

## AirSpace Season 6 Episode 7-Look at the Sky

*Music up then Under*

**Matt:** Welcome to AirSpace from the Smithsonian's National Air and Space Museum. I'm Matt.

**Emily:** I'm Emily.

**Nick:** And I'm Nick.

**Emily:** Anyone who's seen skywriting in person or even just in a movie or TV knows that the anticipation and novelty of the craft is completely eye-catching.

**Nick:** For the most part, skywriting is advertising, though skywriting pilots are certainly highly skilled artists.

**Matt:** Skywriting has a deep history in aviation and in advertising. And we're looking at that history and the utility of skywriting through the story of a family business that's been around since the beginning. Today on AirSpace presented by Olay.

*Music up then out*

**Nick:** Skywriting. I think we all think we know what it is, but when we started looking into it, I have to say I did not know what I did not know. There is a lot to this art. Like, really got to call it an art, right? It's at minimum a craft. It's a lot more involved. And I just thought it was all going to be about G-forces and smoke coming out of an airplane. But there's like, there are whole systems.

**Emily:** Yeah, I umm, I don't think I've ever seen skywriting in real life. I've never thought about the mechanics of it because I've only ever seen it depicted in animation, and you can do anything in animation.

**Nick:** Yeah, I. My mind goes to SURRENDER DOROTHY from the Wizard of Oz when the witch is riding at the sky.

**Matt:** Well, she's not flying a plane, we should say that. She's, she's on her broomstick, right? In that scene.

**Nick:** Yeah, yeah, yeah. So it's not, it's probably trickier to do this with a broomstick, but the system actually isn't that complicated. You could probably get a broom to do it if you could get a

broom to fly. At its core, it's just an oil based substance. And this has changed a little bit over the years. Early on, it was kerosene, special kind of kerosene. Then it was a specific oil that you could buy, and now it's slightly more environmentally friendly, kind of a paraffin substance that was developed in Europe. Whatever you're putting into the tank, you put it in the tank, and then you vent it at intervals through the airplane's exhaust. The pilot's got a button or a switch and just switches it on and off. And that's how you release the smoke and it's vaporized. And that's what creates the letters and the shapes. So it really is kind of straightforward in that sense.

**Matt:** Yeah, in that sense, it's pretty simple. You just have a substance that you're writing with and you can turn it on and off, you know, when you need it to come out of the, the end of the plane. But, you know, the real artistry comes with actually knowing how to maneuver that airplane in such a way that you can actually form letters. Which I imagine cannot be easy. But we did learn one thing in doing this episode, which is that, you know, that sort of cartoonish version where a pilot is sort of doing loop-de-loops and forming letters in that way, almost as though they're sort of writing cursive through some aerobatics in the sky. That's not accurate, right? They're actually writing, if you will, sort of flat or at least parallel to the ground. So, for example, if the sky was a glass coffee table and you're laying underneath that coffee table, the writing is sort of flat on the surface of the table. It's not at an angle. It's not perpendicular to the surface. It's just flat. So there's no loop de loops actually involved.

**Nick:** Again, this is one thing that I didn't have an idea of what it was. The letters on average are about 1,500 feet tall and they usually write them about two miles up. I didn't know how big skywriting was, like physically.

**Emily:** It's worth repeating. They were talking about like mirror-writing because like Matt's analogy, you're looking up at those letters and the plane is on the top of, in the case of Matt's analogy, a coffee table. So they have to write it in a way that you can see it as a human down on the ground. And that to me, just makes it really complicated. And I really wish I could see the maps or whatever kind of like choreography, planning, they have while they're in the cockpit trying to make this all happen.

**Nick:** They really do use a map of sorts. What they often do, what skywriters is often do is sit down with a piece of paper and write it all out. And it's almost always capital block letters. By the way, cursive would be very difficult to do because it's hard to do just one long line. They write it all out in script and then they decide what direction they're going to come from to do what fragment they write the letters and the message kind of in fragments, depending on the approach that they're coming along this two dimensional plane. So they really do sort of draw out a road map and then tape it to the dashboard of the airplane before they, before they take off. So you're not you're not off the map, Emily.

**Matt:** Yeah. Yeah. I was imagining like a like a Siri for skywriters, right? If there was a program that would just tell you, turn left now, now, make, you know, a 30 degree angle

**Emily:** *Imitating Siri voice* in 200 feet turn right

*Music button*

**Emily:** I want to talk a little bit about the history of how skywriting sort of happened, because in my mind it feels like skywriting could be the kind of thing that you program really carefully into an autopilot of an airplane and like, what's the big deal?

But skywriting is not new. And that meant that folks have developed these skills over the years to, to create really interesting patterns. And, like, how far back does this go, Matt? Like, how far back into early aviation does this go?

**Matt:** It goes back way, way into the early years of aviation. And it's one of those things where we can point to an individual. It's credited to Royal Air Force Major John Clifford Savage, who in 1910 devised it. Now, there's a little bit of disagreement. Some people say that he was trying to find a way of sending messages over long distances, which may or may not be true. I mean, why would you want to sort of broadcast so publicly military messages? But he may have also been trying to sort of devise a kind of, you know, a smokescreen for ships at sea, for military ships at sea to help them run undetected by enemy forces. So we don't know the exact reason why he did it, but we know that he, he's the one who first developed this technology or at least the idea for it.

**Emily:** But it, but it didn't take very long. For whatever reason, this skywriting was developed. Right. Military applications or just plain fun. They took, they took the concept of skywriting and it you know, it didn't take very long until the 1920s for it to become a really popular form of advertising.

**Nick:** So the first the first the first big advertising skywriting extravaganza was Derby Day in England in 1922. Derby Day is a horse race, and a pilot named Cyril Turner wrote DAILY MAIL over the crowds, referring to the newspaper and a few months later, after shipping his plane to the United States, he wrote HELLO, USA over Manhattan.

And then the next day he came back and wrote his phone number in the sky. Now, legend has it, 47,000 people called that number. I say legend because there's no way that happened. The hotel switchboard absolutely could not have handled that volume. Nobody was counting that high.

**Matt:** And I mean, the takeaway is that, you know, once it's sort of feasibility was demonstrated, it became an incredibly popular way to advertise and for the next decades, except for during

World War II, when planes were in high demand for obviously military purposes, skywriting became one of the preferred ways of advertising.

**Nick:** Yeah. And that's one of the things that I learned here was just how pervasive skywriting was and kind of still is even after the advent of television. Imagine that, skywriting was so popular that it took TV to really knock it off its pedestal. So as you said, you know, TV kind of knocked it off its pedestal and skywriting became less popular after that point with a couple of points in history where it's had a little bit of a resurgence. In the 1970s it seemed like it was making a comeback, but it's never quite regained the level that it had pre-television but there are still people who do it.

**Nick:** And when we started researching this episode, I read about a gentleman named Wayne Mansfield, who comes from a storied family of skywriters and I just had to talk to him.

**Wayne Mansfield:** Certainly. My name is Wayne Mansfield. I live in a Boston suburb in Massachusetts, and I come from an aviation family that dates back to my maternal grandfather in 1929. Been a pilot all my life and of course skywriting has been a big part of that.

**Nick:** Wayne's family jumped on the skywriting wagon after World War II and founded an aerial advertising business called Aviad that did slow but steady work through the fifties and sixties and then in the early seventies, with the renewed interest in skywriting, it started to really take off.

**Wayne:** So the business started to really take off and become a little more than a mom and pop. Then unfortunately in 1973, my father died after a short illness and I went from a happy go lucky young guy with a convertible, a girlfriend, and lots of groovy planes to fly to, the next day, I was the boss and had people to look after. So that really, that really changed everything. That was a big life change.

I had originally learned about skywriting from my dad, who would put a skywriting system on that Boeing Stearman biplane.

So they had early clients like Pepsi-Cola or I.J. Fox Fine Furs, which probably is a product which would not be popular to advertise these days. Other clients, early clients were Prestone Antifreeze and Marlboro Cigarettes, which of course is banned and would not be seen in the sky these days. So that went on and we had so many different and interesting skywriting projects through the years.

**Matt:** So we were talking before about how skywriting was once this incredibly popular form of advertising. And Wayne mentioned Pepsi in that portion of the interview that we just played. And, you know, to kind of illustrate Wayne's story, but also the this larger story of big, you know, big time skywriting. Pepsi in the thirties and forties had a whole fleet of planes dedicated

to skywriting, they really went all in as a corporation for free, skywriting as a form of advertising.

**Emily:** Pepsi was so invested in skywriting that in 1940 alone the word PEPSI was written by an airplane 2,000 times.

**Matt:** Then once television came in, Pepsi stopped Skywriting. They sold off their planes fired their pilots and embraced TV.

**Nick:** But in the 1970s, Pepsi had a corporate pilot who flew executives wherever they needed to go. And he used that special access to convince them to bring back Pepsi Skywriting.

**Emily:** And so that corporate pilot, his name is Jack Strayer, he actually found one of the original airplanes that Pepsi owned for the purposes of skywriting to refurbish it and start flying for Pepsi again to do more skywriting. And if you remember, a Pepsi advertisement from the 1980s, there was a famous ad where the Pepsi airplane, the Pepsi Skywriter airplane, writes MARRY ME SUE. I don't I don't remember this advertisement. Matt? Nick? Have you, have you seen this one?

**Matt:** No, no. But I mean, I think I have sort of vague memories of it, but like, I think the thing about it, right, is like when we're talking about this plane that he refurbishes and they use it in the ad, this is like an old biplane, right? There's definitely a good amount of like old fashioned Americana nostalgia built into this resurgence of skywriting in this advertisement, which I think is really interesting.

**Emily:** Yeah. And I think it's also worth, worth noting that Jack Strayer didn't just sort of come up with this idea of like, we got to get back into skywriting and I'm going to do this one commercial. He taught other pilots how to skywrite. And of course, it was probably all under the guise of, you know, doing this advertisement for Pepsi. But he taught Suzanne Asbury Oliver to skywrite. And she was one of the few women that ever did skywriting professionally. And so when Pepsi decided that skywriting was no longer part of their, you know, every day advertising portfolio, Suzanne and Pepsi actually decided to donate the red, white and blue logoed plane and her flight suit. I guess she had a matching flight suit to go with this plane. And it's hanging at our Udvar-Hazy Center out in Chantilly, Virginia.

*Music button*

**Emily:** During the years that Pepsi was really investing in skywriting, Wayne Mansfield was doing the same kind of iconic skywriting through his family business,

**Wayne:** The one that stands out the most in my mind was the 1969 program for John Lenno and Yoko Ono in Toronto, Canada. I wrote WAR IS OVER IF YOU WANT IT HAPPY XMAS FROM JOHN AND YOKO

And you know, that was a real challenge, you know, people think you're zooming around doing loop-de-loops and having a grand old time. But actually I was liken this to the finest restaurant theater and an elegant setting, it looks wonderful, everything's perfect. But when you go of the swinging doors back into that kitchen, all heck breaks loose and it's a madhouse and it's a lot of hard work

And that's the way it is with skywriting. It might look beautiful up and clear, blue sky letters being formed, but in actual fact, there I was in Toronto the first thing that happened was, I had permission from the Canadian Aviation Authority, but nobody told me that I had to actually import my airplane. So I'm a day out from doing a job, and I'm trying to figure out how to find an agent to import my airplane. And a very nice gentleman named Mr. McKay came and helped me with that and then the next thing you know, I had a problem with the airplane ignition system, one of the magnetos wasn't working, and some other nice person came along and said, "Hey, I heard your engine backfire, I'll help you. It's a little tip. You could take a dollar bill and run it between the magneto points and it'll clean them off." We got the airplane running. We got up to start the skywriting and of course, as is very typical in clear skies, I could see little clouds forming in the distance, headed in our direction. And that's the real enemy of skywriting. Because once the clouds come, you can't see the letters. So in that case, I was able to finish the message just before the clouds came in for me. It was a real triumph because I felt it was a really important message. And of course, it was a really important client.

**Nick:** First off, what just, what an iconic moment and message to be involved in. And man, knowing what we know now, that's a long message. That thing must have been miles long!

**Emily:** I want to know how long it took Wayne to write that. Right? Like by the time you write the end of the message has the beginning of the message dissipated.

**Nick:** So I actually I didn't ask him how long it took him to write that particular message, but I did ask him about hang time. And it is surprising. Like they adjust for the wind and everything like that. But about half an hour to an hour like it stays up there for a lot longer than I would have thought.

**Emily:** Well, but don't you also have to be careful with designing your path to writing what you're trying to write or draw, what you're trying to draw to make sure that your airplane doesn't interrupt or disturb the stuff that you've already written?

**Nick:** Yeah, that's that's that's where the, the, the figurative roadmap comes in because you can't, you can't draw a line and then fly straight back through it. So it's all dashes and dots and it's

complicated. And not only do you have to figure out how to draw it, but you have to figure out how not to go back over what you just wrote. It's, it's unlike but not dissimilar to the challenge of left-handed people where you can't drag your hand over the thing.

**Emily:** But Nick, I think you're bringing up a really interesting transition to sort of the other thing that we really need to talk about, which is the difference between skywriting and skytyping, because you started talking about like dots and dashes and they think this is where talking about what skytyping actually is, is really important to sort of round out the skywriting story.

**Nick:** Yeah. And when I asked when I asked Wayne about skytyping, I thought we were getting to the part of the conversation where we were going to talk about the future. And he was like, skytyping has been around as long as skywriting, almost like it really is a form of skywriting that has been in use for decades and decades.

**Wayne:** Really, it was very simple. They used a Western Union paper tape reader, which is a device with five little metal fingers on it, and you punch the tape, and when there are holes in the tape, the metal finger makes a contact. They use a simple radio to send the signals out to the planes. More recently, they have gone to a digital format for that, but essentially it's the same thing.

**Matt:** Yeah. And the way it works, I mean, it really reminds me, and this is going to probably, you know, date me, of a dot matrix printer. Because does anybody use that matrix printers anymore? I kind of grew up with them.

**Emily:** I'm sure there's somebody on Etsy who's using it to create some kind of fancy letter. There you go.

**Matt:** But if you think about the way a dot matrix printer works where it's just leaving a dot, dot, dot in one line and then doing another line, like in this case with skytyping, you've got multiple planes doing that at once. So they're all doing they're dot dots, you know, simultaneously. But it's kind of that same idea of how the message is created in the sky. So it's not so much that you're doing turns and making letters that way, but instead going straight across and doing your dots in in sort of, you know, in time with the other planes that are with you in the sky at that moment. So it does seem a little straightforward. It requires a few more people than just skywriting does, but probably gets done quicker, I would imagine.

**Emily:** I would imagine that there has to be another layer of planning that goes into that because you're no longer choreographing a solo, you're choreographing an ensemble. Right? And that creates a whole additional layer of complication to make sure that everybody's flying together in

the right place so that nobody's messing up each other's dots. And then also everybody's on the same timing with how they sort of puff, puff, puff their vaporized paraffin, right? To create the right pattern for them.

**Matt:** Yeah. Well, that's why I think, you know, it sounds like today they require computer controls to do that. But in the old days,

**Emily:** in the old olden days

**Matt:** ...before the computer controls, it was radio controlled, right? So you didn't have to kind of worry about your timing versus the other person's timing. But instead, as long as you were flying in the right formation, it was all going to be timed appropriately, which is I think that's kind of fascinating. I love to think about how they, you know, who programs that stuff and comes up with the ideas for this sort of thing. Right?

**Nick:** I'm glad you asked. Sky typing became a thing in the 1940s, and it was either invented by Andy Stinis who was a skywriting pilot for Pepsi at the time, or a guy named Sid Pike. But either way, Andy founded a company called Skytypers, still around today does a lot of notable jobs, including Geico's Skytyping Team, which is five Geico branded airplanes that type together above air shows. They're just a gang of vapors. I can't, I can't tell you how annoying that is on the sidewalk, but apparently it really works if they're puffing paraffin up in the sky. And Geico, I'm not going to attribute high art to the insurance giant, but we're talking about big, recognizable blue chip American companies. It turns out that skywriting really still is a thing and it's slightly more affordable than I thought. Wayne told me that an average job starts at four or \$5,000. Now, I don't have that in my pocket sitting here in front of my microphone, but that's a really manageable amount of money for the level of exposure it'll give you.

**Emily:** Right. And when you consider what advertising budgets can look like, that that's peanuts for a big company.

**Wayne:** We've done skywriting for for for every side. NIXONS THE ONE I wrote that. And then within a few days, I was writing MCCARTHY at Fenway on Thursday, who was presidential candidate Eugene McCarthy, very much on the opposite side of the aisle. So, you know, it is very much a commercial enterprise and as such, it is generally available on an equal basis.

**Matt:** Well, you know, it seems like the you know, opportunities are limitless in the sky writing world, but there are actually some limits on what you can say, or at least some sort of agreed upon norms, shall we say, of skywriting, of, you know, code of conduct, of what you will or won't put in the sky.

**Wayne:** When my dad was still running the business, he declined to write OINK in the Sky when George Wallace visited Boston. More recently, I have written the Aerial Media Code of Conduct, which talks about community standards. It's a really sticky subject, but you have to remember that when you write something, anybody can see it. Anybody from a five year old to an aged person and people of all persuasions. So, you know, you may want to be effective in what you have to say or you may be desperate to say something and don't have a means to say it elsewhere.

So once in a while there is a challenge.

I always hesitate when somebody asks me to write, WILL YOU MARRY ME? Because I think, would this person actually marry you if you didn't ask them in this dramatic way? Or are you just overwhelming them to the medium of the message?

**Emily:** Yeah. And you have to be careful about what you're writing because it's a big message. And I don't mean big as in like powerful. I mean big as an incredibly visible. And that's part of why I think we sort of see how much it costs and say, gosh, that's actually probably pretty affordable for a lot of big advertising budgets. But it's visible for long distances, right? Because it is a big, physically big message. So generally on a good day, it's about 30 miles in any direction. Of course, that all depends on the wind and the weather and other air currents and that kind of stuff. But in general, on a good skywriting day, a lot of people are going to see it. So pilots are usually pretty careful about what they're putting up there.

**Nick:** Yeah, and will you MARRY ME SUE is a bit more manageable. But another problem with Will you marry me? Over a 30 miles circle, is a lot of people are going to think maybe you're talking to them.

So this is a phrase that will make us all feel old, in the late 20 teens... Let's just reflect on that for a second.

Skywriting looked like it might be making a comeback because think about it, it's highly Instagramable and still has a lot of visibility and novelty, which is what made it popular in the first place. It may not be as inexpensive and carefully targeted as a social media ad, but it's not that far off and it's unique and shared more widely than a traditional ad might be. Let's face it, if our wonderful sponsors Olay wrote OLAY in the Sky, I'm a lot more inclined to take a picture of my wife than I am to screengrab on Instagram ad.

**Emily:** Well, and I think this is where the conversation around how much art is in advertising becomes really interesting because when advertising is visually stimulating or interesting for some other reason, right? Like that art form engages us to then want to share it on whatever platform we prefer at that particular time. And that pays dividends because you have this exponential increase of exposure that you're not paying for because you just paid for that initial exciting thing.

**Matt:** Yeah. And so you can imagine that to get the most bang for your buck, right? You're going to want to do this over the most crowded areas you can find. Maybe music festivals, football games, whatever it happens to be where you have a whole bunch of people together. Well, as you can imagine, these last couple of years with the pandemic and with restrictions on large crowds, that sort of moment where things started to seem like skywriting was making a comeback. Maybe the pandemic has kind of put a little bit of a kibosh on that, trying to, thrown a wet blanket over the sky writing game, just as it has over so many other things that we all love.

**Emily:** Yeah. And you bring up a really good point, Matt, because in addition to the lack of outdoor festivals and events where we used to gather with, you know, thousands of our closest friends and strangers, there's the added challenge of skilled pilots who are able to do this work and the aging of the the current workforce. And this is an issue across the skills industry everywhere. And this is another example where skilled workforces are aging out and there's not another generation of a lot of these skilled workers coming through the pipeline to take on this kind of work.

**Matt:** Yeah. When our producer Jen was researching this episode, you know, she was looking for places where skywriters might get trained or skywriters that are offering their services today. And honestly, you know, she wasn't able to find much. It does seem like there is a shortage of young people going into skywriting

**Nick:** I was, I was listening to the radio the other day, and they were talking about a dearth of commercial pilots and how recruiting efforts are ramping up because of this shortage now and anticipated shortage as people retire. And oh, boy, if you think it's hard to find a commercial airline pilot, try finding a skywriter pilot. Jen found a few and I talked to one and he was amazing. But the, the throughline I think that I learned is: the skywriting industry seems like it has a lot of ups and downs, and it might seem flat now, but like so much great art from illustration to jingles, a lot of really wonderful stuff comes out of advertising. So as long as people are looking up, somebody is going to be writing in the sky.

**Matt:** So skywriting is not entirely *exhausted* as a profession?

**Nick:** Nice.

*Emily laughs sarcastically*

**Matt:** Yeah. *laughs*

**Emily:** It's like my favorite thing about you two. I love it.

*Music up, then under*

**Emily:** Air Space is from the Smithsonian's National Air and Space Museum. It's produced by Katie Moyer and Jennifer Weingart, mixed by Tarek Fouda.

Did you know that Air Space has a monthly newsletter? You can sign up through the link in the show notes and follow us on Instagram and Twitter @AirSpacePod.

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*Music up and out*

**Nick:** And that's the episode.

*PRX Audio Logo*