

Stanley Hiller, Jr. A Life without Parallel

Stanley Hiller, Jr., age 81, died peacefully at home on Thursday, April 20, 2006, of complications associated with Alzheimer's Disease. Stanley Hiller, Jr. was born November 15, 1924 in San Francisco, California to the late Stanley Hiller, Sr. and Opal Perkins Hiller. On May 25, 1946 he was united in marriage to Carolyn Balsdon Hiller and lived in Atherton, California.

Stanley Hiller, Jr., began his career as one of the world's three principal developers of vertical flight, while still a teenager. After leading a company that produced thousands of helicopters for military and commercial markets worldwide, Mr. Hiller began a remarkable second career, applying management techniques widely sought in the turnaround of troubled American companies.

Hiller innovations in the technology of vertical flight included the first helicopter flown in the western United States, the world's first successful co-axial helicopter, the famed Flying Platform, the one-man foldable "Rotorcycle," the unique "Hornet" helicopter powered by rotor-tip-mounted ramjet engines, and the first high-speed vertical take-off-and-landing tilt-wing troop transport. Stanley Hiller's company, Hiller Aircraft Corporation, started in 1949 as United Helicopters when he was 18 years old, and it was soon producing the first battlefield evacuation helicopters for the French Indochinese War and the Korean Conflict in the 1950s.

In his "second career" beginning in 1966, after leaving Fairchild Hiller Corp. into which he had merged Hiller Aircraft, Stanley Hiller created The Hiller Group, utilizing his leadership concepts in turning around failing companies in diverse fields, including Reed Tool Company, Bekins Corp., and the huge York International air conditioning manufacturer. His efforts were responsible for a transformation of Baker International into its present structure as Baker Hughes Corp. Pursuing a management style of hands-on control of his turnaround candidates, Mr. Hiller developed and advised the nation's business community how corporate governance needs to reform to succeed in a global economy. He warned of the "feudal system" at the top of many large corporations which would ultimately undermine the American system of free enterprise he cherished. In 1990s speeches and articles, he pressed

for structural solutions in such trends as growing trade deficits, "paralyzing federal debt," and corporate boards too weak to redesign failing and greedy managements.

Stanley Hiller, Jr., spent his youth in Berkeley California. Father Stanley was an engineer and a dedicated inventor. He was one of the nation's "Early Birds," having built and flown his own airplane in 1910 at age 20. When son Stanley was asked by a reporter years later how he had achieved so much in so few years, the 23-year-old replied, "I was fortunate in my choice of a father."

Using his father's tools, workbench and devoted encouragement, Stanley at age 8 connected an old family washing machine engine to a homemade buggy frame and was driving it somewhat recklessly on neighborhood sidewalks. Sitting in his father's lap, young Stanley learned to fly before he was 10, and naturally became interested in building and flying model planes, which to his consternation, tended to crash. The Stanley's response was to apply one of the airplane gas engines into a model racing car. It was a turning point in the boy's career: the Hiller "Comet" sped around a back yard track at up to 60 miles per hour, and before long a local department store was selling Comets from a production line of neighborhood boys in the Hiller back-yard shop. By the time he was 17, Stanley Jr.'s Hiller Industries was turning out 350 miniature cars each month, at the rate of \$100,000 a year. With some help from his father and a draftsman, Stanley invented a die-casting machine based on a cooling process which increased the strength of aluminum castings for the Comet. Now a freshman at the University of California at Berkeley, Stanley was soon discovered by the U.S. military, not as a draftee, but as a resource for aluminum fighter plane parts. Although big aircraft builders hesitated signing subcontracts with a schoolboy, Hiller Industries was soon working in two shifts with seven casting machines, in a \$300,000-a-year payroll. In his spare time, young Stanley designed cast aluminum kitchen utensils to keep his die casting machines operating when the flood of war orders dried up.

Stanley Hiller, Jr., had developed an interest in helicopters when at age 15 he had read about Igor Sikorsky's experiments with rotary wing aircraft, noting that the early vehicles were compromised by elaborate ways of compensating for inherent instability. "I have ideas about how to correct that," Stanley told his father, who suggested he put the ideas into some

hardware. The teenager's idea was a co-axial rotor design, which would avoid elaborate tail rotors and gears that controlled the inherent yaw of Sikorsky's single-rotor models. The concept seemed to work initially, when a model co-axial helicopter was dropped from his father's ninth-story office window. His schoolmates cheering below were witnessing the birth of a new career in aviation.

Stanley finished high school despite the many extracurricular activities in his life, entering the University of California at Berkeley at age 16. His college phase lasted but a year: he was consumed with the history and technology of vertical flight, intensifying his designing of a co-axial with the aid of a draftsman, a welder and a part-time auto mechanic. Although many materials were frozen by the War Production Board, he managed to improvise a 100-pound model. Discouraged by Army officials, the 17-year-old inventor lugged his aircraft and drawings to Washington DC, where higher authorities not only permitted his proposed XH-44 helicopter to be finished, but granted Stanley a deferment from the draft board.

Although UC Berkeley had little chance to influence young Stanley because he dropped out to build his business at the end of his freshman year, the university did yield the love of his life, Carolyn Balsdon, whom he married when they were both 22.

By 1944, Stanley Hiller, Jr., completed the first successful flight of a helicopter in the western United States. He flew his yellow fabric-covered contraption himself, although he had never flown a helicopter nor seen one fly. After at least one mishap, in August of that year a successful demonstration was made at San Francisco's Marina Green, where a plaque today commemorates the historic event. The flight propelled the young inventor-who had no engineering degrees and, in fact, never finished college-into international headlines. He became the youngest person ever to receive the coveted Fawcett Aviation Award for major contributions to the advancement of aviation. Eventually, the little co-axial XH-44 "Hiller-Copter" would earn a permanent place in Smithsonian Institution.

The early successes also attracted business investments in Hiller's enterprise. After a brief association with renowned WWII shipbuilder Henry J. Kaiser, separate financing and stock sales were secured, and United Helicopters became a corporation in 1945, hopeful of opening a new age of commercial vertical flight with the Hiller "Commuter" helicopter. A crash of a co-axial airframe-and a miraculous survival of pilot Stan Hiller-took him to

another rotor design he had been pondering, called the "Rotomatic Control System." Although reverting to a single rotor-plus tail-rotor configuration, the system achieved remarkable stability with a simplicity in parts that again caught the attention of the aviation world. It was upon this design platform that the famed Hiller "360" began the Hiller ascendance as one of the few full-production helicopter companies in the world. The 360 was the third helicopter qualified by the Civil Aeronautics Administration in U.S. history.

Post-WWII aviation was not an encouraging environment for a young helicopter company. Now operating under its permanent name, Hiller Aircraft Company, adventurous steps were taken to commit the organization to a commercial market. Hiller became the first American company to produce helicopters without military sponsorship. Capital was acquired from businessmen who had faith in the new promise that helicopters would revolutionize such utility chores as agricultural management, crop spraying, search and rescue missions, and remote field installations. Markets across the globe began to respond, with the help of growing and ingenious world sales staff Hiller had been assembling.

The stable reliability of the 360 in utility jobs resulted in the helicopter's recruitment as a medical evacuation vehicle in the French Indochinese war starting in 1949- The UH12-360 became the first light helicopter applied to that task under difficult jungle warfare conditions.

When the Korean Conflict broke out in 1950, the U.S. Army finally responded to Hiller earlier pleas to create a light utility helicopter capability. The ensuing high-quantity orders were fulfilled by the stressed company through rapid conversions of commercial models. Soon Hiller Aircraft was delivering a helicopter per day for the Korean battlefronts, and a progression of technical advances provided Hiller a family of aircraft alongside the other major manufacturers, Bell, Sikorsky and Piasecki.

What differentiated Hiller was its prolific contribution to vertical flight technology. President Stanley Hiller had already established a management style that encouraged creativity, backed since the early days by a strong and independent Board of Directors. The result was a cohesive team that could turn out a stream of innovative, but remarkably reliable, vertical flight prototypes. While achieving in the Army H-23 series the first helicopter of any type to be approved for 1,000 hours of operation between overhauls, all military services were coming to depend on the creative Hiller staff to convert the most

unheard-of ideas into successful flying hardware. Experimentation into the future was in Stanley Hiller's nature as a child, and it conferred to his company as an adult. As early as 1947, the Hiller creative group had experimented with rotor systems which tilted forward for higher speed horizontal flight. The company's concepts of pure jet lift was the first in its genre proposed to the military. By 1951 Hiller was flying a two-place "Hornet" powered by ram-jets at the blade tips, where, Stan Hiller had long maintained, "the power is needed," eliminating much of the helicopter's weight and complexity in transmissions and tail rotors. A fleet of H-32 Hornet evaluation aircraft were delivered to the Army, Navy and Marines in 1956. Huge Flying Cranes were studied under military contract, as early as the late 1940s, later replacing the tip ram jets with more fuel-efficient turbojets.

Hiller Aircraft Corporation's propensity for attracting headlines and life magazine covers was started when its soft-spoken but exuberantly promotional leader was a teenager, and by the 1950s a zenith in public awareness was reached as a corporate fountain of aviation ideas attacked yet another series of vertical flight technologies. The Hiller Flying Platform perched a pilot atop ducted propellers, requiring him to simply lean in the direction he wanted to go. Improbable as it appeared, the platform hovered and darted, with its standing passenger often using both arms to fire a rifle or take photographs.

Begun for the U.S. Navy Bureau of Aeronautics in 1954, the Hiller XROE-1 one-man "Rotorcycle" could be parachuted in a pod behind enemy lines, assembled in nine minutes by its recipient on the ground, and take off to fly with all the speed, altitude and hovering capability of a large helicopter. Delivered in evaluation quantities for testing in world locations, the little Rotorcycle was known to fly in weather eschewed by full-size helicopters.

In 1956, as Hiller military and commercial utility helicopters continued to gain acceptance as dependable workhorses in the nation's vertical flight realm of aviation, Hiller chose another daring step: the development of a high speed vertical takeoff and landing transport plane to deposit troops and equipment into restricted battlefield locations. The project's X-18 test bed was made of borrowed engines and fuselage parts, but the 17-ton plane managed to complete test flights at Edwards Air Force Base in 1959-60, proving the long-held Hiller idea that a tilting wing-engine approach to high speed vertical flight was feasible. The result was production of a evaluation fleet of Air Force tilt-wing XC-142 transports by the consortium of Hiller, Chance-Vought and Ryan. Challenged in jungles and

on aircraft carriers, the XC-142 proved the point, as did all Hiller's experimental hardware surprises: they did what they were supposed to do, safely, and with considerable fanfare, minus only full production contracts to follow. Clearly, these and many other Hiller creations were meant to teach the world what could be done in vertical flight in every possible field requirement.

Predictive of his oncoming career as a corporate turnaround specialist, Stanley Hiller was asked in the mid-1960s when he was President of the U. S. Army Aviation Association, to describe in the Association's magazine how he managed people to perform as creative teams so successfully. The resulting article, Hiller's "Art of Looking Backward from the Future," was noted by observers in the business world. Hiller eschewed the common way to advance technology based on rate of progress in the past. His technique was to establish what goal in any technology was sought in the future, drawing a performance timeline from that future point back to the present. Dramatizing such goals to employees, and establishing individual roles in the ambitious timeline embodied Hiller's management technique. That way, he was fond of saying, "each person owns the plan."

In 1968, after merging Hiller Aircraft into what became Fairchild Hiller Corporation, Stan Hiller left aviation to open Hiller Investment Co. Its purpose was to realize the opportunities in bringing together strong management groups and effective boards of directors to revitalize companies with large asset bases not being employed as effectively as possible. Asked if he was entering the venture capitalism field, Mr. Hiller replied in an press interview, "We roll up our sleeves and get into the companies, so we are not passive investors. We become chairman or chief executive officer, and don't take our money until employees have a turnaround, and the company's shareholders realize their promised returns."

Following this unique, personal-commitment approach, and backed by a reservoir of strong managers eager to participate in this non-hostile takeover process, the Hiller group launched a 20-year progression of corporate turnarounds, starting by "cleaning up" mini-conglomerate G.W. Murphy Industries which the group changed into Reed Tool Co. and in 1979 sold it to energy giant Baker International. Soon after that success, the Hiller group took control of the nation's largest moving and storage company, Bekins Co., reversing 20 years of declining earnings as a percent of sales.

Approaching age 60, the man who had started as CEO of his own company as a teenager now became deeply committed taking the roles of CEO or board chairman of challenging enterprises in a wide variety of industries, helping them become the innovative, flexible organizations he knew they had the potential to be. He took leadership roles in all of them, including Baker International, for which he fashioned a merger with Hughes Tool Company to become today's Baker Hughes Corporation. One of Mr. Hiller's most successful turnarounds came close to the end of his career. At an age when most men contemplate retirement, he persuaded Borg-Warner to spin off to shareholders its failing York International, one of the world's largest air conditioning firms, and put him in charge as CEO. Stanley and Carolyn Hiller took up residence in York, Pennsylvania, until the job could be completed. "The challenges are intimidating," Business Week magazine reported at the outset. Borg-Warner Vice President Donald Trauscht said, "I sincerely doubt we would be doing this with anybody else but Stan and his team. In all my years in business and in life, I've never run into anyone like Stan." A year after Mr. Hiller took the helm of the once-floundering company he affectionately called "Yorkie," the company posted a five-fold increase in profits, a 130% rise in stock price, and a stable employment.

Stanley Hiller was often quoted in the media on his abiding opposition to business practices which undermine the vitality of corporations. Among them were the unfriendly takeovers; "slash-and-burn" tactics aimed not at building companies but draining their assets; die excessive remuneration of many American CEOs...and the "feudal system" at the top of many companies that stifles change and innovation. A Hiller motivation throughout his long career, stretching from age 15 to beyond 70, was what people can do when motivated and enabled.

Acknowledging that aviation was an exciting career, Hiller created an education-based aviation museum-now one of die nation's largest-in San Carlos, California. He considered it his contribution to the community which nurtured his own success. The Hiller Aviation Institute and Museum exhibits many of the Hiller innovations, but focuses on the considerable and often unheralded aviation technology contributed by westerners started before the Wright Brothers.

In his 78th year, Stanley Hiller was awarded Smithsonian's 2002 National Air and Space Museum Trophy for Lifetime Achievement, "for your distinguished career as a leader in aviation

innovation and excellence." That year also, his aviation community honored his lifelong contribution to the progress of aviation with its Medal of Achievement, presented by the San Francisco Aeronautical Society.

Stanley is survived by his wife, Carolyn Balsdon Hiller; his sons, Jeffrey and Stephen Hiller and their wives, Mary Hiller and Barbara Hiller; his seven granddaughters, Christy Hiller Myronowicz and her husband Cameron of Hermosa Beach, California, Brooke and Carrie Hiller of Atherton, daughters of Stephen and Barbara Hiller and Maryann, Kristen, Constance and Samantha Hiller, of Atherton, California, daughters of Jeffrey and Mary Hiller; and his sister, Patricia Hiller Chadwick, of London, England.

Memorial services for Stanley Hiller, Jr. will be held at 1:00 p.m., Friday, May 5, 2006 at the Hiller Aviation Museum, 601 Skyway Road, San Carlos. Pastor Richard Foster will officiate.

In lieu of flowers, memorial funds have been established in his name for the Hiller Aviation Institute & Museum Educational Fund.

