

## **Robert F. Andrews Oral History**

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## **Note to Readers**

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This copy was produced from a bound, hard copy final version of the interview.

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- Benson Ford Research Center staff, 2023

**DESIGN ORAL HISTORY PROJECT**

**ANDREWS, ROBERT F.**

**1985**

**EDSEL B. FORD DESIGN HISTORY CENTER**

**Henry Ford Museum &  
Greenfield Village**

This is Dave Crippen of the Edsel Ford Design History Center of the Henry Ford Museum & Greenfield Village, and it's August 2, 1985. We are talking today to Mr. Robert F. Andrews who lives in Royal Oak [Michigan] and has had a long and interesting career as a designer, mainly with the automobile industry at Hudson and at Studebaker and beyond. Mr. Andrews is an independent, free-lance designer, still keeping his hand in the industry. Today we are asking him to tell us the highlights of his design career beginning with his first influences.

A Thank you, Dave. To begin with, I was brought up not too far from Detroit -- Monroe, Michigan. Through the junior years in schools, I followed automobile lovers -- several friends -- from the '32 [models] on. We, like so many young men all over the country, spent half of our time at the dealerships watching them prepare the new cars and keeping track of where each dealership hid their new automobiles when they came in [at the end] of August. We were always doing our homework on where these cars would be stored so we would be the first ones to see them before the introduction. The introduction of the new model was a very big event. It was an emotional, enthusiastic time. When a dealership had new cars, at that time, everyone in town would get down there. My interest started very young, and I drew an awful lot of automobiles and aircraft. I was interested in both at the same time.

That went through high school, and the war started. Not being in too good of physical shape at that time -- I had a back problem -- I did not go into the service. I joined the engineering firm of Monroe Auto Equipment. Through the war years, I got more acquainted with the formalities of development and the engineering department. We had a very

small, very good department, and we did a lot of work on tanks and aircraft components.

Q Who were the guiding geniuses behind Monroe Auto Parts?

A The McIntyre boys. There were three of them. They're gone now. Brower McIntyre was the creative head and the chairman for years. We were working through Aberdeen proving grounds and also through the Chrysler tank arsenal, so our early battles brought some weak points up, and we would get that report and work day and night to revise. One of our best efforts -- they were having great difficulty with [testing] the tanks under wartime conditions and the speeds that they had to go, and the leverage was extensive when those multi-ton things would hit any kind of a rise. They were injuring drivers and breaking some necks. So we developed the first hydraulic-suspended seat for the driver and gunner for that. Then we tore down some German aircraft that we got ahold of for the hydraulics to improve our seals and centerless grinding capabilities to bring us to date. The Germans were quite a bit ahead of us at that time.

That period of time was the foundation. At the same time, I was developing my art. Glenn White, a sales engineer with Monroe, had come from Hupp Motor Car Company. We had started the same day, and, as time went on, we became great friends. He introduced me to Frank Spring [Ed. Note: Head of Design at Hudson Motor Car Co.]. It was late '44/early '45, and I got a release so that I could go work on the new Hudson. I was scared, like any other young designer, because I'd gone right from that direct schooling at Monore Auto. I found we had a very small staff: Art Kebiger was our chief designer, and we had a very small modeling unit

-- only three modelers. Here we did a whole line of cars. Art Kibiger, myself, and Bill Kirby. Frank Spring was director, but not actively a designer. He was our representative for the corporation.

Q Did you move to Detroit at this time?

A Oh, yes. I moved to Grosse Pointe, and I lived in a place called Shangri La. Different automotive personnel were being allowed in some of the big homes. We would rent a room there. The people were very good about that. That turned out to be quite a boom, because I was right into the total enthusiasm of some of the executives that later -- like Gordon MacKenzie [of Ford] -- followed each other through our careers.

Q Where was the design unit of Hudson located?

A On Conners above the old engineering building, which is torn down now. One of the most interesting things that happened is that I was better prepared than I thought I was. I was scared, like any other young person who went into the area, and learned quickly about the status of the design department. We were not too popular with the engineers. However, as in any discipline like that, we did develop some good allies. Charlie Cherieze was one of them. All the way through that program, they had done some work on the structures during the war. It was a very slim group. It was Art Kibiger and Frank Spring doing design work during the war, because they were building aircraft parts -- wings and center sections.

Our design department had done some work for the B-29. So we had these drawings. By edict, we had to have these aircraft drawings always available to put on our table in case people came in, but it turned out that the government had given all the auto companies, around 1943/'44,

the go-ahead to do some preparation for the peace that was to come so that they could get going right away.

Q Post-war cars?

A Yes. It had to be very, very quick. We were very concerned [about] General Motors, Ford and Packard, thinking that they all had more [of a head start]. We didn't know where we were until that car came out and found out how far ahead we really were. That was a great surprise.

The secrecy at that time between corporations was a paramount thing. Rumors would get out, but usually they would come through the DAC [Detroit Athletic Club] and, maybe, a vendor, but vendors were much more disciplined then than they later became. So we could find very little that was going on with the other companies, and this was good. I'd like to see more of it today. We developed that whole line -- the 8 and the 6 Commodore series and the Super 6 series -- without one night of overtime, and there were only three involved in that whole program.

Q Who were they?

A Bill Kirby, Frank Spring, and Art Kibiger who was our studio head. Then Don Butler was there for awhile, and he has written a book, which I haven't seen yet, on the Hudson. He was a stylist there. The decision-making aspect was more involved with Kibiger and myself and Bill Kirby. We did the finalizing of the situation. We didn't have a test track. All the other companies had a test facility. The Hudson developed -- we only had one prototype for awhile -- and the car was driven up North every night with the change of crews. During that period I had a neighbor who was the head of the Fuel Charger Corporation. He later became chief engineer for the all-new car --the Tucker Torpedo.

While working on the Hudson, I also got involved a bit on the Tucker thing. I wanted to qualify for that, so I did a few things, especially, in the later part of the Hudson.

Q Was it for Alex Tremulis?

A No. I met Alex Tremulis down in Chicago when I was going to work for them. When I went down there, that was just the day after they closed the place up. Alex was sitting alone with a dead corporation around him and all these unfinished cars on the line. I remember seeing that. I knew Preston Tucker. He was totally misrepresented during that period, because of that political situation. They tried to discount him and his efforts. That car was a very fine automobile, and it would have been a good thing.

But I did qualifying design. After leaving Hudson, I went with Willys-Overland. The Hudson group moved down to work on the Jeepster, which had been started by Brooks Stevens. [He] had done the original concept. What is not commonly known is that Art Kibiger and myself did the production version of the Jeepster and the Wagon -- the Westchester wagon. We then worked up the 112-inch passenger car -- several directions for that --but did not happen. The Aero Willys was done by Phil Wright back in Detroit. During that period of time, Willys-Overland was very interesting, and I still have some cars that were worked up for that program.

Q Before we leave Hudson, can you elaborate exactly what models you worked on and how the design function worked with a small, independent group that you had?

A Yes. We had very minimal equipment. We only had the capability of one full-size model, and they were done in plaster, and the two bucks for



front end studies. Our chief engineer was <sup>T</sup>Concray. We worked hand in hand with him. Art Kibiger had done some preliminaries during that war period -- '42/'43/'44 -- and when I joined them, then we were just getting ready to nail down the profile and final editing of the Hudson. The models that were involved: we only had the two-door Club Coupe, a four-door, and the Commodore Six, the Highline, and the Commodore Eight, which was the straight-eight, and a convertible. All of the interiors -- the part that is interesting, was that companies later had specific divisions for the interior and exterior and color, and we did everything.

Q In one studio?

A In one, small studio. Our studio -- where our drawing boards were -- was only fifteen feet long and about eight or nine feet wide. That's how tiny an area we had. Kibiger had one room, and Frank Spring had his own room. It was fascinating because we had all the plaster work and the die models of fine mahogany, our interiors, seating engineer, and fabrics all on the third floor of the old engineering building.

So we had this wonderful aroma of fine woods, the real materials -- the wools -- plaster. It smelled like an aircraft factory inside. So if we could bottle this stuff nowadays, it would really be great.

Our day was a concentrated day, under the directorship of Frank Spring and Kibiger. We worked on development, bumper systems, different front-end masses, and then they were edited. We went through that very interesting editing [process]. And, during this time, the '46 and '47 facelift of the original Hudson was done, too. We were very, very busy.

Q Working on the advanced...?

A And the current stuff. I found it most interesting, and we talked about automobiles all day, like a group of designers would. Frank

Spring, in his office on the second floor, had a very large, very plain wooden box. It must have been about four by five feet and about three feet high, and it was just crammed full of foreign, pre-war brochures. Our interest -- Kirby and myself and Art Kibiger -- was that we talked constantly about the formula one racing in Europe before the war. We had all this information. Our influence for the Hudson, structure-wise, was of the 1937 Czechoslovakian Tatra, which had a similar structure. Our motivation or our starting points were really European as much as possible. That's where we were coming from. Aerodynamics was artino: the power-to-weight ratio. We wanted to build a car at 3,000 pounds to keep the power-to-weight at least as good as the pre-war Hudson, which was one of the best in the industry. It was around twenty-seven/ twenty-eight pounds per horsepower, and we went over that. The Hudson, because of the overbuilding of the structure, was actually over-engineered, it turned out. It was about six hundred pounds over what we had intended on. But, other than that, the car turned out to be the best handling and the most comfortable of the post-war cars in its class. I find it, looking back, much more exciting. Even though it was exciting at the time, you had the day-to-day, almost fear-based competition, and I found out very early what Detroit calls styling. We did not call our stuff styling. That's for the hair stylist. We had the European term for our offices. It was a design office. We had a racing consultant/designer -- Reed Railton. We did have him for a short period. From England.

Q Was he well-known in the field?

A Oh, yes. He had designed some of the super racing cars in Europe. He had designed John Cobb's 300-mile-an-hour car. I wish he had spent

more time there, because he was, definitely, an ally. The company would listen to him very much, especially on our aerodynamics theory. To carry that out, the Hudson would have done very well in the wind tunnel test in later years. It would pass any structure of the contemporary cars in the drop test or the roll-over. The integrity of the Hudson is known to this day, relative to the strength for crashing.

Q Does this reflect that you had very good relations with the structural and body engineers?

A Yes, we did. We definitely did. Mind you, the people that were department heads in the mid-'Forties were the personnel that had been there in the 'Twenties, so we had this wonderful history to pull from and the continuity of personnel that you don't have any more. You don't know anyone you've worked with any more. It was so personalized, in that respect, and you had fewer people involved in the decision-making at that time. That turned out to be a luxury that certainly went by the wayside from the mid-'Fifties on -- that was all gone.

Q So the decision-making was a pleasant chore? You could come to a decision fairly quickly?

A Yes. The president of the company, A.E. ~~Barrett~~<sup>BARIT</sup>, was a fine gentleman, and he would just make his appearance every few weeks and show you how. Apparently, he had confidence in the group, because he was not involved personally in all these decisions. He ran a well-organized ship. Concray was our day-to-day management contact.

Q You mentioned a Mr. Shoote?

A Yes, Eric Shoote. He was our body engineer and a very charming man and had been at Hudson for some time and was a delight to work with

because he didn't have any prejudice against what they called the art and color personnel. Their designer, at that period, lived and worked in isolation. In other words, he rarely got over in the different areas, and only a few people could get into your section. So this isolation, although very good for some areas of our endeavor, was not too good because we didn't get an overall feeling of the company.

Q Were you invited to marketing strategy or product planning meetings?

A No. That's why I mentioned that. So there was an awful lot of guesswork as to what they were thinking. We had a direct engineering contact, but not on the sales aspect. We were concerned with that isolation from the regular management. We didn't see the sales manager -- his name was Davis -- twice in three years. But Frank Spring got to see him. So everything kind of was second-hand in that area. We were to design cars, but there was not that communication as far as the sales area, and our dealerships, and their marketing approach. We had very little input there.

Q You were coming up with a fairly unconventional car?

A Yes.

Q And it would have been instructive for you to know exactly what the marketing people thought -- whether they could sell it or not?

A That's true. And there was part of this underlying fear we had: "My gosh, this is great and all that, but is it too far out, or too far in, and what's Ford and G.M. doing?" We felt that our influence was not appreciated at the time, like any group of designers, and to prove that, Bill Kirby and I concocted a little plan. I remember drawing this fictitious Buick.

Q Was it deliberate?

A Oh, yes, it was a deliberate attempt. In other words, we thought if any sketch came in from the outside, they would snap it up and pay much more attention to a normal idea that we might bring up on the local front. I remember I put it on [the taboret], and Frank Spring came in and picked it up, and he said, "What is this?" I said, "A friend of mine over at G.M., working on the new Buick, and this is...." So far, this is a local joke, but it turned out to be much more than that. He took it over, and they had a board meeting on it, and they called me over. I was scared to death to verify that this came from General Motors. So it was an inside joke between Bill Kirby and I for the rest of the program.

Q What innovations were you able to bring to the immediate post-war models -- the facelifts -- that distinguished it from other immediate post-war models, which were also facelifted?

A Art Kibiger did the front end, which was very new, where you're using the full depths of the scoop. Do you remember how the grille went in, and you just saw a black area -- a full-depth expression? That was the first car to do that, although the rest of the Hudson was very pre-war, old-fashioned, and not terribly attractive. But that front end established a very new angle, which the '49 Ford later came out with where you're using the full depth of black and not covering the front entirely with grille.

In the Hudson, at that time, we were doing more with plastics than anyone on the interiors to develop plastic decor that would stand up.

Q Still a relatively infant influence?

A Very much so, yes. Also, Hudson probably did more than any other company, at that time, color-wise, with metallics. We were the first

ones to go into special finishes. They'd started their exotic finishes about 1938. I forget the particular paint company, but I heard a vendor say later that they did more sample colors for Hudson than they did for all of General Motors. Frank Spring was very creative in bringing new materials into the picture.

The quality of manufacturing was very high. I didn't realize, until I went with Hudson, how independent that company really was. It was the only company that made everything except the spark plugs. They made their engine, their body, their seats, and they used Autolite accessories inside. They were the first to have a very effective heater/fresh air unit, fully circulating inside so you didn't have the fog. Hudsons didn't fog up. And their transmission was excellent. We did not have call-backs then. There was another thing. Test time was not frantic. Ralph Frisler, Sr. was chief development engineer and had the test garage. There was something very quality and non-panic the way engineering worked at Hudson. They quietly developed things to a point where it was acceptable on a consistent manufacturing basis. They also had a custom area of the factory where the convertibles were custom made. In other words, they did not have regular dies. They simply cut the top off from a club coupe body and reinforced it on the inside, and all that sheet metal work changed in the A-pillar and the deck and cowl. It was all done by hand. That was -- shades of the 'Thirties -- when so much custom work was done.

Our labor situation, at that time, was horrendous. In spite of all the quality we're talking about, which was true on the line, we had many wildcat strikes -- sometimes two or three a week for four or five hours.

I think that period from '45 on through the 'Fifty mark was a very bad period in the industry. Our draftsmen were all unionized, and I don't want to sound anti-union, because I'm not, except for the type of leadership that they had during that period. It was all confrontation. It was a mean, ~~adversarial~~ <sup>adversarial</sup> thing. Looking back on it, I think that the top management of all the corporations did not use the good public relations tools, that they certainly had available, to put [labor relations] onto firmer ground.

Q Public relations hadn't yet come into the Twentieth Century.

A It certainly hadn't, no. In fact, we would have fights. Occasionally, there was an attempt to unionize the designers. A union steward came in, and it was confrontation. He was going to take a plaster hammer to Bill Kirby. These boys were tough. Actually, that was a small part of our operation. We normally didn't have anything to do with them, and we could not very much on the scale models. In other words, everything had to be done by a modeler, because they were unionized.

Q The modelers were unionized?

A Wait a minute, the engineering was unionized, and they were trying to unionize the modelers, and they couldn't do it, or the designers. They had a pretty tight shop, as far as the body draftsmen were concerned, and the interior mechanics. I don't believe the engineers on the chassis build-up and development were unionized either.

But, what I'd like to mention, is that Art Kibiger and myself, before the car was announced, left the company and went to Willys-Overland.

Q One last question. Can you describe the step down [model] at Hudson -- the one you'd been working on? Was that the new post-war car?

A That was an all-new car, yes. That had the perimeter frame around the rear wheels.

Q Can you describe that in some detail? That seems to me to be an innovative car.

A Yes. The structure tended to be quite heavy. Our side rails went over to the top and were tied across with a fairly heavy member, both on the rear deck and in the top of the windshield and a very strong structure on our instrument panel area which was a structural member also. It was not just an attached thing. Then we had our double sill on the bottom of the chassis. We had a chassis outside of the normal chassis dimension on our width. We also had our full sill that went around the rear wheels and tied that in. With the advantage of an almost monocoque construction of this body, we had already built in a limitation for design change, which you have to convert into marketing strategy. Suddenly, we had, basically, a European development that should have had a seven-year span, at least, of refinement. Mercedes brings out a body they've refined and refined and run that quite a few years.

So here we were set up for longevity on the Hudson, but we had, in the true marketing sense, a very fickle year-to-year customer relationship, because people were used to big change. The Americans, at that time, wanted visible change from year to year -- not a subtle change. So here Packard and Hudson both were tied in to a very expensive tooling of their post-war car and with very minimal change allowance, because of their budget, [compared] to Ford or General Motors. They could not



afford the big changes. Here they were committed to a minimal change with a very quality car to a fickle public. So, it turned out to be a nemesis for Hudson. The idea that it was so fine, and what made it so good turned out to be a limitation.

The Hudson dealers tended to have a pattern all over the country. They were very conservative. There were some Packard/Hudson combination dealerships. But, in most cases, the Hudson following were not young people. They did not have the twenty-five to thirty-five year old executive or high achiever who was driving the Mercury and the Lincoln Club Coupe or Convertible. The Ford and Mercury Convertible Club Coupe was driven by the younger set. We were designing more for the LaSalle group as far as appreciation in the Hudson group. At that time, we used a '42 Buick fastback Super series for our bible in developing the new Hudson. We used that [as a model] to work from. When the car gets newer looking and better looking than the '42 Buick, then we knew we had [something].

I wish I had that model. That model was broken up, like so many models that we had there. In 1946, a crew suddenly came in, and they took all these models off the wall. These were 3/8ths models and quarter-size models with full detail interiors, and they were all junked.

Q Did you ever find out who ordered that or why it was done?

A No. Space [considerations].

Q Efficiency expert?

A Efficiency expert. We never did really know. Mr. <sup>I</sup>Concray usually was very quiet about these things. You never really knew. These things just happened.

Q This incident and other engineering difficulties convinced Mr. Kibiger that you and he should leave the company?

A Yes. Kibiger had been there since 1935. He was a fairly a young man -- thirty-seven. Hudson was funny that way. Although it was a family in one sense, it was very cruel in another. Kibiger, I recall, was very disappointed. He had had this offer to go to Willys-Overland because there are very few qualified people by the end of the war in the automotive development. Some had retired during the war and gone on to different things. So, suddenly, there were a lot of car programs and very few designers. So there was a bit of moving around at that time. Hudson -- even though we had finished what was to be quite a dynamic car -- didn't make any great effort to keep us. Not at all.

Q That must have been disappointing?

A It was a bit disappointing, but that's the truth.

Q You and Mr. Kibiger saw the car, eventually, when it came out?

A It was the Fall of '47 when the '48 came out. We were invited to the press preview. This has got to be one of the most exciting things that ever happened to me. It happened later with other cars, but it was the first experience of silently gliding through a specific show of the all-new car that we spent quite a bit of time on -- some good times and some bad times. Like anxiously awaiting the approval of the critics at a Broadway play. It had that feeling. And, suddenly, we had all the press from the New York Times and the Detroit papers to see and to hear, because they didn't know who we were. Designers -- outside of the chief designer -- were, generally, unknown and companies rarely mentioned them. We were fairly low profile that way. To hear and see the reaction of the

critical press -- great approval -- [made it] a very exciting evening.

Q You did get a good press on it?

A A very good press on that.

Q You've mentioned elsewhere that both you and Art Kibiger were slightly disappointed with the aesthetics -- the final form?

A Yes. When you're working on something for several years, there always seems to be, in many cases, regrets that only you would know about. It was all new and great to everyone else, but what we wanted the car to be lighter than it was so it would be faster. Secondly, we wanted the detail work to be a bit more subtle -- the die cast. The letter Hudson was too big. Things that would irritate us. We'd liked to have gone a bit more aerodynamic in the front end and pulled some air in in a little more subtle manner. But, overall, looking at the Hudsons years later at the big national Hudson meet/show, they had one of the largest ones right in your backyard in Dearborn. The national Hudson show about four years ago. They had 850 cars there from all over the country. But, looking back at the '48, when you see all the Hudsons lined up, it was, actually, quite plain, and I'd wondered why we criticized it. At the end of the program, we were thinking in terms of finer grille openings, like the '39 Buick had. It's a matter of scale of some of the trim and a little deeper section. We had eleven inch height windows, and we wanted them deeper. We wanted to pull that belt line down a bit more to cut some visual weight out of the Hudson. Nobody objected to it the way it was, as it turned out, but we would have liked to have had a little lighter look.

Q Were those decisions taken by the structural engineers or the body engineers?

A Yes. Some of the sections -- like the heaviness of the roof section -- we wanted it thinner. Mr. Concray and Mr. Northrup were very concerned about making anything light on that car. It was a bit heavy-handed, and they had the authority. At Ford and General Motors the chief designer -- or chief stylist in some areas -- had cabinet rank. It was the vice-president, which is as it should be.

Q Although that didn't come for another decade at Ford?

A That's very true. At Hudson, Frank Spring was called a director of styling. He was outnumbered by all these vice-presidents who had his problems, too. Compromise is the name of engineering, anyway. But, all in all, it came out pretty good.

Q Was it popularly accepted?

A The sales efforts went along very well the first two years, and then they were in trouble very shortly.

Q The evolutionary approach?

A Yes, evolutionary approach did not fit the immediate marketing [needs]. I don't know how they could have known that ahead of time. One problem that all companies had on developing their postwar car was during the mid part of the war and toward the end, some of the basic materials companies, like the brass, aluminum, and steel companies, were putting fictitious post-war cars in their advertising. These were usually done -- not by automobile designers -- but by commercial artists in Pittsburgh or elsewhere, and they were showing these bars of soap with wheels. That turned out to be quite a serious thing because executives would believe what they would see in an ad, and it was quite a thing to fight off.

Q Did the heart go out of the design area [at Hudson] when Frank Spring was killed in an automobile accident?

A Yes. We were gone. It was in '54/'55, as they had merged with American Motors by that time, and he was doing something on that little Metropolitan. He was killed coming back from the West Coast on a hotted up model, which was a very unfortunate thing.

Q In any event, you and Mr. Kibiger moved on to Willys-Overland. Could you tell us what happened?

A Ward Canaday was the chairman.

Q Had Charlie Sorensen come along?

A We followed Mr. Sorensen down, yes.

Q Who had left Ford under a cloud?

A Yes. A very charming man.

Q Ward Canaday had asked him to come out?

A Yes. Canaday had played with that company for years. He was one of the wealthiest men in the United States, at that time. He was worth 86 million dollars in 1946 or '47, so he could have easily financed the tooling program -- which is only about 20 million dollars back in those years -- for an all-new car. In fact, it was much less than that figure. But, we were called down to develop a new car.

Q Where were they located?

A In Toledo, Ohio. We had this marvelous old Willys administration building that was torn down a few years ago. The Willys Jeep had just done fantastically well in that development through the war years, and, actually, that was originally a Ford product. They were asked to make the first prototype, and then the contract was let out to Willys-Overland because Ford was so busy in many other areas.

Q And later Ford subcontracted on it?

A Absolutely, yes. That's true. We had a Hudson crowd down there. Eric Shoote came down as chief body engineer.

Q You worked harmoniously with him?

A Oh, yes, as before. And Art Kibiger, myself and Dale Lewton was added.

Q Who was he?

A He was a designer. He was added to the staff. And then our job was also to develop a new post-war passenger car. The confusion there was a product line confusion of what kind of a car to develop. We were encouraged at Willys-Overland to stay in this specialized car field and not try to enter the Chevrolet and Ford field, which they did with the Aerocar, and it did not go over. It was as expensive as a Ford, but smaller and not terribly exciting.

I worked on several -- a new prototype for a couple of cars and also for a new Jeepster. I'm doing a story on that for Automobile Quarterly. I think they asked for it ten years ago, and I'm just getting around to it now. With history, it doesn't matter if the interest is out there.

Q Had they made the decision to concentrate on the admiration and enthusiasm of the built-in market for the Jeep?

A Yes, they definitely had. Willys-Overland, like many auto companies at that time, had isolated divisions within the corporation. The designer's job is to create his own areas of information within the company. It was not encouraged. That's where I met Gordon MacKenzie. He lived just a few doors down from me in Toledo.

Q Was he in sales?

A He was very junior in the regional sales department. We spent many hours at Dyers in Toledo -- that very old restaurant. We would have our meetings in the evenings down there, because I was getting sales input from him, and he was getting design input from me. So we developed a very fine, professional and personal relationship. He went on to Ford's Mercury Division in the 'Fifties.

Q Later, it was Ford of Europe.

A Yes, Ford of Europe. I see him occasionally. I understand he's retired now.

Q Yes. So you were getting some feel for what the marketing and sales department were thinking?

A Absolutely, yes. Barney Roos was probably the most interesting thing down there. Barney Roos was the chief engineer and was one of the best known chief engineers in the world at that time. He'd done the President straight-eight and the Studebaker series of engines in the 'Twenties. He was an extremely dynamic person. He was very dictatorial. In all fairness, I liked the man. We all did. He just had some very, very strong opinions, especially in engineering where the so-called styling was done. [I'll describe] what we had done when we came in, and we were only there a very few years: we had two outside influences to design against. Brooks Stevens was an outside consultant and I got along very well with Brooks Stevens. And Alex de Sahkanovsky. Remember the marvelous car drawings that he made for Esquire magazine back in those days? What we had done -- Kibiger and myself and a couple of others -- was we had beaten out the outside competition. We had worked very hard, and we had some beautiful renderings that were to scale. Our competition

did not use scale. Brooks Stevens had brought in all this wild stuff. There was no way that you could put it into model form from what you saw. It was quite apparent that our stuff was more in the ballpark. So Barney Roos came down one day as soon as he had heard the news that the new line on the Lincoln was cut down for inventory reasons within two months after they got it into production. He came down and said, "I can't stand automobile designers. This is what you do." You know, a blanket statement covering all of the designers. In his way, he was telling us exactly what status we had within the company. The development went on.

In this period, I had known Preston Tucker. I'd seen him down in Indianapolis. During that period we had a wonderful thing happen. It was good for all designers from the Detroit/Toledo area. As I mentioned before, very few of the designers knew each other. You weren't acquainted with other companies, but they would have a race train. A train would form up in Detroit and go to Indianapolis overnight for the race the next day, which was loaded with automobile designers. It just happened that we had a ball. That's how we got acquainted with each other in this unofficial get-together, because companies did not encourage that. Especially, the G.M. crowd was very aloof, which formed their pattern of behavior forever. Except right up to recently, it was a very aloof group.

Q Was that Harley Earl's doing?

A I believe so, yes. He had some very positive [opinions], and yet, developed a very definite direction that way. So we had those wonderful trips. They were trying to unionize the designers at Willys-Overland, and I objected to this very much. [Toledo] was a much stronger union



town than Detroit at that time. So I decided to leave there, and I did develop, from the outside, a new Tucker to follow the Torpedo.

Q As a consultant?

A Yes.

Q Who did you work with on that?

A Preston Tucker.

Q Directly with Preston Tucker?

A This was not an official program. This was merely to qualify for their group. They did a beautiful job down there, and I just wanted to join the staff. That was the whole idea. I decided to leave Willys-Overland. My modeler Kurt Boehm -- who had left and had gone down to Raymond Loewy -- was down in South Bend. So I was making a pitch for both companies. Tucker ran out [of money], and I joined Raymond Loewy in South Bend.

Q How did that come about?

A [Boehm] gave me a very good recommendation, and they were building the staff down there. Their staff was very low, so I joined them in '49.

Q Did you meet Loewy prior to joining his staff?

A No. I'd heard him at an SAE conference where he was telling about the development of the post-war -- the first Loewy coupe.

Q Very charming?

A Very charming man. I was very impressed by him. Then when I went down there, I met him within a week or so after I'd arrived. We had a long association that ran up until the Avanti and the Avanti II, which is the four-door.

Q What year did you join Studebaker?

A 1949. In the Spring of '49, I left Willys-Overland and went down to South Bend and immediately started. We were working on the all-new car, the '53. I got there within a few months of preliminary work. Each designer was given a quarter-size model and a modeler, and we did our version of this new experimental car, because Mr. Loewy had sold Mr. Hoffman on it. In the 'Fifties, already G.M. had been doing some of the advanced study cars for the Motorama.

Q The traveling unit.

A So, we were supposedly a very far-out group, which we were, but the famous '53 Studebaker that came from this initial study that all the designers hailed was the Starlight Coupe. I worked closely all the way through that program.

Q I'm one of those people who needs to tidy up a period before we go on to another. The atmosphere was Willys was a bit medieval?

A Absolutely.

Q It must have been stultifying?

A It was, because we had no corporate status at all, although we worked directly for the top management. Barney Roos was our head. We had the house style draftsmen. UAW was extremely tight there.

Other than that, it was very interesting. Gordon MacKenzie helped make that company interesting. He wasn't even in our department. Charlie Davidson -- a good friend of MacKenzie -- was the sales promotion manager and a very dynamic man. Marcel DeMueller was our foreign representative. He was killed a couple of years later in an air crash. So I can say Willys-Overland was a very high point, again, as far as my career, as to finding out how influential and how important data from the

field -- the correct data, not fictitious stuff. I mean, the marketing information.

Q So, in that sense, it was a step up from your previous situation?

A Absolutely, because we had no sales department contact at Hudson at all. It was all blind flying. So this was a step up.

Q And you had this enormous built-in wartime popularity project -- the postwar Jeep and then the Jeepster.

A Yes, the Jeepster. I remember it was the first experience I had on a critical personnel situation where the pre-production line started -- the first twenty-five Jeeps. We had a vibration set up in our quarter panel, which was certainly a normal situation to be tightened up. The new vice-president in charge of body engineering had come in. He was an ex-G.M. man. I don't recall his name. He was head of the chassis division and engine development. To establish authority, he fired Ed Shoote because of this thing that happened on the line that was absolutely a refinement problem that they often have.

Q That could be taken care of right on the line?

A And it was taken care of. He took care of it, but it was the first time I'd seen a good friend fired -- given a half hour to leave the premises. A fine gentleman with a great reputation. So it was part of exposing the real world to me.

Q It certainly soured you on your situation?

A Yes, it did. It certainly was another revelation. We really don't have much clout in this, and it doesn't look like we're going to grow in importance in this company.

Q Who actually conceived the idea of taking the wartime Jeep and

making it into the passenger vehicle that we have today in the half-truck, half-recreation vehicle, known as the Jeepster?

A The initial thinking on the Jeepster was definitely Brooks Stevens.

Q That's interesting.

A Yes. I give him credit for that. The polished-up station wagon, that was Art Kibiger and myself. We were out to make that. That was with full agreement of the sales department -- a fellow by the name of Lund at that time, and Gordon MacKenzie. They were pushing it very much. We had quite a full line of Jeeps. We had a Jeep fire engine at that time, and then we had opened the gate on color for the civilian Jeep. So we had one little delivery warehouse across from the administration building with just a very small opening. Every Jeep that was manufactured during that time, whether it was for the Bolivian Navy or whoever, would pop out of this little doorway, and it was like seeing a miniature toy shop. Every thirty seconds this stuff would come out like toothpaste. All of these marvelous Jeep people -- Ben Gomersol, who was body buildup for Hudson, was in charge of Willys-Overland's experimental garage. So we had, actually, a neat group. Then the Chevrolet -- the G.M. crowd -- came in. Then there was a Ford crowd that came in. So you can imagine the inter-political thing that developed at Willys-Overland in very short time.

My interest, at that time, was qualifying for Tucker. I did qualify for it. It was fine with him, but the company folded up that week. I'd approached Ford Motor Company during that period. They were having a strike, I remember. The only strike they'd had for a long time

for all of engineering. In the Summer of '49, I believe it was. They were developing a Continental division. I applied for that.

Q Do you remember who you talked to?

A Oswald -- John Oswald.

Q He'd come over from G.M. He was the administrative head.

A That's right.

Q George Snyder was the design head.

A Yes. I'd talked with those two. In fact, they didn't know it, but they were looking at a new Tucker for what I'd used as a sample.

Q But you happily came to rest in a very congenial atmosphere in South Bend, at this point?

A Yes. That was exciting. The reason it was exciting is that Mr. Loewy had the only international design department in United States at that time. We had Count Albricht Goertz, we had John Cuccio -- Goertz from Germany. [Cuccio] was one of the finest designers and one of the least known in this country. I found this to be true that the unknown people over this period were very effective as far as I was concerned. We had them from England. We had about every country [represented]. We had one from France. We had one designer from Cairo, Egypt. So it was really an international unit. The thing that excited me was it was the first time that I had an opportunity to compete directly with European designers, and that was hallmark. I was extremely happy with that, because one of the parts of being a designer is that its very, very individual. Yet there were very few schools at that time. Parsons [School of Design] was the only one in the United States for that type of art education. Most of the automotive designers, prior to World War II, were

from the school of architecture.

Q They hadn't established schools for industrial design yet?

A No, not yet. Not at this point. So Mr. Loewy had been one of the great ones that had developed product design to a high form.

Q Had been brought in before World War II?

A He came in 1938 at Studebaker. Paul Hoffman was a marvelous leader. It's too bad that he ever left Studebaker, because some of the decisions that were made right after he left spelled the doom of Studebaker some years later. Usually, there's a ten-year gap between critical decisions, no matter what the market is, that can decide when the company fails or goes on.

I was very excited about that -- Bob Bourke was chief designer at that time. Have you met Bob?

Q I've talked to him on the phone.

A A terrific man. He was our head on the daily basis, and Mr. Loewy would come in every week or ten days and reviewed [results]. Again, we had a very similar situation there. Engineering-wise, we had some very good people who were our liaison. Then we had some that were quite impossible, too. There was a limited top management relationship at Studebaker. When Mr. Hoffman left, it was a real void, because Mr. Loewy had such a good communication with him. That's how the '53 got into being.

Incidentally, on the new Starlight Coupe, one of my assignments was to work up a special interior. I remember it was a very dark blue with a French gray glove leather interior for Richard Rodgers of Rodgers and Hammerstein. He was a good friend of Mr. Loewy's, and I worked that car

up for him. As far as we know, he never did drive. I'm sorry that I didn't follow the car up, because it just went out to Long Island. As far as I'm concerned, I don't know whatever happened to it. I would have loved to have had that car.

But I was working back and forth, even when I was South Bend, to New York on special assignment.

Q That's interesting that you joined the Loewy group, which had a very special kind of independent status there, especially when he was working with Paul Hoffman, but he would use members of the staff to work on his outside work as well?

A Yes, always did. It was okay with the corporation.

Q Very enlightened [view] for that time?

A Yes.

Q This was his stature in the industry?

A Absolutely. Mr. Loewy was the best that way. Sometimes people criticized his Hollywood approach. I never did. They'd say, "Mr. Loewy, he signed your drawings." That was understood when you went with him. His theory was to come into a board meeting of a plant company and to be more famous than the chairman of the board. He was much better known and had an established creditation. That would be very difficult, because many people that come up through the managerial status -- through finance -- have a great distrust and dislike for creative people.

Q And often an inferiority complex?

A They show this anger through their inferiority. So Mr. Loewy -- that's why he had this international reputation, a Hollywood reputation, and the New York [office] to give his corporation immediate status, and it was very, very successful.

Q The Loewy image helped?

A Sure, it did. We were dissatisfied at Studebaker on the [product] line work as we wanted to develop more of a European product, for the sales aspect. We recommended, not only new design, but we also recommended a type of advertising that would have been extremely helpful. But Studebaker was tied in with an awful agency in Chicago. Remember how corny these Kellogg cereal brand ads that they had? Mr. Loewy tried to shake them loose on a lot of that, but the old guard, other than Mr. Hoffman, were very difficult to work with. In fact, we wanted, and Mr. Loewy was encouraging, a more expensive Studebaker and not to go to the bottom of the line and not to have the cheap 8. That marvelous coupe that we had, they made a small 6 version of it. We were against all that stuff.

Q Typical thinking in the industry?

A Industry, yes. Special cars -- I did a special Jaguar -- SK-120 -- for Mr. Loewy while I was there. The next thing was for Mattel, a new toy car for them.

Q You were becoming big business by this time?

A Yes. Then I was called in on the Coca Cola [account] -- the graphics.

Q What were you doing for Coca Cola?

A This is for the trucks -- the paint scheme on the trucks. We did Shell Oil Company, and I worked on a fine German glass chinaware account. So I worked on a lot of different areas. A turntable for the Fairchild Corporation. A commercial turntable. I was very fortunate in that respect.



Q A fascinating variety?

A I had a great variety. I did the first French battery and electric clocks in 1953. That was another private venture for Mr. Loewy. I had a very good relationship with him. One of the reasons, since he was the John Barrymore of the thing, was that I never really tried to get to know him too well on a personal level. I'd seen that happen. It was disastrous for some people. So we had a very good designer. I went over to France with him later to develop the four-door right after the Avanti was done.

The best compliment I can give Mr. Loewy -- I don't know how the other designers felt -- was that Mr. Loewy was such a fine director that when you worked on a project for him, it was the most important project going on, not only in the United States, but in Europe, at that time. This is really important. For Loewy to extend that to me, I felt just great about it and did some of my best work for him.

One of the projects happened in 1956. Remember the Cornell Safety Car? We were called in to do a version of that for Life magazine. The Cornell Safety Car was an ugly monster, and my job was to make it a real appealing car. Mr. Loewy was in France, and I was in New York, and we had several phone conversations, and he got very uptight during the program. He could really get "no more Mr. nice guy" stuff. But, I wouldn't get too rattled and take it too personally. We got it to a finished rendering. I did the whole thing. Because, by this time, Loewy didn't have any automotive design department left. I was the only one left in New York. I was the only one transferred from when the Packard/Studebaker thing got together. We lost our studio in the Spring of '55,

and I was transferred to New York from that time on and did some special cars for Loewy.

Q As you got [to South Bend], and you found this marvelous atmosphere and enthusiastic group -- some of whom you'd worked with in the past and other you knew by reputation -- what was your first major assignment in the early 'Fifties?

A Preliminary design for the '53.

Q The Starlight Coupe?

A That's right.

Q These were quite a departure from the industry norm?

A Yes, very definitely. Again, we had our eye on the mechanical development, relative to Alfa Romeo and Maserati and Lancia. We tried to sell 'em on a front-wheel drive unit, in fact. At that time, "Ferry" Porsche [Ferdinand II] was over there. He did a new independent rear end for the new four-door of that version. So we had brought in some big guns. That was the beginning of the sports car craze.

Q You were beginning to describe the evolution of the Starlight Coupe, which was quite an innovation for the industry?

A It really was, yes. We had about eight staff designers.

Q Do you remember some of the names?

A Oh, yes. Ted Brennan, John Cuccio, Ed Herman, Vince Gardner -- who's famous in his own right, a tremendous character -- Robert Bourke.

Q Who had been there for some years?

A Yes. And also Bob Koto.

Q Holden Koto?

A Holden Koto. We were very, very competitive. I did forget to mention one thing that's very important as far as dealing with Raymond Loewy

is concerned. I had done a lot of board work in portraying the new design in very tight rendering. I'd gotten that down pretty good. I wasn't there four days, and I was taken off the board and put right into the clay. The best thing that ever happened to me.

We designed in three-dimensional there. There was a difference between Raymond Loewy, and General Motors, Ford, and the rest of them. We had modelers. We had a big staff because we did a lot of full-size car projects.

Q Koto was a modeler?

A Koto was a modeler, and I became a proficient modeler, and I preferred to work that way, because you get the truth immediately, and you don't get second-hand representation. So we worked in the clay. We didn't have a union problem there. A big difference. Mr. Loewy scratched out the full size. That development -- working in the round -- was the greatest boon to me, and I matured very fast there.

Q You could think three-dimensionally?

A Yes. And the competition -- the type of men you are competing with were the best. In simple form, being with Raymond Loewy, at that time, was like being a member of the New York Yankees. I enjoyed the input of our top marketing people. Mr. Loewy never overused marketing. In other words, he never became a slave of it, but used it as an absolutely viable tool. We had marketing people, but never too many of them, so that we had the best available. We had Nabisco, Shell Oil and all these different top company accounts, and you'd get tuned in. A silverware company. I didn't know anything about the silverware marketing, but had the best men there to brief me on it so I could go ahead and do a line of

silverware. We did an Air Force One for John Kennedy when he came into [the presidency]. We did that all in our little department. That was being done while I was working on the Avanti. So we had tremendous excitement.

And, again, Mr. Loewy always had underemployment there --always understaffed -- in his product division. We had a twenty-four hour studio. That means you can come in at any hour of the night you wanted to or in the morning.

Another thing I learned in the New York office, is that no matter how important you were to a project, if that project ran out of money.... Loewy had a low spot in '57, and I left and went with another outfit for awhile. Mr. Loewy operated like an advertising agency where suddenly writers were paramount, and you had too much business, or you didn't have enough at all. And then we had our inter-political fights between groups: product, packaging, etc. Then a new product man would come in, and he didn't want the old-timers to be there. He wanted his new [staff]. We ran into all of that. But, all in all, it was a very interesting experience.

Q And his method was to make each individual feel that you are contributing materially -- perhaps, even creating -- on several levels?

A Yes. Yet he wouldn't get involved with you on the business level. You would not get the latest status [report] of the financial condition -- which fluctuated -- of his company. He spent so damned much money on his top people. When you were dealing with Mr. Loewy, it was strictly on the design job of that particular area that you were [working] on.

Q Did Mr. Kibiger come with you?

A No. He was strictly Detroit and stayed on with Willys-Overland several years, then he went to Chrysler interiors. He was working in fabrics testing. He ended his career there.

Q So, you were on your own by this point?

A Oh, yes.

Q When you got there, you found, to your surprise and delight, that you were assigned to -- as Bob Bourke described it -- the really first, all new, post-war car, which became the Starlight coupe?

A Oh, yes.

Q Did you work closely with Mr. Bourke?

A Yes. He was director. He was our chief, and he had all the problems. That's another thing about this. You hear about, "What the hell is a chief designer?" He's the guy that has all the problems, and the staff just has isolated areas. Later, I became chief designer for Loewy for very few, but very eventful, years. Where you have his ego to deal with, and a new president of the company, and a very small budget, and a very short time to come up with a winner that you have to almost guarantee. Ridiculous, isn't it? But very exciting, and it happened to work.

Q You had about two years to put these together?

A Yes, that's all. The two complete cars. And to put in immediate production on the Studebaker -- the Avanti. I don't have the figures on the timing right in front of me, but, as a marketing/information man, you'd be interested in the marketing approach on the Avanti: two sentences and one little meeting in Palm Springs before we started on the car as what are we aiming for? You've got to know where the heck you're

going when you have a week or ten days to develop and get approval on a new car. That is how tight we were on time. That direction could go anyplace, and you could miss.

I remember at the meeting: Mr. Loewy, myself, and John Ebstein who was in charge of logistics and all that sort of thing -- the house we were working in, and to get things for us. I, and the younger designer Tom Kellogg from the West Coast. He'd just gotten out of Art Center [in Pasadena]. So, it was just John, Mr. Loewy and myself. I remember vividly saying, "We'll know when we've got the answer on this car. If we can see it parked right on Palmdale Boulevard in Palm Springs. If we can visualize that car looking comfortable at the Palm Springs (one of the fine clubs/restaurants), that's our criteria." The first orders would be given by an airline pilot, which turned out we hit right on the nose. In fact, the Avanti club was founded by a couple of airline pilots. That was really no accident, because of preliminary thinking. I've done my homework on Sherwood Egbert -- the new president of the company. I'd met him a few weeks before he took over the company. I made a point of meeting him. I was out of Studebaker at the time, and that meeting turned out to be very, very effective, because I knew him a little bit. I had tipped him off that we didn't have any engines or any development to rely on as he was going into the presidency. Then Mr. Loewy called, after a few weeks, and asked me to come out to meet with them in Palm Springs. That's how quickly that was put together. I had found out that Egbert was an aviation man, primarily, and a pilot. I was an aviation man and an enthusiast, so that opened a very good understanding as a result of that I'm very sure. Mr. Loewy was concerned on who this guy

Egbert was and how they were going to get along.

Fortunately, Egbert did not try to become an automobile designer overnight, which happens so much. When a new executive officer comes in, he thinks he's got to know, and he did not try to know. It was his responsibility, and he okayed a very fine car, and he was only helpful, rather than any kind of hindrance at all. He said, "This is it." When he said this was it, that gave us authority. So the usual things that would have happened in engineering to cheapen that car -- to screw it up -- did not happen for that reason. In other words, that very expensive tooling on the front bumper, that went as is. We got the supercharger, we got [Andy] Granatelli through the president of Studebaker. All this stuff fit into a very precise situation.

Q Unusual for the time?

A Unusual for the time, and the car just started to sell as they pulled it off the line. We knew that it would be into the second year before the car would really start to catch on. One of the reasons -- a marketing situation that we had in our disfavor on the Avanti -- was not the car itself, but that, by the time the Avanti came out, there were very few good dealerships left in the country to sell them. We had a lot of back-alley service station dealers that didn't even have room for one car. By this time, Studebaker had lost a lot of dealers during that bad period leading from '58 through 1962. These were very slim times, and they'd lost a lot of good dealerships. So here we had a \$5,000 car, and we had a bunch of dealers that didn't even know anyone that had \$5,000 for a car. In other words, those were top G.M./Cadillac prices. So, that was difficult. The sales platform was very difficult. I think the

car would have done better had it --unfortunately -- oh, this is so extensive! At that time, remember we had an affiliation with Mercedes-Benz.

Q I didn't know that.

A Oh, yes. And a lot of people don't know what kind of an affiliation that was. We had full rights to all patents of Mercedes-Benz from the year one during that period that we did not take advantage of. In other words, we could have been closer. We could have had twin dealerships, had Studebaker insisted on it, with Mercedes-Benz. See, Mercedes-Benz joined Studebaker Corporation to reduce paperwork on their license for distribution -- becoming a part-American company. I don't know what percentage it was, but for Studebaker -- that was probably one of the prime mistakes of the 'Fifties that they did not take advantage of their affiliation with Mercedes-Benz and they could have. And part of it was because of the nature of Studebaker management [which] felt inferior to the Germans. That's all I can say. It was very obvious there was very little cooperation, especially in engineering matters. That was unfortunate.

Q Before we get into an examination of the gestation of the Avanti, were you involved in any of those almost Byzantine intrigues involving Exner, and Loewy, and the rest of the executives at Studebaker in the 'Fifties?

Q No. That had happened just before I arrived.

A Exner had moved on?

A No, when I arrived in '49, he had his small group out at the proving grounds, and Roy Cole. So we were competing with an inside division. That lasted only one season, and then Exner went on to Chrysler.



Q And that irritant disappeared?

A That disappeared.

Q But then Hoffman was replaced?

A Yes, by Harold Vance.

Q That had been a marvelous relationship with Hoffman?

A Yes. And that was cooled off a bit, but we still had the good chief engineer. He was an Easterner from MIT -- Stanwood Sparrow was our chief engineer. He had been with [the unit] that developed from the '25 model on with Studebaker. Fantastic guy. One thing during that period of the '53 development that I was assigned to [was the] safety steering wheel setup. That's one thing Mr. Loewy was very much involved with, going way ahead on things that were definitely needed, whether the company asked for them or not. Stan Sparrow was the chief engineer. From your regular duties, you would be assigned a specialty, and that was developing this safety steering wheel. If you'll recall, in the 1948/'49/'50 Studebakers, they had that bullet-nosed centerpiece, which was terrible. This was insanity.

Here we've gotten up to the prototype of the shape and everything, which is unlike the Mercedes-Benz wheel now where we have the pad -- we spread the contact point over it. But here we were working on that very problem, and Stan was killed running under a truck on the way back from Boston -- getting that [steering column] through him. Two weeks later, I was almost killed in the same type injury -- pressed chest from the steering column.

Q You established a deep dish?

A Yes, a dish, and also the padded area with the Studebaker

medallion. But, isn't that ironic that the two men that were working on that problem -- one of us on the safety. Safety -- I could never understand why it was such a sore point. Corporations -- nobody wanted it. "Our cars don't get in wrecks." I've actually heard that at Hudson. We wanted a safety -- I'll tell you how far ahead we were on that Hudson. Even though the instrument panel was structural on part of the car, we wanted to use it as an integral part, but six or seven inches, and then the outer shell would be soft aluminum like an aircraft. Frank Spring was all for this. In other words, have any design you want on the instrument panel, but use expendable, soft aluminum that had the crushability, so in the case of an accident, you were not -- and the company said, "Well, our cars don't get in accidents." And the same with Studebaker. For instance, in that period -- probably the most dangerous Studebaker of all -- we went into the V-8 in '51. We had a very hot 289 engine, and we had the same brakes that were on the Champion four years before. So our cars were under-braked, ineffective area-wise. In '54 they finally beefed up the brakes a little bit so that they were adequate but not good enough.

The whole industry was under-braked. The early G.M. automatic system -- where you had the power brakes. The G.M. stuff was too sensitive, and a lot of people were killed when they first started using the power brakes. They were built up too tight with too loose steering and the type braking.

Q Power-assisted?

A Power-assisted, yes. I know the corporation knew, because we had suits from the mountainous states where people had gotten in trouble, and

it was practically ignored. I remember when I got a '53, and I asked for the sample brakes that Bendix had built up for us -- real good brakes. They had ten/eleven sets left, and I asked him for a set to put on my new '53. He said, "You have enough brakes on that car." He was very angry that I even suggested it. I went over him. Unfortunately, they had been all thrown out.

"Raymond Loewy and his stylist/designers." We were given credit for the aesthetic, and that was our responsibility, but we were very hard at work bringing to their attention mechanical situations.

Q Their line engineers didn't want to be reminded?

A They thought it was none of our business. Again, it was a provincial attitude. Hudson had a certain provincial allergy to it. Our whole [industry] corporate structure, including G.M., had a provincialism, as far as the mechanical advantage, and with the exception of one man during that period -- Preston Tucker was not a provincial.

[The Tucker] was a good car. It would have been very fine. The other program that was like the Avanti, in my research. I talked with Gordon Buehrig years later about the Cord that he did. That was a very fast program, too, as was the Avanti. It took a little longer. Mr. E.L. Cord -- himself, there's a man who was never shown in history as great as he really was. He had an aesthetic eye. He started American Airlines, he owned Lycoming Aircraft Engine, he owned Stinson Aircraft. He did all of these things at Auburn-Cord-Duesenberg. A fantastic guy. Now, there's a deal where, basically, a financial man was both. He had a very good eye. So, in that case and that area, the Cord didn't go any longer than the Avanti did.

Mr. Loewy and myself, basically, didn't realize how far ahead the Avanti really was. We expected that to be passed up very shortly by G.M. or someone else. And they're still using that for reference. A lot of the new cars -- the car doesn't look odd on the road now.

The most exciting development was going to France right after the fullsize was put together here in South Bend using the modelers there for Studebaker Corporation. The full-size was put up there. I would go back and forth between New York. In the Spring of '60, I went to France to the chateau of Loewy's [La Cense] and worked on the four-door that was to follow the Avanti. Now, this was a real ambitious project. That was a 150 mile-an-hour family car. This was to be the first of the American sports sedans. Mr. Ferrari had contacted me in New York. Ford Motor Company was trying to get Ferrari interested in doing some work for them at that time, and Mr. Ferrari found out. John Cushall mentioned that we didn't have any engines. Cushall was with us at that time. Mr. Ferrari offered us one of three engines to develop under license: a V-8, a V-6, and a V-12.

Q Were you able to take advantage of it?

A So I reported to the president -- Mr. Loewy was out of the country -- and gave him Mr. Ferrari's card. We never had a meeting after that. I never knew what transpired. Of course, Mr. Egbert was ill toward the end and was out of commission, and that's when the old guard at Studebaker came back into the picture and stifled our four-door that we had developed.

The four-door, after the Avanti, was in direct competition with Brooks Stevens' car. Brooks Stevens had nothing to do with the Avanti

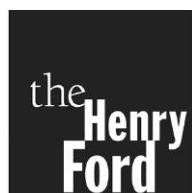
project at all. He was working up the Hawk GT conversion, at that time. But with the four-door, to follow the Avanti, Brooks Stevens was in competition. I'd competed with him years before in '46 on the Willys-Overland, and then we finally met each other. Brooks Stevens, when I finally met him, said, "Oh, you are the guy!" We were at Carlisle, Pennsylvania, for a milestone meet with Bob Bourke, and he said, "Why did Loewy always hide you? We never saw you." I said, "I don't know about that." But, anyway, we had quite a competition all those years.

Our company was strange. Loewy was very paranoid about one thing, and that was in relation to that experience with Exner. I was becoming quite effective in my work with Loewy, especially on the Avanti, and he put some real distance between the two of us that made me feel rather bad toward the end of the my time with Loewy there. He did not have to do that, because I was no threat to him at all. Suddenly, you have less work to do, or you're not called into the office, or he stops coming by -- things like that.

Q Did he view you as possibly another Exner?

A Yes. I believe that would be the only thing. I never talked when I was with Loewy. Everything was very, very confidential. That's part of the business.

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