

John A. Bird Oral History

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Note to Readers

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DESIGN ORAL HISTORY PROJECT

BIRD, JOHN A.

1987

EDSEL B. FORD DESIGN HISTORY CENTER

**Henry Ford Museum &
Greenfield Village**

This is Dave Crippen at the Edsel Ford Design History Center at the Henry Ford Museum, and today is July 29, 1987, and we're speaking with Mr. John A. Bird. Mr. Bird has had a long experience in the arcane art of clay modeling for Studebaker, and for many years at General Motors. John is very respected in the field by his peers and his unique perspective at Studebaker and General Motors will be helpful to students of design history, especially students of fabrication and clay modeling over the years. We've asked John to share with us his career and his observations on the history of design in general, especially in the important area of the history of clay modeling. Just begin, John, where you were born, where you grew up, and what your influences were.

A I was born in South Bend, Indiana. Before I was a year old, my parents were divorced. I spent most of my time with my father and aunts who raised me up until the time I was about fourteen. And then, like many children of that time, you went with someone on a farm, which was a board and room type deal, and I landed with a family who became my foster parents. They taught me right from wrong.

But I've always been interested in automobiles since I was a little tot.

Q Was this growing up period in the South Bend area?

A Yes.

Q Which was, of course, an....

A An automotive town.

Q What was there in those days?

A Studebaker, and Oliver plows, and Bendix. There was a big stove

factory. It was quite a large operation. Singer Sewing Machine was there -- quite large at that time.

Q An exciting place for a young man to grow up?

A Yes. And, really, automobiles were always my love from the time I was a little tot. I could differentiate cars coming down the street a block away.

Q Indiana was a [early] hotbed of the automobile industry, and, in many ways, if it had gone the right way, South Bend might have become like Detroit.

A I know that now, but I didn't know that until I came up to Detroit and began to look back, then I found that there were many, many little factories that went out of business.

Q Did you go to high school there?

A Yes. I went to high school in New Carlisle, and it's about ten miles West of South Bend. A very small school. In fact, our graduating class was only thirty-four. But I think small schools had an advantage.

Q What year was that?

A 1938. And in 1938 the French were involved in the war -- building up. Studebaker was starting to build trucks for the French government, and I was fortunate enough to land a job in the engineering department as a junior draftsman.

Q Had you taken drafting courses in high school?

A Yes. And I had a little manual training in high school, which I found out later is probably what got me into the design business. In 1939, Studebaker got a huge war contract from the American government to build airplane engines -- Wright Cyclone.

Q For what type of aircraft?

A They were for the bombers -- B-24's, B-17's, and there were a couple of attack bombers -- A-20's. It was the R-1800 series of Wright Cyclone, which was quite exciting, too, at the time. They had a plant in Chicago that did the accessory parts for the oil pumps and so on as I recall. At Fort Wayne, they did all the gears. I worked in the engineering department with a fellow by the name of Harold Puff, who was one of the finest guys I ever met.

I was inducted in the Army in 1942.

Q Before you get to that, let's go back to Studebaker and your experience there. You were an engineering draftsman in the Fort Wayne plant?

A Yes.

Q Where they made...?

A Gears for the [airplane engines]?

Q So you never really got to the design area in those years?

A No.

Q At the time you knew the products that your work was going into to. When you saw the Studebaker go by in the street, did you ever remark on its design?

A Oh, yes. At that time, they had some pretty exciting designs starting in 1933. I'm not sure who was influencing there, but, I think, in '34 that Loewy became an influence at Studebaker styling.

Q Raymond Loewy?

A Yes.

Q Who was a well-known industrial designer, at the time, but hadn't

done many automobiles. He may have done some in Europe, but not in the United States.

A I think, really, very few. You're absolutely right. If you remember the Pierce-Arrow, it was called an aero car, and it had a lot of shape to it -- streamlined. They did a Studebaker at that time in 1934 with that same configuration, and I thought it was pretty exciting.

Q Studebaker was in the forefront then of advanced design in those days?

A I would say so.

Q The aero look, and Raymond Loewy was quite a daring concept?

A Oh, yes.

Q Especially when the Chrysler Airflow had done so poorly in the market?

A Right. You know, their styling was so, maybe, advanced and boxy.

Q Too advanced.

A And everyone else was still flowing and pretty direct.

Q It was heavy and ungainly?

A Yes.

Q Loewy designs had, as you say, classic flowing lines?

A They were very clean. His mind worked with clean lines. He was not one for a lot of ornate things. I remember some of the first signs we ever had in the studio that were all over -- "Weight is the Enemy" -- and those were in the days when, as far as I knew, people didn't care much about weight.

Q You're quite right. So even though you were in Fort Wayne and working in engineering drafting, you were conscious of the fact that

Studebaker was moving ahead in terms of advanced styling and largely due to the work of Loewy and Virgil Exner?

A I have to admit that at that time, other than admiring cars for style, I had no idea what went on. I didn't have the slightest idea how they were done. I'd never seen an artist's sketch, I'd never read anything about how automobiles were designed, I never dreamed I'd ever become involved.

Q How about body engineering?

A I wasn't involved in body engineering either. I had always been mechanical up until this point.

Q Mechanical components?

A Yes.

Q So you worked then for about three years at Fort Wayne at the gear plant?

A Yes.

Q Did you move around at all?

A No. I had started with the engineering department at South Bend, and, of course, when the three plants were built, then they sent people out, and that's how I happened to go to Fort Wayne.

Q Were you married at this time?

A Yes.

Q When did you get married?

A When December 7th came around in '41 and we had the big to-do, we were engaged at that time, and I told my wife, "I don't think we'd better get married. I don't want to be traipsing off and leaving you here alone. I'm going to go down and try to enlist," which I did, and they turned me down. I'd never get in with this hand.

Q What was the nature of the shotgun accident that partially crippled your hand?

A It was a dumb thing. I pulled a gun barrel first through a crutch of a tree, and the hammer caught.

Q You were out hunting?

A Yes. Anyhow, I went down and tried to enlist in the service and was turned down. In fact, they said, "You'll never...."

Q You'd been accepted, initially?

A No, not at that time. A few months later....

Q You were turned down for your arm the first time?

A Yes. A few months later, in '42, they passed the Limited Service Act, and at this time I thought, well, I'm not going to be going in the service, so in February we were married. In August, I was in the service.

I'll give you a little anecdote here. We were at Camp Perry in Ohio near Sandusky. We were unloaded from the bus -- a whole bunch of us -- and were standing there, and there was Henry Boxburger next to me, who I knew. He had poor eyesight, one eye nearly blind, big coke bottle lens. So we were standing there, and the sergeant came out, and he says, "You, you and you. You are going to be in the Air Force. We picked you because you're the cream of the crop." And Harry Boxburger was the fellow's name. He turned to me, and he said, "We're in trouble John! Nationally, we're in trouble." That was funny.

But we ended up going to a meteorology school at Champaign, Illinois -- University of Illinois. And then from there, I went to Boston where I was subsequently discharged -- came home.

Q The draft board felt that you might have some problems with your arm?

A They felt that I should never have been called up in the first place.

Q But you had applied for OCS at this point, had you not?

A Yes.

Q And at least conditionally to the point where they were considering you?

A Oh, I think so, yes. I was up for the Board of Review. I really liked the military, and if I could have gone on, I would have stayed in. But that's what tipped the scales.

Now we came back to Fort Wayne and....

Q You don't think you would have had a problem, do you, in many areas of the service? You might not have wanted to shoulder a gun, but you probably could have been an administrative officer?

A Yes, I think so. But there's a lot of pride in appearance, and you take someone who -- if you look like your thumbing your nose at a superior officer, I think you look askance at that.

Q They lost a good man.

A I don't know. But, anyhow, I came back to Fort Wayne and wanted to move back to South Bend because our friends and family were there.

Q Was your wife from South Bend, by the way?

A She was from down near Lafayette, Indiana -- a little town.

Q What's her first name?

A Lawana.

Q And she was from where?

A A little town called Ambia, which is a little West of West Lafayette, Indiana.

Q Down near Purdue University?

A Yes.

Q How had you met?

A I played on a ball team. Just a church team. And one of the fellows I palled around with sister was a friend of Lawana's. Kind of a drug store romance, if you will.

Q That's the Midwest experience.

A The best thing that ever happened to me.

Q You've been married how many years?

A '42 until now, that's forty-five years. We have five lovely children. Lots of grandchildren. Nine grandchildren.

Q Did you get your transfer back to South Bend?

A I came back and talked to personnel. I had known him before, and I....

Q What's his name?

A Andy -- I can't think of his last name, but he was a big guy, and everybody knew him as "Big Andy." I told him, "Gee, I'd like to come back to South Bend. Would you keep an eye open for something that you think I might fit in with?" And he said he sure would, but he didn't have anything at the present time. So I thanked him and walked out and started getting the car, and he came running out.

Q This is Studebaker?

A Right. He came running out, and he said, "John, how would you like to be a clay modeler?" I said, "Jeez, what's that?" He said, "Well, I don't know either, but they're starting a new department." He sent me over to see Virgil Exner and Gordon Buehrig, who were co-directors at that time.

Q Now, this was in '42?

A '43 -- August of '43.

Q At that time, the war was going fairly well, and people were beginning to think about postwar automobiles?

A Right. As a matter fact, in our organization about every six weeks we'd spend a week doing war work. One of the first experiences I had in plaster casting was to make a cylinder head for an X-type twenty-four cylinder engine that was a dream of some engineer for the service, and that was pretty good. I remember it had thirteen pieces on it, and I put everything together, and I couldn't get it apart.

Q How was the clay modeling setup when you got there? Was it rather primitive by today's standards?

A Oh, boy, it surely was.

Q Can you give us a thumbnail sketch?

A Our studio was in a four-story of an old building that had been used as a gymnasium by the company for the employees.

Q Commandeered by the design department?

A Right. And it had hardwood flooring. On that hardwood flooring we would place 2x12 planks, and that became our platform. The floor underneath would move, and the platform itself would move, so it was a daily struggle to really get anything done. I'm really amazed sometimes, when you look back, how in the world the poor draftsmen ever got anything solid down on paper.

Q Can I interrupt you here for a moment and make you look back, somewhat artificially at this point, but with your perspective of the many years you've been in clay modeling and fabrication, what was the

tradition in the industry at that time? We've read the story of how Harley Earl had discovered clay in California and out of a childhood penchant for making models had decided to apply it to the custom bodies he was making in California. If that is true, in retrospect, what was the state of clay modeling in the automobile industry in the late 'Thirties as a device used by everyone for making a 3-D artifact?

A I'm not sure how Ford handled things at that time, but Joe Thompson, who might be the original clay modeler, had been using clay in pattern shops. Now Joe wasn't a pattern maker, per se.

Q Who did he work for then?

A He worked for Ford, he worked for Dodge. This is in the 'Twenties -- back in the 'Twenties.

Q He worked in the pattern shop?

A He worked for Briggs.

Q Did he work for G.M.?

A He worked for G.M., yes, later on.

Q But in this period?

A In this period in the early 'Twenties, I think, his major work was done with Briggs, and John Tjaarda was head of that particular department. Now Joe Thompson was using clay back then.

Q For full body or for parts?

A No. It was for fenders and things. But he was using that as a quick sketch medium back in those days, and he became a very coveted man.

Q Joe Thompson?

A Joe Thompson. And Joe had floated around several different places,

so he knew. He knew Henry Ford, personally, and he knew Harley Earl and the Dodge Brothers. His history is fantastic.

Q Has it been chronicled anywhere that you know of?

A There have been some pieces. I have some articles.

He also wrote a book or was writing a book at the time he passed away. I understand that Art Center or someone out there has the manuscript, and, boy, if you could get your hands on that, it might be a real valuable thing.

Q He was sort of the first one who really applied it in the shop?

A Right. I believe, now, that's where Harley Earl became enthused about clay modeling, because he took Joe from wherever he was working at the time and took him to G.M. and started working with him in clay.

Q This is the late 'Twenties?

A Right.

Q After the LaSalle and so forth?

A This was only related to me by Joe, because I didn't become acquainted with him until 1943. But during the 'Thirties he did not work all the time at G.M. I think he left G.M. and went back to Briggs because he was very much in demand, and he evidently liked John Tjaarda, so he went back there and kind of flitted from job to job for awhile.

Q Tjaarda was an exciting man who had a fund of creative ideas. It must have been fun to work with him at Briggs?

A I've never met Mr. Tjaarda, but it sounds like it.

Q So you ran into Joe at Studebaker in the 'Forties?

A In the 'Forties. He was hired along with an excellent modeler/sculptor John Lutz. Those two were brought down from Detroit as a nucleus for a modeling team.

Q And you were the new recruit?

A I was the new recruit, right.

Q Did they take you in?

A Yeah. Joe was a fantastic teacher. John was probably the best modeler I ever saw, but he also had a little problem, and he tended to imbibe too much.

Q An occupational hazard in those days?

A I guess. When you say that, you have to laugh because, boy, the designers of that era were some pretty rambunctious guys.

Q The pressures of the business, and the tensions, and the endless repetition of sketch and clay model, I suppose it all added up to an enormous amount of pressure?

A There's an awful amount of pressure, no question about it. But when you're involved in it, you don't recognize it because that's the job. Because it's changing all the time, it's exciting, and you never know, you can have a job that looks beautiful one day and everybody loves it, and if it sits there two weeks, "Well, where did you get that ugly thing?" and you have to go on to something different. I don't think there's anybody in design that won't say the same thing.

Q The perspectives change?

A You don't dare look at it too long because it gets ugly.

Q You went home and packed up your family and came back to South Bend and started work in the -- what did they call it, the clay modeling department or the design department?

A It was design department.

Q Who were the heads?

A Virgil Exner and Gordon Buehrig.

Q Was Loewy in and out at the time?

A Loewy was in and out. He would come down from New York for design consultation.

Q Busily planning for the postwar automobile future?

A Right. And from time to time, particularly the designers would have to go to New York and do a little war work just to keep the contract running. We would become involved periodically with some little side jobs.

Q Do you remember some of the war materiel that you worked on in those early days?

A I mentioned the cylinder head for the X engine. It was called X because it was a twenty-four cylinder engine and four banks of six, and they had an X configuration. But the designers were involved in camouflage, and I think Loewy designed some uniforms.

Q Certainly Studebaker trucks -- they were probably wartime models?

A I don't think he had anything to do with that.

Q No, he wouldn't have. They had come out of the '42 mix.

A And I don't think the Weasel was part of his either. I don't think he did anything on the Weasel. That was a little amphibious personnel carrier. That was really quite famous and well-utilized in World War II.

Q But mostly you were concentrating on postwar designs?

A Yes.

Q Who were doing these designs? Who were some of the men besides Buehrig and Exner?

A There was Jake Aldrich, John Rhinehart, Bob Bourke, Bob Koto. They were all there when I came in there.

Q That's quite a team.

A Vince Gardner was there, who was maybe one of the best designers as far as ideas were concerned, who was not a two-dimensional guy, but he could take almost anything and make it look good. He couldn't draw, but he could take clay and plaster or anything and make something of it. And yet he was a designer. He was not a modeler.

Q He designed by modeling?

A Right. Really a great character, and he bounced around all over. Quite a character, which was part of the problem. He couldn't work for anybody very long. But, really a talented person.

Q That's a high-powered crew?

A It certainly was.

Q Including the two clay modelers?

A Right.

Q Did you ever call it the fabrication department in those days?

A No. We were just a design staff. We were all in a big room. They didn't have an area that was partitioned off. The designers had their boards, and they would do their work there. In those days, designers would come out and work with you right on the model. In fact, Bob Koto was a three-dimensional modeler and designer.

Q Give us a thumbnail sketch of Gordon Buehrig in those days.

A Gordon Buehrig is a gentleman. He has always been. Real quiet, and very helpful, very supportive. Just a real gentleman.

Q We don't know too much about Virgil Exner. We'd love to hear your estimate of his abilities.

A Virgil Exner was an excellent designer. Flamboyant and also a helluva nice guy. That whole group was a pretty nice bunch of guys,

because there were none of them who were egotists to the point that they excluded you from their group. I've run into some of that at G.M. later on because you were so few and so closely knit.

Q Bob Bourke. Tell us about him. He's an interesting figure?

A Yes, he is. Bob was really a prolific designer. Still is. He's still active. When Exner and Buehrig -- I don't know whether you know the history of that postwar car.

Q No, please tell us.

A But somewhere along the line, Roy Cole was chief engineer at Studebaker, and he disliked Loewy with a passion.

Q He thought he was an intruder and an outsider?

A Well, yeah. I think there was a little jealousy because Loewy had a fantastic contract at that time.

Q He was able to negotiate an incredible contract?

A For the times, gee, yes. And I think Roy might have had a little jealousy there. But, anyhow, Roy Cole had taken Exner aside and said, "I want to design a car in competition." We were having a little competition amongst the Loewy designers of who was going to do the postwar car.

Q Was that about '45 or '44?

A It would have been '44.

Q Who was running Studebaker at that time? Was it Hoffman?

A Paul Hoffman, yes. So Exner and Vince Gardner were involved.

Q Exner -- if Roy Cole said we're going to do it, he couldn't say no.

A Well, he was between the devil and the deep blue sea because he was right there at Studebaker under the gun daily, and Loewy off to the side.

Well, they did a car.

Q There was secrecy?

A Oh, yeah. In Exner's home basement.

Q Who was involved in that?

A Vince Gardner, Exner and Vince Gardner's brother, Vic Simney.

Q Let's resume your story about the clandestine studio in Virgil Exner's basement.

A We were having a show like on a Monday morning, and the Friday afternoon of the preceding Monday they brought this model from Exner's basement over, and we immediately hid it the washroom.

Q They trucked it over. How big was it?

A It was quarter-size. So they brought it over, and we put it up in the men's restroom. In this area that we were working in, you had to go up a half a flight of stairs, and there was a locker room. It had been an athletic place. We hid it back behind some lockers. Now we had known this was going on, but Loewy didn't know it. So it was about seven o'clock in the morning....

Q Was there a Loewy loyalist on the staff who might have tipped him off?

A I don't think so. They were loyal, but we were also -- no, we were still with Loewy at the time.

Q But you were also...?

A Well, we were committed loyally to our own staff. At that time, we didn't think too much about it, because we knew Ex was in trouble -- not in trouble, but Cole was on him to do this outside, so we just figured that's part of the game.

It was seven o'clock in the morning, and I'd come in early, along with a couple of other guys, and we were getting ready to prepare this show.

Q The show was for the executives?

A For the executives.

Q Looking toward the postwar model?

A Right. And we were up there and just about ready to uncover this model and take it out, and Loewy walked in, and he said, "Where did that come from?" Before we could answer him, he said, "Don't bother," and he wheeled and turned around, and that was the blowup..

Q He went right to Roy Cole?

A He went to Hoffman. He and Cole hardly talked to each other.

Q What was the reason that Cole didn't like him, because he was too much the sophisticate?

A I think so. Cole was kind of a real down-to-earth, earthy guy, and he didn't think too much of the French. I forget what he called him now, but French something. He said frog or something like that. He was kind of derogative with him.

Q He just wasn't a Loewy type of person?

A No. However, he was a very progressive person. He liked design, and he was interested in it. But, anyhow, the upshot of that was that Exner was fired.

Q By whom?

A By Loewy.

Q Did you ever find out how Hoffman had felt about the whole thing? Had he been informed, or had Cole...?

A Cole had done it all himself, and I don't think Hoffman liked that runaround, either. It was kind of an Iran-Contra thing.

Q You're very contemporary.

A After Loewy fired Exner, Cole hired him.

Q For the Studebaker staff?

A For Studebaker staff.

Q Now, at this time, we have this anomaly of having a Loewy design unit paid by Loewy on a very lucrative contract that Loewy had with Studebaker.

A Right.

Q But you were working for Studebaker?

A Right. Now somewhere along in this, and I'd say six months or a year, Studebaker took over paying the group, and that went on for six or eight months, and then they went back to Loewy paying it again, so it had something to do with accounting.

Q So what did Roy Cole do with the Exner...?

A Cole set up a rival group out at the proving grounds.

Q Where were the proving grounds?

A West of South Bend about ten miles. They had a five hundred acre proving ground. A very nice proving ground for the time. It was one of the best in the industry. In fact, they were in sort of a clubhouse atmosphere, and we all envied them because they were out there in a beautiful place, and we were back in the factory working.

Exner had a couple of designers and four modelers, and that lasted for four or five years before falling apart, and Exner came to Detroit at Chrysler.

Q So what was the objective? Loewy still had the postwar contract from the company, but Cole was trying to come up with a competing model?

A Yes. I guess there was enough money floating around, and Cole had enough prestige and power that he could force the issue.

Q So what was the upshot? Who won the competition?

A Ex's car won the competition, but Loewy got the credit.

Q What car was that, specifically?

A That was '46.

Q Do you remember the generic name?

A It was the '46 Commander.

Q It was Exner's design?

A Right. Exner/Gardner design.

Q But it came out as a Loewy creation?

A Yes.

Q Styled by Loewy?

A Right.

Q This must have been galling to Exner?

A Oh, sure it was. In fact, the whole existence of that studio afterward -- after a year or so Ex was given some promises they couldn't hold to.

Q So he drifted away?

A Right.

Q How long did he stay after that?

A I don't know when he started at Chrysler, but I would say it was four or five years.

Q So that Loewy situation existed right up until about 1950?

A Yes.

Q What about the rest of the products that came out those years? Whose were they? Were they Exner's or Loewy's?

A No, they were Loewy's.

Q Was Exner sort of in a limbo after the '46 Commander came out?

A Right.

Q And he never really got a handle on another Studebaker production model?

A No.

Q So, in effect, he's out there creating, but nothing was happening?

A Yes

Q So he became frustrated?

A I think that was a bind. Something might have been promised to him that just couldn't materialize.

Q Who did he take with him? Any of your group that you were working with?

A No. He hired outside people.

Q Anybody you knew?

A Harold Davidson was one.

Q Who was he?

A He was a modeler/sculptor who had worked with Gordon [Buehrig] at Auburn. There was a fellow by the name of Weisner, who was a modeler. I think he worked here at Ford for awhile. I can't remember who Ex's assistant was out there. I'm sure there was a designer involved, but, you know, I don't recall. We were kind of divorced from them, as you can imagine.

Q There wasn't much fraternization going on?

A No, no.

Q Although you probably liked Exner as a person?

A Oh, sure.

Q You felt it wasn't politic to hang out with him?

A Right. I knew it wasn't!

Q So the division is made, and Loewy's back in the saddle. What sort of postwar memories do you have of those rather hectic immediate postwar years? More specifically, how was the modeling department developing from '43 through '46?

A I guess the biggest improvement was that we were able to get patterns made from G.M.'s platforms and their angles and so on.

Q Give us a little bit of a technical explanation of all of that. How did it come about?

A The platforms were reinforced steel.

Q You'd been using 2 by 4's?

A Right. And 2 by 12's. G.M. had, evidently, engineered and devised these platforms which were relatively four inches thick by twelve inches wide with a guide where you have a steel top and little individual jacks underneath spaced about every foot that you could level the thing and keep it in a truly level position.

Q Who was responsible for that? Did you ever find out when you got over to G.M.?

A I don't really know.

Q It was quite an innovation?

A Yes.

Q A logical step?

A And they had steel angles with sliding scales.

Q Tell us about the angles. That's the one differentiation between General Motors and the rest of the industry?

A The angles are relatively about eight foot high with a base of maybe three and a half feet -- very heavy. They weigh around a hundred pounds. They were made of magnesium.

Q Which was very prevalent in the aircraft industry?

A Right. And then we had a crossbar that went across the eighty inches and fastened into the angle in holes that were predetermined.

Q Why did they call it angles?

A Because they're a big right angle. And they had a platen that ran up and down. It was a little platform that ran up and down that you could fasten at different heights. There was a scale that slipped into the groove in the angle, and so you set that according to a predetermined zero to ground line; you set that whatever your ground line was, and then you could run that up, and by reading the scale you knew where you were relative to the ground.

Q You could get your coordinates from both sides?

A Right.

Q Now the bridge had been in development in the 'Thirties. Gordon Buehrig said he used it at Auburn-Cord-Duesenberg in the Thirties. Willys Wagner and Bob Gregorie said that they used a rather primitive version of it at Ford. It was measurements. But Gregorie said it came from the boat building industry. He had been in the boat design business, and he said when you invert the hull, it's much the same. You have a curved surface, and he said he came from that. Does any of that...?

A It rings a bell, but I really don't know the history of it. The first I was aware of it was when I started to work at Studebaker, and then because....

Q Some of the photographs you've shown us today show a primitive kind of bridge, especially on what Gordon Buehrig was working on?

A Right. And he was the only one that used that. We used templates, I suppose, because Joe Thompson was from G.M., and that was their mode of doing things and was even when I went there in '55 yet.

Q The angles?

A By the way, they're still using that same system and the same angles.

Q I suspect this was very helpful?

A Oh, sure. It increased our accuracy, and it just made things a thousand percent better.

Q What were you trying to do, technically, there? You had to translate the design sketches into a 3-D reality. How did you do that? To a layman, how would you describe it?

A The model was made, and only half of it was registered.

Q Registered?

A Either by taking templates or by manually taking points from this cross bar, which is, essentially, a bridge, except it doesn't have the holes in it when you're looking at it.

Q By templates, you mean this is the area that you used to build up the clay to?

A No. I'm talking about taking the surface off. When we initiated the clay model, we would have points that we'd have to clear with the

clay, and those were set in like engine points -- carburetor, seat points, head room.

Q These were reference points?

A They're references we had to clear. They were minimums. At Studebaker we had pretty much freedom of sculpting. We'd be given a sketch, and we might make a center line template to get started with, but from then on, it was pretty much design as you go along. We'd have glass planes established. They had to be established so that you knew that your shoulders weren't going to stick out through the glass.

Q These were exterior?

A Right.

Q What about interiors?

A Interiors were pretty basic in those days. We did have instrument panel armatures that were set up with a wooden platform.

Q Separate?

A Right. Just a small platform.

Q And you'd do seating bucks?

A We didn't do any seating bucks in those days.

Q But you did instrument panel bucks?

A Instrument panels. It was the only thing we got into.

Q Since the seating was pretty much standard?

A Right. We didn't design seats. Somebody else did that if there was design at that time.

Q How about plaster? Did you use plaster in those days at all?

A Yes. All our models were reproduced in plaster.

Q So you would make the initial models in clay until you got to the approval model, and then you'd do the final approval model in plaster?

A Right.

Q And you had a fabrication shop that would do that?

A We did it. We were the fabrication. We were it. I'll give you a little story on that. We had a group of people come down from Chicago to do the first quarter-size casting. They were Orlandi Brothers. They were from Chicago, and they were a bunch of Italians, and that was their business -- plaster casting. So Gordon called me aside, and he said, "Now, John, I want you to watch these people. I'd like for you to learn how to make those casts." At that time they cost about \$600 a copy.

Q Now when you say casting, they're casting your final...?

A They're casting our clay models -- quarter-size. So I watched them closely, and they knew I was watching.

Q You enclosed the clay in a mold?

A Right. You had to make sections because of areas that might be convex and hold. You have to make your plaster casts so you can pull it without damaging it.

Q You pull a model from the mold?

A Right. So that you have surface reliability there; you know they're the same. And generally in the quarter-size models, that would call for five-piece molds: two sides, two ends and a cap that encapsulated the whole thing. They would put off doing their final casting until I was gone for lunch or something. So one day I just stayed all day, and I finally saw what they did. Well, that was the start of....

Q Were they good?

A Oh, yes, they were very good. From that, anyhow, we started doing our own casting.

Q Is that the first instance in which you saw the casting process in action?

A Yes.

Q You had just simply dried your clay models in previous times?

A Yes.

Q What year was this?

A About '45.

Q Who had instigated them coming over? Was it Gordon [Buehrig] you said?

A Gordon, right. See, Gordon had all the background.

Q He'd been through the mill?

A Yeah. And, of course, Joe Thompson had, too. And because we were so small, everybody shared ideas. It was really like a big family. It's just like going into a studio at Ford, and it's just a family.

I'll tell you a little story about me casting or making a cast. You have this mold made, and it's the female of your model. So now it's upside down, and I'm in here splashing around, and head down, and I'm singing away. What you do, you just splash plaster up around, and it holds, and then when it sets, you pull the mold off, and you've got your model. So, I'm in there....

Q You don't fire it in any way?

A No.

Q You just let it dry?

A Right. So I'm in there splashing away and trying to get this thing made, and plaster has a tendency to build up on your hands, and it hardens a little bit, and it's real crummy. To get it off, you go like that

and shake it off. I'm singing away, and my hand was getting full of plaster, and I went like this, and I heard a gasp, and I turned around, and here is Raymond Loewy, and there was just plaster all up the front of him. On his suit. I felt, oh my God, I'm gone, I'm fired, I'm done. He must have seen the look the my face. It was stricken, I know. He said, "Don't worry, John, I should not have been there." And he had to go out and get a new suit. I was scared to death. You've got to understand, first of all, I was just a kid off the farm, and this was all new and glamorous to me. But that's how we got into making plaster casts.

Q So you've done that ever since?

A Yes.

Q Had anybody else in the industry been using plaster models?

A Oh, yes. In fact, Holden Koto also was a plaster enthusiast. He came from Hudson, and their process over there was to cut sections to the body and make plaster sections -- stand them up, lay 'em up in segments. Almost as if you took sections of the car or drawings, only now you have plaster segments there -- the male segments -- and fill in with plaster in between and then work that down. We tried that once, and it just didn't work. But I suppose if somebody knew what they were doing better than we did with plaster, they might know.

Q You were doing components then or sections of the -- or was this a full mockup cast?

A Yes, we did some full-size casts in plaster.

Q When you did the sections, how did you get them together? Just put more plaster between them?

A You put them together, and then you plaster them together -- reinforce them with sisal fiber or whatever.

Q It must have been exciting times. The new car is coming out, and Loewy is back in the saddle after a brief palace revolution?

A He really never got out of the saddle.

Q But there were people trying to shake him out?

A Right.

Q And you've got this marvelous postwar Studebaker coming out. It was quite a sensation?

A It was. For me, at least, it was the biggest thrill of my life to see something that you had a part of creating come out the other end, particularly when you didn't know that there was a process before.

Q Who were the chief designers of this period now that Exner's gone?

A Gordon Buehrig and Bob Bourke. I don't know the politics of this, but somewhere along the line, Gordon fell out of grace with Raymond Loewy, and this is in the late 'Forties.

Q What do you speculate after all these years have happened? Was there a clash of personalities there?

A I don't really know. I never heard. And, you know, Gordon was a very private person in some ways, and after he left Studebaker, he started to do a job at home called the Tasco. It was a little sports car. I did the modeling on that for him, which was just a little eighth-scale model.

Q A little moonlighting?

A Right. That thing went through the process to full size, and they built five of them.

Q This is after he'd severed his ties with Studebaker?

A Right. Gordon had formed the company, and they were hoping to

build this sports car. It just never materialized. It was after that he came up and started working at Ford on the Mark II.

Q In the early 'Fifties?

A Yeah.

Q So Bourke was the chief designer at this point under Loewy?

A Yes.

Q And Koto was a designer/sculptor at that time?

A Right.

Q Did you ever have any aspirations toward design?

A No. I'm not an initially creative person. I had a knack for it. If somebody gave me a sketch, I could help, but....

Q You could suggest things?

A Right. But for me to sit down and design something from scratch, I just tried it, but I just didn't have that touch.

Q What stands out in the immediate postwar years that you remember from your tenure at Studebaker?

A The 1950 series and the 1953 series were probably the highlights of my career because....

Q The Starlight coupes?

A And the bullet nose in '50, if you remember the bullet nose.

Q Do you remember working on that?

A Oh, yes.

Q It was quite exciting. This was quite a departure?

A It was really radical. A little story about that, too. We were having a show of the bullet nose, and I came in early, as I generally did on show days to make sure everything was going to be okay, and as I walked

by this model, I saw a crack in -- you know how you catch something out of the corner of your eye, and I saw that crack getting larger, so I ran over....

Q A crack in the...?

A In the clay, right across the front.

Q You didn't have preservatives in those days, did you?

A They still don't have.

Q They still can't make that clay semi-permanent?

A No. It is almost permanent. Gosh, it's almost indestructible. You use it over and over and over. If you keep it clean, it lasts forever.

The Studebaker bullet nose had a couple of nostrils underneath. They were scoops -- air intakes. I went over there and grabbed those two scoops, one with each hand, and I stood there for about fifteen minutes holding that thing until somebody came so we could prop it up. We had the show all right, but we had sticks sticking down the hole propping it.

Q Where was the crack?

A Right across the nose. We would have lost the whole thing in another minute.

Q You didn't have any other reference model?

A No. It was just a sketch -- a clay sketch, really.

Q Speaking of clay and its impermanence, what type of clay were you using?

A We were using Chevants. It was a G.M. derivative. Now Ford uses Chevants clay also, but it's a little harder clay than ours.

Q Each company, or each designer, or each clay modeling department has its own formula?

A Right.

Q When had Chevant come into business?

A Chevant was in use when I got in the business, so that was '42. I think Joe Thompson was using Chevant at G.M. in the 'Thirties.

Q I wonder if it's a good time to ask you about your version of what happened on the famous 1949 Ford model. Were you involved in that?

A I was involved.

Q Can you start from the beginning there and give us a full-dress recollection of what happened?

A In '46 or '47, right along in that area, we had a little recession, and we had to lay off some people, and Dick Calleal was a designer with us at that time.

Q Dick had been on the staff for a number of years, hadn't he?

A A year or two.

Q What was his position there? What did he do?

A Dick was an apprentice designer. He was learning the craft.

Q He lived in Mishawaka?

A Lived in Mishawaka, right. A nice guy. Everybody liked Dick.

Q Very expansive?

A Right. We thought he was a little more expansive than what reality said as far as his skills were concerned. When we laid Dick off, Dick talked to Koto and Bob Bourke and said, "Would you help me get a model ready?" "Sure."

Q What did he want a model for?

A He wanted to try to sell his background and experience to somebody in Detroit, so he wanted the model to bring along to show. Dick was not a good artist. He wasn't a good modeler either, but he had a quick mind, and he absorbed things, and there are a lot of people who have made successes without having to be excellent all the way through.

Q He had an eclectic approach. He was able to absorb other people's ideas?

A Right. So it ended up that on his kitchen table....

Q Before you get into this, may I interpose one thing. I've heard and read that he went to Bourke and said, "I need a job. Can you recommend me to someone?" And the story goes that Bourke said, "I understand that the Walker people are working on some postwar Ford stuff and might be interested in taking on somebody." And the story goes that he then went to George Walker who gave him a package sketch and said, "We need a model. Can you come up with it?" Would that be feasible?

A It could be feasible. I don't know.

Q At any rate, he came back to South Bend and went to Bourke and Koto and asked what?

A He asked if they would help him.

Q To make a model?

A Right. And so they said, "Sure." So both Bobs -- Koto and Bourke -- and John Lutz and myself went over to Mishawaka in the evenings, and we helped him get this model ready.

Q Where was the actual modeling taking place?

A Right in the kitchen on the kitchen table.

Q So that story is correct?

A Right.

Q Did any of it take place in Koto's basement?

A No. All in Mishawaka.

Q How big was the model that you came up with?

A It's quarter-size.

Q Who do you remember came up with certain features of it? Was there one person who did this, one person who did that? Does any of that come back to you?

A No. At that time we were all flirting with the spinners.

Q The airplane spinners?

A Yeah. That's where the idea generated for the '50 Studebaker. All the designers were doing models with some sort of spinners.

Q Bourke says that the spinner was his idea? Do think it might have been?

A Yeah. I guess I would attribute it either to him or Vince Gardner.

Q Was he involved in this?

A No. He wasn't involved in this.

Q But for the '50 Studebaker?

A Right. In fact, Bob Koto was a spinner guy, too. All the designers would have models of their own. You'd be working with one designer one day, and, maybe, another one the next day all in competition. But I would say that Vince Gardner or Bob Bourke might have been the first one. But everybody was doing spinners in those days.

Q Mr. Bird, if I could ask you to proceed with some detail on how you worked on the model for what became the '49 Ford. At the end of the last tape we had you in Dick Calleal's Mishawaka kitchen using his kitchen

table, and you, and John Lutz, and Holden Koto are working on this model. How did it evolve? How did the ideas come about?

A The ideas came about, primarily, from Bob Koto.

Q Who was a unique designer/sculptor?

A Yes. And we were all involved in doing these quarter-scale models for Studebaker, and this was just kind of a transition.

Q You were doing it for a friend -- Dick Calleal?

A Right. We were doing it to help him get a job. So the four of us working there with design direction from Koto and Bourke and very little input from Dick. Dick was kind of an observer, and he's saying, "I've got to know this because I'm going to try to sell it." And John and I did the execution of the clay.

Q Under rather primitive conditions?

A Not only primitive, but there were deadlines involved. I think we had four days to do the darned thing.

Q Four days?

A Oh, it was really a tight schedule.

Q That was imposed by Calleal? He had to get back with the model?

A Right. Walker had said, I want the model by such and such a time. So we were working all kinds of hours at night to get it accomplished.

Q You weren't being paid for this? It was just a favor for a friend?

A Just a favor, yes. We never dreamed it was a Ford thing. Remember we had four little blocks on the front to designate letters or positions of letters -- but we thought it was Nash, because Nash, being independent at that time, we....

Q Walker had been with Nash at one point?

A I think so. Anyhow, we thought it was Nash.

Q Calleal is not telling you what it was?

A No. If Bourke and Koto knew, we didn't know. A lot of conjecture, but didn't know. So it wasn't until the darned thing came out in '49 that we realized that, hey, we had a lot to do with that.

Q You remember the distinctive features of it, of course, was not only the spinner in front, but there were some slab sides which were unique for that time?

A Yes, they were. However, Studebaker had slab sides.

Q Had they? Okay. You had mentioned earlier that some designers have a signature. It's been mentioned that Koto was responsible for that slab-sided body. Do you think that is correct?

A I think he had a lot of influence because he came from Hudson, and Hudson was working with that type of thing at that time. I don't know that any of the rest of them really had that experience. I'm not sure whether Bourke came to the organization with prior automotive experience or not. Now, of course, Ex and Gordon had.

Q What about the taillights? Do you remember anything special about the taillights or the rear end?

A No.

Q In effect, looking back on it, did you think it was a radical design or was it an evolutionary design in terms of what you'd been doing at Studebaker?

A I'd have to say evolutionary because we already were doing it at Studebaker for four or five years prior to that.

Q So really it was an interesting experiment or project, but you really didn't...?

A We didn't think it was anything out of the ordinary, no.

Q You finished it, and what happened?

A We finished it, and....

Q Wished Calleal good luck?

A Yeah.

Q He took off with the model?

A And, subsequently, he had good luck. He sold it to George Walker who, eventually, sold it to Ford.

Q I don't want to impute any motives to anyone, but did you get the impression that Dick Calleal passed this off as his work?

A Yes, sure.

Q Would that have been in character for him?

A Yes.

Q You mentioned earlier he had a somewhat inflated view of his own work?

A Right. I don't think it was, obviously, intentional, but it was innocuous. I don't think he ever meant to necessarily mislead anybody, because that seemed to be the game. Loewy got credit for all the work that other people did, and, ultimately, it still is [standard procedure in the industry]. I don't think it's unusual.

Q Dick was, obviously, grateful to you gentlemen?

A Oh, sure.

Q There was no offer of money, because you didn't have any?

A No.

Q So you just said, "Good luck, Dick. Glad to help out. Hope you get the job," and that was end of it? You probably thought very little more of it?

A Right. We were happy, we were working, and he wasn't, and we were glad to help out.

Q Standard in the industry, you help out a friend or an old colleague?

A Sure. Or anywhere.

Q So, basically, it was an interesting and unique assignment, but you weren't too excited about the car?

A No. I didn't think it was anything out of the ordinary.

Q What did you think when you finally saw it?

A It was a lot different for Ford, but, boy, we had the bullet nose coming out in the same year, and we were Studebaker oriented, and our product looked the best. We used to go and look at the G.M. cars, which we thought were just warmed over year after year, and you couldn't tell where the belt changed. So we thought, man, we're way ahead of them. We were going to set the world on fire.

Q The '49 and '50 Studebaker was quite exciting as I recall?

A Yes. The '50 Studebaker, actually, was, I think, one of the best sales years they ever had.

Q So things were sailing along pretty much in South Bend.

A It was going very well.

Q The money was flowing, and everybody was working. How long did that last?

A That lasted until about '52, and then things began to....

Q What happened?

A In my opinion, it seems like, well, Studebaker was going good, and the funds were going elsewhere and not back into the business. They weren't putting anything back into the physical properties of the business, and the machinery was getting older.

Q Plant was deteriorating; machinery was deteriorating?

A Right. They just weren't keeping pace. The money was going somewhere; it wasn't going back into the business. And, as a result, they were losing dealers. And Ford and G.M. were out with new products, and we had labor problems. We were paying fifty cents an hour more than they were here in Detroit for the same products.

Q Somebody had negotiated that contract?

A So we were just not able to compete. From the bottom line standpoint, we were just making a profit. So then they tried rejuvenating with that '53 Loewy line.

Q Which was a great and noble effort?

A Which was a beautiful thing.

Q Whose inspiration was that do you think?

A That was Bourke's and Loewy's.

Q Do you remember any discussion about the genesis of it?

A Loewy had wanted a sports car. He wanted a one-out kind.

Q You had done some custom work on his Jaguar earlier on?

A Right. And on a couple Studebakers also. Loewy's signature was a porthole in the side. If you remember some of his Lincolns that he did had big portholes on the side in the rear quarter panel.

Q Opera window, I think they called it in those days?

A Right. For example, we did a '46 Studebaker convertible with three portholes in the rear window as opposed to the long rectangular one. But we had done some customizing. He loved individualistic cars. That was part of our work, too, which was fun.

So the '53 started out as a personal car project. Albrecht Von Goertz -- he's a contemporary designer -- still designing. I think he has an office in New York. Al had a project with Koto -- kind of a co-design.

Q Was he working for Studebaker at that time?

A Yes. And Bob Koto and Bob Bourke had one. We had four sides going. We did only half of car in those days, because we didn't have the manpower to begin with. So just doing the side sketches, and it was really quite a contest. Bob Koto had one side, and Bourke had the other. I happened to be working with Bob Bourke, and, I guess, Don Hein was with Koto. Competition was really tough.

Q For what became the '53 Starlight coupe?

A Right. But it was so much fun. We were having a ball. We were all just like an experimental studio, with everybody going balls out to do a nice job; a different job. And, ultimately, Bourke's side was chosen.

Q Bourke and who?

A Bourke and myself.

Q And Koto and...?

A Koto and Don Hein were on the other side.

Q Where was Lutz involved? Was he involved in this?

A Lutz was involved on the other car with Goertz, and, I think, Ted

Brennan had a side, too, with another modeler. So that's kind of how it evolved -- that '53 evolved. It started out as a personal car, and it got looking so good, that, at that time, I don't think Hoffman was there yet any more. Who took his place?

Q Vance?

A Yes. And they liked it so well that it became the '53 design. It was a beautiful car, but, at that time, they were having a lot of stamping problems, particularly around the headlamps. They just couldn't draw the metal.

Q It was just too complicated?

A Right. And they would split underneath the headlamps. I can remember seeing acres of those cars sitting out there waiting for repair. They went ahead and built them but had to come back and hand weld those fenders.

Q Is it the fender bezel you're talking about?

A Underneath the bezel. Today we put all kinds of shapes in, but we couldn't draw a half inch without tearing.

Q Was it the antiquated machinery?

A I think it was the metal composition as well, because the draw wasn't that terrific.

Q When you say draw, you mean...?

A The depth of the metal has to be stamped, like making an indentation.

Q What sort of success did the Starlight coupe have? It was an interesting....

A The initial success was very good, but they couldn't get it to the marketplace. See, it was almost a year before they could get any volume.

By that time, 1953, people were still wanting new cars. G.M. had new ones, Ford had new ones, and instead of waiting for a Studebaker, they'd go buy something else. So we felt that was part of the demise. We had planned a four-door at the same time, which was a sleeky little car, too. But we had money problems, and we had to facelift a four door, and anybody that's seen the '53 or '54 Studebaker four door knew we were carrying an old body, and it was just a bastard appearance. It just looked terrible. And that was the beginning of end, really. In early '54, Studebaker and Packard merged, and we were trying to....

Q What happened to the brave little band of yours with the merger?

A Well, it still stayed intact.

Q No defections?

A They began to defect. Bourke and Koto stayed with Loewy, but all the modelers and some of the designers went with Studebaker/Packard. At that time, Nance was head of Packard and, eventually, head of Studebaker/Packard.

Q This is James J. Nance?

A Right. And Bill Schmidt was the chief designer. Our representative for Bill Schmidt was Duncan McCrea, who was a goofy guy but really a nice guy. He was so much fun. Gee, he was a lot of fun, and a good designer, good manager.

Q He was Schmidt's right-hand man?

A Yes, down here at Studebaker. And Schmidt would -- and Sparky Bohnstedt, who was at G.M. And Dick Teague was with Schmidt at the time.

Q Did Bohnstedt come over from G.M.?

A Yes. He came over from G.M. and worked for Studebaker/Packard for awhile and, as far as I know, he's the only designer that ever left G.M., worked for somebody else, and was hired back at G.M. Sparky was a good man.

Q What was his forte?

A He was a designer.

Q Was Dick Maccadam involved in those days? Was he with Teague and Schmidt?

A That's a name I don't recall.

Q So you had two design units, in a sense, didn't you?

A Yes. And that's what led to my going to G.M.

Q How did that come about?

A Duncan McCrea had gone on vacation, and we were trying to make a small Packard off the Studebaker four-door body. And anybody that's seen that '56 Packard realized it was abominable -- just a terrible-looking car. But we were working night and day, and, I mean, [literally] working night and day to get that darned thing out. We're doing it all at Studebaker.

Q This is pointing toward the final model?

A Yeah. This is in '55.

Q Are you into full size yet?

A Yes. We were doing all our work over sheet metal. We'd pull in the car, set it up on the platform, take the hood and fenders off, and then put an armature on and use the body metal but do clay on the front. We did a lot of that because it was cheaper to do than trying to build an armature and put all the clay on it and do the complete modeling job.

So Duncan McCrea had gone on vacation, and while he was up North, he suffered an appendicitis attack and was in the hospital. My son, who was about fourteen at that time, and I thought he might be interested into this Fisher Body contest. I thought, gee, that would be great to be involved in that, and maybe we could come up with something.

Q What is your son's name?

A Bill. So Bill and I came to Detroit to the Fisher Body show.

Q Where was that held?

A In the Fisher Building. So while we were up here, I thought, gee, I'm going to go over and see my counterpart over at Studebaker, who happened to be Fritz Wagner, who retired from Ford ultimately.

Q Did you say Studebaker?

A No, he was at Packard then. He was my counterpart at Packard -- the chief modeler. So I went over to see Fritz, and I go up to the studio, and, gee, they have a pretty nice studio. They had the same kind of equipment we had, but no one was there. I thought where are they? Well, they're out on Bill Schmidt's boat. They were redoing the interior on his boat. So, I was just furious. I had been working day and night, and I mean day and night. So I went home, and the more I thought about it, the more I stewed, and I decided I was going to quit.

Q Now this had been ostensibly a Studebaker/Packard project?

A Right.

Q And yet all the people in the Packard design shop were waiting around for you guys to do the work?

A We were doing the work, and they were re-doing Schmidt's boat. I was mad. So I went to see Dunc in the Hospital, and you'll enjoy this.

Q Where was he?

A In Saginaw. He's in the hospital in Saginaw. Bill Bonner and Dunc McCrea were great friends. They worked together at Ford and have been life-long friends.

Q What was his discipline? Was he a designer?

A A designer, yes. So Bill and Dunc, they really had a good time. They'd get together. Bill was up to see Dunc. Bill was on his way up North somewhere, so he stops in the hospital about six o'clock at night and with him he carries a bottle of booze. So they sit there and have a little drink. Now this was just two days after he's had an appendix operation. And they get loaded, and Dunc sneaks out of the hospital. They go out and they're carousing around the bars for three or four hours that night. At two o'clock in the morning, Bonner says, "Well, Dunc, I've got to go," and he leaves Dunc in the bar.

Q He hasn't got his hospital clothes on?

A No. He's got his -- not a hospital robe. Bill brought an overcoat in, but he had his pants rolled up. So here's Dunc in the bar, and he doesn't really know where he is. The hospital, meanwhile, is missing a patient, and they're just going wild. So about four o'clock in the morning, Dunc shows up at the hospital. He got back.

Then on Sunday I come in with my story that I'm going to leave. I have a package of fruit and stuff. I thought it was kind of funny, because they asked to inspect the package. When I get up to the room, I find out what happened.

Q He told you the story?

A He told me the story. What a guy!

Q Had you known Bonner?

A Yes, I knew Bill Bonner. Only those two would do something like that.

Q What did he think about your leaving? Did he support your decision?

A He understood, sure. So that's when I left.

Q He was now at Packard?

A He was at Studebaker, but he's working for Studebaker/Packard.

Q He probably knew.

A He knew what was going on.

Q So that steeled your resolve, and what happened then?

A I had already been a Ford man, so I thought, gee....

Q A secret Ford man?

A Right. My first car was a Ford. It was a '36 Ford at that time that I dearly loved. In fact, I sold it to get married, so it was really a sacrifice.

So I came up here at Ford, and I interviewed, and I thought everything went well. They even sent me down to have a physical. I told them, "I've got five children, and I can't afford to be out of work very long, so if you're really interested, I need to know soon."

Q Who did you talk to? A personnel man?

A Yes, a personnel man. So I went home, and, in the meantime, Joe Thompson had gone out to Art Center in California and became an instructor out there.

Q In Pasadena?

A Right. And he had come back to visit, and he came over to the

house, and I told him I was leaving, and he said, "I want you to go to G.M." I said, "I think I'm going to go to work at Ford." He said, "I want you to go over and talk to Bob Lauer at G.M." He was chief engineer at design/styling, but a very good friend of Joe's. Two weeks had gone by, and I hadn't heard anything from Ford, so I said, "On Monday I'll go." So I went over, and I talked to people at G.M., and they said, "Yeah, we'd like to have you."

Q Who did you talk to?

A Bob Lauer and Ken Pickering. Ken Pickering is now the chief engineer.

Q He's now the head of the G.M. Tech Center design engineering staff?

A Right.

Q What was he then? Was he was in engineering?

A Yes. He was kind of Lauer's right-hand man.

Q Was this in '55?

A October, '55. So I said, "Yes, I'll come to work."

Q What did they offer you?

A It was \$700.

Q I was thinking of the position.

A Just as a master modeler, because I had the experience for thirteen years.

Q Thirteen years you'd been at Studebaker? And, by this time, did they raise your salary?

A No. I took a \$200 decrease with the understanding -- I was thirty-five years old at that time, and I said....

Q Your family was coming along?

A Right. And I said, "I'll be glad to take the cut if, at the end of a year, you find that I'm worth it, we'll restore it, and if not, let me know so I can go somewhere else.

Q You needed the money?

A I'm getting older, and, at that time, I thought thirty-five was terribly old.

Q What were you making at Studebaker?

A About \$900 a month.

Q And you took a....

A It was \$725.

Q How was that relevant to salaries in those days? Was Studebaker a little higher?

A Maybe a hundred dollars. But I don't know. Maybe, not, because the people who had that level of responsibility at G.M. were making a lot more than \$725, I'm sure. It probably was the same, or very close to the same at that time.

Q Did you start out as a master modeler?

A Yes.

Q How did it look? What was the setup like at G.M.? Were you impressed with it?

A Oh, fantastic, because they had just moved to the Tech Center, so everything was new, and modern, and it was just like I'd died and gone to heaven!

Q Who was the chief modeler in those days?

A There was Jack Wiley, and a Joe Hinding, and a Tony Bathalzer. I guess it was those three, really. The Stobar brothers, by this time, had come to Ford.

Q Now the Stobar brothers had become legendary figures in that industry. Did you hear some stories about them?

A Oh, yeah.

Q Leonard and Charlie?

A Right. I guess they had quite a career at Ford as well.

Q They were fabricators? Were they modelers, or were they both?

A I think they were primarily fabricators, but they were in charge of modeling.

Q That's the way it went in those days. It was interesting. The fabrication shop was over the modeling shop?

A Right. By the time I got there, the modeling was under modelers. Boy, that was a strange situation to walk into because at Studebaker we did everything. At G.M. they had a union. If you wanted a little metal removed, you had to call the metal shop; if you wanted a sliver removed from the armature, you had to call the wood shop; if you wanted to do a little plaster cast, you had to call the plaster shop.

Now I'd come in there and had been used to doing all of that. My first couple of years at G.M. were pretty hectic, because I was always in trouble with the union. You can't do this, you can't do that. You'd post people at the door to watch for union people, and then you'd go do the stuff in the back.

Q Did you meet Harley Earl?

A Just briefly, because Harley Earl was retired. I think he retired in '57, and other than when I worked on the Cyclone, which was one of his pet projects, you didn't have much interface. You'd see him every day, but Harley Earl was King Earl. He was a very good nice person; a nice

guy. He always managed to say hello. He passed the time of day. He liked modelers. He seemed to understand that modelers made a big contribution to the design.

Q Apparently, he started out using clay at G.M.?

A Yes, with Joe Thompson.

Q That's interesting. It looks like Joe Thompson was actually the inspiration at G.M., and Earl saw the possibilities of clay?

A Right.

Q What was your first assignment?

A The first thing I did was they threw me into a big body development room. All we did was work on bodies.

Q No real individuality?

A No. There were seventeen or eighteen guys working in there.

Q Were you working in clay?

A Yes, strictly clay. Couldn't do anything else but work with clay. At that particular time, styling was growing by leaps and bounds. They were trying to hire all that they could, and G.M. had gone with their sculpturing. They had gone into hiring people with college backgrounds -- art students -- art backgrounds.

Q This was a new trend?

A This was a new trend.

Q In the mid-'Fifties?

A Right.

Q Art Center had been going on for about ten years at this time?

A Yes. At Art Center, as well as two-dimensional, all the students had to do a three-dimensional model of their projects. That was part of

their curriculum, and Joe Thompson was the man who directed all their efforts.

Q By this time, he had gone out there and become the head modeler?

A Yes. So, as a result, modeling had become a real creative part of G.M.'s design effort. I went in there with thirteen years experience, and I didn't know whether modeling there was going to be like modeling at Studebaker. I had no idea, and, of course, I'm really flabbergasted at this beautiful building and the surroundings.

Q It had all the modern equipment?

A Yes.

Q Were they using angles at this time?

A Angles, yes. Still are today. As we went along, I came in there with this background of experience, and because of it and because they had hired a bunch of new people with art backgrounds, it was easy for me to stand out, and, as a result, I wasn't in that room for five/six weeks until I was put in an advanced studio of which Charlie Jordan was chief designer. At that time they were doing some quarter-size models of proposed Toronados -- Oldsmobile Toronados.

Q Was this the first time they'd come up with the proposal?

A To my knowledge. It was the first time I'd been exposed to them. I'd just gotten there. So Chuck was designing a model, and it was really unusual. The body was really streamlined, but the fender surfaces were divorced from the body. It almost reminded you of a catamaran -- that type of thing. There was an air space in between the body and a frame on the outside of the body. It was long, low and slinky.

We hadn't been involved in that too long before Chuck was given a

studio to develop a small vehicle, which was called a Cadet at that time.

Q How small was it? Was it the first postwar small vehicle that G.M. had proposed at that time?

A It was strictly a proposal. I don't think they had any background. It was a Bill Mitchell or a Harley Earl proposal.

Q This is about '57?

A Yes, '57. And Chuck Jordan had a group of four modelers and a couple designers. We called him Chuck or Charlie. He's always been a first-name guy to the people that worked with him. It was a very successful project. It was a cute little thing, and it caught everybody's eye, but they never built it, but it also generated a lot of enthusiasm for Chuck's work. Through that enthusiasm, there was a lot of enthusiasm generated for my own effort. Then from that project, I went to an advance where they had a Cadillac Cyclone going.

Q How did that come about?

A That was a sequel to Motorama cars. They were still doing way-out cars.

Q The LeSabre and what else?

A The XP-17. I'm not sure about the number, but it was an XP. It was Charlie Chayne's personal car.

Q The chief engineer?

A Right, of General Motors. The Cadillac Cyclone project was being headed by Carl Renner, a designer, and he had an old-time technical engineering type helper in there by the name of Carl Pebbles. At that time General Motors' approach to design and sculpturing was do everything on the blackboard first. Take a section, the artist will draw up the section, and an engineer will true it up, and you take a section from there,

and that starts your car. They were having problems -- had to have problems -- with developing the side of the car that had some grace to it. It just always looked like a log. So after about two weeks of frustratingly putting in different sections -- section after section -- it would change, maybe, a thirty-second of an inch or a sixteenth of an inch, and still everything looked like it was drug on. It was static.

So Mr. Earl came in one day and said, "Carl, we're not getting anywhere. What are we going to do with this?" At that point in time, I was getting kind of upset with doing all this work and nothing coming of it, and I said, "Could you give me a day and let me work with this section of what's in here?" From that we developed a body side, and he liked it. It looked good.

Q Do you remember anything distinctive about it that stands out?

A Other than it had some crown in the body side, and it had some grace going through it, so that it didn't read static. It had some form to it, and led into the bullet nose on the front fenders and then little tail fins in the back. So that was the start of my own personal career in the studio because we finished that car and....

Q It stood out of the crowd? You were noticed?

A Yes. There were five modeling people involved in that, and I was the only one that had any experience. The rest were just new people brought in, and they were trainees. So I know every inch of that car.

Q Can you describe it as it materialized in the final model?

A It was a long, low, sleek area, and I mean long. It was probably like....

Q Kind of torpedo-like?

A Yes. Torpedo with a bubble top, which was something new, and one of those Harley Earl innovations where the bubble would lift back and hide itself under the deck.

Q Sort of a concealed, retractable top?

A Right. The doors were unusual for the time. The door opened straight out and then slid back, much like a door on a van. It was really a spectacular car.

Q Did you built a final running model?

A Yes, there was a running model.

Q You called it the Cyclone?

A It was a Cadillac Cyclone, yes.

Q Was this intended to be a concept car or a dream car?

A It was a dream car.

Q I heard you say earlier that the final prototype model is still around?

A It's still around. I think it is. I don't where it is, but I think it's still around. The laat time I saw it it was displayed in the Engineering Research Building at the Tech Center.

Q When was that?

A Ten years ago.

Q It sounds interesting.

A A beautiful car.

Q A two-seater?

A Yes.

Q You'd begun to stand out from the group?

A While I was involved in that project, a fellow who was in charge of

the Chevrolet studio had a heart attack, and they asked me if I would consider going down there. G.M. was very gracious about those things. They didn't really say you must do this, even though they might have meant it. They asked you, and I said, "Oh boy, I'm in seventh heaven where I'm at. I love this project, and I'd like to finish it at least." So that was okay with them, and they put another fellow on it. As the project wound down, unfortunately, the guy who was the head modeler in Buick had a heart attack -- Otto Steudle.

Q An old world craftsman?

A A German pattern maker. So I went into Buick studio then as chief modeler.

Q Who was the chief of the studio?

A The chief in the studio was Stan Parker in those days, and Stan was a nice guy. I always felt that Stan thought he was a little bit better than the rest of us. Now this was a mistaken thing, because as the years have gone by, Stan mellowed, and I mellowed, too, a little bit. I guess I wasn't exactly the most generous guy in my thoughts, either. But, anyhow, I was there about three months, and Stan was removed from the studio.

Q What happened? Regular rotation?

A Well, kind of regular rotation. And then Bernie Smith came in, and Bernie was with us about a year. Nothing really spectacular happened in the studio in that time. Hank Haga was there as an assistant.

Q Henry Haga?

A Right. He's an excellent designer and a nice personality and probably overshadowed Bernie Smith, who also was an excellent designer but a quiet type person.

Q Hank had an Art Center background, didn't he?

A Right. I can't remember where Bernie came from, but Bernie was a manager type guy. He would let people do their thing, and Hank was aggressive. Eventually, we did '61/'62 Buicks in there.

Q Anything distinctive happen?

A The thing about the '61 Buick was that it was my first shot at doing a production car, and the pointed nose of the fenders was distinct in those days, and we thought it was an excellent car. I was prejudiced, of course. Then Dave Hollis came in.

Q Hank Haga left?

A No, Hank Haga was still there.

Q He was a junior designer?

A Right. Dave came as the chief, and Dave is a real outgoing and crazy guy -- good designer, crazy guy. There developed a rapport in that studio that I don't think I ever had anywhere else -- the whole group. Dave would do outrageous things. For example, we went out one day on a show with a car that had been modeled about a half inch too wide, and about an inch too low, and almost two inches too long.

Q How did you know they were off?

A You're given a set of dimensions, and this happened to be a C car, which was the big Oldsmobile, the Cadillac and the Buick. They all shared the body -- same chassis. So we take 'em out in the courtyard, and here's the Buick studio, and Oldsmobile studio and Cadillac studio representatives. You stand back, and Harley Earl was a big, tall man, and he looked at those things, and he turned to Dave and he said, "Boy, that Buick really looks good. It's looks longer, and it looks lower.

How can that be?" Dave says, "That's the design, Mr. Earl."

Q Did Dave know what was wrong?

A Sure he did.

Q But it was too late to change it?

A He didn't want to change it. This was just concept. So Mr. Earl turned to -- and I think Stan Parker might have been in charge of Cadillac studio then. He said, "Stan, have your engineer go over and measure those cars." Well, the truth came out. Mr. Earl called Dave over, and he said, "Dave, this is too low, and it's too wide, and it's too long," and Dave turned around, and he said, "John, how did that happen?"

Q Could you keep a straight face?

A Mr. Earl smiled. He knew, and he knew that it was concept, and he had a to do a little chewing on the spot, but he loved it. Dave was like that through all the time that I was with him in Buick. He would just go crazy.

Q What was your response to Dave Hollis?

A I was flabbergasted. I had nothing to say. Totally smoked! I did it. Dave was flamboyant, and he would let you do anything. You could do whatever you wanted to with that thing. I didn't care. I loved to work that way, as long as he gave me a couple of weeks to get it ready then for release -- come back and be honest about it. We had a very good staff, a marvelous staff -- designers, engineers and modelers. They just were great.

Q It shows in that period. Those were great Buicks in those days. About this time Earl had retired?

A He had retired, yes. In fact, at that time, he was more or less a consultant. He had already retired, but he would come in almost like he did before.

Q What was your reaction of the change of the guard? How did it come about?

A There was not much change. There was a period of time when Ed Glowacke, who was a very, very good designer....

Q He'd come up with Mitchell?

A Right. They were kind of on a par, and there was a lot of conjecture as to who might get that job. Bill Mitchell was more outgoing and flamboyant and a protege of Harley Earl. So he got the nod, and Glowacke was his direct assistant. Unfortunately, Ed contracted cancer and didn't live too long after that.

Q It was a tragic end to his career?

A Yes, right. So you didn't notice much of a change. And Charlie Jordan was coming along. Clare MacKichan had gone overseas and done very well over there, and, at that time, I don't think Clare was back yet in the States.

Q An interesting story I heard was that Mitchell had a habit, as Earl did, of telling people where they were going. They wanted to beef up their international [design] staff and work more closely with Opel, so he told Rybicki, "You're going [to Germany]," and Irv said, "No. I've checked with my family. They and I don't want to go." Mitchell was, apparently, quite upset at this, so he turned to Clare MacKichan and gave it to him, and that's where Clare made his reputation.

A He is a very talented man. He was a good designer, and a good

administrator, people liked to work with him. He did very well for himself. He came back and thought, really, that he might have been chosen over Rybicki. When Rybicki finally got it, I think it might have been part of Clare's decision to retire, but he had not been in good health, either. So there were a couple of things. But, you know, to those guys, design is their life, too, as it is with anybody that's involved in it. In the old days, you spent more time there than you ever did at home. You were involved in the job. Overtime was the norm. You'd think nothing of working twelve hours a day, seven days a week.

Q This is about 1960?

A Yes.

Q How had the modeling department grown? Did you have a fabrication department and a modeling department?

A There was always a fabrication department.

Q They'd do plasters and...?

A And the wood work and the metal work. They were all union under specific union heads.

Q And then you had the modelers attached to each studio?

A Right. And we were only allowed to do modeling as opposed to the situation at Studebaker where you did everything. It's an inhibition to have that because you have to go through too many steps where if the person involved with the job can do the whole thing, it's just a time saver to be able to do everything.

Q At this point -- 1960 -- you're doing modeling the traditional way. You were getting better clay from Chevant, at this time, but you were still using the traditional time-honored methods?

A Setting templates and so on. However, along about this time they developed a machine, it was called a scanner, and it was electrically controlled on a three axis type arm that would run along the surface of the clay with a saline solution coming out of a little dropper, and it was conducting electric. This thing would run along there almost like a pantograph. It would run along the surface, and your sections would then be transferred on a piece of vellum. So instead of having a woodworker come up and physically fit that template and put coordinate lines on it so that they could get it back on paper, now you had a machine that would go along there in about one-tenth the time, and it was all drawn out. From that you could make templates if you wanted to, or you could transfer this to a drawing board and put that on the drawing board. So that was a big step forward. It knocked ninety percent of your transfer out right away. Then from that beginning, they developed present-day electronic stuff.

Q Now they just scan electronically?

A Right. And, also, they have developed clay mills that once you finish one side, they have a milling machine that's, in effect, like a pantograph with a milling head on the other side, and it mills the duplicate section on the other side. This information is going to a drafting board at the same time you're milling the other side, so that cuts your modeling time greatly.

Q But, however, you never really -- and still today, you haven't taken the place of the individual doing the basic work of making the clay model?

A No. In my personal opinion, and I suppose I'm prejudiced, but I've

seen a lot of people working at consoles and doing holograph work, but, ultimately, it comes down to....

Q You're talking about CAD?

A Right. You really can't see until you get it there in three dimensions. While they may speed up the process of getting to that third dimension, I think there's always going to have to be somebody milling away at that clay, in my personal opinion.

Q This is about 1960, and you've worked experimentally with Harley Earl's last dream cars, and you're now in the Buick studio. Are you still there at this point?

A Yes.

Q How long did you stay with the Buick studio?

A I stayed there until '65.

Q That's a long tenure, isn't it?

A It's not unusual. If you have a group in a studio that's doing a good job, you tend not to disturb that too much, although there's a danger in leaving people too long in a certain situation because your work begins to show that year after year after year that the same group is there, so you do change personnel within that group.

Q In order to get fresh ideas, fresh blood?

A Yes. But, generally speaking, a chief modeler will stay in a studio seven or eight or ten years because he's familiar with what the division wants as well as the designers and engineers within the studio, and it just makes a smoother operation.

Q Buick was the exciting expensive car in that era. Cadillac was always the dowager type, but Buick was sort of the princess of that era?

A Buick and Oldsmobile. Oldsmobile was always sort of the engineering premier-oriented car, and Buick was more the design leader at that particular time.

Q It must have been fun working in the Buick studio during those years that you were on the leading edge of the designers' expensive car?

A Having a guy like Dave [Holls] lead the group, it was fun for the modelers, too, because you were allowed a lot of freedom. You don't have that in every studio. It doesn't happen often.

Q What about the managers in those days? Do you remember the Buick general managers? Some that stand out?

A Ed Rollert stands out, and he stands out because he followed a fellow by the name of Ed Ragsdale, who was a design-oriented guy. Ragsdale liked design and, as a result, we all loved him. He was what we call a "G.M. design man." Everybody thought a lot of Ragsdale. Rollert came in, and he was almost diametrically opposed. He was kind of a big, old farm-type guy. A nice guy, but Dave had a tough time selling him things. And he stands out because he was not opposed to styling, but he was so different from Ragsdale that it was just a complete switch of ideas.

Q It was a good time for you? You blossomed out and...?

A Yeah, I enjoyed it. I'll tell you, frankly, I fell into something that I just loved, and the job has always been a joy to me until the later years.

Q What stands out in your memory as the next peak after these wonderful five or six years at Buick?

A The next peak was in 1965. They decided that due to a lot of conditions -- there was a lot unrest in the studios and a lot of union activity.

Q They were trying to organize the fabricators?

A Right. They had organized the fabricators, and they were attempting to organize the designers and the modelers. We all recognized that that was going to inhibit our freedom of design, and we didn't want that to happen. As a result of that, they decided that they should make a position open for modelers -- something for them to attain -- a director or a manager of modeling staff. For whatever reason, I was chosen.

Q For Buick?

A No, for General Motors Design. I was over all. I had been the chief designer in Buick. That was a whole new field to me because I had no management training, so there was a lot of seminars and a lot of things to go through to learn as well as learning what in the world a manager does, and all his responsibilities, and handling people. It was a whole different ball of wax for me. But I had a couple good assistants -- Ron Anderson and Dan Macek -- right from the start. Through their help and with the help of Charlie Jordan and Stan Wilen and those fellows still there. They helped me muddle through.

Q Did you come in contact with Mitchell?

A No. I had very little conversation with Bill Mitchell.

Q Was he rather aloof in those days?

A I wouldn't say that he was aloof, it was more that it was hard for me to travel in that echelon. I was not a very outgoing, social person, and most of those guys are. I think that's a great attribute, but I just wasn't interested in that kind of stuff and, therefore, I was, more or less, business-oriented. If there's something that needed to be said, I

said it; if there wasn't, I didn't make small talk, which is not always good. I don't mean that in the sense that it bothered my progress any, but in the sense that because there wasn't that free conversation, I probably missed a lot of things that I should have gotten.

Q But you were not a martinet?

A I hope that they think....

Q Of you fondly?

A Right, and that I did a good job. There was a lot of progress made in the time I was there.

Q In what way?

A The modelers had not had a lot recognition, both financial as well as skill recognition, and, little by little, we took more responsibility for design. And I don't mean that in a way that we took design from designers, but they were willing to let the modeler contribute more, and the modelers, as a result, began to contribute more. And we were able to give them better financial arrangements through a better classification, which was recognition for them, which made them feel better about their jobs. There were a lot of things happening during the time I was there.

Q You were able to attract people with more sculpting and artistic backgrounds?

A That's an interesting statement. I always felt that the people with the college degrees were very good, but they were also of the opinion, most of them, that they were being underutilized.

Q It was beneath their talents?

A Right. Beneath their talents. I don't think the job was beneath them, but beneath their talents. They felt they should have been able to

offer more in the design process, but modeling has a specific duty, and that's to get something to look at, to evaluate, and to change if necessary, but, at least, to evaluate. And you couldn't have a bunch of individuals doing their own thing and never getting anything done. So my approach to hiring people the time I was there, was if you could find college people who had a natural bent for modeling.

Q Would you elaborate?

A If you could find the person with a college background who had a good sculpturing background that could let you know that he could use his hands and he had a good eye for shapes and surfaces, you felt that you could train him. Now there was one drawback about that and that is most of these fellows felt that they had gotten into a job where they weren't utilized fully because clay modeling is a dirty job, and it's hard work. You stand at a model all day, particularly a full-size ones, and you're dragging all day long, you get dirty, and you get tired, and you're stooping over a hood or over a fender. It is tiring. So some of these people felt that, "Boy, I should be able to do better than this." They see a designer or an engineering over at their drawing board, and they're sketching away and they're nice and clean, and, maybe, sometimes they're sitting there dreaming. You don't know whether they're working or whether they're just dreaming. So there are a lot of distractions a modeler looks at and says, "Hey, I'm being put upon."

So if you can find a person who had some art background, like a person who has gone two years and who is never going to be an artist, and he recognizes that he's not going to be an artist, but he still has these feelings for creativity and likes to work with his hands, then they are

pretty good candidates for modeling. Our success has been very good along those lines. Take a guy with not a BA or a BFA and use his skills to the best of your ability. These people have been more content in their jobs and less worried about what somebody else is doing -- who seems to have it easier.

Q What sort of temperament would you say a modeler has to have?

A He has to have a lot of patience. He should be aggressive and not afraid to express ideas but also willing to bend if somebody doesn't like his ideas. You have to be flexible, and you have to understand that change is the job and nothing else. Change is the job. If we didn't have change, we wouldn't need modelers.

Q You were chosen chief modeler for G.M. then?

A Right.

Q Over all the studios?

A Right.

Q And over the fabrication department as well?

A No, just the modeling.

Q What did that entail in your personal life? You're out of the studio and into an overseer situation?

A Right. It changed my life completely, because here was kind of a workhorse who was thrust into a position where he no longer worked. You had a desk, and an office, and a couple of assistants, and now you were a personnel man. Other than just working with people in the studio, this was a totally new experience for me and one that I wasn't particularly enamored with. I was flattered that I'd been chosen for the job, but I really felt that there were other people who were better acclimated for the job.

Q Who chose you for it?

A I think that Bill Mitchell, and Charlie Jordan, and Dave Hollis, and Tom Christianson.

Q He was the...?

A Administrative director of the Tech Center. And Clark Cooley, who was the personnel man. They were all part of it. I'm sure there were many names that were proffered, and, for whatever reason, mine was chosen.

Q What in particular were your duties? How did you spend your work days?

A I spent my work days -- there was administration of salaries.

Q Didn't you have an assistant who could take care of this responsibility?

A No, I did that. The assistants were involved in the studio direction. I had one man who handled the personnel, and I'm talking now about the direction/distribution of people in the studios.

Q Moving people around?

A Right. And one in the interior studios, but mine was strictly doing the hiring and firing of -- a lot of personnel work. If people had problems, they were ultimately dumped in my lap. If a person had a run-in with somebody in the studio, they'd go to his chief modeler or his chief designer, and they'd call John Bird in; "Let's talk to him."

Q Did you enjoy it?

A No, I didn't enjoy it. It took me a long time to realize that these people, for the most part, just wanted a sounding board, and if they got it off their chest, problems almost solved themselves most of

the time. There were people that would come in that always had money problems, and you would have to....

Q They wanted a raise?

A Oh, sure. "I need a raise," or "I want a raise." I always felt that G.M. had a very good policy of administrating salaries. They were very fair, and, generally, you could show a person that, hey, this is why you didn't get a raise or this is why you're getting this much and not that much, and you could point out to them very graphically where he could see that, well, maybe they're right.

Q What would have been some of the problems?

A A guy might come in, for example, and say, "Hey, I'm not making as much money as this guy over here." Now, salaries were always secret, but somehow they'd know. "How come? I've been here two years longer." I'd say, "Well, we don't think that you're as capable. At least, you're not doing the work that this guy is doing. That's why he's being paid this." "Well, I think I can." I'd say, "Well, would you like to work next to this fellow for a month or so," and, invariably, they'd shrug their shoulders and say, "No, I don't think so." "Why not?" "Because maybe you're right." Or a person might come in and say, "Jeez, I'm having trouble with my wife. My family is just falling apart."

Q You'd become a father confessor at this point?

A Right. And I think most personnel involved men end up being that way. I had one hundred and fifty people reporting to me, and so most of my time was spent doing that. Because really the physical stuff -- the physical operation -- of placing guys here and there were pretty much accomplished by my assistants -- Ron Anderson and Dan Macek -- and those

two guys would say, "Hey, we need three men in Buick studio. Where are we going to get them?" And then we'd sit down and decide where we felt we might be able to pull people to help them. But, basically speaking, they did that work and were very good at it -- and still are.

Q You'd become a big operation in the modeling process?

A Yes. I've got to admit that I don't think after I reached a certain point, and I'd say after I'd been in there about ten years, I'd gotten to the place where everything was just as smooth as clockwork, and they didn't need me any more. This is when I began to feel that, jeez, I don't want to sit in this job. I'd become disenchanted. A fine job. The benefits were great. Company car and all the goodies, but I wanted to go back in the studio, so I went to Irv Rybicki, and I said, "Irv,..."

Q How many years were you the chief modeler?

A Thirteen years -- 1967 to 1980. "Irv, I'd like to go back in the studios." "No, you're doing a good job. We don't want you to go back in the studios." But that didn't help John Bird any. This might have been a period of five years before. It was about five years before I'd just had it up to here.

Q What factors engendered the situation?

A It bothered me not to be doing something physically. I felt that I wasn't contributing. Now I recognize that all this personnel stuff was very important, but it was something that I did not like to do. In fact, I developed an ulcer from it. As I'd gone to Irv, to no avail. I came over to Ford seeking employment. This is where I met Fred Hoadley. They wouldn't let me go back in the studios at G.M., so I came over to Ford, and the first person that I talked to was DeLaRossa.

Q What year was this?

A About 1975, maybe '74. The guys at G.M. don't know this. So he immediately called Fred Hoadley who was my counterpart, so....

Q Had you known him?

A No.

Q In those days, you didn't mix much with other...?

A No, you didn't mix with Ford people or Chrysler people. Harley Earl had a philosophy that if you mixed with them, you're going to divulge something.

Q Too many secrets?

A Yes, right. So Fred spent the entire day with me, and after about three hours, he showed me around what he could, but we set in the conference room, and he spent at least three hours talking. He said, "John, we'd love to have you." "But you will only come in as a master modeler." He said, "We we can bring you in as a master modeler. No problem. But where you are now, you can't ever hope to be that far at the Ford organization." Age was a factor; by this time I was fifty-five. "Plus," he said, "we have people here who are aspiring to the same thing, and they've been here a long time, and you'd have to give them greater consideration." And he pointed out some of the things I'd enjoy, like the perks we're talking about. He said, "I want you to go home, and you think about it. You just make a list of the things that you have now, and, yes, I know you want to get out of that position, but just look at them."

So I did that. A couple of days later I had made up my mind. I'd better stay where I'm at. So that was my introduction to Fred Hoadley. He's been a very good friend since.

Q And you became friends?

A From that episode, right.

Q Did you meet socially over the next five years?

A Occasionally because there were people here at Ford who'd retire. People I had worked with at Studebaker I'd come over to their retirement parties, and I'd meet Fred there. And it wasn't until 1980 when I retired -- I've got to back up a little bit. Over the years, Fred and I had a lot of intercourse with Chavant Manufacturing trying to develop new clays. The guy that owned Chavant Manufacturing -- Paul O'Neil -- was very friendly to both of us. If he was talking to me, he'd say Fred's doing so and so and how are you doing with this? And so we got very well acquainted on the outside. When I decided to retire, Fred was already out.

Q He had some medical problems.

A O'Neill bought the original company from Chavant, but he has really developed this business since he got it.

Q So you would get together on those occasions?

A Right. And when I retired, Paul and Fred came over to my retirement party. And in the evening, Fred said, "What are you going to do." I said, "I expect to do some little contract work. I'd like to get back into modeling," because I really wanted to get back into modeling. Fred said, "Well, I'll keep you in mind. I think we've got lots of work for you."

I didn't hear from him for quite some time, and I started working and did a little contract job for Cars and Concepts out at Brighton, and that was all kind of fun stuff. They were doing air dams and air scoops for cars and some of these applied tops -- halo tops. And they were

doing the Ford convertible. I helped develop the moldings and things around the rear end for the Ford convertible. I'd worked there six/eight weeks until the job was finished, and then I'd go somewhere else. I did a couple wheels for Motor Wheel. Then Fred called, and I got involved in the RV industry down in Elkhart, Indiana.

Q Let me go back to the last years at G.M. You stuck it out for another five years?

A Yes.

Q What happened during those years? You were becoming disenchanted and unhappy?

A There was not much personal progression in the five years. I don't feel that I was worth my salt.

Q You were really stuck in a personnel job, which you hated?

A Right. It was the wrong pew for me. I was there too long.

Q It wouldn't have helped to take your subordinates job with the placing of men or getting closer to the studio?

A That would have been unfair. Plus there was a feeling, also, that the guy who -- every once in awhile if we'd be in a jam, and we were having a show, and we'd be working late at night, and I'd be down in the studio. I would tend to get in and help do some of the work. But the guys -- the modelers -- didn't like that. They felt that the man who was representing them shouldn't touch the clay. That he should be like the designers -- be an executive. He shouldn't do this.

They would express that. In fact, when I came there, I didn't know any different. The chief modelers at Studebaker did as much work as the other guys, and that's what I did when I was put in Buick. The other

chief modelers up and down the hall would stand around. They had a shirt and tie, and they wouldn't do any physical work, and I always did. They didn't like that. "You shouldn't be working." That wasn't my style. Anyhow, they resented me working. In 1978, for example, we were going to do a world truck. It was going to be done down in Brazil, and they wanted to send a couple of modelers down from the Tech Center to lead that. I inveigled Rybicki into letting me go, and I spent an enjoyable six months down there doing this big truck, along with Don Hein. I took Don Hein expressly because they were pretty antiquated down there, and I knew we were going to be doing like we did in Studebaker. We were going to be able to do all of it -- do the armature work and everything, and that was a success. It was a fun job. We also did a race car for Emerson Fittipaldi while were down there, which was a fun project. He's a Brazilian race driver, and he's still active in the Indiana CART races. In fact, he'll be racing up at MIS [Michigan International Speedway] this weekend. I'll be there. I don't miss very many of them.

Q So you're becoming restive and unhappy. You went to Rybicki, and he said, "No, I'm sorry, John, you're going to stay in the administration."

A Right.

Q That dashed your hopes for your getting back into the business at G.M.?

A I knew that that would never happen, so you make the best of it. I hope I didn't do nothing. It wasn't something that I don't think I added a helluva lot in the last few years, because I'd already had -- the system was set up. It was running smoothly. I didn't have enough to do, frankly. I didn't have enough to do. Maybe I could have been more

active from a personnel standpoint, like going around the studios more, at least in retrospect.

Q Did you have to hire and fire modelers?

A Yes.

Q What kind of problems did you have in those days? Did you have personality problems? Might there be emotional problems? Did you ever have a problem with anybody with the question of competence or the desire to do a good job?

A We never had to let anyone go because of incompetence, however, those people were inhibited by their incompetence, and they knew that they were inhibited. They understood why. By that, you would give them every opportunity, and really work with them, and try to improve their stature. I can give you an example of one fellow who was transferred from the paint shop. There's always a place in modeling for people who were less competent, and the medium skilled and the expert, because you have to do so much of this stuff which was kind of bull work.

Q Throw the clay?

A Right. So there's always room for the one who is not quite as skilled as others. But when those people think that they're being passed by because of a personality thing, or people don't like them and think that their skills are much better than they are, it's hard to make them see the reason why. This one guy, in particular, gosh, up until the time he retired, he would be in my office every year, and I said, "Sam, you have made no progress. How can I justify giving you more money when this guy over here is doing twice the work you are? And he's a young man. He's a different classification, but he sees you, and he's already got a

problem because he's making a lot less than you are, and he's a lot better than you are. I can't justify that." Sam would go away unfulfilled, but, at least, he understood.

Q About five years ago the Detroit News began to raise a great hue and cry about conditions in the fabrication department about the conditions in which the workers had involving the circulation of air, the sucking out of dust, the widespread use of plastic wood, the saws. In other words, the environment was beginning to look, according to the articles I read, that there might have been a problem. Was there ever a problem with respiratory diseases in modeling or fabrication?

A I happened to be on the safety committee -- OSHA committee -- and we conducted specific tests constantly, where we had perceived problems, but once we made tests, it didn't seem to bear out the severity of them. For example, we did some painting in the studios, occasionally, and there was always a real strong odor. Some people would complain. Some people were more allergic to things than others. But we never could pinpoint that was the cause of something in the studios. In the shops now, and I really can't answer that specifically because I had not too much to do with shop, but I do know that at design staff, at least, that the shops were cleaner than anything OSHA ever asked for. We were never shut down at any time for any given thing.

Q One of the main complaints about working with plastic wood and doing a lot of power sawing, was there was not adequate ventilation or adequate machinery to suck up the dust and the effluent?

A That was a complaint, but, again, I can't remember ever being called on the carpet for having excess amounts in the air. But there

were people -- individuals -- who had problems. And hexopreg --it's a plastic wood.

Q That was a commercial product that was used through the studios?

A And pattern making, and you find it still today. They're still using it, or a derivative of it.

Q And that had a toxic effect on some people?

A It would create a real fine dust -- much finer than wood particles, for example -- and I know there was a big to-do about that for a long time, but I see they're still using it.

Q Would you ask your people who worked in that area to wear masks.

A Yes. Oh, sure.

Q And respirators for those who had problems?

A We didn't use Hexopreg in the studio, but in the shops, they did. In the studios, when we'd paint for example, and a lot of guys didn't like the odor, so those who felt that they couldn't stand it were free to leave the studio, and the others who wanted to stay there worked with masks on. There was never any compulsion for people to stay there. They could leave if they wished.

Q Without prejudice?

A Right, yes.

Q How did you make your final decision?

A In the 1980's when business was down, and they were having to reduce head count, so I was going to lose a lot of good guys out of modeling. I was going to have to demote some people.

Q There wasn't a possibility that you would get back into modeling?

A Oh, no, no. I'd just had enough administrative, and I knew that outside I could....

Q Write your own ticket?

A Right, and do what I wanted to do. So I decided that I would retire at sixty.

Q Did you get an incentive of any kind?

A The incentive was that they paid your salary up until sixty-two until you wanted to take your full retirement.

Q That's pretty good?

A That was good, sure. I have not regretted it. I miss very much working with people, but I never regretted getting away from the stress.

It's ironic, but I go back periodically, and I walk in the studios, and I know that I was part of that tension at one time. But you can just feel the electricity. Once you walk in the door, everything is charged.

Q As personnel chief of the modeling department, did you have to oversee production schedules?

A We had no productions schedules, per se.

Q You did in the various studios?

A We had studio dates that you had to meet so that they could get their drawings made.

Q Did your assistant tour the studios.

A Oh, yes.

Q To see that things were going smoothly?

A Every day -- every moment.

Q How did that work?

A It worked fine. The guys had rounds. You'd go around and see -- invariably, somebody would be absent. And if you happened to be in a hot spot, you'd have to cover. You'd have to pull men from somewhere to

cover that job, so it was important to know who was there and who was available if you needed them. This caused a lot of problems because people working on a team don't like to be changed. They don't like being pulled from here to go over here. "Why me?" So that was a big problem. It's a personnel problem. It exists today, and it probably always will exist, but, again, flexibility is such a major part of any design effort to be able to stop, and back up, and go in another direction, and go where you're needed. Designers have the same thing, and the tech people the same thing. But it's sort of interesting that in modeling you can take a designer out of a studio and you don't really know. You take a tech man out of the studio, you don't really miss that guy, But when you physically take a man off this model that's working, "Where's Joe? Why isn't that door coming along? Why isn't that taillight coming along?" "Well, we had to take him over to another studio." "Well, how will I get my job done?" You take that guy away from the model, and you're missing right away. You're missing something, because you see that going on.

Q It was very exciting for you? You had a marvelous time?

A I've had a marvelous work period.

Q Was working with General Motors the pinnacle of working in the automobile industry?

A Yes. Of course, I don't have any experience outside of Studebaker and G.M., but I've always maintained, that if you have to work and you're in this particular industry, I don't think there's a better place to work than General Motors.

Q Mr. Bird, you'd taken the big step. It must have been something of a wrench to decide to leave? How many years had you been with General Motors?

A Twenty-five.

Q And you've enjoyed almost every one of them, except for the years that you were in administration?

A Right, but I really can't say I didn't enjoy those. It wasn't fulfilling.

Q So you've taken a big step. I must admire your bravery. You're only, what?

A I was sixty.

Q You felt at this point that your remaining years had to be more productive than the last five years had been?

A From a manual standpoint, right.

Q You wanted to get back into the clay?

A Right. And I knew that there were opportunities outside that I could easily find something to do.

Q Did you contemplate going with these prototype companies that had sprung up around Detroit?

A No, because while most of them were interested, of course, they wanted someone full time, and if I was going to stay in the business full time, it was ridiculous for me to leave G.M. In 1972 I had acquired some land out near Hillsdale and built a house, and we love it down there, and I didn't want to come back into the city.

Q You were getting tired of commuting. Where had you lived when you worked for General Motors?

A Rochester.

Q That was a bit of a commute to the Tech Center?

A It used to be twenty minutes. It's now more like an hour.

Q To go back to your family, how many children have you?

A We have five children. We have a boy and four girls.

Q What is your son doing?

A My son is a specifications engineer at Chevrolet at the Tech Center.

Q And the ladies, where are they now?

A My oldest daughter is a housewife. She lives in Texas -- Patricia. She has four lovely children, and her husband is an engineer. She is a physical therapist but she's devoted her life to being a mother until the kids get away from home.

The next one is Pamela, and she's in Ashland, Oregon, and she and her husband have a child. She's a doctor.

Q What's her specialty?

A Geriatrics.

Q She'd be a helpful person to have around.

A Yes, except she's so far away. We call her quite often for consultation. Then we have Jacqueline, and she's a veterinarian who lives with her husband in Vermont.

Q Animals?

A Big animals -- large animals. For some reason, she's always loved cows, and that's her specialty. And she's doing very well there. Then we have our youngest daughter who is Lisa, and she's also in San Antonio. She's married, and is a computer analyst. Basically speaking, we had a real rewarding family life.

Q What's your son's name?

A John William.

Q You've got this place in the country out in Southwest Michigan, and you're becoming a gentleman farmer?

A I don't know about gentleman, and I don't do much farming. I used to piddle around with farming, but I only have fourteen acres, and that's not enough, really, to do anything with, so I planted it all in trees. Now I'm restoring an old car -- a 1950 Studebaker -- and that keeps me pretty busy.

Q That's the one you worked on. But you kept up your professional career. Give us some details. Were they some of your old associates like Fred Hoadley? What happened after you left General Motors?

A When I retired, and I mentioned before that Fred had said, "We can keep you busy after you retire." I hadn't heard anything from Fred for awhile and got itchy and thought I'm going to go out and look around. So I went over to Cars and Concepts.

Q Where were they?

A They're in Brighton [Michigan].

Q They were a major prototype supplier?

A Yeah, but they made their money in the Ford convertible and Chrysler convertible.

Q In other words, the large companies didn't want to put that on their line -- too complex?

A Yeah. They weren't selling enough at the time, so they were farmed out to them. They were the forerunners of these sunroof kits. And they did a lot of decorative work like air dams for the lower parts of the cars, and the hood scoops, and Blazers and Broncos -- the wood decoration on the side. Sort of the aesthetic upgrade type things.

Q This had become a phenomenon in the last twenty-five years, firms who offer these specialty services that the big companies were too busy to put on a regular production line?

A Right.

Q Had Dick Chrysler been a pioneer in this thing?

A No. Well, yes, he was, but he used to work for Hurst who was famous for his quick-change gear box, and they put it on all the hot rods back in the 'Fifties.

Q Where was that?

A That was out near Brighton. Anyhow, Chrysler broke away from him and started this little company and really went into the sunroof business, and that was his start. He got a hold of a designer who was also interested -- Dave Draper. He had worked at G.M. and had become friends with Chrysler, and they formed C and C -- Cars and Concepts. From this grew a large operation just doing custom body work. Like I say, the convertible, and they also do a lot of these leatherette caps that go over the cars, formal tops, and that sort of thing, which involves some modeling to provide a base for this leatherette to go over -- custom work. And they did a lot of custom cars for Pittsburgh Plate Glass which are like show cars and pace cars for the races. They had a lot of exposure there. And they were fun cars to do. They'd bring in a car, and you'd start working right off the floor.

Q So you went to interview there; what reception did you get?

A They were glad to have someone interested. "Sure. Can you come to work? We have this project to do."

Q With your background, you would be tailor-made?

A I knew Dave. Had known him at G.M.

Q He had retired and gone over there before you?

A He hadn't retired. He had quit G.M. years ago. He was a chief

designer in one of the interior studios, and he had left G.M. and went to teaching in Massachusetts, and when Chrysler decided to get into business, he contacted Dave and away they went. So I started to work for him. The first thing we did was a T-top, which was a successful operation for them.

Q When you say a T-top, what do you mean?

A That's those removable tops on coupes. You take the top out.

Q Where had that come from?

A The premise of it came from G.M. with their Corvettes, and if you go back farther, and I think there was litigation not too long ago -- maybe ten years ago -- Gordon Buehrig said that it was his idea from the Tasco, and there was a settlement made.

Q Right. He sued them for royalties.

A Right. So, I guess, you could say it goes all the way back to Gordon.

Q It became very popular?

A Yes. It still is.

Q I've learned a bit about Heinz Prechter and the American Sunroof Company. Were they a competitor of Cars and Concepts?

A Yes.

Q But they didn't have a lock on the sunroof, so you guys could...?

A Obviously not. In fact, Heinz was in it before Chrysler was.

Q In effect, Chrysler was subcontracting? At least using the same concept?

A Yes, right.

Q It was an open patent, perhaps.

A Kind of an interesting thing, about two years ago Chrysler bought out Hurst. He had started really as a clean-up man at Hurst.

Q That must have been an interesting tenure at Cars and Concepts?

A It's an off-and-on thing. I generally don't take contract work that lasts more than six or eight weeks, because I don't want to work full time, and so I'll do a job there, and then, maybe, I'll go three months and work down at Goshen on an RV, or maybe do a Motor Wheel, and they'll have another contract come, and I'll go back and work with them.

Q About this time, you finally got back with Fred Hoadley. Tell us how that developed.

A Fred had mentioned when I retired he was going to have some work for me. So one day out the clear blue he called and he said, "Doing a front end down at Coachman," which is in Middlebury, Indiana, and that's an RV. What they were doing at that time was doing a fiberglass front with a grille insert, and they'd made the grille out of clay -- cast it -- and they'd make a reproduction in fiberglass, and that was their grille, and they got it for practically nothing. They can make a fiberglass mold and pull, maybe, five hundred of those out before they had to make a new tool. Well, to do that in metal is a tremendous outlay of money, and they get it for, maybe -- for a grille, it might cost them \$20,000, but they pull five hundred pieces out of that, and they can make another for five hundred bucks and pull another five hundred pieces, and their production is so low that it's a cheap tool for them.

Fred was very active down in that area in the RV industry.

Q Apparently he has carved out sort of a niche down there for the RV industry?

A Yeah. I think they look for Fred. Whenever they want to do something new, they look for Fred. Fred is very engineering oriented and has developed a lot of more efficient ways for them to do fiberglass work and get more from their design.

Q He's a frustrated designer, too?

A Yeah. Fred is a real talent, nice guy, very unusual person.

Q The RV industry has certainly blossomed in recent years, although it had a dip recently, but now it's back in full flower?

A Yes. And they have turned to clay modeling as a real expeditious tool for them to design.

Q Do you think Fred sold them on this?

A Sure, he did. Oh, sure. He's a prime mover behind that. Once one company saw this happening and being successful -- see, they were doing all this stuff in wood, and in plaster, and everything was flat. When it came out in plastic, those flat pieces would sag, and they'd have all kinds of underlacing in them, but nobody really cared because they were selling. Then....

Q About 1980, the bottom fell out of the market?

A G.M. came out with that super-slick RV.

Q Which one was that?

A Elegante was the name of the line.

Q How did they put it together? What were the components?

A It was fiberglass with an aluminum body.

Q But, I mean, did they do the mold themselves or did they farm it out?

A No, they did it in Pontiac.

Q The whole thing? The Pontiac truck line?

A Right. They had that line running for about three years -- low production line.

Q The Elegante?

A Right. It was a front-wheel drive, which was unusual for an RV and really not too practical. It was okay on a hard road, but you get it off the road, see, and they tended to want to sink. The drive wheels, they'd start digging in. When that came out, then the RV industry began to look for more shape and grace in their styling.

Q Did that come out before you left -- the Elegante?

A Oh, yeah.

Q Did you have a hand in it at all?

A Oh, yeah. We designed that down in the truck studio.

Q And you and your modeling department had pioneered the techniques on large vehicles from trucks, and you were ready to move right into it?

A Oh, sure. And we did the bus there, too, at design staff. So it wasn't something that I was not familiar with.

Q So you were a very valuable recruit for the RV industry?

A Right. So based on that, over the last four or five years, we've done -- together with Fred -- about seven different vehicles.

Q What company is this for or what basic models have you worked on that are on the road today?

A There's a Rockwood that's on the road today. They're in Middlebury.

Q Middlebury seems to be sort of the capital of the...?

A Goshen; Middlebury. Edwardsburg has Georgie Boy. We did a couple for Georgie Boy. We did one for Honey.

Q Is that a company?

A Yes. They build motorhomes. Yellowstone Trailer, which was kind of a Cadillac of trailers, but they also have recently gotten into the motorhome business. It was a super-looking, high-cost vehicle -- a motorhome. We did the front, and an upper, and a rear end. Now this is the first time that the upper had been stylized to cover air conditioning units instead of having them sit up there by itself. It was stylized, and it was a real innovation for them, too, because now they got the roof as well as the front and the rear in three pieces. Before that, it was all a conglomeration of fitting things in and trying to keep them waterproof. So they've got the whole thing in one. So it was quite an advance in their technology. There's a forthcoming project that is going to start this fall that will be along those lines. They're all beginning to look that way, and now a more economical way to go.

Q So you and Fred sort of took the RV industry out of the dark ages and brought it into the Twentieth Century?

A Let's say Fred did, because Fred was really the inspiration. I just helped him implement it.

Q It was your expertise that brought it along. He may have had the concept, but your working with him brought it into reality?

A I hope it helped.

Q What do you see ahead pretty much for you at this point? You are in an enviable position, you can pretty much pick and choose your job assignments, and I suspect they're not as frequent as they were back in the early 'Eighties?

A The opportunities are still there if you want to come to Detroit to do it, and I don't want to do that.

Q The Indiana connection has broken?

A No, it's still there, and it's active, but I'd rather do cars. Those big vehicles are hard work, and as you get older, the climbing up and down that fifteen foot ladder to work on those things, it's a little taxing.

Q What about Cars and Concepts, are they still going strong?

A They're still going strong, but they have moved one of their studios closer to Detroit, so there is an awful lot of job shop work in Detroit. Everybody is in it today -- they're outsourcing. Ford is outsourcing, G.M. is outsourcing, everybody's got a little shop.

Q If you would like to come to Detroit for the week, you could probably pick and choose assignments?

A And you could come, and you could work any hours you want. There are a lot of guys who are working at G.M. now who are at a level of pay, and G.M. is not paying overtime at this time, for these people, so they won't work overtime at G.M. but they will go out and work in a job shop for outrageous wages. There are just all kinds of opportunity, and if I lived here, I'd probably be working all the time.

Q What about Autodynamics?

A Autodynamics is one of those.

Q This is a guy who has brought this into one of the favored positions in the industry. Would this be a good example of the sort of shop you're talking about?

A Yes. They have quite a few G.M. retirees working there.

Q I wondered if that was the case.

A Plus a bunch of guys moonlighting at night. Modern Engineering is another one.

Q Where are they located?

A Modern Engineering is off Rochester Road about Fifteen Mile and so is En Tech. En Tech is down by Oakland Mall.

Q This sort of sub-industry that -- let me reed off these services that Autodynamics as an example: Industrial design and product design; developmental engineering; testing and analyses. But this is what caught my eye, prototypes and models. They do a lot of that work?

A Oh, yes. That's primarily what they're doing.

Q How does that come about? How does that work in terms of working with a large corporation?

A G.M. will have a idea they want to explore, and their facilities are overcrowded....

Q With regular production things they're doing now?

A Right. So they will go to Autodynamics....

Q Maybe today, Jerry Palmer has gotten an idea and wants to see a quick model?

A Right. So they'll go to Autodynamics and say, "Can you build this car for me?" "Sure we can." So they give 'em a sketch, and then maybe a day later or maybe a week later, Jerry will run over there and take a look at the job and see how it's coming along. And they do it kind of like an advanced studio would do. It's run exactly the same way. The designer will come in, and he will say, "Let's do this. Let's do that." So the modelers will execute that, and he will then come back in and judge it. And once they get the job finished, then they'll take a fiberglass mold and make a fiberglass shell and paint it.

Q They use fiberglass?

A Oh, yes. It's cleaner, faster, stronger.

Q Did you guys get into fiberglass by 1980 at G.M.?

A Oh, sure.

Q When did fiberglass come into general usage in the automobile industry?

A It was starting in the early 'Fifties. We'd do instrument panels at Studebaker. Maybe in Detroit they were doing more than that, but by the time I had gotten to Detroit in '55, their fabrication shops were doing fiberglass models. I'm sure Ford was doing the same thing.

Q Did it supplant clay as final models?

A Yes. They used to paint the clay. And, of course, that was terrible, because once you put the paint on the clay and you had to tear off and try to make changes, it was an awful mess. And plaster was too tedious, and if you took a plaster cast off, often clay would come with it, so you lost your model. So the advent of fiberglass was something really welcome.

Q How do you make a fiberglass model?

A You have a resin that's a two-part resin, and you use glass either in a mat form or in a woven form. You have to make a mold.

Q What's the different between a woven form and a mat form?

A Mat form is like a bunch of hair that's been cut, and it's just matted. It comes in the sheet on a roll, but it's matted as opposed to be woven, like a shirt. You apply a coat of resin, which is a gel coat on top of the clay. You have to prepare the clay so that it doesn't get damaged. You have several solutions you put on.

Q Fixers or preservatives?

A Yes, and separators. So then you apply the gel coat and let that settle a bit, and then you apply a mat, and this mat is -- you push it around. It's flexible, and you push it around, and it goes in all the indentations and so forth, and that sets a little bit. Then you apply coats of the fiberglass cloth. And this is to provide strength and stability. Then once you get that made, you might put some tubing in or some kind of support so that it doesn't warp. Then you have the mold. In effect, like some of the plaster molds we were working with.

Q Did you heat it?

A Nope. No, that's air cured. The catalysts in their resins will harden that over a period of time.

Q Resin is a binder?

A No. The binder is the mat, and the resin is a two-part catalytic thing.

Q What does it do? It pulls everything together

A It hardens. It's liquid, and you put it on with a brush, and after a period of time, it becomes solid.

Q And what's the other part?

A There's a catalyst, and then the resin itself, and you put the catalyst in the resin, and that causes it to harden.

Q What is the catalyst?

A I don't know. I use it, but I don't know what it is.

Q But it works beautifully?

A Oh, it sure does. And, of course, once you have the mold, now you can pull as many pieces as you want out of the thing.

Q What is the phrase steel static mean?

A I'm not familiar with that at all.

Q I've heard it over at Ford. Static means that it doesn't move, but steel, where did that come from? Are they beginning to use some sort of thin steel alloy in place of fiberglass?

A I really don't know. I do know that part of the problem with fiberglass or any plastic is that it doesn't always want to hold shape. It's not exactly stable, so that has created some problems. If you get the mix wrong, you might have a sunken area and that type of thing. There are problems with it, but, by and large, it's a wonderful way to reproduce a model quickly.

Q In the short amount of time, Mr. Bird, can you sort of sum up your career philosophy in modeling over the years? That's throwing you a curve, but if someone said, "How do you look back on your career, and what you've accomplished, and what's happened in the industry in forty years since you were with Studebaker?"

A I look at it as a really happy experience. The modeling techniques have not changed an awful lot over the years. The technology has changed tremendously. You went from very fundamental things to some highly-sophisticated instrumentation that allows you to do really fine work. The people that you met along the way have been all exceptional people, and I mean that from the standpoint of personality and talent -- certainly talent. In looking back on it -- and I think as a sculptor, you're quite temperamental, so looking back at really a fine bunch of people. I haven't met anybody in the design process anywhere across the industry who is not. It has really been a fine bunch of guys.

Q You'd do it all over again?

A Would I ever!

Q Thank you, Mr. Bird. It's been a most interesting experience going through your career.

A It's been a pleasure for me to kind of drag these things out again. I haven't examined that period for a long, long time. It's my pleasure.

Q Thank you very much.

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Editor's Note: John Bird finished these career addenda at our request in early 1992:

In October, 1987, I received a call from John Helms, an ex-Ford modeler, who was starting a modeling and design studio for Prince Corporation in Holland, Michigan.

Prince is a supplier of visors, consoles, automobile interior components (roof and door applications), etc.

During the years of '87, '88, '89 and '90, I helped them build a design organization. Noel Van Assche, Charl Greene, Bill Gorski and myself from G.M. modeling backgrounds and John Helms, Ray Frigard and Ed Lindstrom, ex-Ford modelers, were part of this effort.

I worked sporadically, two or three months on and one off, as I still did not want to work steadily.

During this time we had six young people we were teaching to model, and as they progressed through the years, we older folks were phased out. This was the goal of Prince Corporation and thoroughly understood by all.

Stewart Reed was the vice-president of design for Prince and the architect of this whole effort. Lee Knight, Tom Arbsi, Dale Frye, and

Dave Myers were all large contributors to this group. They are all talented designers.

Prince Corp. was a unique stopover in my life as a design sculptor, as it was oriented almost wholly to automobile interior design. At G.M. I was mostly involved in exterior design when I was working in the studios. You can teach an old dog new tricks.

I hope Prince benefited by my presence there. I truly enjoyed Prince Corp. and their way of doing business.

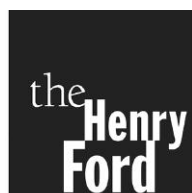
I had packed my tools, stored my angles, given away my true sweeps, etc., and retired when lo and behold!, in Arkansas of all places, I bumped into a man, Les Adam, who was interested in building an electric car.

Guess what! The tools are out in use, and a full-size model is finished and in the process of being cast.

A-Z Industries, Les Adam's parent organization for this project, is currently working on this car and hopefully will have a prototype running by August.

A projected hydrogen peroxide car is in the future plans there, and I hope to be part of that effort also, God willing. The bones do creak and the muscles complain as I get older, but I intend to continue working until I go out feet first!

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