

NSM

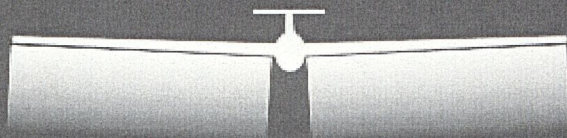
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National Soaring Museum



Edward G. Evans, Bruce Carmichael, and Lyle Maxey Inducted into the United States Soaring Hall of Fame



United States Soaring Hall of Famers greet new inductees;

top left to right: Bernald S. Smith (1984), Edgar D. Seymour (1995), Francis P. Bundy (2001), A.J. Smith (1968), William C. Sproull (1997); seated, George Applebay (1999), Lyle A. Maxey (2002), Bruce H. Carmichael (2002), Sterling V. Starr (1979).

Edward S. Evans (1879-1945), this year's historical candidate to be elected, it was necessary that he receive approval from at least 75% of the ballots cast.

SSA President Larry Sanderson, Hobbs, NM,

Lyle A. Maxey, Laguna Niguel, CA; Bruce H. Carmichael, Capistrano Beach, CA; and the late Edward S. Evans, Grosse Pointe, MI, were named to the 48th Annual United States Soaring Hall of Fame. The ceremony and reception that followed was hosted by the National Soaring Museum at the Crowne Plaza Hotel during the 2003 Soaring Society of America Convention and Air Sports Expo, held January 23-25 in Dayton, Ohio.

The United States Soaring Hall of Fame was started in 1954 by the Helms Foundation of Los Angeles, CA. At that time it was determined that soaring was a sport of such national and international stature that it deserved recognition. In 1975 the SSA's Board of Directors transferred the Hall of Fame to the National Soaring Museum. A total of 114 have been chosen for this honor, including the current 2002 selectees for "achievement in a noteworthy manner in soaring, or who have noteworthy contributions to the sport of soaring."

In a recent change in the selection process, longtime members of the SSA vote each year for two new members from a slate of three candidates. For the second year, a category for historical candidates was created for this honor. The intent of the new category is to recognize individuals whose active period in gliding and soaring is long past. In order for Col.

welcomed over 75 attendees and introduced National Soaring Museum Board of Trustee President Robert H. Ball, Vienna, VA.

The NSM president called on last year's inductees Allen Leffler, Santa Paula, CA, and Dr. Francis Bundy, Lebanon, OH, to stand and be recognized. He then requested all the U.S. Soaring Hall of Fame members in the audience also be recognized. Dr. Bundy is 92, and was unable to attend last year's Ontario, CA convention and Hall of Fame gathering.

This year's historical inductee is the late Colonel Edward S. Evans. Evans was a Detroit industrialist, transportation expert, and ardent supporter of aviation development. He was referred to as "The Father of Gliding in America" in a short 1941 biography prepared by Wilma Ross, a New York public relations firm. The following information is from the 1941 release.

Evans wrote an article on gliding for the Encyclopedia Britannica, and Mount Evans, a Greenland airfield, is named after him by a University of Michigan expedition that he backed. Pictures of Evans as a dignified-looking, conservative, banker type, with his pince-nez glasses conceal a wide-ranging, and adventurous personality. He was a prominent Detroit



l. to r: Ralph S. Barnaby, (then) Maj. Gen. Henry “Hap” Arnold, and Edward S. Evans at the 1941, Elmira, NY, 12th National Soaring Contest.

businessman, financier, attorney, explorer, and developer. His societal and club affiliations included: The American Polar Society, The Explorers Club, The Adventurers Club, The Society of American Automotive Engineers, the Bankers Club, and Fellow of the American Geographic Society.

In 1926 he established the world record for circumnavigating the globe by plane in 28 days, 14 hours, and 36 minutes. He made the first flight from Moscow to Omsk (Siberia). He was president of St. Louis’ Parks Air College, and managed the first two George Hubert Wilkins, Detroit Arctic Expeditions for the discovery of the North Pole by air. Cape Evans in the Antarctic was named for him. As director of the National Air Transport Company, he helped pioneer air passenger service. (This company was later absorbed into United Airlines). He was president of Lockheed, and one of the organizers of the Stinson Aircraft Corporation, first to successfully equip aircraft with brakes. He was an officer of the Aeronautical Development Corporation, (later the Metalclad Airship Corp.), the organization that built the only metal-clad airship in the world, the ZMC-2. It was delivered to the Navy in 1929, and successfully flown until 1939. It was known as the “Tin Bubble.”

In the 1920’s considerable progress in gliding and soaring was being made in Germany where strictures in the Versailles Treaty ending WWI severely limited power flight there. Word of these activities fired the flight synapses in air-minded, but cash poor Americans. However, there were no gliding schools here, and worse yet, no production gliders were available until 1929.

This was a dilemma that Evans - chairman of Detroit’s Aviation Bureau of the Board of Commerce - quickly recognized and acted on. Paul A. Schweizer, in his book “Wings Like Eagles, The Story of Soaring in the United States” said, “He saw motorless flight as a logical way to promote aviation and create a pool of pilots who would eventually buy and fly airplanes.” Much of the following information is based on Chapter 2 of “Wings Like Eagles.”

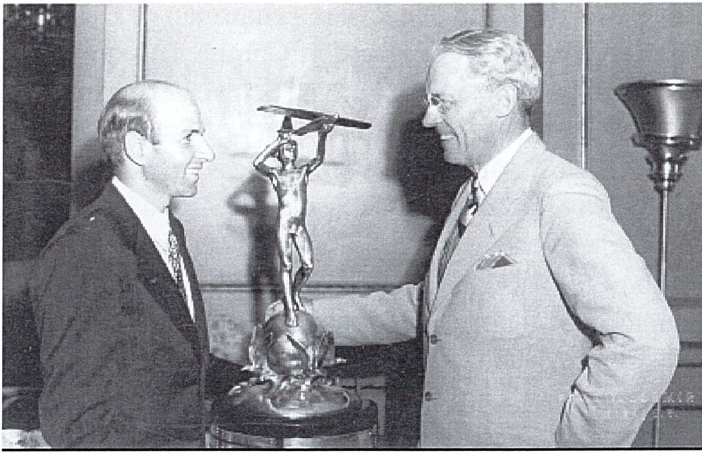
In the Spring of 1928 Evans sent his two sons, Edward Jr. and Richard, who were attending school in Switzerland, to the German Wasserkuppe. There they were to glean all they could about gliding, soaring, and the German akasfleigs (glider clubs). Reporting the results of their observations to their father later that summer, Col. Evans was encouraged to organize glider programs in this country.

With his backing, Gliders Inc. was founded in Orion, Michigan, for the purpose of building Detroit Gull primary gliders. To promote interest in the new sport, Evans put up a \$2500 prize for the first 10-hour soaring flight. He tried to interest the Detroit Board of Commerce in the formation of a national glider association, but received a definite “no” for the project. Not to be dissuaded, he used his own money to organize the Evans Glider Club of America in late summer of 1928, and named Don Walker as manager. Walker was to develop interest in signing up individuals and clubs.

That same year Evans learned that J.C. Penney, Jr. (son of the department store founder) was providing funds for the American Motorless Aviation Corp. Glider School, then conducting gliding trials at Corn Hill, Cape Cod, MA. Evans met Penney that Fall in Detroit and discussed Penney’s idea of dropping the Evans name, forming a national glider organization, setting up headquarters with hangars, dormitories, and a profit-making school. They disagreed when it appeared to Evans that Penney wanted to make a business of motorless flight. Soon after, Penney ended his relationship with the A.M.A.C.

Evans did agree with Penney that the name should be changed, and the direction should be expanded. In January 1929, the name was changed to the National Glider Association. The following month Evans and 12 others agreed that the new N.G.A. would be a non-profit organization, with Evans elected president.

That summer, the new N.G.A. provided special glider activities during the last week of the Cleveland Air



Edward S. Evans (right) presenting the Evans Trophy for American Championship Flights in 1941 to John Robinson for his distance (290mi.), and altitude (14,250ft.) flights.

Races. Public interest in gliding seemed to be catching on. As Don Walker reported at the Second National Glider Conference, clubs had been established across America but, "that it was becoming more difficult to handle the situation properly with the funds available." There were reports that the Wright Aeronautical Corp., Anthony Fokker, and Detroit's Frederick Crawford, among others, had joined Evans as co-founders and were assisting him in additional financial backing. Evans said that as funds were made available, the N.G.A. would carry on a program with the goal of organizing a glider club in "every hamlet, town, and city in the U.S.A., and the training of a million glider pilots to the third class license requirements." He added that he thought that the aircraft industry should provide the Association \$100,000 for the purpose.

An interesting glider promotional diversion was staged at the Cleveland Air Races: the "Famous Motored Pilot Derby." The flying luminaries were to use the taper-wing Franklin secondary glider in a distance and duration event. (Prof. Roswell E. Franklin and his brother Walter developed the famous PS-2 Utility from this glider.) Capt. Frank Hawks won the event, with Major Reed Landis, Lady Mary Heath, and Amelia Earhart finishing in that order. Earhart crash-landed when she became disoriented with adjacent power aircraft. Although she was unhurt, except for her pride, she never flew a glider again. (See NSM Journal-Summer 1990, Vol.13-No.1, "Prof. R.E. Franklin, Brother Wally, Walter Graves, the Franklin 9491, and PS-2 Gliders.")

The N.G.A. found itself in extreme financial difficulty after the 1929 market crash. Evans, National Glider Association's principle backer, announced that "regretfully, but firmly, it has to be someone else's

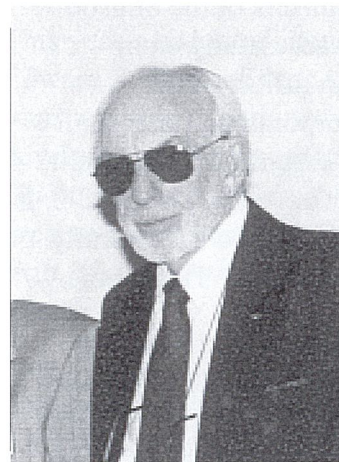
turn." In 1930 and 1932, the N.G.A. sponsored national glider contests in Elmira to broaden interest in the sport. While considered successful from a participation standpoint, neither of these national meets nor any other fund raising appeals generated the expanded financial support hoped for. Lack of money finally caused the dissolution of the Association in October of 1931. The present Soaring Society of America was founded with a change in basic philosophy and renewed fiscal strength in 1932.

Paul A. Schweizer in "Wings Like Eagles" said, "In evaluating Evans' contribution we can readily see that he was responsible for assembling those interested in gliding into an organization. He also gave considerable support to the fledgling organization. However, Evans approached gliding and soaring as a promoter rather than an enthusiast." Evans said in the August 1944 issue of Gliding, "If I am correctly called the father of organized gliding and soaring of whose paternity I am accused of on the floor of Congress, then I certainly take pride in the way my family has grown and prospered, thanks mainly to the devoted efforts of many men besides myself."

Evans passed away suddenly at his Grosse Pointe, MI home on September 6, 1945. He was 66 years old.

Lyle Maxey

Winner of several national sailplane championships, international competition sailplane pilot, and Soaring Hall of Famer (1968), Andrew "A. J." Smith, Tecumseh, MI was called on to introduce Lyle Maxey, Laguna Niguel, CA. He opened by reminding attendees that all three current inductees were



originally from Michigan. "And we had some other good soaring pilots like Paul Bikle, designers Jack Laister, Lockheed's Kelly Johnson and a whole bunch of others."

A.J. Smith introduced Lyle Maxey as, "a proven leader in all the essential elements of soaring."

Smith said that Lyle Maxey and Paul Bikle were probably the first two prominent pilots that he came to know at his first nationals, and, "they were very generous with their time." Laughing, Smith said, "We

had a mutual friend, 'Jack Daniels,' so we spent evenings talking to 'Jack', and got to be good friends." He said that Maxey was his hero and was surprised to learn that Lyle wasn't already a Hall of Fame member when Jack Wyman called him back in June suggesting his nomination. "Maxey's a proven leader in all the essential elements of soaring," Smith said adding, "He was a principal in designing and building sailplanes. ...And they were good ones, and he flew them successfully."

Smith said that he first became aware of his impact in Grand Prairie, TX in 1956, when he won everything; Maxey shared information about his wave flights and other experiences with everyone.

Lyle wrote about taking a cumulo-nimbus up to about 18,000 feet, in what were then primitive sailplanes. You should look up the film when you go home, and you will appreciate what he did. Maxey said that things got pretty wild in the middle of this cumulo-nimbus. Smith said that as Maxey was going on up, at one point he had a wish, "I wish I were at home, with my mom, canning tomatoes." He added that anybody who has ever been in a critical soaring condition would understand that. Reflecting, Smith said that, "to many of us now, all that soaring 45 to 60 years ago or more, seems like pioneering and it clearly was, compared to the state of the elegant soaring we do in this generation." He said that Lyle was a leader,



"maybe THE leader in that manner phase of soaring in those days. As I said, his concepts set new standards, and they are proof that he is worthy to be inducted into the U.S. Soaring Hall of Fame."

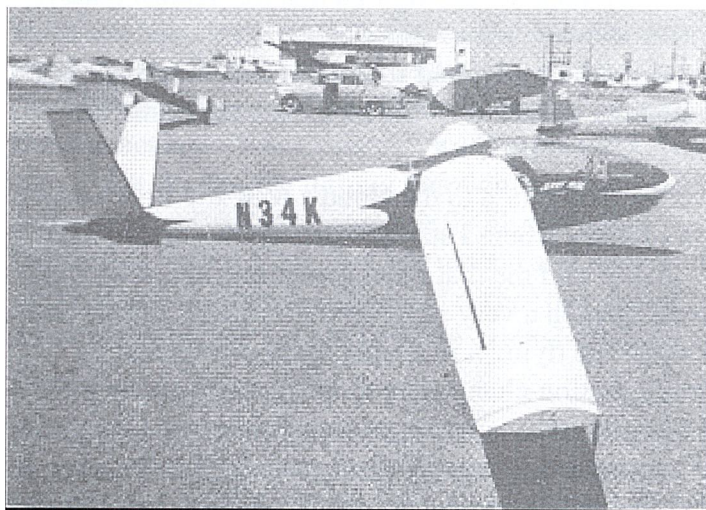
Lyle Maxey

Amid a wave of applause, Lyle A. Maxey moved to the rostrum, and after a few words of gratitude for having been selected, he directed special thanks to Jack Wyman (Manchester, MI) for his efforts on the new Hall of Famer's behalf. "Jack rewrote some of the statements 10 or 15 times. I used to stack 'em up and read them all the way through, just to make me feel good."

Maxey said that in A.J.'s introduction, he mentioned the high altitude flight (July 1, 1941, and described in

the Jan/Feb 1943 *Soaring*.) "I wanted to talk a little about the air conditions when I did that. (He was winch-launched in the XYZ Glider Club's Midwest Intermediate glider at Elmira, NY-ed.) At the time I wrote the story, I really hadn't thought things through as to how far out I was on a limb -- and a pretty chilly one!" Maxey added that he was one of the luckiest guys in the world to have gotten away with some of the stuff that he'd pulled off.

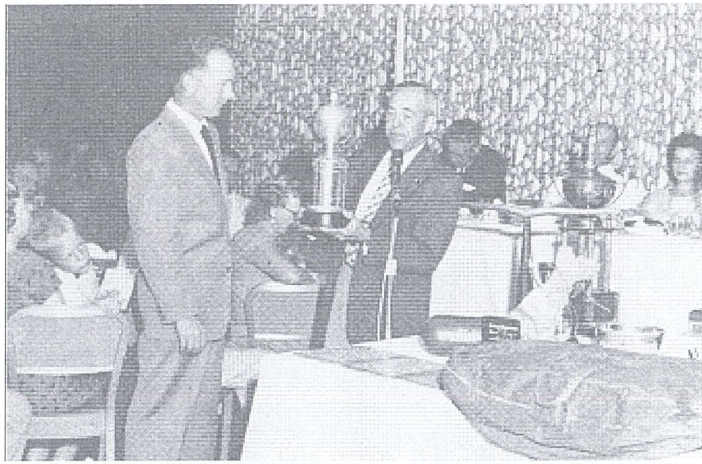
He said that the most important moment of that flight was when suddenly all of the instruments started spinning, going up and down and then, just quit. "It was what happens when all the connections between the mass of fluid in a closed instrument, like a variometer, freeze from one side to the other. The variometer said that I had suddenly quit climbing when I hadn't done anything." He knew that the change in the instrument reading had to be due to something gone wrong with the measuring equipment.



Lyle Maxey's Jenny Mae, which took the lead the first day of the 1956 National Championships and maintained the lead to the end.

He instinctively tried to bring everything back to zero. ("Angular velocities, and so forth," he said.) Maxey quickly straightened the glider out of a fairly steep turn and, very fortunately happened at that time to be headed toward the side of the cloud he was nearest to. By good fortune, instead of going deeper into the cloud, he was approaching his way out of the cloud. "While this was going on, I was still trying to figure out what was happening to the instruments; and the only solution was ice...lots of it!"

By this time Maxey was out the side of the cloud, but he still couldn't see forward. There was ice on the windshield, the wings and at least three-quarters of an inch on the leading edges. "The reason I looked out to



Capt. Ralph Barnaby (USN) presents the Larissa Stroukoff Award to Lyle Maxey, winner of the 1956, 23rd Nationals at Grand Prairie, TX.

see the leading edges was because the turn indicator was vacuum-driven, which was common then. The venturi tube was used to provide the vacuum that ran the old fashioned turn indicator.” If things were icing up badly, then Maxey figured that the venturi must be affected by the icing. “Sure enough, I looked out at the venturi tube, and it had streamlined its nose with ice.” Laughing he added, “There was nobody home for business on this.”

Maxey had gotten to the cloud’s wall and flown out. “And that’s where I stayed - outside the cloud! The evidence told me that I had gotten into very bad icing conditions in a very short time. If I hadn’t gotten out... I would be flying a machine that was impaired by configuration-change due to ice forming on the outside and there would be much more trouble. So please disregard those remarks that I made in that Soaring article... What was it, 60 years ago? Now I realize that you gotta be lucky to fly like I do. The more reasonable effective chain of affairs would be if you learned how to do things right, and you didn’t put yourself in that kind of situation.”

He mentioned another incident as he was just starting, and with fairly intensive five-week training. In five weeks he had about 30 flights. “This was down at Pontiac (MI) Airport, in a supposed-to-be utility glider,” he said.

Geometrically, this glider had characteristics that should have made it quite immune to sudden wing-drop when the plane stalls. The ship had a constant chord wing, and some small amount of washout the way he remembered it. “Both of those things tended to move the transverse center of lift closer to the fuselage so that when the past loaded parts stalled ,

why, you go mainly down. There’s no tendency to roll because you haven’t done anything to the portion of the wing that carried roll control, but you can no doubt, move in a roll control.” He had expected that kind of configuration in a stall would be pretty straight forward, but there was something wrong with this glider. He said that he wished he had known more about those poor characteristics when flying it. “It would roll off and the nose drop in a short period of time.”

One morning after completing three or four tows, he was climbing to 40 or 50 feet. He was getting the nose down and gliding to the pad making 45 degree turns and everything was running smoothly.

He said that after getting off the first tow after lunch, the bird didn’t want to fly right. “It felt like I was flying on the head of a pin, and it just wanted to roll off.” Maxey couldn’t get the ship out of the flat attitude and realized that he was approaching the ground at, “quite a serious clip,” and without too much time to do anything. He put the nose down and had a little bit of air speed to mush into the ground. Maxey’s landing didn’t quite blow the tire on the wheel, “but it hit pretty good , and fortunately didn’t do damage to the bird.”

Maxey’s instructor, Elmer Zook (“...and a wonderful one indeed”) came ripping up, and screeched to a halt in the Model ‘A’ tow truck. “He was white and looked a little green around the gills, and asked me if I knew what I had just done.” Maxey had no idea of what the problem was. Zook proceeded to tell him what the problem was. Maxey had just flown this bird five miles an hour slower than it would fly “and it didn’t sound like a compliment!”



NSM President, Robert Ball presenting the U.S. Soaring Hall of Fame certificate to Lyle Maxey.

Zook, ("an infinitely smart man," Maxey quipped) pointed into the cockpit of the ship that Maxey had just gotten out and asked, "What's that?" I said, "a cushion."

"Was it there this morning?"

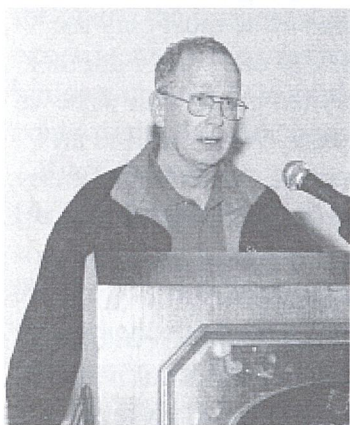
I said, "No, I didn't have a cushion this morning. Somebody shorter than I apparently was flying over lunchtime and left the cushion there."

A chastened Maxey explained that when going to fly a glider, you should have two things lined up in a vertical plane, so they're a constant attitude. "You're using a measurement like how high the nose is on the horizon. If you put something on the seat, then your eyeballs are higher. I think that I congratulated myself on that but what would the results have been if there'd been a 4" cushion, instead of 3" cushion? Lucky again, I guess."

Bruce Carmichael

National Soaring Museum president, Robert H Ball, next called on David Raspet, Fountain Valley, CA, to introduce Bruce H. Carmichael, Capistrano Beach, CA.

He said "His intense energy and high enthusiasm in aerodynamics is undiminished across those years...He just keeps going and going and going."

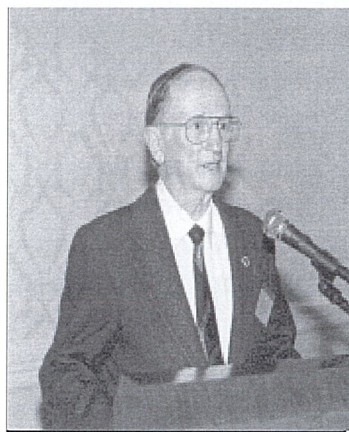


David Raspet introducing Bruce Carmichael, "a man of intense energy and high enthusiasm."

Raspet said that Carmichael went to the University of Michigan, then to the Navy, married after the war, and went to work for Chance Vought. "Chance Vought shipped him down to Texas, and it was one of the defining moments of his career." There a friend took him out to the 1949 Southwest Soaring Contest.

At the contest, Carmichael met Dr. Alexander M. Lippisch, famous for his work in German soaring between the wars, and David's father, Dr. August Raspet, a renowned American aerodynamicist. Recognizing a willing and bright worker, the elder

Raspet loaded Bruce up with most of the current technical publications, performance data, soaring



flight performance graphs, the history of German soaring, Dr. Paul MacCready's "Optimization Curves", O.S.T.V. papers, and a lot more. Bruce was placed on the Technical Committee very quickly.

Bruce Carmichael

David Raspet mentioned a list of Carmichael's collected works, particularly, "The Future of Sailplane Performance," adding that, "the material surprised us all. It predicted pretty much where we are now." He also did a comprehensive study of Dick Johnson's world record, cross-country flight. "No one had done anything like that in terms of analysis." He said that Carmichael's paper on "The Optimization of Sailplane Design, against Cross Country," was "absolutely significant. It was the turning point on how we looked at the process." (Carmichael briefly discussed the fascination with the one foot per second sinking speed sailplane, at a lecture he delivered earlier that day at the convention. He has also written extensively on the subject).

David said that Bruce joined his father at Mississippi State in 1949. Carmichael led the investigation into Low Drag Suction Boundary Layer Control, using Schweizer TG-3A's. Laughing, David said, "Somehow, TG-3A's weren't sporty enough, and Bruce joined (Dr. Werner) Pfenniger doing similar work from the back seat of an F-94 jet."

David Raspet continued, saying that Carmichael has had 43 years professional experience in Drag Reduction on both aerodynamic and underwater vehicles, and published extensively in those technical areas. He learned single place auto-tow, and flew his 1-26 in California. He retired in 1989, and wrote a book, "Personal Aircraft Drag Reduction," published in *Sailplane Builder*. His collected works include the technical activities as well as humorous events, throughout his career. He was twice president of the Sailplane Homebuilders Association, and had organized their symposium on the West Coast, "They

examined soaring, low sinking speed aircraft, manufacturing techniques, advanced materials, latest sailplane designs, and soaring education. It's two days of very intense technical interchanges," he said. Carmichael also delivered the Barnaby Lecture in 2000, "A Half Century of Sailplane Technology."

Looking over at Bruce and his wife, Margee, then at the audience, Raspet said, "I'm sure that you certainly will agree that my good friend, Bruce Carmichael's accomplishments are worthy of recognition in the United States Soaring Hall of Fame."

A smiling, fit looking Bruce Carmichael opened his acceptance remarks by thanking the SSA, and the NSM, for this honor. "I particularly wish to thank old friends Howie Burr and Jack Laister for their persistent efforts in achieving my nomination. In Dave Raspet's fine introduction he mentioned jokes about the Upper Peninsula of Michigan where I grew up. We do like to kid ourselves about the U.P. In one line Dave made it sound as if I was a giant among midgets. Actually I was the intellectual midget among such U.P.'ers as Kelly Johnson of the Lockheed Skunk Works, Jack Reeder from my same little mining town who was chief of flight test at NACA and NASA Langley, and my classmate, Lloyd Hinonen of Lockheed flight test." Like the consummate engineer, Carmichael divided his talk segments as follows:

**Robert Ball
welcoming Bruce
Carmichael to
the U.S. Soaring
Hall of Fame.**



MY FORTUNATE INTRODUCTION TO THE WORLD OF SOARING

Like many air-minded youth, prior to the Second World War, Carmichael had read some soaring articles in popular flying magazines of the time. He even built and flew a few simple sailplane models. At the University of Michigan, fellow student George Lambros took him to Triangle Airport where he saw a sailplane climb in a thermal. That year he brought down the corporate wrath of the local Hoover Ball Bearing Company when his Sinbad the Sailor sailplane model caught a thermal and landed on the roof of their plant for a very dicey retrieval. He

received a B.S. in Aero Engineering prior to WWII Naval service. Postwar, while an aerodynamic engineer with Chance Vought Aircraft, Lambros introduced Carmichael to Dr. August Raspet and his mentor, Dr. Alexander Lippisch at the 1949 Southwest Soaring Meet.

Carmichael was captivated by Raspet's newly established flight research station and plans for soaring advancement. At that time Raspet was recruiting engineers to join him in the effort. "Having moved on to Goodyear Aircraft in Akron, OH," Carmichael said, "We began exchanging letters on both evolutionary and revolutionary plans."

IN CASE YOU ARE WONDERING

Carmichael said, "Those of you who attended my lecture earlier today (January 24, at the 2003 Dayton, OH, Soaring Society of America Annual Convention) and heard how Gus had sent me a collection of the finest papers on sailplane technology written to that time, may well ask, why, with such a start, I had not developed a super sailplane?" He added that his soaring heroes are those few who have built, proof-loaded, and refined through flight test, a unique sailplane.

He said that he was not among their number, but then, "We cannot all be heroes." Using a gambler's analogy, he went on to explain that some of us must play the game of life with a partial deck of one sort or another. While not triumphant, we play the game with what we are dealt, and do the best we can. We try to find an area where we can do a little good, "and in most cases, it beats the hell out of cashing in," he laughed.

Carmichael said, "I have tried to extend one helpful activity begun by Oscar Ursinus, the old man in the battered hat on the German Wasserkuppe." In the 1920s and 1930s, through written and verbal inputs to the technical students he helped bring about rapid advances in soaring development. He said that Ursinus' gauntlet was picked up by Dr. August Raspet in the 1940s, and 1950s. "Following his death, I have tried to continue that role by writing, telephoning, and lecturing."

SPORT SOARING

He said that, thanks to the magnificent Schweizer Brothers he owned and sport-soared a 1-26A in the 50s and 60s, after having first flown in a car-towed Schweizer 1-19. "My flying career was distinguished by saving myself and the 1-26 from the classical spiral dive in a cloud by using a previous tip from my old

friend, Ray Parker. This was followed by surviving a mid-air collision , “in which I almost learned how to fly a tailless sailplane.” In 1965 he said that he made a significant , “and if I was not so modest, I would say a major contribution to flight safety in America, I grounded myself.”

IN SEARCH OF LAMINAR FLOW

Carmichael’s work in industry was involved with research and development establishing the limits of performance through extensive laminar flow. He conducted flight experiments in low turbulence wind tunnels, towing basins, a deep lake, and in the ocean. All these results were applicable to sailplane and airplane development. At his retirement party, he paraphrased the lines of a 1960s folksong, “Clouds.” “I’ve looked at flow from both sides now.

It’s mostly turbulent, but still somehow,

It’s the laminar cases that I recall and ,

The quest for them has been a ball.”

Carmichael has published much of this data in a book, “Personal Aircraft Drag Reduction.”

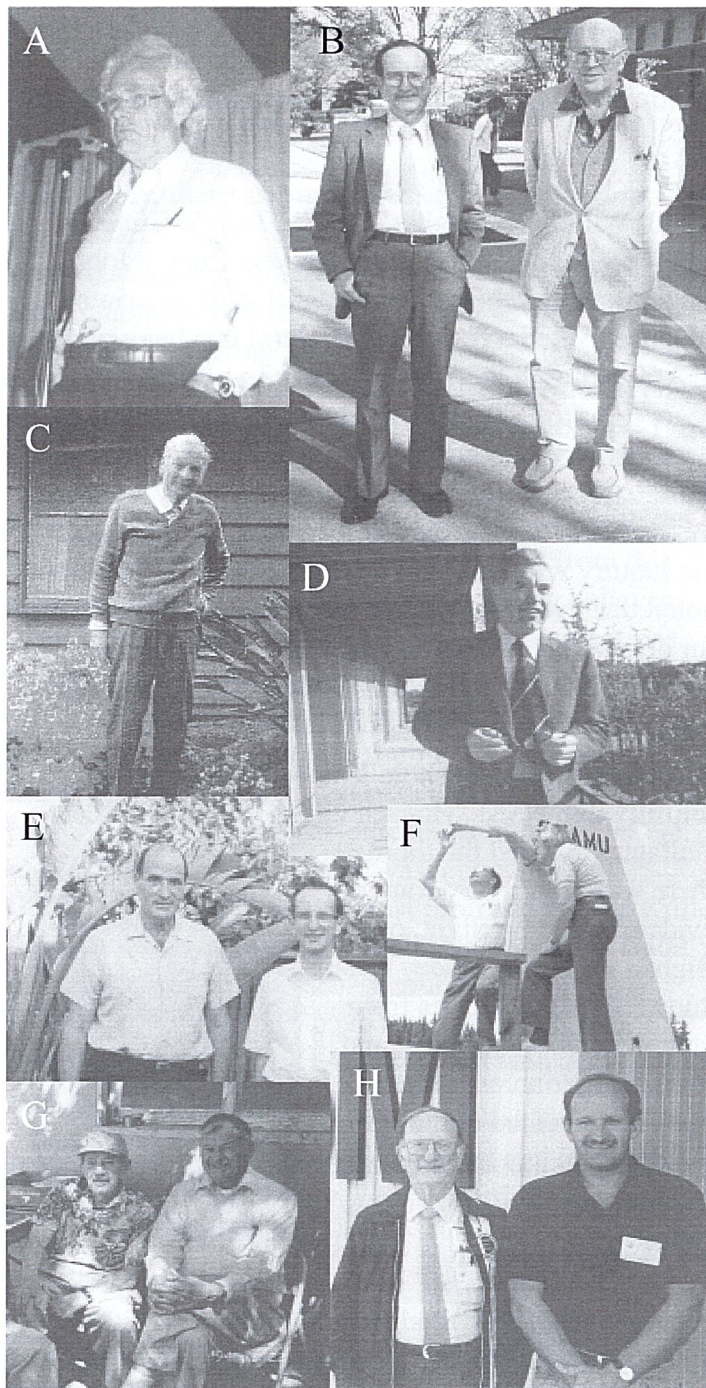
REMEMBERING THE GALLANT BAND OF THE FABULOUS FIFTIES

He said that looking back over a half century, “I see them in memory as when first we met. The dreamers, the doers, the brilliant theoreticians, the meticulous experimenters, the talented designers, the patient builders and the bold exploring fliers with whom contact added so much joy and interest to my life ...Bless them all.”

He added that “Time, like a raging river, carries all her sons and daughters away. They pass like a dream at the breaking of the day.” Carmichael looked out over the audience and closed by saying, “But you and I do not forget, and we pass the legends of these great and good people on to those who follow. I am at this late date starting construction of an ultralight tailless sailplane. I figure at 79 years of age I only have 15 years left to complete it.”

On the Cover:

A 1940 over-the-fence retrieval. The de-rigged Baker MacMillen fuselage was handed over the fence where its pilot, Kimball, landed in Pasadena(CA) after being aero-towed from Monrovia Airport(CA)



- A) Carmichael’s favorite U. of Mich. Prof, Ed Lesh, lecturing at E.A.A.
- B) Carmichael (L) with Dr. Werner Pfenninger, NASA, Langley, 1980s
- C) Richard Eppler at Carmichael’s CA home. “I visited him in Stuttgart (Germany) in the 1970s.”
- D) Dr. F.X. Wortmann, during a Texas visit in the 1970s.
- E) Dr. Max Kramer (L) and Carmichael during laminar underwater research in the 1960s.
- F) Carmichael (L) and Doug King, adjust SHAMU undersea vehicle fin (1970s)
- G) Lyle Maxey (L) and George Applebay at Bishop, CA reunion, 2001.
- H) Carmichael with Gary Osoba, National Soaring Museum, 2001

History Without Evidence is Myth: J.G. Household and Claims of Flight in 1870's Africa.

By James W. Swinnich

It's all William Gallagher's fault! The *NSM Journal* editor mentioned in passing, two years ago, a John Goodman Household. This apparition of an aviator supposedly had a controlled flight(s) in a hang glider in Africa during the 1870's, fifteen to twenty-five years prior to Lilienthal, Chanute and the Wright Brothers. William had taken one of the hundreds of e-mail, letter and telephone requests regularly received by the NSM over the course of a year; the answer to the inquiry was Household's name itself. It should be noted that even the spelling of Household's name is up for debate: Household or Houshold? William, however, likes to put thorns in the paws of the curious, especially regarding aviation history.

After dropping Household's name and pulling the pitifully thin NSM "Household" educational folder, Gallagher twisted the thorn; there was no primary source evidence that the flight, or flights, were ever made. To our knowledge only stories from later generations existed, and even these sources had not been documented (cited) or validated by any cross referencing of historical sources.



Fig.1 John Household

History and myth will always be entwined, with apocryphal sources and stories aplenty. Encompassed in the NSM mission, as an institution of higher learning, is a vain attempt to separate out fact from fiction. Gallagher is constantly immersed in the *NSM Journal*, responding to inquiries, performing outreach programs at schools and for local organizations, and aiding in preparing exhibit text and object searches for the new exhibitions in the expanded physical plant. In placing the thorn, Gallagher knew I, as unsuspecting dupe, was the only one at NSM with enough time to track the Household history or legend.

We are no closer to the truth about Household and his flight(s) than when this research effort started. Continued probing meant increasingly conflicting information, often with sources directly juxtaposed

against one another, not agreeing upon the most basic information, and providing descriptions of the flight(s), which are illogical, and without factual base. It is a repetative demonstration of the cliched axiom "you can't always believe what you read."

I have not been able to identify one object(s), document(s), photograph(s), or oral narrative(s) from an eyewitness (that has been written or recorded and cited) providing even the most basic platform on which to build the case for arguing Household designed, built or flew a glider. At this point, there just is no valid historical evidence.

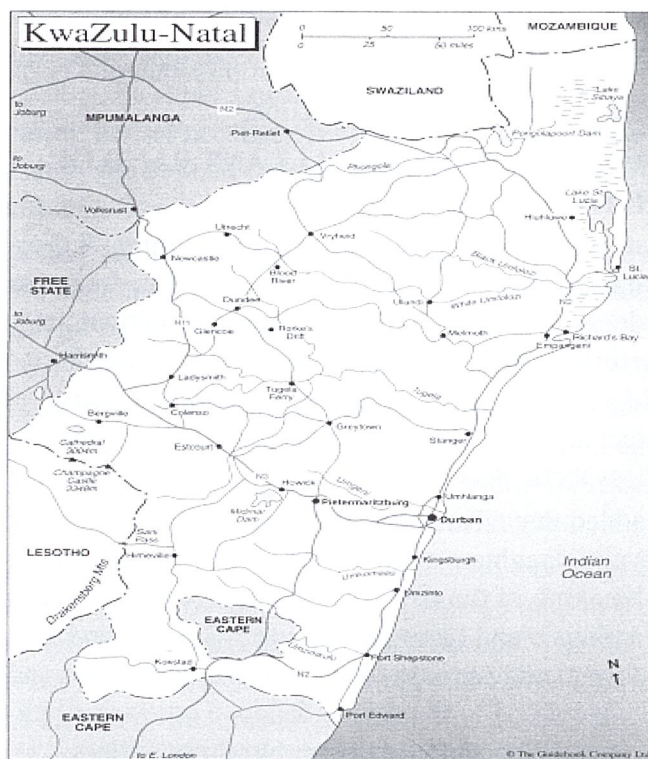


Fig.2 Map of Kwa Zulu-Natal

All of these accounts in monographs, newspaper articles, magazines, lectures, even a plaque, and there is no primary source evidence for these claims. Although it is apparent from duplicate words and phrases that authors lifted information from the earlier writings of others, the later authors do not even acknowledge or reference from where they received their material. Where references do exist, they direct the researcher only to secondary sources. As U.W.

Nanni stated in 1980 at an event held by the PMB Hang Gliding Club in Natal, “the authors embellished each others’ versions or uncritically paraphrased earlier accounts.” (1)

Nanni is one of the few individuals having written or spoke on the Household subject that admits there are more questions than answers. Another such personage who argues this point of view is L.J. Clarke. In an unpublished undated manuscript held at the Royal Aeronautical Society (RAS) Archives in London, England, Clarke writes on the lack of evidence regarding the Household story. After performing extensive research, Clarke laments not being able to identify credible historical resources to support writings about Household’s adventures. I wrote Clarke through the dutiful and expeditious efforts of Brian Riddle, librarian at the R.A.S. Mr. Clarke responded with a letter confirming the results of his original research.

Clarke’s work, from the 1960’s, resulted in similar frustration. “Specific claims were found to be either contradictory or when finally tracked down, false. Documents and plans which people said they owned were never forthcoming. And again and again claims were found to be based on hearsay – often of long-dead illiterate African farm laborers... “The further the investigation progressed the more dead-ends, the greater the silence from those who had claimed to possess what I was looking for: contemporary writings or other legitimate evidence plus specific information on design and construction from reliable sources.” Clarke concludes that Household’s aviation works were a “far cry from Man’s first true flight, but perhaps a starting point for a local legend which has now swollen into emphatic nation-wide assertions.” (2) **Fig.3 Bishop Colenso**



it. Instead, the “evidence” with its wild exaggerations, inaccuracies, contradictions and sheer impossibilities, carries all the hallmarks of legend and even patriotic myth.” (3)

Admittedly, there are numerous stones left unturned in this research. Clarke touches upon further investigation regarding Archer Household’s 1923 or 1926 claims to a Salisbury, Rhodesia newspaper, a 1928 Natal motoring magazine article, and the research performed by the South African National Historical Monuments Commission in their 1964-1966 work.

I would argue that the elemental source rests with the works of Bishop Colenso. Documentation from this primary source would be irrefutable. If one believes some of the stories, Household had communications with Colenso, and even showed him drawings, sketches and calculations in preparation for flight. Some say these papers were burnt. The challenge is that Colenso was a brilliant man and author of pamphlets, textbooks, periodicals, volumes of letters, diaries, and personal papers. Vast collections of Colenso’s works exist; the most promising at the Killie Campbell Africana Library at the University of Natal in Durban and the Pietermaritzburg Archives Repository. One would have to scour the entirety of these collections to learn if any of the Household related materials are extant.

In addition, one should query, how about the archives of the *Natal Witness* and *Natal Mercury* newspapers from the 1870’s through the 1910’s? Do such archives exist and are they accessible? After reading the fictional accounts from the 1960’s newspapers it is difficult to believe anything found written in such sources. However, first hand accounts, as quoted in the papers from the time period would certainly prove invaluable.

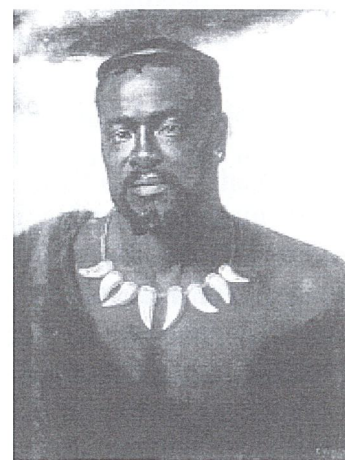


Fig.4 Zulu King Cetshwayo

Continuing to write on the subject, in 1987, Clarke states, “clearly, there is nothing here to legitimately substantiate either a glider as such, or actual flights by

If Household designed, built and experienced controlled flight in the 1870’s, his accomplishments must still be kept in historical perspective. Compared to even contemporaneous events in Natal and South

Africa, the Household flight(s) must be viewed as bordering on inconsequential.

Conflict between the imperialist British and indigenous Zulu, especially in Natal, boiled for decades in the 1800's. The Zulus were fighting for their land, independence, home, and families. The festering boil exploded in 1879 with the Anglo-Zulu War. This horrific episode included the battle of Isandlwana (17 January 1879), in which 20,000-25,000 Zulu led by King Cetshwayo attacked and annihilated 1,400-1,500 British troops under Lord Chelmsford. As with all other engagements, the Zulu had shields and assegai (a slender hardwood spear or light javelin usually tipped with iron, made from assegai tree) while the British had muskets, revolvers, machine guns, and artillery. The worst fighting in war took place in the Natal region where Household supposedly flew only a couple years earlier in the decade.

This warring did not resolve disputes between the two peoples. In 1906 Natal, the conflict again erupted as the Zulu people revolted and were squelched by the British. One of the Zulu leaders, Chief Bambatha, was beheaded after the six-week uprising.

The Anglo-Boer wars of 1880-1881 and 1899-1902 also devastated Natal and South Africa, with scorched earth policies being implemented. Concentration camps held 115,000 captives, with between 20,000 and 25,000 people dying (about 80% of them women and children) within these confines (4).” Indigenous peoples were either forced to fight (15,000 for the British) or rounded up for fear they had strong allegiances to either the British or the Dutch and Huguenots. In a bizarre twist of racism, they were placed in their own concentration camps. (5)

If one moves forward in time, South Africans (indigenous and otherwise) fare no better. Similar to the treatment of indigenous people and minorities in this country, apartheid, its overthrow, outcomes and backlash, translates solely into increased hatred, violence and a struggle for power. Tying these tragic events to Natal, one can point to the arrest of Nelson Mandela, just outside Howick, by South African police on 5 August 1962 on the Dargle Road. Howick is the closest city to the Household farm where his attempt(s) were made. (6)

Certainly the Household question is a valid historical

subject from an aviation and scientific standpoint. The question also could be interpreted as another example of the history of Africa only being written from the perspective of the white man's presence there. One of the unfortunate aspects of the research executed for this article is the obvious lack of African history prior to the arrival of whites, the nearly non-existent history of Africa's original inhabitants through the 1960's, and the lack of African history written from the black perspective. These histories are probably available in languages other than English, but it is unfortunate there is not a developed core of such materials regarding African history, let alone that of South Africa.

In performing such research, one is struck by the absolutely horrendous hell-on-earth brought to the nation and region by humans and the indescribable magnificence of natural beauty in South Africa, and in particular in Kwa Zulu-Natal.

In the Sterling Library, as part of the Yale University Manuscript and Archives Collection, is a black and white image of Howick Falls, taken at about the same time Household allegedly made his flights. The photograph captures the wild beauty of the region. From the glossy prints of the same Howick Falls and Karkloof Falls taken in the 1990's, the plush highlands remain what must be some of the most beautiful landscapes on earth. Game reserves, national parks and refuges abound, justifiably covering thousands of acres. It was indeed over the Karkloof River Valley, KwaZulu-Natal, Midlands Region, in South Africa, that Household allegedly flew.

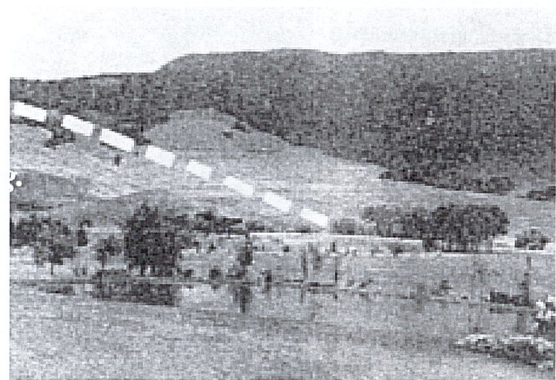


Fig.5 One of a myriad of imagined flight paths

Household's surroundings at the time also included one Bishop John William Colenso. Colenso, serving the Anglican Church, arrived in 1855 (he had previously visited for ten weeks) and departed only in

death in 1883. Among his accomplishments was that of academic, mathematician, theologian, philosopher, missionary, linguist, biblical scholar, and humanitarian. He translated entire the New Testament and part of the Old into Zulu, he wrote the first Zulu-English dictionary; he championed the indigenous Zulus, and was nicknamed Sobantu - father of the people. (7)

Barring any other primary source material being located, it is within Colenso's papers that the last gasp of life is held in which to find valid primary source material on Household and his work. A couple of secondary works on the Household subject detail how he had both correspondence and contact with Bishop Colenso, given Colenso's noteworthy accomplishments in the field of mathematics. Household, so the myth/legend/history goes, discussed design and calculations with Colenso to gain his considerable opinion. This contact included, supposedly, drawings, sketches, calculations and the like. The same stories have the papers being destroyed (usually burned) at Household's request, or doing, as part of his following through on his promise to his mother never to discuss or attempt flying again.

It is amongst Colenso's vast papers, held primarily at the Killie Campbell Africana Library at the University of Natal in Durban and the Pietermaritzburg Archives Repository, in Pietermaritzburg, that one would spend weeks examining thousands of documents in search for what could be one, if such a researcher was indeed so lucky, piece or shred of evidence that Colenso knew of, or participated in, Household's endeavor. That piece of evidence would provide the world with valid historical

documentation that Household was indeed decades ahead of his aeronautical compatriots.

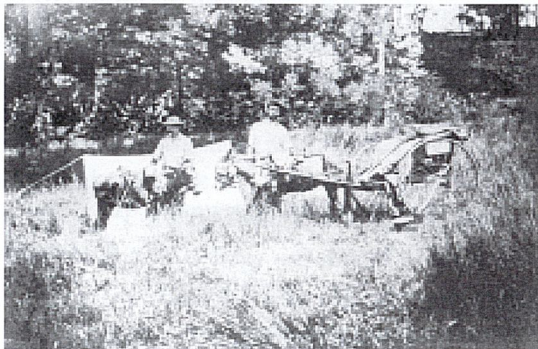


Fig.6 Household as Miner

Questions abound. Why wasn't there any discussion about Household's efforts upon learning of the accomplishments by the generation of aviators to follow - Lilienthal, Chanute, and the Wrights.

Household lived until 1906. Photographs of Lilienthal in flight received worldwide distribution and newspapers covered him heavily as he established his "hill of flight" close to a railroad station outside Berlin to guarantee such exposure. Chanute was well known for striking up long term communications with aeronauts from around the world.

The region of Natal was, and still is, isolated, even for South Africa. However, both the *Natal Witness* (Pietermaritzburg in 1846) and the *Natal Mercury* (Durban in 1852) went to press for the first time long before Household took flight. Both are still in operation. Are there answers in their archives? Do they have such archives? Surely, given the importance and novelty of work in aviation in the late 1800's and early 1900's, and given Household's work and continued residence in Natal, wouldn't an editor or writer be inclined to pursue such a story? Of course we must realize that there were other far more significant events taking place in Natal at the time.

Although Household supposedly promised his mother never to take to the friendly skies again, or even to discuss flight, what happened after his mother passed (when did this occur)? Not to argue that a promise made should ever be a promise not kept, but Household even kept mum with all the developments in aeronautics taking place prior to his death. Once one has flown, especially in such an adventurous and sensory overload experience, a human being does not simply lose the spirit for flight which first inspired. If not Household himself, what about his brother Archer, other relatives or area residents? Nobody said or wrote a word until after Household's death?

So what do we know for sure? There is general agreement on dates of Household's birth, death and voyage to Africa, but we know more about Octave Chanute's dogs, *Rags and Tatters*, than we do about John Goodman Household. We know how to spell their names, have references to the canines in writings by those conducting the aeronautic experiments and photographic evidence they were at Chanute's Lake Michigan camp.

Did Household fly some craft sometime? There are too many stories with too much widespread conjecture to not be based upon some type of event. Of course, this cannot pass for knowledge, this is guesswork. With this stance, we once again reach the definition of mythology. This is the highest bar over which we can

claim to have vaulted regarding known truth on the subject. According to *The Random House College Dictionary* (unabridged and revised edition, with Jess Stein as editor, New York, Random House International, 1982). A *myth* is “a story or belief that attempts to express or explain a basic truth” or “a belief or a subject of belief whose truth or reality is accepted uncritically.” Currently, the Household stories must be classified as mythology.

When were the flight(s) attempted? Sources vary both on the number of flight(s) and when they were taken. The number runs from one, two and three up to “several.” The time frame stretches from 1871 to 1878, with 1871 and 1875 being the most common guesses. (8)

Where did the flight(s) take place? There is consensus that Household attempted flight from a cliff (krantz) near his Der Magtenberg Farm (from “behind” the house to “1.75 miles” away). Most authors identify this escarpment as overlooking the Karkloof Valley, near the 325-foot drop Karkloof Falls, over which the Karkloof River flows.



Fig.7 Karkloof Falls

Glider design and materials are intriguing, regardless of the version contemplated. If there are two craft constructed in the story, the first is usually described as a single wing hang glider with a shifting (or swinging) seat, built from bamboo, river reed, oiled paper and rope. Wood and calico fabric are also sometimes included in the list of materials. It should be noted that a couple writers state that this first hang glider was built, but never flown. The second craft, if one is believed by the writer to have been built and flown, is usually similar in design, but varies from the first with the substitution of steel rods (for bamboo) and silk (for oiled paper).

What were the dimensions of the flight(s)? The distance covered by Household is either noted as about 3,900 feet or about 1,200 feet. A couple authors do not venture a guess at a distance. How high did he fly? Close enough to the sun so as to melt the wax, which bound together his feathered wings? Heights attained include 8, 20, 200, 300, and 1000 feet. One thousand feet would mean Household probably would have had to actually climb significantly during the flight. The Karkloof precipice, over which the falls flows, measures only about 325 feet, if this is indeed the location from which Household ventured from the earth. The claim that his flight reached eight feet is more believable, if the same article had not stated the flight covered 1,200 feet. It is difficult to imagine covering that much ground without ever flying higher than the height of a living room ceiling.

Nearly all versions have the glider surviving the crash, being stored in a barn on the Household farm (why bother if he was never to fly again?), and then being burnt or otherwise destroyed soon after the homestead was sold (latest 1890's or earliest 1900's). Another common thread relates that any existing paperwork relating to flight was discarded or set afire by Household soon after his last flight, and following the promise to his mother of no more aeronautical thoughts or pursuits.

Are you more confused about Household and his flight(s) than when you began reading this article? If so, then this article has accomplished at least a measure of its assigned task. Everyone with an interest in the history of aviation should be aware that we know far less about John Goodman Household and his flight(s) than what has been written. No one should be writing about the subject at hand until primary source documentation is located and identified; otherwise, we are merely perpetuating a myth.

This is a call to action for aviation historians in the United States and South Africa. Primary sources must be found to break the cycle of misinformation, half-truths, falsehoods and fabrications about Household. It is hoped that this article is a small first step taken, thorn in paw, toward that ambition.

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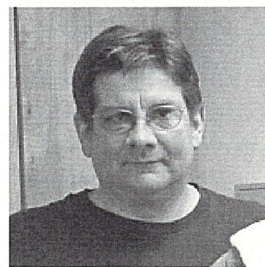
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