

HISTORY This Week EP 417: The Flight of Concorde

EPISODE TRANSCRIPT

NOTE: This transcript may contain errors.

Sally Helm: HISTORY This Week. March 2, 1969. I'm Sally Helm.

A lot of people are afraid to fly. Which isn't crazy—human beings aren't designed to fly. It's not like we can levitate on our own, and we get used to it. We've had to create technology to get us into the air. Gliders. Parachutes. And of course: planes.

Even if you're afraid of planes, you at least have the comfort, when you get on board, of knowing that someone has done this before. The pilot has flown this same route, probably even this same plane, dozens, maybe hundreds of times. The flight attendants do this all day long. Being at 30,000 feet is nothing to them.

But there is a moment in the life of any airplane—any technology really—when someone has to try it for the first time.

On March second, 1969, at the Toulouse-Blagnac airport in southern France, André Turcat is that person. He's going to fly a new plane called the Concorde. It's been developed in a joint partnership between Britain and France. And it's different from your typical passenger aircraft. It's designed to go *much* faster. In fact, the eventual goal is to break the speed of sound. Allowing regular passengers to fly across the Atlantic in *half* the time. About three and a half hours, instead of around eight. The plane has a distinctive look—sleek angled wings, and a funny drooping nose, like the beak of a bird.

A crowd has gathered to watch Turcat's test flight. He speeds down the runway. And when he lifts into the air, the audience gasps. The angle of takeoff is so much sharper than they're used to. But Turcat pulls it off. He takes a long loop over the airport, flying for just under half an hour, and then he touches down safely.

"Finally, the big bird flies," he says afterwards to reporters. "And I can say now that it flies pretty well."

It isn't the very first time that a plane like this has ever taken to the air. The Soviet Union flew their own version of the Concorde two months earlier. They'll also beat the Concorde at reaching supersonic speeds, aka breaking the sound barrier. But it's the Concorde that will really break through when it comes to passenger travel. Letting people fly incredibly fast for decades...until the era of supersonic flight comes abruptly to an end.

Today: the flight of the Concorde. How did various nations compete to get this engineering marvel into the air? And what put an end to the Concorde's glamorous reign?

[AD BREAK]

Sally Helm: It's 1947 – 22 years before André Turcat's test flight of the Concorde. At Edwards Air Force Base in Southern California, a Boeing B-29 bomber climbs to 20,000 feet. High above an ancient, sandy lakebed. Attached to the plane's belly is not a bomb but...a smaller plane. It's called a Bell X-1. Air Force Captain Chuck Yeager climbs down into its cockpit, straps himself in, then waits for the bomber to drop him.

Yeager fought in World War Two. And since then, he's become a test pilot. Someone who tries out new planes. Which takes a certain personality.

Mike Bannister: He was a fairly straightforward person. Things were very much black and white, not shades of gray.

Sally Helm: That's Mike Bannister, a veteran airline pilot who's read a lot about Chuck Yeager.

Mike Bannister: He had clear ambitions and aspirations he had, sometimes an ability to not understand why other people couldn't think as quickly as he could or come to decisions as rapidly as he did. But clearly a man that inspired others around him to get to their very best.

Sally Helm: Yeager's mission on this day in 1947 is this: be the first person to fly faster than the speed of sound.

Mike Bannister: Literally thousands of people have been working towards this moment. And your safety and the success of the mission depends on each and every one of them.

Sally Helm: It's not an ideal day for Yeager to complete this mission. A few nights back, he was horseback riding with his wife. They challenged each other to a race...and Yeager rode right into a fence. He broke two ribs. He didn't tell the higher-ups, because he didn't want them to say, *no Chuck, you cannot do this experimental flight with two broken ribs*. Instead, he's brought a sawed-off broomstick handle with him into the cockpit of the Bell X-1. He's having trouble using his right arm, so he uses the broomstick to help him close the hatch.

News Reel Archival: *The B-29 has now reached drop altitude. The time for release is drawing near.*

Sally Helm: The bomber lets Yeager's plane go. He uses his rocket engines to climb another 20,000 feet, into the atmosphere.

Mike Bannister: Chuck Yeager's going into something where he really does not know what will happen when he gets above Mach one.

Sally Helm: Mach one is the speed of sound—761 miles per hour. No one has ever gone faster than that. Though people have been trying for years.

Mike Bannister: Those test pilots when they were doing these just didn't know what was the other side. Yes, sure they can make projections, but those projections were done with slide rules, not computers. And sadly, one or two of them did perish going through the sound barrier in the early days.

Sally Helm: The sound barrier is...literally a barrier.

Mike Bannister: As sound travels through the air, it travels because little molecules of air bash against each other. There is a finite speed. That the sound can travel and that's a function of how

rapidly those little molecules of air can move. If you get up to that fine out speed, all the molecules of air are bunched together. They create a barrier that you have to punch through to go quicker.

Sally Helm: Today, Yeager is going to try to punch through that barrier and live to tell the tale. Hope that his plane doesn't bust into tiny pieces on impact. That his controls don't go haywire.

Mike Bannister: There had been some experiences before where those little barriers of air attach themselves to the controls and would make them vibrate really rapidly and make the controls operate in the opposite direction.

Sally Helm: He's now at 42,000 feet, pushing the plane toward 761 miles per hour. 600... 650... and then... Mach one.

Yeager descends and lands the plane safely.

New Reel Archival: *This flight marks the first milestone in the supersonic chapter in the history of aviation.*

Sally Helm: Why was it an aspiration? Why do we want to go so fast?

Mike Bannister: In those days, driven by the necessities of the Second World War. If something was technically achievable, there was a lot of drive to do it because it could be done. And so, the British, the French, the Americans, the Russians, they all wanted to do it.

Sally Helm: Breaking the sound barrier has opened up thrilling new opportunities.... with more on the horizon.

Mike Bannister: It was an aspiration even then for people to say, right, well that's great, but let's think about taking passengers across the Atlantic at those sort of speeds safely, regularly, and punctually.

Sally Helm: It's one thing for a veteran test pilot like Chuck Yeager to bust through the sound barrier. It's another to build a commercial plane that would let the regular air traveling public do the same thing. And without a doubt, a plane like that would be very expensive to build. So, at first, supersonic passenger travel is just a dream.

But that changes in 1957. When the Soviet Union shocks the United States by being the first nation on earth to send a satellite into space. It's called Sputnik.

News Tape Archival: *[Beeping] Until two days ago, that sound had never been heard on this earth, the radio signal transmitted by the Soviet Sputnik, the first manmade satellite as it passed over New York earlier today.*

Sally Helm: With this technological victory for the Soviets, the Cold War is heating up. The U.S. responds with a test launch of the Atlas Intercontinental Missile.

News Reel Archival: *In the rocket's fiery wake was America's sober realization that the battle had just been joined. In 1958: the dawn of the space age!*

Sally Helm: A supersonic passenger jet sounds more natural, more doable, once you've entered the space age. And also, competitive energy is running very high. So the United States sets out to build such a plane. So does the Soviet Union. And the British and the French join forces to do the same.

The British and French team calls their plane-in-progress Concorde. Its ambition is to carry 100 passengers, and to go twice as fast as a regular plane. But how?

Mike Bannister: If you've got such a complex problem, there's probably only one really perfect answer.

Sally Helm: Mike Bannister didn't design the Concorde, but he knows it well. He flew the plane for 22 years. He was once the Chief Concorde pilot for British Airways. And he says, the Concorde is just not like other planes.

Mike Bannister: The Concorde is fundamentally four airplanes in one. It's a high airplane, a low airplane, a fast airplane, and a slow airplane.

Sally Helm: It has to be able to do what normal planes can do... and also travel faster than the speed of sound at almost twice the altitude of other planes. And the fact that it's gonna go so fast... you can see that in the design of the Concorde.

Mike Bannister: It's gotta be pointed. It's gotta be long and thin. If you imagine a Boeing 747 fabulous airplane, but the size and shape of it doesn't look like it can go really fast because it is, it's not designed to do that. It's designed to carry lots of people safely, economically, for long distances.

Sally Helm: Yeah. It's like portlier somehow. It's like a little rounder. [laughs]

Mike Bannister: [laughs] Your words not mine, but I wouldn't disagree. Whereas a supersonic airplane has to be a bit like a dart. And you also want to have something that can generate lift at low speed and high speed.

Sally Helm: Put all that together, and you get a plane that actually looks surprisingly recognizable to people.

Mike Bannister: Imagine you were making as a child, or maybe even still a paper dart, airplane. Traditionally, paper dart airplanes end up with a, a triangular shaped wing. So, and a fuse large down the middle. Concorde is very much like that,

Sally Helm: It's got long triangular wings that stretch almost its whole length. A lot like a paper airplane.

Mike Bannister: Little bit more sophisticated. It's got more subtle shapes, but it's, and that's part of the reason I think why the airplane was so appealing to people, because it's so closely resembled every child's paper dart.

Sally Helm: It's coming together, this French and British plane called Concorde. Aside from the distinctive triangular wings, it has a bent-tipped pointed nose. It *looks* like it can go fast.

At the same time, the U.S. is developing its own supersonic plane. The American plan is to outdo their rival countries in every way. Build an aircraft that can carry 300 passengers at even higher speeds! But... these inflated ambitions ultimately doom the project. The budget surges past a *billion* dollars... and the plane doesn't even make it past the model stage before the U.S. pulls the plug. That leaves one remaining rival to the British and the French. The Soviets.

They speed up development by imposing strict deadlines on their engineers... and, some say, by swiping the Concorde's blueprints. When the plane debuts in 1968, it looks *just* like the Concorde.

Mike Bannister: So much so that it was nicknamed Concordeski.

Sally Helm: Its real name is the Tu-144, and it beats the Concorde to the sky.

Mike Bannister: They first flew on December the 31st, 1968.

Sally Helm: The Concorde's debut comes three months later. When pilot André Turcat makes his roughly half-hour loop over Southern France.

And then... as sometimes happens in the story of a complex technological feat, nothing dramatic happens for a while. For about four years, engineers are just doing lots of tests. And then finally, in 1973, both the Concorde and the Tu-144 are set to perform for a crowd of 200,000 at the Paris Air Show.

The Concorde is up first ... and its flight is flawless. Next up is the Tu-144.

Mike Bannister: Because it looks so similar to Concorde, people assume that it would be very similar in performance, which sadly it wasn't.

Sally Helm: At first, the plane flies beautifully. But when it's coming back down, at about 1,000 feet, things go very wrong. The crowd watches as the plane begins to break apart. It plunges to the ground and explodes. The crash kills all six crew members, plus eight people on the ground. There's another crash a few years later. And the plans for the Tu-144 are scaled back. It never flies internationally and completes little more than a hundred domestic flights.

By contrast, things could not be going better for the Concorde. In 1976, it's approved for passenger travel. It stands alone at the dawn of the supersonic age.

[AD BREAK]

Sally Helm: January 21, 1976. Two Concorde take their maiden passenger flights: a British Airways Concorde from London to Bahrain and an Air France Concorde from Paris to Rio de Janeiro.

The Concorde flies at 50 to 60 thousand feet. Passengers have never experienced anything like it. From that high, you can see the curvature of the Earth.

Mike Bannister: And very strikingly, the sky is a much, much darker blue because the air is so much thinner.

Sally Helm: It's somewhere between plane travel... and space travel. Mike Bannister has flown the Concorde many times. And he says, pilots had never felt anything like it, either.

Mike Bannister: It was rather like a sports car rather than a truck or a thoroughbred racehorse rather than a riding school hack, you could actually fly the airplane with your fingertips through takeoff, climb, acceleration, supersonic flight descent and landing. And it was a very rewarding airplane.

Sally Helm: For one thing, it was *fast*. The Concorde flew at about one thousand three hundred fifty miles per hour. Think of it this way—at the start of the century, a journey from London to New York by ship would have taken at least five days. By plane, you can do it in six hours. And the Concorde cuts that in half—you can now do that trip in three hours. People have a hard time wrapping their minds around it.

Mike Bannister: You're traveling faster than the Earth rotates, and so the sun is effectively going backwards in the sky in the spring and the autumn. You could take off from London when it's pitch black at seven in the evening. You fly across the Atlantic so quickly. You're gonna land in New York at 20 past five the same evening.

Sally Helm: An hour and forty minutes *before* you left. Musician Phil Collins famously took advantage of this in 1985, when he played in a pair of concerts that started at the same time... on different sides of the Atlantic.

Phil Collins Archival: *Evening America. Evening London. Good evening the world.*

Sally Helm: He played the first set at a Live Aid show in London, hopped on the Concorde, and played the last set at Live Aid in Philadelphia. This sound of him singing at the second show, which was only made possible by supersonic flight, astonishes the public:

Phil Collins Archival: *And you coming back to me is against the odds. And that's what I've got to face.*

Sally Helm: The stunt by Collins is a media sensation that further cements the Concorde's reputation for high-tech glamor. Not to mention VIP convenience: It was a very glamorous ride. To start, you only had to check in 30 minutes before departure. The pampering started right away.

Mike Bannister: Do you want business facilities? Do you want glass of champagne before you depart? Do you want quiet so you can read the papers?

Sally Helm: Once on board ...

Mike Bannister: You'll be given the best wines and the best food. You're traveling at faster than a rifle bullet. It's absolutely smooth because you're way up above all the, all the weather.

Sally Helm: After landing?

Mike Bannister: Because all the other airplanes were still there, only halfway across the Atlantic, you'd get through immigration and customs much more quickly. And it was always our aspiration that the baggage was waiting for you.

Sally Helm: This is all, of course, *if you could afford it*. In 1977, a one-way New York to London ticket on the Concorde cost about \$793—that'd be almost \$4,000 today. And when British Airways began privatizing, they started looking for even higher profit margins.

Mike Bannister: They were looking at trying to optimize Concord's returns for the airline.

Sally Helm: In a survey, the company asked its customers, *how much do you think a Concorde ticket costs?*

Mike Bannister: Now, 80% of the Concord customers were businesspeople. They're the chief executives, the chief financial officers, the chief operational officers of really large companies. They don't buy the tickets themselves; their PAs do on behalf of their companies.

Sally Helm: Meaning most of them had *no* idea of the cost.

Mike Bannister: And the customers significantly overestimated what the cost of the ticket was by between 20 and 50%.

Sally Helm: So British Airways is like okay. We might as well charge that amount.

Mike Bannister: So, we put the ticket prices up almost overnight by 20%. And not a squeak.

Sally Helm: Suddenly tickets were about \$5000 or \$13,500 today. And by the early 2000s...

Mike Bannister: The cost of a ticket between London and New York and back was \$10,000.

Sally Helm: About \$17,000 today. So...not cheap! Mike Bannister said some companies thought it was worth it to save their chief executives' valuable time. And who were the other 20% of clientele?

Mike Bannister: 10% were the rich and famous. 5% were sports and showbiz personalities, 5% were those doing a trip of a lifetime, you know, a granny where the family has saved up for it.

Sally Helm: Did you ever like have any crazy celebrity sightings.

Mike Bannister: Well, one of the things British Airways always offered was discretion.

Sally Helm: You're not gonna tell me.

Mike Bannister: I will, I met Tom Watson, the golfer when he came back from the UK having won the British Open Golf Championship. And in those days prior to 9/11, we could invite customers onto the flight deck in flight.

Sally Helm: Watson came up to say hello. Bringing his trophy with him. Then he went back to the cabin for lunch.

Mike Bannister: Leaving the trophy behind and we're passing it around the crew taking photographs and I dropped the wretched thing, right on the center console and put a huge dent in it. Being an honest sort of Brit, I didn't tell him.

Sally Helm: One stewardess says Paul McCartney and Elton John did a duet on board. And that once Elizabeth Taylor let her try on a 33-carat diamond ring.

The plane had a certain mystique. Crowds would sometimes gather at U.S. airfields just to watch it.

Mike Bannister: I can remember taking Concorde on a special flight to Oklahoma City. 45,000 people turned up to see the airplane, and that was not untypical.

Sally Helm: But others greet the plane with protest. They say, this thing guzzles *so* much fuel, and spews out pollution. In Sydney, hundreds of protesters greet the plane with signs reading "Save the ozone layer!" Concorde's defenders say, yes, the rate of fuel consumption is high, but the plane gets where it's going in half the time— so it uses less fuel than the average 747 to make that trip. But it's also true that the Concorde burns half its fuel during takeoffs and landings... meaning, over airports in big cities. Where people are breathing in emissions.

But the most common complaint people raise...is actually noise.

AP Archival: *Maybe the fastest, most advanced way to cross the Atlantic, but those who live near the runways at Kennedy airport claim it's just the noisiest plane in the world.*

Sally Helm: People who live near airports where the Concorde flies say that its engines are so loud, they sometimes set off car alarms. New York City installs noise sensors near Kennedy Airport to measure the sound.

AP Archival: *"But it has met the noise standards, the noise limits?" "No, it hasn't because it diverted itself. It knows where the black boxes are. They had a prescribed course."*

Sally Helm: Bannister told us, pilots did alter their routes to avoid the sensors. Though, he also added, the sensors were near populated areas. So, avoiding those sensors maybe *did* mean less noise in areas where it would be most disturbing. But a lot of people say the Concorde was very loud. The press starts

talking to locals, asking them how they've been affected by the flights. The principal of a school near Kennedy Airport, a nun, tells reporters that she puts her hands over her ears when the supersonic transport plane takes off. People call it the SST—and the nun even buys white paint so her students can put a message on the roof for the pilots and passengers flying over them. It reads, "Stop the SST." New York officials eventually respond by limiting Concorde to two flights per carrier per day. And with only 100 seats per plane, it was hard for British Airways and Air France to make the numbers add up.

Then, on July 25th, 2000, comes a major blow.

ABC News Archival: *On World News Tonight, this Tuesday, the first Concorde ever to crash just after takeoff from Paris. 113 people are killed, which included everyone on board.*

Sally Helm: An Air France Concorde crashes near Paris, two minutes after taking off. As Chief Concorde Pilot for British Airways, Mike Bannister gets a call about it almost right away. He says, he could hear sirens in the background. It was clear that this was bad. And over the following weeks, Safety inspectors start to piece together what went wrong.

Mike Bannister: They set off down the runway and encountered a piece of metal on the runway, which ruptured the tire.

Sally Helm: The metal did more than pierce a hole.

Mike Bannister: What it did was to cut in the tire and scalp the tread. So, a large part of rubber came away.

Sally Helm: The loose rubber hits the wing, which, on a Concorde, is also the fuel tank.

Mike Bannister: It just happened that it hit the wing in a point where the fuel tank was a hundred percent full, causing it to burst open, releasing a hundred liters a second of fuel.

Sally Helm: The fuel ignites. The plane begins to burn.

Mike Bannister: Then they get airborne a little bit too soon. The crew are doing their best to save the airplane, and of course the passengers, but unfortunately, the fire consumed them, and they lost control.

Sally Helm: Bannister remembers visiting the site a few days later. Debris is still smoldering on the runway. He expects the Concorde to recover and fly again—and it does, within about a year. But... it's the beginning of the end.

In 2003, Air France is on the verge of becoming a private company, which means it'll lose its subsidy from the French government. So, it needs to cut costs. And management takes a long hard look at the Concorde.

Mike Bannister: On the Air France books, there was a large significant concord loss. So, a good way to get rid of that loss was to stop operating the airplane.

Sally Helm: Without this partner to share construction and maintenance costs, British Airways soon can't support their Concorde program, either.

On October 24th, 2003, Bannister flies the final commercial Concorde flight—from New York to London. Stars like Christie Brinkley and Sting are on board. When he lands, he's greeted by the press... and more celebrities. It's a whole scene.

Mike Bannister: At the end of that, I was the last person to leave, and I walked across the tarmac, across these sort of neon lights in the mist, and there are five perfectly serviceable concords that will never carry a fare-paying passenger again.

Sally Helm: The first age of supersonic passenger flight is over. But Bannister says a second one could be coming.

Mike Bannister: Serious companies are still endeavoring to reintroduce a supersonic airliner that can match some of the feats of Concorde but do it far more cost effectively and far more environmentally friendly.

Sally Helm: What are your thoughts on that new era of supersonic travel?

Mike Bannister: I'm an optimist and I'm absolutely convinced that there will be a supersonic airliner in the not-too-distant future.

Sally Helm: A company named Boom Technology is constructing a supersonic commercial plane... it looks a lot like the Concorde. They're calling it the Boom Overture, and they've already taken orders from airlines like United. The goal is to offer supersonic flights by 2029. And maybe in Queens, the principal of a school is getting ready to buy more white paint.

[CREDITS]

Sally Helm: Thanks for listening to History This Week. For moments throughout history that are also worth watching, check your local TV listings to find out what's on the History Channel today.

If you want to get in touch, please shoot us an email at our email address, HistoryThisWeek@History.com, or you can leave us a voicemail at 212-351-0410.

Special thanks to our guest, Mike Bannister, author of *Concorde: The thrilling account of history's most extraordinary airliner*.

This episode was produced by Corinne Wallace and co-produced by Morgan Givens. Sound designed by Dan Rosato, and story edited by Jim O'Grady. Our senior producer is Ben Dickstein. HISTORY This Week is also produced by Julia Press and me, Sally Helm. Our associate producer is Emma Fredericks. Our supervising producer is McCamey Lynn, and our executive producer is Jessie Katz.

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