KIN AND MARY HYLTON

# The Tuttle Brothers: Hawai'i's Aviation Pioneers and First Glider Pilots

"Honolulu's First Bird-Men Take To The Air," announced a headline in the *Pacific Commercial Advertiser* on October 30, 1910. The first page article stated:

> The Tuttle brothers of Honolulu have become the contemporaries of the Wright Brothers of Dayton, Ohio, and their names will be perpetuated in history as the first aviators of the Hawaiian Islands.

About one month later, a local business syndicate hired a professional aviator from San Francisco by the name of Bud Mars and paid him to come to Honolulu by ship with his flying machine. On December 31, 1910, the sky buzzed with the sound of a spinning propeller as Mars brandished his newfangled device. Mars met the Tuttle brothers that first day and allowed the boys to sit at the controls of his airplane. The following morning Mars advertised that he was "the first man to fly over the soil of these beautiful Hawaiian Islands." The newspaper, however, indicated otherwise in a 1911 New Year's Day article: "Two small boys built a glider a while ago and made some successful flights over the Kaimuki hills."[1]

For 56 years there was no further mention of the Tuttle brothers' historic flight (fig. 1), until William J. Horvat wrote a book

*Kin and Mary Hylton and their children reside in Honolulu. They are researching Hawaiian aviation history, and she is a licensed heliocopter pilot.*

*The Hawaiian Journal of History,* vol. 24 (1990)

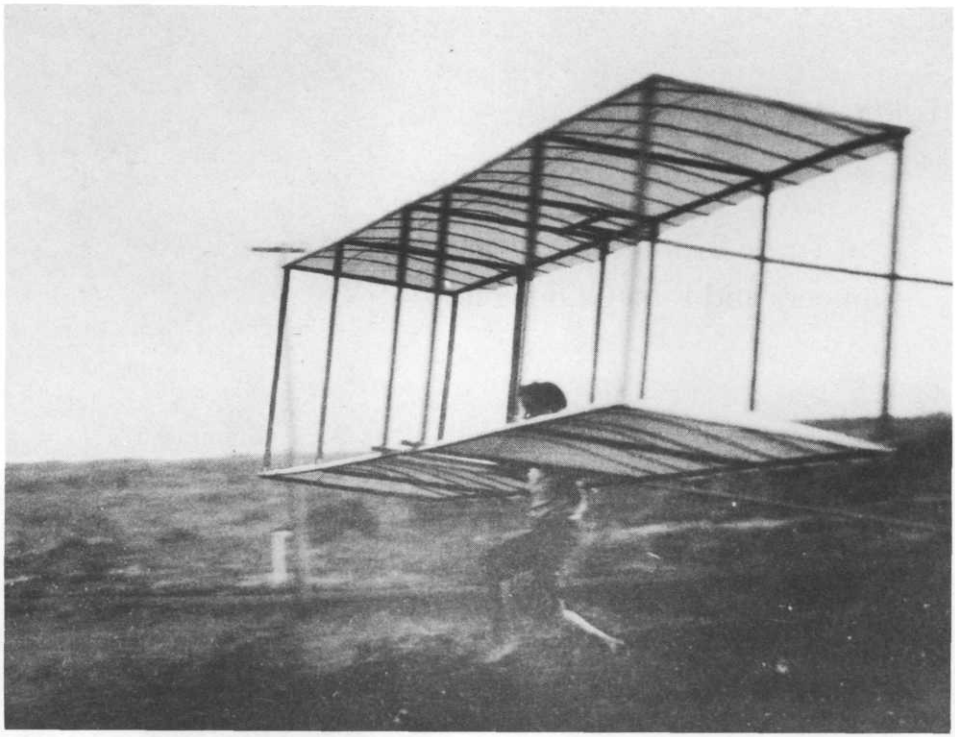


FIG. 1. Elbert Tuttle's picture of his brother Malcolm taking off in their newly constructed glider on Sunday, October 23, 1910. (Judge Elbert Parr Tuttle photo.)

about aviation, *Above the Pacific,*[2] which included a brief mention of the Tuttle brothers' flight as reported in the 1911 article. Our subsequent research confirms that the Tuttle brothers were indeed Hawai'i's first glider pilots and aviation pioneers.

Malcolm and Elbert Tuttle (fig. 2) had arrived in Honolulu on the S.S. *Sierra,* on September 23, 1907. They came with their father and mother, Guy and Margaret Tuttle. Before the boys were born, Guy Tuttle had worked in Washington, D.C. as a clerk in the War Department. When an opportunity came for him to be transferred to California, to the Los Angeles area, he took it, and he worked there for the U.S. Immigration Service. The Tuttles lived in Pasadena where Malcolm was born on March 20, 1896 and Elbert on July 17, 1897.

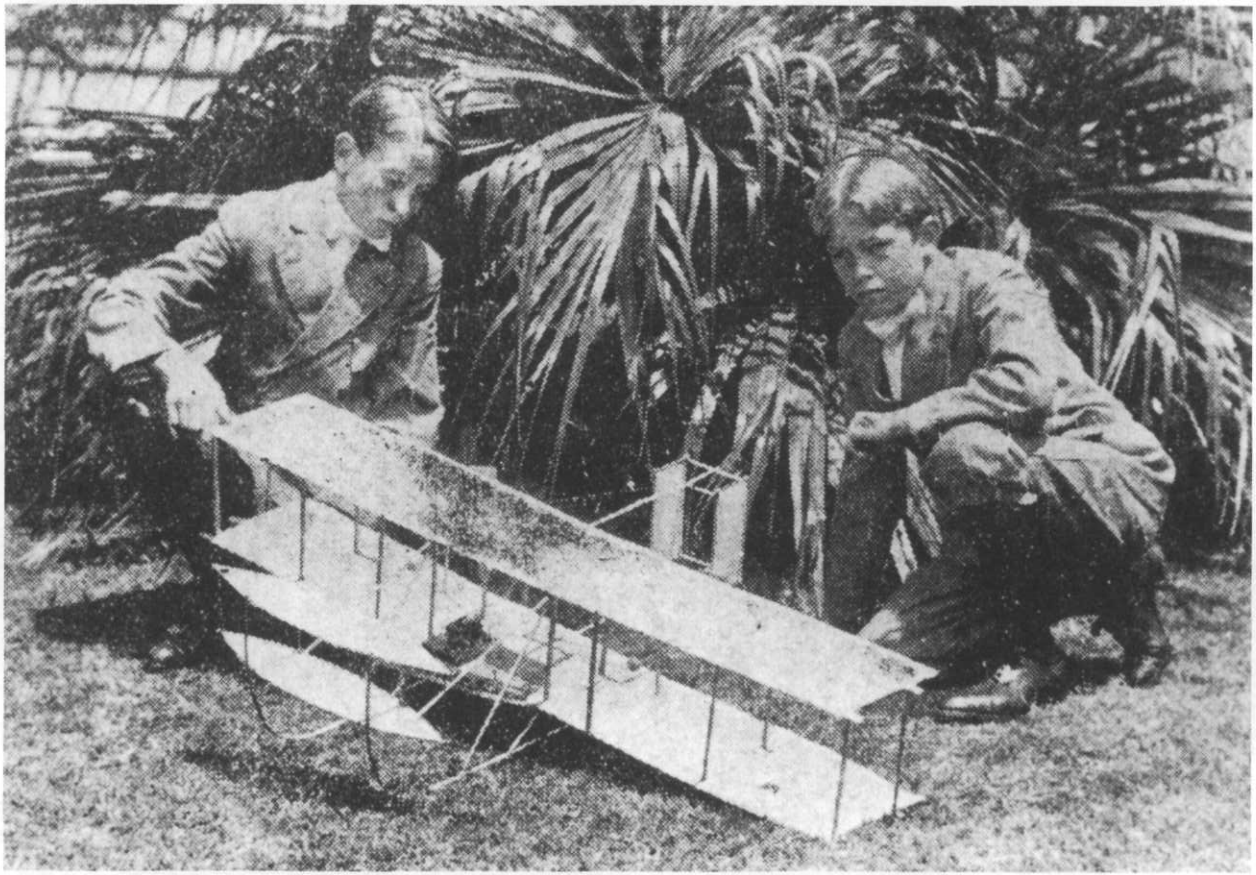


FIG. 2. The Tuttle brothers, Malcolm and Elbert, with their scale model of the 1903 Wright brothers' biplane, June 1910. (PCA photo.)

Aware of the limited possibilities her husband had in his job, Margaret Tuttle wrote friends living in Hawai'i for advice. One suggested that Guy should try to get a job with the Hawaiian Sugar Planters Association. Elated with the subsequent offer to Guy of a position as an accountant at the HSPA Experiment Station (in Makiki), the Tuttle family packed and within ten days were waiting in San Francisco for passage to the Islands. The voyage to Hawai'i was to be on a steamship which had been delayed by federal health authorities in Honolulu because a crew member had contracted the bubonic plague and a quarantine was in effect. California appeared to be the origin of the infection, and to avoid further delays in San Francisco the Captain in Honolulu loaded on enough fuel for a round trip.[3]

In the meantime, school, which had begun September 16th, had been in progress for a week by the time the S.S. *Sierra* returned to Honolulu with the Tuttle family. After the family debarked, Guy rented a house at 1731 Keeaumoku Street about two blocks *mauka* (toward the mountains) from his office. The boys entered Punahou School, Elbert in the fifth and Malcolm in the sixth grades. Sometime in October, the family joined the First Christian Church which met in a chapel on Alakea Street.[4]

That first year at Punahou gave Elbert a chance to prove how excellent a student he was and earned him the right to skip the sixth grade. Malcolm and Elbert were then to be in the same class through the rest of their school years.

After school let out that first summer, the Tuttle brothers learned how to surf. Their favorite place was Waikīkī Beach. The beach's isolation made it an ideal place for surfing. No clear access existed at the time because property owners built sea walls right up to the high tide mark in order to protect their property from wave erosion.[5]

That summer a stranger approached some surfers from Punahou School and asked if they could teach him to surf. They loaned him one of their surfboards, and when he went out into the ocean he nearly drowned. After his close encounter with death, the stranger (he was Alexander Hume Ford) asked the boys to help him organize a surfing club. A number of them agreed and went around town soliciting start-up money. Nearly every important

business and professional man in Honolulu became a charter member of what later became known as the Outrigger Canoe Club.[6]

School resumed, and Ford, the founder of the Outrigger, left unannounced for Canada. Because members thought he might return, they chose one from their ranks to temporarily direct the Club's affairs. Guy Tuttle was selected as stand-in president, and his sons joined him to become steady club goers. The following summer the boys made news by participating in the club's surfing competitions.[7]

When school started again in the fall, the Tuttle brothers were allowed to choose a topic of study. They chose aviation. During their research they learned about the French aviator Louis Blériot, the Wright Brothers, and Glenn Curtis of Ohio.[8] They also learned about Maui, the Hawaiian legendary hero who flew over the Hawaiian Islands in a giant kite, and they read about the man hired in 1889 to float over Honolulu in a balloon.[9]

Just before Valentine's Day, Guy got released as the Outrigger Club's stand-in president and was elected secretary.[10] Margaret invested in rental property at 1354 Wilder Avenue, just across the street from the Experiment Station.

By April the Tuttle brothers' research led to the designing of a flying model airplane. It was reportedly the first in the Territory. The plane they designed was bulky, but it flew a considerable distance with the aid of a rubber spring engine. Another model they built was a scale replica of the Wrights' 1903 biplane. Both models were made of bamboo, silk, and spare wire, but the replica used a heavy electric motor to spin its propellers around, so it couldn't fly.

When word got out about the Tuttle brothers' project, there was much interest, and many people thought that the boys were prodigies.[11] They were asked to exhibit their model planes and to present a short essay on aviation during their school's June commencement program. Unfortunately, their first innovation was in the midst of being trimmed down, so only the scale replica was displayed and photographed by the newspaper.

In July, Margaret found some property she liked, this time in Kaimukī, at 1018 6th Avenue.[12] She purchased the vacant lot along

with half of two other lots on either side. There the family commenced building their own home. The house went up quickly, and the family soon moved in.

Because Kaimukī was too far for them to walk to school every day, the brothers sent to the East Coast for a motorcycle to ride. Motorcycles were newer to Hawai'i than cars but had been in use in Honolulu for about eight years.[13]

Kaimukī was sparsely populated. The closest neighbors with children had two daughters, ages 13 and 16. Apparently the brothers were more interested in building things than playing. One day in one of their mother's magazines they found an article they thought extremely interesting (fig. 3). It explained how to use wood, cotton cloth, and piano wire to make a glider. Accompanying sketches showed how to put the craft together and gave helpful hints on how to control the glider in the air.[14] Although the glider was designed for calmer regions and was not to be flown when winds were stronger than ten miles an hour, Malcolm and Elbert wanted to build the glider. They found their father cooperative in funding their summer project.

Malcolm and Elbert completed the glider on Sunday, October 23, 1910. It was 15 feet long and 18 feet across. Two overlaid wings were separated by 12 wooden supports. Near the center of the lower wing was an opening with arm rests. Altogether, the glider weighed only 40 pounds.[15]

That same day the brothers carried their glider seven blocks up the street to the Kaimukī Crater, where along Reservoir Avenue the hills sloped into the wind. Clouds scattered over the sky that day. Trade winds were blowing up to ten miles an hour.[16] When Malcolm was ready to try out the new glider, Elbert took hold of the tail and held it up off the ground. Then Malcolm lifted the wings over his head and ran down the hill. They thought that a long run would be necessary before the glider would fly, but they were wrong. After two or three steps, the aircraft jerked upwards, Elbert let go of the tail, and Malcolm lifted off the ground.

Malcolm's first attempt to control the glider brought it down quickly. But as each brother took turns, they got better at it and more daring. On Malcolm's third try, he flew the glider ten feet into the air and 40 feet along the ground. Elbert got out his camera and took a picture just before a strong gust of wind slapped

# AUNT JANET'S BOYS AND GIRLS

## HOW TO BUILD A PRACTICAL GLIDER

BY HAROLD S. LYNN

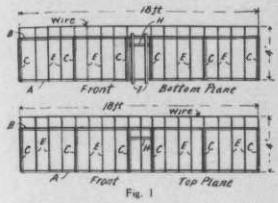



Fig. 1

A GLIDER is a motorless aeroplane of the simplest form and is used for carrying a person in gliding flight through the air, from a high to a lower elevation. Although practically this is a new sport, it is one of the most thrilling and delightful that you could imagine.

It is a little hard to master control of a glider at first, but when you have once overcome this difficulty, you will feel amply repaid for your trouble. A few ordinary tools and the following material will be all that you need to build one. Be sure to get well-seasoned, straight-grained spruce free from knots.

Four beams, three fourths inch thick, one and one fourth inches wide and eighteen feet in length. Twelve uprights or posts, three fourths of an inch thick, one and one half inches wide and four feet long. Twelve crosspieces, or struts, one inch thick, one inch wide and three feet six inches long. Thirty-seven strips one fourth of an inch thick, one half inch wide and four feet long. (These last named strips are for the ribs of your glider.) Two arm-rests, each of them one inch thick and two inches wide by four feet long. Two poles to hold the rudder in rear, one inch square and twelve feet long.

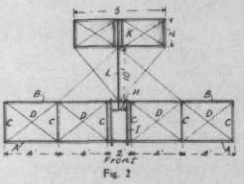
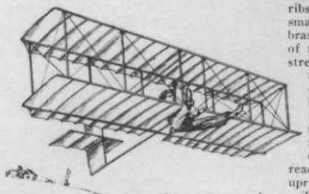



Fig. 2

You will need some extra three-fourths inch square stripping and half a dozen short ribs two feet six inches long for the tail or rudders. Also procure the following: Six dozen three-sixteenth-inch stove bolts with washers on both ends, a supply of No. 16 piano wire, two dozen sockets and eye-bolts to fit (Fig. 4). These may be obtained from almost any hardware-store or from aeronautical firms. For the sail planes you will need about twenty-five yards of finely-woven muslin.

Put the framework together with bolts, as they will not split the wood and will enable you to take your machine apart quickly, for shipping or carrying or packing in small space. All the wood should be sand-papered and the corners rounded off slightly to cut down the wind resistance.

Put together and cover the two main planes first (Fig. 1). Lay out two beams (A and B) and starting at each end, connect them with three struts (C) four feet apart. This leaves a two-foot space in the center. When this is done, wire the four sections diagonally (D, Fig. 2). The top plane should have a diagonal wiring in the center section also, but this space must be left clear in the bottom plane. The ribs (E, Fig. 1) should next be placed one foot apart. Fasten one end to the front beam with small one-inch boards, now bend it up in the center and tack it to the rear beam. The side view (Fig. 3) shows how the rib is bent. The rib extends over the rear beam four or five inches. Fasten all the ribs on as described. Tack a piece of small wire along the ends of the ribs with brass-headed tacks (Fig. 1). Tack one edge of the muslin along the front beam, next stretch it back over the ribs, and sew it around the wire. The cloth is now fastened to the ribs with small brass-headed tacks at intervals of three or four inches, using tape along the ribs underneath the tacks. The center space in the bottom plane must be left uncovered. The main planes are now ready to be connected by means of the uprights (F).



The sockets (G) are fastened to the main beams (A and B) directly under where the struts or crosspieces join them (Fig. 4). The uprights (F) are fitted into these sockets and then the two main planes are tightened and braced with piano wire running diagonally from the eye-bolts in the sockets (Figs. 3, 4 and 5). Put the two short crosspieces (H, Fig. 1) and the two arm-rests in the bottom plane. The main part of the glider is now complete.

The vertical rudder (J, Fig. 3) is immovable and its object is to keep the glider headed into the wind. The horizontal rudder (K, Fig. 2) is likewise stationary, and its object is to help balance the machine and keep it from diving. For tail, or compound rudder, see Fig. 6.

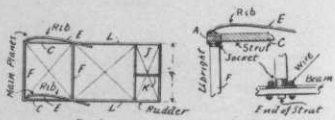



Fig. 3 Fig. 4

The two twelve-foot strips (L) are fastened to the center of the small crosspieces (H), and rear beams (B) extend eleven feet back. Figs. 2, 3 and 6 show the method of wiring and bracing rudders. Coat the muslin covering with a thin layer of paraffin or thick starch to make it air-tight.

Never take your glider out in winds blowing more than ten miles an hour, and, until you have learned to use it properly, it is best to use it only on slight gradients.

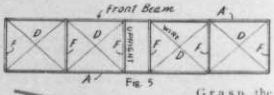



Fig. 5

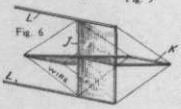


Fig. 6

Grasp the arm-rests firmly with your elbows, resting on them so that your weight comes a little back of the center of balance. Now face the wind with the front of your glider tilted downward, and run down the hill. After you have run a few yards, tilt the front up, at the same time lifting your feet free of the ground, when the wind will catch underneath your planes and you will go sailing down the hillside in free flight, supported only by the air. One of the great difficulties that the aviator meets with is the cross-currents of air striking his machine sideways. This is also true in gliding flight. This may be overcome by shifting the body and swinging the legs from side to side, thus keeping your machine balanced. Landing is accomplished by throwing your weight back a little when the glider will tilt up, losing its forward momentum and gradually settling earthward.

THE FOURTH FOR THE S. D. B.—BY CHIEF DANIEL BOONE

FIG. 3. Instructions followed by the Tuttle brothers on how to build a glider, from *Woman's Home Companion*, July 1910. (Authors' photo.)

one side of the glider's wings, causing it to roll over and fall to the ground. Fortunately, only the glider was damaged.

It was this successful flight of the glider that the *Pacific Commercial Advertiser* described in its story on New Year's Day, 1911. The paper compared the two boys to the Wright Brothers. Everyone was proud of their accomplishment, and Thomas Cook, a stranger to them, even gave them $20 to repair the damage caused by the crash.

Mr. Cook was a 41-year-old surveyor who lived on Wilhelmina Rise in Kaimukī.[17] His widowed mother Mary lived with two other children at 1318 Artesian Street. Mary Cook was a member of Central Union Church. After the Tuttle boys patched up the glider, they let Central Union Church use it for the Bible School Christmas party.[18]

The Church asked the brothers to dramatize an idea that had been suggested a year earlier in a newspaper ad depicting a gift-laden Santa Claus flying on the wings of an airplane. For the Church rendition, Malcolm dressed up as Santa and flew down from the Sunday School room balcony on a sheer cable to a platform set up on the floor. The performance went superbly, and all present were thrilled by what they saw.[19]

It was nine days after the Church program that the professional aviator Mars flew the first engine-powered aircraft in Hawai'i. He had three shows in the Islands before traveling to Japan. Admission was $1 per person. The business syndicate that had hired Mars needed to raise $10,000 to break even. Guy Tuttle took his sons to the exhibition on the first day. While there, a newspaper reporter got permission from Mars to let Malcolm and Elbert pose for photographs sitting in the plane's cockpit. No one knows exactly what happened after that, but the brief statement in the newspaper the following day about the Tuttle brothers earlier flight in Kaimukī was the last time their history-making flight was mentioned.[20]

After the Christmas recess, Malcolm and Elbert focused again on their schooling. They rode their motorcycle to Punahou every day. The boys participated in drama, singing, and track. They contributed to the School magazine and became school leaders. Malcolm took part in track events, and Elbert was on the debating team, played football, and wrote for the Pacific Commercial

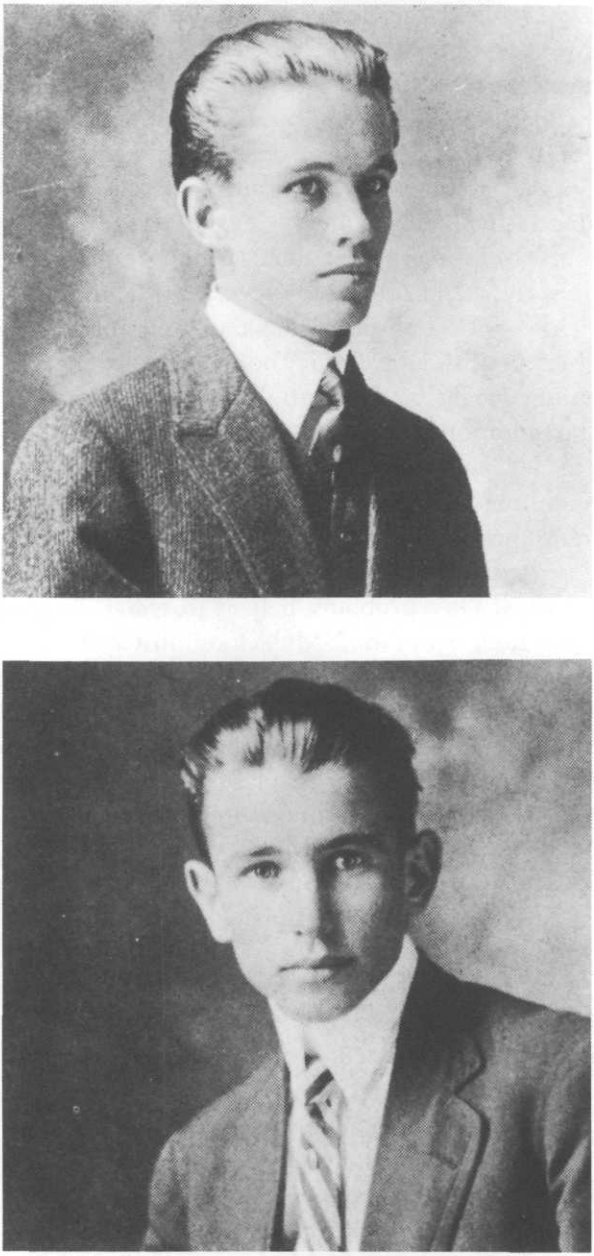


FIG. 4. Senior class pictures of Elbert and Malcolm Tuttle, Punahou School, 1914. (Cooke Library Archives, Punahou School photo.)

Advertiser. In fact, the next three-and-a-half years just proved again how exceptional the Tuttles were. During their junior year, their father again became president of the Outrigger Canoe Club, but this time Guy was elected and not appointed. In his senior year, Elbert was singled out as one who did more for his school than any other student that year, and his name was engraved on the prestigious Roll of Honor.[21]

Malcolm and Elbert graduated from Punahou (fig. 4) and made plans to attend college in New York. That fall they left for Cornell University. The glider they had built and flown four years earlier was left at their Kaimukī home, its tail removed so that it could stand upright in the Tuttle's back side yard lot. Unfortunately, no additional steps to safeguard the glider were made before they left, and it eventually deteriorated.

Guy continued his support of the Outrigger Canoe Club until his term as president expired in 1916. That year, the Central YMCA started offering classes in clerical skills to seventh and eighth graders. Guy probably helped to teach these because by 1917 he was a member of the YMCA Committee.[22]

The older Tuttles left the Islands in 1918. Malcolm and Elbert graduated from college that year. Elbert chose to enlist in the Army Air Corps and train as a pilot, while Malcolm continued his studies at Cornell towards a master's degree in engineering. That fall Guy Tuttle also chose to contribute to the war effort by volunteering for duty with the YMCA which President Woodrow Wilson had commissioned to do welfare work overseas. The YMCA had Guy serve at a military canteen in France for about nine months.

The Army transferred Elbert just before he got his pilot wings and made him serve as a war correspondent.[23] After the War Elbert returned to Cornell University to study law. He met Sara Sutherland and married her on October 22, 1919 in Washington, D.C.

On their return from France, Guy and Margaret Tuttle stopped off in New York where they visited with their sons. Guy then joined the New York branch office of the Honolulu Iron Works as manager.[24] Malcolm eventually moved to Chicago where he was employed as chief engineer for an oil refinery. In 1920, he married Aurilla Brigham in Glencoe, Illinois.

Each member of the Tuttle family returned to Honolulu at least one more time, either to sell property or to visit. The older Tuttles eventually relocated in Southern California where Margaret Tuttle died in 1939. Guy Tuttle passed away in 1962.

Elbert returned to Hawai'i during World War II in the Army on his way to the Ryukyu Islands.[25] He again made the news—this time in the Honolulu Star-Bulletin which described how Elbert had fought in hand-to-hand combat against a Japanese soldier. This soldier was a veteran of World War I, and as a former American ally he wore a victory ribbon on his uniform just as Elbert did. According to the newspaper account, the Japanese soldier pulled a grenade, but after looking at Albert for a moment, turned, and fell on the explosive.[26]

Elbert moved to Georgia. He was in the vanguard of the Civil Rights movement in the 1960s. At the age of 93, Judge Elbert Tuttle is still on the bench in Atlanta Georgia. Malcolm lived 92 years and died in New Rochelle, New York, on February 19, 1988.

Back in 1910, when they had been interviewed by the Advertiser, Malcolm and Elbert Tuttle told a reporter that more people needed to get interested in aviation. To get people interested there would need to be friendly competitions and prizes awarded for the best-made aircraft.[27] Two Punahou students 19 years later built a model airplane in the School's workshop and won a model airplane contest. They next built and flew a full-sized glider. In 1931, one of those students, Alfred W. Smith, became the first Federal Aviation Administration licensed glider pilot in Hawai'i.[28]

The Tuttle brothers' flying model airplane and glider flights were historical firsts for Hawai'i and preceded Honolulu resident Guy Schaeffer's manufacture of Hawai'i's first engine-powered plane by 18 months.[29] In addition, the Tuttle brothers' news-making ability got people interested in aviation. Perhaps Stanley Kennedy, for example, with a life-long interest in aviation and the founder of Hawai'i's first airline, read or heard about the Tuttle brothers' achievement—Kennedy's parents had been members of Central Union Church when the Tuttle boys performed there and Stanley was a student at Stanford University.

The Tuttle brothers' glider flights and model airplanes were not only significant historically, but they contributed to the advancement of aviation in Hawai'i in general.

## Notes

We would like to thank Elbert Parr Tuttle, Senior Judge for the 11th U.S. Circuit Court of Appeals, who provided some of the documentation for this article in telephone interviews and correspondence with us from December 26, 1988 through February 12, 1990. We would also like to thank Robert E. Lansing, Instructor in Administration of Justice, Honolulu Community College, who encouraged us to write up our research.

[1] *PCA,* 1 Jan. 1911.
[2] William Joseph Horvat, *Above the Pacific* (Fallbrook, Calif.: Aero, 1966) 24.
[3] *PCA,* 31 Aug. and 2 and 4 Sept. 1907.
[4] R. Willard Gray, Church historian, telephone interview, 7 Apr. 1989.
[5] Harold H. Yost, *A History of the Outrigger Canoe Club, 1908-1971* (Honolulu: Outrigger, 1971) 30.
[6] *PCA,* 15 May 1910.
[7] *PCA,* 1 June, 1909.
[8] *PCA,* 19 June 1910.
[9] June Gutmanis, *Maui, Our Common Ancestor* (Honolulu: U of Hawaii P, 1975) 19-20; *PCA,* 8 Apr. 1889; Robert C. Schmitt, "Some Transportation and Communication Firsts in Hawaii," *HJH* 13 (1979): 99-123.
[10] *PCA,* 16 Feb. 1910.
[11] *PCA,* 19 June 1910.
[12] Bureau of Conveyances, vol. 255: 42; Insurance map, 1927, AH.
[13] Schmitt, "Some Transportation Firsts" 102
[14] Harold S. Lynn, "Aunt Janet's Boys and Girls: How to Build a Practical Glider," *Woman's Home Companion,* July, 1910: 30.
[15] *PCA,* 30 Oct. 1910.
[16] *PCA,* 24 Oct. 1910.
[17] *HA* Hilo, 5 Jan. 1943.
[18] *PCA,* 23 Dec. 1910; *PCA,* 12 Dec. 1910.
[19] *PCA,* 12 Dec. 1910.
[20] *PCA,* 1 Jan. 1911.
[21] Punahou School, *Catalogue of Oahu College,* 1914-1915: 28; Yost, *History of the Outrigger Canoe Club* 39.
[22] Gwenfread E. Allen, *The Y.M.C.A. in Hawaii: 1869-1969* (Hong Kong, Cathay, 1969) 79.
[23] *HA,* 4 Dec. 1964.
[24] "Honolulu Iron Works Co.," *HAA* (1919) 10.
[25] *HA,* 18 Aug. 1958; Bureau of Conveyances, vol. 709: 69.
[26] *HSB,* 2 May 1945.
[27] *PCA,* 30 Oct. 1910.
[28] *HSB,* 14 Nov. 1931. The identity of the second Punahou student hasn't been determined.
[29] *HA,* 29 Dec. 1911; *HA,* 2 Jan. 1912.