State Archives of North Carolina Tiny Broadwick Pioneer of Aviation

Lesson Guide





This is a picture of the balloon from which Tiny made most of her jumps.

Fun facts about the "Broadwick" balloons

 \sim No altimeter was used so she had to listen for the sound of a blank being shot out of a gun for the signal to jump.

 \sim The balloon usually rose two thousand feet or higher.

 \sim The heat used to inflate the balloon was coal oil which gave the ever-present possibility of it catching on fire.

The winds were unpredictable and steering the parachute almost impossible.

The balloon was made out of eleven hundred yards of sheeting like unbleached muslin.

The balloon stood ninety-two feet high and fifty-six feet through the middle.

 \sim Tiny would hang on a trapeze suspended from the balloon.

When the air in the balloon cooled, it was at maximum height.

The aeronaut had to jump before the balloon cooled too much since it would start to fall.

There was no gauge to tell when the balloon was ready to rise; the aeronaut had to use his/her intuition.

Sefore Charles Broadwick invented a automatic ground support, at least 15 to 20 men would have to hold the balloon down before they released it and it rose.

Make a list of things you notice about the balloon pictured here that is different from balloons used today?

While you are looking at these images of Tiny think about the type of clothing she is wearing.



1 Photograph of Tiny Broadwick in outfit worn as "Doll girl."



#2 Tiny Broadwick wearing one of her outfits she wore for airplane jumps.



#3 Tiny Broadwick and Glenn Martin dropping coupons over Los Angeles.



#4 Tiny Broadwick, Mayor George E. Cryer and Clyde Pangborn, before her last jump.

More photographs are available at North Carolina Digital Collections, keyword Tiny Broadwick.

Take a look at image #1. Why do you think Tiny Broadwick disliked the outfit she had to wear when she was billed as "the Doll Girl?"

In what ways might this outfit affected her jump?

In image #2 we see Tiny and Glenn Martin in the airplane. Why do you think they are wearing the protective and warm clothing that they are? What kind of conditions did one face in early aviation? Remember the cockpit was open.

In image #3 number three compare and contrast Tiny Broadwick's outfit with that of the lady next to her.

Image #4 shows Tiny in pants. This photograph was taken on Tiny Broadwick's last jump in 1922. Why do you think this was the first time we saw Tiny wearing pants?

Jumping both from balloons and airplanes have risks associated with them. The following article highlight some of those risks. After reading the article discuss the dangers that Tiny faced.



More newspaper clippings are located at North Carolina Digital Collections, keyword Tiny Broadwick, clippings.

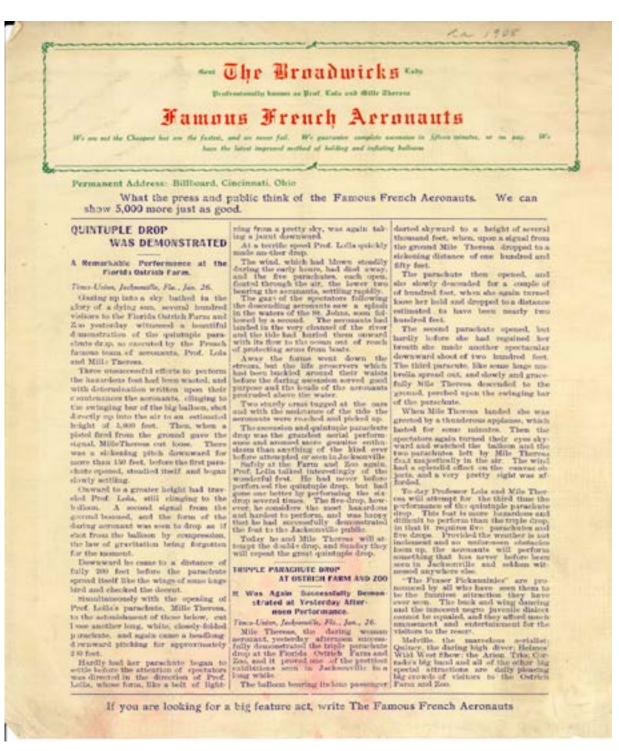
What kind of dangers were there in jumping from both balloons and airplanes?

What kinds of discrimination did Tiny Broadwick face?

What kind of reaction do you think people from her home town might have had to a young girl joining a traveling carnival?

Think about when Tiny Broadwick was living and the reaction people might have had to the knid of work she did.

Take a look at the advertising Charles Broadwick used to promote their aeronautic tricks. These letters and broadsides were typical in the early part of the 20th century.



More advertisements are located at North Carolina Digital Collections, keyword Tiny Broadwick, advertising. Why do you think Charles Broadwick used letters to advertise his act?

What advertising techniques did he employ in the letter?



This image is one of the first airplane jumps that Tiny completed. Take note of the apparatus upon which she is sitting. She suspended from a trap seat just behind the wing outside the cockpit. A funnel type apparatus was placed in front of her to prevent the backwash from the plane's propeller from taking her breath away. The parachute was folded on the shelf above her. When the airplane reached the desired al-titude of two thousand feet, Tiny released a lever which would allow the seat to drop out from under her. As she fell, the parachute came off the shelf and opened allowing her to reach the ground safely. Later a parachute was designed to go into a backpack coat with cords that could be pulled manually be the sky-diver.

Describe what you think Tiny may have felt like when she was 2000 feet in the air sitting on this strap seat.



The early backpack parachute that Tiny used what was called a static line. This meant that the weight of her body when she jumped would pull a line/rope attached to the airplane taut, and automatically release the parachute. In 1914 Tiny demonstrated this parachute designed by Charles Broadwick to the United States. She made four jumps that day, three of which were complete successes. On the fourth jump the static line became tangled in the tail assembly and she was thrown against the side of the plane. She kept a level head as her body was being whipped against the side of the plane and cut all but a small portion of the line. She then pulled the line herself freeing the parachute. This would be later called a ripcord. Keeping a level head and improvising made Tiny the first person to complete a planned free dive.

Describe some ways, other than the ripcord, in which parachutes have changed since Tiny used to jump.



Around Christmas 1914 Glenn Martin and Tiny Broadwick were hired by city merchants and two newspaper companies to drop coupons for various gifts over the city of Los Angeles. The coupons were the merchants' and newspapers' way of thanking the people for their support and were for significant items, such as pairs of shoes and payments on a piece of property.

Glenn Martin made very careful calculations before his trip. The calculations showed that the envelopes would descend at a rate of six and a half feet per second and that the larger souvenir newspapers would fall five feet in the same amount of time. This meant that he would have to fly at a height of six thousand feet and that the gifts would have to be released from the plane at a point of two miles from where he wanted them to land.

When they landed, a reporter remarked to Tiny, "You look cold." Her answer, "I was cold for a while but I got warmed up. I have made many flights with Mr. Martin but never one that was more beautiful or gratifying than today's. Los Angeles looked like a dream city to us, way up there in the clouds!"

Would this be an acceptable form of advertising today?

Why or why not?

Tiny Broadwick was a pioneer in the world of aviation. Using the short biography in this lesson guide and the newspaper articles attached here, discuss her importance to the world of aviation.



More newspaper articles are located at North Carolina Digital Collections, keyword Tiny Broadwick.

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After 1100 jumps Tiny's ankles started to bother her. This pictures was taken right before her last jump in 1922. She is pictured her with the Mayor of Los Angeles George E. Cryer and Clyde Pangborn. Clyde Pangborn was a well-known aviator who performed aerial stunts during the 1920s. He and his co-pilot were the first to fly non-stop across the Pacific Ocean.

Why do think Tiny's ankles started to bother her?

Ho do you think she felt on this day?

Why do you think Mayor George E. Cryer was present for this event?



During World War II, Tiny worked at Rohr Aircraft Company making aircraft parts. She also was asked to talk with some of the paratroopers about her experiences.

How do you think it made Tiny feel to be asked to tell the young paratroopers about her experiences skydiving?

What do you think that the paratroopers during WWII thought of Tiny?



When Tiny talked to the paratroopers she would always bring one of her old chutes with her. They would always be surprised and say they would never jump with anything like that. Her response was "...it must have been OK I am still here!" On one of her trips to talk with the 82nd Airborne at Fort Bragg, North Carolina she was asked if she ever had a spare chute, when she was flying. Her response, "Yes, at home in the garage in case I tore the one I was wearing."

Tiny's parachute was six pounds and made of silk stitched together with cotton thread and hand folded into the pack she wore on her back.

How is Tiny's parachute different from the parachutes of today?



Tiny Broadwick Honored at Ft. Bragg, 1964

Questions to consider while reviewing the video.

Why did the makers of this film choose the music that they did?

Why are the soldiers of the 82nd Airborne having such a ceremony?

What do you think Ms. Broadwick is feeling as she watches the men from the 82nd Airborne go up in preparation of their parachute jumps?

Think about the images you have seen of Tiny Broadwick; compare and contrast what the men of the 82nd Airborne wore in this video to what Tiny Broadwick wore when she made her parachute jumps.



This interview of Tiny Broadwick was conducted by WRAL news reporter, Ben Runkie in 1963.

What do you think Tiny Broadwick felt in her later years about her unusual career?

Discuss the importance of archives and museums and what they preserve.

What does a history museum preserve and why?

What does an archives preserve?

Why is it important that these agencies preserve and maintain these items?



Images of the jumpsuit, coat pack, and parachute donated by Tiny Broadwick to the Museum of History in 1963. The items are currently on display at the Museum of History in Raleigh North Carolina. Documents and photographs are part of the holding of the State Archives of North Carolina and are available to the public for research.

The News and Observer

Monday, November 25, 1974

Roleigh, N.C.

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Parachutist Feels Jumpy



Parachutist, 81, Feeling Jumpy

Out in Long Beach, Calif., where she lives coerclocking the ocean. Tiny has become a folk hero to hundreds of sports chististis

In 1813, with Glenn L. Martin piloting the biplane, Tiny re-Insuch twent Greine La control prototing the angulate, 1109 re-leased hereoff from as trap seal in the front of the cockput about 2.000 feet over Los Angules to make her first airplane jump. Later she paracheted into the cold waters of Lake Michigan and. in 1004, made the first official demonstration of beir foster father's "Castpack" parachete invention to Army officials. Encoded to the search of the cold water of the search of

Sure, she'd been afraid at first -- "for about half a minute." Twenty-two-year-old Bonnis Young of Henderson coefficient to

Tiey after her first jurig last Sunday that she was, too. "She tald me she coulds't see too well over that spare chute they wear in front these days," Tiny said her great-grant-daughter told her after wards.

Did Tiny have a reserve chate? Of course, she said. There was always an estra use back is the angur in case the one she was wearing got well or moddy between sets.

By RICK NICHOLS

Yard after yard after yard, Tiny Broadwick pulled the pure Japarous silk into the pack, correlaily colled the strands of being on top and now, without waiting for help, was slanting a shoulder through the straps.

"T tool this arcound hore," she said, her B1-year-old frame woholing a bit from the weight of the parachate she hadn't worm for half a century. "he ray dreams wouldn't go astrony." More than 1,000 times, with leather beinnede barratormiers plicting the hiphanes, Tray Broadwick ("The Dell Girt") leaged the high of the del footed that a character second

into windy akes and floated into cheering carnival crowds. "Before the war came along, then the depression."

She was the first woman to parachule from an aeroplane (in 1913). She became, on the posters of the day, as "ACT WITHOUT PARALLEL."

The bright lights were still is her eyes Pridey at a looch in the N. C. Museum of History where her historic chule has been resting uncomfortably, improperly packed, on the shelf for

"I know I could do it again." Titry was been Georgia Thompson in Henderson in 1893 and worked 12-beer days in the coltan mills there until she was 13, when the became an acrossed dropping from hot air halloons at

Carrivale and fairs. "One time the fulloon busied when I was about 100 feet up and I builteed over a wire lence. I got more Coca-Colas offered to me that day."

Old Church

The live-foot-fail First Lody of Parachuting has been visiting ber daughter in Hondorson and was invited to Raisigh, because, said Museum Adminitrator John Kilington, "she wanted to see her old 'chute, and, well, the's one of our favorite people."

See PARACHUTIST, Page 29



Tiny packing her old chute last week

News & Observer newspaper clipping detailing a visit by Tiny Broadwick to Raleigh, North Carolina, November 6, 1974.



Later in life Tiny Broadwick was awarded many honors

 \sim 1953 United States Government Pioneers of Aviation Award

 \sim OX5 Club Member (members in this club had to have been involved in the manufacture, operation or maintenance of the OX5 powered airplanes prior to 1941

∽ 1964 John Glenn Medal

∼ 1976 OX5 Hall of Fame

∼ 1972 Gold Wings, from the Adventures Club

C Early Birds of Aviation, also the only woman out of eighty men

∼ Listing in Who's Who in the World of Aviation

Construction of World Records for first person to perform a "premeditated free-fall" and first women to parachute from a airplane into water

 \sim 1970 invited to watch the Apollo 13 launch

🔊 January 20, 1961 Henderson, North Carolina, Mayor Carroll Singleton, declared Tiny Broadwick Day

∼ 1964 Governor Terry Sanford proclaimed Tiny Broadwick Day in the state of North Carolina.

 \sim 1982 her memory was honored in Raleigh, North Carolina in observance of "Women's Week" in the unveiling of a display of her memorabilia she had donated to the Museum of History.

Sources

Roberson, Elizbeth Whitley. *Tiny Broadwick: The First Lady of Parachuting*. Gretna, LA: Pelican Publishing Company, 2001.

P.C.1567.1 Tiny Broadwick Papers. North Carolina State Archives.

V. T. 126 Interview with Tiny Broadwick. State Archives of North Carolina.

V. T. 85 Tiny Broadwick at Fort Brag. State Archives of North Carolina.

North Carolina Museum of History collection.

www.airspacemag.com

www.earlyaviators.com

www.findagrave.com

www.mdairmuseum.org

www.lockheedmartin.com

Our State Magazine, January 2004. *The State Magazine*, January 1975. *The State Magazine*, December 1, 1945.

Images contained in this lesson guide, as well as others pertaining to Tiny Broadwick are available in the Women of North Carolina 20th Century History Collection, which is part of the North Carolina Digital Collections. The physical collection is also available to the public, Tuesday through Friday 8:00 a.m. – 5:30 p.m. and Saturday 9:00 a.m. - 2:00 p.m. at 109 North Jones Street, Raleigh, N.C. in the Search Room of the State Archives of North Carolina.



