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Interview with Ernest Dubel

Ernest Dubel

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WRIGHT BROTHERS - CHARLES F. KETTERING

ORAL HISTORY PROJECT

UNIVERSITY OF DAYTON

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ERNEST DUBEL

Interviewed by

Susan Bennet

On

March 1, 1967

SB This is a tape of Mr. Ernest Dubel, who knew Mr. Orville Wright. Today is the first of March, 1967.

(break in tape)

SB Sounds like we got a squeek, doesn't it.

ED Yes.

SB That ought to do it better. Okay, how did you start to work for the Wrights? About what, what year was it?

ED I think it was 1915.

SB That was the...

ED They closed in 1917.

SB Oh, why did they close?

ED Well they, you're not making a recording are you?

SB Uh-huh, yes we're recording now.

ED Oh, talk to me. The Wright Brothers was reorganized and was, the firm, whose name would change to the Wright-Martin Aircraft Corporation. And due to disagreements among the owners, the company finally was dissolved.

SB And then Mr. Orville was no longer associated with it? Is that it? From 1917 on?

ED Mr. Wright?

SB Yes.

ED Yes, Orville Wright was associated with it to the end, and then he became director of the Dayton-Wright Airplane Company. Also on the War Board, as an advisor...

SB Oh yes...

ED ...for the government.

SB That was when he worked, when he worked for the, on the Kettering Bug. Well how did you go to work for them, do you remember? Did somebody hire you, or did you go down to and apply for the job, or?

ED No, I, I always wanted to be around airplanes. And I was in Detroit with the

Consolidated Motor Car Company. And I had a nervous breakdown, and I came back to Dayton for a rest. And one day, I went out there to the plant, and asked them if they needed any help there. And they said, they said, "Yes." And I told them my experiences, I've been around the auto industry most of my life, and then I stayed till the company disbanded.

SB Now, this was, where was the plant located then?

ED It was on Coleman Avenue, near Third Street.

SB On Coleman, that would be out on the West Side?

ED Now, the present; the old original plant is part of the Inland Manufacturing Comapny today.

SB Is that so? How many, what were they building then?

ED Well, we built the last of the Wright B ships.

SB Model B?

ED Model B. And the last one is in the museum out here at Fairborn today.

SB Oh, yes, I've seen that. How long would it take to build one of those planes?

ED Well, we, oh it was about two or three days to assemble it. Of course, the parts were originally made. It would take about two or three days to assemble one of them.

SB Now did they, was the entire job done here? Did they build the motor and the wings and everything right here?

ED Everything was built by hand out there. Well, some machinery, but there was no automatic machinery. Everything was hand machinery. But they built the motors and everything complete.

SB Well, how many men worked on the plane?

ED I don't think there was over, it must have been about been twelve men in the factory.

SB Was this one great big room? Was it just one great big room? Or there were...?

ED No, there were two rooms. One room. There were two buildings, and two rooms in each building. The factory where they did the woodwork and cloth work, was

one room and the machine room was another. And then the building side of it where we kept the planes and storage and parts.

SB Well, did, did Mr. Orville, was he there every day?

ED Yes, Orville Wright was there every day in the office. At that time he was in a, dictating the accounts of their early flight and their experiments to a man from the Massachusetts Institute of Technology. He spent that, I think, that entire winter of 1915 to '16 dictating the, his experience and things he remembered of their experience and development of the plane.

SB Isn't that interesting? Did he have a secretary at that time?

ED Yes, he had a secretary and treasurer; her name was Miss Beck.

SB Yes, and would he, would he dictate to her, and she write it down, and then they would, do you remember? Or did he write it out in long hand?

ED Oh, the man from Massachusetts Technology took care of everything. Miss Beck was the secretary for the firm itself. And not in that, no in, she had nothing to do with the...

SB Oh, taking down...

ED ...with the records.

SB Was, how large was his office? Was it a small room or a big room?

ED It was a small room. And there were two rooms in, in front of the building. A hallway in between. One was the up, his office and the other was the draftsmen, there were two draftsmen at the time.

SB Yes, but he, at this time he actually was doing, was not doing, the physical labor of, of building the planes.

ED No, he did not at that time.

SB He was an executive, in other words, at that time.

ED Yes.

SB Well, that's very interesting. Did he come out and sort of supervise much of the work and talk with the men?

ED No, at that time, he was busy with his, oh I'd say, history of the plane, and

he had to think of material for it. And he didn't come in the shop very much. No, he didn't do any supervision work; there was a foreman there at the time.

SB Who was the foreman, do you remember?

ED Charlie Nellis. Then there was another man who was his, well you'd say, Orville Wright's right hand man in all his work; his name was Jacobs.

SB Oh, yes.

ED James Jacobs. His son, the present time, is the president of the Aviation Hall of Fame.

SB Yes, I'm going to talk with him, probably Saturday. Your, when you got check, did Mr. Orville sign them? Or was, did he take care of the financial end of the business or do you remember? How were you paid?

ED Oh, Miss Beck took care of the finance. She acted as treasurer, secretary and office girl.

SB Oh, boy. She must have been pretty capable.

ED She was.

SB What were the, how long, what were the hours then?

ED The hours were eight hours a day, at that time.

SB Yes, and did you work on Saturday?

ED Yes, we worked Saturdays.

SB Six days a week, eight hours a day?

ED Yes.

SB That was in 1915. Do you remember Mr. Conover? Mr. W. H. Conover?

ED William Conover?

SB Yes.

ED He wasn't in the factory. He was what we call the ground charger, what today they call the ground crew, or maintenance, of the planes. They have charge of the, of maintaining the planes, and keeping the records of flights, and supervising all work in connection with flying. But he had nothing whatsoever with the factory. At that time I was there, he was at Mineola Long Island

Flying School. And at that time, there was, there was several instructors there, at the school. One of them was Bernie Whelan from Dayton, Howard Rinehart, and Oscar Brindley. I know of those three, personally were instructors there. Oscar Brindley wasn't from Dayton. But Howard Rinehart, Rinehart and Bernie Whelan were Daytonians.

SB Now you say they were instructors? Who, who did they instruct?

ED What?

SB Who did they instruct?

ED Anybody that came to the school. You see, the school was for teaching people to fly. And any person that wanted to fly would have to have to pay a fee of fifteen hundred dollars to fly, to be taught to fly, and they were...

SB Oh, is that so?

ED ...they were the instructors who went up with the pupils and taught them to fly. Each ship had a double control so that the pilot could take over at any time.

SB (chuckles) Did those planes seem, were they simple or complex? Were they difficult to fly?

ED They were more difficult than an airliner today, because they had only two instruments that I can remember. One was a banking instrument and the other was a speed indicator. That was the limit of their instruments. They didn't have any instrument board. They just sat on a little seat right on the wing, when they flew. And their feet were out off in the air, with their feet control.

SB Well, it sounds, pretty, pretty, daredevil, I would say.

ED Yes.

SB Did you ever, did you ever go up in any planes?

ED Yes, I went up.

SB How many, how many of the men who worked in the plant were interested in flying? Or was it just kind of a job?

ED Well, the only men there in the school were the ones that I just named, just

mentioned were instructors. The men in the plant didn't any of them fly.

SB Did Mr. Orville come out? Was he a personable, you know, one of the boys type man or did he seem to be aloof and was there a distinction between the people who worked for him, and himself?

ED No, I don't think there was, but Orville Wright was not a man who was gifted at talking much, like some people are. And he was very friendly and courteous to everybody, and nice to the people who worked around him. I had quite a bit of experience with him, and I'd say he was a fine person and everybody that ever knew him, that I knew, liked him personally.

SB Yes. Was there anyone who was close to him, in the plant? Would you say? I mean of the friends.

ED Mr. Jacobs, I would say, was the closest to him.

SB Yes. Did he have any, in his office did he have any personal mementos that you remember, or the things that, you know, men, like pictures, have around and things like that?

ED No, not very many. I can't remember too much about the office anymore. It, but it was very simple. It wasn't anything elaborate or anything.

SB Did his sister come over, Miss Katharine Wright?

ED What?

SB Did Miss Katharine Wright ever come over to the office?

ED No, I never saw her there at the office.

SB Yes, yes.

ED I think she was married at that time, wasn't she? What's the date?

SB Well, I don't know exactly when she did get married. She married fairly late in life. Of course...

ED Yes.

SB ...in 1915, he was born in 1871, so that he was forty-five, he was not really a young man.

ED No.

SB At that time, and I guess that she was, she did marry. I just wonder, what did he do for, do you know, or have any idea, what he did for pleasure? Was he active in any church groups or social things of that nature?

ED I don't know anything concerning his personal life. I don't think Orville Wright was much of a man for society or social events. And he was never inclined to give a speech. I know that much. I know when we tried different times for a talk to the Flyerman's Club down at Dayton-Wright in World War I, and he refused. Not because he didn't, he didn't like us, fortunately, but because he just he was not inclined to talk or give a public address.

SB He just didn't, he just didn't like, he seemed to like people individually, but he just didn't seem to like them all in a bunch, I guess. Everyone seems to have liked working for him. Did he pay fairly standard wages?

ED Yes, yes, he paid it. Same as me, as anybody at the time, I'd say.

SB Did they have any kind of retirement, or plan for their workers? Anything of that nature; that was pretty hazardous work.

ED That was, I think the only one that ever had that before World War II about in this part of the world, was the Cash Register Company.

SB Is that so?

ED Very few firms had any pension or benefits for the workmen before World War II.

SB Is that so? So they didn't, that was at the time, that wasn't unusual. That they not have...

ED It was very unusual. And the fact is, very few people ever thought to ask a firm to establish any kind of a rule like that. The auto industry in Detroit had it forced on them by the union. They never gave a working man any benefits at all.

SB It just seems incredible that these people would fly these little tiny airplanes, and there was no provision for them, or the company, you know, felt no responsibility, in case a man did get seriously hurt?

ED Well, in those days, if you went up in a plane, you had to sign an agreement,

make an affidavit that you would not hold the company or any person connected with the company responsible for your death or any injury in going up in the plane.

SB Is that so?

ED Yes.

SB Now, the people who came to the school there, in other words, they had to sign an agreement, plus pay fifteen hundred dollars?

ED Yes, they had. The company didn't carry insurance for anybody. And the fact is the insurance company didn't want to insure anybody that would fly.

SB I'm sure not. (chuckles)

ED It was difficult to get any insurance. One of the first men to ever go into the insurance business, I know, was a flyer was Schroeder. He's the one that made the altitude tests and froze his eyeball, and blacked out, and came within five thousand feet of the ground before he came to, to right the ship.

SB Oh, dear, it sounds awful. (chuckles)

ED Yes.

SB Sounds so horrible. Well now, when, what do you remember the circumstances of falling out among the, among the powers to be? Or how did they get Mr. Glenn Martin into the firm. How did that happen?

ED Well, they was a, the airplane began to get popular about that time, I'd say, about 1912 or '13, and Glenn Martin had built his own first planes, he lived in the West, at several places. And he built his own planes, and got interested, and began to make a reputation as a flyer, and then there was another man, on the east, Charles Holt, he designed some ships and one time at a company, with another man named Lewis. Lewis had been in the army so Charles Holt came with this company then as a designer. And Martin also came with the company as a designer, and it seemed the business men were financing the company. Certain ones wanted Martin to be the chief designer and some wanted Holt to be the chief designer.

SB Now, this is the Dayton-Wright Airplane Company?

ED Yes, that's at the old Wright Brother's Airplane Company.

SB Yes.

ED And there was never any agreement between them, but Holt designed, the ship we built there, and Martin didn't...

SB Now, this ship, this is not the Model B you're talking about?

ED No, this is a new lighter ship. These were tractors, the Model B's were what we called the pusher type. The propellers were at the rear.

SB Now, that was designed by Orville Wright.

ED That was designed by Orville and Wilbur.

SB Now, was that the last plane that actually Orville designed, that the company produced?

ED Oh, he designed one they call the "C" and his own personal ship was a "C".

SB Now, you say his own personal ship. The one that he flew?

ED The one that he flew. He flew it the last time, I think it was spring of 1918. Down at South Field, at Dayton-Wright Airplane Company.

SB Did he, while you were working there, would he go out and fly? Did he have any interest in flying, or was he pretty much a desk man at the time that you were there?

ED Yes, he flew in the fall of 1916, the last time. At Simms Station. Of course I went out there with several other men. We brought the ship into Dayton, from there. And that was the last time he flew it until he flew at South Field again. And then the government heard about it and they ordered him grounded. They said his brain was too valuable for them, for him to risk his life and get killed.

SB Is that so?

ED Yes.

SB Well, that was the time that he was working for the government?

ED Yes.

SB On the, on that Kettering Bug I imagine. And they, but they didn't want him to fly?

ED They didn't want him to fly, no. He was, well, he was the advisor for the United States Government on planes because there was one, there was one ship that they built in England and they brought to the United States; the Curtiss Company put a Liberty motor in it. And every man that tried to fly that ship got killed with it. And so they brought one down to South Field--the Dayton-Wright Airplane Field. And Orville Wright and I spent a day together going over that ship, finding out all the things we could wrong with it. And we both agreed that it should be condemned, and it was condemned.

SB What was wrong with it? What was wrong with it, I'm curious.

ED The construction wasn't good. They put on loose covers that let the air get under the wing covers and blow them off. The motor was a four hundred horsepower motor and that ship couldn't stand over a hundred and twenty or fifty horsepower motor. It was nose-heavy. I kind of think it was the fire that killed the ship.

SB Is that so?

ED Yes.

SB I didn't know they could build a four hundred horsepower motor for anything. Is that...

ED Well the Liberty motor that was used in the DH-4 and the airplanes of the United States built for, for battle service, were powered with a Liberty motor, a four hundred horsepower motor.

SB Is that so? When, when you and Mr. Orville went over this, was, how, how you, did you start at one end and go forward, or did, how did you go over this plane?

ED Well, I can remember the first thing Orville Wright went and did. He walked up and looked at it and he said, "That ship's nose-heavy, that motor doesn't belong in it." And he was correct. Anybody been around airplanes any great length of time could almost see that.

SB Is that so?

ED It was a little, it was built for a little, it was a personal ship that was built by the English for a scout ship. They put a motor in it that belonged in a big fighter ship.

SB Oh, my.

(laughter)

ED Well, then Orville, we examined all the parts and the construction and he said that they they threw out that kind of construction years ago and condemned them because it wasn't good.

SB Well, what was wrong with it, was it the ~~canibes~~^{camber} of the wings, or what?

ED No, they, in those days, everything in a plane went by weight, see, you tried to hold down the weight. And we'd always, everything we put in the plane was weighed. One piece weighed by itself and then it was two for them assembled; they were weighed. If there was four they were weighed. And on up till the final ship was weighed. And that had a great bearing on the ability of the ship to fly. If you over, it was overweight you couldn't fly it. That was very essential. This ship was built light and frail, and it wouldn't, it just simply couldn't, have stood all its speed. That ship couldn't fly with that motor.

SB It would fall apart in other words.

ED It would really disintegrate in the air. That was a common happening in ships. I saw a ship go all to pieces one time in an air race.

SB Well, what wood did they use to make these ships? What kind of wood?

ED Most ships were built with spruce, with sitka spruce was the, was the best wood to build an airplane with. It was light and it was as strong as a piece of hickory wood.

SB These scales, did you have just plain old farm scales out there? That intrigues me. To weigh the parts, did you have an old scale, farm scales out there at the plant to weigh the parts, is that the way you weighed them?

ED Oh, yes. They were what you call the flat form scale like a grocery used to

have, before they had these recording and computing scales. And then we had what we called platform scales that they used to use for heavier things. They had a little weight up and down on a bar, on a big arm that came up off the scales. And we, it would take three of those to weigh the whole ship. One under each wheel and one under the tail skid.

SB What was the tail skin? What did you use to cover the ships then?

ED Irish linen was used on, to cover the wings.

SB You always called it a ship, you never called it an airplane?

ED Oh, we used to call them ships, you know, and all your, you know, they started calling them airships originally and that was the common name, ships or planes both. And all you, most of your, most of your terms came from ships on airplanes.

SB I noticed in, in their correspondence, they always referred to it as their flyer. Did Mr. Orville call it a flyer when he was talking about it or did he call it plane or what did he call it.

ED Well, they called them flyers and pilots both...

SB Pilots?

ED If you mean the men? Yes. And the men were called...

SB Oh, well, I meant when he talked about the plane itself he call it a flyer. The plane he'd call a flyer.

ED Well, some of them were called, they were, I remember, their advertising called some of them Wright Flyers.

SB Yes.

ED Yes.

SB Now how many, what was your, I was just wondering about your production rate. What did these planes sell for, after you got them all finished?

ED I think the Wright B, the last, when they built the last one, cost fifteen thousand dollars.

SB I bet they didn't cost that to make.

ED Well, they were made by hand.

SB Made by hand?

ED Yes, they wasn't...

SB They made a good profit out of it...

ED There wasn't any production what you call, what we call production work on them.

SB That must have been a pretty profitable business. Because it only took, how
how many days would it take to build the plane?

ED (unintelligible)

SB Well that was assembly. That's just putting the parts together. I'm talking
about. Not making the parts. Oh, I see.

ED And the parts, had to be made by hand and you'd make one or two at a time;
you didn't make quantities. You couldn't reduce cost much. And the motors,
all the motor work was done by Charlie Taylor, the man that helped them build
their first ships. He was there until the firm was disbanded. And he made the
motors, and he did it all, did what we call hand machinery. Now, and automobile
motor, today is all made with automatic machinery.

SB Now, the automobile motor at this time, was it all made by hand also or had the
automobile industry progressed to a certain amount of heavy machinery?

ED Well, at that time the automobile industry progressed to where there was most
automatic machinery.

SB Is that so? Well the Wright...

ED Well, making the parts. Today they don't even touch a motor by hand; its
all automatic, assembly and all.

SB Is that so?

ED But the parts in those days, were...Before I came back to Dayton at that time,
I was at Consolidated Motor Car Company awhile and before that I was at Packard
Motor Car Company. I was there when they built that first twelve cylinder
automatic engine. And they began to have automatic machinery in those days.

SB Is that so. Well, did you did you actually help build the motors? Or did

you...

ED No, I didn't help build the motors. I installed them and tested them, and, but the motor itself was built by, exclusively by Charles Taylor.

SB How amazing, that he could do that.

ED Yes.

SB Do you remember when any of the customers came to pick up these planes?

ED At that time, we only had one customer and that was for the Wright B, that last Wright B. That was sold to a man named Lemke from St. Louis, Missouri.

SB How did Mr. Orville act towards the customers, do you remember how he acted?

ED Well, I never saw him with the customers. But the other, the other planes we were building at that time, were, they were new. You see, we were going from pusher planes, open planes to planes with a fuselage and with a tractor motor propeller in the front. We were changing over, and of course it took a long time to build those because they were something new...

(break in tape)

(end of side one)

(start of side two)

ED Change over and of course it took a long time to build those because there was something new at that time.

SB Whose idea was it to put that motor in the front?

ED I think the first order of tractor ships was built in France, if I remember right.

SB Yes, I think as...well didn't it seems to me I remember that Wilbur suggested putting it before he came back from France, putting the motor in the front, but I may be wrong.

ED Well, they didn't, they didn't put any in the front till later years.

SB 19...after 1915.

ED Yes, because all their ships were pushers, even the last one was built when I was there.

SB You called it a pusher.

ED Yes, we called it a pusher.

SB You called it a pusher type?

ED Well, that's what it is. A propeller pushed it through the air. And the other, the other propeller pulls it through the air.

SB Well, when you, after you got the plane finished, how were they taken out to be tested? At Simms Station, how did you take them out and test them?

ED Well, they were taken out to Simms Station. But they, the last one, we, one of them was a flying boat, and that was taken down East and tested by a Captain Bragg. His father was interested in the auto industry somewhere, I don't know how. And the other one we took out to Colonel Deed's farm, in front of his house. That later became South Field, during the war, and that plane was taken out there and tested.

SB Now this was the last model B?

ED No, this was a new ship which Charles Holt designed, it was a tractor.

SB Oh, I see. Now what do you mean by a tractor? I don't understand that?

ED The puller.

SB Oh, the puller, oh, with the motor in the front.

ED We called it a tractor type at that time, the other was a pusher. Of course some of the names you hear around the factory are not what the...

SB Why did you use the term "tractors"?

ED What is it?

SB Why did you use the term "tractors"?

ED Oh you know, you develop names around the factory among the men there, and that name sticks with them. And then there was a correct name for them.

SB Yes, well, I suppose, was it like a tractor motor, was it like a farm tractor motor?

ED Well, no, it was a three. There was the propeller, was the tractor more than

the motor.

SB Oh, I see. Well I just wondered, did that plane, did you use a track to get it started?

ED No, for this plane you didn't need it; with a tractor type ship, you don't need it. It will take itself up in the air. It had power. The original ships didn't have horsepower enough to get the, to generate enough speed to get them off the air. And so they used that, that track to let this ship glide on. They put a great big heavy weight out in front and dropped that weight down and that created a momentum for the ship, and when the ship got a little momentum, the the motor had power enough there to pick up and...After you got the ship started once, they adopted vacuum on the top wings, of course would assist (unintelligible) And before that, why the ship was just dead weight. And that weight, that big heavy weight that they dropped down on the ground would give it a start and that offset that dead weight until they got it in the air, airborne, and then the air would help lift the ship, and the motor had power enough to propel it through the air.

SB Charlie Taylor must have been an awful good mechanic, to keep improving that engine.

ED Yes, the, the Kitty Hawk, we repaired while I was there, and it had a just a little four cylinder motor, and it laid flat on the wings, the wings, it wasn't an upright motor, the wings were flat, and you know on these generator boxes, I think it was about twelve horse power.

SB Now, the Kitty Hawk, you, when you talk about the Kitty Hawk you mean the 1903 plane, the original plane?

ED The original plane.

SB Yes, it was kept out at the factory at that time, wasn't it?

ED Yes, well the last, the last B ship, they overcame that, and we began to build more powerful motors, and they no longer used that weight. They would take off and fly themselves. They would take off on the ground and fly without that

weight that didn't assist.

SB I see, the last of the Model C.

ED The last of, the Model B and Orville Wright ship the C.

SB Did he, did he seem to like to go out and fly for fun, or...?

ED Well, I don't think he flew for fun. The last he was flying he was testing a stabilizer. He made a device called a stabilizer and he could get, he could use that to almost stand still in the air.

SB That's hard to imagine. How in the world could he do that? Did he...?

ED He had a new propeller on one of the wing struts up in front, and it stabilized the ship in the air. And he tested it out there. That's what he was doing that fall, and he went out there quite often too. And...

SB Now, is this at Simms Station or at South Field?

ED At Simms Station. That was before we went to South Field to run a ship.

SB How did he get associated with Colonel Deeds, do you know?

ED Well, like I was reading in the life of Charles Kettering the other day. I have a book on the details about how they became acquainted. They all, the, Colonel Deeds was interested in automobiles. He invented a back axle for an automobile and then that, and he and Charles Kettering got together and developed the starter, and they got interested in aviation. They became acquainted with the Wright Brothers. And went out there to the Field, and Kettering learned to fly out there, at Simms Station. But Colonel Deeds never learned to fly until during World War I. That was a government rule, anybody that held an office in the air corp had to learn to fly. And he learned how to fly out at South Field.

SB (unintelligible)

(break in tape)

SB Okay, I wanted to ask you, when, when you took these planes out, how did the people in Dayton react when these, you know when you take a plane out to Simms

Station and all. Was there a lot of curiosity about the airplane or not?

ED No, there wasn't too much curiosity. You know, it was hard to make people believe we could fly.

SB Is that so? Did, Mr. Wright seem at all interested in publicizing the plane? Or was he, as you said, do you remember any of the newspaper people coming around and talking to him about it or anything?

ED Yes, they'd come to him for interviews, and then they'd write up stories of things he didn't tell them. He got so he wouldn't give them interviews anymore.

SB Oh, is that so?

ED I was standing close to him when we flew that ship that Charles Holt designed. The newspaper man came up too, it was something new to him, you know. It was an advanced ship; fact is, that ship later held the world's altitude record. Well, anyway they wanted an interview on that ship, it was entirely different. And Orville Wright said no he wouldn't give them. They kept talking to him, and talking to him and finally he told them, he says, "I wouldn't give you an interview for anything in the world." He says if I give you an interview, you won't write what I tell you. He says, no, I won't give you an interview. And he wouldn't. I was standing as close to him, as I am to this recorder, when he told them that. So I know he wouldn't give interviews anymore, because they always distorted everything he ever told them.

SB Well, that's too bad. Did you ever hear him express any views on anything but the airplane--about the war. Did he ever comment on the war?

ED He said one time, that if he knew they were going to use it for war, he'd have broke up, throwed away all their ideas and experiments. He didn't want to see the plane used for war.

SB Is that so?

ED I was personally acquainted with Captain Harmon who became General Harmon in the United States Air Corps. And he brought back to the field to test the first

B-17 bomber that the United States used to bomb Germany with. He brought it back to the field to test. And he made the test on it. And he took Orville Wright up in that ship. And he said Orville told him that, told him the same thing, that he, he dreaded that he ever invented the airplane because of the purpose they were putting it to.

SB Did he ever say what he thought the future of aviation would be? Did he see at this time that there would be a time where we could, everybody could fly around the world? Do you think he had envisioned how, how we would use it for commercial purposes and for the good things of the plane?

ED I don't think he envisioned as far as its gone today, no. I don't think so.

SB Why do you think that they wanted to design the plane, did he ever say?

Why did they want to, why did they want to fly?

ED Well, it's nature; it's human nature to want and explore everything new, because they were like a lot of other people. If you'll remember about that time, along about the turn of the century, the whole world was talking and thinking about flying. They were not, they were not the only ones trying to fly. Listen, there were people all over the world; even today, yet, there are some people coming up now telling about where so and so flew long before the Wright Brothers. They have several exhibitions out there at the museum now, of a man that claimed they flew before the Wright Brothers. Well, the Wright Brothers, not have been the first ones to go up in the air, but they were the first to learn the secret of flight, how to fly, and they were the first one that could build a ship that **could** fly and control it and bring it to the ground safe again.

SB Did he ever talk of the problems that he had with the Smithsonian Institution, about getting recognition for having been the first to make the powered flight?

ED I never heard him talk about it, but, I had a pamphlet that the company had written the history of that whole case with the, with the controversy between his plane and Langley's plane. Now that wasn't a controversy between him and Langley, because Langley and the Wright Brothers were good personal friends,

it was other people brought up to the controversy.

SB The company had a pamphlet you said.

ED And I had the pamphlet which the company published on it and also they, they had Glenn Curtiss built a ship and he really stole the idea from the Wright Brothers, when Wilbur was here one time. And he built a ship and the Wright Brothers sued him. And I had the pamphlet of the whole case of the suit the Wrights and Curtis's Company.

SB The Wright Company?

ED And recently I donated this pamphlet and papers to the museum.

SB I see.

ED The museum at Fairborn.

SB Oh, yes. Then the company put out a pamphlet of their side of the story. In other words?

ED Yes.

SB Did he ever speak of his brother, Wilbur? Did Orville ever speak of Wilbur?

ED I never heard him speak of him. No.

SB That was a shame, they couldn't go on and do things together. Well, then, after the, after they sold out, or after 1917, how did the, the company change? Did they move down to South Field at that time?

ED No, South Field belonged to Colonel Deeds, and it was started before we were in World War I. The Wright Company, was simply disbanded. It was an organization, really. There were a number of companies that had an interest in aviation. They thought they would, no doubt, corner most of the patents in the airplane business. I know there was the Ampex Motor Car Company and Johns Manville were two of the companies that were in it. I think altogether there were thirteen different organizations, big organizations, that had an interest in it, and there was a controversy between whose man was the better designer. And for some reason they didn't follow up the plans and disbanded. And Charles Holt went east and started, designed another ship and got a company organized.

By then Martin, I think, went to Cleveland and then later to Baltimore and organized a company later on.

SB Where did you go after 1917, when the company was disbanded?

ED I went to South Field, with Dayton-Wright Airplane Company.

SB Oh, I see.

ED That was organized by Colonel Deeds, Charles Kettering and H. E. Calvin, his father.

SB Now, Mr. Wright, did he have any association with that company?

ED Yes, he was there on the Advisory Committee at the plant because he, he was out at the field every week. He and Charles Kettering, what they did do during the war, were always there. They were there, Kettering was there whenever he didn't have to be out of the city. He was there at the Field.

SB What did Mr. Wright do at the plant there?

ED Well, he'd come down and held a conference with the, with the men, and just like I was setting in that ship. And we, we would be making parts and sometimes he'd test them. And I made a wind tunnel for him, for his flyer, in fact his ex-footstool, there's a part of it, it was spoiled in the making, and...

SB Is that so?

ED Yes.

SB It looks like fine mahogany.

ED It is. Later one of my apprentice boys became head of the testing department at McCook Field and he made a duplicate of that same wind tunnel and he made it twice as large and it's in the museum today at Fairborn.

SB Yes, I saw that.

ED Yes, Orville Wright was a, was taking an interest in that business. He had a, he had a small office and shop on, on North Broadway. And he would spend part of his time there, and part of his time at the Field.

SB He was still active, in other words.

ED Yes, he was active at that time.

SB Was, was, was it all air, in relation to the planes for the army or was this, was this civilian work?

ED It was for the army planes, the government at that time.

SB You mean World War I?

ED Yes.

SB I guess that the development of the plane, planes, was pretty rapid during World War I wasn't it, or was it?

ED It was more rapid than it had been at any time before, yes, because there were so many people took an interest in it. And then the government, the government would finance, subsidize companies and thousnad and thousand of men became interested and went into the airplane industry, where there were only a few small firms before.

SB What kind of clothes did he wear when he'd come out to the shop. How did he look?

ED Civilian clothes. He didn't do any work. He was always, always in civilian clothes, necktie.

SB He was always dressed up, in other words?

ED Yes.

SB Was he a jovial man or was he kind of shy?

ED He was shy and very serious.

SB Did you ever hear him crack a joke?

ED No, I never did.

SB He was all business. That's interesting.

(break in tape)

ED Ridings on airplanes.

SB Now, you're speaking of World War I.

ED Yes. And that's the reason today that so many people are trying to hunt up people that knew something about the older days of aviation. There are very

few of them living anymore. Very few early flyers.

SB Well, do you think anybody had the vision how important the airplane would become in those days? After, did anybody really anticipate how important the plane would become?

ED Oh, I knew some people foresaw, or at least sort of in a vague way, that it would become very important. But I don't think that very many people really had a definite idea in their mind as to what it would be today.

SB When you built those planes, they were mainly for exhibition purposes weren't they, those early planes?

ED They were, the early civilian planes, yes. They were either for exhibition or for sport. But most of the people that bought planes, that is their own personal planes in those days, were wealthy young men, that wanted to, were looking for adventure, you might say. I have one book here from records of the flying merry days around Chicago. And its surprising the number of people that went in for it then. Maybe they'd be in new planes, a company would spring up and make a few planes and that would be the end of it. Some young fellow would, that had money would go out and learn to fly, fly a few times and quit or would get killed, and that was a, a, really the airplane industry didn't get out of that stage until World War I. And then it began to get momentum and began to get commercialized.

SB Kind of like a yacht, in other words.

ED Yes.

SB If you had money you could have a yacht or an airplane, I guess.

ED Oh, well in those days, a man, a working man, I'd say before World War I, who made thirty to thirty-five cents an hour was getting high wages, remember. And they couldn't go out and pay fifteen hundred dollars to learn to fly. It was a rich man's sport.

SB I should say it was. Well, it seems like fifteen hundred dollars is an awful lot of money nowadays, at these wages it seems to me. (laughter)

ED Well, fifteen, fifteen hundred dollars then would be equal to fifteen thousand today, I'd say.

SB Yes, yes I'm sure. Oh, dear.

(break in tape)

SB Alright would you tell me about Kitty Hawk and what it looks like?

ED Alright. Kitty Hawk is a small, very small building, a post office. And where the first flight was made, was made at four miles south of there at Kill Devil Hill. The Wright Memorial mine is on the hill and the runway where they flew and the, and the, what we call the hangar or shed, we called it in those days, were duplicated there on the flat ground at the foot of the hill. And then there's a museum south and east of the runway.

SB Did Mr. Wright ever talk of those days?

ED What is it?

SB Did Mr. Wright ever talk of Kitty Hawk.

ED No, I never heard him talk of Kitty Hawk.

SB Yes, or those early days.

ED Kitty Hawk itself is only a sand bar. That is one place, that area in there is a sand bar, between Albemarle Sound and the Atlantic Ocean. And it's, a, it's a beautiful beach along there. Drive your car, think of Virginia Beach.

SB Did you find anything in the notes, yourself?

ED What is it?

SB Did you find anything in your notes there.

ED Well you've got that on now so its recording?

SB Yes, yes we're recording.

ED Oh, maybe you better shut it off till I find something.

SB Okay.

(break in tape)

SB Absolutely authentic. Whether, they would they sent the exhibition flyers out you said that as you remembered there were eight that were sent, the flyers out

and only one of them came back. One of the men?

ED Well, let's see. One of them came back to Dayton. You better turn that off for a minute, and I'll get it straight.

SB Oh, we'll just let it run out, that's okay. It doesn't, I, in other words there were certain well, points, it was a pretty hazardous occupation. To fly those, those early planes.

ED What is it?

SB It was pretty hazardous to fly those early planes.

ED Yes it was.

SB People did get killed in them.

ED When, when they left Dayton, they first went to Detroit. I saw Johnson fly there. And he was killed the next week in Denver. And they went from Detroit to St. Louis and Hoxsey took President Theodore Roosevelt for a flight. He went, went to the coast and later he was making an altitude flight there; they think he went nineteen-thousand feet according to his barometer. And something happened to the ship and the whole thing went into the ocean and he drowned. And they went up to I think it was Seattle, the other flyer was killed there.

SB What model planes were these?

ED These were the B ships.

SB The B ship and he took that up eighteen thousand feet. That little tiny plane, my goodness. They were courageous men, weren't they?

ED Yes.

SB How much did they get paid for all this, do you have any idea?

ED No, I do not know, what they were paid for their work. I don't know if they worked on a salary or percentage or how it was arranged. I never knew.

SB It seems like a pretty hazardous occupation.

ED It was. The first boy that learned to fly from Wright Brothers was Walter..

SB Brookins.

ED Brookins from Dayton and he came back alive from that trip. And he, he would never fly again. In World War I, Howard Rinehart came down to South Field one day. And wanted to get in this flyer for test pilot down there. He, he took the ship around the Field, around a couple times, just barely lifted the wheels off the ground and set her down again. And wouldn't fly it, he said he had enough. Yet when he first flew he was the most daring flyer in the country. And I'm not sure if a flyer named of Atwood was on that ship or not because he was still living a few years ago.

SB And you have no idea where he is do you?

ED And there was another flyer from Dayton that was on that trip, but he got wrecked and came back to Dayton. Name, let's see...better shut that off while I...

SB That's okay. (chuckles)

(break in tape)

SB Alright, now what happened to the first Wright gliders?

ED I burned them up in the rear of the hangars, Dayton-Wright South Field. About close of the World War I.

SB Why in the world did you burn them?

ED I was given orders to burn them.

SB Who gave the order?

ED Mr. Jacobs.

SB Oh, Mr. Jacobs did. I bet he didn't check that with Mr. Wright. Or do you think he did?

ED Oh, he would give them orders to have them burn. They didn't want them anymore.

SB They didn't want them?

ED No.

SB What a shame. It seems as many things that they kept, that they would have kept their, those gliders.

ED Well, they had them down in storage down there for about a year. Well, from the time the company was just disbanded until we burned them up, they were down there all during World War I.

SB Well, how, how far back did these gliders go? You mean back before the powered flight?

ED Before the powered flight, yes.

SB Yes, and they kept them all that time, and then burned them up.

ED Kept them all that time, and then burned them.

SB Well that just makes you weep, doesn't it.

ED It does.

SB It seems a shame. How big were those gliders?

ED Oh, I would say approximately forty feet in width.

SB They must have made a big fire.

ED Oh, they were light and thin, they didn't make much fire.

SB I wondered why they, I just can't understand why they would want to burn after that point. Because Mr. Mr. Wright kept most of the things. You know he kept all his correspondence and all. Why he wanted to burn...

(break in tape)

(end of side two)

(start of side three)

SB It seems a shame. How big were those gliders?

ED Oh, they were, I would say, approximately forty feet in width.

SB They must have made a big fire.

ED Oh, they were light and thin, they didn't make much fire.

SB I just can't understand why they would want to burn them at that point. Because Mr. Wright kept most the the things, you know he kept all his correspondence and all. But he wanted to burn them. That seems strange.

ED At that at that time, people weren't thinking of keeping things for posterity

or history. They were glad the War was over, and most everybody that was any way connected was scattered, and very few people kept any authentic records. And that's the reason today we don't have them.

SB Well then, after the war, I suppose. The, did the company continue, they didn't continue to make planes out there, did they?

ED They continued to build a few DH-4 ships, for special service, like mail planes, officer training ships, and honeymoon ships a personal closed ship built in this country. And we also built another closed ship, out of a DH. And then we built...

(break in tape)

SB Now would you tell me about the...

(break in tape)

SB Kettering Bug? And how it got started?

ED Well, the idea was conceived I guess by the government, to have a guided missile they could bomb at ammunition dumps with. And supply centers. And the idea was turned over to Dayton-Wright Airplane Company, and Mr. Kettering, had drawings made, they were made by Louis Luneke, he stayed at the Runnymede farm home, home of the Talbot family. It was in what is part of Hills and Dales. And it was kept secret. And when they were ready to start construction, Mr. Jacobs came to me and told me what they were going to do. And they wanted it kept secret. And I should pick the best men I had to put on that project.

SB Now, you were a supervisor in the plant at this time?

ED Yes, at this Dayton-Wright South Field. And the work was taken out, of South Field and taken over to the old farmhouse, which was my uncle's home when I was young. And it was on Kettering's ground at that time. He owned the ground. The work was really under the charge then, that is experimental work, of John Sheats. And later John got in controversy with General Ryan and the company had to release John from the job, and a man by the name of Lee took charge from then on, until we were ready for tests. The actual construction, the making of

the parts, we made at South Field, and they took them over and assembled them, and made changes continue, and done the testing and experimented with the mechanism. We built the, most of the mechanism at South Field. We built the ship to test the motor at South Field. It was called the messenger ship. And Howard Rinehart flew it, and tested it out. And Charles Kettering was testing a motor also on the ground. One day when one of the piston heads blew off and almost hit him in the head and I can still remember that.

SB My, that would have been a great loss.

ED Yes, and after we had the motor tested thoroughly, well, they built one ship and brought it over to the Field, and we flew it there at the Field at night time so there wouldn't be anybody to know what was going on. And the ship didn't leave the Field, it flew around the Field, over the Field, and made a lot of peculiar dives and dips at the ground, and the last one that drove into the ground wrecked it completely and there wasn't anything to salvage. And we took it into the hangar and broke it up and threw it away and built a new one.

SB Now, Mr. Wright actually designed this, didn't he? Wasn't he the designer?

ED No, he, Mr. ^{Louis Luncke?} Julius Lonecke really made what we call the drawings or the design for it. He was the draftsman for Wright Brothers Factory on Coleman Avenue. And later was with the engineering department of Dayton-Wright. And his assistant was named Vandergrif. He's now with the General Motors research in Warren, Michigan.

SB You were going to tell me about Mr. Kettering there, in your notes. Oh, when you delivered the plane. When you delivered the plane it was so cold, the first plane that went to France.

ED Oh, the first plane that was sent to France, was, we might say, a hand-built ship. It was built completely by hand at South Field. And it was taken over, it was completed in the early part of February 1918; it was taken over to the

main plant shipping department. At night time.

SB Now, where was this located?

ED At Moraine City. It's now the Frigidaire plant. We assembled the ship in twenty degrees below zero weather, and snow a foot deep, and Mr. Kettering tested the motor, and all the controls and equipment personally. Before we, we took it apart and made it available for the shipping men to put it into crates to ship to France. It was shipped that morning, following, to France.

SB You had to test it outside?

ED And that was, that was kept secret until after the war.

SB Well, they put it on on a railroad train and sent it out after that? In the train?

ED It was put in a special built crates for that type of ship and shipped by by rail to Hoboken, New York, or Hoboken, New Jersey, and there it was shipped to France. And it was the next summer before, almost the next summer before production ships were sent over.

SB You said they had, they sent a box lunch to you.

ED Yes. When we were getting ready to ship, to take the ship over to the main plant at South Field, we ran into some difficulties, and we were behind schedule about two hours, ⁿand when we arrived there, we didn't have time to take out for lunch. And the company sent us, what they called a box lunch. And we ~~sat~~ on, including Mr. Kettering, ~~sat~~ on a lumber pile and ate our midnight lunch, in the bitter cold.

SB Wasn't much fun was it?

ED Yes. (laughter)

SB Now, could you tell me about the sabotage at the plant?

ED Oh, you want the story about sabotage, yes. Well, let's see.

SB This was in World War I.

ED Yes, this is really getting away, well when he was, Orville Wright was connected with the firm and was their advisory board, and was there every week, or so. And was doing something down there or over at his place on Broadway.

SB That was so interesting.

ED During World War I there were many cases of sabotage, as we all know reading the history of it. And we also had a number of cases at South Field and also one at the main plant. One man, a representative from the English Government was there and he was caught putting steel filings in a carburetor to wreck the ships. In another instance, the wires were cut on the first DH ship built. It was never used for anything but testing. The same ship's in the Smithsonian Institution today. We were working late at night. And someone cut the wires while we were working, and we were accused, someone in our department, of cutting the wire on the ship. It was learned, in later years, that there was a man that was a government secret agent working in the paint department that night and he found the man that did it. And the guard department insisted on pinning it on our department, and when this man caught the offender he was one of the men in the guard department. The story was that he was sent to Wright, out to Wright Field, and shot as a saboteur.

SB You had regular guards, then, at the plant?

ED Yes, I later talked to the man who caught him in the act. And he told me he was sent there and shot as a traitor and a saboteur. Let's see, and man with a lisp. One night we thought they had saw spies around the buildings on the outside of the fence, and the guards put out all the lights and started to shoot at them. And they never did figure what the truth of the case was. I remember there was one bullet hole through the oil and paint storage building, but there was never any real truth learned of it. And that's as far, the extent of our knowledge of that episode.

SB Very interesting.

(break in tape)

SB You were telling me an incident where Kettering almost had an accident.

ED Yes.

SB ...Charles Kettering.

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