

NSM

A Quarterly Journal
of the National Soaring Museum

Winter, 1979-80

Vol. 4, Number 1



From the Editor:

This issue of NSM should be called the Vic Saudek issue. His prolific pen is responsible for all of the material. His article on Captain Barnaby first appeared in the Autumn 1979 issue of THERMAL, the publication of the Southern California Soaring Association, Inc.; as a lead-in to the 1979 Ralph Stanton Barnaby Lecture, an annual event held under the auspices of the National Soaring Museum and this year was being hosted by the SCSA.

"The Soaring Background of the Man-Powered Cross Channel Flight" was the subject of speaker Dr. Paul MacCready at the Barnaby Lecture on November 17, 1979. Dr. MacCready is well known to the soaring community; three times United States National Champion and 1956 World Champion. The coverage of the Barnaby Lecture — the story

behind the Albatross written by Vic first appeared in the 1980 Jan. - Feb. issue of THERMAL.

And Vic also found time to submit an article to the NSM about the reunion of the mountain wave projects flight operations team on February 16, 1980 entitled REUNION AT RIVERSIDE. An edited version of his paper on the Sierra Wave Project presented at the National Soaring Museum's 1975 Spring Symposium appeared in the 1976 Fall-Winter issue of NSM, Vol. 1, Number 5.

Vic Saudek, from Los Angeles, California, was for many years the historian for the Soaring Society of America and was one of the coordinators for SSA at the time of the formation of the National Soaring Museum. He is a very valued Advisor to the museum.

CALENDAR

SSA NATIONAL SOARING CONVENTION

The Seattle Glider Council is hosting the SSA's 1980 National Soaring Convention February 27th to March 2nd. An outstanding list of top-name speakers and activities are being planned. Featured speaker at the SSA Awards Banquet will be Ann Welch who will reminisce about "A Life in Aviation". Sessions include a Glider Pilot's Ground School, a Homebuilders' Clinic, Powered Sailplane Enthusiasts, Carbon Composites in Sailplane Structures, the Future of Ultralight Sailplanes, Developing the Zuni, Sailplane Flutter Analysis, Crewing Experiences, Cross-Country and Competition Soaring, the Latest Development in Soaring Instrumentation — just to name a few. The old and the new in sailplanes will be on display. For more information contact: SSA National Soaring Convention, P.O. Box 1117, Bothell, Washington 98011.

PHASE II OF THE MUSEUM DEVELOPMENT PROGRAM

The National Soaring Museum will "kick-off" a Phase II Fund Raising Program on March 17th. The goal of \$150,000 will be used for the expansion of exhibits, special displays to commemorate the 50th Anniversary of the 1st National Soaring Contest held in 1930, a plan for break-away type walls to be used for future rotating exhibits, to complete the museum entrance, lobby and shop storage area, centralization of an aircraft restoration and temporary storage building for museum acquisition, storage facilities for the many acquired artifacts to assure proper care, furniture and equipment additions to the museum library allowing for more effective use of the archives, and debt service. This fund raising effort is a restricted capital campaign designated for the specific goals as outlined above. More information will be available at a later date.

ANNUAL SOARING HALL OF FAME WEEKEND

The dates have been set for the Annual United States Soaring Hall of Fame Weekend; May 23rd through May 26th, 1980. The weekend will begin with an Open House and Reception, Friday, May 23rd at 8:00 to 10:00 PM. The National Soaring Museum Trustees will meet during the day on Saturday, May 24th. At the same time there will be an Old Timers' Forum in the museum's community room. That evening there will be an Old Timers' Reunion. On Sunday the Vintage Sailplane Association will hold their Annual Meeting from 9:00 AM to 12:00 PM in the museum's community room. The Old Timers' Forum will continue during the afternoon. On Sunday evening at the Corning Hilton two new inductees will be welcomed into the United States Soaring Hall of Fame. The inductees this year are Alcide Santilli and Sterling V. Starr. There will be reminiscences by the inductees and Bernard L. Wiggin, a 1978 inductee into the Hall of Fame and well known meteorologist who has an understanding of what soaring pilots face in securing weather information. The prestigious Joseph C. Lincoln Award, sponsored by the Harris Hill Soaring Corporation, will be presented from among national and international entries for the most popular writing about soaring in 1979. We hope that you will plan to attend the gala festivities and help to kick-off our year of celebration of the **50th Anniversary of the first National Soaring Contest.**

SEVENTH ANNUAL VINTAGE SAILPLANE REGATTA

In conjunction with the Annual Soaring Hall of Fame Weekend the Vintage Sailplane Association is holding their Annual Vintage Sailplane Regatta May 24 - May 26, 1980 at Harris Hill, Elmira, New York. There will be additional special activities this year, in that, Honorary VSA Members and Special Achievement Awards will be announced. Contact: VSA, Scott Airpark, Lovettsville, Virginia 22080.

NSM is a publication of the National Soaring Museum, Harris Hill, RD 3, Elmira, New York 14903. Anyone is invited to contribute material and pictures with identification about historical soaring activities, renovation of old sailplanes, soaring pioneers, unusual uses of sailplanes, etc. Manuscripts are subject to whatever revisions, additions or deletions are necessary to make the material conform to the space limitations and standards of NSM. Material that is to be returned must be accompanied by a stamped, self addressed envelope. No compensation other than credit will be made.

Publisher — National Soaring Museum
Editor — Shirley Sliwa

ON THE COVER:

A popular photo by Homer Jensen taken during the 1940 Nationals on Harris Hill, Elmira, NY. This particular scene shows John Robinson beside the Zanonja and the Aero Industries Technical Institute Sailplane the G-2 which won the 1940 design competition and the **Aviation** magazine trophy.

The 1979 Ralph Stanton Barnaby Lecture

CAPTAIN BARNABY, USN, RET.

By Vic Saudek

Except possibly by balloons, now nearly 200 years old, our grandparents (or their parents for **this** generation) never seriously thought about flying or aircraft when in their teens — with few exceptions.

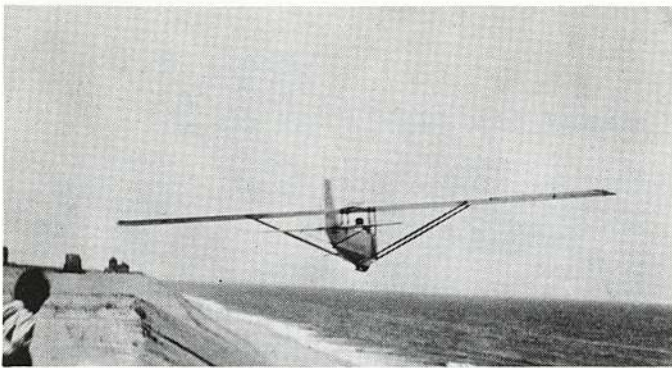
With the Wright brothers' success there was a great surge of enthusiasm felt by some adventurous young of the day who plunged into the idea of flight right from scratch. It took 15 to 30 years for slope winds, thermals and waves to be rediscovered. These features of soaring had been described, gently, by Wilbur and Orville and had been published — or at least noted — by 1905 in their writings.

Among those who participated in a number of early glider developments is Captain Ralph Stanton Barnaby, U.S.N., Retired. Barnaby is a naval aviator, author, sculptor, musician and holds U.S. Soaring Pilot's License No. 1, signed by Orville Wright. He is the curator of the aviation section of the Franklin Institute at Philadelphia, PA and is active in the development of the National Soaring Museum at Elmira, NY.

(Editors note: Captain Barnaby is honorary Vice-President of the National Soaring Museum and also the Soaring Society of America.)



The U.S. Navy Dirigible picking up a passenger at Lakehurst, New Jersey 50 years ago.

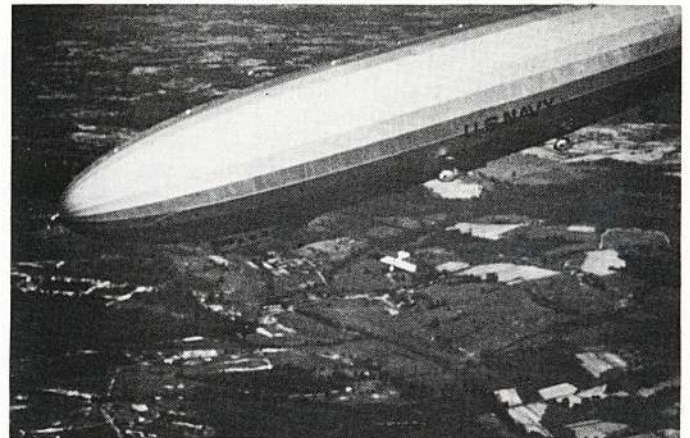


Captain Barnaby had his first flight in the Prueffling on Aug. 14, 1929 and made his record soaring flight of 15 minutes, 6 seconds along the sand dunes of Cape Cod on Aug. 18, 1929, thereby, acquiring the first United States "C" Soaring Certificate.

When Captain Barnaby had fewer than 30 minutes of flying time, all in gliders, he was the U.S. Navy's "expert" in gliders. As such he was asked to fly a Prueffling (German single place trainer) from the dirigible "Los Angeles". Hanging in a horizontal attitude, he was released in flight and glided safely to the ground (1930).

Twelve years later, with solid experience behind him as a pilot, he directed the procurement of Navy gliders in World War II: Pratt Read, Schweizers, Bristols, etc. He flew assault gliders in tests, linked to towplanes (R4D, the Navy's C-47) by a short, rigid steelbar to determine if these clumsy troop carriers could be towed through clouds and at night. Such tough tasks are now nearly forgotten. It takes a special person to survive and to report what is feasible and what is not . . . and why.

Barnaby's niche in soaring is special for many reasons. He was a founder of the National Gliding Association (1930-1931), and he helped form the Soaring Society of America (1932) and has, at one time or another, held every office in the SSA. He is a living link between today's highly developed sailplanes and the world of Wilbur and Orville Wright, whom he knew personally and saw at their labors in the early years of this century.



Note the Prueffling and Capt. Barnaby dropping away and proving the use of gliders in tactics with airships, January 1930.

It is fitting that the National Soaring Museum has initiated the BARNABY LECTURES, an annual event attuned to historic achievements in soaring-related aeronautics. This November 17th we will be privileged to hear about the 1979 triumph of the MacCready/Allen Gossamer Albatross English Channel Expedition.

As we get ready for the 1980's we can learn still from the works and thoughts of the old-timers. It behooves us to carefully accumulate the records of their achievements — and of **your** achievements. Let them be a guide and inspiration for those yet to come. The flying you do today will be historic for future generations. In the Twenty First Century the National Soaring Museum should well be considered a national treasure. It now needs your support and your significant memorabilia to be a valid repository.

If soaring is a part of your life, you are a part of the pageant and adventure of this sport and of these times. Don't let the record be lost . . . it is too valuable.

(Ed., Didn't I tell you he was a valued Advisor to the museum? To emphasize his plea, the Philosophy of the National Soaring Museum is on page 8 to further explain the museum's goals.)

THE BARNABY LECTURE

— the story behind the Albatross

By Victor Saudek

There have been many fine articles in recent months on the flight of the Gossamer Condor and Gossamer Albatross. These credit the leadership of Dr. Paul B. MacCready, the abilities of the pilot-engine, Bryan Allen, and the many contributions of the teams whose superb efforts brought about the winning of two Kremer prizes. Yet, these were and are "excerpts of excerpts." They are predigested brief reviews for those with short attention spans.

Attendees of the NSM's Captain Ralph Stanton Barnaby Lecture on November 17, 1979, at the Hyatt House Hotel near the L.A. International Airport, were given insights on an entirely different plane. As speaker, Paul MacCready took his listeners "into his mind" so that we could follow the development of the project. He analyzed the circles of soaring birds and drew conclusions. He described the now-obvious application of high technology to simple, easy-to-repair structures.

The unlimited patience called for and the courage to rebuild grotesquely crumpled airframes gradually evolved the Gossamer Condor from a big, but basic, hang glider concept. Each step of the way was delicately transforming a crude device to one less crude. Each development added a little weight and reduced drag and horsepower.

MacCready's sons pumped and puffed, making progressively better flights, month by month. Then it began to come together. Professional cyclists, highly trained and remarkably strong, were added. And, by Vern Oldershaw's efforts (among others), weight was subtracted. Turns with control were accomplished and aerodynamics were refined to where the ship became a proper, stable, controllable aircraft, designed to accomplish the task of human-powered flight, which the Condor did in 1977.

Another challenge was set before them in 1978: Cross the English Channel! The world now had all of the information it needed to compete in this and the prize of \$200,000 or so was worth the effort. MacCready's family and friends (and many new faces) made other aircraft which were striking steps ahead of the Gossamer Condor. Allen did the task on the first try — but that sounds too simple. At this point one can reread the story in the **National Geographic** and experience the flight of the Gossamer Albatross of 1979.

Where did the motivation come from? Paul MacCready's soaring background is from whence it sprang — and this was a marvelous trip to review, full of coincidences and the inter-related activities of people who, across the years, wove influences in a complicated pattern. In the soaring field, some of those to influence MacCready were:

- Richard C. duPont whose motion picture news reel clip, shown in 1933, gave 9-year-old Paul his first stirring interest in soaring.
- John Robinson (Southern California Soaring Association Board member) gave him his first sailplane flight in 1945 at Elmira, New York.
- Parker Leonard introduced Paul to the Pratt-Read sailplane. But here the story improves: Parker had long been Soaring Society of America President, and his daughter, Judy, is now Mrs. MacCready. Her brother, Kirke, did the actual construction of the Gossamer Albatross at his shop in Hermosa Beach, California.
- Betsy Woodward (now Betsy Proudfit) lives in the east now, but for years she was active in SCSA. She has a brother, Dick. When Paul applied at the E.I. du Pont de Nemours Co. for sponsorship of the Gossamer Albatross transchannel attempt, it happened to be Dick Woodward who picked up the phone. Hearing that Paul was a past world champion soaring

pilot, he called Betsy to learn if "MacCready is for real." She said he was, and du Pont sponsored the effort. And so it goes, a marvelous insight into the project.

The Oldershaws not only aided these projects by Vern's engineering skills and Maude's gracious serving of meals during much of the development of the Gossamer birds, they have a record of years of devoted service to the SCSA and SSA. Vern has held most, if not all, of the SCSA offices, including President, commuting from Bakersfield as a matter of course. At the Barnaby Lecture **they** were the couple that made available the splendid table decorations (the model flying wing displayed was Vern's).

Others of the SCSA who aided in the actual banquet operations include Vonard Ross and Greg Markowski, who handled the finances; Mike Zering, who started and ended the program very well; Dan Pierson, who filled in all the open holes; and old-timer Bob Blaine, who ran the films and slides for the program. It all went quite smoothly.

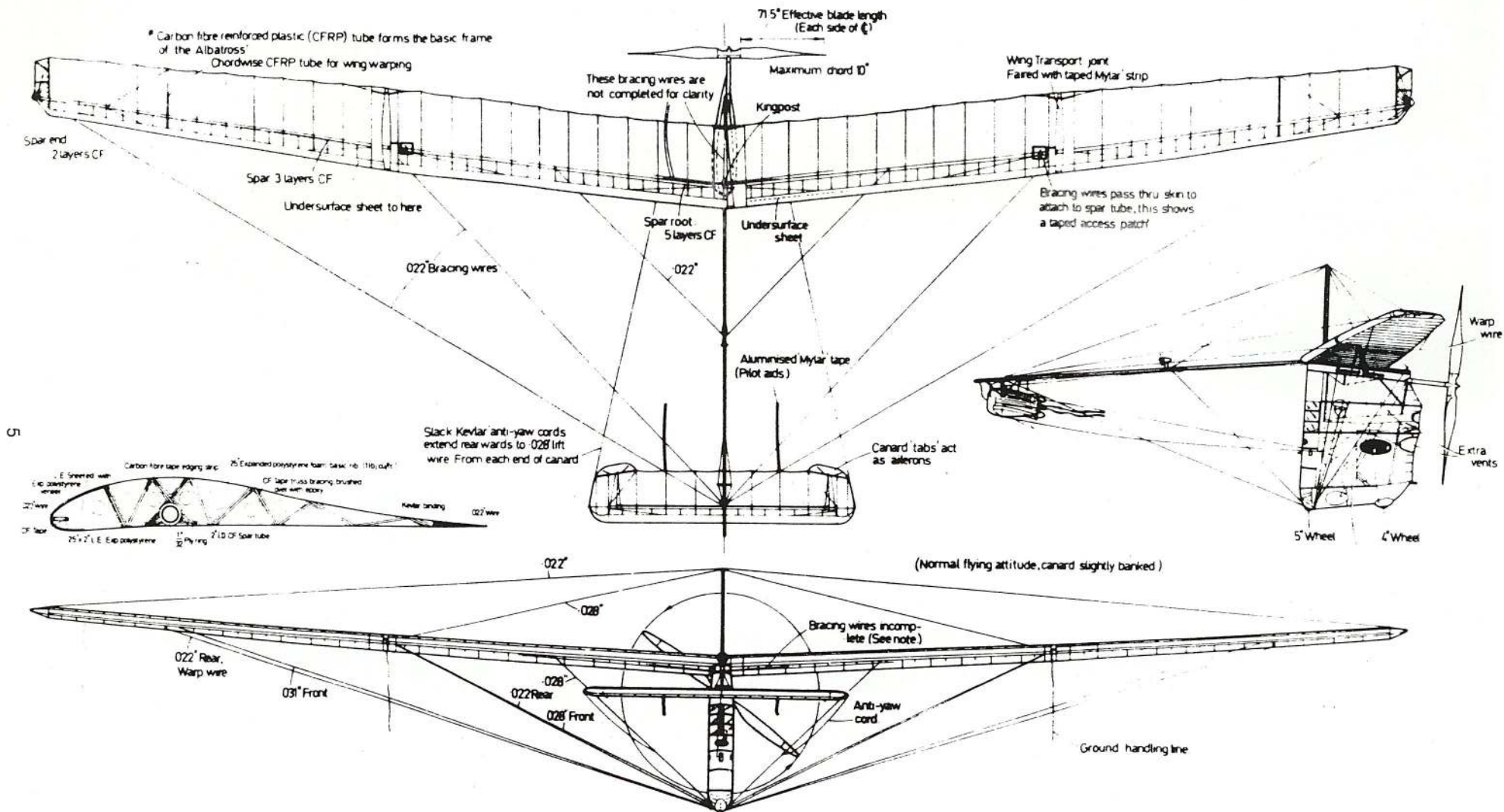
It is a nice, concluding touch that the Gossamer Condor is on display at the Washington, D.C., Smithsonian Institution's Air and Space Museum, while the Gossamer Albatross will be on display at the Franklin Institute in Philadelphia, Pennsylvania, in the Hall of Aeronautics, whose curator is none other than **Capt. Ralph Stanton Barnaby, USN, Retired.**



Paul MacCready National Soaring Champion, 1949. Elmira, New York



The Polish Orlik II with which Paul MacCready won the 1948 and 1949 National Soaring Championships. He also won again in 1953 flying an SGS 1-23D. (Photos: Loomis Collection)



The Gossamer Albatross

Reunion at Riverside

By V. M. Saudek



I was reminded by Harold Klieforth that the date of the reunion of the Mountain Wave Projects Flight Operations Team, 16 February, 1980, was exactly 28 years after our most successful exploration of the Sierra Wave. The location of the meeting at Riverside, California was determined by the physical condition of Ray Parker, whose battle with cancer limited his travel from Twenty-nine Palms, California. Other attendees included; Dr. Joachim P. Kuettner, Larry Edgar and his wife, Nancy, John Robinson, Dick Eldredge, Gus Briegleb, myself and my wife, Martha, Allen Langenheime and Mrs. Langenheime. Attending Ray Parker were his wife, Rose, daughter, Karen, and soaring friends Les Clanton and Charley Webber. The series of severe storms that were washing over the western states required that meteorologist Harold Klieforth stay at his station, Reno, Nevada, to advise the various utilities in the area where and when the deluge might pose problems.



Left to right: Martha Saudek, Rose Parker, Karen Parker, Nancy Edgar and Mrs. Allen Langenheime.

At the Crown Room of the Mission Inn, where we met, we heard in the first hour, details of Larry Edgar's experiences when the Pratt Read sailplane he was flying (solo) was torn up at 14,000 feet by the sharp-edged shear of a pressure jump wave. There was a "WHOOSH", he said, like the noise made by a fast-moving semi and trailer truck going in the opposite direction; then he felt the pounding positive and transverse G's, heard the noise of destruction of his aircraft and suffered the whipping negative G's that followed.

Another viewpoint was added. Al Langenheime, who was towplane pilot and had a photographer on board, was proceeding toward Bishop when he saw pieces of sailplane and the striped canopy of Larry's 'chute, which looked, at first, like a man-carrying balloon. Al circled the 'chute, actuating the prop pitch control of his 450 HP BT-13A to get Larry's attention. Larry was in no mood to respond. It was many minutes since the 'chute had opened, which stripped the lower, forward part of the cabin structure (and Larry's flight boots) from his feet. He had been carried up into the wave cloud and came out of it over the White Mts. It struck him that he might have to walk out of them through snow in stocking feet. The wind then carried him many miles back to the West. As he neared the surface, he moved his left hand to the quick release trigger of his 'chute harness. The left arm was not functioning, but his left hand was capable and ready. Since his vision was impaired, he felt that one eye which was better than the other would suffice to judge his altitude. Not so. He hit hard and was dragged by the 'chute. Above him, Al circled the BT, radioing the situation to the airport. The 'chute collapsed, finally, at the end of a bulldozed clearing alongside the road. The clearing had removed large boulders from the area, no doubt saving many a broken bone. A young boy on horseback rode up, thinking the event was an exhibition. One look at Larry's blood-red eyeballs and bloody head and he galloped off, presumably for help. Next on the scene were the Highway Patrol. The place was at the fork of the roads just south of the town of Bishop, California.

After a few days in the hospital, Larry was driven home. At the southern end of Owens Valley a northbound high speed "18 wheeler" passed their south-bound car, with a "WHOOSH" that raised the hairs on Larry's forearm.

Larry has had no bad dreams nor any other emotional reaction from the experience, and has kept up his soaring. At Holloman Air Force Base (where Larry was working at the time) the doctors there concluded that when Larry was subjected to the negative G's, he experienced at least -20 G's for at least 0.4 seconds, and that was enough to cause his eyes to start from their sockets. He later was given a piece of yellow glider plywood which fell at the feet of a batter in a baseball game.



Standing left to right: John Robinson, Vic Saudek, Larry Edgar, Allen Langenheime, and Gus Briegleb. Below left to right: Dick Edwards and Ray Parker.

The heavy mid-February rains had found weak places in the roof of the Inn, and we had the background music of synopated drips to the stories told as we waited for Dr. Kuettner, who was delayed by the weather. After he arrived, we watched the Mountain Wave Project, Phase II film loaned us by NSM for the occasion. What memories it brought back! Then each told of his activities after the project ended. All have made substantial contributions to our era, each in his own specialty. Ray spoke of flight test experiences at Mississippi State University on very unconventional and unpredictable aircraft, followed by his years at AiResearch Corp. from which he retired, first to Escalante, Utah, now at Twenty-nine Palms.

Johnny, who built the Robinson pellet variometers for many years, went into instrument work dealing with matched gearing so small that 500 would not fill a thimble.

Kuettner worked for Wehrner Von Braun on the Mercury Project (man in space), then returned to meteorological research in wild parts of the world. One project was marked by the fact that some people sent into the field were never again heard from.

Al Langenheim became a Corporate Bizjet pilot.

Gus Briegleb ran El Mirage, and now plans to enter the ministry, since El Mirage Airport may soon be no more.

Larry Edgar held several positions until he settled into Lockheed, nursing the SR 71 "Blackbird" reconnaissance airplanes that travel a mile in 2 seconds.

Dick Eldredge is at NASA's Dryden Research Center now working with Paul MacCready's No. 2 "Gossamer Albatross". Quite the opposite from Larry's job.

I am back at Hughes Aircraft Co. in the Space & Communications Group (Satellites), after having worked on deionizing water and mining mercury in between.

After dinner we returned to the Crown Room and saw the movie of one of the Global Atmospheric Research Projects, known as "GATE" (Global Atmospheric Tropical Experiment), which was directed by Dr. Kuettner. It was impressive:

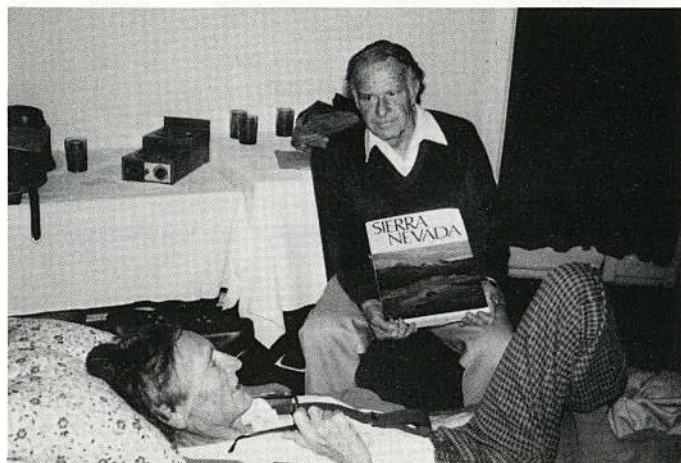
75 nations participated; 79 ocean-going vessels, 36 four-engine aircraft, meteorological satellites, many ground-based expeditions in Africa and South America. It was possible for us to see how this had developed across the years. Ray Parker must have relived his penetrations of CU NIMS in a Pratt Read in the 1946 Thunderstorm Project as he watched movies of the various giant, heavily instrumented aircraft, each at a predetermined Altitude, plunge into immense storms over the Atlantic (the area explored was from the Eastern Pacific Ocean to the Western Indian Ocean and between Cancer and Capricorn). As the airplanes flew their patterns, it was the "X" pattern as developed in the Mountain Wave Project! Altogether it was quite a show. I recalled helping to launch and to track radiosondes developed by Dr. Karl O. Lange when he directed the soaring contests at Elmira in

1936 and 1937. "Raysondes" were loosed simultaneously from each ship and ground station at intervals daily during the "experiment".

In his most recent project, Kuettner told of "losing" a 40 foot diameter parabolic antenna (project "MONEX", or Monsoon Experiment) in Malaya.

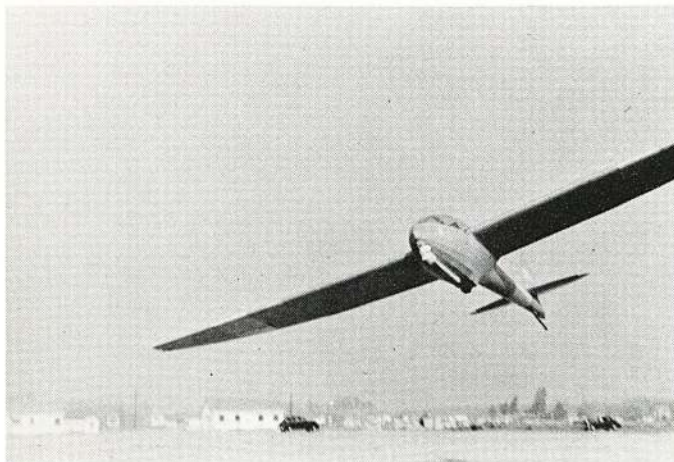
Then we discussed our children. The pre-kindergartners of 1951-1952 are grown and have made grandparents of some of the team — most recently, Larry and Nancy Edgar, brought one home from the hospital that very morning.

Ray Parker was at the end of his strength. As we shook his hand when he was wheeled out there were tears in his eyes. He had stayed to the last moments — the feelings he must have had were deep, complex, sincere, just like the man. He had been given the book **Sierra Nevada** as a gift by Dr. Kuettner — a fitting gesture.



Dr. Kuettner presenting Ray Parker a gift of sentimental significance. (All reunion photos by Vic Saudek.)

(Ed. Ray Parker has since died and donations made to the National Soaring Museum in his name have been placed in the museum's Memorial/Educational Endowment Fund. We told of Ray's sentimental trip back to Elmira to help Bill Bowmar present the Rigid Midget to the Museum in the 1979 Spring issue of NSM.)



Pratt Read on winch take-off.



Left to right: The Zanonias and the Rigid Midget. Both sailplanes significant to John Robinson and Ray Parker, respectively, in this story. (Sailplane photos by Warren Watson.)

Philosophy of the National Soaring Museum

(The National Soaring Museum was created in 1969 when the SSA Board of Directors authorized the Harris Hill Soaring Corporation to establish and operate the National Soaring Museum, Archives, and Library. In 1972, the National Soaring Museum was chartered by the New York State Education Department as an educational institution, and a separate non-profit corporation was set up at that time to conduct its activities. The activities of this Corporation are carried out by a Board of Trustees through a Director.)

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The National Soaring Museum exists primarily to fulfill two major functions: (1) That of preserving the heritage of motorless flight in the United States, and (2) That of promoting a greater knowledge of gliding, soaring, and related aeronautics and physical sciences among the general public.

Motorless flight has played an important role in the realization of man's age old dream to fly. It can be said with assurance that man would not have taken to the air had it not been for the gliding experiments of many distinguished and inspired men. Over the years, aerodynamic and meteorological breakthroughs of major significance have come about through the efforts of men and women who were fascinated by the concept of using natural forces to fly. Gliding and soaring has grown increasingly sophisticated and performance has increased markedly since the days of the early pioneers. The National Soaring Museum will show that motorless flight has contributed to the overall history of man, and that this history is inspiring, instructive and one that needs telling.

The Trustees of the National Soaring Museum believe that the education of the general public in aeronautical subjects is a fundamental need in a technologically oriented society. In recognition of this, the Museum will provide educational programs that will emphasize the contribution that soaring and aeronautics have made to the whole society.

Scattered through the United States are masses of important material that need collecting, preserving and interpreting. The National Soaring Museum will provide the facilities and staff to bring this material together into a useful collection. The Trustees of the Museum are aware that they bear a heavy responsibility to the future for the preservation and transmission of this rich harvest of aeronautical lore.

The National Soaring Museum further believes that it has the duty of promoting a greater knowledge of motorless flight and related aeronautics among the general population, using whatever techniques seem appropriate to that end. The Museum intends to devote considerable effort to the task of trying to bring the general public into touch with the spirit as well as the more factual aspects of motorless flight.

The National Soaring Museum intends to become active in the life of the local community as well as the nation as a whole. The NSM believes that it can provide valuable service and cultural enrichment to the many who visit the Museum.

National Soaring Museum
Harris Hill, R.D. 3,
Elmira, N. Y. 14903