Virginia Aviation History Project



The Jamestown Exposition

by Linda Burdette, Feature Article Editor

At the beginning of the 20th Century, the United States was doing very well. A period of progress was in full swing and in the midst of this, many cities hosted "World's Fairs" or Expositions to showcase their accomplishments and to celebrate their status in the national and international communities. In 1907, Virginia chose to celebrate its past while looking optimistically to its future. Held at Sewell's Point in Hampton Roads, Virginia, the Jamestown Exposition of 1907 was a celebration of the 300th anniversary of the founding of Jamestown, the first permanent English settlement in the United States. One of the early decisions was that the actual location of the Jamestown Settlement would not be adequate for the Exposition. It was an isolated area with no infrastructure for the types of crowds expected for a major exhibition; besides, experts opined that the actual site of the Jamestown fort had succumbed to the James River. The city of Norfolk began an intensive campaign to host the event and citizens were enthusiastic when 340 acres at Sewell's Point was selected. But this location was also fairly remote, requiring the construction of roads and the extension of streetcar lines to the site before any buildings or other infrastructure could be erected. The area required a lot of work in clearing the land, constructing access roads, and building structures for the exhibits. However planners ran into problems almost immediately when unusually bad weather during the winter and early spring of

1907 hampered progress and the U.S. Government was late with financial assistance.

In 1906, during the planning phase, the Jamestown Exposition Company supported the appointment of an Aeronautical Committee, which included government officials, representatives from the Aero Club of America, noted scientists and prominent sportsmen. Officially called the Jamestown Aeronautical Congress, it was headed by Willis L. Moore, Chief of the U.S. Weather Bureau. They formed a partnership with the Aero Club of America (predecessor of the National Aeronautic Association) and during the Exposition, the ACA sponsored the Lahm cup for the longest continuous flight in the U.S., exceeding the record of 648 km (402.64 miles). In all, twenty-five races were planned during the exposition and there were competitions for balloons, flying machines, kites, and "allied devices."

The Secretary of the Congress was Albert Francis Zahm, a well-known aerodynamicist. He was one of the few with experience in such expositions, having organized the first International Aeronautical Congress in 1883 in conjunction with the Chicago World's Fair. The first professor of mechanical engineering at the University of Notre Dame, he had built one of the first wind-tunnels while pursuing his Master's Degree at Cornell and was known at Notre Dame for launching manned glider flights from atop the university buildings.



The Jamestown Aeronautical Congress convinced the Jamestown Exposition Company to fund a special building for the aeronautical displays and to use as a sort of construction and hangar facility,

the first building in the U.S. devoted solely to aeronautical pursuits and displays. The finished building had 8,000 square feet of space and its displays included the Langley models on loan from the Government and a German war balloon. It also included forum rooms in which Israel Ludlow



The Aeronautics Building at the Jamestown Exposition of 1907 was the first building in the United States dedicated to the construction, display, and preservation of aeronautical objects. Photo from the American Magazine of Aeronautics, July 1907.

and other aviators gave presentations on basic aeronautics to the public and specialized instruction to aviation aficionados. The Jamestown Exposition also agreed to create an outside Aeronautical Concourse and to transport exhibits and displays free of charge to and from the exposition grounds. In return, the Aeronautical Congress would sponsor the exhibits and develop demonstrations and displays which would demonstrate the state of aeronautical research and development in the world. The program included balloon races, airship competitions, aircraft and kite contests, and flights of homing pigeons.

Opening day was April 26, the 300th anniversary of the date that the Jamestown settlers first stepped onto the site they named Cape Henry. But April 26, 1907, was not so fortunate for the Jamestown Exposition Company. The Exposition was woefully unprepared for visitors. Of the 38 principal buildings planned, only 14 had been completed and much of the area was still a muddy construction site. Scheduled to

run through November 30, 1907, the Exposition continued to grow and although it was constantly plagued by building delays, low attendance, and financial difficulties, some display areas became quite

spectacular.

Unfortunately on opening day, the Aeronautical Building was one of the numerous unfinished buildings. Additionally the aeronautical demonstrations depended on delivery of gas from a three-inch main running from the City of Norfolk to the Exposition grounds, a distance of seven and a half miles. Neither the building nor the gas line was operational until June which had a severe impact on the schedule of aeronautical demonstrations.

The Aeronautical Building was finally dedicated on June 8 at a ceremony presided over by Robert H. Sexton, Chief of the

Department of Congress and Special Events for the Jamestown Exposition; Augustus Post, Chairman of the Executive Committee of the Jamestown Aeronautical Congress; Harry St. George Tucker, President of the Jamestown Exposition; Admiral C.M. Chester of the U.S. Navy; and Israel Ludlow, director of the aeronautical exhibits for the Aeronautical Congress. Admiral Chester specifically advocated the airplane as an engine of warfare and said that he was certain the Jamestown Exposition and the presence of many inventors and their models and ideas would benefit the aeronautical community for years to come.

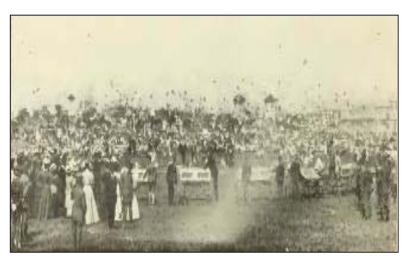
However, even though the displays and demonstrations were not ready at the April opening, the crowds were enthusiastically awaiting aviation events. Luckily the first aeronautical event didn't require gas. On May 9th, a clear day with a gentle southwest wind, 506 homing pigeons were released for a race to Washington, DC. Although some of the birds were not racers, all the birds circled the grandstand before



heading north toward Washington. Unfortunately since these birds included "amateurs", there were a few glitches. As they circled the grandstand, some of the birds were flying so low that they flew under the roof and became disoriented. A few others were confused by the flight over the waters of the Chesapeake Bay and turned back. But the majority of the birds immediately set a direct course for their home base in Washington, D.C. At the conclusion of the race, the birds had traveled at a speed of almost forty-five miles per hour.

Ten days later, a second race for thoroughbred racing pigeons was a replica of the first, even down to the excellent weather. This time however, there were twenty-three hundred birds from New York

and Philadelphia. When the race began, the handlers threw open the lids of the crates holding the pigeons and the officials noted that it took barely four seconds until the last bird departed the crates. The cameramen chronicling the event employed cameras normally used at



The most advanced cameras in existence at that time could not get a still shot of the homing pigeons' wings as they burst from their crates and flew away to their bases. At the end of the race, the fastest pigeons had flown from Hampton Roads to New York in about 5 hours.

horse races to record photo finishes. Even though these cameras could take still pictures of the legs of galloping race horses, the birds' departure was so swift that the pictures only showed a blur of the moving wings of the birds. This set of pigeons did not circle the grandstand; they shot away toward their home bases and were gone before the spectators realized that the show was over. Traveling at a rate of over 59 miles per hour, the winning birds arrived in New York less than five hours after the start of the race.

The inclusion of the pigeons may have been intended to ensure some aeronautical displays before the Aeronautical Building and the gas lines were complete, but it might have arisen from Israel Ludlow's interest in pigeons. While researching aerodynamics and designing his airplanes, Ludlow had spent numerous hours studying pigeons. He noted every stage of the pigeon's life, paying particular attention to the position of their wings when soaring. He eventually altered the wings of his biplane after this study to better emulate the pigeon's wings. So it is no surprise that as the director of the aeronautical displays and demonstrations, he chose to include pigeons as the initial aeronautical display.

Balloons and dirigibles were a major attraction at

the Exposition. Charles J. Stroebel, a well-known manager and owner of dirigibles, entered a contract with the Jamestown **Exposition Company** to provide regular dirigible exhibition flights with a requirement that each flight be at least 20 minutes. The Stroebel dirigibles were piloted by Lincoln Beachy, a professional aeronaut, who, with his brother Hillary, had been hired by Stroebel in 1906 to build and exhibit semi-rigid dirigibles. The dirigible

Beachy flew at the exposition had a rigid framework topped by a flexible balloon and could achieve speeds up to 15 miles per hour. In late May, the Exposition staged a number of aeronautic demonstrations. Beachey conducted a series of very successful flights in a dirigible balloon, including some difficult maneuvers around building turrets and trees. Beachey was so adept with the dirigible that he was able to turn it within its own length, handily flew over the Aeronautical Concourse, and landed on the Parade Ground. The ships in the harbor could clearly see the



dirigible balloon after it cleared the trees and when it was noticed, the sailors would crowd the decks to watch the flight. a different story. A westerly wind had sprung up and was increasing, bringing heavy clouds and rain.

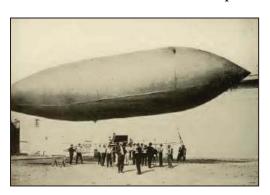
Charles Stroebel also operated what is known as a "captive balloon concession", using a hydrogen generating plant to fill the balloons. For \$1 a ride, a quarter of which was paid to the exposition, one could ride in one of two tethered balloons to a height of 700 to 1,000 feet. On clear days, riders could see Cape Henry, Cape Charles, Virginia Beach, Fort Monroe, and as far as the church



Lincoln Beachy was already well-known as a dirigible pilot when he conducted numerous demonstrations over the Jamestown Exposition. He amazed the crowds with the agility and maneuverability of the aircraft.

spires of Norfolk, Portsmouth, and Newport News. Later in the year, if the riders were lucky enough to be aloft when airships were flying, Beachy and the other pilots would sometimes navigate skillfully around the balloons. The maneuverability of the airships caused the military observers to seriously consider whether they could be used as a new military capability and serious discussions ensued on the possibility of an airplane or other "heavier-than-air" machine being the airship of the future.

In June, Eugene Godet, a French dirigible pilot, arrived with the latest French airship. On June 7th, they hoped to fly the airship but first had to repair a broken shaft. Toward afternoon, the airship was moved out-



Eugene Godet brought the latest Frenchdesigned dirigible to Jamestown and thousands came out to see the maiden voyage of this aircraft, but a decision to fly in inclement weather brought the ship down.

side and the engine tested. The morning had been beautiful with no wind to complicate a flight, but the afternoon was

Promised the spectacle of seeing the first flight of the new French airship, a crowd of several thousand was waiting and Godet was unwilling to disappoint them. So, against the advice of his assistants, he prepared to fly the airship. The wind was blowing at 10-12 mph when Godet instructed his assistants to release the airship. He rose slowly, turning the nose of the airship into the wind, until he reached a height of 100 feet. Then he reached the top of the protecting building and the wind caught him in earnest. The airship was pushed backward past the Aeronautical Concourse and over the grounds of the Exposition. He tried to maintain the airship's nose into the wind, but drifted sideways. When he approached a tall windmill near the water front, he had no choice but to turn the airship and expose the side to the force of the wind, now blowing even harder. The wind caught the airship and pushed it into the branches of two tall pine trees, breaking the propeller in two and wrecking the rudder. Now uncontrollably drifting, he pulled the safety valve and dropped toward the water. He hit the water about 500 feet from shore, sank a few inches, and managed to get airborne to about 800 feet before hitting the water a second time. He hop-scotched across the water for about five miles toward Old Point Comfort and Fort Monroe, finally getting close to the battleships and navy launches anchored in Hampton Roads. The seamen in a Navy launch from the Battleship "Minnesota" managed



to grab the drag-rope, but the wind and the force of the airship were so strong that the airship dragged the launch until the airship struck the battleship "Alabama". By this time the airship was surrounded by six launches and was hauled onto the Alabama's deck where the gas envelope was deflated. The airship was returned to the Exposition, but was so wrecked that efforts to repair or replace it were abandoned.

The U.S. Army Signal Corps was becoming very seriously interested in balloons and dirigibles and had sent Leo Stevens of New York for training in launching and handling balloons. Stevens was generally considered one of the most technically competent in the country in the technical aspects of balloon maintenance and operation. In July 1907 Corporal Ward and First Class Private Joseph E. Barrett were detailed to the New York Balloon Factory owned by Stevens. After schooling in the basic tasks of fabric handling, stitching, the manufacture and uses of gasses and in balloon handling and use, they were detailed to Norfolk to assist with the Jamestown Exposition. They supported J.G. "Bud" Maas on his balloon demonstrations and Ludlow on his attempts to fly his gliders and kites.

Barrett was unusual in that as a Private First Class, he was 29 years old and had already served eight years in the Navy prior to joining the Army. While at Norfolk, he apparently decided that the sea was better than the air, because he left the Army and his service records list him as a deserter. However, his Navy records show that he retired from the Navy after 20 years of honorable service. This left Corporal Ward as the only Army enlisted member assigned to duty as a balloonist or in aviation and has earned him the moniker as "the first enlisted airman." During the Exposition, Ward's team grew to include eight other enlisted men and after the Exposition was completed, they returned to Fort Myer, VA, where they launched and tested balloons.

The Jamestown Exposition Aeronautic Display was deficient in one major area – the Wright Brothers did not attend nor participate in any way. But Israel Ludlow attempted to fill the gap with an incredibly

interesting glider-type aircraft of his own design. Any discussion of aviation at this exposition requires some explanation about Israel Ludlow, the Superintendent of Aeronautics for the Exposition. Ludlow was an attorney from New York City who had never formally studied aerodynamics or engineering. However he was interested in aeronautics as a young man and apparently studied it extensively. He had a yard in New York where he experimented with aircraft and built a number of "flying machines." He described one of them in a newspaper interview. "The framework is of light bamboo, 1 1/4 inches in diameter, and the wings are covered with light canvas, treated with a preparation of linseed oil. The joints are bolted with three 16-inch bolts and bound with light yacht marlin. There are two groups of superimposed aeroplanes placed in pairs in tandem fashion." By 1904, with the advent of the automobile, he had the idea of towing his gliders behind cars and had some success with that. Unfortunately on April 14, 1906, he attempted to fly one of his aircraft in Atlantic Beach, Florida, but as he ascended, he lost control and wrecked. He survived but was seriously injured and confined to a wheelchair for the rest of his life. That would explain why he did not actively pilot any of the aviation demonstrations at the 1907 exposition, but it is very remarkable that in that era, he was able to be so active and engaged in his favorite interest.

For the exposition, he designed an "aeromarine craft" intended to launch by being pulled behind a boat. The unique aircraft with its plethora of kitelike wings was 40 feet by 25 feet in size and twice as large as any of Ludlow's previous aircraft. It was constructed at the Jamestown Aeronautical Building by ten soldiers loaned to Ludlow by the U.S. Government. Ludlow's plan was that he would test the aircraft as a glider, but after successful testing, he planned to install two gas engines and compete in the Scientific American contest on September 14. Following that, he planned for Captain T.T. Lovelace to attempt a long flight from the Exposition to Washington DC. Unfortunately the craft never completely took off.



On August 18, Ludlow's huge glider was assembled and on display at the aeronautics concourse at the Exposition. The plan was for a Navy tug to draw the glider until it had ascended to an acceptable height and able to maintain equilibrium on its own. After that successful test, Ludlow planned to install the



Israel Ludlow oversaw the aeronautical exhibits at the Jamestown Exposition, even though he had been severely injured a year before and was in a wheelchair. He designed the kite-like aircraft that was tested repeatedly during the Exposition, but was never able to install the gas engines to convert it from glider to powered airplane.

gasoline engines and fly it without assistance from the Navy boats. And so on August 19, Ludlow made an attempt to fly his aircraft but was delayed because the aircraft was not quite ready nor was the Navy tug detailed to assist with the launch available. It is somewhat disappointing that the colorful pilot tapped for the August 19 flight was not given the opportunity to fly that day, because he was none other than Captain J.T. Lovelace, an expert pilot and somewhat of a mystery person. Lovelace was 34 in 1907 and already known as an accomplished balloonist, having allegedly attained his rank through service in the U.S. Navy. Yet in news reports of the day, he is described as the "former commander-inchief of the Panamanian Navy".

At any rate, on August 21, Ludlow was ready for his first attempt, but weather conditions were strongly unfavorable for a successful launch. The glider was to be pulled by a tugboat, the Potomac, which had

a top speed of twelve knots, but the tide was against the tug and although wind direction was favorable, it was not blowing more than four miles an hour and the tug could not manage more than eight knots. The team made three attempts to launch the aircraft, but in each case, the same thing happened. When

it began to gain speed, the glider slued without following in the wake of the tug and the tug had to be stopped immediately to avoid damage to the reed frame of the glider. On the third attempt, the glider was waterlogged and partially wrecked.

Ludlow vowed to repair the boat and on September 9 made another attempt to fly it. This time his dreams crashed with his aircraft. During a test of the glider, the boat not only failed to fly, it dumped five men into the water. The aircraft was so large that it was resting on two twenty-seven foot naval cutters. To launch it, the U.S. torpedo boat Gwynn towed it out on the cutters and ten soldiers from the Army Signal Corps assisted with the towing and launching duties. J.G. Maas was piloting the aircraft while four soldiers

sat in the cutters. The team carried two flags, one red and one blue. They were to wave the red flag if the aircraft was in trouble and the blue if the launch was



Israel Ludlow's aircraft was intended to be launched from the water while riding atop pontoons or ships. In the background is one of the battleships of the Great White Fleet anchored at Hampton Roads during the Exposition. This fleet, consisting of sixteen new battleships of the Atlantic Fleet was a huge draw for the exposition and following it, President Theodore Roosevelt ordered them on their historic fourteen-month tour of the world.



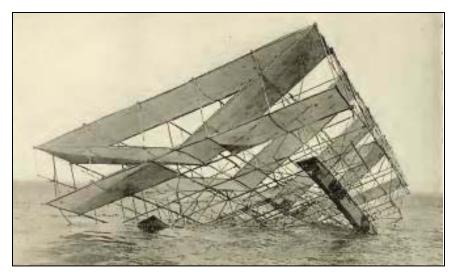
progressing properly. The crew quickly discovered that if the torpedo boat towed the aircraft at around

15 mph, the aircraft swamped. So the Navy towed the aircraft to a position where they could tow it into the wind to gain lift, with the thought that the added lift would allow the torpedo boat to achieve its full speed of 22 mph. But just when it appeared that the torpedo boat might be going fast enough to create sufficient air pressure against the kite-like wings, one side of the wing rose several feet but the other got hooked into the cutter. The cutter swamped and eventually, even though the crew was valiantly waving the blue flag, the aircraft began to sink. The blue flag could still be seen waving as the aircraft dipped below the water's surface. Maas and all four Signal Corps soldiers were thrown into the water.

S.K. Rosenberger was caught under the aircraft and observers were certain he had drowned. However he fought his way up and he and the others were handily rescued by the Navy vessels in the area. The Gwynn towed the aircraft back to the wharf, but no sooner had it been moored there than a storm struck and destroyed the aircraft. Ludlow announced that he planned to repair the aircraft and would make another attempt to fly it with the assistance of a torpedo boat. He further reported that the kite was so effective that an earlier attempt to launch it by being pulled with an automobile resulted in the car being lifted from the ground.

This accident occurred just five days before the Scientific American's heavier-than-air contest on September 14. Promising a thousand-dollar cup, expected contestants in addition to Ludlow were Bell, Hewitt, Herring, Whitehead, Gillespie, Holland, and Dufour. Unfortunately as an Aeronautics Day, September 14 was not a red-letter day. There were international contests scheduled to occur in St Louis in October; many of the possible exhibi-

tors or competitors were busy preparing for those competitions and simply didn't have time to attend



Ludlow's aircraft never passed the glider stage and the planned Scientific American competition for heavier-than-air aircraft fizzled since the potential competitors kept damaging their aircraft. While this photo does not note which accident this was, it is very possibly the last accident in which the pilot and four soldiers were thrown into the water.

the Exposition. With Ludlow out of the running, and a number of aeronautic no-shows, the October edition of the American Magazine of Aeronautics reported that the trials were not conducted but were postponed to a later undetermined date.

Even with their difficulties so far, Ludlow and J.G. Maas' crew of Army Signal Corps members were a stubborn bunch and next tried a different tact. They built a new airplane and decided to forgo the water launch. On November 1, they placed the aircraft on a gun carriage towed by six artillery horses via 200 feet of rope. On the first launch attempt, the rope broke. On the second and third attempts, the aircraft rose about 100 feet into the air, but the last attempt was the airplane's last flight as it swerved suddenly, crashed into the ground, and was destroyed. The aircraft was a complete wreck, with hundreds of broken wires and reeds. This accident was inexplicably attributed to a faulty attachment to the bridle of one of the horses.

Undeterred as ever, Ludlow was adamant that he



would continue with his original design, arguing that despite the set-backs, the practicability of his unique design had been demonstrated. After the Jamestown Exposition, Ludlow laid low for a few months, but the following spring, he was designing and inventing new aircrafts and he later partnered with Charles J. Stroebel to form the American Airship and Balloon Corporation in hopes of entering contracts with the government for lighter-than-air aircraft.

One major event of the Exposition ended up in New York, not at the Exposition grounds. All through the summer, the Jamestown International Aeronautical Congress heavily advertised for papers and treatises for a symposium to be held October 28-30, 1907, in the Hall of Congresses at the Jamestown Exposition. Papers were solicited from around the world, with an emphasis on papers stating results of actual experiments or presenting rigorous mathematical proof "because facts and positive knowledge are deemed more instructive than projects or vague theories." Although much of the history has been lost to time, on October 28, the New York Times reported that the International Aeronautic Congress, which was to be held at the Jamestown Exposition, was at the last moment relocated to New York. The official reason was that New York was a better location because of the presence there of "distinguished foreign aeronauts" and because of the Aero Club Show at the Grand Central Palace. This Aeronautic Congress, the third held in the United States, featured such speakers as Professor Willis L. Moore, Chief of the United States Weather Bureau and the President of the International Aeronautic Congress; Admiral C.M. Chester of the United States Navy; and General James Allen, Chief Signal Officer. One notable absence was the Wright Brothers who were acknowledged as being far ahead of all others in aeronautic achievements, but had not yet published nor made public most of their work, much to the chagrin of the aeronautic community.

The Jamestown Exposition is considered, in some circles, to be one of the least successful expositions of this era. Beset with problems before opening, less than half completed at opening, and with some

displays which never were ready for viewing, the Exposition understandably suffered and the verified attendance was approximately half that anticipated. Two months after the closing, the Jamestown Exposition Company declared bankruptcy and the site fell into ruin for years until the start of World War I when it was incorporated into a new Naval base, now Norfolk Naval Base. But it did accomplish many of its purposes. And one of those was certainly to highlight the new area of aviation. Despite the running tally of wrecked gliders, the aviation demonstrations, as much as anything else happening during this time, promoted the notion of aviation as a military power, a fact we now know was crucial to the future development of aviation.

Sources:

Monthly Weather Review, U.S. Army Signal Corps Weather Bureau, December 1907

The Aeronautical Journal, The Royal Aeronautical Society, Vol. 8-12, July 1907

The Aero Congress Meets Here Today, The New York Times, October 28, 1907

The Flying Machines, Ludlow Multiplane, http://flyingmachines.ru

HTTP://www.theaerodrome.com/forum/pioneer-aviation/43287-breguets-pre-1914-challenge-119-1-3.html

And Now the Exposition at Jamestown, New York Times, April 20, 1907

The Pensacola Journal, Pensacola, FL September 6, 1907

The Alexandria Gazette, September 10, 1907

The Washington Herald, September 10, 1907

The Washington Times, September 11, 1907

Palestine Daily Herald, Palestine, Texas, September 14, 1907

Salt Lake Herald, October 23, 1907



Richmond Times Dispatch, Richmond, VA, August 19, 1907; August 20, 1907; August 22, 1907; November 1, 1907

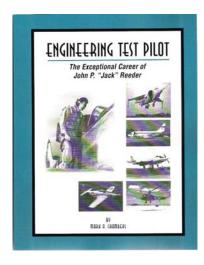
Hicks, George E., The First Enlisted Airman, Sergeants. June/July 1989

Ludlow, Israel, Aeronautics at the Jamestown Exposition, American Magazine of Aeronautics, July 1907

Yarsinski, Amy Waters, Jamestown Exposition – American Imperialism on Parade, Volume II, 1999

Israel Ludlow Injured in Fall of Airplane, New York Times, April 15, 1906

American Magazine of Aeronautics, July, August, and October 1907



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by Mark Chambers

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MIG ALLEY

By: Dale "Chris" Christensen

For: The Williamsburg Eagles Chapter of the Virginia Aeronautical Historical Society

Let me start by saying that I <u>am</u> a Korean Vet, but I was <u>not</u> there when MIG Alley was a concern. On June 25th 1950, the North Koreans invaded South Korea. Ten days later, I had completed all the testing and had been accepted into the Aviation Cadet flying training program. I was told to go home and wait. So many people had applied for cadets, that there was a huge backlog waiting for class assignments. After several more delays, I was commissioned and earned my pilot wings and I arrived at K-2, in Taegu, Korea, but the shooting war had already ended. However, I <u>would</u> like to tell you about three fighter pilots that I knew who were there.

Initially the battle lines swung back and forth for the entire length of the peninsula. For a time it looked like the invaders were going to win. They moved quickly all the way to the "Pusan Perimeter" with UN forces backed to the sea holding only the lower southeast corner of Korea. Then MacArthur counterattacked with a massive amphibious landing at Inchon and our forces recaptured South Korea and rapidly moved north.

In August 1950, two months after the invasion, a Soviet air division of 122 MIG-15 jet fighters arrived in China and set up their headquarters at Antung on the Yalu River, the border between Chinese Manchuria and North Korea. Two months later, an RB-29 reported 75 jets on the ramp at Antung. On November 1st, a flight of F-51 Mustangs was attacked by six MIGs with Chinese markings on the Korean side of the Yalu. Well, that didn't cause much alarm because US intelligence thought there were only a few MIGs and they were flown by Chinese and Korean pilots. That turned out to be very wrong on both counts.