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## Interview with Bernard L. Whelan

Bernard L. Whelan

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WRIGHT BROTHERS - CHARLES F. KETTERING  
ORAL HISTORY PROJECT

UNIVERSITY OF DAYTON

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B. L. WHELAN

Interviewed by

Susan Bennet

on

May 22, 1967

SB Today is Monday, May 22, 1967.

BW That's right.

SB And I'm talking with B. L. ...

BW Bernard, L. Whelan. W-h-e-l-a-n.

SB And Mr. Whelan is just here for a few days. And when did you meet the brothers?

BW Well, see I my home was in Dayton, are we on now?

SB Yes, we're recording.

BW I see. Well, my home was in Dayton. And that was fortunate for me, because I followed the career of the Wrights very intensively from about 1910 on. And in 1913, I signed up as a student to take flight training at their school at Simms Station.

SB Well, that was quite an honor. How, how, I mean so many people seemed to want to do that. How did you...?

BW Well...

SB ...pull that.

BW ...I just got enthused. I'd go out and watch them fly. You know. And I remember in 1910, Orville Wright made a rather historic flight over Dayton to help boost attendance at an industrial fair they were having here. And I stood on the, one of the, on the roof of one of the buildings down at Third and Wayne, where I was working at the time, and watched that airplane; it was the first time I'd seen anything like a cross-country flight, though I'd seen them fly out at Simms Station. But it was simply, it's hard to describe the thrill away back then in 1910, which is quite a ways back, of that airplane coming from Simms Station flying over the city and circling and going back. And Mr. Wright was plainly visible in the pilot seat.

SB How, how far up was he?

BW Well, I would guess now about seven or eight hundred feet, maybe a thousand feet. Not any more than that.

SB Did the plane do lots of dips and that. Or did it seem that way?

BW No, it was quite a smooth day, as I recall. And you could, well, you first heard the sound, you know, of the engines and the whirring propellers and then everybody was looking up at this thing. And very few Daytonians had seen any flying, you know. Even up to that time. Well, the Wrights did a lot of work at Simms Station in 1904 and 1905. Few people really saw them flying.

SB Just didn't want to be bothered, do you think?

BW Well, no. I think there were two facets to it really. One was that they didn't try to hide it at all. Anybody who happened to come by when they were flying could have seen it perfectly well, from the interurban or any place else around there. But the other was that they didn't publicize it. And I can see why they didn't want to disclose the, you know, they might lose the proprietary rights to their invention, you see. But at Simms, really their most important work was done, because while they made the first flights at Kitty Hawk, it was only at Simms Station where they made the first circular flight. And really brought the airplane to a stage where almost anyone could see it was going to be useful. They made circular flights, they could maneuver in figure-eights and that sort of thing. And they flew as much as twenty-four miles at one time. And that was before anyone else got off the ground.

SB When, where did you go when you applied for the job?

BW Well, when I was learning to fly, we flew right around, they had a hangar at Simms Station. We flew right around there. By that time, they had, well of course had their exhibition team, and well that was 1913, that was four years after they delivered the first machine to the Signal Corps of the Army, and they had about six or eight students out there at the time I signed up. And a little sidelight, in view of today's high prices, they were pretty high then. It was the only thing I know that cost more then than it does today. It cost sixty dollars an hour to take flight training at the Wright school. That's a dollar a minute. And they didn't want to sign you up for anything

less than four hours. And in those slow machines, most people could solo in four hours, flight time. But you were by no means a real qualified pilot at that time.

SB Now, you decided you wanted to learn to fly, and then you went to the company...

BW Yes.

SB ...and, signed up.

BW Yes.

SB And then how long did you have to wait before they told you, you could take training?

BW Well, almost immediately. You were, they had a routine that was something like this. The Wrights of course were mechanical geniuses, there's no question about it. As well as scien...very scientific people. Though a lot of people regard them, you know, as bicycle men. And they had the controls on the machine in those days, were not instinctive, like they are today. Only the elevator control was instinctive. And the aileron control which was wing warped in those days, and the rudder consisted of two levers and so it wasn't instinctive. But they had a machine a, it was regular model A or model B, Wright, and it was mounted in a way that it was sort of cradled, so it could rock laterally and forward and back and so on, longitudinally. And they would suggest that you take, spend some time on that machine. It was driven by an electric motor. And there was a large cam, which kept changing its its movements and if you moved the controls in the right direction, then you could level out the machine properly you see. So that way, that is that non-instinctive motion became really instinctive. Then after that they sent you out to Simms Station. And they had a pilot there at that time doing training. It was Oscar Brindley, he was killed during World War I. Right here in Dayton, at South Field. And so they turned you over to Brindley and he started you out.

SB Now, who else took the training with you?

BW Well, I can name several of them. I guess I could almost name them all. There

was a fellow by the name of R.M. Wright, but no relation. He was a, a farmer from Indiana. A, a man by the name of Bowersox who was a postmaster in a little town in Colorado. There was a man by the name of Schermerhorn who was in Boston, from Boston. And one by the name of Priest, <sup>Maurice</sup> Morris Priest, and there was a navy man who was taking training during the course of his time off between enlistments, and he was interested enough in aviation to come and take a course in training. And there might have been one more but that's about most of them.

SB Those, those names are not familiar to me, those people did not, none of which worked for the Wrights afterwards did they?

BW No, no. They never, they were all just like me, they...

SB Just wanted to learn to fly?

BW They just wanted to learn to fly, yes, and of course they hoped...

SB What did your family think of this crazy thing?

BW ...that they'd get a job. Well, my mother didn't like it very well, and I used to take my father out in from 1910 on and when I heard there was any flying going on, and I'd let him watch them. And I guess he became convinced that it might be worthwhile. Well, neither one of us could see where you would be, be able to get a job flying. And...

SB It was not a practical thing to do then. It was just rather...

BW That's right. Well, you could, you had the feeling well this is, this is so great that it, it must have some kind of a future to it, you see. But all my father could see in the way of a future, of course we all recognized there would be a military future. But all he could see aside for that, for a civilian was that you might be a pilot for some sportsman, who had enough money to buy a Wright machine.

SB I see.

BW That type the Model B, which was the one the type they built the most of, they sold for five thousand dollars. Orville Wright used to take a great interest in the students. During the time I was learning to fly, he would come out to

the field, frequently, testing some new wing section or some new component and he would always ask friendly about well how were the students getting along. And one expression that he used, which was rather unique, I heard him say to them more than once, have you done any mushroom hunting? Well, that's sounds a far cry from flying, but what he meant was this: Simms Station which is sometimes referred to as Huffman's Prairie, was part of a field there was very marshy and there were a lot of hummocks in it. And it was a place where wild mushrooms flourished. People used to go there to pick them. And by mushroom hunting, he meant very low flying. And he was of course an expert pilot himself and he would fly and make turns and figure eights around the field with the lower wing almost in the weeds, you know. And the reason he wanted you to have some of that was that low flying like that, your mistakes show up very quickly, you know. And you have to be very alert you know, not to drag the wings or make some other error. And that's why he wanted you to have some mushroom hunting.

SB Oh. He wanted you to to really be able to meet all emergencies?

BW Yes, yes. Always. And the instructor would always tell you that. And I remember Brindley used to tell me, everytime you take off, try to fly so that you're going to be prepared to land if the engine should quit at any time. But their engines were very reliable, I must say. I never saw but one person have an emergency out there. And after I took my training I used to come back other years, and and just when I had time off, and observed. And...

SB There were so many accidents in those early planes, though.

BW There were, but there were quite a few...

SB Was that, was that the people you think that were, do you think, the pilots were uncautious, or was it the plane?

BW Well, I think a lot of pilots didn't have good training, really. You know. And then, of course the military had a good many accidents in those days too. And I can't tell you why it was, but those planes landed so slowly that if you had any altitude at all in level country, you could make an emergency landing

without any trouble. But some people thought it was so easy that they didn't take enough training to really be qualified.

SB Was it true that those planes were really a glider, so if the motor went out you could glide?

BW Oh, yes. When you got up to the point where you could solo, why the instructor would, he wouldn't want you much in advance, he'd just see that you were ready, you know, and he'd step out and say, well now go ahead. I remember in my case he said go ahead, and meant fly a couple circles around the field and don't do anything else. And just come in and land. And then if he thought you were sufficiently capable, he'd let you make one landing with the power completely off, you know. Just and there was a certain arrangement of a wire, which shut off the engine, immediately and then you'd come in and land, and on those occasions, why all the rest of the students would gather around you know, and watch this volplane, as it was called.

SB What was that?

BW The volplane. V-o-l-p-l-a-n-e, it's a French word, meaning, you know, glide. There are many French words relating to aviation, to early aviation. I think hangar is one of them. And volplane, and amperage, fuselage and they're derivatives of French I think.

SB The French. Let me, let me pause a minute, I always have to check myself here, make sure that we're recording and that it sounds okay.

BW Yes.

SB I got to sound...

(break in tape)

SB Okay we're recording again.

BW Alright. A little, I mentioned that Orville Wright, of course Wilbur Wright had died in 1912, and Orville was a very personable man, and always seemed so willing to talk to students, and be helpful to them. And I recall that on bad weather days, I would go into their factory, which was out on West Third Street,



a place called Coleman, Coleman Street, it's now occupied my Inland Manufacturing Company. Same buildings are there; that was their first production plant. And while I was there I heard that Orville Wright made a last minute trip around the plant in the evening before going home, so I waited for him one night to ask him about the possibility of getting a job later on. And I'll always remember that he was, while we were carrying on the conversation, he was going along picking up the brass screws and other small parts that had been brushed off the work benches during the day, and you can understand that, because there they had financed the world's first airplane by the very meager earnings from their bicycle shop and he realized the intrinsic values of those things. But it's a sort of sidelight on his personality.

(end of side one)

SB That's a wonderful little sidelight. Was he an easy man to talk to or...?

BW Yes, he was very easy to talk to. I can give you another incident. In later years, I was flying for United Aircraft. And flew for them for sixteen years. Not United Airlines, but United Aircraft Corporation in Hartford, you know problems with the engines and that sort of thing. And we were west somewhere, and coming back and we got as far as Dayton and were tied up with bad weather, and I recall it was right about two days before New Years, and all the passengers, who were the top executives of United Aircraft were anxious to get home. So we didn't know whether we were going to get out the next day or not. So we stayed over and I thought I would just call Mr. Wright and wish him a happy New Year. And I guess it was the Grumbachs that worked for him, Mr. and Mrs. Grumbach, and I called and she explained he wasn't here he was out at the laboratory, that's that little laboratory they had, you know, out at Third and Broadway, just off Third Street. And she said oh, go out and see him, and I said well I wouldn't want to disturb Mr. Wright, and she said, you won't be disturbing him. She said, I know he'd be very happy to see you. And she said go to the back door, because he never answers the front door. And we always tell people that we think he'd like to see to go the back door. So I went in there, and we spent the whole

afternoon talking. And of all things, he was working on an engine, in a small motor boat. I think they had a camp somewhere up in Michigan, and he was doing some work on that engine to get it ready I guess for the next year.

SB Now, about what year was this?

BW Well, it was in the '30's because I remember the type of plane I was flying. Which was a Boeing 247, and we had that in the '30's, the, about from '32 somewhere, '32 on.

SB What did you talk about?

BW Well, we got talking about a lot of things, and I remember one item, we would get strangely enough, got talking about the slide, side slipping characteristics of a DH-4, which was built here in at Dayton-Wright which was a different Wright Company. It was a company organized during the War. And it was unusual; the DH-4 was a very good ship. It was an English ship you know, and then the Liberty motor was made for it in this country. And that was one of the things we talked about. And just things in general. About piloting. And I remember him telling me some of his ideas about blind flying. One was that you might have at the last minute you of course, could come in an instruments, and in a dense fog even today, they don't land in a dense fog. But he had the idea that you could extend an aerial down, you know, and save the last six or ten feet it would signal, you know, that you're at the ground, see. And then just shut off and finish the landing. That was one of the things we talked about too. And there was another incident that bears on his personality. When I was taking training, he was flying out at Simms Station and he came to me and said how would you like to have a ride in an airplane that can fly itself better than you can fly it. And I said well that would be fine, are, are you going along. He said, Oh, yes. I'll go along. And so I waited patiently and just when we were ready to take off, some people came in who seemed to have the air of important people and he went over and started talking to them, and he talked to them for about an hour. In the meantime it got dark, so he said we will have to do this another time,

but of course that other time didn't come along. But I had the pleasure of giving him a flight, with him sitting in the co-pilot seat of a tri-motor Ford.

SB Is that so? Was this (unintelligible)

BW Which made up for. Colonel Deeds, Moraine, and I, had a tri-motor Ford, and...

SB Was this in the twenties or thirties?

BW And we flew out there, what please?

SB Was this in the twenties or thirties?

BW No, this was, this was, I can give you the date of that. That was, that was in '28 or '29. Yes, I think it might have been the fall of 1928. And Mr. Wright used to come out to his house very frequently on Sunday for dinner. And after we had, Colonel was nice enough to ask me and our flight mechanic, to have dinner with him. It was quite an honor. And so after dinner...

SB Were you working, excuse me, were you working for Colonel Deeds at the time?

BW No, I was working for United Aircraft, Pratt Whitney Aircraft divisions, see. The Colonel had furnished the plane and I think they furnished the engines, and at that time, the Ford-motor was the biggest transport in the world, and it had three, and it was the first one powered with Wasp, four hundred horsepower engines. Well, after Sunday dinner, he asked Mr. Wright if he'd like to take a ride in the Ford, and he said yes he would. So we got aboard, and there were only four of us. Mr. Wright, Colonel Deeds, the flight mechanic and myself and Mr. Wright rode up in the co-pilot's seat. And we flew around Dayton for a little while, and came back.

SB Was, is that that plane that they still have up at Lake Erie? Are those...?

BW I don't think so. No I'm quite sure it isn't. Because eventually when we got the Boeing that I mentioned, that was sold to somebody in Mexico and I flew it down and delivered it as far as Brownsville, Texas. And then some Pan-American pilots took it the rest of the way. And I heard later that it had been smashed up.

SB Oh, is that so. I know there is a very old Ford up there.

BW And I bet it's one with the Wright whirlwind engines. That's the way they came out at first.

SB I don't know.

BW With the 225 horsepower Wright whirlwind engine, you know, like was in Lindbergh's plane when he flew the Atlantic.

SB The afternoon that you spent talking, did you talk about anything besides flying?

BW Oh, I think mostly flying, and the future of flying. Mr. Wright was indeed hard to keep up with. His mind was so keen and so alert, you know. And when he asked you a question, you had to do some thinking, you know, for a response, and then he'd have another question to ask you, you know.

(laughter)

SB You were actively flying and he, he was not.

BW Yes, that's right, at that time.

SB And he was interested, I suppose, in the actual mechanics in flying.

BW Yes, the handling you know, of the larger planes, and that sort of thing. They're, they were such great people, it's taken the world really quite a while to recognize it, you know. And the orderly and scientific way they went along to solve the problem of heavier than air flight. And at a time, when a lot of people you know, even prominent scientists said, well heavier than air flight will never be possible. But they just took it in a series of steps with their gliding and they made as many, you know, as nine hundred flights, gliding flights, and while that was the, the Kitty Hawk flyer was a pretty flimsy rickety machine. And only had a sixteen horsepower engine. That was just to prove their calculations, you know. And by that time, they not only had solved the question of how to fly but they solved the question of how to design airplanes, the relation of power you know to weight, and the wing area, and the type of wing section to use, and so forth. That was all original work.

SB Getting back to the time when you asked him for the job. What did he say?

That he...?

BW Well, I don't recall that he gave me a direct answer then, but he was very pleasant about it, you know, and talked about the training and all that sort of thing. But I was interested in what he was doing, you know.

SB Yes.

BW Picking up the small parts and so on. Later, when World War I was going on in England, but we were still not in. They were going to hire another pilot out there. And he called me for an interview. I came down and talked to him, and he asked me a myriad of questions, and so forth, and he didn't know...

SB What kind of questions?

BW He didn't know me very well at that time, you see, I had just been a student at their field, that's all.

SB Oh, I see.

BW And I didn't get the job, and he frankly told me that my flying record had been very good and all, but he didn't feel that I had enough mechanical knowledge to take care of the ship, which was one of the the, duties the pilot had to be responsible for.

SB Didn't you work...

BW So I thought it was the end of all things for me.

SB Well, didn't, didn't you work at Dayton-Wright Airplane during the War?

BW Oh, yes. Then that was later.

SB Oh, I see.

BW Yes, that was later, my career went like this, I learned to fly, I did a little bit of exhibition work for a man, see people then were certain people buying airplanes you know, and flying exhibition flights, and then there was an ad in one of the aviation magazines, asking people who were licensed pilots to get in touch with the Signal Corps, a branch of the Army. And I think they were in the back of their head maybe preparing for World War I, you know.

SB Now this was about what time?

BW Well, this was about, if I were home, I could get you the exact date. I would

say it was about, oh...

SB 1917?

BW It was before the War. It was yes, it was before we got into War, in fact I think it was about '14 or '15.

SB I wonder how many...I wonder how many licensed pilots were there?

BW Well, I don't know. My, my license, my pilot's number was 247.

SB 247.

BW And that was the FA, what they call the FAI license, you know, which was the first one that was issued.

SB Nationally, in other words that was 247.

BW That was international, yes at that time.

SB International 247. (laughter)

BW We can't put this on a recorder but a man gave me this down in Florida just before I came up here, and I don't know where he got it. It was a copy of my license.

SB Oh, really, well isn't that interesting. Who gave it to you, I'm, I'm curious.

BW Well, a man by the name of Morehouse. He's writing up histories of early birds. That sort of thing. I have that picture at home somewhere you know in a better, better copy.

SB Federal Aeronautics, well there's the French again, International.

BW That was...

SB I love that cap.

(laughter)

SB I guess, did you turn it around, backwards.

BW We turned it around backwards, when you started to fly.

SB Oh, you really did. And the pants that you stuck in the boots...

BW And then usually after you flew a little bit, you saw that you had to have on goggles too, you got a pair of automobile goggles.

SB Now, who was it that I talked with that said that he got, almost had an accident

because he got a bug in his eye.

BW Yes, that's right.

SB And intense pain.

BW Yes, that's right, that's what would happen. And the bug would usually be going in the opposite direction you know, so it could...

SB Certificate number 247, well that's interesting. 1890, oh that's when you were born, 1913, that's a long time ago. Okay then...

BW So it's authentic.

SB Yes.

(laughter)

SB Let's see where were we, before I interrupted you, I shouldn't have done that.

BW Well, let's see.

SB Oh, you were going, you had been turned down to go to work for Dayton-Wright.

BW No, not for Dayton-Wright, I was telling you about too. But to go to work for the Wright Company, still.

SB Oh, I see.

BW Out at Simms Station.

SB Oh.

BW And what had happened was this, see I was trained in 1913. In 1914 the war was on in Europe and the British government had sent down a large number of Canadians to take primary training at Simms Station. So they were going to hire another pilot. And I didn't get the job.

(chuckles)

BW But after that, I started to say, I was hired as a civilian flying instructor by the Signal Corps, and then, the year we got in the War just before I taught people right out here what's called Patterson Field, was then called Wilbur Wright Field, and, as a civilian, employed by the army, I taught a number of students there, and then we were transferred that down to Houston, Texas. I trained a good many more then. And by that time, Dayton-Wright which had been

newly organized you know, got into production on the DH-4 with the Liberty engine, and I was hired there as a test pilot. And I flew there for a good many years.

SB Then Mr. Wright was out there for...

BW He was, he was on their their board as a consultant. And you know it was at that place where they turned out what was referred to as the Bug, which was really the first guided missile, you know.

SB Yes, that's an interesting story.

BW Yes, yes it is.

SB Very much so. Did any of the other family ever come out to Simms Station, the Bishop or Katharine, when you were in training.

BW Oh, I think I saw Lorin Wright one day, on the interurban going out to Simms Station. You know, left right across from the Public Library is the Public Library still out west...

SB No.

BW Well, East Third?

SB Oh, yes. Yes.

BW East Third.

SB It's a new building, but it's the Public Lib...same one...

BW Oh, yes, is the old building gone or...?

SB Yes, they tor<sup>e</sup> it down.

BW It has. Well, we used to, I used to go over to the interurban station there, and I could see if any of the Wrights were going out to Simms or if the any of the instructors like Oscar Brindley were going out. And if they were why I'd take that interurban with them, and go on out. Later they had an automobile and they'd pick the students up. And if not, I didn't see anyone going out, that belonged there, I'd go over to the Public Library and look up something on aviation. And read all I could about it.

SB Well, there wasn't much to read, was there really?



BW Well, there was one French book by that time, and it just suited me because it was called Flight Without Formula.

SB Oh. (chuckles)

BW And while it was in the metric system I didn't have to struggle with mathematics, you know it was very easily convertible you know, to the arithmetic system that we have. And it was quite a good book.

SB Is that so?

BW I've often tried to get a hold of one. I guess we were talking about the Wrights as scientists and mechanical engineers, and all. And if you read that now the orderly way in which they took their steps and their intelligence in designing the wind tunnel, making a wind tunnel and testing all those wing sections at that time, you know. Nobody else thought of that. That, it's just marvelous. And then their mechanical ingenuity was very high ordered. I can think, thinking back, many of the things they put on their planes served a dual purpose. As an example, no one thought of brakes on an airplane in those days, you know, and of course you might say they didn't need them, but you should have something to help stop you. And on the Model B's, for instance, and other ships that followed. They had skids and there were two wheels on each side of each skid, suspended by rubber, heavy rubber shock bands. And when you took off, before you took off, the weight of the plane was resting on the, the wheels and the rear of the skids. And when you took off, if you pushed the elevator control forward a little bit, it would just be enough to raise the skids off the ground, so it would run freely on the wheels, and similarly when you landed, after you were on the ground and lost flying speed, you could pull the elevator lever back and it would press down and press the skids down on the ground and slow you up, you see. And another example of dual purpose ingenuity was they had a device I don't know how far you want to go into mechanics here, but you can cut out any of this out that you, that you don't want.

SB This is interesting, no I, I...

BW They had a device for shutting off the engine. There was a cable looped right within reach and in front of the pilot. And that went down and was attached to a rod that ran the length of the engine, and that rod had little lugs on it and they registered under you might call washers that were on the push rods of the engines. The exhaust push rods. Well, when you hit that, if you had an emergency like to break a chain or something like that, if you hit that wire, that would release that rod, and it would have the effect of holding the exhaust valves open so the engine would stop just immediately. But that had another purpose. For starting the engine, you could put it in that position, so that the exhaust valves were held open, and that relieved the compression so you could turn the engine over by the props you know, to suck in a charge of gasoline vapor. And then you release that, and you were ready to fly. So this was another case of dual purpose.

SB What would you, when when you started to fly that Model B, would you go about it?

BW Well, of course you had the instructor who would first take you a ride, and prior to that, he had explained the controls and you had your, your might be equivalent to what we think of in terms of a link trainer? You've heard of them, you know.

SB Ground schools.

BW Their, their machine at the plant. And then he'd just take you for a flight first.

SB Well, I mean, I mean, suppose you're getting to go somewhere, and you get into the plane, what's the first thing you do?

BW First thing you do?

SB Yes.

BW Well, even before getting in they would, of course have chocks in front of the wheels and crank over the engine, start the engine. Then they would release those. And then they had a throttle, it was like a foot throttle, and you would press that to apply the power. And then you'd just handle it like you do any

plane today. Now it's a little easier in this respect. That any single engine plane, you have the effect of the torque of the engine, because of the propellers turning in one direction and that gives you torque in the opposite direction and it's going to veer the plane off straight line. Well, the Wrights had two propellers turned in opposite directions, and that removed the effect of torque. And you didn't have that little problem. But otherwise you'd had just the elevator lever. This foot throttle, and you had the wing warp lever. And the top of that, that moved forward and backwards, and the top of that broke over for applying more or less rudder, see. That controlled the rudder. So that was the combination.

SB You did that with your right hand, and...

BW With your right hand. So you were quite busy.

SB Yes.

BW As you can see. You know with the one hand controlling the elevator lever and the other the, wing warp and rudder.

SB Well, the elevator, would the up and down and the right hand would be the...

BW Forward and aft, and the rudder was...

SB ...and sideways...

BW Yes, and the rudder controlled the top part laterally. It sounds more complicated than it really was. Then you would just fly circles around the field you know, in training, and when you got so you could handle the ship for a full circle, I always remember and I've told this a lot of times, what a good instructor Brindley was. He inspired so much confidence, and first you would wait until it was, you know, a relatively smooth day, then some day he'd take you up when it was rough, you know, quite rough, and when you first began to get some of these gusts, he would just sit there with his arms folded and he'd just look at you and grin, you know. And let you take care of it.

SB That must have been, that bothers me in a big airplane.

(laughter)

BW Yes.

SB With a little airplane.

BW Yes, well they would sort of balloon you know in those turbulent air drafts.

SB About, how about how much altitude did you...?

BW We'd go up there when you flew your license, I forget what the, well generally we'd be up, I would say, oh probably seven hundred and fifty, eight hundred feet.

SB How did you get your license. Did what...

BW You had to fly a test. They appointed when you were ready to take your test, they appointed three observers.

SB Now, who appointed three observers?

BW The, you applied to the Aero Club of America, who appointed three observers which were generally who were generally local men. One of them was my instructor, Oscar Brindley, the other was Mr. Luzern Custer who was a local man, and Luzern himself died just a few years ago. But it was his father, who was a balloonist and a great aviation enthusiast. He was the second person, the third person, I forget who he was now, but he didn't show up. So we waited and I had brought out a friend to watch the flying and they had three pylons you know. And he stood at one which was just an improvised pole with a flag on it. And a tree way over in another corner, say a mile away was a second one and the hangar was the third one. And you'd, you'd fly that. And you had to do that and fly figure eights, and you had to land within three hundred feet of a designated point. And they put down a sheet of some kind, you know, a white cross made out of fabric.

SB That was pretty rudimentary. Do you had to make an app...how much did it cost, a license?

BW Well, I took more training, now just because I wanted it. It, well the fee was, I don't know, maybe a dollar, it was just almost nothing. You just got it.

SB Is that so?

BW And people were encouraged to take a license test because those days, you'd be surprised there were a lot of fake airplane companies, and there were a lot of fake flying schools. And they would advertise for students and so forth, and all they would have would be a ship that would be a, we used to call a grass cutter. It would just barely get off the ground. You know.

SB (chuckles)

BW And not be able to sustain flight. And usually, and in those cases, you had to pay for any breakage, which you were almost bound to incur, you see. And...

SB Just a racket in other words.

BW Finally, you'd realize it was a racket, it really was, but the Wright Brothers School, the Original Wright Company. You didn't have to pay for any breakage, and when you, and it was rarely that there was any. Now, now one of these flights with the engine off, that I was telling you about. While all the students were gathered together to watch this, and I remember one man, I think it was Bressman and he shut the engine off, see, five hundred feet or something, before he turned and normally landed. And he didn't put the ship into glide at all, in the Wright B you'd call it a neutrally stable airplane, and you had to put it into glide when the power was off if you didn't put the elevator control forward, and put it into a glide well you would stall, and that's exactly what he did.

SB Just drop out.

BW Just, just...

SB Drop.

BW Pancake down, and maybe nose over, and get killed. But I remember, an amusing incident that occurred. This fellow it was Bressman or one of the others, Bowersox or Bressman. And he saw what was happening and shouted like this, "Nose her down, nose her down."

(laughter)

BW Air communications, ground to air communications.

SB Did he?

BW No, he didn't, and the plane wobbled and so on, and finally pancaked from about a hundred and fifty feet, and pieces flew all over, and so on, you know.

SB Was he hurt?

BW And, he wasn't hurt except shaken up. And you know that's the only accident that I ever saw, at Simms Station. And I spent a lot of time there.

SB Wonderful. That's wonderful, of course, when you were a test pilot they didn't do quite that well with the DH-4, did they?

BW Oh, yes, yes. I remember it.

SB Trial and error.

BW Several fellows, you know. My instructor was killed during the war down here in South Field, Oscar Brindley.

SB Yes, I know.

BW Along with the Colonel, Colonel Dan, see he and Brindley had joined the Signal Corps you know, the Army. And he and Colonel Dan were testing the DH-4 down there, and they had a sudden engine stoppage and he was killed. Do you smoke?

SB No, thank-you.

BW Good for you.

SB (chuckles)

BW Well, let's see.

SB What did Mr. Wright wear when he'd come out and fly? Or did he come out and fly very much?

BW Oh, yes he did. He had a leather jacket that he, that he used in, in colder weather, and he just dressed in ordinary street clothes, when he went, and turned his cap around, and had a pair of goggles.

SB Wouldn't it get awfully cold? How in the world...?

BW Well, and see when I took my license test it was in July. So it wasn't cold then, and then in the winters, they used to have a school somewhere down south, Augusta, Georgia or...

SB Montgomery, Alabama.

BW Atlanta or Montgomery, or someplace.

SB How many people went through that school out here, do you have any idea?

BW A good many. I'll tell you how you can find out. And I may be able to send it to you if you're interested, there's one of the tablets out at Wright Brother's Hill, has the names of everyone who were trained at that, that at Simms Station.

SB Oh, it does?

BW On a bronze tablet.

SB I didn't know that.

BW And somebody sent me a picture of it one time. It was a very good picture.

SB Well, I'll have to go out and see it.

BW Yes, you go out there and take a look.

SB I haven't, I haven't been out there.

BW You'll find my name there.

SB Quite a distinction.

BW And you can tell when the Canadians came down for the training, because you can recognize the Canadian names, and if it hadn't been for that happenstance, there wouldn't have been very many names on that bronze tablet.

SB Is that so.

BW But when they came, then it was quite a a group of them you know. That was in about...

SB Are they French names?

BW ...1914. No, well, I don't know, I can't recall, but one of them that was given their primary training there, shot down Richthofen, the great German ace? And another one shot down a dirigible balloon, of the Germans.

SB They trained them well, then, didn't they?

BW Well, they just got their start there.

SB Did Mr. Wright ever talk with you on any other subjects do you remember? Other than flying?

BW Oh, no, I don't...

SB Politics?

BW ...believe he did, I think he was, no I think they were keenly alert as to politics. Now I don't know their feeling except that I read at in Ed Kelly's, is it Fred Kelly's book?

SB Fred Kelly.

BW You know that in their flying in 1904-1905, they made one more flight to celebrate the great political victory of the preceeding day. And it was also the hundreth flight of that year. And I think I looked it up once, and I think it was a Republican that was elected at that time. It could be traced easily enough. But I, I heard from others that they were quite well interested in politics and quite controversial about political things, but I had no knowledge of it myself.

SB I've never been able to find exactly, exactly where he discussed it, with anyone but family. And liked discussion about it.

BW No, he never talked to me about it.

SB Did he ever act like he was in pain when he was with you?

BW He mentioned that when we took the ride in the Ford Tri~~l~~motor that he didn't want to stay up too long, because it bothered, it still bothered his back if he was in anything where there was any vibration. And he had purposely bought a Franklin automobile which was air cooled, and had very resilient springs, and he drove around in that those days, and I understood largely because of his back injury, which he sustained you know when they were making the first flights for the Army. I don't know if I have anything else here which the, oh, coming back to their ability as engineers you know. When you think that there were no engines available and they built their own engine, they needed a light engine, and they built their subsequent engines, too. The engine that they used in the Model B is on display down there in Carillon Park, but the text is wrong because they refer to six~~x~~teen hundred horse, sixteen horsepower engine which they



used in the Kitty Hawk flyer, weighing so much and then they go on and say something like this other engines such as the one exhibited here were built for experimental purposes or something like that, but in any event it makes you think that that engine that they show was the sixteen horsepower engine, but yet that was about a forty horse powered, a thirty-nine horsepower engine the Wright four cylinder model that they had in the model B's. Now, this has nothing to do with this program, but you can cut it out, I also noticed, I took my wife out there, yesterday after we got in town, and cause it's quite an exhibit, you know, Carillon Park, and where they show a Liberty engine, they state how it developed four hundred horsepower, which is correct, weighed eight hundred and so many pounds, and it was used in trainers, the JM-4 and the Standard. Those were the two trainers that were in used in this country. But it was never in those; it wouldn't be suitable, it was too much power and too much weight, you know, it was used in the DH-4 and other succeeding bombers, light bombers and so on you know. So I think I'll get in touch with somebody and see if they don't want to correct that text.

SB Yes, I can tell you who to contact too. Because they do like to have those things correct.

BW To just exactly correct.

SB Yes.

BW Yes.

SB Cause I...

BW Well, I started to say that building their own engines, you know, was a great accomplishment, and the design of the successor propeller, that's a, it was almost as large a problem as the airplane itself, because there was nothing to go by.

SB It seemed to be really right. Yes, it certainly was a marvelous achievement to be able to do that.

BW Yes.

SB Did, how did the other students feel about the training, were they as enthusiastic as you?

BW Yes, I think everybody was as quite enthusiastic but very few of them did anything about it. Of the, the ones that were there, when I was trained, I only knew two or three of them that kept on in aviation one way or another, the rest they were just never heard of any more.

SB That's interesting.

BW Schermerhorn and Bowersox and I forget who some of the others were, I never heard of, but a fellow by the name of Bressmen continued on, and I believe <sup>Maurice</sup> Morris Priest did some flying that I learned about. They may have, but I didn't hear about it.

SB You were really hooked though, weren't you?

(laughter)

BW Yes, well I flew here at Dayton-Wright Airplane Company all during, well, during part of the War. Testing DH-4's and then General Motors bought Dayton-Wright, you know. And they continued on for about five years, and I flew for them, until they disbanded, gave up aviation, and decided to build Frigidaires in that plant, and that's what built there now, only the plant's greatly expanded. But you know, I think that there are one or two things here that deserve a little tablet marker and one of them is their original buildings out there on what used to be Coleman Street. I forget the name of the street now, but it leads right into Inland, and I think their employment offices are in that part, but the buildings are distinctive. And it would be nice <sup>if</sup> someone put a, that's right, you're seen them then haven't you, if someone put a kind of a bronze tablet there.

SB Yes, everything's going to be gone, if somebody doesn't appreciate it soon, I mean like Henry Ford took the bicycle shop.

BW Yes, that's right.

SB And of course Hawthorn Hill is still out there, but NCR uses it for their their purposes, and something isn't done there'll be very little little to

mark, actually mark the places here where the Wright Brothers were.

BW Yes, that's right.

SB How did, how did your friends feel towards you? When you were learning to fly and to be a pilot. Did they think you were crazy?

BW Well, half of them didn't even believe it, honestly that there were such things as airplanes flying. And I used to invite them out, come on out, I'm taking a lesson tomorrow. Come on out and watch. And and they would you know. And they'd you know, sort of be convinced then. But...

SB It didn't seem like an occupat...any future in it, in other words.

BW No, not much, except military. Military future. And of course night flying was just out of the question you might say.

SB I think it would have been awfully cold in those early planes.

BW Well, yes it would, but you'll see them bundled up. You'll see pictures of early pilots, you know bundled up with helmets and, and, well, when I, when I was a civilian flying instructor out here at Wilbur Wright Field, down in Texas, we used to wear leather, leather flying suits. You know. Button up, that was the day before the zippers.

(laughter)

BW They buttoned up and they had fur collars, and you had helmets that fitted closely you know, around your face and of course goggles, and gloves and flying boots.

SB Well, it still sounds pretty cold even with all that on.

BW I wanted to mention one thing, that occurred to me yesterday. You know the Wrights tried their best to be very loyal to the United States with their invention. In the first correspondence, you know, they offered them everything in the patents and so forth, and for some reason there, for years they were completely ignored by the Signal Corps you got in reply to their letters the most asinine letters that you could think of. But then in 1907, they realized they might have to go abroad, and they sent a ship over there, but they did no flying

until they had received a contract from the Signal Corps, now they, then they started flying over in Paris before they did publically in the United States. But it was only after they were assured that the United States was you know, at last ready to buy an airplane.

SB Yes, they missed, almost missed opportunities were really, really...

BW That's right and you know at any time, well, they did some very wise things and one was the Signal Corp or the, well the head of the Army at the time, the War Department, asked them to submit drawings, you know of their airplane and so on. Well, they refused to do that. And they were very wise because I know I've had enough experience in government procurement to know that it's very unlikely that that would have been kept confidential, other people would have seen it, and then they would have asked for bids, and can't tell how many people would have the idea of copying you know the work that the Wrights had, had accomplished, years and years of painstaking research. But so they didn't because and it was rather ridiculous in a way, for the Army to ask for that because up to that time they said they didn't believe that there was, there was such thing as an airplane that would fly.

SB I wonder why, I wonder why they were that wise, really.

BW I often, I've often wondered that. And I wondered if this didn't have some bearing on it. I've tried to think out, they couldn't have been that stupid really. Langley, of course had...

(break in tape)

BW ...of any controversy between Langley and the Wrights you know, they...

(break in tape)

BW ...wanted to spend. He just didn't have the right approach and have the fundamentals that the Wrights discovered painstakingly. And, but the Smithsonian you might say, was to a certain extent a government agency, and they spent a lot of money; they spent seventy thousand dollars. They had as many as fifty men you know, working trying to build an airplane. Of course it failed, now it's

easy to see why it failed, and it might have been reluctance to go ahead for that reason, and you probably know what happened later you know, when they sent the Langley out and that was just the wrong thing to do, because no matter whether it could have flown or not, it was an important, very important exhibit, in along the lines of man's effort to fly a heavier than air machine. So it should never have been done.

SB Did you ever meet Mr. Lenning in Florida, Scorbert Lenning.

BW Yes, yes. Yes. He worked you know, for the original Wright Company.

SB Yes.

BW Just about 1914, or '15 I think, along in there. And he was the first trained, college-trained aeronautical engineer, I think from at New York University, wasn't he?

SB Yes.

BW I saw him just, let's see, a week ago yesterday. No, let's see, yes. They had this unveiling of a bronze bust, you know of the Wright, Wright Brothers, in the Hall of Fame for great Americans, New York University. They had quite a ceremony.

SB Yes, I talked with Mrs. Miller the night before last.

BW Oh, did you?

SB Yes. And she, she said they had just gotten back from...

BW Oh, yes.

SB That they had enjoyed it. Very much. I'm trying to think, let me turn the, turn the thing off and I'll think, see if I can think of any questions here.  
(break in tape)

SB Trying to, you were talking about, you had, had seen Wilbur at one time.

BW Yes. I had never been introduced to Wilbur, but I saw him once, saw him in the interurban going out to Simms Station. And you couldn't fail to recognize who he was, if you ever saw his picture in the paper, he had a very distinct, I don't know whether hawk-like expression is the proper one or not, but it was

a very distinctive countenance. And of course what all that you read about him, especially his work in France and his attitude, toward the French workmen, and over there, and all. You'd feel that he was a very democratic and a very resourceful person. And I have always felt that Orville and Wilbur complemented each other very closely.

SB That was, oh, yes. How did people feel when he passed away do you remember that?

BW I don't recall that there was much, there was a good deal of sadness and everybody thought it was a blow you know, to aviation, and a particular blow to the family, you know they were just about ready to move into the house on Hawthorn Hill when he died. And it must have been a great sadness.

SB Did you ever see Katharine in later years?

BW Oh, I don't believe I ever did see Katharine. Do you know if Mable Beck is still living?

SB No.

BW She, she is not living? Well, she was Orville's secretary, you know for many years, and did a lot of his computing and so on, on a comptometer. I can still see her out there, in the little laboratory, you know. Well, I mentioned about their loyalty to the United States, you know, trying to keep the airplane over here and all.

SB Was he ever, was a woman ever...

(break in tape)

(end of side two)

(start of side three)

SB Was he ever, was a woman ever mentioned in regard to him?

BW A woman in the lived<sup>s</sup> of, you mean, Orville and Wilbur? No, the only thing I ever was in that was that they were too busy with the airplane to be able to afford a wife and, and develop~~e~~ the airplane at the same time.

SB When you were a student...

BW Yes, they were. And I guess Katharine was quite a student too.

SB Yes. Yes. She was, she had the distinction of failing a number of our prominent, later prominent, citizens, (laughter) in Latin, it seemed like.

BW Is that right? (laughter)

SB Yes. (laughter) I have forgotten who, oh, Mr. Stout, a number of our other very prominent. She just flunk them all. (laughter) Freshman Latin.

BW There's another little observation I might put in this. After the War, a few people know that Orville Wright designed, finally, a plane which was, I believe, purchased by Colonel Deeds or the design and building of it was arranged by him, but it eventually fell into General Motors hands, and then eventually I bought it from General Motors when they went out of business. And it was called the OW. And I think it was probably the World's first cabin airplane that wasn't just something improvised from, you know, another plane, with a sort of a cabin built over it. And it, it was called the OW after Orville Wright, and it was built down at South Field, and it had a Hispano-Suize in it, a hundred and eighty horse power, and I think it was the most efficient plane I'd ever flown. It would, then with pilot and three passengers, the pilot sat in front in the cabin, there was a side seat back of the pilot for three passengers, and at fifty percent horse power it would cruise very nicely at a hundred miles an hour, and that's a very low percentage of horse power, you'd normally use. We flew it quite a lot. It was like all the Wright Brother's planes. It was very lightly wing loaded. So in turbulent air it was rather uncomfortable.

SB You mean it bounced a lot.

BW Yes, but he had in mind a...

(break in tape)

SB Alright now we're recording.

BW Yes. Well following the War, and during the period when General Motors owned Dayton-Wright Airplane Company, Orville Wright designed, and I'm sure it was his last design, a ship, a cabin airplane, and I think it was probably the

first true cabin airplane built at least in this country if not in the world. And it was called the OW, and it was a very fine low resistance airplane. And flew on a remarkably low percentage of its available power and as I recall figures, at fifty percent power it would cruise with a pilot and three passengers at, nicely at a hundred miles an hour. And actually I have, flew that ship over at McCook Field, as it was called at that time, for an altitude record, there was never anything very official about it, but at that time, everybody was making a record with two passengers or three passengers, and so forth so we made one with, we came over and to make it authentic, really, why we did it at McCook Field, and they gave us oxygen and all that sort of thing, and we went up, I remember in the morning, and Fluffy out the door...

SB No, that's alright, I was just checking, thank you...

BW They went on this flight in the morning, and didn't quite get as high as we wanted to, so we tried it again in the afternoon, we took off our coats and left them, and left the oxygen behind and took out the fire extinguishers, and every piece of equipment we could, and it was officially something like of course records then you know are nothing like they are today, but it was around nineteen or twenty thousand feet, maybe twenty-one, something like that. But at that time it was a record for that number of passengers and the weight. But the point is that it was a very efficient airplane.

SB Is that so. Now who was in this flight?

BW Well, I can tell you the names of the men. They were just, let's see. Three of us, one man's name was Lounsberry, Roy Lounsberry, they were mechanics. Another one was a man by the name of Roy Zorn who was an Ohio man, and had built airplanes himself just as sort of a private venture, and the other man was a man by the name of Castro who worked somewhere in the Dayton-Wright-General Motors activities. And those three, I think we picked them, because they were small light men. (laughter)

SB Is that. You said that you bought the plane.



BW Oh, later, then I bought it when General Motors disbanded and gave up their airplane activities, why they had a lot of inventory there that they were willing to sell. And I bought the OW, and I think it was for five hundred dollars.

SB Oh, my.

BW And started passenger hopping down at what was called South Field, it was along the Dixie Highway, now its a housing development, down there.

SB Super houses. Do you think that that Orville Wright ever worried about the planes being used for war?

BW Well, he...

SB Did he ever say anything to you?

BW He didn't, I never heard him make any comment, about, about it. Oh, he thought yes, there was some comment, and I think there's something in Fred Kelly's book, he thought it might lead to the prevention of war, because of the reconnaissance of the movements of troops on both sides could be so well identified, that no one would have any particular advantage. I think that was his thought at the time. Aside from that I never heard him mention or comment on it.

SB There was no discussion, there was no general discussion of it or anything.

BW I don't think so, not that I know of, no. Finally even they were very simple modest persons, you know. And even their graves, out there in Woodlawn Cemetery reflect that, you know. They just had the one large stone with the words Wright on it, and then Orville and Wilbur. And of course Katharine is buried there too.

SB Yes, I think the whole family is.

BW Yes.

SB They were considered to be wealthy people?

BW Not unless they made, well, when Orville died, he left, I saw in the papers where he left an estate around a million dollars. And he had left something for Miss Beck and also for Charlie Taylor who did all the work on their engines; the Wrights designed it, but he built it. Generally acknowledged that he did.

SB Okay, well you've been very nice.

BW Do you think that covers it?

SB Well, yes, unless you can think of...

BW I don't.

SB ...something, some other personal thing, that...

(break in tape)

(end of tape)

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