major metropolitan area and if it turned out there really was an airplane out there public knowledge of its location would guarantee its piecemeal destruction by souvenir hunters.

The team went to work gathering information from dozens of original sources: Army Air Corps and U.S. Navy records, maps, and newspaper accounts. Yes, a B-10B had gone down on the mudflat. They knew exactly what airplane, where it came from, where it was going, who was aboard and what went wrong. And no, there had been no successful salvage of the airplane and there appeared to be no reason why it shouldn't still be there. But the reports were far from precise in describing just where the airplane had ended up. It should be there somewhere, if anything was left. But where? Modern detailed maps were studied and a specific suspect target identified. Interviews with local people confirmed that

the target was, indeed, some sort of old airplane wreck. Carefully coordinating the field work with tide tables, and using a hovercraft to traverse the mudflat, the inspection was carried out on August 10. It was the B-10. Six months of hard work had paid off with the positive identification of an extremely rare aircraft which had hidden in plain sight for many years.

This was a landmark project for TIGHAR, not so much because of what was found (the aircraft is obviously in very poor condition) but because of how it was found. TIGHAR spent its early years developing and honing ethical standards and investigative techniques which now are being passed on to members through the Introductory Course in Aviation Archeology and through their participation in field operations. Here for the first time a team of TIGHARs, with only general guidance from the professional staff, took a project

from inception to successful conclusion. High academic standards were maintained, the investigation was conducted intelligently, the field work was carried out safely, and the aircraft was found. The total cost to the foundation was \$125. This is the future of historic aircraft research and recovery; trained enthusiasts doing professional quality work at minimal cost under the umbrella of a coordinating international foundation.

For those who ask, "Where is TIGHAR going?" here is your answer. 🐾



The barnacle-encrusted rear canopy lies beside the remains of the rear cockpit it once covered.

TIGHAR going?" here is your answer. 🐾

The two 775 HIP Wright R-1820-25 Cyclones lie where they came to rest 55 years ago.



TIGHAR photos by John Clauss


BUT NOT FORGOTTEN

In January of 1991, we received a letter from Chris Hollinger, TIGHAR #834, of Fairfield, Ohio. His membership had expired, he was out of work, and just couldn't scrape up the \$35 to renew just now, so he thought he'd write and tell us he'd be back someday. Well, there are occasions when loyal support is measured in ways other than dollars. We quietly extended his membership for a year, and asked him to "pay" TIGHAR by recruiting more members – and renew when he had regular work. He responded enthusiastically to this suggestion, and outdid himself in passing out newsletters and conjuring new members out of the Ohio air.


Chris is dead. He died flying co-pilot on a charter flight on March 16 of this year. He was twenty-two years old.

Over this summer Chris' family has worked with TIGHAR to institute a memorial of some kind to make permanent his interest in and support of the organization. We agreed that a donation of a specific amount of money to purchase a specific, long-term asset for the foundation would be the best way to remember Chris. In addition to the asset purchased, the donation will be entered into a permanent book kept at TIGHAR headquarters, and a certificate sent to Chris' family.


TIGHAR wants to say a public and special thank you to the Hollingers for thinking of us, and for continuing Chris' involvement in TIGHAR on a permanent basis. We hope that knowing they have helped in a material way to support the deep interest Chris had in aviation's history will help to ease their grief.

Should any TIGHAR member (or family) wish to make a memorial donation to TIGHAR in the same manner, please get in touch by telephone or letter at any time. 

Apologies

Scrambling to raise the funding, complete the research, and organize the logistics for the up-coming Earhart Project expeditions has, unfortunately, left little time for acknowledging the flood of comments, suggestions, clippings and good wishes which have come in from members. If we haven't had time to thank you individually please accept this poor substitute. TIGHAR relies on you for information, and most of the foundation's projects begin with input from a member. Everything that comes in is carefully read and (in peacetime) acknowledged. We're always happy to hear from you. 

Woodsman Spare That Plane

Clippings of a recent Los Angeles Times article sent in by several members alerted us to an impending salvage operation of airplane wrecks in the Los Padres National Forest. A parts and information marketer known as Wreckfinders had proposed a "clean up" of wrecks in the area. As explained by their spokesman, Terence Geary, "We just sell the parts. We're talking about big bucks." What Wreckfinders didn't count on, and the local U.S. Forest Service didn't know, was that the Historic Preservation Act prohibits such commercial salvage unless steps are taken to insure that historic properties, in this case historically significant aircraft, receive proper consideration and treatment. Once the legal and ethical situation was made known to the Forest Service the Wreckfinders plan was squelched. Thanks to those who sent clippings. 

After much hand-wringing, meditation, and a couple of stiff Scotches we've decided to adopt a new logo. Several members had expressed an opinion that the present logo (thrown together with rub-on letters way back in '85) could stand some improvement so we asked our logo-lama Geoffrey Hurlbut (TIGHAR #242CEB) to see what he could come up




with. True to form, Geoff presented us with a number of good designs among which was this great image in the art-deco style of aviation's golden age. You'll be seeing it more and more as we use up old supplies and have new things done. Your comments, as always, are welcome. 

REDUCERECYCLEREUSEREDUCERECYCLEREUSER

If you receive a package from TIGHAR with styrofoam peanuts used as padding, those peanuts were salvaged and recycled from packages received by TIGHAR. Please pass them on rather than throwing them away.

TIGHAR recycles all cardboard boxes it receives unless they are torn beyond the possibility of use. This includes boxes which once held stationery, file folders, computer programs, office supplies, and any other box of a convenient size. Please re-use these boxes if at all possible.

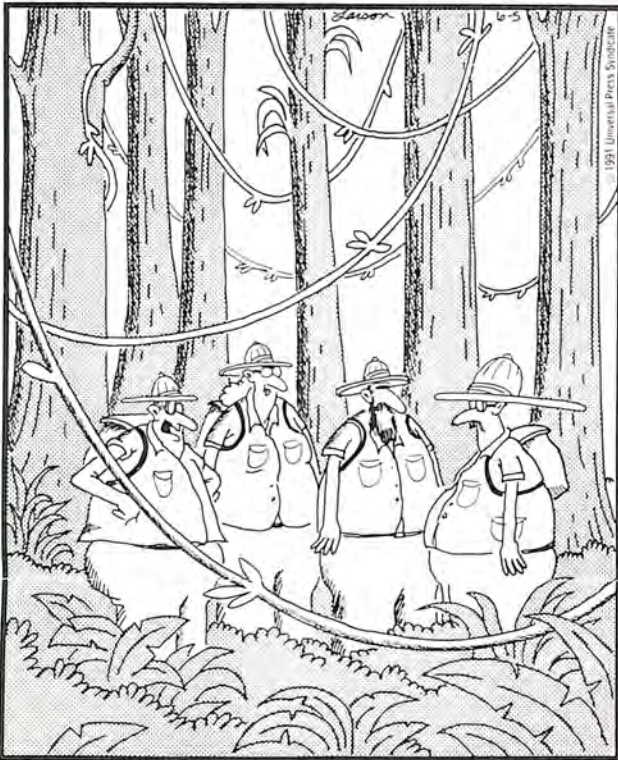
If you receive a mailing tube from TIGHAR and do not expect to have any further use for it, P L E A S E MAIL IT BACK TO US FOR RE-USE rather than throwing it away.

TIGHAR recycles all its office paper, and uses only recycled file folders, presentation folders, hanging files, and other common office products. We use only recyclable copier paper and stationery, and expect to begin using recycled paper within the year, as product availability improves. *TIGHAR Tracks* is printed on recyclable paper; we will begin using recycled paper for *TIGHAR Tracks* as soon as we are able to find a high-quality semi-gloss paper which our printer considers adequate. 

REDUCERECYCLEREUSEREDUCERECYCLEREUSER

THE FAR SIDE

By GARY LARSON



"Well, we're lost. I knew from the start that it was just plain idiotic to choose a leader based simply on the size of his or her respective pith helmet. Sorry, Cromwell."

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TIGHAR (pronounced "tiger") is the acronym for The International Group for Historic Aircraft Recovery, a non-profit foundation dedicated to promoting responsible aviation archeology and historic preservation. TIGHAR's activities include:

- Compiling and verifying reports of rare and historic aircraft surviving in remote areas.
- Conducting investigations and recovery expeditions in cooperation with museums and collections worldwide.
- Serving as a voice for integrity, responsibility, and professionalism in the field of aviation historic preservation.

TIGHAR maintains no collection of its own, nor does it engage in the restoration or buying and selling of artifacts. The foundation devotes its resources to the saving of endangered historic aircraft wherever they may be found, and to the education of the international public in the need to preserve the relics of the history of flight.

TIGHAR Tracks, published seven times each year, is the official publication of The International Group for Historic Aircraft Recovery. A subscription to *TIGHAR Tracks* is included as part of membership in the foundation (minimum donation \$35.00 per year). The editors welcome contributions of written material and artwork. Materials should be addressed to: Editors, *TIGHAR Tracks*, 1121 Arundel Drive, Wilmington, DE 19808 USA, Telephone 302/994-4410. Photographs and artwork will be returned on request.



MEMBERSHIP FORM

I would like to join TIGHAR. Enclosed is my donation of

\$35 for a one year membership

\$60 for a two year membership

\$125 for a five year membership

\$1,000 for a life membership

Please send me —

TIGHAR Tracks seven times a year, and a membership patch and decals
Invitations to participate in expeditions, courses, seminars, and Gatherings
Opportunities to subscribe to special internal TIGHAR project publications
Opportunities to do research, interviews, and reports for aviation historical projects

Name _____

Address _____

Telephone _____

Please return this form with your membership dues in U.S. funds only, to TIGHAR, 1121 Arundel Drive, Wilmington, DE 19808 USA; Telephone (302) 994-4410, 9 a.m. to 5 p.m. EST/EDT, M-F. ALL DONATIONS TAX-DEDUCTIBLE WITHIN THE LIMITS OF THE LAW.

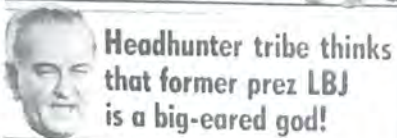


TIGHAR TRACKS

A PUBLICATION OF THE INTERNATIONAL GROUP FOR HISTORIC AIRCRAFT RECOVERY

FLIGHT 19 RETURNS TO MARS

WEEKLY WORLD NEWS




Weekly World News,
December 6, 1988

It was a close one. For a while there it looked like Flight 19 and the Bermuda Triangle might join Amelia Earhart on the Endangered Myth List, but a closer inspection of the five Grumman TBMs found on the ocean floor off Ft. Lauderdale, Florida disclosed that the numbers didn't match those of the fabled lost flight. For the time being, at least, the folks who believe supermarket tabloids, order their lives according to horoscopes, and think playing the lottery is a good bet, can still revel in the image of WWII airplanes circling Mars.

For those of us who like to think we take a more reasoned approach to life, the whole media circus surrounding the discovery, and un-discovery, of Flight 19 is cause for reflection on the real purpose of aviation historical investigation and recovery. Had the five Avengers turned out to be the Lost Patrol, would recovery and preservation have been justified? What's the historical significance of Flight 19, wherever it is? Considered in the context of aviation historic preservation, the answers are quite apparent. The airplanes in question are not particularly rare (something over 50 examples extant worldwide) and the only individual distinction the training aircraft of Flight 19 have is their

connection with the Bermuda Triangle, a phenomenon invented by a features writer on a slow newsday in 1950. Books, television shows, and a guest appearance in Steven Spielberg's 1977 film *Close Encounters of the Third Kind* have subsequently enshrined the Bermuda Triangle's Flight 19 in American folklore. The

justification for the recovery of the Lost Patrol, if it's ever found, would not come from historic preservation as much as from public education (see? airplanes really don't get whisked off to Mars.)

The same applies to The Earhart Project. As an historic aircraft, Amelia's Lockheed Electra (in which no records were set) cannot compare to her Lockheed Vega already on display at the National Air & Space Museum in Washington, D.C. It is only the mystery surrounding the aircraft's disappearance — a mystery as fraught with fantasy as any tale from the Bermuda Triangle — that makes it worth finding. TIGHAR's purpose in solving that mystery is primarily to replace fantasy with facts by using sound investigative methodology. The aircraft itself, if and when it is recovered, will serve as a reminder that no matter how obscured by legend, the truth is still there for those with the will and the discipline to find it. 

ANNOUNCING

An Aviation Archeological Expedition To the Wilds of Delaware July 19-21, 1991 (Fri., Sat., Sun.)

Volunteers are needed for the evaluative excavation of a site suspected to contain the remains of one of the most significant aircraft in aviation history. On January 25, 1934, fire levelled a storage barn on Bellanca Field in New Castle, Delaware, destroying at least seven aircraft. Among them was the Wright Bellanca WB2, "Columbia." Without question the most capable of the transatlantic competitors in 1927, this was the airplane Charles Lindbergh wanted to buy for the New York to Paris flight; but when owner Charles Levine reserved the right to choose the pilot, the deal fell through. Lindbergh had Ryan build him an airplane and, because of Levine's further machinations which delayed Columbia's departure, won the \$25,000 Orteig Prize. Nonetheless, on June 4/5, 1927, Columbia, piloted by Clarence Chamberlin with Levine along as passenger, flew nonstop to Eisleben, Germany, beating Lindbergh's two-week old record by more than 300 miles. Columbia went on to establish many other records and, by 1934, was scheduled for a well-deserved place in the Smithsonian. The fire, in fact, occurred the day before the transfer was to take place. The destruction of the storage barn was complete, and no record, either written or in the memories of former Bellanca employees, has been found to indicate any attempt at salvage. As far as we can determine, the non-flammable remains of Columbia and her stablemates are still there.

Today the Bellanca factory is occupied by a company that makes plastic bottles, and the airfield where the virtuosos of aviation's Golden Age came to confer with the maestro of aircraft design, Giuseppe Bellanca, is grown up to woods and scrub. There among the thorn bushes and poison ivy lies the rubble of a barn foundation, a blacksnake sunning himself on the small mountain of bricks that may well cover some of the most evocative relics of aviation's past.

The land is for sale and slated for industrial development. Once the bulldozers, graders and pavers come through, the chance to save whatever is there will be lost.

With preparations for The Return to Nikumaroro underway there is neither the time nor the funding to do a complete excavation of the site this summer. However, interest in this project among the TIGHAR membership has been considerable and if at least six members are willing to donate \$100 and the sweat of their brows for a three-day weekend, we should be able to conclusively determine if there are historic artifacts at the site. Once the presence of good stuff is established, the site is safe. The same laws that prevent interstate highways from tearing up Native American burial mounds can be invoked to insure that the owner must commission and fund a responsible archeological treatment of the site before any federal permit is issued (EPA, Corps of Engineers, etc.).

This is a Category I TIGHAR expedition, open to any member in good health. Volunteers pay their own transportation and accommodation expenses plus a \$100 contribution toward the general overhead of the project. All direct expenses, and the contribution, are tax-deductible. TIGHAR will provide tools, lunch, cold drinks, and tall tales of other expeditions. We need a minimum of six, but we'll have to cut it off at a maximum of twelve (you can only have just so many people pitching bricks out of one hole), so first come, first served. If this sounds like your idea of a good time, we recommend counselling — but we'll gladly accept your help and your hundred bucks. Use the registration form insert in this *TIGHAR Tracks*. Registrants will receive further details on travel, accommodations, clothing, etc.



Photo courtesy Frank Strnad Collection



Expedition Vessel Selected for The Return to Nikumaroro



Photo courtesy Intersea Research

R/V Acania

Length — 126 feet Beam — 21.5 feet
Draft — 9.3 feet Displacement — 246.8 Gross Tons
Speed — 10 knots
Range — 6,500 Nautical Miles

When TIGHAR's expedition to find and photograph Amelia Earhart's lost Lockheed sails from Honolulu on September 30 it will go aboard a ship which is uniquely appropriate to the task. R/V Acania, owned by Intersea Research of Friday Harbor, Washington, is not only technologically well-suited to support the expedition, but is, herself, an artifact of the Earhart era with a rich and varied history.

Her keel was laid in TIGHAR's home port of Wilmington, Delaware at the late great Pusey & Jones shipyard in 1928. When the stockmarket crashed the next year not everyone on Wall Street jumped out of windows. In fact, a few lucky, savvy, or slippery individuals actually got richer and one of them was banker A. E. Wheeler. (As to which category best describes Mr. Wheeler, we might take a clue from a term originally coined to describe his style — "wheeler-dealer.") The Acania was built, sans-budget, as his private ocean-going yacht at a cost of \$1,000,000 in a day when the workmen who built her took home about \$30 per week. In 1931 Acania was sold to film star Constance Bennet. *[Somebody help us here. Who was Constance Bennet? What were her best known films? Any photos of her aboard Acania?]* During WWII Acania was drafted and served as a Coast Guard cutter *[let's find out where she served and if she saw any action]* and later became a missile tracking ship. She was on the scene July 21, 1961 when Gus Grissom's Mercury capsule took the deep six following the United States' second manned spaceflight. After a stint spying on French nuclear testing in the South

Pacific she was purchased by Intersea Research in 1985. Since then she has been supporting oceanographic work by universities and the U.S. government.

As TIGHAR's expedition vessel for The Return to Nikumaroro, Acania will be re-creating the voyage of one of her contemporaries, the battleship U.S.S. Colorado, when it steamed from Honolulu to the Phoenix Islands in 1937 to search for Amelia Earhart. But Acania's search will have the benefit of more complete information than was available to Colorado fifty-four years ago. TIGHAR's extensive research and the results of our 1989 survey expedition to Nikumaroro have produced a wealth of information about the Earhart flight. Our search tools will include computers, side-scan sonar, a remote-operated vehicle, and metal detectors rather than catapult-launched floatplanes. But some aspects of the search haven't changed. It's still over 1800 sea miles from Honolulu to Nikumaroro, and the island today is little different than it was in 1937. The reef is still a ship killer, the sharks are still more plentiful than almost anywhere else in the Pacific, and the island's tropical vegetation has all but erased the feeble traces of the handful of people who once lived there. What relics of Earhart and Noonan's last days still lie buried in the sands of Nikumaroro? Is the site of their survival camp also their cemetery? And does Lockheed NR16020 rest relatively intact at the base of that reef? There is only one way to find out: go there and look — and the TIGHAR expedition, aboard R/V Acania, will do just that.



THE DARWIN PHOTO



The Darwin Photo — Courtesy Purdue University

On March 21, 1991, Gary Quigg, TIGHAR #1025CE, of Crawfordsville, Indiana, forwarded some documents and photographs he had found in the archives at Purdue University. One of the photos may turn out to be the long-sought proof that the navigator's bookcase TIGHAR discovered on Nikumaroro came from Amelia Earhart's Lockheed Electra.

Labeled simply "Darwin, Australia," the photo (left) shows Amelia Earhart and Fred Noonan standing before the Electra's open cabin door with a pile of equipment at their feet and an unidentified man in a rumpled white suit looking on. What caught Gary's attention was that the photograph provides a rare, if somewhat obstructed, view into the airplane's aft cabin. Maddeningly, the dark interior is a jumble of shapes and shadows, but Gary had Purdue make a blow-up of that portion and sent the photo along in the hope that some information could be gleaned from it. When we examined the blow-up we could see a familiar shape in the area where previous TIGHAR research had indicated the bookcase should be. From the negative Gary sent we had a lightened print made in the hope that more detail could be pulled out of the darkness. The result is reproduced below and clearly shows that there is a box-like structure just to the left of Fred's hip and just below the right-hand corner of the rectangular patch of light in the center of the picture. The proportions of the object appear similar to those of the navigator's bookcase and there is a diagonal line running from the upper right to the lower left of the box which appears to correspond to the stiffener on the side of TIGHAR's Artifact 2-1. But appearances can be deceiving, and the potential importance of the Darwin photo is so great that we had to be sure of what we were looking at — but how?

We decided to approach the problem three ways:

- Attempt to re-create the photo using a navigator's bookcase and a Lockheed 10. Matching the known with the unknown is the essence of identification.

- Find out all we can about the circumstances surrounding the flight at the time the photo was taken. Perhaps there's an alternative explanation for the shape we see in the photo.

- Get an independent evaluation of the photo by the best photo analytical experts available.

To try to re-create the photo John Clauss, TIGHAR #0142CE, of Homewood, California, used an exact replica of the navigator's bookcase (constructed to represent Artifact 2-1 before it was cut apart) and a Lockheed 10A at the Western Aerospace Museum in Oakland. The museum's aircraft, formerly owned by Provincetown-Boston Airlines, has more windows and passenger seats, smaller engines, and a different door than Earhart's 10E. The fuselage dimensions and door opening are, however, identical. John positioned the bookcase where it should be, then duplicated as closely as possible the camera placement and angle of the Darwin photo. The result of the experiment (see photo opposite page) speaks for itself. A navigator's bookcase in a Lockheed 10 looks like what we see in the Darwin photo.

Research into the circumstances of the flight at the time the photo was taken has not turned up any alternative identity for the object in the photo and has, in fact, strengthened the likelihood that it is the bookcase. Earhart and Noonan arrived in Port Darwin, Australia, in the mid- to late morning of June 28, 1937 after a 500 mile flight from Koepang, Dutch East Indies. In a newspaper dispatch Amelia wrote that day, she says that



The Darwin Photo (Detail) Courtesy Purdue University. This photograph has not been artificially enhanced or retouched in any manner.

Late Breaking News on The Earhart Project

A press conference is scheduled for 10:00 AM, July 2nd at the National Press Club in Washington, D.C. at which TIGHAR will announce the results of the independent analysis of the Darwin photo by Autometric, Inc. (see "The Darwin Photo," pages 4 & 5 of this *TIGHAR Tracks*)

Indications, as we go to press, are that the news will be good and by the time you receive this we hope the media will have already told you more than we know now.

At long last we have connected with a first-hand source who can tell us about events on Nikumaroro in the early years of the colony (1938 — 1941). An excellent article about The Earhart Project appeared in the April issue of *Pacific Islands Monthly* magazine and prompted a letter which puts us in touch with the man who was Gerald B. Gallagher's clerk during those years. Gallagher was Officer-in-Charge of the Phoenix Island Settlement

Scheme and a central figure in the island stories concerning the discovery of bones on Nikumaroro. Having a good source to check those stories against should help us sort out folktale from fact and increase the efficiency of the island search this fall.

The \$10,000 deposit on the expedition vessel, R/V Acania, (see story on page 3 of this *TIGHAR Tracks*) has been paid through the dynamic fund-raising efforts of The Pacific Society, a highly respected scholarly organization in Tokyo. Hiroshi Nakajima (TIGHAR #0869), Executive Director of the society, is doing a great job leading the effort in Japan.

More good news comes from Intersea Research Inc., owner of the Acania. The charter immediately prior to our trip has agreed to terminate in Honolulu, thereby saving us \$10,000 in vessel positioning costs.

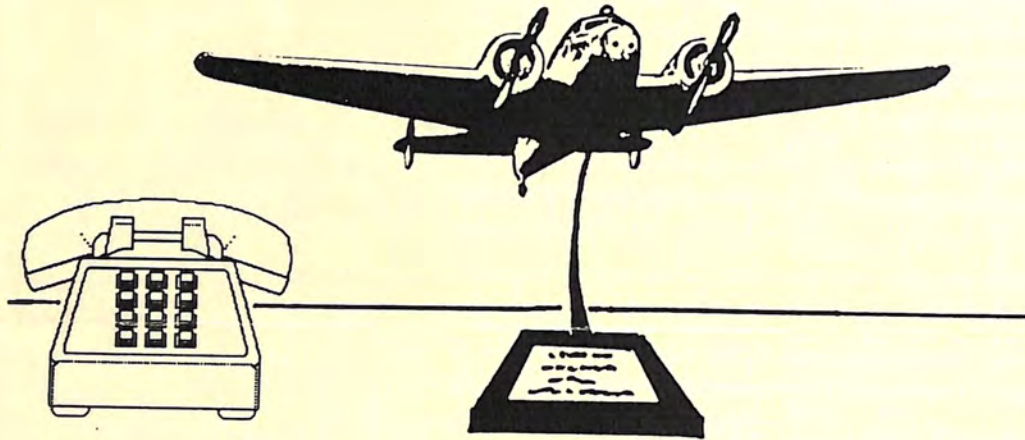
The biggest mystery, at this point, is: Who will get to make the two-hour television documentary?

The longer the various competitors wait to offer an acceptable deal, the more valuable the property becomes. But from TIGHAR's standpoint it's not entirely a question of money. Sure, a nice rights fee will help fund the expedition, but more important is our absolute insistence upon a degree of control over the historical accuracy of the program and over the way our work is portrayed to the public. We have an obligation to you, the TIGHAR membership, to assure that your organization is presented to the world in a way you can be proud of.

Remember, if you'd like to receive regular updates on expedition preparation news you can subscribe to the Project Bulletins for just \$15. •



Own Your Own Electra



We've been looking around for a good way to say thank you to contributors who can make a tax-deductible gift of at least \$1,000 to The Earhart Project. That kind of generosity calls for something unique and we think we've found it: a solid mahogany desk-top scale model of Amelia Earhart's Lockheed 10-E, meticulously detailed and accurate, on a special stand with a numbered plaque featuring the project logo and engraved with the inscription:

*Presented in appreciation for the contributions of
Your Name*

to

*The Earhart Project
Return To Nikumaroro*

by

The International Group for Historic Aircraft Recovery

To our knowledge, no model of NR16020 (or any Lockheed 10 for that matter) is commercially available anywhere. We think it's a fitting way to show TIGHAR's gratitude to those who make the expedition possible.

If you'd like to have your own Electra send your check, payable to TIGHAR, with the notation: Special Contribution to The Earhart Project. We'll put in your order and the aircraft will be made especially for you. These are entirely handcrafted (it took Lockheed four months to build the original). This offer is tied to the fund-raising for The Return to Nikumaroro so now is the time to get your order in.

ORDER FORM FOR TIGHAR STUFF



6/28/99

Name _____

Address _____

Telephone # (VERY IMPORTANT!) _____



What	How Many	What Size	Price	Amount
Books and Information				
Membership Directory (Members Only!)			\$10.00	
Aircraft to Artifact: Proceedings. Transcripts of the Hendon Seminar, September 1990			\$35.00	
The TIGHAR Guide to Aviation Historic Preservation Terminology			\$9.50	
TIGHAR Tracks Collection, 1985 — 1989			\$35.00	
Project Midnight Ghost				
1927 Film (VHS videotape)			\$50.00	
French Government Report (in English)			\$50.00	
Nungesser/Coli Poster — Just A Few Left!!			\$15.00	
The Earhart Project				
Project Book, Sixth Edition			\$100.00†	
Project Book Companion			\$50.00	
Sixth Edition & Companion			\$135.00†	
Slide Set			\$50.00	
The Earhart Project Package (all of the above)			\$175.00†	
The Earhart Project Poster			\$20.00	
Wearables				
TIGHAR Polo Shirt (100% Cotton, dark blue)		M, L, XL	\$26.50	
Earhart T-Shirt Sizes S, M, L, XL			\$15.00	
Earhart Patch			\$7.50	
Earhart Pin			\$7.50	
Shirt & Patch			\$19.50	
Shirt & Pin			\$19.50	
Shirt, Patch, Pin			\$24.50	
Project Midnight Ghost T-Shirt Sizes S, M, L, XL			\$15.00	
Midnight Ghost Patch			\$7.50	
Midnight Ghost Shirt & Patch			\$19.50	
			TOTAL	



† Deduct \$75.00 if you purchased any earlier edition of The Earhart Project Book.

For orders outside North America, please add \$5.00 per book or shirt ordered for shipping.

Please make your check payable to TIGHAR. Return this form and your check to:

TIGHAR • 1121 Arundel Drive • Wilmington, DE 19808 • USA
Phone (302) 994-4410 • Fax (302) 994-7945

HOW TO REGISTER FOR THE BELLANCA "COLUMBIA" SURVEY

WILMINGTON, DELAWARE

- First — The dates below represent the entire survey period. We will need you for the entire time; please try to be available from 8 a.m. Friday through 4 p.m. Sunday.
- Second — Fill out the form. Please be sure to include a daytime phone number.
- Third — Enclose this entire piece of paper and a check made out to TIGHAR for \$100 in an envelope and send it to TIGHAR at the address below. *Please note: space and the kind of work to be done limits us to having 12 people in the field at any one time. Space is reserved on a first-come, first-paid, first-served basis. **Sending the form without a check does not reserve space.***

Friday, July 19. Begin work at site 8 a.m. 1 hour break for lunch and air conditioning hit, 12 - 1. Finish for the day at 5 p.m.

Saturday, July 20. Begin work at site 8 a.m. 1 hour break for lunch and air conditioning hit, 12 - 1. Finish for the day at 5 p.m.

Sunday, July 21. Begin work at site 8 a.m. 1 hour break for lunch and air conditioning hit, 11:30 - 12:30. Finish for the day at 4 p.m.

Name _____

Address _____

Telephone (Very Important!!) _____

I enclose my check for \$100.00 per person.

GETTING READY TO GO



\$414,875 BY SEPTEMBER 29

That's the fund-raising job facing TIGHAR this summer if The Earhart Project Return to Nikumaroro is to go as scheduled. How can we do it? We can't - without your help. You, the members of TIGHAR, made the \$250,000 1989 expedition possible. Over 225 of you bought patches, pins and T-shirts. Some 130 of you made \$100 contributions and received the Project Book. And several of you became full Project Sponsors with contributions of \$5,000 or more (in some cases, much more). It was tough going and scary right down to departure but together we did it. The expedition went out, did its job despite the difficulties and hazards, and came back with the information and artifacts that made possible our present success.

This time the budget is bigger because we'll have hi-tech search capability we didn't have in '89. On that trip our divers could only examine the reef slope down to about 200 feet. On this expedition, Oceaneering International will provide conclusive side-scan sonar search capability down to 2000 feet - but that will cost \$114,000. To put a Remote Operated Vehicle down that deep to photograph what is found will cost another \$45,000. And to charter a vessel suitable to deploy the technology and otherwise support the expedition is yet another \$180,000. These are all very good prices for the services they represent, but they do have to be paid as do airfare, administrative costs, etc. To date, the fund-raising is on schedule with about half of the \$55,000 in administrative costs raised (and spent). In Japan 595 of a projected 1,000 contributors have donated money to The Earhart Project through the efforts of the distinguished Pacific Society. But now, with the diplomatic permission in hand, the ship contract signed, the technology arranged for, and the expedition team selected and in



training, it's time for the fund-raising to move into high RPM.

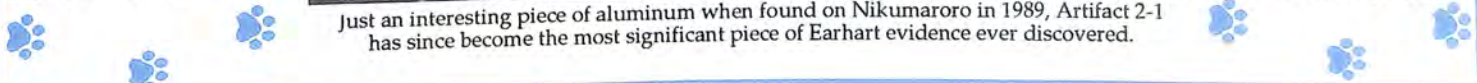
The Amelia Earhart mystery will be conclusively solved only once and the evidence indicates that TIGHAR is going to do it this fall - if we can raise the money. How can we do it? We've come so far and learned so much - how can we not! Won't you become a part of this history-making effort? Won't you join the team? If you're among the many who have helped

before, help again. Not everyone can come along on Acania or search the sands of Nikumaroro, but every TIGHAR who sends us out there will also be there in spirit.

The reverse of this sheet describes a number of ways you can contribute. Use the order form included with this issue of TIGHAR Tracks, or just send a check and say GO GET 'EM, TIGHAR!



Just an interesting piece of aluminum when found on Nikumaroro in 1989, Artifact 2-1 has since become the most significant piece of Earhart evidence ever discovered.



Earhart Project Support

Earhart Project Embroidered Patch or Enamel Lapel Pin

NR16020 is silhouetted in black against a golden tropical sun rising over the blue Pacific. Simple yet striking, the project's logo says it all. Four inch patch or 3/4 inch pin.

The Earhart Project Expedition Bulletins

For a small contribution that really just covers production and mailing, you will receive the same notices that go out to the expedition team members. These meaty news bulletins are designed to keep everyone close to the project abreast of the latest research, preparations and developments. Published on an as-needed schedule, Project Bulletins are the best way to keep up to date on The Earhart Project.



1937 World Flight Poster

Original art created especially for TIGHAR by artist Michael Rodericks, TIGHAR #0341, and reproduced to museum standards on high quality paper. A real collector's item.

The Earhart Project Book, Sixth Edition

The definitive work on TIGHAR's investigation of the Earhart disappearance. Praised by both historical scholars and popular journalists for its readability and meticulous documentation of fact, the sixth edition of this important work will be published as soon as the results of the Darwin photo analysis are complete (early July). Get your order in now. If you have already received the fifth or any earlier edition of the project book you can get the sixth edition for a contribution of just \$25.

The Earhart Project Companion

Twenty-one selected original sources, comprising 107 pages of documents, reports, and records which have been most valuable in TIGHAR's investigation of the Earhart disappearance. A perfect complement to the Project Book.

Certificate of Appreciation

To those able to make a gift of at least \$250 to The Earhart Project, TIGHAR will present a special Certificate of Appreciation (suitable for framing, of course) recognizing your contribution to this historic effort.

The Earhart Project T-Shirt

Nearly 1,000 of these popular shirts have gone out to Earhart Project supporters around the world (400 to Japan alone). 100% cotton in S, M, L, & XL.



All contributions are tax-deductible in the United States within the limits of the law. Use the order form enclosed with this TIGHAR Tracks and send your contribution today!

THE DARWIN PHOTO

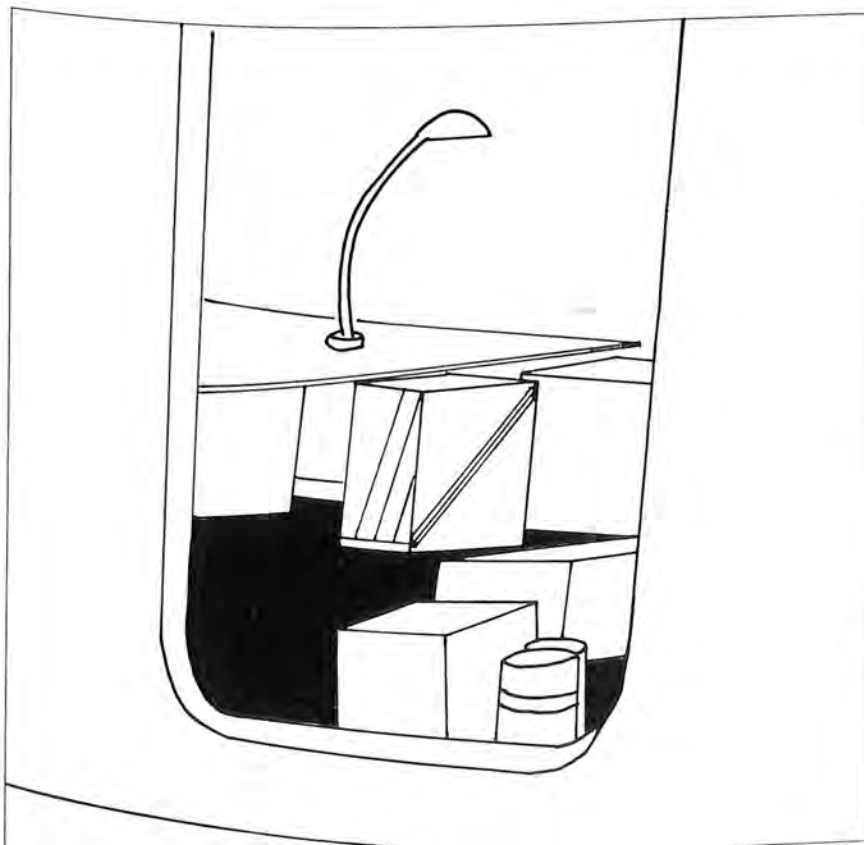
customs officials at Port Darwin had to clear the Electra "... as if she were an ocean-going vessel, but that was done with much dispatch. Inasmuch as we carry nothing but one suitcase apiece and have nothing in the plane but spare parts, fuel and oil, the process is simplified." So the presence of any unusual items aboard the aircraft is denied by AE herself. The guy in the rumpled suit may well be a customs official.

They had hoped to continue on to Lae immediately after refueling, but it had taken them 3 hours and 29 minutes to get to Port Darwin, and headwinds for the 1207 mile leg to New Guinea made an arrival before dark impossible, so they elected to spend the night in Port Darwin. They took the opportunity to off-load excess equipment (note parachutes, spare tailwheel, control yoke, and unidentified canister on the ground) for shipment home before they began the long Pacific legs. A radio problem was traced to a blown fuse which was replaced by an RAAF sergeant who showed AE how to do it (!). Because AE and Fred are wearing the same clothes they have on when they arrive in New Guinea on the 29th, we at first thought this picture was taken that morning before their departure. But the take-off for Lae was made at 06:49 local time and the sun angle in the Darwin photo is far too high for early morning. Fred's unusual rumpled appearance (he was a stickler for good grooming) also suggests that this photo was taken shortly after mid-day on Monday, June 28, 1937.

Although the inside of the cabin looks very confusing at first, a reconstruction, using numerous other photos for reference, is possible. In the sketch below, known features of the aircraft's interior (radio transmitter, navigator's chart table, gooseneck lamp, and auxiliary battery box) are shown in their known positions. Some other objects visible in the photo are included (two boxes, possibly the spare parts AE referred to, and two cans of tomato juice, AE's favorite in-flight drink). Other objects are omitted for the sake of clarity. (In the photo there are what appear to be two bundles of cloth resting against the starboard wall of the cabin and lying on the navigator's table with what might be



Re-creation of the Darwin photo, TIGHAR photo by J. Clauss.



Reconstruction of aircraft interior based upon the Darwin photo.
Sketch by R. Gillespie

a patch of sunlight shining on them. The effect is very confusing.) The navigator's bookcase is shown where it appears in the photo. It does not seem to be affixed to anything but, at the time the picture is taken, is simply sitting on the cabin floor. Why? The answer, of course, is: we don't know. But we do know that the mounting screw on the right-hand side of Artifact 2-1 broke at some time, and we know that a dark stripe of residue which runs diagonally across the back of the artifact was identified by the FBI as adhesive. The evidence, therefore, clearly suggests a failure in the mounting system and a temporary repair. That the photograph shows the bookcase dismounted from its original position after the failure and awaiting re-installation with adhesive is a possibility.

In early May, Autometric, Inc. of Alexandria, Virginia, agreed to do an independent analysis of the photograph using state-of-the-art computer processes and photogrammetry techniques. Equally important (because it wouldn't have happened otherwise), they agreed to do the work as a donation to TIGHAR in the interest of historical truth. Although we have received a preliminary report we've agreed not to reveal any of the findings until their study is concluded.

If the Darwin photo proves to show a navigator's bookcase aboard NR16020 just four days before the aircraft disappeared it will be the strongest evidence yet that TIGHAR has, indeed, solved the mystery of the disappearance of Amelia Earhart.



TIGHAR To TIGHAR

Jennifer B. Baker, TIGHAR #164, of Evans City, Pennsylvania, graduated from Butler Area Senior High School on June 7. Jennifer has been a member of TIGHAR since March of 1986, when she wrote a paper on Nungesser and Coli for her eighth grade history class and got some information from TIGHAR on Project Midnight Ghost. She plans to pursue a career in journalism, but isn't sure yet whether she prefers the world of newspapers or magazines. Either way, TIGHAR will attempt to provide her with copy! Way to go, Jennifer.



Photo courtesy J. Baker

Speaking of graduations, Russell Matthews, TIGHAR #509CE, of Princeton, New Jersey, graduated from Davidson College in Davidson, North Carolina in May. Russ has been a member since December of 1987, and is a victim of several TIGHAR expeditions, most notably the 1989 Earhart Project expedition to Nikumaroro. Russ will be returning to the Pacific with TIGHAR in October of 1991; following that, he hopes to attend the University of Southern California for a master's degree in film. He plans a career as a film director.

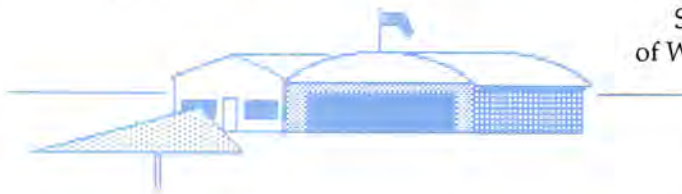
Two TIGHARs have recently published books. We don't have enough room in this issue for reviews, but we want you to know the books are available, and to tell you a little about them. The first one we received was *The Boeing 247: The First Modern Commercial Airplane* by Henry M. Holden, TIGHAR # 1118, of Randolph, New Jersey. The book is a complete history of the 247, and includes many



TIGHAR photo by M. DeWitt

details of William E. Boeing's remarkable airplane, with lots of photographs. It's published by Tab Books, a division of McGraw-Hill. You can write to the publisher at Blue Ridge Summit, PA 17294-0850 (no street address), or to the author at 14 Alpine Drive, Randolph, NJ 07869.

The other book is a real collector's item. By Alexander Roca, TIGHAR #0288, of South Berlin, Massachusetts, it is a beautifully bound and presented limited-edition coffee-table style book, jammed with photographs, information, and artwork about a very rare bird indeed: the Shelton "Crusader." Entitled: *Crusader: The Story of the Shelton Flying Wing, Its Company and Its Creator*, it is published by Rare Birds Publishing, P.O. Box 67, South Berlin, MA 01549. An experimental aircraft of the thirties, it was way ahead of its time in many ways. Some of its design features (that's a line drawing of it there, to the right) can be seen today, incorporated into such aircraft as the B-2 Stealth Bomber. And here's the great part: this book usually sells for \$77.50 + \$7.50 shipping, but Sandy will give a \$10.00 discount to TIGHAR members, AND will donate a portion of the proceeds from sales to TIGHAR members to TIGHAR. Thanks, Sandy, and congratulations on a massive job extremely well done.



Speaking of special offers, here's one from Jeff Plitt, TIGHAR #1232 of Wautoma, Wisconsin for all you TIGHARs flying in to Oshkosh:

Wautoma Municipal Airport (YSO)
N44-02.7 W89-18.4

We will be open 24 hours a day from July 25 until August 3. 10% discount on all fuel, oil and merchandise for TIGHAR members.

FREE Wing Camping.
414/787-3030

There is now an official TIGHAR Ham radio net designed for communication among those TIGHAR members who are amateur radio enthusiasts. The focus of the net, at present, is to solicit and disseminate information which may be useful to The Earhart Project and is therefore known on the air as the Amelia Earhart Search Net. Members Tom Gannon, TIGHAR #0539 of Ft. Walton Beach, Florida (WA4HHJ) and Lynn Wilke, TIGHAR #1131 of Peru, New York (WA2DAC) have organized the net which operates at 20:00 Z on Fridays and 21:00 Z on Sundays. The frequency is 21.383 MHz (15 meter amateur phone band) and if that is not available the alternate frequency is 14.288 MHz. Tom Gannon is the control station for the net so if you're a Ham operator set your beam antenna for Florida and come up on frequency. Tom is one of the originators of The Earhart Project and manned the 1989 expedition's communications base in Suva, Fiji.



Help Wanted — Part time clerical in small smoke-free office. Ideal for retired or semi-retired person. Aviation background helpful. Filing, mail handling; light typing, bookkeeping. 8 - 12 hours/week to start; more hours as business grows. Will train on Macintosh computers. Reply with letter or telephone call to: TIGHAR, 1121 Arundel Drive, Wilmington, DE 19808, 302/994-4410, 9-5 M-F.

This looks like a There's just more to someone to come in a (packaging T-shirts expedition (mid-Sep- for half a day to like to have a interested — ask for

help wanted ad, but what it really is is a sign — a sign that do here than two people can manage, and we need help. couple of mornings per week to do filing and help and posters and so on). During the period of the upcom- tember to mid-November), we'll need the person to handle the mail and take care of essential messages and TIGHAR member in this position. Give us a buzz or Pat to get more information.

TIGHAR is growing. Right now we need prepare mail to go out ing Earhart Project Ex- come in five days a week business. We'd really drop us a line if you're



Notes from the Field

Project Midnight Ghost Expedition XX: April 15 — 30, 1991

The 18 TIGHAR volunteers who searched the Maine woods as part of Project Midnight Ghost Expedition XX arrived with hopes of finding the final answer to one of aviation's greatest riddles: the disappearance of Charles Nungesser and François Coli aboard the White Bird in their 1927 Paris-to-New York attempt. They came away not with dramatic discoveries, but with bits and pieces of hard-won information to add to the jigsaw puzzle. Such is the nature of archeology.

The purpose of Expedition XX was to prove or disprove the hypothesis that the site identified by Expedition XIX on Third Round Lake Hill was the crash site of l'Oiseau Blanc and was where salvagers had collected the wreckage for removal in 1974. Expedition XX disproved that hypothesis. The site was meticulously excavated and, although some additional material was found, there was simply not enough debris there for this to have been the original crash site. Also, a reconstruction of the hauling operation evidenced by the artifacts, when compared with a survey of forest develop- ment at the site, makes it clear that the salvage had to have occurred much earlier than 1974 (more like 1954). A broader survey of the rugged high terrain along the hill's ridgeline found no evidence of a hilltop treestrike.

In summary, we have strong testimonial and circumstantial evidence that the White Bird crashed on Third Round Lake Hill, Washington County, Maine, but no physical proof unless and until

we can es- tive identi- artifacts we We have incon- physical evidence eration which describes a logging road over a mile away.

We have two independent re- ports of a television documentary broadcast c. 1974 which allegedly depicts precisely the scenario indicated by the rest of the evidence: the Nungesser/Coli aircraft crashed in Maine and was later found and removed from the woods. Bill Alexander, #0403E, of Grand Rapids, MI, and Don Ward, #1134CE, of Leesburg, VA, are pres- ently spearheading a renewed effort to track down that documen- tary. Members wishing to assist should contact Bill directly (see your TIGHAR Directory). Richard Pingrey, #0908C, of Selah, WA, is running down some leads on artifact identification. Meanwhile, Project Director Ric Gillespie is starting to pull together seven years of research into a comprehensive project book similar to that written for the Earhart Project. No field work in Maine is planned for the fall of 1991 due to the time constraints imposed by The Return to Nikumaroro. Field work next spring will depend upon the results of the continuing research into this, the most difficult, and to many, most fascinating of TIGHAR's investigations.



establish posi- tion of the have in hand. trovertible of a salvage op- a trail from the hilltop to



The New Breed



When Jimmy finally cleaned his room he found a skateboard, three baseballs and Amelia Earhart.

Reprinted with special permission of Michael Wolf.

TIGHAR (pronounced "tiger") is the acronym for The International Group for Historic Aircraft Recovery, a non-profit foundation dedicated to promoting responsible aviation archeology and historic preservation. TIGHAR's activities include:

- Compiling and verifying reports of rare and historic aircraft surviving in remote areas.
- Conducting investigations and recovery expeditions in co-operation with museums and collections worldwide.
- Serving as a voice for integrity, responsibility, and professionalism in the field of aviation historic preservation.

TIGHAR maintains no collection of its own, nor does it engage in the restoration or buying and selling of artifacts. The foundation devotes its resources to the saving of endangered historic aircraft wherever they may be found, and to the education of the international public in the need to preserve the relics of the history of flight.

TIGHAR Tracks, published seven times each year, is the official publication of The International Group for Historic Aircraft Recovery. A subscription to **TIGHAR Tracks** is included as part of membership in the foundation (minimum donation \$35.00 per year). The editors welcome contributions of written material and artwork. Materials should be addressed to: Editors, **TIGHAR Tracks**, 1121 Arundel Drive, Wilmington, DE 19808 USA, Telephone 302/994-4410. Photographs and artwork will be returned on request.



MEMBERSHIP FORM

I would like to join TIGHAR. Enclosed is my donation of

\$35 for a one year membership

\$60 .00 for a two year membership

\$125.00 for a five year membership

\$1,000 for a life membership

Please send me —

TIGHAR Tracks seven times a year, and a membership patch and decals
 Invitations to participate in expeditions, courses, seminars, and Gatherings
 Opportunities to subscribe to special internal TIGHAR project publications
 Opportunities to do research, interviews, and reports for aviation historical projects

Name _____

Address _____

Telephone _____

Please return this form with your membership dues in U.S. funds only, to TIGHAR, 1121 Arundel Drive, Wilmington, DE 19808 USA; Telephone (302) 994-4410, 9 a.m. to 5 p.m. EST/EDT, M-F. ALL DONATIONS TAX-DEDUCTIBLE WITHIN THE LIMITS OF THE LAW.

The International Group for
TIGHAR
 Historic Aircraft Recovery

THE EARHART PROJECT



Inside
Info TIGHAR
sent to
select people.
My "friend"
forwarded copies
to me.

The Return to Nikumaroro

Project Bulletin # 7

August 27, 1991

FUND RAISING STATUS

With a month to go before our sailing date, and a lot of money yet to raise, we're pursuing ways to guarantee the expedition's on-time departure. These things are always nerve-wracking and never easy to put together, but the evidence justifies the effort and they don't call us TIGHAR for nothin'. As you'll see from the following, there have been some major new developments in both the investigation and the ways it will be carried out. These should, in turn, have a great effect upon fund-raising.

TWO EXPEDITIONS

This fall TIGHAR will conduct two expeditions to Nikumaroro. The October expedition will go as planned with Oceaneering International providing side-scan sonar for the airplane search, and the selected TIGHAR team searching the island for the campsite. In December a second expedition will return to the island with a traditional archeologist who will supervise the excavation of onshore sites identified by the October effort. For the second trip, ten berths aboard *Acania* will be available to Participating Sponsors who contribute \$50,000 each toward the entire project. Because the evidence that important artifacts remain to be discovered on Niku is so strong, the December expedition will go regardless of the results of the October trip. In fact, recent developments have already identified a specific feature on the island needing archeological attention which the October team is not set up to handle (see "A Small and Lonely Grave" later in this bulletin).

The December trip will serve two important purposes :

- It permits the timely excavation of important sites under the supervision of a qualified traditional archeologist. We're not too concerned about security for the airplane because unauthorized salvage would entail a very complicated and expensive operation. But onshore remains of an Earhart/Noonan survival camp or grave are vulnerable to any pirate with a boat and a shovel.
- It provides a powerful incentive for contributions to fund the project. This approach is not an option for the October search effort which will be a much longer and physically more demanding expedition. But the December operations are suitable for anyone in basically good health and, because it won't be encumbered with side-scan sonar gear that must be mobilized and demobilized out of Hawaii, the December trip can stage out of Apia, Western Samoa, thereby drastically cutting sailing time.

Here's the itinerary for the December expedition:

**Archeological Expedition To Nikumaroro
November 30 – December 22, 1991
(Los Angeles to Los Angeles, 21 days)**

November 30 – December 3	Travel to Apia, Western Samoa (Air New Zealand via Auckland)
December 4 – 6	Enroute to Nikumaroro aboard R/V Acania
December 7 – 14	Operations on Nikumaroro
December 15 – 18	Enroute to Apia, Western Samoa aboard R/V Acania
December 19 – 20	In Apia
December 21– 22	Return to Los Angeles (Air New Zealand via Auckland)

Allocation of the ten available team positions will be on a first come basis. Members who would like more information about becoming a Participating Sponsor should contact Project Director Richard Gillespie.

SIXTH EDITION

The Sixth Edition of "The Earhart Project, An Historical Investigation" is, at long last, finished and out the door. If you haven't already received yours, or don't receive it within a couple of days, please let us know. (And if you haven't ordered one, what are you waiting for?) The 86 page book is about 60% new compared with the very popular Fifth Edition and is, for the first time, indexed. The appendices of the Fifth Edition have been moved to a new expanded Second Edition of "The Earhart Project Companion" which has grown to 136 pages. Together, the books make up the most comprehensive documentation and explanation of the Earhart mystery ever assembled. For first-timers the set is \$135. If you've previously purchased the Project Book in any edition the Sixth Edition is yours for just \$25. Likewise for the new Companion. (In other words, if you're a long time project supporter you can get the new set for \$50).

INFORMATION PACKETS

We've also made up special information packets to send out to potential Participating Sponsors (see above). If you know someone who may have \$50,000 to put toward a once-in-a-lifetime experience just let us know.

THE TELEVISION DOCUMENTARY

NBC News Productions has purchased the right to make a television documentary about TIGHAR's solving of the Earhart mystery. Initial plans for a "live event special" have been changed in favor of a more conventional documentary (much to our relief). Broadcast dates have not yet been set. The \$50,000 rights fee paid by NBC is a nice chunk toward the budget and the cameraperson they'll have aboard Acania should get some great material for the documentary. Once the show is made and aired, tapes will, of course, be available.

TEAM ASSIGNMENTS, OCTOBER EXPEDITION

NBC's decision to put one person rather than two aboard Acania has freed up an additional berth for the TIGHAR team and Alternate #1, Alan Olson, has been notified. Alan, who flies MD-80s for USAir, has gotten the necessary leave and is set to go. That still leaves Alternates Gary Quigg and Chris Foltz, quietly hoping that one of their friends and teammates, with whom they've trained, worked, and planned for so long, breaks a leg.

DOCK FACILITIES, HONOLULU

The University of Hawaii has granted TIGHAR use of its Marine Expeditionary Facility at Sand Island from September 25 to September 30 for the purpose of mobilizing for the October expedition. This is a big help to the project as it saves us the cost of using a commercial facility for the mounting of Oceaneering's equipment aboard Acania.

A SMALL AND LONELY GRAVE

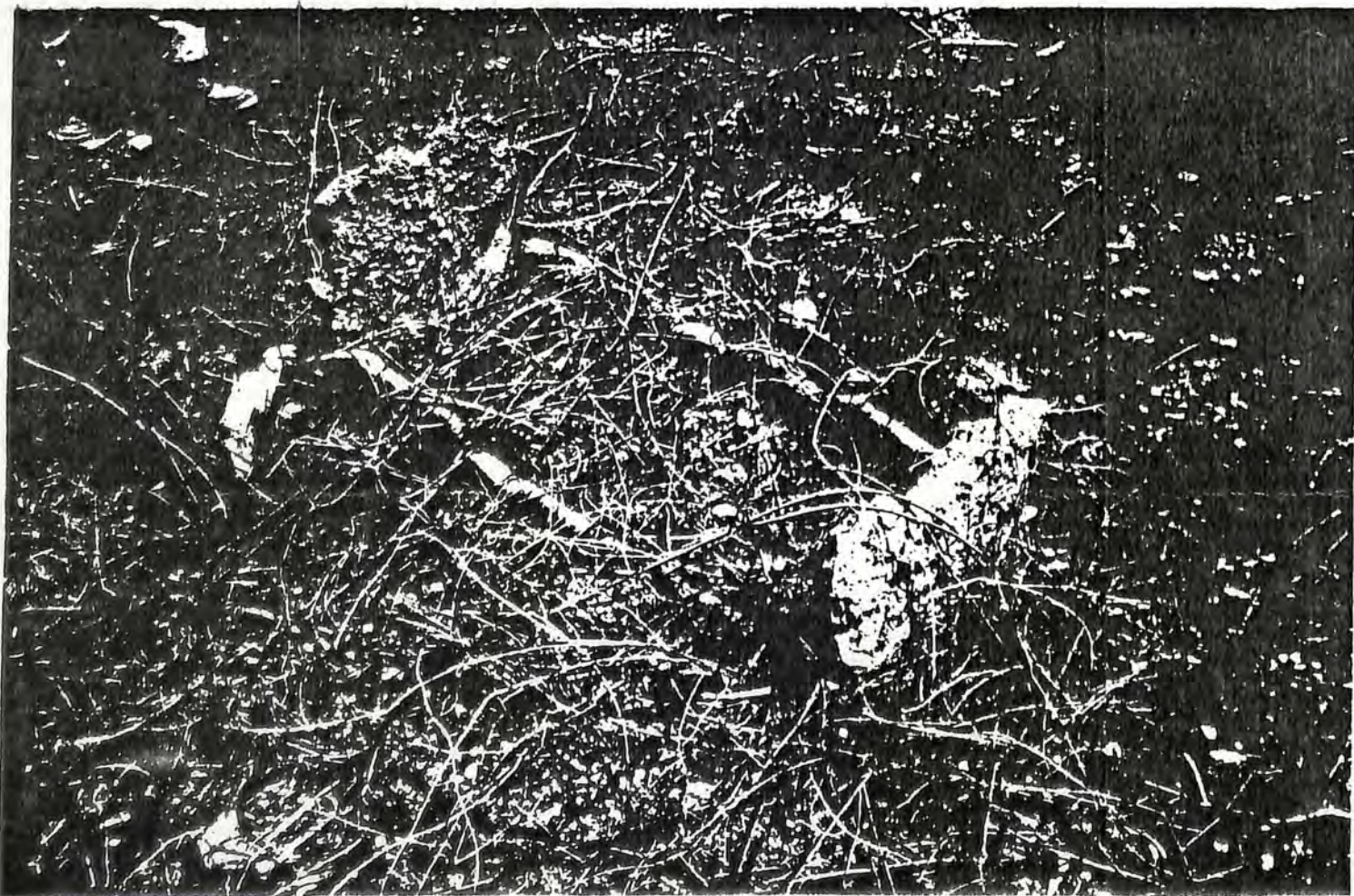
In Project Bulletin #4 (June 24, 1991) we mentioned that Gerald Gallagher's clerk, Bauro Tikana, had been located living in Tarawa and had written that he remembered bones found on Nikumaroro being associated with the shipwreck. We wrote back to Mr. Tikana with more questions and, on August 12, got an answer. It turns out that in the early days of the settlement on Nikumaroro laborers found bones near the wreck of the Norwich City and at the other end of the island. Mr. Tikana doesn't think Gallagher ever knew about the bones found at the southeast end because "he was the only white man there and most of the laborers didn't speak English and were afraid to talk to him and Mr. Gallagher didn't speak Gilbertese."

The revelation that there are two bone stories associated with the early days of the colony makes us wonder which one was the basis of the story told by Floyd Kilts. Also, confirmation of bones found on the southeast end of the island lends a whole new perspective to a minor incident that occurred on the last day of the 1989 expedition.

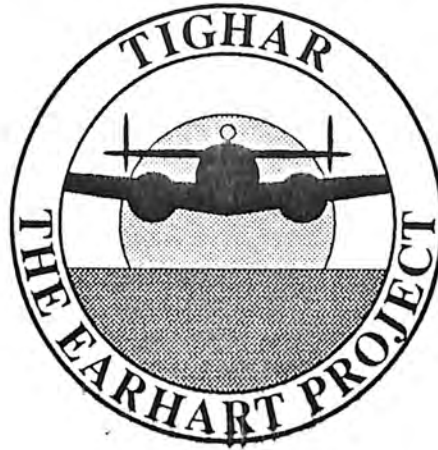
John, Veryl and Leroy wanted to take a quick look at one last section down at the southeast end of the island where no one had gone before. What they found was a pleasant area relatively free of undergrowth with no apparent evidence of human settlement except one small grave, outlined in coral slabs in the traditional Gilbertese style. Only about 3.5 feet long by about 1.5 feet wide, the grave was assumed to be that of a child and little attention was paid to it other than taking a photograph. Subsequent research, however, indicates that a Gilbertese burial of a family member, especially a child, would be made in the village on the family's own land (not on the far end of the island). A grave in a remote location is more likely that of a stranger and the small dimensions of the site might be attributable to it being the interment of an assortment of bones rather than a body. Is this the grave of Amelia Earhart and/or Fred Noonan? The possibility is genuine but we need to learn a lot more about Gilbertese burial customs and collect much more information about the site before we seek permission to open the grave. If research continues to indicate that this is a very interesting grave, the December expedition will deal with it under the supervision of a degreed archeologist after permission has been obtained from the proper authorities. Until we're sure what we have here, TIGHAR will not disclose the specific location of the grave site.

NOTICE FOR TEAM MEMBERS

Please remember to send a photocopy of the first page of your passport, showing its expiration date, to TIGHAR headquarters. Also, remember your medical forms are due in Tommy Love's mailbox by September 15.



The Earhart Project



The Return to Nikumaroro

Project Bulletin # 8

September 18, 1991

With a week and a day to go before our departure from Wilmington on September 26, this is probably the last project bulletin that will go out until after our return in early November. As Project Director, I want everyone who has helped bring The Earhart Project this far to know exactly where things stand at this time.

- Of the project's revised budgeted total expense of \$479,251 we've raised \$137,323 in contributions in-hand, \$22,500 in contributions pledged, and \$128,019 in loans pledged. That leaves a shortfall of \$191,409.
- Most of that shortfall (\$175,613) represents Oceaneering International's participation (\$146,970) plus shipping for their equipment (\$26,643) and transportation for their staff (\$2,000). We asked Oceaneering to do the job on spec but the CEO said no. Oceaneering has already spent about \$50,000 in preparing for the job as their contribution to the project and the quoted price for the work is somewhat below their cost. All the side-scan sonar equipment and the Remote Operated Vehicle (ROV) is packed, standing by, ready to go, and they'll remain on alert until September 25 (one week from today) which is the last possible day they could ship and still get everything aboard in time for our departure.
- If we postponed our departure more than a couple of days we'd lose any hope of getting Oceaneering aboard (they have other projects clamoring for the equipment), we'd lose Acania (and probably the \$35,000 we've already got in her), we'd lose much of the team (who have arranged their lives around these dates), and we'd lose our credibility. Come hell or high water, Oceaneering or no Oceaneering, we sail for Nikumaroro on September 30.
- If we have to go without Oceaneering we go without any reasonable expectation of finding and photographing the airplane. We would, however, still have every expectation of finding other proof onshore. But aside from the research aspects we have to consider the media aspects. NBC would not be happy (we've already alerted them to the possibility) but would still come along. Also, without Oceaneering we reduce the project's marketability to other media, such as

magazines, books and motion pictures, by (best guess) at least 60%. Obviously, if there's any way to do it we've got to find a way to get Oceaneering aboard.

- So far we've had no takers on the \$50,000 per berth December expedition idea. At this point we're concentrating our funding efforts in the areas which have been most successful for us; straight charitable contributions and the sale of media rights.
- On the plus side, media interest in the project remains very high. LIFE magazine wants to do a major story and is willing to pay for it. How much they're willing to pay depends upon whether other facets of the TIME/Warner empire (HBO, Little-Brown Publishing, Warner Bros.) want to buy a piece of the action. A "package deal" with TIME/Warner could solve all the problems. At this point, LIFE has said they're definitely interested and we're on the phone daily with one of their senior editors. TIME/Warner's "synergy guy" has enthusiastically forwarded TIGHAR's proposal to the three other regions of the empire (TV, books and film) and we're presently awaiting their reaction. Somewhat to our surprise, the media are no longer saying, "This will be a great story if you find her." We're now hearing, "This is a great story regardless of what happens. And if you find her - wow!" Of course, this approach makes it all the more important that we find a way to put Oceaneering aboard.
- There appears to be only one thing for us to do. For the next week we're going to pull out all the stops to complete the full funding for the project. That means begging, borrowing or stealing \$200,000. We'll go public with the need and see if we can get the press to spread the word. That could bring a hero out of the woodwork. We'll also be on the phone to every potential sponsor we can think of. LIFE magazine is already helping with contacts and research. There is, of course, the possibility that TIME/Warner itself could be the answer, but we can't afford to count on it. We've been going at full throttle here for some time but for the next week we'll be at war-emergency power.
- One of the realities we'll have to deal with is that, with Oceaneering aboard and a contract with LIFE magazine, we'll need to make room aboard Acania for a LIFE photographer and (possibly) a reporter. Also, without a reasonable expectation of being able to do a December expedition, we need to put an archeologist aboard on this trip (an evaluation of the grave site by scholars familiar with Gilbertese custom indicates that it is most probably the grave of an I-Matang, an outsider, a white person not associated with the colony). The only way to make room aboard ship is to cut people from the TIGHAR team and the very thought of doing that makes my blood run cold. It's like saying, "The life boat is too full. Which of your family are you going to put over the side?" If the time comes we'll first call for volunteers, but the cuts will be made.

That's where we are. Next time some reporter tells me how lucky I am to have such a neat job I may kill him. Break the piggy banks, call in the favors, mortgage the cat, hoist the Jolly Roger. They don't call us TIGHAR for nothin'.

COMMUNICATIONS DURING THE EXPEDITION

An issue of *TIGHAR Tracks* will go to the printers before we leave and be mailed out while we're gone so that everybody will know how everything worked out. During the expedition TIGHAR headquarters will remain open and be staffed by TIGHAR's new administrative assistant Sue Hayes (TIGHAR #0672C). Gary Quigg (TIGHAR #1025CE) of Crawfordsville, Indiana will handle media contacts during the expedition and disseminate any news that is released. However, for reasons of site security, we presently plan to make no announcements from the island. We will check in with Sue and Gary once a week with an "all's well" for the sake the team members' families. We should be back in Delaware by November 4.

Prior to departure, please feel free to call me or Pat with solid fund-raising leads, contacts or pledges. Please don't call to chit-chat. For the next little while we've all got our work cut out for us.

October 3, 1991

Mr. Kaburoro Ruaia
Assistant Secretary of Foreign Affairs
P. O. Box 88
Bairiki, Tarawa
REPUBLIC OF KIRIBATI



Subject: Search for Amelia Earhart and Fred Noonan

Dear Eminence:

Thank you for taking my call today (Friday, 5:00 p.m. Tarawa time). It was a real pleasure talking with you. As promised, enclosed is a copy of Amelia, My Courageous Sister, a book written by Muriel Earhart Morrissey and myself. Muriel and I spent years researching and writing our book. We developed a chronology of Amelia's last flight, selected from thousands of pages of records from the U.S. Naval Archives, *Itasca* Coast Guard ships' logs, White House records, and data from Lockheed Corporation, Pratt & Whitney, the Japanese Government, and many other sources.

Very simply, our analysis of Amelia's last flight is summarized in Chapter 20 (pages 266-296). Prior to the map on page 290-291, we have tried to give you all known data available. The book was written in 1987 and there have been more recent facts that have come to light, that are of course, not included in our book. None of these new facts point to Nikumaroro as having been a possible landing site.

Muriel and I feel, from all known evidence, that Amelia's radio signals were strongest 19 hours and 28 minutes into her flight, when she reported, "...We Are Circling But Cannot Hear You..." Amelia flew for another hour, what she did may never be known. According to the *Itasca* log on page 244, "...Toward the end Earhart talked so rapidly as to be almost incoherent..." Muriel and I know, Amelia was a cool and professional pilot who never panicked before! The *Itasca* log indicates to us that something must have been drastically wrong, ie. she was running out of fuel. It seems to us that Amelia's plane was submerged within minutes after her last radio message and probably within one hundred (100) miles of Howland Island.

Also enclosed are several photographs, per your request. I am sending 2 photos (identified on the back) of Muriel (Amelia's sister), and one photograph of myself with Joseph Gurr (installed the radio equipment in Amelia's plane in 1937). The forth photo is of Joseph Gurr holding an autographed photo of himself and Amelia in 1937.

Please contact me if you have any additional questions or I can be of some service. On behalf of Muriel Earhart Morrissey, I am grateful for your help and interest. I would like to take this opportunity to reiterate: we respectfully request that you withdraw any permission that TIGHAR may have been granted to disturb any and all grave sites on land that is controlled by the Republic of Kiribati.

A handwritten signature in cursive script, appearing to read "Carol L. Osborne".

Carol L. Osborne, Aviation Historian
2464 El Camino Real, # 99
Santa Clara, CA. 95051

home phone (408) 244-6114 [between 8 p.m.-7 a.m. California time]

cc: Professor Harry Maude (autographed by Muriel and myself)

COPY

CT. 13/9/1991

Earhart theory

HONOLULU: Two researchers have produced a photograph of a short-haired woman in a short-sleeved shirt which they say shows that Amelia Earhart survived after her plane vanished over the Pacific Ocean in 1937.

Joe Gervais and Rollin Reineck believe Earhart and navigator Fred Noonan were captured by the Japanese after their plane went down in the Marshall Islands and that Earhart was held in a prison camp in China. They say Earhart returned to the United States with a new identity after the war and died in New Jersey in 1982.

Child d...

TIGHAR TRACKS

A PUBLICATION OF THE INTERNATIONAL GROUP FOR HISTORIC AIRCRAFT RECOVERY

BATTLE OF BRITAIN II



TIGHAR photo by P.R. Thrasher

New fiberglass Spitfire and Hurricane gate guardians at the Royal Air Force Museum, Hendon, London.

TIGHAR's *Aircraft to Artifact* seminar at the Royal Air Force Museum is now history, and no one who was there is likely to forget it. Directors and representatives from ten museums and collections in eight countries spent two intense days discussing and debating the principles which define their profession. An audience of Europeans and Americans participated in lively and often heated discussions with a panel comprised of some of the most distinguished names in aviation historic preservation. The opinions offered were as diverse as the accents in which they were expressed, but debate did bring consensus on some

issues, and the promise of eventual agreement on others.

An analysis of what was said must fairly wait upon the transcription and review of the tapes made during the seminar. These will be published as Proceedings later this fall and made available to all TIGHAR members and interested parties at minimal cost.

It is TIGHAR's hope that out of this seminar can come the beginnings of agreed-upon standards, definitions, and protocols for the entire aviation historic preservation community. Watch for much more on this very important effort.



L to R: Moderator, TIGHAR's Richard Gillespie (in profile) and the distinguished panel: Stephen Grey, The Fighter Collection, Duxford; David Hallam, Australian War Memorial; Tom Crouch, NASM; David Lee, Imperial War Museum; Michael Fopp, Royal Air Force Museum.



TIGHAR photo by P.R. Thrasher

THE TOUGH ONE

On October 1 TIGHAR teams will begin the 19th expedition in search of the French transatlantic fliers who vanished, in Lindbergh's words, "like midnight ghosts" just days before his New York to Paris triumph. Over six years of work, countless hours of searching by TIGHAR volunteers, usually under uncomfortable and sometimes hazardous conditions, something over \$200,000 raised, virtually all in contributions of less than \$100 — Why? Why the persistence? Why the sacrifice? Why the dedication?

Bone stupid, that's why. Or so it seems in the darker moments when a promising lead has, once more, turned out to be a dead end. But there are other reasons, of course.

There's the challenge of attempting the nearly impossible. Finding an essentially biodegradable airplane that crashed over sixty years ago, from which the bigger metal bits, like the engine, have very likely already been salvaged — that's a pretty good definition of difficult.

There's the knowledge of the forgotten historical significance of the Nungesser/Coli flight: The realization that had they made it to New York, Lindbergh would not have flown the Atlantic, would not have become America's greatest 20th century hero, would not have pioneered the airline routes he later explored, would not have inspired a whole generation of American youth who designed, built and flew the machines that won World War II, and who now sit in the board rooms of the world's great aviation companies. How different would our world be were it not for the events of that foggy day in 1927 when the White Bird did not arrive in New York?

Perhaps we continue the search because each time we've thought we were up against a blank wall, some new piece of evidence or testimony has emerged like a ray of light. This exhilaration of discovery is the energy that drives all research, whether historical or scientific. It's the ultimate human addiction — the thirst for knowledge.

Then, too, there is something we call "the curse." It's the force of the story itself, the gothic romance that is the tale of l'Oiseau Blanc, captivating the searcher and creating in him or her a feeling of being part of the story by the very act of searching. And, of course, that feeling is absolutely correct.

Finally, we continue to search for the White Bird because the project has shown itself to be the best of proving grounds for aviation archeological techniques. By constantly testing and revising investigative logic, witness interview style, metal detection procedures, search patterns, artifact excavation, and a host of other disciplines, we have developed skills that have brought success to other, less difficult, projects.

So that's why TIGHAR will be back in Maine for the month of October — because we must. As Charles Nungesser said, "To the valiant heart nothing is impossible, even in its most terrible aspect."



TIGHAR conducts business as usual during expeditions in Maine. Mail is forwarded, or you can write directly to TIGHAR, P.O. Box 73, Machias, ME 04654. From October 1 through October 27 you can phone expedition headquarters in Machias at (207) 255-8800. A machine will take your message and we'll return your call in the evening when we come in from the field.

... NOR ANY DROP TO DRINK



There has been an important new development in TIGHAR's investigation of the Earhart disappearance. On August 25, 1990 the following letter was received:

Dear Patricia Thrasher:

If you are reading this I am half way home, as I am seeking the Patricia Thrasher mentioned in the Associated Press article about the search for Amelia Earhart's plane. The article says the organization is based in Wilmington and yours is the only Thrasher name listed in the telephone book ... so I hope I got this right.

The article says your group has found a navigator's box picked up on Nickumaroro (sic) and also mentions the Coast Guard base located there during WWII. I was stationed on that base for a good part of the time it was in operation. ... Of course, we were not stationed on Nickumaroro, it was still Gardner in those days.

Among other things, the article indicates you are inclined to discount the idea that the box came from a PBX used to service the base. Your idea is very sound. 99% of our supplies, mostly diesel fuel, came by boat. The PBXs brought our mail about once a month. They arrived from Canton about 10 AM, always landing in the lagoon. They were back in the air by about 2 PM - since there wasn't a damn thing for them to do while they were there. There was never an occasion when one stayed overnight and never, while I was there, did any of them have anything other than a routine landing and takeoff. ... I think you are safe in assuming with absolute certainty that the mysterious box did not come from a PBX connected with the Loran base.

I would also be interested in learning the general location on the island where

you found the box. ... The base was built on the tip of the tear drop ... [t]he native village was North, beyond the inlet, near the shipwreck. ... So if you found things on the East side of the island, you can be pretty sure it had nothing to do with the base. To my knowledge there were only three times when anyone went over there. With one exception we found nothing but turtles.

The exception was a small structure we found designed to collect rain water. We assumed the natives had built it and we ignored it. But when we mentioned it to them a few months later they didn't know anything about it. We suggested that a previous group of natives had built it but they said there were never any people living on the island (prior to their arrival). All we were sure of is that we didn't build it and neither did the natives.

I hope these tidbits of information might be of help to you and, naturally, would be happy to supply you with anything else I might know that would be helpful.

If you are not the Patricia Thrasher who is President of TIGHAR and therefore never received this letter, please ignore it. In any event, Good Luck.

Richard K. Evans, PhD

Knowing Nikumaroro's history and topography as we do, we were intrigued by this report of a structure on the island's eastern shore, so we immediately telephoned and found Dick Evans to be as affable and helpful as his letter implied. Now 64 and recently retired from the Labor Relations department of the Pennsylvania state government, he was an 18 year old Coast Guardsman in 1944 and the youngest man at the Gardner Loran station. The "small structure ... designed to collect rain water" was found during a casual exploratory hike about a month or six weeks after he arrived at the island with the original construction detachment. Others who were with him that day included "Mac" McDonald

from Nebraska, Herb Moffett from Hemmett, California, and Charlie Race, a Pharmacist's Mate from Ft. Worth, Texas. Our subsequent attempts to find them have not been successful.

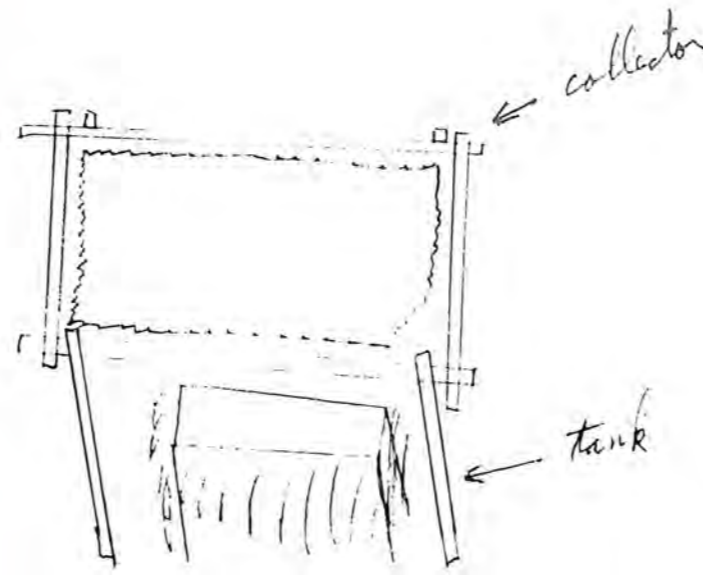
Dick was able to provide further details concerning the structure's make-up and location as well as a rough sketch of what he remembers seeing. After studying his testimony and comparing it with what we know of events in 1937, we were struck by a number of interesting apparent correlations.

The presence of such a structure on the island's eastern shore is indeed unusual. Dick says it was "less than halfway up the beach." That puts it somewhere along about a mile of some of the most unpleasant beachfront on Nikumaroro. The eastern side is the windward side of the island, and those TIGHAR members who participated in the brief survey that was done in that area on September 25, 1989, will remember the constant 15 to 20 knot wind, the soft, steeply sloping beach, and the ceaseless, deafening pound of the surf along the reef. To attempt a boat landing here would be suicidal, and no work party ever tried to clear the dense beachfront scaevola brush to plant coconuts on this part of the island. Neither is there any apparent reason for anyone to camp on the ocean beach rather than on the sheltered lagoon shore just a few hundred yards inland unless they needed to watch the ocean horizon. What Evans saw seems explainable only as a wreck survivor's attempt to get drinking water and shade while awaiting rescue. We can certainly understand the motivation. TIGHAR teams were consuming upwards of a quart of water an hour in the island's 120°F heat, and in the entire three weeks we were there only two brief rain showers passed over Nikumaroro.

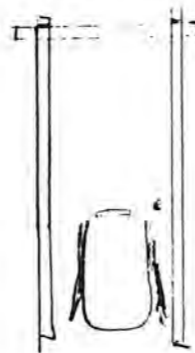
The structure itself, as Evans remembers it, seems odd. He says the upright supports were made of tree branches and stood about six feet tall. They supported (he doesn't remember just how) a piece of heavy cloth or canvas which he estimates was about eight feet long by about three feet wide. He describes the material as being light tan in color and similar in weight to a sailor's hammock. The tank which caught the rain was, he estimates, about five feet by two feet by two feet. Although he doesn't know what it was made of, it had coral piled around it and was full of water when he saw it.

There is nothing occurring naturally on Nikumaroro (larger than a coconut) from which to make a watertight container. The Gilbertese colony used concrete cisterns and corrugated iron sheeting to catch rainwater. So what was the tank Evans saw made of? It had to be metal of some kind, but the only metal tanks on the island in pre-colony days were massive steel structures from the wreck of S.S. Norwich City at the northwest end. A steel tank of those dimensions would be so heavy as to be difficult to move to the other end of the island, and would not require coral piled around it to keep it upright. We're left with the probability that it was an aluminum tank. But where could it come from? Faced with an anomalous artifact unexplainable in the context of the island's known history, we must consider the possibility that it is connected to the only known alternative explanation, that of the Earhart disappearance.

The 149 gallon main fuel tanks in the fuselage of NR16020 were very similar in dimension to the tank described by Evans. They were, of course, aluminum, and weighed 64.3 pounds each (according to original CAA records). Readily removable from the aircraft (they were just strapped down and would fit through



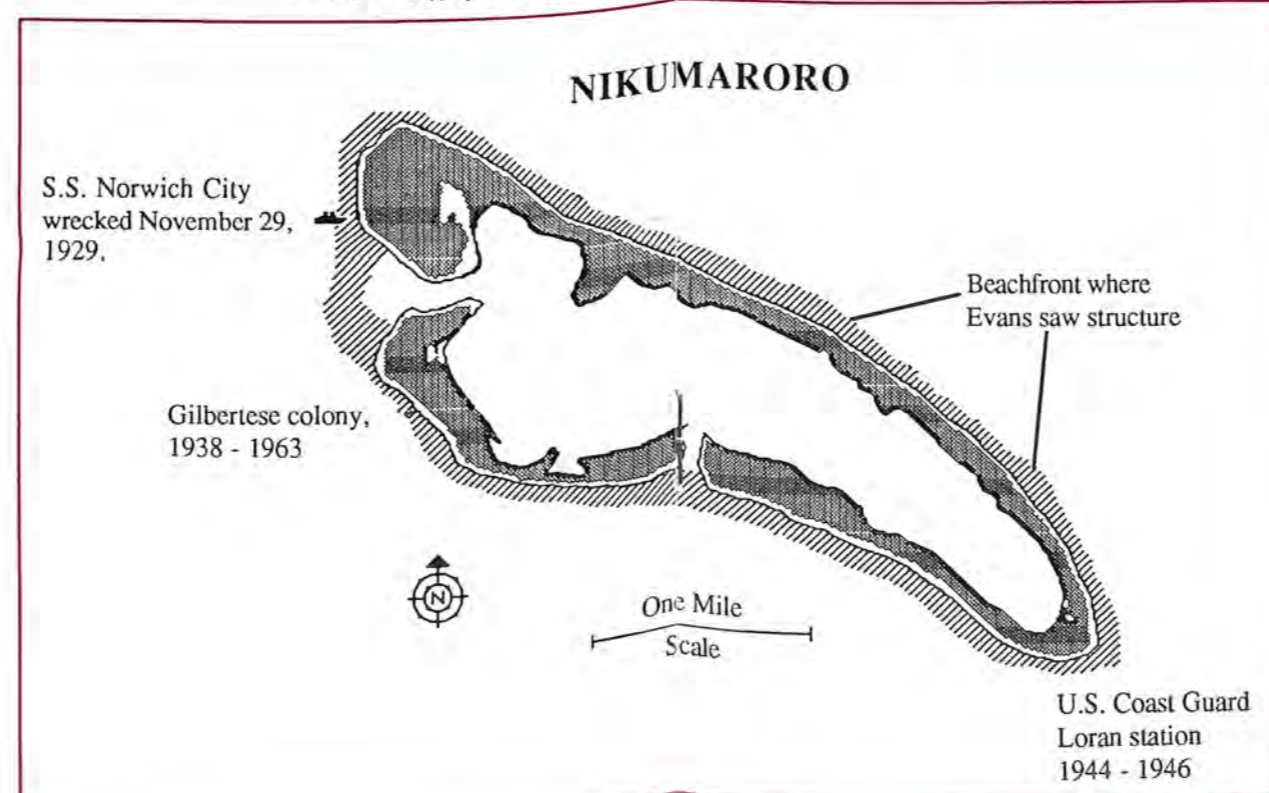
admission



the tank itself was covered with something you could sit or lean on. it did not seal the top, you could reach in to the water. The water level was up to the edge. The tank had coral piled around it.



Main fuel tanks as installed in Earhart's Electra.
Photo courtesy Lockheed Corp.



the door), an empty tank used as a cistern would need to be stabilized with coral slabs as Evans describes. One cannot help but notice the similarity between Evan's sketch of the tank with "something to lean or sit on" partially covering it, and the Lockheed photo (which Evans had never seen) of the fuel tanks as installed in the Electra.

The "piece of heavy cloth or canvas" described by Evans is also interesting. A March 7, 1937 article in the New York Herald-Tribune includes an interview with Amelia in which she describes "specially made covers of Grenfell cloth for the propellers and engines." How big would a piece of Grenfell cloth have to be to cover the nacelles and face of the Electra's R1340s? About eight feet by three feet would do it. And what, by the way, is Grenfell cloth? TIGHAR researcher Bob Kujawa (TIGHAR #962) came up with the answer from Fairchild's Dictionary of Textiles: "A closely woven twilled fabric of ply yarns of Egyptian cotton. Water repellent, windproof, and reversible." Wherever the cloth came from, it could not have been more than about 10 years old when Evans saw it in 1944, for the intensity of the equatorial sun is devastating to organic fibers.

But perhaps Dick Evans' testimony is not the first report we've had of such a structure seen on the beach at Nikumaroro. We have long wondered what Lt. John O. Lambrecht, Senior Aviator, U.S.S. Colorado, saw that caused him to include the following passage in his official report of his flight over Gardner Island on July 9, 1937, one week after Earhart disappeared:



"Here signs of recent human habitation were clearly visible, but repeated circling and zooming failed to elicit any answering wave from possible inhabitants, and it was finally taken for granted that none were there." (Aircraft Search for Earhart Plane, Lt. John O. Lambrecht USN, to Chief of the Bureau of Aeronautics, 16 July 1937.)



On September 20, 1989, a Royal New Zealand Air Force P-3 Orion flew over Nikumaroro and engaged in "repeated circling and zooming" over the island and over TIGHAR's expedition ship Pacific Nomad. The crew of the P-3 failed to see more than a dozen people on the island, in the open, dressed in colorful clothing, jumping up and down and waving. But we had a way home . . .





BOOKCASE UPDATE



Although the photo of "our" bookcase in Earhart's airplane has yet to surface, a great deal of other information has come out as a result of the search. The appeal for research help in the last issue of TIGHAR Tracks (see The Grail, Vol. 6, No. 3) brought a flood of excellent work by TIGHAR members all over the U.S. and, so far, everything we learn seems to bring Artifact 2-1 closer to being the long-sought proof that we have the answer to the Earhart riddle. Even some of those who espouse other theories have uncovered information which strengthens TIGHAR's hypothesis while trying to disprove it.

Where did the books come from?

Elgen Long is a retired airline captain who has spent many years researching the Earhart disappearance. He believes the airplane ran out of fuel and ditched at sea northwest of Howland. Although we disagree with his conclusions, we respect the tremendous amount of information he has gathered over the years and have always enjoyed a friendly and open relationship with Captain Long in the belief that honest peer-review is a cornerstone of sound research. In that spirit we sent him a copy of the project book and asked for his comments and criticisms. He reviewed his several hundred photos of the Electra in an attempt to either confirm or deny our suspicions that the bookcase came from NR16020, but what he came up with was both frustrating and fascinating. He was unable to find photographic coverage of two important areas within the airplane, either of which would be logical locations for a navigator's bookcase. Neither was he able to find, in the remainder of the airplane, any means for stowing a navigator's books. Among his files was a copy of an inventory of the contents of the Electra made on March 20, 1937. That was the day Amelia wrecked the airplane in Hawaii on the first 'round-the-world attempt and then turned it over to the military for preparation for shipment home for repairs. In the process, a very detailed inventory of all contents of the airplane not affixed to the airframe was made. That inventory clearly lists the navigator's reference books but, unlike all other instances where bags, boxes or containers are listed along with their contents, no

means of stowing or carrying the books is listed. We must conclude, therefore, that whatever the books were in remained in the aircraft as an installed component. Whatever they were in does not show up in Elgen Long's photos and so must be in one of the two areas as yet not seen in any photo.

Bo Doesn't Know

Memories are not nearly as good as photographs, but when we learned that Earhart's mechanic, "Bo" McKneeley, was still alive it seemed worth a try to see if he remembered how the navigator's station was set up. The only address we had for him was in Houston and that proved to be no longer good, but the TIGHAR network once more came to the rescue. One call to Houston member Rick Siciliano (TIGHAR #247) and some on-site investigation resulted in a current address for McKneeley in no time. Unfortunately, after all that, Bo McKneeley just doesn't remember any more and, of course, we'd much rather have someone say they don't remember than have him remember poorly.

Fuzz Does

Francis O. "Fuzz" Furman remembers a great deal about the time he spent with AE and Fred in Java while they were having some repairs made to the airplane. Fuzz was the representative of the Martin Company servicing the new B-10 bombers used by the Netherlands East Indies Air Force. He spent five days with Earhart and Noonan while mechanics fixed a broken exhaust gas analyser on the Electra. He remembers that AE kept to herself, took her meals in her room, and frequently called

1	Ca.	1 Ct. Seairight containers
1	"	Sextons, type 4 M
1	"	Atto 5 M
1	Adl.	Containing: 4 Prop. Blade Covers and 2 engine covers
1	Plg.	Kleener
1	Ca.	Tunnel with onsmois strainer
1	Plg.	Air Bottles for life jackets
1	Ca.	Fuel tank gauges
1	Boos	Radio Aids, Navigation
1	Box	Lead Pencils
1	Boos	List of Broadcasting stations
1	"	American Nautical Almanac 1937
1	"	List of Coast Stations & Ship Stations
1	"	List of Aeronautical Stations & aircraft stations
1	"	List of Stations performing special services
1	"	Navigation tables for Mariners and Aviators
1	En.	Envelope containing miscellaneous navigation papers
1	"	Parallel
1	"	Dividers
1	"	Scratch Pads

Excerpt from inventory of NR16020 made March 20, 1937, following groundloop accident at Luke Field, Oahu. Note nine various books listed, but no listing of any case to contain them, although the envelope containing parallel, dividers, and scratch pads is separately catalogued. Whatever the books were in stayed in the airplane. Note also the bundle "Containing: 4 Prop. Blade Covers and 2 engine covers."

her husband, George Putnam, on the telephone. Furman spent most of his time with Fred Noonan, who he remembers as being quite concerned about the upcoming Howland leg. But far from hitting the bottle as some have alleged, Fuzz remembers Fred as never taking a drink while he was in Java, and being almost obsessive about checking his chronometers for accuracy. He does not remember Fred having his navigational books out of the airplane, nor did Fuzz ever have occasion to board the Electra, so he was unable to help us regarding the bookcase.

Paint Drips and Screw Heads

Research into the physical characteristics of the artifact itself has been more rewarding. An inspection of the paint remnants visible on the bookcase by Alexander A. Chasan, Coatings Specialist at the U.S. Navy's David Taylor Research and Development Center in Annapolis, Maryland, brought a very strong opinion that the case had never been installed in a military aircraft. Another line of research focused on the fact that one of the modifications to the case (an apparent anchor for a canvas strap) is attached with a truss type Phillips head screw. When did that type of screw come into use? If the date was after June of 1937 we would be — well, screwed. We were surprised at the number of aircraft restoration experts who couldn't answer the question, and it was finally TIGHAR member Bob Kujawa, TIGHAR # 962, who put us in touch with, guess what, the Phillips Screw Company of Gloucester, Massachusetts. It turns out the Phillips head screw was developed by Dr. Henry Frank Phillips, a dentist in Eugene, Oregon, who bought out early patents on cross head screws and patented his own improved version in 1932. By 1936 screws such as the one on Artifact 2-1 were being test marketed in various industries (Cadillac automobiles, for one). Bulk orders of the new screws were not placed by the aviation industry until 1939 and 1940.

So could a test market Phillips head screw have been used on the Earhart "Flying Laboratory" in 1937? The answer is certainly yes. Was it? To answer that we still need the elusive photograph.

H.M. Navigator's Bookcase

Other research has eliminated one more possible alternative explanation for the unique mounting holes and bracket on Artifact 2-1. We know that our bookcase was installed very differently from those in U.S. military PBYS, but there was another major purchaser of the aircraft. Might the bookcases in British Catalinas be installed differently than those in their American cousins? After all, Nikumaroro's primary affiliation was British, and if a post-war Catalina had visited the island it might well have started out as an RAF or RAAF airplane.

Thanks to librarian Peter Elliott at the RAF Museum we have the answer. British Catalinas carried an entirely different navigator's bookcase than the U.S. aircraft, and a moment's thought makes the reason obvious. Part No. 28F 4023 was designed for publications of the U.S. Navy's Hydrographic Office; while the British bookcase, Part No. 28F 5662, was designed for manuals produced by the Royal Observatory. Different size books, different bookcase. Is Artifact 2-1 from a British airplane? No way.

The Search Goes On

Nobody said this was going to be easy and there are still plenty of sources being investigated by a number of TIGHAR members. Bob Kujawa (TIGHAR #962) in Wisconsin, Kristin Tague (TIGHAR #905) and Mike Bowman (TIGHAR #758) in California, and Mike Williams (TIGHAR #371) in Indiana are just a few of those who are digging for the next piece of the puzzle. That photo is out there somewhere. If you'd like to help find it call Project Director Ric Gillespie. Maybe there's a source that needs checking in your area. 🐾



Is There Life Beyond Earhart?

Although it may seem like it lately, TIGHAR is not The International Group for Historic Amelia Recovery. Other active, if less media-hyped, projects include:

Operation Sepulchre — WWII Luftwaffe aircraft sealed in underground German hangars since 1945.

Lady in Waiting — B-17E 41-2446, the world's oldest complete and original Flying Fortress, awaiting recovery from a Papua New Guinea Swamp.

Under investigation: A **Doolittle B-25** in shallow water off the China coast; **Curtiss Sparrowhawks** with the wreck of the Airship Macon; relics of the **Bellanca WB2 Columbia** buried in Delaware; and much more.

At the same time, TIGHAR has become the leader in discussions throughout the air museum world concerning the establishment of long-overdue standards, definitions and protocols which will have a profound effect upon the future of both static and airworthy historic aircraft.

The Ushers Will Now Collect the Offering

Everything TIGHAR does is funded entirely by public contributions, and the progress we're making can only continue if TIGHAR members make it possible. With this issue of *TIGHAR Tracks* we've included a summary of the many high quality publications and wearables the foundation offers exclusively to you, the members. Use the order form to express your support for the work your organization is doing. Renew your membership promptly, and when you do, take advantage of the reduced rates for multiple year renewals. And if you're especially moved by something we're doing, there's no better way to express your approval than by sitting down, writing a note, and enclosing a check as a tax-deductible contribution. That's the most meaningful way to say "Go get 'em, TIGHARI!" 🐾

STRICTLY BUSINESS

STRICTLY BUSINESS

A big THANKS!! to Federal Express Houston who, through TIGHAR member Rick Siciliano, has donated two desks and two large filing cabinets to TIGHAR. We still need bookcases, credenzas or low cabinets, a large table suitable for meetings (and maybe some folding chairs?), more bookcases (actually, utility shelving would do very nicely), one or two two-drawer filing cabinets, and a partridge in a pear tree. Further donations of desks would also be welcome, as additional work stations will be necessary soon. Please call before sending anything — if we're in Maine, we'd just as soon stuff didn't sit outside for five weeks ...

Membership renewal notices are now being mailed on the 17th of each month. Please renew your membership on the first notice — every quarter spent on postage means a quarter not spent on a project. If you are in any doubt about the status of your membership, do not hesitate to call.

If you have not received your membership directory, please call or drop a postcard to us, and we'll send you one. A major snafu developed in the mailing list, apparently, and quite a few people did not get one. If you want yours, let us know and we'll send it right out.

Already panicking about that impossible-to-buy-for person on your holiday shopping list? Try a gift membership in TIGHAR for something different that gives all year 'round. Sure to please anyone interested in history or airplanes!

Additional TIGHAR patches and membership decals can be purchased for a small price — see the order form in this *TIGHAR Tracks* for details. 🐾

TIGHAR (pronounced "tiger") is the acronym for The International Group for Historic Aircraft Recovery, a non-profit foundation dedicated to promoting responsible aviation archeology and historic preservation. TIGHAR's activities include:

- Compiling and verifying reports of rare and historic aircraft surviving in remote areas.
- Conducting investigations and recovery expeditions in co-operation with museums and collections worldwide.
- Serving as a voice for integrity, responsibility, and professionalism in the field of aviation historic preservation.

TIGHAR maintains no collection of its own; neither does it engage in the restoration or buying and selling of artifacts. Instead, the foundation devotes its energies to the saving of endangered historic aircraft wherever they may be found, and to the education of the international public in the need to responsibly preserve the relics of the history of flight.

TIGHAR Tracks, published nine times each year, is the official publication of The International Group for Historic Aircraft Recovery. A subscription to *TIGHAR Tracks* is included as part of membership in the foundation (minimum donation \$35.00 per year). The editors welcome contributions of written material and artwork. Materials should be addressed to: Editors, *TIGHAR Tracks*, 1121 Arundel Drive, Wilmington, DE 19808 USA, Telephone 302/994-4410. Photographs and artwork will be returned on request.

Editors: Patricia R. Thrasher, Richard E. Gillespie 🐾

MEMBERSHIP FORM

I would like to join TIGHAR. Enclosed is my donation of

\$35.00 for a one year membership

\$60.00 for a two year membership

\$125.00 for a five year membership

\$1,000 for a life membership

As a member of TIGHAR, I will receive the following benefits:

- Annual subscription to *TIGHAR Tracks* (published nine times a year)
- Membership patch, decal, and directory
- Expedition and educational opportunities

Name _____

Address _____

Telephone _____

Please return this form with your membership dues in U.S. funds only, to TIGHAR, 1121 Arundel Drive, Wilmington, DE 19808 USA; Telephone 302/994-4410, 9 a.m. to 5 p.m. EST/EDT, M-F. ALL DONATIONS TAX-DEDUCTIBLE WITHIN THE LIMITS OF THE LAW.

The International Group for
TIGHAR
Historic Aircraft Recovery

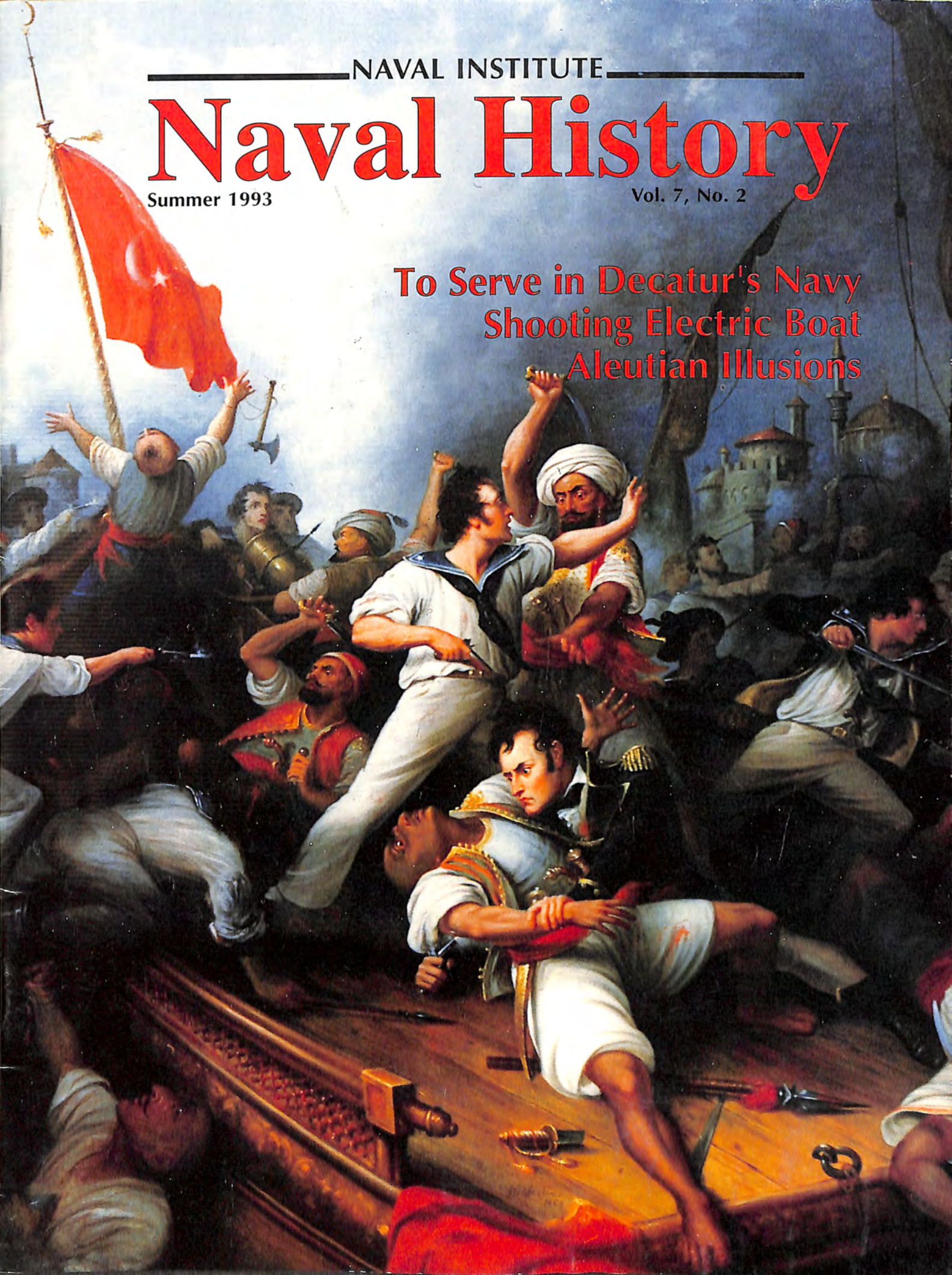
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To Serve in Decatur's Navy
Shooting Electric Boat
Aleutian Illusions



Finding Her & Noonan

By Richard E. Gillespie

The disappearance of Amelia Earhart, like the assassination of John F. Kennedy, has become something of a national obsession—and for many of the same reasons. In each case, widespread dissatisfaction with the official explanation for the demise of a public figure has encouraged a carnival of competing theories. With so many solutions to choose from, almost anyone can find an answer to the riddle that is sympathetic to his or her own world view. If not, there is always room for a new theory—and another book. Finally solving the mystery means separating the facts from a well-established body of folklore and overcoming entrenched resistance to the loss of the cherished legend. As Galileo Galilei, Charles Darwin, and Billy Mitchell could attest, the former task is far more easily accomplished than the latter.

In historical investigation, separating fact from folklore requires a recognition of the difference between anecdote and evidence. Eyewitness testimony related many years after the event is often intriguing and usually offered with genuine sincerity. It is, however, sadly true that the sharpest memory is duller than the bluntest pencil. Anecdote in the absence of documentation is folklore, and recollection is, therefore, useful only to the extent that it leads a researcher to genuine evidence. Only contemporaneous documents, datable photographs, and identifiable artifacts qualify for consideration.

In the Earhart case, fortunately, there is a wealth of evidence that meets these criteria and this, in turn, permits a logical assessment of the possibilities:

- ▶ Earhart and navigator Fred Noonan did not land at Howland Island, and so must have come down somewhere else.
- ▶ They landed at sea or on land.
- ▶ There is no credible evidence to indicate that the airplane landed at sea.
- ▶ There is no evidence at all that the aircraft landed on land other than Gardner Island, now known as Nikumaroro.
- ▶ There is evidence that the aircraft landed at Nikumaroro.

The problem, therefore, is not one of choosing among competing bodies of evidence, but rather one of assessing the credibility of the only evidence available. In short, either Earhart landed at Nikumaroro or all the evidence that makes it appear that she did is actually coincidence and Earhart, in fact, vanished without a trace.

What is the evidence that Earhart and Noonan landed at Nikumaroro?

- ▶ The radio log of the Coast Guard cutter *Itasca* confirms

that, when last heard from, Earhart was on a navigational line that passes within visual range of Gardner Island.

- ▶ Two independent contemporaneous reports from officials in Lae, New Guinea, confirm that she left there with more than enough fuel to reach Gardner Island.

- ▶ Pan American Airways memoranda and U.S. Coast Guard messages confirm that radio bearings taken on signals believed to be distress calls from the missing aircraft cross in the vicinity of Gardner Island.

- ▶ U.S. Navy messages document Lockheed's opinion that for the signals to be transmitted the aircraft had to be on land.

- ▶ The official report of the U.S. Navy pilot who reconnoitered Gardner Island from the air one week after the disappearance states: "Here signs of recent habitation were clearly visible . . .," although the last habitation of the island had ended in 1892.

- ▶ Three months later, the diary of the first person to visit the island following Earhart and Noonan's disappearance reports "signs of previous habitation."

- ▶ At least four separate pieces of aircraft wreckage found on the island in 1989 and 1991 have been dated to the mid-1930s, are not consistent with World War II debris, and are



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consistent with structures and materials used in Earhart's Lockheed Electra.

- ▶ Also found were the remains of an American-made woman's shoe with several distinctive features. The shoe has been matched to photographs of those worn by Earhart at the time of her disappearance.

After extensive studies of the historical record, no credible alternative explanations for the various points of evidence have been found. Continuing research may yet eliminate some individual pieces or add others, but the preponderance of evidence remains clear: the Earhart flight ended at Nikumaroro. Beyond that, much remains unknown. The aircraft wreckage found so far appears to be debris from a single violent event that blew out a section of the belly while the aircraft was on its landing gear on the beach. How did that happen? What became of the rest of the aircraft? How long did Earhart and Noonan survive on the island? What became of their remains?

Further work at Nikumaroro later this year may bring more answers.

Mr. Gillespie is a co-founder and executive director of The International Group for Historic Aircraft Recovery (TIGHAR). He wrote "Why the Navy Didn't Find Amelia," in the February 1993 *Proceedings*. He will serve on the afternoon panel on 28 April in the Naval Institute's Third Annapolis Seminar.

The Riddle

By Tom D. Crouch

More than half a century after she and her navigator, Fred Noonan, vanished in the central Pacific, Amelia Earhart remains our favorite missing person. Richard E. Gillespie, executive director of The International Group for Historic Aircraft Recovery (TIGHAR), spelled out the latest "solution" to the mystery of her disappearance in February's *Proceedings*, noting: "Expeditions to the Island of Nikumaroro in 1989 and 1991 have recovered aircraft wreckage consistent with Earhart's Lockheed, as well as personal effects, including the remains of an American shoe identical in style and size (9) to that worn by Earhart on her last flight."

TIGHAR has failed to persuade me that the objects discovered on the island have any connection with Earhart and Noonan. Consider the physical evidence mentioned by Gillespie. The largest bit of "aircraft wreckage" is an 18- by 25-inch piece of St ALCLAD aluminum. The vast majority of all airplanes built in the U.S. from the mid-1930s to the mid-1950s were skinned with virtually identical sheets of aluminum alloy.

After comparing the object to the skin of a Lockheed 10E like Earhart's, Frank Schelling, an authority on aircraft structures, concluded that "the TIGHAR fragment did not come from an Electra." Lockheed employees who repaired Earhart's machine following a crash are of the same opinion. The pattern and spacing of the rivets on the TIGHAR object do not match the structural members to which they would have to be attached on an Electra.

TIGHAR claims to have found "the remains of an American shoe identical in style and size (9) to that worn by Earhart on her last flight." Wrong again. If this episode has proved anything, it is that Amelia Earhart wore size 6 shoes. Her sister, Muriel Morrisey, comments that Amelia "... wore a hard to find, very narrow, size 6 shoe." A close family friend still has a pair of Amelia's size 6AA shoes. The Atchison [Kansas] Historical Society has another pair of her size 6AA shoes on display. I have no idea who wore the shoe found on Nikumaroro, but it was not Amelia Earhart.

The circumstantial case against Earhart's presence on Nikumaroro is very strong. This tiny atoll measures four miles long by a mile-and-one-half wide—and most of that is water. The thin strip of dry land encircling the shallow central lagoon varies in width from 200 yards to three-quarters of a mile.

On the morning of 9 July 1937, just one week after Earhart disappeared, Lieutenant John O. Lambrecht, U.S. Navy, led a flight of three O3U-3 float planes from the battleship USS *Colorado* (BB-45) on an aerial search of the island. Lambrecht reported that, "Signs of recent habitation were clearly visible but repeated circling and zoom-

ing failed to elicit any answering wave from possible inhabitants and it was finally taken for granted that none was there."

Those "signs of recent habitation" should be read in context. The *Colorado* had undertaken the considerable voyage from Hawaii on very short notice for the sole purpose of enabling the airmen to search a specific area. If any of the aviators had the slightest suspicion that the "signs of recent habitation" were in any way connected to Earhart, they could have landed and taken a closer look. If that seemed dangerous, they certainly would have said something to their superiors on the *Colorado*. After all, their only reason for being there was to look for Earhart.

British administrator H.E. Maude did not find any sign of Earhart or Noonan when he came ashore in October 1937. He was, however, impressed by "the most fertile island in the Colony." Maude counted 111 live coconut palms, and noted that the ground was "piled high with nuts." There were pools of potable surface water, edible plants, an abundance of fish in the lagoon, and "thousands of enormous coconut crabs, which formed a welcome addition to the diet." If Earhart and Noonan had reached this Island alive, they could have lived on coconuts alone for the seven days until the Navy arrived. They would surely have used that time to devise a means of signaling passing ships or aircraft.

The British established a native colony on the island in 1938, complete with a village, a government station for the officer-in-charge, a church, a wharf, gardens, and a system of paths. Nikumaroro was continuously inhabited from that time until the early 1960s.

From 1943 until the end of World War II, a contingent of U.S. Coast Guardsmen operated a Loran station on Nikumaroro. It was not a lively duty station. One officer has remarked that if he had stepped in whitewash, the entire island would have been white. Another recalls that the members of the group with whom he travelled to the island were told that the Navy had searched for Earhart and Noonan on Nikumaroro. They were curious about anything that might shed light on the mystery. In so far as we know, however, none of the island residents, military or civilian, ever reported finding anything remotely connected with the missing aviators.

Having failed to locate Howland Island, Earhart and Noonan may have flown toward the South Phoenix group, where they could expect to find a variety of targets, including Nikumaroro. If so, I do not think they made it. "When I go," Amelia once remarked, "I would like to go in my plane. Quickly." Wherever she is, we can only hope that she got her wish.

Dr. Crouch is Chairman of the Department of Aeronautics at the Smithsonian Institution's National Air and Space Museum. He will also participate in the Naval Institute seminar on 28 April in Annapolis, MD.

2nd August 1999

Dear Dr. King,

My son, Peter, has sent on to me a copy of your letter to him dated 30 July. Perhaps the Fiji Museum staff, who informed you that I had "passed on", were possibly imagining that Scotland and Heaven - or Hell - are synonymous.

I wish that I could be of some help to you in your search to solve the mystery surrounding Amelia Earhart's disappearance in 1937, but, alas, I have little to offer.

In November 1941 when I was ADC to the British High Commissioner for the Western Pacific (Sir Harry Luke), I accompanied him aboard HMFS "Viti" on a tour of the Phoenix Islands. We landed on Sydney (Manra), Hull (Orona), Gardner (Nikomaroro), Phoenix, Enderbury and Canton Islands. On Gardner Island we visited the grave of Gerald Gallagher, the District Officer who was in charge of the resettlement Scheme and who died there on 21 September some two months earlier. Unfortunately I do not have a copy of Sir Harry's published "South Seas Diary", but if you can lay your hands on a copy, you may find that it contains some relevant information which may be helpful.

I do, however, recall meeting Gerald Gallagher in Suva three or four months before he died. He was staying in Government House, where I was then working, as a guest of Sir Harry. It was not uncommon for Sir Harry to invite persons serving in the more distant islands of the Western Pacific to stay for a day or two in Government House. It may well be that the purpose of his visit to Suva was to pass over the bones for examination.

David Hoodless held a B.Sc.(Hons) degree from London University. He began his public service in Fiji in 1912 aged 25 as a school teacher, and by 1927 had progressed to being Fiji's Assistant Director of Education. In 1930 he was appointed to the post of Tutor, Central Medical School, an institution that trained students to be medical practitioners in the island territories of the South Pacific. In 1936 he was promoted to be Principal of the Central Medical School. The post of Pathologist in the Fiji Civil Service in the year 1941 was vacant. John Eric Pery-Johnston, who held a Diploma in Pathology and Bacteriology from New Zealand was the sole technician at that time in the Pathological Division of the Medical Dept. If still alive to-day he would be 87.

H.E. Maude, lately of the Australian National University in Canberra, and a former Resident Commissioner of the Gilbert and Ellice Islands, wrote several outstanding books on the Central Pacific islands, including "Of Islands and Men", published in Melbourne, Australia, in 1968, in which there is a chapter devoted to the colonization of the Phoenix Islands. You might find a worthwhile contact therein or from one of his other works.

E.R. Bevington, who lives at Holman's Cottage, Bisterns Close, Burley, Ringwood, Hants BH24 4AZ, England, served in the Gilbert and Ellice Islands from 1937 onwards and who was with Gallagher on Nikomaroro, may know about the bones. Sorry I cannot be of any further help.

Sincerely,

Tom Thomson

Thomas F. King, PhD

P.O. Box 14515, Silver Spring MD 20911, U.S.A.

(410 Windsor Street, Silver Spring, MD 20910-4242)

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Cultural Resource Impact Assessment and Negotiation, Archaeology, Writing, Training

Sept. 10, 1999

Sir Ian Thomson
1/4 Fettes Rise
Inverleith
Edinburgh EH4 1QH
Scotland

Dear Sir Ian,

Thank you very much for your letter of August 2nd. I'm delighted to learn that you're still with us, albeit in Scotland. The people at the Fiji Museum seemed quite sure you'd gone to your reward, but perhaps that was a euphemism.

I appreciate your advice, and perhaps I can impose on you for a little more. We've gone through Sir Harry Luke's *From a South Seas Diary*, but would dearly like to find the full diary from which the published book was excerpted. I wonder if you'd have any idea where we might start looking for it?

We are in touch with Harry Maude and Eric Bevington, both of whom have been very helpful. We're currently in communication with Foua Tofiga, who worked with you and was with you on the (to us, anyway) famous voyage of the *Viti* in 1941. Some of our people spent time in the WPHC archives last year, and collected a massive amount of information, including the documents I alluded to in my letter to your son. There are actually two major files: one found in Tarawa that contains what appear to be Gallagher's copies of wireless messages, and the other from the WPHC archives. The latter comprises a file very carefully maintained by Henry Vaskess, made up of messages and minutes detailing the discovery of bones, a woman's shoe fragment, and a sextant box on Gardner Island in mid-1940. Mr. Gallagher, who thought they might be Earhart's remains, reported the discovery when he arrived on the island in September, and at Sir Harry's direction shipped the discoveries to Fiji (via Tarawa, where they were for a time impounded by the Medical Officer Mr. Isaac, who took the occasion to quarantine the harbour). In Fiji the bones were analyzed by Dr. Hoodless and the sextant box examined by Mr. Harold Gatty. The bones are last

documented in 1941 in the possession of Dr. Hoodless, while the sextant box is last reported in the late 1940s, when Mr. Tofinga recalls seeing it in Mr. Vaskess' office.

If we could locate the bones, of course, we hope that modern biochemical studies could establish clearly whether they are or are not Earhart's. The sextant box is reported to have had numbers on it similar to some on a box known to have been owned by Fred Noonan, Earhart's navigator. Whether its recovery would tell us anything, we don't know, but it would certainly be interesting to examine.

We very much appreciate the referral to John Eric Pery-Johnston, and have asked some of our colleagues in New Zealand to see if they can track him down. I had heard the last name from people at the Colonial War Memorial Hospital, but only that, and the prospect of trying to find a Mister Johnston somewhere in New Zealand was pretty daunting. His full name and probable age will be a great help.

One other request. Are the original photographs from your book on Fiji in the '40s and '50s available anywhere for detailed perusal? One of my colleagues just asked about this; I doubt if she expects to be able to find the Nikumaroro bones pictured strolling down Victoria Parade, but there's something she wants to check. Thanks in advance for any advice.

Thank you again, and please excuse my error in consigning you to the hereafter.

Best wishes,

19 September 1999

Dear Dr. King,

Thank you for your letter of 10 September. I was pleased to read that the contacts that I gave you have borne some fruit. As regards the three matters that you have questioned me about, perhaps these answers may be of some assistance:-

- Sir Harry Luke had two sons, who may know the whereabouts of their father's papers. The elder one, Peter, was a writer, dramatist, and theatre director, who settled in Spain. The last known address that I have of him is:-

Peter Luke Esq. M.C.,
Calle Fuente de la Cruz
28/30 Jimena de la Frontera
Cadiz, Spain.

- The younger one, Michael Charles Deane Luke, married the Hon. Clarissa Chaplin some years ago. I have the last known address of the latter, who may be still at:-

The Hon. Mrs Luke,
Flat 6, 22 Eaton Square,
London S.W.1.

I am ignorant of her husband's whereabouts. She might, however, be able to help you.

- John Eric Pery-Johnston was born on 16 February 1912. The New Zealand State Health Department should have some details about him, as I am sure that he would have had a State pension from it.

- Regarding the original photographs from the book "Fiji in the 40s and 50s" you should be able to sight those in the archives of the former Public Relations Office, Fiji. The Ministry of Information in Suva ought to be able to assist you in finding them. Rob Wright, who took the photographs stored them in the Government Buildings, Suva.

With best wishes,

Yr.
Ian Thomson.

Thomas F. King, PhD

P.O. Box 14515, Silver Spring MD 20911, U.S.A.

(410 Windsor Street, Silver Spring, MD 20910-4242)

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Cultural Resource Impact Assessment and Negotiation, Archaeology, Writing, Training

November 27, 1999

Sir Ian Thomson
1/4 Fettes Rise
Inverleith
Edinburgh EH 4 1QH
Scotland

Dear Sir Ian:

Thank you very much for your letter of 19 September, providing the names and addresses of Sir Harry Luke's sons. I've written to both, and though I've heard back from neither, I'm hopeful that we can find them, and that one or both will have some idea what has become of their father's papers.

We're also trying to track John Eric Pery-Johnston, also thus far to no avail, and are getting in touch with the Ministry of Information in Suva about the photographs. I very much appreciate your information and assistance.

Now I have another question. One of my colleagues has been in touch with Ron Gatty, the son of the aviator and entrepreneur Harold Gatty. According to the WPHC files, Sir Harry consulted with Harold Gatty about the sextant box that the Nikumaroro colonists found with the bones we're seeking. The younger Mr. Gatty says he recalls visits to their home in Auckland by yourself in Sir Harry's company. I'm wondering if by any chance you recall any such visits, and if so, any conversation about the sextant box and its possible association with Amelia Earhart? I realize that it's unlikely you'd recall such an obscure event, but we're trying to leave no stone unturned.

Thank you again for your help.

Sincerely yours,

17 December 1999

Dear Dr. King,

Thank you for your letter of 27 November 1999.

I was sorry to read that you have had no response from either of Sir Harry's sons. I am still pursuing - so far without reward - a line that may lead to a contact with Sir Harry's sister's offspring, if she had any. I recall how fond of and close to his sister Sir Harry was. She was married to a medical practitioner and lived in Woodhall Spa in Lincolnshire, England. I will let you know if anything eventuates.

As regards Ron Gatty's intervention, I do recall visiting some homes in Auckland in July 1942 with Sir Harry, but I have no memory of the content of any discussion about Amelia Earhart that there might have been.

I presume that you are aware of Bruce Brown's biography of Harold Gatty. It was first published in 1997 by Libra Books Pty Ltd, 39 Maning Avenue, Sandy Bay, Tasmania, 7005 - Phone (03) 6225 1479; Fax (03) 6225 0900. In it there is mention of Amelia Earhart's ill-fated journey with the "boozy ex-ship's navigator named Fred Noonan". To have made such an uncomplimentary comment I fancy that Bruce Brown must have had some papers regarding Amelia's flight with Fred, especially concerning the construction of an airfield on Howland Island, some 200 miles north of Gardner (Nukumaroro). The U.S. Department of the Interior and the State Department in Washington were heavily involved with questions of sovereignty in the Central Pacific Islands surrounding the Equator at that time, and there is reference in the Gatty biography to that.

Having had an airfield constructed to accommodate Amelia's aircraft, there must surely be available to you from the departmental archives some reference to the outcome of the ill-fated flight and, perhaps, mention of the sextant and bones.

Yours sincerely,

Ian Thomson

(Ian Thomson)

19 April 2000.

Dear D. King,

Many thanks for sending to me with your letter of 3 April a copy of your journal "Tighar Tracks" - Volume 15, which I found most interesting.

There are very few people alive to-day, who have set foot on Nikomaroro, and I count myself fortunate to have been one of them.

I am glad to note that you have been in contact with Michael Luke, and I wish you well with the examination of Sir Henry's official papers in St. Antony's College, Oxford.

I note in "Tighar Tracks" that Sir Henry has been described as "redoubtable". Yes, he was a valiant man as well as being kind, generous and learned. He ranks in the "Top Ten" of the people with whom I have been associated with the course of my life.

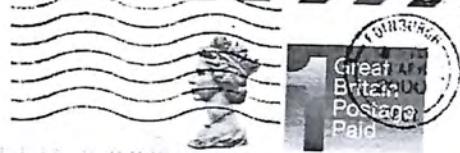
I was with Sir Henry when he stood by Gerald Gallagher's grave to pay his respects and to honour his (G's) memory & work. I think that I mentioned to you in an earlier letter that Gerald had stayed in Government House, Suva, shortly before he died. Unfortunately, I have no recollection of the conversation that I had with him at that time, save that I remember him as a pleasant and conscientious fellow, who was clearly devoting himself to the task of assisting the islanders' resettlement in the Phoenix Group from the over-populated Gilbert Islands.

It may be unfashionable to-day to be praiseworthy about British colonial policies and practices, but for those of us who chose to be involved in such administration, I can say with a clear conscience that it was not imperialism that dictated our actions. It was, in fact, the desire to assist the indigenous peoples in their efforts to improve living standards by developing the country's economy without disturbing their social fabric and customs, and to encourage them to live peacefully by the rule of law, promoting the use of dialogue in place of martial confrontation to solve problems.

BY AIR MAIL
par avion
Royal Mail



Aerogramme



Thomas F. King Ph.D.
The International Group for Historic Recipes
P.O. Box 14515
Silver Spring MD 20911
UNITED STATES OF AMERICA.



M05/98

Name and address of sender

Thomson
14 Fettes Place
Inverleith
Edinburgh EH4 1QH
Scotland

Postcode

An aerogramme should not contain any enclosure

To open slit here

To open slit here

with neighbours. Grenda Shillagher was
that mould.

I send you and your Tigher team
my congratulations on your efforts so far,
and I wish you all well as you plan
for your next visit to Nibombaro in 15
months time.

Sincerely,
Ean Thomson.

22 May 2000.

Dear Dr. King,

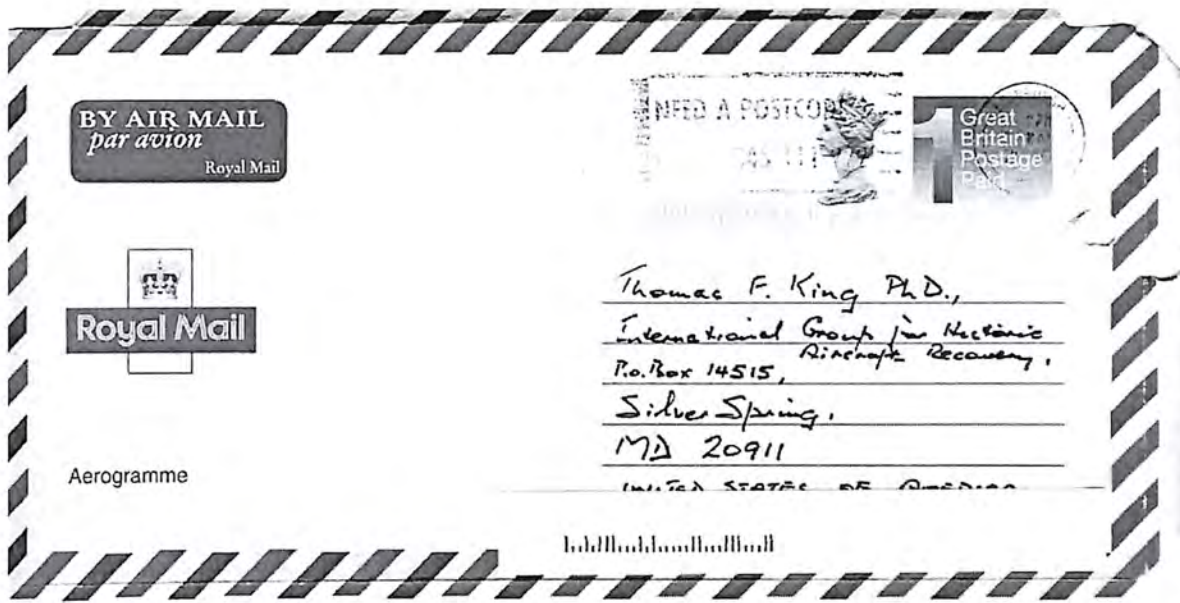
Thank you for your letter of 5 May. Garvey, Vastress and Isaac (Verrier) were all privy to the story of the bones found on Nihomaronu, but they have all departed to their own individual happy hunting ground. I say, individual, because my memory tells me that they were not part of one another and it would be unfortunate if their spirits have ended up in one Valhalla.

Garvey died in England less than ten years ago. I wrote to his widow - Patricia, known as Pat - at the time of his death. She was then living at "The Priory", Wrentham, Beccles, Suffolk: Tel: 0502 75274. Garvey was Resident Commissioner of the G.E.I. colony (incl. the Phoenix Is. Settlement Scheme) at the time of Gallagher's death. He himself (Garvey) would have been killed by the Japanese invaders in 1942 but for Sir Harry ordering him to take passage on a Navy vessel that Sir Harry had to visit Ocean Is. to evacuate expatriates. The D.O. (Castroville) stayed on and a month or so later after the Japs. landed on Ocean Is. he was executed. I realize that that has nothing to do with your mission, but I thought that you might be interested - the fortunes of War! If he kept any papers, his widow would know of them.

I regret that I cannot assist you regarding the other two names - Vastress & Isaac. The former lived on in Suva after he returned and managed a boarding house. He was not a sociable fellow and so far as I know never married. The latter - Isaac - was a colourful character but heartily disliked by most of his colleagues. He too lived on in Suva after retirement and for a time was a close aide to Ratu Sir Kamisese Mara in the political arena after Independence in 1970. If you are visiting Suva again, I suggest that you enquire at the President's office. When Isaac - then named Verrier - died, it was Ratu Sir Kamisese who made all the funeral arrangements. Isaac never married - had no relatives in Fiji. He changed his name during WWII to avoid being classified as a Jew!

I am sorry that I cannot be of more help to you. I assume that you have not been able to follow up on Perry-Johnston in NZ. He would, of course, have passed on by now, but he may have left papers.

Sincerely,
Ian Thomson, LOVER



BY AIR MAIL
par avion
Royal Mail



Thomas F. King Ph.D.,
International Group for Historic
Aircraft Recovery,
P.O. Box 14515,
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UNITED STATES OF AMERICA

Aerogramme



M06 99

Name and address of sender

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Postcode

An aerogramme should not contain any enclosure

News from Fiji these past few days has been disturbing. There are many, difficult to resolve, problems in Fiji, mostly all of which are ethnic based. These are not new problems. The absence of inter-racial, marital, co-habitation amongst the indigenous Fijians and the descendants of Indian immigrants is at the root of it all. Let's hope that they can continue to live peacefully. The normal rules of democracy may, however, have to change.

Thomas F. King, PhD

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June 19, 2000

Sir Ian Thomson
1/4 Fettes Rise
Inverleith
Edinburgh GH 4 1QH
Scotland

Dear Sir Ian:

Thank you very much for your letter of 22 May. I have written to Patricia Garvey, and will hope for her response.

It truly is a sad situation in Fiji. I've now heard a claim that the coup is really a front for businesses in the U.S. and Australia that are trying to acquire title to indigenous Fijian land – sadly consistent with recent practice, I'm afraid. I hear pretty regularly from the archaeologist at the Fiji Museum, who says the Indo-Fijian members of the staff are afraid even to come to work. Needless to say, living where I do I'm all too aware of how intractable interracial politics can be, especially when there are outside interests stirring the pot. I can only shake my head and commiserate with my Fijian friends.

Your comments on Vaskess and Isaac/Verrier gave more substance to what we've heard from Eric Bevington and others, and seen in the WPHC files. I wasn't aware of the latter's connections with Ratu Mara; that's very interesting. Since the (now ex-, I suppose) President was a student of Hoodless', we'd hoped to speak with him when we were in Suva last year, but despite encouragement from some of his colleagues he was never available. Since our visit we've heard rumors that there was some unhappiness in Fiji with our mission, and it's been suggested that some of this unhappiness may have sprung from quotes we gave the media about Isaac/Verrier's role in the passage of the bones from Nikumaroro to Fiji. I have to wonder whether we unknowingly made an enemy of the President by seeming to insult the memory of his friend. The same rumors also claim that the bones were being held by an individual in Suva as recently as the 1960s, but as yet all we have about this are rumors.

I appreciate the information on the evacuation of Ocean Island, too. I was reading about it just the other day in one of Sir Harry's books, but he doesn't provide much detail, and an account of the pre-evacuation bombings, given by Garvey himself

in a book by June Knox-Mawer of the BBC, treats it almost as a lark. We who've never had to face the kinds of dangers and challenges you and your colleagues did in those grim days can only stand in awe of the courage and fortitude with which you all did your duty and more.

We are trying to locate Peri-Johnston, but thus far with no success. Our contacts in New Zealand are not particularly good, but we've gotten as far as finding that he is not listed (indeed, NO Peri-Johnston is listed) in readily available telephone books and on-line resources. A colleague in Australia is now trying to work through some medical contacts, and another is getting in touch with Dr. Hoodless' daughter, who lives in New Zealand, to see if she has any thoughts about where Peri-Johnston might be.

I hope you won't mind my asking if you have any ideas about the whereabouts of still another of your WPHC colleagues -- Dr. Duncan Ewing Campbell ("Jock") Macpherson. Dr. Macpherson was deeply involved in the whole saga of the Nikumaroro bones, and was with Gallagher when he died. He has no information on what happened to him during the War, or whether he is still alive or may have left papers.

And while I'm asking, I wonder if the name Capt. Stan Brown rings any bells with you. Capt. Brown (then ship's engineer, I believe) was aboard *Viti* at the time of Gallagher's demise, and his name has been associated with the bones in some media accounts. He lives in Fiji, but when we tried to contact him last year his wife turned us away.

Finally, I thought I would enclose a couple of chapters from a book I'm writing with a couple of colleagues about the Earhart quest, which I thought you might find interesting. Any comments or corrections you may have will be much appreciated.

Thank you as always for your interest and help.

Sincerely,

1/4 Fettes Rise,

Edinburgh EH4 1QH.

26 June 2000.

Dear Dr. King,

Thanks for your letter of 19 June. I hope that by now that you have received a reply from Pat Garvey, who so far as I know is still alive.

I greatly admire the industry and zest that you and your colleagues continue to display, as you develop the Search Project, and I wish you well in all your efforts. Regretfully I am unlikely to be able to offer anything of a positive nature. The most that I can do is probably to comment on any leads that you might have regarding persons who might have been involved around 1940/41.

Because of their excellent memories and meticulous insistence on the recording in files of all actions being taken by public officers, you would undoubtedly have obtained useful information from Vaskess and Macdonald, but they are long since dead. Isaac/Verrier was meticulous as well, but whereas Vaskess and Macdonald were public servants, Isaac/Verrier was a law unto himself, highly intelligent, and a maverick at all times. Obeying orders was not for him.

In your letter of 19 June you mentioned the names of Ratu Sir Kamisese Mara and Captain Stan Brown. I am certain that the former would not have any first-hand information to pass on to you, though like many others he would have heard stories about the bones. Captain Brown on the other hand, served as you correctly state in your letter as Third Engineer on RCS (later HMFS) VIII from 12 July 1940 onwards. He was born on 9 October 1914 and has written books on Fiji's past. Before his retirement he was in charge of Fiji's Navy. He suffered a severe stroke in the early 1980s and has been greatly incapacitated since then. His wife, Jean Brown, was Private Secretary at Government House.

John Eric Pery-Johnston was born in 1912 and held a Diploma in Pathology and Bacteriology in the New Zealand State Health Department. Surely that Department must know of him. If he is still alive, he is the one person who could supply you with useful information as he was the Technician in the Pathological Laboratory in Suva in 1940/41. He was married.

Dr. Macpherson died shortly after Gallagher's death. He was unmarried. Sir Harry Luke had left Fiji by then, and I was on active service with the Third Battalion of the Fiji Military Forces.

With best wishes

Yr.
Ian Thomas.

17 August 2000

Dear Dr. King,

Thank you for your letter of 31 July.

I was pleased to read that you had made contact with the Pery-Johnston family. I hope that his widow will be able to pass on some useful information.

Throughout WWII my Colonial Service colleagues and I simply got on with the jobs given to us. The British Government in London had made it clear from the outset of the War in September, 1939, that Colonial Service personnel throughout the Colonial Empire were required to remain at their posts. A few like myself were positively discharged from the British military forces and despatched to the colony we had been selected for pre-war. Some of the younger officers, including my self, were then posted to the Colony's armed forces. The more senior officials remained at their civilian posts. We were all, of course, aware of the difficulties of our relatives back in Britain, and they were never far from our thoughts. The likely prospect of not seeing them again for some time was hard to bear. I am sure that that was particularly the case with married officials. There was, of course, no vacation leave to Britain between 1938 and 1946.

In the book "Fiji in the Forties and Fifties" referred to in your letter there are chapters on "The Colonial Administration" and "The Fiji Military Forces" which you may find of some interest. The book was published in 1994. Costs of publication were met by Motibhai and Co., who have retail outlets in Fiji, including Nadi Airport, and who marketed the product. So far as I know, sales have been confined to within Fiji.

On the matter raised in the fourth paragraph of your letter "Why weren't the Americans told?", and remembering the refreshingly international attitudes that Sir Harry always displayed, I am certain that there was no sinister intent on his part. The American Consul resident in Fiji at that time was a Mr. Abbott, with whom Sir Harry was on good terms. I find it hard to believe that the Consul was unaware of the bones discovery.

I assume that you have already been in contact with the U.S. Department, which was heavily involved in the planning of Amelia Earhart's flight route. When I visited Enderbury Island, one of the Phoenix Group, with Sir Harry in December 1941, we believed it to be uninhabited. To our surprise there was a small U.S. expedition there, whose function they told us was to coastwatch and pass on shipping movements to the US authorities - see Sir Harry's "A South Seas Diary".

With best wishes

Yours sincerely,

Ian Thomas.

⑤ P.S. I believe that to have been the Dept. of the Interior but can't be certain.

Thomas F. King, PhD

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Web Site www.tighar.org

September 12, 2000

Dear Sir Ian,

Thank you for your letter of 17th August. I very much appreciate your giving me a better feeling for how things were in the Colonial Service as the War broke over Europe.

There's been no further word from Mrs. Peri-Johnston. Though we're following up, we're not very hopeful.

Your mention of Mr. Abbott, the American Consul, is very interesting. We had never heard of him, and were unaware that there had even been an American Consul in Fiji at that time. We're pursuing this with our State Department.

We're somewhat familiar with the Americans on Enderbury. The U.S. Department of Commerce put together a program in the late 1930s to occupy several more or less disputed islands in the Phoenix and Line Islands; young men from Hawaii were hired to live on Howland, Baker, and later Enderbury, making meteorological observations but more than anything else just showing the flag. Responsibility for this settlement program had been transferred to the Interior Department by 1937, and settlers were on the ground on Howland and Baker. They were clearly not on Enderbury when Harry Maude and Eric Bevington visited there in late 1937, but obviously arrived sometime before your visit in 1941. Whether they had a real role in making meteorological observations and coastwatching, or were there only to stake a claim, is something we certainly don't know. The records of the whole operation, which one of our members has researched, seem to be pretty thin.

I wonder if it would be all right for me to refer a gentleman to you for a conversation. Mr. Gerard (not Gerald) Gallagher has recently contacted us from his home in Scotland. He's researching a (heretofore, to him) rather shadowy ancestor of his, none other than Gerald Gallagher, and found his way to our worldwide web site. He's a maritime insurance agent in his mid-40s, very interested in Gerald's life and times in the colonies. Would it be all right for me to give him your name and address?

Thanks as always for your advice and assistance.

Best wishes,

Thomas F. King

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tfking106@aol.com

December 17, 2006

Dear Sir Ian,

I hope you are not upset with me for giving Pam Ribbey your address, from which (much to my surprise) she tracked down your 'phone number. But I was very glad to learn from her that you are well, and soon to celebrate your birthday.

Which reminded me that I might have failed to send you a copy of our updated book on the search for the elusive Earhart on Nikumaroro, so I'm enclosing a copy with best wishes from all of us. This volume includes an account of our work in 2001 and thereafter, on Nikumaroro and in Fiji. We were on the island on 9-11-2001, and I was reminded of your response when I asked you about your feelings on being in the Pacific during the Battle of Britain. You said that everyone simply got on with their jobs, and that's what I told myself to do in the days after 9-11. Not that I had much choice.

We are hoping to make another trip to Nikumaroro in 2007 – the 60th anniversary of Earhart's disappearance – and do some serious archaeological work on the "Seven Site," where we think Gerald Gallagher collected the bones that Dr. Hoodless examined at Sir Harry Luke's request. We've had no success in finding the bones themselves. They are rumored to still be in Fiji, but so far this is only rumor. One of our members in the U.K., Simon Ellwood, was able to spend some time with Sir Harry's papers, which were very interesting but not informative with regard to our specific interests. I've also through the records of the U.S. Consulate in Suva, 1940-43, in the U.S. National Archives. Some interesting insights into the views of the Consul, Abbott, on Fiji and the WPHC, but again, nothing specific to our project.

Pam Ribbey's assertions about a meeting on Canton in late November 1941 certainly took us aback – it was this, of course, that brought her to us in search of you. Again, I hope you don't mind that I shared your address with her; if it was a problem, I can only extend my very sincere apologies.

With best wishes for a splendid birthday and many happy returns –

24 December 2006.

Dear Tom, Thank you for your kind letter of 17 Dec. and for sending me a copy of "Amelia Earhart's Shoes". I am delighted to have the latter, as it will now allow me to lend out the earlier volume that you sent me some time ago. I always worry about lending books. They are often not returned, and I have forgotten to record the borrower's name.

Please do not be bothered about having passed on my address to Pam Ribbey. I am always happy to talk to people like her, who are genuinely interested in Pacific Is. history. Nevertheless, I have to confess having been much surprised, when around 9pm. one Saturday evening I answered the 'phone and was asked by the caller - "This is Pam Ribbey in Los Angeles ... would it be convenient for you to talk to me about events on Canton Island in 1941."

I wish you and your team well on your proposed return to Nukunono and I hope that you will be able to advance your present knowledge about that ill-fated flight. Aside from your tasks there, you will be reminded of the Failed Phoenix Islands Settlement Scheme. It is a great pity that it had to be abandoned. There are not many of us who have had the opportunity to visit Gerald Gallagher's grave. It is with considerable gratitude that I look back on the good fortune that befell me in 1941 to have been able to spend time in Gallagher's company, when he brought "the bones" to Suva. He was, indeed, a fellow who strove to improve the lot of less fortunate human beings. I am sure that his soul rests in peace along with those like him who assisted others, when called upon to do so, and who put duty above self-interest. You in

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January 11, 2007

Dear Sir Ian,

Thanks very much for your letter. I hope your birthday was a smashing success, and I appreciate your understanding about Pam Ribbey. She's certainly dedicated to her research.

Your reflections on Gerald Gallagher reminded me that I'd been meaning to send you the enclosed photo, said to be Gallagher in the Rest House on Nikumaroro (but see below). We received it from Gerard Gallagher, a maritime attorney who lives not too far from you in the Edinburgh area and is Gerald's nephew. He contacted us several years ago seeking information on his uncle, of whose history and accomplishments he had heard rather vaguely in family stories. We had quite an active correspondence for awhile, but lately he's dropped out of sight. He was talking about writing a book about Gerald's life, and trying to find out what had happened to his effects, which at last report were in Fiji at the beginning of the War, awaiting shipment to his mother. I don't know what has ever happened with either enterprise.

Rather ironically, we honored Gallagher with a small graveside ceremony when we were on Nikumaroro in 2001, and installed a replica of the bronze plaque on his grave marker – I imagine you were among the officers who contributed to the original, which had disappeared – only to learn a year or so later that his remains were disinterred in the 1950s and reburied in the Catholic cemetery on Tarawa. This is also where the original plaque ended up. So we were honoring an empty grave, but the respect was heartfelt, anyway. I puzzle about how anyone could have removed a body from under that great heavy monument, which shows no sign of having been moved in any way.

I have a question for you about the enclosed photo (please keep it with our compliments, by the way). It's supposed to show Gallagher in the Nikumaroro Rest House, but I have my doubts about the venue. In one of his quarterly reports Gallagher described construction of the Rest House, and said that the furniture was being made locally out of kanawa, on whose fine grain he commented. Obviously most of the furniture in the photo is covered with wickerwork in such a way as to make any grain invisible. I'm wondering if it might be another house altogether, on another island. Does it look at all familiar to you?

And this actually reminds me of another question. The late Ratu Mara, in his memoir *The Pacific Way*, mentions that during his tenure as District Officer the requirement that all DOs keep a diary was discontinued. We've made a pretty thorough search of the WPHC archives (now in Auckland) and never encountered a diary or any mention of one. Quarterly reports, yes, but not diaries (other than entirely personal ones, like the one Eric Bevington has shared with us). Presumably we've missed them somehow, but I wonder if you can shed any light on what the requirement was, and if DOs did keep diaries, where they might have wound up.

Thanks, and congratulations on your birthday; we all wish you many happy returns.

Best wishes,

22 January 2007.

Dec

Thank you for your letter of 11 January with birthday greetings and enclosing a photo of Gerald Gallagher. I believe that I have already mentioned to you in earlier correspondence that I got to know him over a period of about five days, when he was staying in Government House, Suva, as a guest of Sir Harry Luke. I was, of course, living there too. He had brought down "the bones" from Nikumaroro.

I was much impressed to read in your letter that you and your colleagues had graciously performed an act of remembrance at his grave, when you were on the island in 2001. It is good that you and I are still writing about him. He deserves to be remembered. I wonder whether Adam Tamia, his servant, is still alive. His letter to Gallagher's mother - at p. 122 in Sir Harry Luke's "South Seas Diary" is, indeed, both poignant and respectful.

Also in Sir Harry's book is a photo of Gallagher's home on Nikumaroro - ~~press~~ photo page 819. I do not have a visual memory of the Rest House, but I do remember the house in Sir Harry's photo, and it might well be where the photo of G.G. was taken.

Your enquiry about District Officers' diaries is easily answered. I cannot testify as regards those District Officers based in WPNC territories, but certainly up until the early 1950s we in Fij. were required to compile a monthly diary and to despatch it ~~via~~ the Divisional Commissioner to the Colonial Secretary in Suva. I remember being scolded on one occasion by the Colonial Secretary, because I had reported that I was making a practice of visiting local lawyers, business people, shopkeepers, etc. in their offices & places of work. I was instructed that that had to cease. "Don't go to their offices - make them come to yours!" I regret to say

that some of our political leaders still have that attitude to-day. I know that it was the contacts that I made with "troublemaker" types in their environments that diffused tense situations and gave me an insight into their standpoints. In so far as the diaries of Fij. District Officers are concerned, these would now be stored in the Fij. Archives in the former WPNC office outside Govt. House in Suva. The WPNC offices moved from there to Honiara, Guadalcanal, at the end of the 1940s when the conjoint post of Governor and High Commissioner was split. I would suggest that you might write to the Fij. Archiver and ask them to advise you as to where the WPNC District Officers' diaries might be.

My best wishes to you & your colleagues.

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February 1, 2007

Dear Sir Ian,

Thank you very much for your letter of 22 January. I thought you might like to see the enclosed paper about Gerald Gallagher, which is printed off from TIGHAR's worldwide web site. It's been updated a time or two since originally written six or seven years ago, and I see it has suffered a bit in the process – plus the computer has the irritating habit of doing things like cutting off the top of Gallagher's head, and I haven't the faintest idea how to prevail on it to do otherwise – but it's legible at least. I'd like to do more someday to commemorate his achievements.

Aram Tamia went on to become the Magistrate on Nikumaroro; he was there when Paul Laxton became DO in 1949. Laxton subsequently wrote an article about the island in the *Journal of the Polynesian Society*. Aram then apparently went to work on Canton, and there we have lost track of him. We recently were able to interview Edwin Petro, the son of Jack Kimo Petro (or Pedro), the public works officer of the Settlement Scheme, and he said that Aram has passed on.

I much appreciate learning about the DO diaries. It's something of a mystery what happened to them. We've been through the WPHC archives twice – once when they were housed at Hanslope Park, again after they were relocated to Auckland – and saw no sign of diaries. Perhaps we didn't recognize the catalogue code; they must comprise a considerable body of documents. Luckily, we have a member in Auckland, who can take another look. Looking for them also gives me a reason to write again to Foua Tofinga in Fiji. You may remember Tofinga, who worked in the High Commissioner's office and was aboard *Viti* on the November '41 trip. He was also largely responsible for packing up the Commission's files and furniture when it moved to Honiara, so if anyone would know where the diaries went, he should.

I suppose the Colonial Secretary you refer to was H.H. Vaskess? We've heard quite a lot of stories about him. I recall running into administrators with similar officious attitudes when I was working for the U.S. Trust Territory government on Saipan in the '70s. Vaskess was certainly a meticulous record-keeper, though, and historians have to bless him for that.

Thanks as always for your help and advice.

Best wishes,

8 February 2007.

Dear Tom,

Thank you for your letter with the accompanying moving and impressive tribute to Gerald Gallagher, which hitherto I had not seen. It is, indeed, a tribute to a man, who put duty ahead of self. It is good that you and your colleagues appreciated his efforts.

I was interested to read in Dr. Macpherson's account of the events surrounding Gallagher's illness and death. Having read "From a South Seas Diary" yourself, you will have observed that Sir Harry Luke thought highly of both men. Dr. Macpherson too had an untimely early death. Throughout that incredible year I had at the start of my colonial career, I had the good fortune to have been able to spend time in the company of many talented worthy individuals, whose friendships and advice I greatly valued. Dr. Macpherson was certainly in that group. Another was that great navigator, Harold Gatty, who like me stayed in Government House as Sir Harry's guest. With his wife, Fenna, they stayed for about a month.

One of my regrets in life has been my failure to emulate the good practice of Sir Harry Luke and others like him, who meticulously wrote up their diaries to record special events in their lives together with facts & figures involving visits to places like Nikumaroro !! I would then undoubtedly have been able to have provided you with more information on that memorable visit to the Phoenix Is. in 1941.

Best regards & good wishes.

T
-an.

Thomas F. King
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April 17, 2007

Dear Sir Ian,

Thanks very much for your letter of 8th February. I can appreciate your good feelings about Dr. Macpherson; from reading some of his papers, including his passionate report on Gerald Gallagher's demise, I certainly get the impression of an upright, hard-working, dedicated man.

It now looks like we'll be going back to Nikumaroro in July for about three weeks of archaeological work. In the village we plan to excavate at the carpenter's house, where PISS Public Works Officer Jack Kimo Petro lived for awhile; we've found airplane parts in the vicinity in the past, and it's evident that the residents of the place gathered in whatever looked like it might be useful from whatever machines came their way. His son, Edwin Petro, whom we interviewed in Majuro, recalled hearing his father, Aram Tamia, and others discussing the discovery of aluminum fragments on the reef. We also plan to do intensive work at the other end of the island, at the site that matches Gerald Gallagher's description of the bones discovery site, in hopes of recovering something that can be subjected to DNA analysis. Meanwhile, we've begun working with a Kiribati government organization that's compiling all available documents on the Phoenix Islands, in connection with its nomination to UNESCO's World Heritage List, so I'm busily digging through our files and copying things to send off. I only hope the place has a few years left before it goes underwater. We're also making inquiries in Honiara, following up on your suggestion that DO diaries may have wound up there. The unsettled conditions in the Solomons at present are complicating this effort, however.

I just received a copy of Robert Lowry's *Fortress Fiji*, with your elegant jacket note, and have only begun to peruse it. It reminds me of a question I've been meaning to ask. Can you tell me anything about the excavation, use, and subsequent closure of the tunnels under Suva? I understand that the Fiji Museum's collections went into one of them and came out damaged to some degree, so that some material had to be discarded. We wonder if the same may have happened to the Nikumaroro bones, or if they may still be in a tunnel somewhere. It must have been a huge undertaking to excavate the tunnels, but I've never seen an account of it, and wonder about them.

You mentioned Harold Gatty. As you probably know, his son Ron still lives in Fiji; he's been very helpful to us. I'll enclose still another offprint from the TIGHAR website by Fr. Martin Moleski, one of our team members who visited Mr. Gatty a few years ago. I'm embarrassed by the weird confusion that Fr. Moleski seems to have experienced between Gerald Gallagher and Sir Harry Luke; I'd not noticed it until I opened up the article to print it for you.

I've also been meaning to ask you about the late Stanley Brown. I know a little about

his career both with the WPHC and later with Fiji's naval forces, and I've seen (but not yet read) his book on Fijian history, but my understanding of his story is very limited. We met him in 1989 during a reception at the U.S. Charge d'Affairs' home, where he described how – as Chief Engineer aboard *Viti* – he held a lantern for Dr. Macpherson while he operated on Gallagher. Ten years later, after Mr. Brown had suffered a stroke, Robert Keith-Reid wrote a strange wire service piece claiming that it was Mr. Brown who found the bones on Nikumaroro. When asked about it, Mr. Keith-Reid indicated that he had been mistaken, and Mrs. Brown confirmed that Mr. Brown had had nothing to do with the bones. We've wondered how the story got started, and it struck me that Mr. Brown might have been in command of *Nimanoa* when she visited Nikumaroro in January 1941 and collected the bones. They would thus have been in his possession for awhile, during the time that Dr. Isaac became so exercised about their shipment through Tarawa and closed the harbor for awhile, and this might have caused Mr. Brown to be associated with the bones in some minds. This in turn has provoked a friendly argument within our organization, some saying "no, he couldn't have commanded *Nimanoa*; he was an engineer," while others argue that the WPHC's flotilla was not so large that officers didn't very likely have to be prepared to do almost anything. Please pardon this lengthy lead-up to the question: is it reasonable to think that Mr. Brown might have been in command of *Nimanoa* in early 1941?

Another thing I hope you can do for me sometime if you're so inclined is just to recall your voyage to the Phoenix Islands with Sir Harry Luke and give me a sense of what your visit to Nikumaroro was like. In *The Things We Do For England...* Eric Bevington has an account of Sir Harry's coming ashore at Beru with his very tall A.D.C. (you?) "in full panoply;" I've often wondered whether the visit to Nikumaroro involved similar pageantry – or was it a less formal affair?

If there's anything we can do for you while on the island this year, we'd certainly be happy to do so. We will of course pay our respects to Gerald Gallagher's grave, even though he is no longer in it, and take plenty of pictures.

Best regards,

30 April 2007.

Dear Thomas,

Thanks for your letter of 17 April. I greatly admire the continuing determination that you and your TIGHAR team possess in your on-going efforts to solve the mystery surrounding the actual whereabouts of Amelia Earhart's crash site in 1937. I wish all of you well in your painstaking efforts, when you re-visit NIKOMARORO in July this year.

I wish too that I could be of more help to you. Unlike Sir Harry Luke I did not keep a diary. I often wondered in those far off days, when I was his ADC, how he managed to have the energy and will-power to set down in writing nightly his thoughts and opinions on the day's events.

I knew Stan Brown well. He was a first class Fellow, who stayed on in Fiji after independence. So far as I know, his wife, Jean, who was for many years the Private Secretary at Government House, Suva, is still alive. I do not have her address, but your Suva contacts should be able to contact her.

From my own records I know that Stan was some six years older than me - I am 87. His first appointment in the Fiji Civil Service was in 1940 - July, when he was appointed "Temporary Third Engineer, R.C.S. (Royal Colonial Ship) Viti". I have no record of his service in the Gilbert & Ellice Islands Colony, but I can confirm that the R.C.S. NIMANOA and R.C.S. KIAKIA were in service in those years.

The ADC mentioned by Eric Bevington was not me. He was Captain Jocelyn Nicholle, who sadly was killed in action in Burma during WWII.

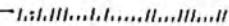
As regards the reception we received on arrival ashore in the Phoenix Islands in November/December 1941, there was no pageantry either on our part or that of the islanders. It took the "Viti" 6 days to journey from Suva to the Phoenix Group. Gardner (Nikomaroro) was to have been our first call, but strong "westerlies" made landing impossible on 25 November, and we made for Canton Is. We did make it to Gardner on the 30th, the "westerlies" having abated. There was, of course, no transport and we walked everywhere. The "Sir Harry Luke Avenue" extended for about a mile and we covered that stretch. We stopped, of course, at Gerald G.'s grave. Dr. Macpherson was with us. He had designed the memorial, and the house used by G.G. was of a type found in the Gilberts. There was an air of confidence amongst the Gilbertese who had settled on Gardner, and while they mourned the loss of G.G. they had no worries about their ability to survive.

BY AIR MAIL
par avion
Royal Mail

Airletter



Mr. Thomas King
P.O. Box 14515
Silver Spring
MD 20911 - 4515
UNITED STATES OF AMERICA



An airletter should not contain any enclosure

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I am glad that you now have a copy of "Fortress Fiji" and if you turn to p.39 therein you will find some information about the tunnels that were made as air raid shelters. Frankly, I would have preferred to take a chance in the open rather than lodge in one of those tunnels, as the entrance was also the exit! After war the tunnels were blocked up and so far as I know are still that way. It is highly unlikely that the bones brought to Suva by Gerald G. were ever stored in one of the tunnels. I enjoyed Fr. Molecki's story about his meeting with Ron Gatty. What a colourful character Fleming was! He ended his days working as the caretaker of Nukunua Is. near Suva. Presently it has been used as a prison, in which Speight is incarcerated. He was the coup leader in 2000. Yr. fan,

July 11, 2007

Dear Ian,

Tomorrow we depart for Nikumaroro (Gardner), so I should delay no longer in responding to your note of 30 April. We're flying to Fiji and immediately embarking for the island, a matter of about five days' sail as you know. We'll have about 17 days on the island if all goes well, and be back in the States on August 10th. We'll certainly be thinking about you as we walk (or chop) our way along the Sir Harry Luke Avenue – which is still quite discernible in many places thanks to its lining of coral slabs.

We've recently had some comparative photo-imaging done that we found pretty shocking; I'm enclosing prints. The black-and-white oblique image, of course, shows the village approximately as you saw it; the color print is a 2007 satellite image with the 1939, 1953, 1985, and 2001 shorelines marked. The 2001 line is from a satellite image; the others are from aerial photos. As you can see, a quite substantial part of the ocean shore has eroded away, particularly since 1985 – testimony, I'm afraid, to the effects of sea level rise driven by global warming. One of the planned targets of this year's archaeological work – the carpenter's house shown as "A" on the 1942 airphoto – may have been lost to us, though its remains were still there in 2003. Our other study location is the site at the SE end of the island where we think Gerald Gallagher and his colleagues found the bones in 1940.

I appreciate the information on Stan Brown, and the detail on your 1941 visit to Nikumaroro. And I take your point about the unlikelihood that the bones might have wound up in the bomb shelters of Suva. I've been led to think of this as a possibility by an account in a history of the Fiji Museum that I read in the Museum's library, which said its collections had been housed in the caves during the War, and came out significantly damaged by moisture. The odd things about the bones is that there is such a detailed record of their whereabouts up until late 1941, and then the record ends, with the bones in Dr. Hoodless' hands. Of course the outbreak of war doubtless rearranged priorities in all manner of ways, but other records did continue to be meticulously kept, and Henry Vaskess was so careful about such things that it's hard to imagine his letting the record lapse. But of course, he retired around the same time, and a good deal may have been lost in the transition.

In any event, I wanted to send my greetings, and tell you that we're (almost) on our way. The Associated Press is covering the project, and supposedly will be putting out daily updates. And I'll be in touch upon our return.

Best wishes,

October 11, 2007

Dear Ian,

I have been remiss in writing you since we returned from Nikumaroro. We found the island very much still there, though steadily wasting away on its southwestern side. I enclose a little report I've prepared for colleagues who ask about the project.

I took your letter of 30 April with me to the island, and it was thought-provoking indeed to compare your 1941 observations with ours 66 years later. The Sir Harry Luke Avenue could still be found, but only with a good deal of chopping. The government station had been overgrown considerably even compared with its 2001 condition, and storms had decapitated quite a lot of the coconut trees, dropping one of them on the Rest House cookhouse - which until this event had stood fairly intact. The carpenter's house, which was still partly standing in 1989 when we first visited, had blown down in 1990. We were able to locate and excavate its original site, but found that it was perhaps ten meters closer to the shore than it had been in '89. Or rather, the shore was now ten meters closer to the site. The whole place really had quite a melancholy aspect, but I suppose there's something to be said for the triumph of nature over the hand of man. We paid our respects to Gerald Gallagher's one-time resting place, despite his no longer being there.

Our work went quite well, though as usual we did not return with any kind of unequivocal proof of the fate of the elusive Earhart. And the island was as beautiful as ever, though the reef is taking a long time to recover from its bleaching episode a few years back. The birds were fledging, the lobsters were molting, and the turtles were laying eggs along the shores.

My major responsibility to the project at this point is the analysis of results from the "Seven Site," and I am finding the place even more puzzling than it was before. It's evident that a number of things have happened on the site over the years. Someone has camped there, cooking bird, fish, and turtle on at least five separate campfires. The US Coast Guardsmen from the nearby Loran station in 1944-46 fired off a lot of M-1 rounds, and a couple of .45 calibers; they or someone else fired a .22 cal. gun there as well (Gallagher had a .22). Someone scattered corrugated iron and other iron objects (now reduced to rust) over the site, and someone dug a number of evenly spaced holes that we assume were for coconut planting. And someone cleared the immediate site of big trees in about 1940-41 (as indicated in a 1942 airphoto). Which leads me to a question for you. We know that shortly before Gallagher relocated to Nikumaroro in August of 1940, he inquired of Jack Kimo Petro, who was then on the island, about the availability of *kanawa* trees, which he wanted cut for transport to the sawmill on Beru. We know from one of Gallagher's telegrams to Henry Vaskess that at least one *kanawa* was cut down near the site where the bones were found. In a 1941 airphoto, we see odd linear markings on the reef flat just offshore of the "Seven Site." We're wondering if these marks might represent dragging cut logs across the reef to a ship waiting offshore. What we're imagining - though Gallagher reported nothing of the kind - is that a number of *kanawa* might have been cut on the site, carried out to the shore, and then winched out over the reef flat to a ship like *Nimanoa*, lying off the reef. So my question for

you is - was this kind of thing ever done, to your knowledge? It would involve lying to off the windward side of the island, which strikes me as something I'd rather not do if I were in command of a ship, but it doesn't seem inherently infeasible. Does this make any sense, in your experience?

We have no plans at the moment for another trip to Nikumaroro, but are hoping to spend more time with the WPHC archives in New Zealand, and to follow your suggestion to check in Honiara for records that might have wound up there. I've just learned of an historian on the faculty of the University of the South Pacific who may be interested in documenting the history of the WPHC, something I've been hoping that someone would undertake.

I hope this finds you well and enjoying life. Ric Gillespie and some of my other TIGHAR colleagues are in Wales at the moment, helping local archaeological authorities and the RAF decide what to do with a P-38 that has emerged from a beach in quite remarkably good condition. It's being kept quiet at the moment to avoid attracting "relic" hunters, but news will doubtless leak out in the not too distant future.

Best wishes, as always,

P.S. - As I think you know, I'm fascinated by what it must have been like to live through the momentous years 1940-41. I recently stumbled on a copy of Michael Dobbs' *Churchill's Hour* - one of his series of novels about Churchill's prosecution of the war - found it fascinating and evocative, and just received in the mail a copy of *Never Surrender*, the novel covering the three weeks ending with Dunkirk. Do you know the series, and if so, do you find its portrayal of the times reasonably accurate?

Jan. 7, 2008

Dear Ian,

Thanks so much for your Christmas wishes, and please accept the same, a bit retroactively, in return. Your card reminded me, too, that your birthday is upon us; congratulations!

We continue with our analysis of the data from last July/August's work on Nikumaroro. To our considerable surprise, among the oddities we found near the campfire sites at the SE end of the island are three little tabular pieces of what is most likely - according to chemical analyses - cosmetic rouge. Not far away were shards of a piece of thin, beveled glass that is likely to be from a small mirror, as would be found in a woman's compact. Since such a compact hardly seems a likely possession for an I Kiribati or Tuvaluan colonist, a U.S. Coastguardsman, or Gerald Gallagher, we're quite interested in these discoveries. Meanwhile, we've established that the odd streaks on the reef that appear in a 1942 aerial photograph are natural, so we're no longer puzzling about the possibility that *Nimanoa* winched logs over the reef flat. We just may develop a pretty good understanding of that little island before it disappears beneath the rising sea.

Again, best wishes for a very happy birthday, and many more to come.

Sir Ian Thomson : Obituary

THOMSON Sir Ian (Edinburgh) Suddenly, on March 13, 2008, much loved husband of Nancy and father of Andrew, Peter, John, David, Richard, Mark, Sally and Douglas, graduate of Glasgow University, loyal servant of Scotland, Fiji and the British Crown. Funeral service at Inverleith Parish Church, on Saturday, March 22, at 11 am.

Sir Ian Thomson dies in Scotland

Saturday, March 15, 2008

A prominent 20th century leader in the Fiji Islands, Sir Ian Thomson, KBE, CMG, MBE (mil), died in Edinburgh, Scotland on March 13.

He was born in Glasgow, Scotland, on January 8, 1920, attending Glasgow High School and graduating from Glasgow University with a masters degree in political economy. He served briefly in the Black Watch, Royal Highland Regiment in Scotland before being posted to Fiji as an administrative officer in the Colonial Service.

He arrived in Fiji in March 1941, taking up duties as ADC to the Governor of Fiji, Sir Harry Luke. With Japan's entry into WW2, Government House in Suva became a hive of strategic operations with Ian Thomson responsible for all decoding.

In 1942, as a young lieutenant, he joined C Company, 3rd Bn, Fiji Infantry Regiment, commanded by the high-ranking Fijian chief, Ratu Sir Edward Cakobau. They camped on the Tailevu coast carrying out coastal surveillance and training for combat in the Solomon Islands.

For nine months of 1943 and 1944, now as adjutant to the 3rd Bn, FIR, he was in Bougainville on the front line of military action against Japanese forces. On his return to Fiji as a captain, he was awarded the MBE (Mil) in recognition of gallant and distinguished service.

With the cessation of WW2, Sir Ian resumed civilian duties and married Nancy Kearsley of Vatuwaqa, Suva in 1945. Nancy Kearsley, a fourth generation Fiji islander, was the loving wife of Sir Ian until her untimely death in 1988. Together they raised seven sons and a daughter.

For the next 21 years, Sir Ian was assigned positions of responsibility around the Fiji Islands, first as a district officer for the provinces of Lau, Lomaiviti and Kadavu, then as a district officer for the Northern Division of Fiji. His fellow district officer in the Northern Division was his life-long friend Ratu Sir Penaia Ganilau, later to be the first president of Fiji. Sir Ian served as the commissioner of the Western Division of Fiji in the early sixties.

Sir Ian's close association with Fiji land issues began when in 1957 Ratu Sir Lala Sukuna selected Sir Ian as his understudy and eventual replacement as chairman of the Native Lands and Fisheries Commission. Sir Ian was a fluent speaker of the Fijian language.

Sir Ian was knighted by the Queen at the Palace of Holyroodhouse, Edinburgh in 1984.

Due to Lady Nancy Thomson's ill-health, he retired to Scotland in 1986.



Farewell Sir Ian Thompson



photograph of Thompson family - from *Fiji Times*.

from w

Peceli told me that he had met Ian Thompson and that in the colonial era he was a very fine man in Fiji. He was a District Officer one time in Labasa.

from a feature article in the *Fiji Times*:

Moce Turaga Saturday, March 22, 2008

Sir Ian Thomson, who is being buried in Scotland today, was a proud Scot but a large part of his heart belonged to Fiji and especially the Fijian people. He commanded Fijian troops in the Solomons in World War II, was fluent in the Fijian language and would later spend a significant part of his career protecting Fijian interests on the Native Land Trust Board. He was a man who believed firmly in a multi-racial Fiji and dedicated himself to defending the interests of Fiji-Indian cane farmers as independent head of the sugar industry. When the annals of the decades leading to Fiji's independence and subsequently fall to be written, John Sutherland Thomson's contribution to nation building will feature prominently.

It is two decades since Sir Ian (as he was widely known) left these shores, and there is now a generation "which knew not Joseph" in the words of Exodus.

His death, aged 88, in Scotland on March 13, 2008, marks the end of cherished bonds of affection between Sir Ian and his adopted homeland spanning nearly 70 years.

Arriving in Fiji as a 21-year-old year old, Sir Ian was to spend most of the next 45 years in these islands.

Initially serving as aide de camp to the then Governor, Sir Harry Luke, Sir Ian saw action in the

Solomon Islands campaign with Fijian soldiers as a commissioned officer. There, he was decorated for bravery. It heralded the beginning of a close and intimate relationship with the Fijian people. One that was reciprocated in full measure.

After World War II, Sir Ian served in parts of Fiji in the District Administration. He had strengthened his ties further to these islands by marrying Nancy Kearsley, a fourth generation member of a prominent local European family. It was a union of kindred spirits and the bedrock of Sir Ian's life, together with a quiet Christian faith. They were to have seven sons and one daughter, now scattered all over the globe who yet carry with them the vexing ambivalence of memories and reminiscences common in Fiji's diaspora.

As a district officer and eventually district commissioner, Sir Ian was closely involved with development in parts of the country. Serving in Kadavu, Lomaiviti and Vanua Levu, Sir Ian had a rapport with the local communities.

His son Peter would follow in his stead. Fluent in Fijian with a smattering of Hindi, Sir Ian personified the best in the British colonial civil servant.

In manner and bearing he was princely, with an approachability that was as reassuring as it was genuine. It was complemented by a voice that evoked dignity and gravitas.

Among Fijians, Sir Ian was said to embody 'nai vakarau vakaturaga', the chiefly manner asserted by so many yet practiced by only a few.

A critical part of Sir Ian's reputation for effectiveness, was the enduring friendships he had with Fijian leaders of the time. Ratu Sir Lala, Ratu George Cokanauto, Ratu Josefa Lalabalavu and Ratu Tevita Uluilakeba, among others, as well as emerging successors like Ratu Mara, Ratu George Cakobau, Ratu Edward Cakobau and Ratu Penaia Ganilau, valued his counsel and companionship. To Ratu Penaia in particular, he was like a brother. Sir Ian was his best man when he married his first wife Laisa in 1947. Many a convivial evening was spent with the Ganilaus at either their home in Suva or in 'Vuniduva' at Somosomo. It would inevitably end with the singing of Scottish folksongs like Early One Morning and Loch Lomond.

Sir Ian's standing in the colonial administration and his Kearsley connections gave him ready entry into local European circles.

Part-Europeans like Fred Archibald counted among his friends. He was respected by the likes of Pandit Vishnu Deo, Pandit Ajodhya Prasad, Swami Rudrananda and Mr A D Patel for his sense of fairness and integrity. It was what struck people most about him.

On the death of Ratu Sir Lala in 1958, Sir Ian succeeded him as chairman of the Native Lands Commission. It was a measure of his familiarity with things Fijian and the confidence reposed in him, both by the colonial administration and the Fijian chiefs, that he acceded to a position Ratu Sir Lala had made his own. In this capacity, he continued and completed much of the records

and detailing of boundaries his predecessor had embarked upon. It was all done in the understated style that was his *modus operandi*.

In the years immediately preceding independence, Sir Ian was Assistant Chief Secretary and acted as Chief Secretary on several occasions. He contributed to the smooth transition to independence by encouraging dialogue, a message reinforced by the confidence he enjoyed among Fiji's political leaders. In this process, he was the perfect foil for the Governor, Sir Derek Jakeway, who had a prickly relationship with Ratu Mara.

The untold story of his role in providing advice to Ratu Mara, Ratu Edward and Ratu Penaia may never be widely known, as the protagonists are no longer with us.

If Sir Ian was concerned about the sudden abolition of the *Lawa i Taukei* (or Native Regulations) in 1967, which gave Fijians *galala* or freedom overnight, he was too much of a gentleman to show askance. His innate caution and tutelage under Ratu Sir Lala, would have inclined him to a more gradualist approach. The irony must have struck him when he headed a *Bose Levu Vakaturaga* inquiry several years after 1987. It considered how chiefs in general, and young chiefs in particular, might be given more training for national leadership. *Galala* had accelerated the populist nature of the times. It was difficult, if not impossible, to put the genie back in the bottle.

After a short period in the British Virgin Islands, Sir Ian returned to Fiji to be independent chairman of the Sugar industry. He was to occupy the position for nearly a decade and a half. These were the golden years of the sugar industry. Repositioning it in the wake of the departure of the Colonial Sugar Refining Company, the dynamism of Rasheed Ali and his colleagues at the Fiji Sugar Corporation, co-operation of the cane farming organisations, political stability provided by Ratu Mara's leadership and the wise stewardship of Sir Ian was a formula for success.

A critical element was his facility in dealing with all communities and the regard they had for him as an honest broker. In this period, he served on other statutory entities as well. He was knighted for his record of public service in 1984.

In well deserved retirement, Sir Ian was able to spend more time with Lady Thomson. However, her ill health and deteriorating condition, obliged them to leave the country that had been his home for nearly half a century. Lady Thomson died two years later in 1988. Sir Ian's grief and loss can only be imagined, for he was a private person despite his public profile. Sir Ian subsequently remarried and the second Lady Thomson survives him.

In a very real sense, Sir Ian left this country at the right time. A year later, the cycle of coups began.

Although he would have understood Fijian insecurities, the British sense of justice and fairplay that was second nature would have caused Sir Ian profound hurt.

Peter, his son, was to become a casualty of the second coup in September, 1987.

Ratu Sir Penaia's poignantly piercing observation to the latter as he took his leave, about the divide between himself as 'an outsider' and the Fijian people, would have cut Sir Ian deeply. It delineated the fault lines at the core of Fiji's ethnic realities, defying the enduring ties between them. But Sir Ian would never have dwelt on it given his generous nature. True friendships bear all things, and the Fijian statesman was reflecting sentiments embedded deep in the Fijian psyche. Sir Ian would have understood that and, recognising the love of one's country encompasses both the good and the difficult, he nevertheless continued to hold Fiji firmly in his heart to the end.

Posted by Peceli and Wendy's Blog at [6:08 PM](#)

Labels: [Fiji colonial days](#), [Ian Thompson](#)

2 comments:

[Julie Oakley](#) said...

He was a good friend of my father's, he was very sad to hear of his death. My father was the Labasa police superintendant around the same time as Sir Ian was the district officer.

[6:49 AM](#)

[nzm](#) said...

Likewise, a great friend of our family.

Great tribute, Wendy.

By the way, the coconut wireless still works - my parents knew about Sir Ian's passing before I did - the Fiji network doesn't need the internet!

[3:30 AM](#)