Convergence
A Near-Catastrophe over the Main Line Airport, June 25, 1939

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Prologue

Since 2002 I have researched and written about the history of the Main Line Airport, which operated from 1931 to 1952 twenty miles northwest of Center City Philadelphia in the verdant Great Valley of Chester County, Pennsylvania. I have heard and read hundreds of recollections and stories about the many personalities and numerous airplanes that flew in and out on the grass runways of this small but influential country airfield during the "golden age" of aviation.

During the late 1930s, a newspaper called the *Daily Local News*, published in West Chester, Pa., featured a weekly column on local aviation news written by a part-time reporter, one Harvey "Buck" Berry. Berry worked full-time for the Pennsylvania Railroad, but during those Depression years also worked other jobs—including as the assistant manager at the Main Line Airport. Studied decades after he wrote them, his news items were informal yet informative: who received their pilot's license—the details of the latest aircraft swap—who had flown in to visit the airport, and why. But occasionally, scanning these chatty columns, one's attention is drawn to a riveting account that captures one's full attention. This is such a story.

In three short sentences in the *Daily Local News* dated June 30, 1939, Harvey Berry's aviation column succinctly describes a near-disaster in the sky above Chester County:

> "Last Sunday, [June 25, 1939] about 1:30 p.m., "Nick" Morris, Vice President of the Demorr Aeronautical Corporation at the local airport, was flying a Ryan STA monoplane, attempting to practice "blind" flying through the huge fleecy clouds to the west of the airport. At an altitude of 6000 feet, and traveling at 125 miles an hour, a monstrous plane overtook and passed him less than 500 feet away. The plane was a 74-passenger Pan American Clipper, recently built by the Boeing Aircraft Company …"

Reading this for the first time, I was incredulous. The reporter had recited the barest facts of an incident involving two of the classic airplanes of all time, a story that would today have been national news, and yet here, was described with the innocence of a by-gone era. I re-read these lines several times, and then, increasingly curious, I began the task of checking the many intersecting threads to determine the veracity of this obscure local story, and like Brother Juniper in Thornton Wilder's *The Bridge of San Luis Rey* [1], to research the paths that came so close to "convergence" and attempt to fill in crucial details that the reporter omitted.

Part I: The Main Line Airport

In 1929, an 80-acre farm in Chester County's East Whiteland township was purchased by a local inventor named E. Burke Wilford, who wanted the property to develop and refine his version of a helicopter predecessor known as an autogyro. [2] Wilford initially named his rural acreage the "Philadelphia–Main Line Airport," but in time dropped "Philadelphia" from the moniker. All during Wilford's ownership of his field he had encouraged general aviation, and the field soon became alternatively called the "Paoli Airport" (referring to the nearby town). Wilford's autogyro research prospered, and in 1932 he relocated his development center to a larger facility along the Delaware River near Philadelphia. He retained ownership of his growing airport in the Great Valley until 1936, when Curtiss-Wright Air Terminals Corporation of Garden City, New York, a division of the famed aircraft manufacturer, acquired title to the field.

During the remainder of the 1930s, the Main Line Airport evolved into a fixed-wing field of significant reputation across Pennsylvania. Interest in aviation was almost universal during this Depression period, and learning to fly was not the exclusive domain of the wealthy. Many young men (and a few women) of modest means became

1 In Thornton Wilder's classic novel *The Bridge of San Luis Rey,* winner of the 1927 Pulitzer Prize for fiction, Wilder examines the universal question of what part random chance plays in governing our fate. A Franciscan missionary, Brother Juniper, witnesses an horrific disaster as "the finest bridge in all Peru broke and precipitated five travelers into the gulf below." Stunned by the tragedy, and the irony which seemed to bring these unrelated victims together, the priest painstakingly traces the lives and events which had become joined together to a collective fate.

2 The first flight of Wilford's ship, which he called the WRK, was successfully completed in 1931 at his former Great Valley farm, and became the first autogyro in the United States to successfully fly with a rigid rotor.

An aerial image of the Main Line Airport, located in the Great Valley, Chester County, Pennsylvania. Taken in the summer of 1939, this image looks north across Swedesford Road, with the several airport buildings and the three grass runways clearly visible. The original 1853 barn had painted upon its roof the word **PAOLI** to assist pilots—most with few navigational instruments—to more easily fly cross-country. This photo was taken by Thomas Skilton, the airport's official photographer. *Courtesy of the late Mr. Orville Jenkins.*

student pilots, working towards their flight certification and aircraft ownership at the field. These students were taught by several instructors, including airport manager A.L. Schacterle, young Malcolm Ashby—and the lanky Nicholas W. Morris.

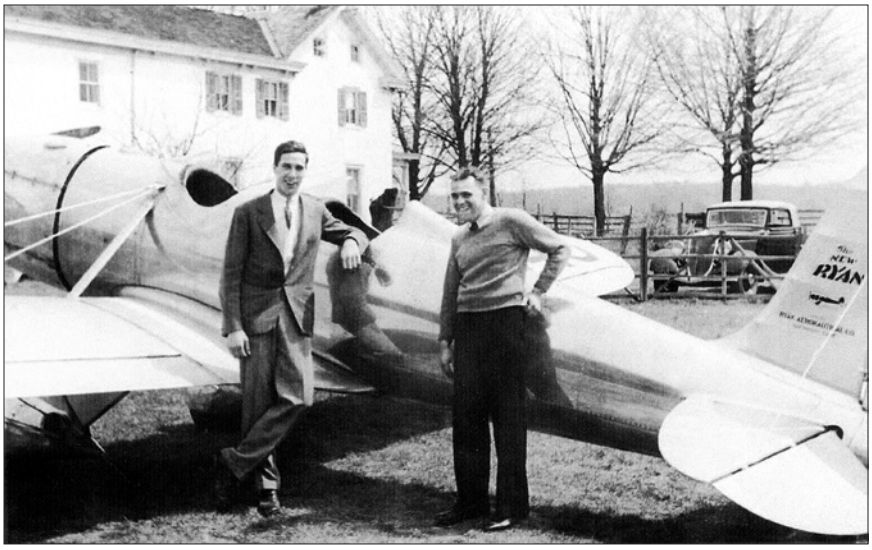
In June 1936, three veteran Chester County pilots, Charles Devaney, "Nick" Morris and "Mort" Caldwell (an heir to Philadelphia's J. E. Caldwell & Co. jewelers fortune), formed an aviation sales, service and flight instruction business operating out of their hangar at the Main Line Airport. They called their business Demorr Aeronautical Corporation. Ten months later, in April 1937, Demorr was awarded a coveted distributorship for the Ryan Aeronautical Company of San Diego, representing Ryan in Pennsylvania, Southern New Jersey, and Delaware. With the universal adulation of Ryan airplanes, obtaining this distributorship was a tremendous boon for Demorr — and for the Main Line Airport.

The decade of the 1930s saw scores of airplane manufacturers striving to improve the technical and

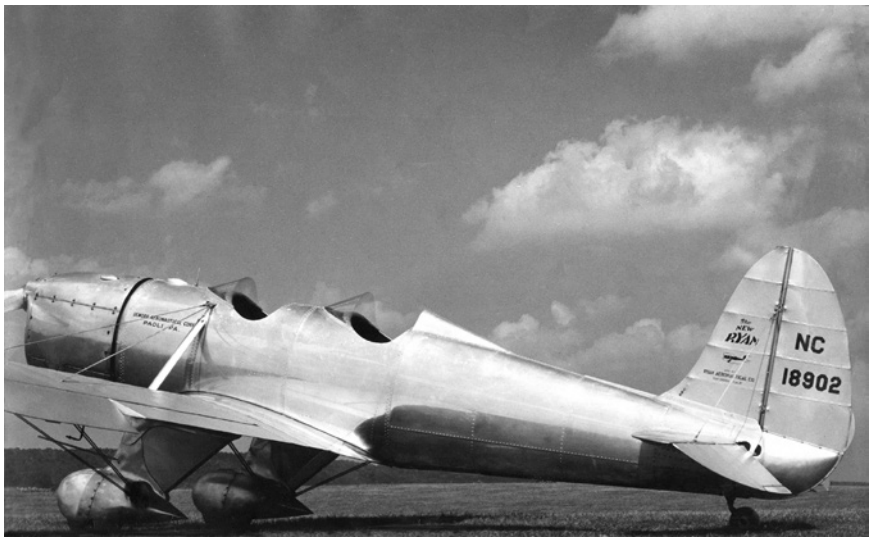
Demorr Aeronautical Corporation was formed at the Main Line Airport in 1936, and the following year the firm was awarded the distributorship to sell Ryan airplanes in parts of the Mid-Atlantic. Shown here, nestled in the Demorr tee-hangar, is a Ryan ST-A airplane that is still considered one of the classic airplanes of all time. *Courtesy of the Devaney family.*

marketing edge that would allow them to survive within the burgeoning and cutthroat civilian aviation market. In time, most did not survive. Over the years, hundreds of pilots landed and took off on the three grass runways at the Main Line Airport in airplanes manufactured by companies called Aeronca, Alexander, Curtis, Davis, DeHavilland, Fairchild, Howard, Lockheed, Piper, Porterfield, Rearwin, Stinson, Taylor, TravelAire, and others. But none of these companies excited the public's imagination more than the Ryan Aeronautical Company of San Diego, Calif., with their agile low-wing monoplane called the ST-A. This two-place ship, designed specifically for aerobatics, was of a mixed construction: a polished aluminum fuselage with fabric wing coverings and external wire bracing. It was fitted with a Menasco C4 engine producing 125 h.p., and capable of a maximum speed of 125 mph. Between 1935 and 1940, Ryan only built 71 ST-As, and several of these flew regularly in and out of Chester County's Main Line Airport.

In March, 1937, just weeks before becoming a Ryan dealer, Demorr Aeronautical took delivery on their first Ryan ST-A, registration NC17343. With a sales price of $4,585 (a comfortable home in Chester County could easily be purchased for under $5,000), it was one of 34 ST-As built that year. Few airplanes could attract crowds at an airshow like the Ryan, and on almost any Sunday afternoon when "flying weather" was tolerable, thousands would gather at the Main Line Airport to watch the excitement. Devaney and Morris could put on quite a show, and logged many flying hours in their ship during the remainder of 1937 providing aerobatic demonstrations, giving sales flights, and instructing students at the Main Line Airport and other nearby fields before selling that aircraft in January, 1938.

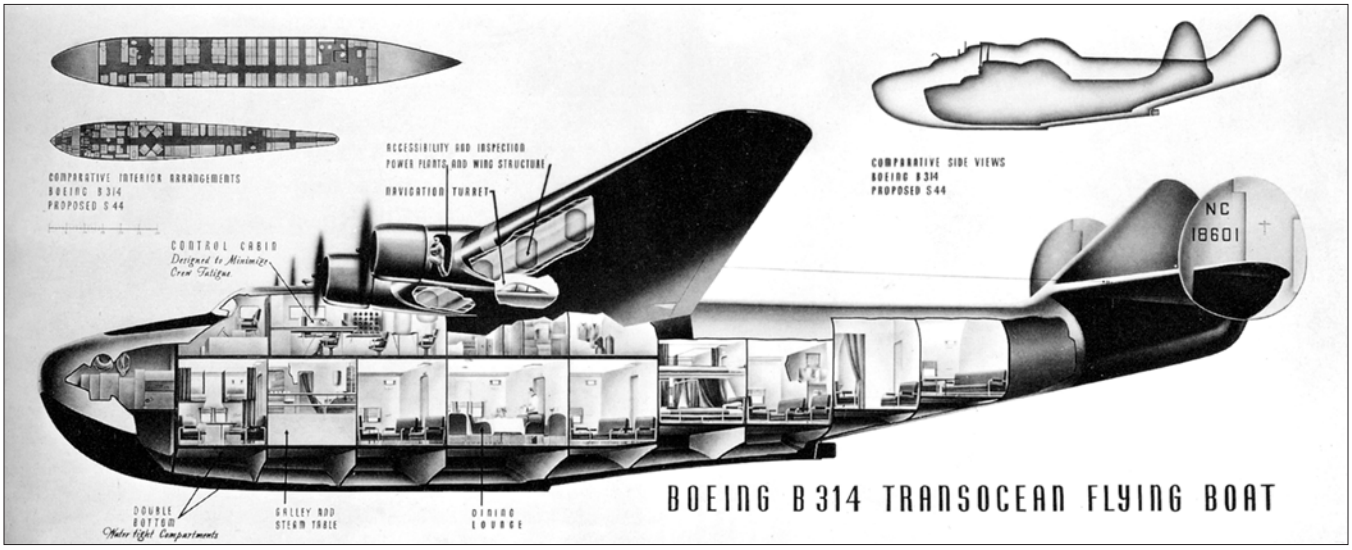


In April 1937, a month after receiving their first Ryan ST-A, Nick Morris (left) and Charles Devaney proudly stand beside NC17343 at the Main Line Airport. The old farmhouse in the background served as the airport's operations center. Swedesford Road runs along the tree line. Photographer unknown. *Courtesy of the Devaney family.*



Shown at the Main Line Airport is Demorr's fourth ST-A, delivered on September 23, 1938. With the inscription "DEMORR AERONAUTICAL CORP., PAOLI, PA" painted on the aluminum fuselage, NC 18902 was to remain at the airport until shortly after World War II. Photographer unknown. *Courtesy of the Devaney family.*

Demorr acquired and then sold two more Ryan ST-As (NC14913 and NC17350), but it was their fourth ST-A, NC18902, delivered to Demorr on September 23, 1938, which sat in front of the Demorr hangar at the Main Line Airport on Sunday, June 25, 1939. With the inscription "DEMORR AERONAUTICAL CORP., PAOLI, PA" painted on the forward section of the sleek, aluminum fuselage, this was the ship (confirmed in the personal flight log of Nick Morris) that stood ready to play its part in the soon-to-be-enacted convergence.



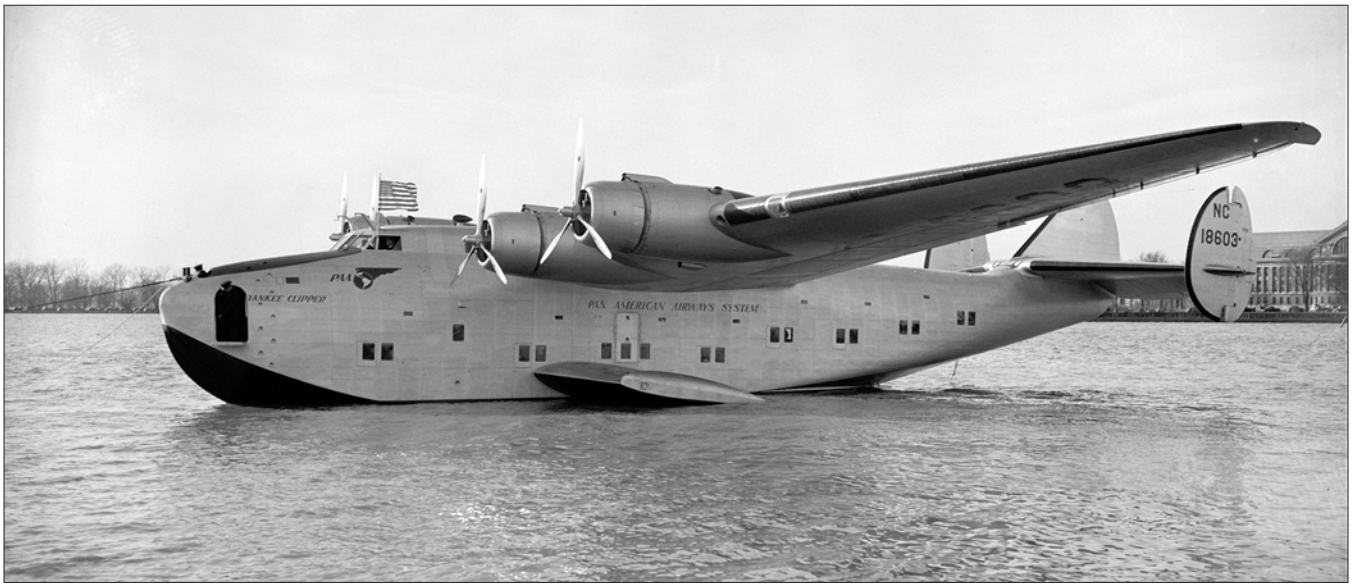
Scaled deck plan of the Boeing 314 Clipper indicating its magnificent interior which was equated to a flying hotel. In this image, the Boeing Clipper is compared in size and roominess to the earlier-rejected Sikorsky S-44 flying boat. *Courtesy of* The Last of the Flying Clippers.

Part II: Pan American Airways and its Boeing 314 Flying Boats

By 1936, Pan American Airways had already led commercial aviation by successfully pioneering the Pacific air routes. Transatlantic routes were next, and England and the United States were both intent on competing to establish commercial air service over the Atlantic. Pan Am represented the U. S., and was confident that it would win this coveted route for itself.

Land aircraft were believed impractical and even unsafe for transoceanic travel, but nothing in Pan Am's current fleet of flying boats was considered adequate for this transatlantic expansion. Pan American therefore invited America's four major airplane producers; Boeing, Douglas, Consolidated, and Sikorsky, to submit designs for a revolutionary seaplane—unlike any built before. Only the Boeing proposal was deemed even marginally acceptable. After Pan American demanded approval rights on all design aspects, it allowed the creation of a colossal "dream ship" referred to as the B-314 to begin.

Everything about the Boeing 314 was on a grand scale. Until the introduction a generation later of Boeing's 747 jumbo jet, this 41-ton (actually 82,500 lb. max. gross take-off weight) flying boat would be the largest commercial airplane in scheduled use in the world, and was the realization of yet another dream of Pan Am's founder, and legendary commercial aviation visionary, Juan Trippe. The B-314 could transport 10,000 pounds of payload across an



The third Boeing 314 placed into service by Pan American Airways was NC18603, christened *Yankee Clipper*. It became, in June 1939, the first aircraft to fly transatlantic mail service from New York to Southampton. *Courtesy of* Last of the Flying Clippers.

operating range of 3,500 miles against a 30 mile-per-hour headwind, at a cruising speed of 183 miles-per-hour, and at a maximum cruise altitude of 13,400 feet. The ship had an enormous wing span of 152 feet, and a fuselage length of 106 feet. Its three-fin tail became an iconic feature of the design. The ship required tremendous power, and the four engines, each the newly designed 14-cylinder Double (or Twin) Cyclone radial built by Wright Aeronautical, could produce over 1,500 horsepower apiece. These engines were the first to require 100-octane fuel.

The décor on the B-314 was plush to the extreme, yet modern in an Art Deco style. In fact, the ship as originally designed will be remembered by history as arguably the most luxurious commercial passenger aircraft of all time. The ship was capable of carrying up to 89 passengers and crew, but for the chic, ultimate expression of luxury in transoceanic travel, accommodations were limited to just 34 passengers: six spacious berths in each of five standard passenger compartments; two berths in a "special VIP compartment;" and two luxurious beds in the deluxe bridal suite located in the extreme aft of the plane. Combined with an elegant dining lounge, where passengers were served full-course meals on china and silver, a complete galley, and separate men's and women's bathrooms, all was done to provide unprecedented comfort, spaciousness and luxury for those passengers who could afford it.

The spiral staircase from the forward passenger compartment led up to the spacious flight deck which accommodated a duty crew of six. The control deck was the largest ever designed for an aircraft (over 6 feet high x 21 feet long x 9 feet wide), fitted with wall-to-wall carpet, and intended to reduce crew fatigue on long ocean flights.

The spacious flight deck of the B-314 shows (L to R) the navigator's station, the "bridge" with the Captain on left and the First Officer on right, the closed stair well hatch, radio operator's post, and the flight engineer's station. The control deck was the largest ever designed for an aircraft. *Courtesy of* Last of the Flying Clippers.

Part III: The Mystery of Which Clipper

Between January and June, 1939, Boeing Airplane Company assembled six giant Model 314 Flying Boats on the launching quay of its Plant 1 Assembly Building in Seattle. [3] These six ships, with three registration numbers NC18601 through NC18606, were exclusively built for Pan American Airways for use in its transoceanic fleet. Pan Am had already referred to their flying boats as "clippers," after America's sleek, square-rigged sailing vessels which had raced over the world's seas in the mid-19th century, and it now christened these new ships with evocative names such as *Honolulu Clipper*, *Yankee Clipper* and *Atlantic Clipper*. After delivery by Boeing of each new tri-tailed plane, it was Pan American procedure to run thorough "check flights" before the ships received their assignments to serve in either Pan Am's Atlantic Division, with marine bases in Baltimore, Maryland, and Port Washington, Long Island, New York; or in its Pacific Division based on Treasure Island in San Francisco Bay, California.

So, which of these giant clippers was in flight over Chester County, Pa., on the afternoon of June 25, 1939?

The Special Collections division within the Otto G. Richter Library of the University of Miami in Coral Gables, Florida, serves as the repository for the vast Pan American World Airways archive. Regrettably, as in many large collections in which I have done research, not every document was able to be saved, with the result that these collections may be less than complete. In the case of the Pan Am archive, many of the domestic flight logs and individual crew records pertaining to 1939 are missing or incomplete. It is therefore the challenge of the historian to cobble together everything that can be found in this and other collections and writings pertaining to the subject, and then, through deduction and best-educated guesses, attempt to "connect the dots."

I was fortunate to secure a copy of M.D. Klaäs's long out-of-print book *Last of the Flying Clippers*, clearly the definitive work on the Boeing 314. [4] Rarely does a single source provide so many documented answers to aid an historian's research. But many answers still remained elusive. So, beginning with Klaäs's chronological details, and those of the Pan Am Archive at the Richter Library, I set out to trace the whereabouts of each of the six B-314 ships on that Sunday afternoon, June 25, 1939, and discovered the following:

3 Two years later, between April and August, 1941, Boeing would build an additional six Clippers designated as model B-314A. These ships had several improvements over the older B-314s, including even more powerful engines. Three of these ships were delivered to the Pan American fleet, with the remainder sold to British Overseas Airways Corporation.

- *Honolulu Clipper* and *California Clipper* (NC18601 and NC18602) were each flying commercial runs over the Pacific during the entire month of June, 1939.
- *Yankee Clipper* (NC18603), under the command of Captain Harold E. Gray, had departed Port Washington, Long Island for England at 9:21 a.m. on June 24th, the day previous to the Chester County incident, a flight that would carry the first transatlantic mail service from New York to Southampton.
- *Atlantic Clipper* (NC18604), under the command of Capt. W. D. Culbertson, had just completed the company's first non-revenue "preview press" flight to and from Europe using its southern route, setting a westbound speed record in the achievement. The ship had touched down at 11:42 a.m. onto Manhasset Isle, Port Washington, Long Island on that Sunday, June 25th from its non-stop flight from the Azores amidst much fanfare. [5] Not only did NC18604 land in the late morning—rather than almost two hours later as recorded in the *Daily Local News*—but considering the significant extra air mileage required to detour over Chester County, PA on what would have been a convoluted route to Port Washington for this record-setting flight, it is not plausible that "18604" could have been the clipper in question.
- Boeing delivered the last of its original six B-314 ships to Pan American Airways on June 14, 1939. The ship was soon flown from Seattle to Pan Am's Pacific Division base at Treasure Island. For the next several weeks it was "airline tested" in and over the San Francisco Bay area, and the ship, with CAA designation NC18606 and christened *American Clipper*, was not flown to Baltimore (via San Diego and New Orleans) to join the Atlantic Division to serve "the European run" until July 26, 1939. [6]

This then leaves only NC18605, the *Dixie Clipper*, as the deductive candidate for the recorded Chester County incident. According to Klaäs, "18605," the fifth B-314 built, was delivered by Boeing to Pan Am on May 5, 1939. Upon its arrival at Treasure Island, it was immediately sidelined for a month for what were described as "tail structure failure" repairs. Once completed, the ship departed San Francisco on or about June 5th for its "ferry flight" to join the Atlantic Division in Baltimore by way of San Diego and New Orleans. It is recorded that during the next several weeks after its arrival, *Dixie Clipper* was "briefly broken in" on the Baltimore-Bermuda run. [7]

Aviation visionary Juan Trippe was also a master marketer, and in those early days of the B-314, every departure and arrival was a "flash bulb affair" as the clippers coupled glamour with unprecedented speed in transoceanic travel to attract the rich and the famous. The *Dixie Clipper* had already been selected to depart from the Port Washington Terminal on June 28th amidst much pomp—to play its ceremonious role in undertaking the first transatlantic passenger revenue flight to Europe. I therefore believe that "18605," the latest addition to the Atlantic Division's fleet, had been ordered by no less than Mr. Trippe himself to fly into Manhasset Isle on that same afternoon as the *Atlantic Clipper's* earlier arrival from Europe. Having these two famous ships berthed side by side would represent a public relations coup—and one that Trippe would surely be proud to take credit for.

Thus, the stage was now set which would lead Pan Am's *Dixie Clipper*, NC18605, on a trajectory over eastern Chester County on the early afternoon of June 25, 1939.

Part IV: Collision Course

Baltimore's Municipal Airport (also known as "Harbor Field") was in 1939 the city's official airfield, located some six miles southeast of the city on an artificial peninsula. Because Baltimore's harbor is generally ice-free, a small seaplane facility originally had been opened by Pan Am in 1932. By 1936, a much larger 270' x 190' seaplane complex, officially known as the Transatlantic Air Base –Municipal Airport Dundalk, was constructed to provide hangar space, offices, a passenger concourse, lounge, and an observation deck to better serve the burgeoning flying boat trade. [8]

Dixie Clipper's crew had been instructed to: fly the ship on a "ferry flight," transferring it from the Baltimore terminal to Port Washington, Long Island; to depart soon after mid-day on Sunday afternoon, June 25; and upon arrival at Pan Am's terminal to join with recently arrived *Atlantic Clipper,* NC18604. The flight was a short one—only about 145 air miles—with an elapsed time after takeoff of slightly over one hour.

The B-314 flying boat rested placidly in Baltimore's bay, connected to the Transatlantic Air Base by an attached walkway built atop a series of floats. Soon after noon Captain Robert O. D. Sullivan, commanding the eleven-man crew scheduled to fly the inaugural flight to Europe three days later, along with First Officer Gilbert Blackmore,

4 M.D. Klaäs, *Last of the Flying Clippers: The Boeing B-314 Story* (Atglen, PA, 1997).
5 Klaäs, op. cit., p. 124.
6 Horace Brock, F*ly the Oceans: A Pilot's Story of Pan American*, 1935-1955 (Lunenburg, VT, 1978) p. 134.
7 Klaäs, op. cit., pp. 122, 125, 141.
8 *Abandoned and Little Known Airfields: Maryland*, **http://www.airfields-freeman.com/MD/Airfields_MD_Balt_SE.htm**. Today the former Municipal Airport is the site of the Dundalk Marine Terminal, a multi-use shipping facility for the Port of Baltimore.

The *Dixie Clipper* (NC18605)—as seen in flight—perhaps in the way Nick Morris saw this ship on the afternoon of June 25, 1939. "Dixie" became a legend in her time. Besides introducing paying passenger and air express service to Europe, she also became the first U.S. commercial plane to land in Africa; the first to operate on a route linking four continents; the first all-metal air transport to fly 3,120 miles non-stop; and the first U.S. aircraft to carry passengers and mail across the South Atlantic. *Courtesy of* Last of the Flying Clippers.

smartly led the crew across the walkway to board their ship. Dressed in crisp, naval-type uniforms, the crew looked as if they were stepping aboard an ocean liner. In addition to the normal six-man flight crew which included a Second Officer, a navigator, a radio operator, and a flight engineer, there was also a transatlantic relief crew consisting of an assistant navigator, radio operator, and flight engineer, and of course the two stewards who would provide world-class service to the passengers.

Shortly before 1:00 p.m., the ship was cast off, and positioned itself for takeoff from the Patapsco River. Once in position, Captain Sullivan opened the throttles of the four huge Wright Double Cyclone engines, and amidst the thundering din, the ship gained momentum quickly, churning a white wake behind it before breaking the surface and climbing into the clear, summer afternoon sky.

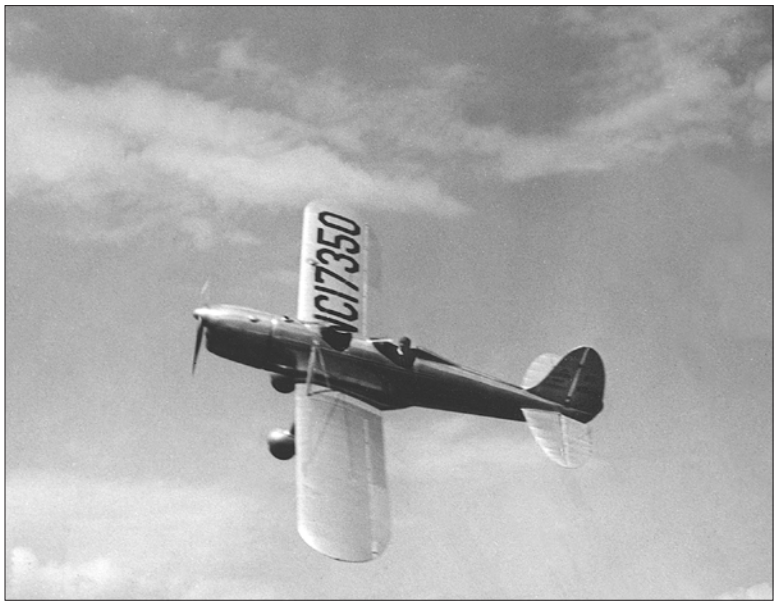
Eastern Chester County, Pa., seventy air miles distant from Baltimore, lies on an almost straight trajectory en route to western Long Island. Though the B-314 had a maximum operating ceiling of over 13,000', in fact, these ships almost always flew at altitudes well below that. The gradual climb out of Baltimore, and the short duration of this "ferry flight," would have further lessened this flight's cruise altitude as the ship flew northeast.

Sunday, June 25, had started with light showers in southeastern Pennsylvania. But by late morning the skies had cleared to become the quintessential summer day. Sun and clouds, high of 71°, light winds—a perfect afternoon for flying. Shortly after 1:00 p.m., Nick Morris, the tall, well-known flight instructor and vice president of Demorr Aeronautical Corporation, climbed into the open, rear cockpit of ST-A number NC18902. With its unmuffled Menasco engine growling, he taxied the Ryan to face into the prevailing wind and with a roar lifted off easily from the grass runway—quickly gaining altitude above the Main Line Airport.

Morris loved flying for flying's sake, but this day, with the many large cumulous clouds dotting the sky, he decided to practice his "blind flying" technique. This ship had few navigational instruments (and those were rudimentary), and the life-ending threat of spatial disorientation always lurked if a pilot encountered suddenly changing weather conditions. Nick was an excellent and experienced pilot, and to improve his odds of a long life in and out of the cockpit, he wanted to hone his skills and instincts for those occasional blind flying episodes. "Whipping the 125 horses" of his Menasco engine, he lifted the nose of his ST-A into an aggressive climb (the powerful ST-A had a climb rate of 800 ft./min.) toward and into one of the vast clouds before him.

Dixie Clipper had entered Pennsylvania airspace east of Oxford on a northeasterly heading. The ship was equipped with all the state-of-the-art navigational equipment for transoceanic flying, and was prepared for any eventuality. But the weather aloft that afternoon was mostly clear, and unlike today where a commercial airline routinely requires an I.F.R. (Instrument Flight Rules) filing for its pilots, it is probable that Capt. Sullivan elected to fly his clipper that afternoon using V.F.R. (Visual Flight Rules), keeping his ship on a compass heading toward Port Washington and avoiding what clouds remained ahead. This was just a routine ferry flight.

Blind flying is disorienting and frightening even to veteran pilots, and as Morris entered the cloud's opaque mists, his eyes eagerly sought the clarity of the open blue skies above. As his ship approached the top of the cloud, brilliant sunlight began to diffuse the mists, but from the open-cockpit, Nick's goggled vision remained limited. Then, with his unmuffled engine screaming, blocking out all other sounds, the ST-A burst out of the cloud like a missile—and things started to happen fast. Perhaps Morris sensed before he saw the enormous Clipper less than 500 feet distant—just a heartbeat away. We do not know the angle at which Nick's small ship was closing on the Clipper, only that he was suddenly dwarfed by the giant Boeing. We do not know why the Clipper would have been flying so close to the cloud, as V.F.R. rules would have required Captain Sullivan to maintain a cruise altitude at least 1,500 feet above any cloud. And we do not know if and what emergency avoidance might have been possible at the instant of proximity. What we do know is that, as the giant Boeing surged past the ST-A at less than 500 feet by Nick's reckoning, the clipper's weight and size, and especially its huge wings, would have generated a tremendous turbulence in its wake that would have bounced the tiny Ryan like a cork in a storm as the Pan Am clipper roared past. A terrifying experience for any pilot.



In the summer of 1938, this photograph of ST-A # NC18350 appeared in the *Daily Local News* accompanied by the caption: "Polishing up on his pylon turns at Paoli Airport, Nicholas Morris is caught in his Ryan low-wing plane …" A year later, in the rear seat of another almost identical Ryan, Nick would rise to a convergence. *Courtesy of Anthony Morris.*

The Ryan was a light, aerobatic airplane capable of quick evasive maneuver, but had the angle of approach been only slightly different, and with less than 500 feet to alter course, closure would have happened so quickly that there would have been little either pilot could have done to avoid catastrophe. The flight deck on the Clipper could have reacted fast enough had the ST-A suddenly appeared in front of the Boeing, yet it is almost a certainty that the clipper's flight crew never saw the tiny silver ST-A as they maintained their northeast heading. If the clipper's crew had seen the Ryan, they would assuredly have recorded the sighting in their official Pan Am flight log.

There is always the anticipation of the unexpected in flying, but Nick knew that he had taken a great risk in flying "blind," and that on this day he, and they, had both been very lucky indeed.

Upon his hasty return to the Main Line Airport, Morris would have assuredly related his close call to his partners Devaney and Caldwell—and apparently to the ear of reporter "Buck" Berry.

As earlier stated, there was, to my knowledge, no account recorded of this near-disaster over Chester County in any Pan American document—or at least any that has survived. And in the "Comments" section of Nick Morris' personal flight log book, there is only a blank space for that day describing this short flight in NC18902. Even Nick Morris' son, a friend of mine, was unaware of this incident until I shared the news clipping with him. The only record of this event are those few spare lines in Harvey Berry's weekly aviation section of the *Daily Local News* dated June 30, 1939.

Some have asked whether it possible that Berry was "stretching a story" in his report of the Clipper incident. I think it highly improbable, and my reasoning is two-fold. First, in my vigorous pursuit of local aviation news from those "golden years" of aviation, I have found Berry's reporting to be both accurate and easily verifiable—a boon to any historian. So while it is possible that a once-reliable reporter may take a plunge into fiction, my personal experience has taught me to trust this reporter's facts as he heard and understood them. Second, for Berry, the assistant manager at a small country airport as well as a part-time reporter, to publicly spread a false or denigrating story about a fellow aviator operating at the same airfield would have been foolhardy to the extreme. Based upon my experience as a local historian, I believe Nick Morris to have been both exceedingly honest and surprisingly candid in allowing this potentially embarrassing incident to be made public. I further believe Berry to have reported what little he had

On June 28, 1939, three days after passing over Chester County, PA en route from Baltimore, part of *Dixie Clipper's* crew poses for press photographs in Port Washington, NY prior to boarding their ship to commence the first, regularly scheduled trans-Atlantic airplane passenger service. Leading the crew was Capt. Robert Sullivan (seated far left) and First Officer Gilbert Blackmore beside Sullivan. *Courtesy of Pan American World Airways Collection*.

been told with the permission of Morris. But of course the deductions and conclusions of this research are mine alone. Should a knowledgeable reader be able to shed new light on this nearly eight-decade-old story, that new information would be most welcome.

Part V: Afterward

Three days after this ferry flight over Chester County, with a routine (thankfully) arrival into the Port Washington terminal that Sunday afternoon, June 25th, *Dixie Clipper* again departed to make world aviation history. NC18605, under the command of Captain Sullivan, lifted off from Manhasset Isle, Long Island, on the afternoon of June 28 with twenty-two paying passengers en route to Marseilles, France, thereby commencing the world's first commercial passenger service to Europe. Following Sullivan's transatlantic crossing, which made headlines around the world, the B-314 flying boats began three round-trip flights per week to Europe.

But, within weeks after the commencement of Pan Am's regular transatlantic operations, the world would change. By September, 1939, Europe was at war, and though America would remain "neutral" in the conflict for two more years, Pan American's Atlantic run now took on strategic importance.

Of course, everything changed on December 7, 1941. Five days after the Japanese attack on Pearl Harbor and two days after the United States and Germany were officially at war, Pan Am, the nation's only overseas airline, was called into service "for the duration." All the giant four-engined Boeing 314s, as well as Pan Am's other flying boats, were purchased by the U.S. government. Pan American was allowed to continue to operate these ships using their civilian crews, but virtually all of Pan Am's equipment and personnel were assigned, directly or indirectly, to the war effort. NC18605, the former *Dixie Clipper*, along with several other clippers, were assigned to the newly formed Naval Air Transport System, and were regularly flown by Pan Am between the United States, neutral Portugal, and the British Isles.

The B-314's opulent interiors were stripped to save weight, allowing more priority cargo to be carried on every available flight. The aircraft exteriors were camouflaged with drab sea-gray paint. Flight frequencies that would have been thought impossible in peacetime were now just part of the job. Pan Am clippers flew twice as often as before the war, and in 1942 made 1,219 Atlantic crossings. The amount of cargo carried increased staggeringly: from 16,500 pounds in 1941 to over three million pounds in 1942. Captain R.O.D. Sullivan, who commanded the "Dixie" over Chester County on that peaceful day in 1939, flew a total of 103 Atlantic crossings in 1942, becoming the first pilot in history to make a hundred aerial crossings.

In addition to its scheduled transoceanic flights, Pan American was also ordered to fly hundreds of special missions during World War II. In January 1943, for example, the former *Dixie Clipper* flew a secret mission from the U.S. to Casablanca, Morocco, carrying President Roosevelt and his advisors to a summit conference with Winston Churchill, Joseph Stalin and Charles De Gaulle, at which they agreed on the terms of unconditional surrender for Germany and Japan.

Although no B-314 clipper was lost to enemy action, a tragic crash in February 1943 saddened a nation well-acquainted with grief. The *Yankee Clipper*, NC18603, under the command of Captain R. O. D. Sullivan, was on a scheduled flight from New York to Foynes, Ireland —with stops at Bermuda, Horta, Azores, and Lisbon, Portugal. Onboard were thirty-nine passengers and crew, included seven top Broadway stars volunteering as U.S.O. entertainers, and a war correspondent for the New York *Herald Tribune*. On the evening of February 22nd, as the colossal *Yankee Clipper* approached the mouth of Lisbon's Tagus River and banked on its final approach, something went terribly wrong. The ship's left wing tip suddenly dug

into the river and the Boeing immediately started to break up. The shattered hull remained afloat for several minutes and then disappeared beneath the black water. Five crew members and nineteen passengers were killed, including the war correspondent and one of the performers. Captain Sullivan survived, and was unable to explain the crash. "Nothing is broken but my heart," he exclaimed. [9]

Despite this tragedy, the Boeing 314 clippers had no equal in the world for speed, range, and dependability until the introduction of the four-engine Douglas DC-4 in November, 1942. And although the B-314 was a slower ship, its size and load-bearing capacity still made it advantageous for transoceanic flights when compared to any other land aircraft. Pan Am continued to operate the clippers for the U. S. Government throughout World War II, and shortly thereafter.

In 1940, with Europe at war and the increasing probability of the United States involvement, defense contractor Curtiss-Wright Corporation, which had owned the Main Line Airport since 1936 through its Air Terminals division, choose to shift its focus completely to war production and divest itself of all non-essential businesses. In April 1940, Demorr Aeronautical Corporation purchased the Main Line Airport from Curtiss-Wright and assumed full management of the field. Charles Devaney served as president, and Nicholas Morris as secretary and treasurer. By the end of that year, the airport was described as "one of the busiest and best equipped airfields of its size in the entire Commonwealth of Pennsylvania."

In perhaps the last image of a Ryan ST-A at the Main Line Airport, taken in the summer of 1942, Maj. Harvey Berry, the Airport's former Assistant Manager during the Curtiss-Wright years, and the part-time correspondent who reported the story of the near-collision for the *Daily Local News*, is by this time the Executive Officer for the Airport's Civil Air Patrol squadron. He stands upon the wing of NC18902, the aircraft Nick Morris flew in June 1939. This image was taken by Thomas Skilton, the principal photographer at the Airport during the pre-WWII period. *Courtesy of Maj. Berry's son, Joseph.*

Beginning in the spring of 1940, with the nation's eye on military preparedness, between 50 and 75 young college men, mostly from Villanova College and West Chester State Teachers College, learned to fly at the Main Line Airport under the U.S. government's Civilian Pilot Training Program. This important program continued at the airport until early 1943. Demorr continued as a Ryan distributor until early 1941 when the franchise was canceled by Ryan, whose entire production capacity had shifted to defense work in preparation for a world at war.

With the declaration of war in December 1941, all "non-mission" civilian aviation at the Main Line Airport ended. However, a Civil Air Patrol (CAP) squadron was quickly formed at the airport, and volunteer pilots and mechanics were recruited. The airport served as a logistics center through mid-1943 from which critical parts and supplies were flown to support Coastal Patrol bases at Atlantic City, New Jersey, and Rehoboth Beach, Delaware, as the CAP helped wage its campaign against the scourge of the German U-boats.

In 1942 Demorr Aeronautical was successful in securing a sub-contracting agreement from the Philadelphia Naval Aircraft Factory to produce ailerons for 137 PBN-1 *Nomad* flying boats. These ships were destined to be ferried to the Soviet Union under Lend Lease, and Demorr, applying its machining expertise and equipment, converted several of the airport's tee-hangars to build these components into 1945.

[9] Manuscript: *Part I, THE LAST OF THE FLYING CLIPPER SHIPS* by H. D. Klaäs, (Story History – B-314 Flying Boat), 1964, p. 20.

In a scene unrecognizable from the photograph of the Main Line Airport taken by Thomas Skilton in the summer of 1939 and shown earlier in this article, the Great Valley Corporate Center sprawls in November 2015 on either side of Swedesford Road in East Whiteland Township, Chester County, PA. The 1853 barn with **PAOLI** painted on the roof stood near the current location of the white-roofed office building in the middle of this image. *Photograph taken by the author.*

In the years immediately following World War II, private aviation temporarily experienced robust growth in the U.S. The Main Line Airport "boomed" once again, in part because of the new GI Bill of Rights that would pay tuition and expenses for ex-GIs wishing to pursue flight training as a qualified course of study. But by 1948, the aviation bubble had deflated across the country, and it became increasingly difficult for Demorr to even break-even financially.

It was therefore a surprise when, in early 1950, the Bethlehem Steel Corporation made Demorr an offer it could hardly refuse. Tests beneath the airport's grass runways confirmed that the limestone substrate under the property was of the highest quality. Bethlehem wanted to buy this property as a future limestone quarry to complement their steel-making process, and they offered a record amount for the land. Demorr accepted their offer, and agreed to vacate by the end of 1952. Regular fixed-wing flying out of the Main Line Airport would cease forever.

Morris and Devaney built a modern machine shop in Malvern, PA, less than a mile from their airport. Using knowledge acquired during their wartime military subcontracting experience, they would operate for almost two decades as a contract designer, machine builder, and avionics manufacturer while retaining their original name, Demorr Aeronautical Corporation. The firm prospered until 1970, and Charles and Nick remained close friends until Devaney's death in 1976 at the age of 76.

The land occupied since 1931 as the Main Line Airport never did become a limestone quarry, and since the 1970s, has developed as the Great Valley Corporate Center.

In 1946 three former Pan American Boeing 314s, including the *Dixie Clipper*, NC18605, were purchased from the U.S. Government by a charter service calling itself World Airways, Inc. and relocated to San Diego. Six years later, by now standing derelict at Lindbergh Field, San Diego, NC18605 was scrapped in 1952.

I have been unable to document when and to whom Demoor Aeronautical Corporation sold Ryan ST-A, NC18902, the ship used by Nick Morris on that fateful summer afternoon in June 1939. However, in Nick Morris' personal flight log book is an entry dated Sunday, December 9, 1945, in which Morris records his last flight in that Ryan—a round-trip flight to Lansdale, PA. In the Comments section is the exuberant, one-word remark: "WONDERFUL!" Seventy-eight years after that ship first arrived at the Main Line Airport in 1938, NC18902 today proudly resides at—and still flies out of—the Airpower Museum in the small Iowa town of Ottumwa.

The once-famed *Dixie Clipper*, now un-flyable and in poor repair, sits in her cradle in 1952 waiting her final breakup. This image was taken at the Convair seaplane tarmac at Lindbergh Field, San Diego CA. *Courtesy of* Last of the Flying Clippers.

On September 9, 1943, the Civil Aeronautics Board released its report of the accident involving the *Yankee Clipper* on Lisbon's Tagus River in February 1943. Stating its conclusion in part, the Board assessed that "… the captain was attempting to land the aircraft at the time of the accident (and) he erred in his judgement of the position of the aircraft in relation to the water." [10] This judgement was a crushing blow to the honor and reputation of Pan American's senior captain, Robert O. D. Sullivan. Despite 3,278 flight hours of his total 14,332 hours flying 314s, [11] Sullivan was terminated by Pan American soon after the accident. Eventually returning to his home in North Carolina, Sullivan died in 1952 at age 62.

Nicholas Waln Morris, always an aviator, was rebuilding an experimental airplane when he died in April 1981 at the age of 76.

His son Tony summed up his father's life: "Dad's heart was always in the sky, and in flight, till the day he died. Along with my mother, flying was the love of his life."

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Without all of their help this account would have been quite impossible — and I am most grateful !

[10] Report of the Civil Aeronautics Board on the Investigation of an accident involving aircraft of United States registry NC 18603, in the Tagus River, Lisbon, Portugal, on February 22, 1943., File No. 2143-43 **http://dmairfield.com/people/sullivan_rod/1943AccidentReport.pdf**

[11] Klaäs, op.cit., p. 255.