“Cap” Cornish, Indiana Pilot

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In his patriotic desire to help “make the world safe for Democracy,” Cornish headed first to the Navy’s recruitment office in Fort Wayne. Perhaps it was paddling Indiana’s northern lakes in a canoe, occasionally slipping through clear waters with a sail attached, that had led him to visualize himself on a ship. Despite having stuffed himself with bananas, however, he failed to meet the weight requirement and was rejected. He turned next to the Army, where he envisioned himself face-to-face with the enemy on European soil. An oft-told story was that Frank Cornish had given his son this sensible advice: “Look, if you’ve got to join this war, why don’t you join the cavalry and ride a horse instead of walking?” Clarence took that advice, joining the 2nd U.S. Cavalry with three of his friends from the Fort Wayne Radio Association—but he never sat in a saddle. Nor were the four friends able to stay together, as they had been promised. “We were together for two weeks,” he recalled. When he returned to attend commencement exercises held on June 21 and to receive his diploma from Fort Wayne High School, Private Cornish was wearing a soldier’s uniform, ready for combat in the Great War.

Cornish posted a letter to his mother dated May 3, 1917, one of 125 letters that he wrote to her during his twenty-one-month stint.1 His words that day may have allayed his parents’ initial worries. In fact, he was not having the awful time they had anticipated when he went off to war. He was sleeping well, had received his summer uniform, and was finding the food better than expected. “We have had pie 3 times. Of course cookies, cake or candy [from home] will
never be refused.” Although military camp may have been reminiscent of happy times in Scout camp a few years earlier, Cornish wrote fondly about his Fort Wayne buddies, a comfort for the eighteen-year-old in new surroundings who had seldom been away from home overnight.

His first assignment was to measure recruits for their uniforms. For this, the military paid him a private’s wage of $30 a month. Fitting droves of recruits for their shirts and trousers and doing occasional guard duty may have been monotonous while at Fort Thomas, but Cornish’s recreational and social life during his eight months in Kentucky were not. He dove from a twenty-six-foot-high platform into a pool at Chester Park and swam with friends in the Ohio River, “the hardest part” being the climb down and back up the steep bank that bordered the water’s edge, which he said took at least twenty minutes. He wrote that while swimming they benefited from waves created by the Island Queen, a popular riverboat. On the Fourth of July he danced at Cincinnati’s Coney Island, and he continued dancing on the boat that ferried them from Ohio back to Kentucky. He made new friends whose families treated him to meals, including a Thanksgiving feast after which he smoked his first cigar, and then another. He became ill on the trip back to the fort.

He met girls from wealthy families who owned impressive vehicles, including a Cadillac limousine and a seven-passenger Haynes. He had a special relationship with a girl named Georgia, and he took many playful photos of her...
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with his new Kodak camera. The letters he wrote to his family were frank and revealing, motivating Ada to send him some motherly advice: “Do not do her an injustice, Clarence. Act toward any girl as you would want any young man to act toward Irma.” He answered that the girls were good and respectable and that he felt “mighty happy.” Ada also chastised him for using his modest income on weekly dates with Georgia. This too he defended, saying that the ten cents it cost to visit her and the money he spent on movies were not out of line.

By September, Cornish had learned that there was a branch of the Army in which he might be able to put his radio skills to use. He wrote to his family to let them know that he planned to apply for admittance to the Aviation Section of the U.S. Signal Corps, which was responsible for operating and equipping all of the military’s planes and other aircraft. The news stirred Ada’s deeper fears; concerned that her only son might get killed if he was accepted into an aviation field, she warned him against it. Nevertheless, the restless young man took the needed exam in the fall of 1917. “Whoops m’dear!” was his elated reaction when he learned

Soldiers at Fort Thomas were treated to a sumptuous Christmas meal that began with Oyster Soup and ended with Bon Bons. (Author’s collection)
that he had passed that first hurdle and now needed to report to the Examination Board at Wilbur Wright Field near Dayton, Ohio, for a personal interview.

Cornish’s brief stay in Dayton was a revelation to him. He wrote home about his excitement at seeing all those “aeroplanes” in the air. “There were about a dozen all the time. As soon as one would come down, one or two would go up.”

The field where he observed this activity had earlier been known as Huffman Prairie. It was the world’s first flying field, the place where Wilbur and Orville Wright conducted early heavier-than-air experiments and established their flying school. The Signal Corps had recently acquired the historic site, and it was now part of the new Wilbur Wright Field, where the Army’s pilots, armorers, and aircraft mechanics trained. It was there that Cornish first feasted his eyes on the Curtiss JN-4D Jenny biplanes. These workhorses of the air, their wings hand-built of wood, covered with cotton or linen, and brushed with waterproof dope, were used to train 95 percent of U.S. and Canadian pilots at the time.

After returning to Fort Thomas, Cornish waited impatiently for word from “up top” in Washington. The Signal Corps wanted men with two years of college or the equivalent, so he naturally feared that his lack of formal education beyond high school would “go against” him, but he was encouraged when an Army captain told him that his background in wireless work would “pull strong” for him. He soon had the news he was hoping for: he was going to be part of the army’s aeronautical arm, the Signal Officers Reserve Corps (S.O.R.C.).

The United States’ own Wright brothers had accomplished the first successful heavier-than-air flight, but the U.S. military did not initially recognize its potential. If they were aware of the prediction that a French Army officer,
Captain Ferdinand Ferber, had made in 1906 in a memorandum to the French War Department, they did not heed it. “The possession of a fleet of airplanes,” Ferber wrote, “would give a general the possibility of knowing the moves and countermoves of the enemy. . . . No matter how quickly the enemy might mobilize his resources, not even the most rearward reserves would escape notice. . . . Under these conditions, victory is certain.” The argument that airplanes would revolutionize war was initially met with skepticism. As Ferber had predicted, however, once military leaders understood that airplanes were faster, more maneuverable, and easier to hangar than airships and dirigibles, they quickly responded. As a result, Europe was ready to fight in the air when war came in the summer of 1914.

On August 1, 1907, Captain Charles Chandler took charge of the newly established Aeronautical Division of the U.S. Signal Corps. He was responsible for “all matters pertaining to military ballooning, air machines, and all kindred subjects.” A few months later, specifications were issued for “the construction of a flying machine supported entirely by the dynamic reaction of the atmosphere and having no gas bag.” After the Wright Flyer completed a successful five-mile cross-country demonstration, flying from Fort Myer to Alexandria, Virginia, at an average speed of 42.583 miles per hour, the military concluded that the craft met specifications and ordered one. On August 2, 1909, the Flyer became America’s first military plane, designated Signal Corps Aeroplane No. 1 (SC1) and identified in the Washington Evening Star as “Aeroplane No. 1, Heavier-than-air Division, United States Aerial Fleet.” Lt. Benjamin Foulois, who served as Orville Wright’s navigator on that demonstration flight, became America’s first military pilot; in fact, he was the sole military pilot until April 1911. By late 1910, SC1 was worn out and ready for retirement. Although it was past time for a replacement to be ordered, a congressman sputtered, “Why all this fuss about planes for the Army? I thought we had one.” Despite some scattered resistance, General James Allen ordered five planes and took delivery of the first of them, a Curtiss Model D, Signal Corps Aeroplane No. 2 (SC2), in April 1911. A pusher, as opposed to tractor, biplane with a 50 horsepower engine, was a “one-seater,” meaning that a pilot would have to learn to fly without the reassurance of an instructor alongside. The Army’s remaining airplane order was completed and delivered by the close of 1911.

Between 1908 and 1914, the American government spent a paltry $500,000 on military aviation, whereas France, Germany, Russia, and Belgium spent a combined $54 million. In 1913, the United States had fewer than one hundred
certified civilian and military pilots; worldwide, there were twenty-four hundred. France had embraced the Wright brothers’ invention, and French engineers had quickly gone to work. They had improved the biplane, developed the monoplane, and earned virtually every flying record that was set between 1908 and 1914. In the early stages of the conflict, European planes were designed and used for observation. The “war in the air” began in earnest when small single-seaters were built specifically for battle. Capable of great speed and rapid climbing, these planes had machine guns mounted in front that were accurately timed to fire between the whirring blades of the propeller without destroying them. For surveillance over enemy lines, heavier biplanes carried the pilot and an observer with maps who helped direct artillery fire. The planes could carry two machine guns that turned in any direction. Later, large and powerful biplanes and triplanes, built for long-distance bombing raids, bombed enemy factories and submarine bases. Near the war’s end, some of the bigger bombers were equipped with steel armor that protected them against machine-gun fire.

Engineers were also working to improve what is known as an airplane’s ratio of weight to power. Lighter aircraft are faster and more maneuverable, and they can travel farther on less fuel, so the goal was to minimize the weight of the engine and maximize the amount of horsepower that it could generate. In 1914, the ordinary airplane motor weighed 437 pounds and delivered 112 horsepower, for a weight-to-power ratio of almost 4:1. By the close of the war in 1918, the United States had developed the Liberty motor, which weighed only 1.8 pounds per horsepower and offered improved speed. The supercharger, another important invention, provided compressed air to the engines, making it possible to fly at up to forty thousand feet. Newly designed oxygen supply systems enabled pilots to breathe at these extreme elevations.

In any military conflict, knowing what the enemy is up to and getting the word back to friendly forces is vital. Aerial surveillance was still in its infancy when the war began. Early flyers were not sure how airplanes would augment the process, but airmen took it upon themselves to discover the capabilities of their machines. Henry H. “Hap” Arnold and Thomas Milling experimented with air-to-ground communication by radio. Arnold, a student of the Wright brothers and later a general in the United States Air Force, recalled the primitive form of early surveillance: “Without radio [wireless] communications, the rapid delivery of intelligence still depended largely on horsemen. We, the airmen, were to jot down what we saw on brightly colored pieces of paper and drop the weighted paper to the ground, where a cavalryman, galloping hell for leather, would pick
it up and take it back to the command post. Wireless telegraphy was another major advancement in the practical use of airplanes by the military. And with sophisticated aerial photoreconnaissance, every foot of the enemy defense systems and lines could now be studied and analyzed. An elaborate layout of overlapping aerial photos could be mounted on a wall, giving the Allied forces an overview of the entire German defense system.

By the middle of the war, from the English Channel to Switzerland, a relentless, deadly armed struggle slogged on in the muddy trenches and amid the tangle of barbed wire where machine guns mowed down Allied troops. Young flyers with a new perspective on conflict openly mocked the vast bureaucracy of a war fought in this traditional way. Aviators saw the sky as a superior battlefield and decried the parochialism that had initially held back aviation in some places. Rea Redifer describes a war scene in Once upon a Canvas Sky:

The airman was more often than not separated from the mire a mile below by little more than a hope and a wish. He looked beneath him into one vast brown murk. To him, the trenches looked like a labyrinth, scrawled by a burned-out match. Swathes of rusted wire bled from fuzzed gray to rust for miles between the trenches, and glints of water from the million pock-mark craters of shell bursts reflected the color of the sky. Chalk lines of roads ran geometrically toward and away from the trenches, and broken, skeletal villages faded away to the horizon. . . . To a man in the trenches, an aerial dogfight looked like a dream-like aerial ballet. He heard the distant echo of engines high overhead as slowly they circled and separated, and then, suddenly, one would fall away, trailing a gentle billow of smoke, downward across the sky. The man on the ground would watch bemused a moment and then turn to more immediate things.

The American Heritage History of Flight captures the likely mood of those valiant men of the air.

From the beginning many noble themes have been woven into the fabric of flying: man against gravity, man against distance, man against time. But the basic theme of the early years was as old as the oldest flying legend: man against death. Each of the first flyers understood that the air was an alien element into which man ventured only at his peril. Far from shrinking from the challenge, they welcomed it. The played a dangerous
game for the excitement of it—and accepted without bitterness the consequences of losing.\textsuperscript{13}

The horrific drama had been playing out in Europe for more than three years by the time Cornish enlisted in the Aviation Section of the U.S. Signal Corps.

On this side of the Atlantic Ocean, heroic but unachievable pledges were made when the United States joined the war effort in 1917. Caught up in the initial wartime fervor, politicians approved $640 million for aeronautical purposes in the first war bill and vowed to “darken the skies of Europe” with a vast armada of American planes.\textsuperscript{14} The reality, however, was that the country had only six planes and one dirigible, with a few men receiving poor indoctrination on hastily improvised flying fields in New York, Texas, and California. Training in obsolescent Curtiss Jennies left American flyers unprepared for the more advanced airplanes, such as the Sopwith Camel, that they would soon have to fly in combat overseas. Most who received early advanced training did not survive their first two or three patrols in France. Of the initial 210 American pilots sent to the western front in Europe, 115 were lost—killed, wounded, taken prisoner, or released from military service because of illness or injury.\textsuperscript{15} The average life expectancy for a fighter pilot was a mere three weeks when Cornish began his training. Undaunted by the grim statistics, he was in Columbus, Ohio, by the beginning of January 1918, ready to start ground school at Ohio State University, and presumably flight school at Wilbur Wright Field near Dayton.

Though he would soon draw $100 a month as a cadet, more than three times the pay he had earned as a private, Cornish quickly ran out of money because of the demands of his new status. He would have to cover the expenses of a uniform, costing in the $40 range, and personal gear, including a trunk. He asked his parents to send him $10, registered, special delivery, so that he could buy the trunk, suggesting that they sell his storage battery to cover half the needed amount. Always hesitant to ask for money because of his parents’ perennially tight financial situation, he helped them out whenever possible. For instance, when he learned of his sister Irma’s emergency surgery for appendicitis that January, he advised his folks to use his Liberty Bond, once it had been paid for, to help defray the doctor bills. A fellow trainee agreed to “stake” him to ten more dollars until payday to help buy arctics (winter boots), chevrons, a white hatband, leather puttees (leggings issued to officers and enlisted men), a Signal Corps button, and more.
Cornish and the others were gearing up and doing daily drills, but despite the wishes of the eager group of cadets to get started, extreme weather conditions—below-zero temperatures and snow that mid-winter of 1918—forced Ohio State University to close. The situation was also dire nationwide.

The weather itself seemed to be operated in the interest of the Kaiser. . . . The demand for coal was seemingly illimitable; the capacity of the railroads to deliver it was crippled as never before in their history. In zero weather cities shivered, and the poor suffered cruelly for the lack of fuel. Hundreds of ships heavy laden with necessities for the hungry people of our allies lay helpless in American ports with empty bunkers. Great factories engaged in manufacturing munitions and other supplies vital to our armies were shut down for lack of power.  

The federal government had to take control of the railroads to try to remedy the situation.

For several days, Cornish and the others awaited their next assignments as best they could. Not where he wanted to be, in ground school applying his knowledge of radio telegraphy, at least Cornish was not in immediate danger. In a letter dated January 12, he told his parents that he had seen people with frozen noses and ears. He was grateful for the woolen socks that his Grandmother Cornish in Canada had knitted and sent to him, and he was putting them to good use, wearing them to bed along with his arctics, “as it gets dudely cold at night when the steam is turned off and the transoms over the windows are opened.”

By January 15, the rails were cleared sufficiently for trains to resume operation. The cadets left Columbus for new locations—half to the University of California in Berkeley, and the other half, Cornish included, to the University of Illinois in Champaign for training with the United States Army School of Military Aeronautics. These two universities were among eight that offered ground school, using the model of instruction developed by the Canadian arm of the Royal Flying Corps. Cornish, eager to complete the course and graduate, was apprehensive about his future after he learned that of sixty-five “fellows” in an earlier group, thirty-four failed near the end of the eight-week course. The young men all yearned to be pilots but had to master the basics of several disciplines before they could be sent to one of the few dozen airfields used for primary and then advanced flight training. Through their course work they learned
about airplanes, engines, military law and courts-martial, the Lewis machine gun, the theory of aviation, magnetos and carburetors, maps, airplane and silhouettes (friendly and enemy). They were taught wireless means of communication and how to transmit words by Morse code, using a buzzer and a key, not a voice.\(^\text{18}\)

The expected rate for the trainees was ten words per minute, easy for Cornish who conducted “buzzy in the ears” classes at night for his fellow cadets. His amateur telegraphy and wireless radio experience in high school was helping to move him toward his future vocation.

Having taken and passed all the ground school subjects, Cornish graduated in March, two months after being admitted. From Illinois he went to Love Field in Dallas, where he was quartered in an old cattle barn at the fairgrounds and slept on a metal cot with no mattress. “When we got up in the morning, crisscross patterns were all over our backs.”\(^\text{19}\) He admired the wings that the commissioned officers wore on their uniforms, and he hoped he would someday have the same. However, for Cornish and the other cadets who were eager to apply what they had learned, time moved slowly. The military, having been caught unprepared when the United States entered the war the year before, was still rushing frantically to create airfields, have airplanes

Squadron H graduates of the U.S. School of Military Aeronautics gather for a photo on March 23, 1918, at the University of Illinois, Champaign. Cornish is in the front row, fourth from the right. (Author’s collection)
built, and recruit flight instructors. It was a major undertaking that could not be accomplished quickly.

To help fill their hours, some of the cadets practiced Morse code, sitting at a long table with a buzzer and earphones. On one occasion, an instructor demonstrated his ability to produce twenty-five words a minute, challenging the men to keep up with him. Cornish could not match that output, but he came very close, managing a little over twenty words. Suddenly the instructor said, “Lieutenant Cornish, I want you in the office.” It was rare for a cadet to be invited into the office unless he was receiving a special assignment of some kind or was about to find himself in some kind of trouble. “I wondered what the hell I’d done,” said Cornish. But there was no bad news forthcoming. He had stood out for his telegraphic agility, and the instructor was merely curious about him. He was asked whether he had operated a station before entering the military. “Yeah, call letters 9FB,” he answered, only to learn that the instructor had transmitted under call letters 5CH, and they had actually radioed each other before the war. The two men were glad to now be meeting each other in person. When Cornish was asked what he was doing out there with all the novices, he replied, “I do what I’m told to do.” Thereafter he was excused from the practice drills in telegraphy, and the two chatted about old and new times—and their shared passion, of course. Cornish had found a fellow amateur radio buff, and thus ended his “buzzy in the ears” practice down in Dallas.20

Cornish was impatient to move on, but he would be moving on into a dangerous activity. The U.S. Army was ill-prepared for the novel task of training pilots to fight in a world war. Hastily sited airfields carved out of farm fields often held treacherous pitfalls. Aircraft were frail and subject to mechanical failure. Even the bicycle-type wire wheels on the planes constituted a threat; grasses and weeds on the sod fields could become entangled in the spokes, wrecking the craft and killing or injuring the pilot. Trainers had minimal training and experience themselves. Factors such as these claimed a heavier toll than the enemy in the early months of World War I.

The U.S. military readied thirty-five airfields in 1917 and 1918 to provide the needed flight training for the eager young men. But learning to be a flyer was not without extreme risk: “To face the enemy in World War I, pilots first had to survive flight training.”21 Cornish left Texas for Park Field in Millington, Tennessee, where his big day arrived on May 6, 1918: “I finally got today what I have been waiting and working for the last 3 or 4 months,” he wrote, “to fly under instruction.” Would he be gripped by terror, as some were during their initial flight, or would he be among those who relished the sensation from their
very first ascent? For Cornish, it was a twenty-minute “joy ride.” The air that day was “puffy,” he said, and “just like riding along in an automobile on a rough road . . . or more like a choppy lake in a canoe.” It was an experience he would celebrate for the rest of his life.22

In the 1919 edition of *The Wonder Book of Aircraft for Boys and Girls*, this profile of a would-be airman appeared:

Twenty minutes aloft, strung up between earth and sky, with the wind howling past and the never-ceasing throb of the engine in his ears, will teach him more than all the books that were ever written. . . . First, [there is] the matter of health. Rushing headlong through the air with more than the speed of an express train; racing through the clouds, thousands of feet above the peaks of mountains; driving down thousands of feet at a time, at two hundred miles an hour, puts the heart, the nerves, and the lungs under a very great strain. Also, the boy who wishes to be an airman must lead a clean life and be fond of the open air. He must be not too tall nor too short. Must not be prone to seasickness. Have good eyesight. Not too much on the heavy side. Above all, must have nerve and willpower.23

In 1918, Cornish fit the bill. Billy Brock was his first instructor, taking him up in a Curtiss JN-4D, a two-place open tandem-cockpit biplane powered by
a Curtiss OX-5 90 horsepower engine. Brock is known as an “Early Bird of Aviation,” one of 598 pioneers who flew solo before December 17, 1916. He would go on to be a pioneer in long-distance and transoceanic flights. In 1927, he and Edwin Schlee of Detroit made a spectacular flight halfway around the world, from Newfoundland to Tokyo, covering 12,295 miles in eighteen days.

The Flying Jenny in which Cornish received instruction was not a dependable craft. The valves sometimes warped and led to engine failure, he recalled. In addition, “The landing site was hazardous—simply a large sod field with no runways. Many pilots died during crash landings.” Cornish survived the hazards, and after four hours and twenty minutes of dual, in-the-air instruction, he made his first solo flight on May 27, 1918. In Charles Lindbergh’s words after his first solo flight, also in a Jenny: “You are completely independent, hopelessly beyond help, entirely responsible, and terribly alone in space.” Cornish was more matter-of-fact when he wrote of that experience: “It sure felt good to take that plane into the air knowing that I didn’t have an instructor to tell me what to do, and what not to. I didn’t need him, for the flying officer and Mr. Brock, my instructor, said that my air work was splendid, especially my turns and glide in the field. In fact, the fellows all said that Mr. Brock was asking them all to notice my turns around the corners of the field.”

Some flyers were using parachutes, but they were not airplane pilots. In the United States, parachutes were integral to smoke ballooning, and spotters in observation balloons were equipped with chutes packed in leather tubes. According to The American Heritage History of Flight: “No Allied pilots and, until near the end of the war, few Germans carried them. The excuses were both cruel and stupid. It was claimed that parachutes were not sufficiently reliable to justify mass production and that if pilots had them, they might be tempted to bail out without a fight. As a result, numerous lives were lost unnecessarily. It was not unusual for airmen to jump from blazing planes, preferring quick deaths to being roasted alive.”

He was soon practicing mandated stunts, designed to teach pilots how to pull out of potentially fatal situations. “Those were the days before parachutes, too,” he said. “If you made a serious error, you could end up dead and embarrassed.” Parachutes were not required until 1922. Before that, some young flyers found them unwieldy and regarded the pilots who used them as sissies; desk officers felt that if a pilot had a parachute, he might leave his plane when he should have stayed with his gun and machine and gone down fighting.
The Air Service, United States Army, was established on May 24, 1918, and rapidly began working to develop an efficient training program. Even in 1917, every pilot was required to perform aerobatics: to sideslip, loop, imitate a fall out of control, and demonstrate a dozen other maneuvers. Although most training airplanes were outfitted with dual controls, allowing the student to learn by first following the instructor’s control movements, many instructors knew only marginally more than their students. There was no consideration given to instructor qualifications or motivation, and these men received little supervision. The aerobatics performed above Park Field and the surrounding countryside included a tailspin, a loop-the-loop into a wingover, and then a tight spiral. The loop-the-loop was less sensational than the others, according to Cornish. However, with the plane upside down, gasoline leaked from the tank and sprinkled his face, giving him the feeling of being “chloroformed.”

Besides actually flying the plane, Cornish received training in wireless telegraphy, aerial navigation, machine guns, motors, and photography. He practiced aerial reconnaissance in the Park Field area. Flying a Jenny with a 90 horsepower engine and given a post office map, he was told to go out and photograph a specific road intersection. “When there, flying about five-hundred feet above the target, you took a picture through a tin can with matching cross wires top and bottom and attached to the fuselage. Flying as slow as you could (you’re down to a critical point), looking over the side of the aircraft, it was a pretty hazardous operation. Several students just spun in when the aircraft stalled. At five-hundred feet if you go into a spin, ninety-nine chances in a hundred you’re not going to recover before you hit the ground. Doing that [aerial photography] once was enough for me.”

Five weeks later, on July 1, 1918, he made his first solo cross-country flight. His handwritten notes describe this and his second cross-country experience. Following a triangular course, he took off in a Jenny on the first leg—from Millington, north of Memphis, then a ninety-minute trip across the Mississippi River to Clarksdale Field in Mississippi, where he arrived with a little gas left in the tank. The flight, intended to take a few hours, instead took over two days. Getting to Clarksdale was trouble-free, but a missing motor (spark plug trouble) forced him down at Lula, Mississippi, and resulted in a flat tire as well. Once both were fixed, he took off but encountered engine trouble again, this time at Walls, Mississippi, where he once more “snagged a tire” on landing. With no way to fix the problems, he waited two days for a “relief ship” to take him back to his starting point, Park Field. The next day he embarked on his second
cross-country solo flight, to Wynne and Marked Tree, Arkansas. This one was relatively uneventful. “A cylinder on the left side was weak and had a loose piston,” but it was nothing serious.32

There weren’t any navigational aids at all and no charts. We’d be told how to get to a point in Mississippi. “Don’t go over Memphis. Stay away from there. You go around. But when you’ve gone around Memphis, there are five railroad tracks. Now you count. That fifth one is the one you take down to Lula, Mississippi, where we’re going.” That’s where the old iron compass came in. Only the trouble was that occasionally these birds would miss one or take this one instead of that one and they’d be in the boondocks, wouldn’t know where in the hell they were. They’d have to land and find out where they were from the farmer, or somebody on the ground.33

Having experienced only minor problems, Cornish escaped unscathed from training, and on July 13 he was promoted, by authority of Secretary of War W. P. Jernigan, to second lieutenant in the “(Military Aeronautics) Signal Corps, National Army.”34 He wrote a letter to the commanding officer to request a ten-day leave of absence, explaining that he had “no readily obtainable finances for purchasing [his] officers equipment” and wanted to go home to see personally “to the disposal of such property as will enable [him] to purchase this equipment.” The furlough was granted—his first leave in the fifteen months he had spent

Then Second Lieutenant Cornish earned his wings in the Signal Corps. (Author’s collection)
in the service. He visited his family and took care of financial matters, then boarded a train for John Dick Aviation Camp in Texas. After a brief stay there and a return trip to Dayton, he was southward-bound to Payne Field near West Point, Mississippi. Having become stranded near Prairie on the way to Payne Field, he sent a postcard to his family saying that the tender of the train engine had left the track and torn it up. Twenty miles from the field in a Podunk town with nothing but a couple of stores and a cotton mill, the troops were waiting for people at the field to send a bus for them.

At Payne Field, Cornish flew whenever the weather permitted, sometimes spending four to five hours a day aloft. One morning he went up to eight thousand feet. It took him half an hour to reach that altitude, but he lost twenty-five hundred feet in three or four seconds doing a tailspin. A few days later, he happened to be the only one who was up doing stunts. With the air to himself, he took the opportunity to do everything he could think of—barrel loops, reverse barrel loops, barrel rolls, and flying upside down. “You don’t see any of it around here. In fact, I have never seen any of it around a flying field. I came down and found that the fellows, instructors and all, had been watching the exhibitions. I didn’t do it for their benefit, or anything like that, but I was just having a good time.” Flying had gotten under the showman’s skin. “I don’t know what I will do if I have to give up my flying after the war,” he told his family in a letter. “I just naturally like the doggone stuff.”

Usually there were four or five of us up there at the same time playing around among the clouds and doing stunts as we felt like it. In other words, completely shut off from the ground below by a soft intangible mass of something white and—well I can’t describe it—and just naturally enjoying ourselves. Up there that way, makes you feel that you are way off somewhere in a land far remote from this little globe of ours, and in the land of “fairies.” It is as if the heavens opened up and we sailed into a new sphere. You sail down a ravine between two high banks of clouds, around and up a side cut in one of the banks and probably come out into a big valley with clouds for a ground, and higher and fleecy, flimsy ones above and the sun shining bright and serene on the whole scene. Then, again maybe, another plane will sail out into this valley from somewhere; you circle toward each other, wave a greeting and pass on. At a little distance apart one will do some stunt and then the other. Then after another greeting, sail out of little peaceful valley to play around among the hills.
and vales once more. These hours are made up of seconds never to be forgotten, and frame a picture of such wonderful, peaceful serenity, and such a picture that no one can begin to appreciate unless he has actually seen this enacted. But having seen and felt, I am greatly impressed by it. And so I have endeavored to put into a few colorless and insufficient words what I saw there above, yet among, the clouds yesterday.

While Cornish and the other stateside flyers in the Air Service were biding their time and waiting for their next orders, Billy Mitchell, deputy commander of the Aviation Section and a brilliant tactician who commanded all American air combat units in France, called for a concentration of airpower over the battlefield at Saint-Mihiel, France. Fifteen hundred airplanes (none of them built in the United States) belonging to the combined Allied air forces assembled to drive the Germans from the sky, seal off the rear, destroy communications, and aid the ground troops who were massing for the attack. Regarded as “singularly successful,” the operation deflated the already weakened Germans, and impressively reinforced the effectiveness of military aeronautics.

In October 1918, the month before Armistice Day, Cornish rode the rails through Mobile, Alabama, and Jacksonville, Florida, to his final two posts near Arcadia in Desoto County. There were two training fields in this part of Florida’s flat heartland—Carlstrom, used for aerial gunnery, and Dorr, used for pursuit flying. They had been named in honor of Victor Carlstrom and Stephen Dorr, who were killed in separate aviation accidents during 1917. Eight miles separated these fields, where in 1917 the perimeters had been ditched, land cleared, and barracks and hangars hastily erected, the latter with concrete floors and doors on both ends. Hundreds of U.S. Air Service pilots trained there and won their wings. Unfortunately, several of those pilots died in crashes, and several others disappeared on training flights over unsurveyed prairies and the Everglades. Even into the late 1930s, pilots’ remains were still being found in remote areas amid the wreckage of World War I Jennies.

Rumors were swirling that the war would be over any day now. Cornish feared that he might not complete training, and for a while, disappointment and frustration consumed him. To add to the malaise, everyone was confined to the base because of the Spanish influenza epidemic, meaning that there were no leisurely breaks in Arcadia. Mosquitos found their way under protective netting and left him sleep-deprived. “I’m thoroughly disgusted with the whole works,” he said. “I don’t seem to care a rip whether I fly any more or not. Darn poor
grub too.” Things did improve, however, and Cornish completed advanced training at Carlstrom.38

Back in the air, his spirits lifted as he tested himself and improved his aviation skills, including a vertical reverse. “You start out by flying in a very tight circle on your side, you cut your motor, turn over on your tail, and while your nose goes past the vertical, give your throttle full, catch yourself and fly a circle on your side in the reverse direction. You do this stunt back and forth four or five times—supposedly without losing any altitude, or very little. . . . The first time I tried it, I lost something like 1,200 feet.”39 His final assignment was instructing other flyers in pursuit and in aerial gunnery, using Thomas-Morse Scouts and Jennies with Hispano-Suiza 150 and 180 horsepower engines. Pursuit pilots were trained to destroy hostile aircraft wherever they found them, to deny hostile aerial forces freedom of action, and to protect friendly operations against aerial attack. A mere four months after completing flight training in Tennessee, and with little further instruction, Cornish found himself teaching others the techniques. “I didn’t know anything about fighting Germans in the air and neither did my students. It was the blind leading the blind,” he recalled later.40

Cornish soon added a maneuver known as the Immelman turn to his pursuit tactics. Devised to allow a second attack on an enemy aircraft, it required precise control of the plane at a dangerously low speed. After making a high-speed diving attack, the attacker climbs back up past the enemy aircraft and, just short of the stall, applies full rudder to yaw the aircraft around. This puts the aircraft facing down at the enemy aircraft, making another high-speed diving pass possible. As he explained it, “First you do a half loop; then do a half roll and you’ve gained altitude, see. But you’re going in the other direction. That’s fine and dandy because often that puts you right in a position . . . to turn and dive down immediately on your opponent.”
The plane he trained in was a Thomas-Morse Scout. A single-seater with enough space for the pilot only, it was powered by an 80 horsepower Le Rhône rotary engine, its propeller fastened directly to the crankcase. “The whole propeller and engine rotated around a stationary crankshaft,” he explained. “You had two controls—one was gas and the other air. It was your business to make the mixture that gave you the best performance. They used castor oil in those engines because castor oil didn’t mix with gasoline.” One time several Thomas-Morse Scouts arrived at Dorr Field from a training field that had been inundated by heavy rains. When Cornish discovered that some of them had more powerful engines than his training plane, he took advantage of the increased horsepower.

A lot had 110 horsepower Le Rhône [possibly Gnome] engines, but visually you couldn’t tell the difference between an 80 horsepower engine and the one with 110. Well, I heard that there were a couple of those airplanes down in the hangar that weren’t being used—the 110s. I got authorization, as instructor, to have two of them put into [good] condition—one for me and one for my buddy. We were instructing and combating with 110 horsepower engines; the students had the 80 horsepower engines. And you know, they never could figure out why in the hell Cornish and Greedy were always on top of them. Well, that 30 horsepower difference meant it was duck soup for us to get in the sun and dive on those birds.

The Immelman turn got Cornish in a bit of trouble one time. He had told his students, including the aviator and later aircraft manufacturer Eddie Stinson, to watch very closely. He flew to about four thousand feet over the field, did a wingover, and went back up to do an Immelman. After the wingover, he found himself in an inverted outside spin with full power on. Upside down, his hands left the joystick and his feet went up, though straps on the rudder bar kept his feet near where they needed to be. His fountain pen left his pocket and hit him on the way out. He saw the Pyrene fire extinguisher going up (but really down). He figured that he needed to cut the engine off.

If I could get my hands down where I could get on that joystick and cut the switch, at least I’d cut the power and my feet maybe get back on the rudder bar. I finally got that done. So help me I don’t know to this day how I got out of that maneuver. I don’t know what I did, but when I got out [of the situation] I was right over the outlying field and I skipped
across the field at about 400 feet. Went around, landed, taxied up and
about that time a rider on a motorcycle with a sidecar tore up to where I
was telling the students, “Now that’s not how to do it.” But I didn’t get
a chance to tell them what happened. I was wanted at “stage.” I climbed
into the sidecar where they ate my butt out. . . . An inverted spin? An
outside spin? Both prohibited!

He got down from the plane, kissed the ground, and told the lieutenant that
he was thankful to still be alive. He lost his class and was grounded for seven
days. “A sad experience, but I lived through it,” he recalled much later.

In a letter home dated October 19, 1918, Cornish mentioned that he had
flown in formation at eighty-five miles per hour while the lead pilot com-
municated with the others using a wireless telephone attachment, a novelty.
Cornish’s letters covered many facets of life in the military, so it is not a surprise
that he closed his letter with an entirely different subject. “A fellow is showing
the head of a huge rattler he shot this afternoon,” he wrote in conclusion. “I
guess I’ll have to go and see it.”

Aside from being home to giant rattlesnakes, Carlstrom Field offered a
good location for ongoing experimentation. In October 1919 (many months
after the war’s end), future aviation luminary Lieutenant Jimmy Doolittle tested
Charles Kettering’s manless aerial torpedo there. Doolittle would later recall that
on October 28, after multiple failures, “a new type of altitude control was put
on the last torpedo, constructed from salvaged parts of previous wrecks, and
[it] flew about sixteen miles.” Despite what could be considered a success, he
concluded, “The motor is not sufficiently reliable to permit safe passage of the
torpedo over friendly groups.” This device, known as the Kettering Aerial Tor-
pedo (nicknamed the “Bug”), was later perfected by German scientist Werner
Von Braun as V-2 rockets, Hitler’s dreaded “buzz bomb,” and inflicted terrible
damage on London in WW II.41

The Great War ended on November 11, 1918, with the signing of the Ar-
mistice at Compiegne, France. Thirteen million military personnel had died;
twenty million were wounded, missing, or taken prisoner; twenty million re-
turned unharmed. The League of Nations was established the next year, with
a goal to reduce or abolish the likelihood of future wars. Sadly, that was a goal
that it failed to achieve.

Despite the official end of combat, flying at American military airfields
went on as usual. But in December, Cornish’s classmates, men he had been with
His Head in the Clouds

for more than a year, began to be discharged. He had not flown in battle, and this was a dispiriting turn of events for him, though a fortunate one given the war’s grim statistics for those who had made it to the front. With permission to do whatever he pleased in the air, he went aloft one last time as a military pilot, to give a thirty-five-consecutive-loop “performance.”

A photo taken on the morning of January 7, 1919, shows Cornish standing in front of a Thomas-Morse Scout, the last plane he would fly in World War I. A few hours later, he was on his way home to Fort Wayne with an honorable discharge from the military. He was one of 8,689 American pilots who received preliminary flight training in the U.S. during the war, half the number of cadets who graduated from ground schools.

When the war began, the airplane was viewed by most people as “a dangerous toy for daredevils rather than a trustworthy vehicle for prudent travelers.” Why would “ordinary human beings forsake the comfort, safety, regularity and relative rapidity of trains for city-to-city journeys and steamship for transoceanic voyages?” With airplanes now recognized as much more than a “toy,” foresighted Americans began to envision using aircraft to transport goods, mail, and people. It was a vision that would eventually become a reality—but not for many years.

Piloting this Thomas-Morse Scout was a far cry from what Cornish expected when he joined the U.S. Cavalry in 1917. (Author’s collection)