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By **James Barron**

Good morning. It's Friday. We'll get an early start on Veterans Day with a look at a new museum that is showcasing a very old flight simulator.



James Barron/The New York Times

“Before this,” Jeremiah Bosgang said, leading the way to a stubby-looking blue machine on a black pedestal, “the only way to learn to fly in adverse conditions was to fly in adverse conditions.”

That changed with devices like the blue machine, the centerpiece of a new museum on Long Island that Bosgang is overseeing.

The apparatus was an early flight simulator.

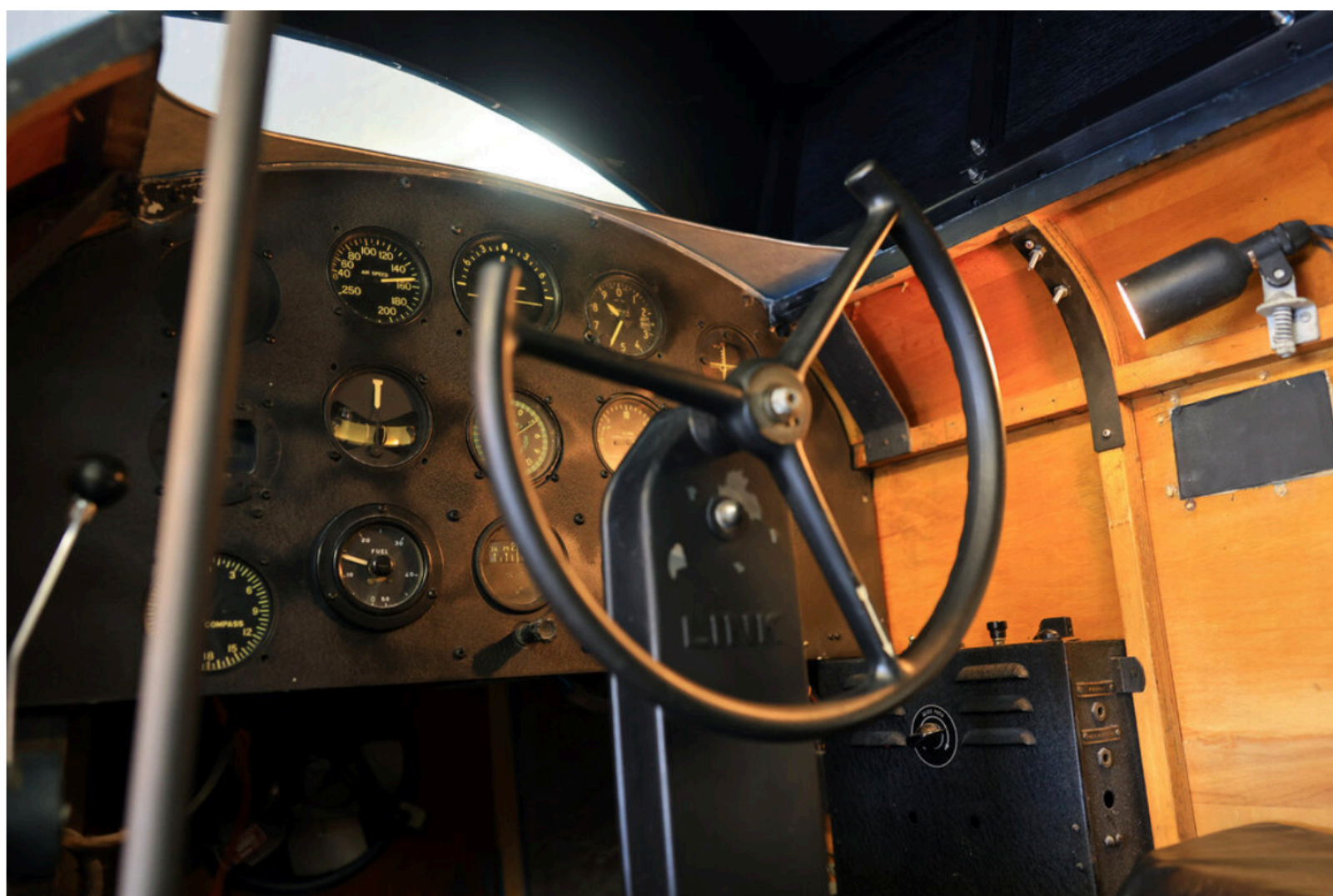
It was made of wood, like the aircraft it mimicked, and also cannibalized pipe-organ parts. In the cockpit were controls and gauges gave that a pilot-in-training the experience of flying without leaving the ground.

Bosgang said the lineage of flight simulators ran directly from that one to the \$4.89 billion military simulator market, as well as to simulators used in everything from farming to medicine.

The new museum, [the Sands Point Preserve Navy Simulation Museum](#), will open on Monday on the Sands Point Preserve, a onetime Navy research-and-development center where engineers worked on training devices from just after World War II until 1967.

The museum is housed in one of four once-opulent mansions on [the 216-acre preserve](#) — scenes from the HBO series “The Gilded Age” are filmed in one of the others. Charles Lindbergh was a guest — Bosgang said that Lindbergh wrote his memoir “We” while staying there. The Navy arrived after World War II, and with it Adm. Luis de Florez.

Henry Okraski, the author of [“The Wonderful World of Simulation,”](#) said that de Florez “gave birth to the idea of simulation,” although de Florez called it “synthetic training.” He was in charge of the Navy’s Special Devices Center and moved it to Sands Point, where as many as 800 civilians worked alongside the military staff in the 1950s and 1960s. Among them were scientists from Operation Paperclip, a postwar intelligence operation that brought scientists and engineers who had worked in Nazi Germany to this country.



The view from the cockpit. James Barron/The New York Times

But the blue-box simulator, also known as a Link trainer, had been developed earlier.

“Even before the war, they used that trainer to teach the Army Air Corps to deliver the mail” in the 1930s, Okraski said. “The people who were delivering the mail were having a lot of crashes in foul weather. You can simulate rough air in there, like if there’s a storm. It’s very basic, but at the time, it was *the* technology.”

The Link simulator began as an amusement-park ride. It was supposed to pitch and roll to give people the feeling of flight, just as a bucking bronco ride gives the sense of a rodeo. Edwin Link, who developed it, had begun as a technician in his father’s piano and pipe-organ factory, “but while his hands were busy with automatic musical instruments, his heart was in the sky,” according to a monograph by the American Society of Mechanical Engineers.

His experience with the difficulties in the days of barnstorms prompted him to look for a way to train pilots on the ground in conditions that would prepare them for cloudy or foggy weather — or turbulence.

Okraski said Link had built the first blue boxes with parts from the organ-building company. “It all works on bellows,” he said, with air rocking the little fuselage in response to the pilot’s commands.

“It’s almost like a Bobblehead,” said Paul Dooley, a maintenance worker at the museum who was touching up paint on the cover around the bellows. “It’s free-floating in every direction.”

Okraski, who worked for the Navy as a civilian at Sands Point in the 1960s, said the Link trainer was “a game-changer in World War II.” More than 10,000 were manufactured, he said, and they were used to train 500,000 pilots.

You can’t “fly” the blue box at the museum — it’s behind a velvet rope. But you can try the flight simulator across the room. Bosgang set a flight path over Manhattan. After a turn that didn’t go well, I crashed into my own apartment building. Don’t tell my neighbors.