

AUTOMOTIVE HISTORY REVIEW

Fall 2002



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Auburn-Cord-Duesenberg Museum, Auburn, Indiana

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EDITOR'S NOTES

"Back Home in Indiana," as the song goes, was apt for SAH's presence at the Fourth Biennial Automotive History Conference at the Auburn-Cord-Duesenberg Museum in Auburn, Indiana. Although the Society began its life in Pennsylvania, its legal home is Indiana; SAH is a not-for-profit corporation under the laws of Indiana. Its spiritual home is Auburn. It was there that *John Martin Smith*, our Friend of Automotive History in 2001, drew up the papers for incorporation. And the repository for SAH's records and Cugnot nominations is the A-C-D Museum. In Auburn, we were home again.

And what a splendid home the Museum is. The original factory showroom with its marble floors and geometric chandeliers remains as it was when the legendary cars of the early '30s were built. The term "art deco" is overworked. But not here. A dozen or so Auburn Speedsters, Cord roadsters, and Duesenberg open cars ennobled the spacious show room. I looked in vain for a salesman to offer me a demonstration ride. Gone, also, are the large shade trees outside that are shown in photos of 70 years ago. Today, Indiana produces only Hummers, Eclipses, and GMC trucks. But, no doubt, the Hoosier State's favorite classic remains the Bobby-Coach.

The Museum's permanent collection includes examples of other marques that were made in Indiana such as the Cole, Premier, Stutz, and Imp cyclecar. A temporary exhibit on the use of aluminum in passenger cars, sponsored by Alcoa, was coming to an end when we were there. Cars on display included a ReVeré, Cisitalia, and a Marmon, the gift of *George Hanley*, and his wife *Stacey*, a former SAH board member. Did you know that the first recorded use of aluminum in a U.S. passenger car was the crankcase of the 1895 Haynes? Or that Studebaker exhibited a wagon at the 1893 Columbian Exhibition in Chicago containing 125 pounds of aluminum?

There have been changes both to Auburn and the Museum since the SAH Board last convened there in 1992. The staging area is the Auburn Inn, with the

"u"s of Auburn replicating the distinctive style used on the later Auburn cars, and its walls hung with old photos of the Auburns, Cords, and Duesenbergs that put the town on the automotive map. The area surrounding the Inn has grown thick with fast food places and gas stations. The Museum, under Bob Sbarge's leadership, has added to its space by enclosing a courtyard and turning it into banquet and conference rooms. The Board met in the Cord Room and had lunch next door in the Auburn Room. Remove the divider between the two, and, voilà, you have the Duesenberg Room where the Conference sessions were held. The papers and abstracts comprise this issue, as they have for three previous issues of the *Review*, Nos. 32, 34, and 36.

Lunch and dinner sessions were accompanied by entertaining and informative speakers. *Gregg Buttermore*, ACDM publicity director, and Jon Bill, director of education & archives, spoke the first Conference day on "Why Indiana?", the origins of the State automotive heritage. At lunch two days later, Bob Lichty of the Canton Ohio Classic Car Museum caught our attention with details of the trip that is planned to retrace the route of the Lincoln Highway from coast-to-coast during the latter half of August 2003. At the final banquet, the well-known auctioneer Dean Kruse regaled us with stories of the trade, including dealing with Lucille Ball whom he found to be more tough than amusing, and the post 9-11 difficulties he experienced in importing the military collection discussed below.

The evening of the first day of the Conference, we went by bus to what will become Dean's American Heritage Village, consisting of "The WWII Victory Museum," due to open in the fall of 2002, and "The Kruse Automotive Museum," with over 80 cars, sometime later. Dean bought the contents of The Museum of Victory in Belgium which contained 145 World War II tanks, half-tracks, and staff cars including one Packard, two Tatras and an assortment of Opels. The fact that the "wartime" Clipper featured the postwar 1946-47 Packard grille was widely commented upon. The Automotive

Museum will contain nearly two dozen Model J Duesenbergs. The next day, a day between Conference sessions, two bus loads of us traveled through the rain-soaked prefab-infested bleak countryside, more November than April, over a portion of the Lincoln Highway at Goshen, to view the *S. Ray Miller, Jr.* Collection of automobiles and automobilia in Elkhart, now for sale piecemeal due to Mr. Miller's declining health. Then, to nearby Bristol to visit the Pedal Power Museum, a collection of pedal cars, including a petite two-kiddie dual cowl phaeton of over 70 years ago. In an adjoining room were five full-size Elcars which all agreed is probably the largest collection of the marque in the world in one room. We lunched in South Bend at Tippecanoe Place, Clem Studebaker's 1880s mansion, followed by a visit to the Studebaker Museum. 2002 is Studebaker's sesquicentennial year, and the conveyances on view ranged from the carriage in which Lincoln went to Ford's Theater in 1865 to three Brooks Stevens prototypes of a century later of Studebakers that were never made.

No trip to Auburn is complete without a visit to the National Automobile and Truck Museum (NATMUS) a few steps away from the ACD. Housed in the former Auburn service and experimental vehicle facilities, and started by *John Martin Smith*, the museum is now large enough to have its own gift shop. If you've ever wanted a close-up look at the Lear Vapordync steam racer, or to see detailed pedal car replicas of an Auburn Speedster and 810 roadster, NATMUS is just the place for you.

With this issue, we follow our traditional Conference Issue format of publishing some papers and abstracts of the remainder. This issue begins with *Gregg Buttermore* and Jon Bill's "Why Indiana?," mentioned earlier.

Robert Ebert, Buckhorn Professor of Economics at Baldwin-Wallace College, Berea, Ohio, has participated in all four conferences. We first met him when he spoke on technological change and consolidation of medium-priced automobiles producers (1928-41), abstracted in *Review* No. 32, p. 52). At the

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Front Cover: 1935 Auburn 851, courtesy Auburn-Cord-Duesenberg Museum.

Rear Cover: from the 1913 Cole Blue Book, courtesy of Leroy D. Cole.

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We can offer sets of the 21 issues remaining in stock (numbers 4, 5, 6, 7, 10, 11, 12, 14, 15, 16, 23, 27, 28, 29, 30, 31, 34, 35, 36, 37 and 38) for \$100.00 postpaid in the USA. Single copies are \$8.00 each plus \$2.00 postage, \$5.00 postage internationally. All payments in US funds, please, Mastercard and Visa accepted as well as checks. Orders and inquiries should be sent to Fred Roe, 837 Winter Street, Holliston, MA 01746-1159. Make check or money order payable to Society of Automotive Historians, Inc. Inquire for shipping costs outside the USA. This supersedes all previous lists and prices, which are no longer valid.

Why Indiana?

by Gregg Buttermore and Jon Bill

Why Indiana? That's a common question at the Auburn-Cord-Duesenberg Museum. Visitors want to know why a substantial aggregation of automobile builders flourished in an agrarian state containing few large cities. All of the 20th century auto activity was a very natural outgrowth of the horse-drawn carriage industry of the 19th century.

From the pioneering era of the automobile until the middle 1920s, it appeared that Indiana could lead the nation's automobile industry. But the overabundance of similar, average-sized firms building competent and nearly-identical cars led to the expiration of many companies during the Twenties. As the decade wore on, the rule of the day was survival of the fittest and the most advanced. After World War II, the Studebaker and Crosley plants endured in the cities of South Bend, Richmond and Marion, while little else survived but a collection of automobile component makers.

Indiana's auto manufacturers tended to be small and independent, using non-union open-shop concepts. Most made "assembled" cars, from components shipped to an assembly plant by rail car.

Unlike Detroit, production facilities in Indiana generally were not high-speed, plentiful-output operations, but rather were labor-intensive slower assembly lines, requiring four to five hours to assemble one car.

Why Indiana? The majority of car makers began as carriage manufacturers, founded by German and Dutch immigrants in the 1830s-to-1850s period (e.g. DeKalb County, 1830s; Auburn, 1850s). These immigrants already knew hard work, were adept at woodworking, and wished to settle in small communities in the Midwest, near to abundant hardwood forests on flat land. By the 1870s most communities in Indiana – regardless of size – had a carriage industry of some kind. Indiana's industries tended to settle in the level upper half of the state. This was due to the availability of natural resources such as lumber, labor, transportation (roads and railroads), and energy. The southern half, untouched by the ancient glaciers, was hilly and remained less industrialized. By 1900, many carriage builders were making the transition successfully from the horse to the motor. By 1909, Indiana was our nation's second largest producer of automobiles, with 13 percent of the total production, but far behind Michigan's 51 percent.

Significant automobile production (defined as a yield of 50 cars or more) was found in 40 different Indiana cities, large and small. Let's look at Auburn as a case study. Like many other towns, Auburn had a thriving carriage industry that eventually gave birth to automobile manufacturers, especially highwheelers at first. Auburn was home to the manufacturers of 12 different automobiles during the first part of the 20th century, including the McIntyre, Imp, Kiblinger, Zimmerman, and Union. This amazing small town of 5,000 (at one time known as "Little Detroit") produced cars from A to Z – Auburn to Zimmerman, maker also of a DeSoto (not related to Chrysler), the sublime classics Auburn and Cord, as well as the unusual cyclecar Imp. The Imp resembled an old-fashioned tin bathtub

on wheels. This well-named curiosity carried two passengers in tandem. A single headlamp hovered over an exposed two-cylinder engine. Also exposed was the drive belt that ran the length of the vehicle. An Imp is on display in the Auburn-built cars gallery in the Museum.

Like many other early firms, the Auburn Automobile company would have faded away during the 1920s. But the flamboyant E.C. Cord took charge in 1924. He was to put Auburn on the automotive map for all time. Cord founded quite an empire on the strength of his quick success with Auburn. He controlled two manufacturing and assembly plants (Auburn and Connersville), Duesenberg, Lycoming engines, Columbia Axle, and two body firms, as well as aircraft corporations and other transportation interests. It has been written that E.L. Cord "more richly enhanced the classic car scene in the U.S. than any other single individual." Scorning mass production, Cord aimed for the stars with the likes of the Duesenberg brothers, and body designers Alan Leamy and Gordon Buehrig.

Auburn has been compared with Jaguar in that it gave the buyer more sound engineering and good looks for the price than was reasonable to expect. Auburn landmarks included straight-eight engines, 1925; two-passenger boattail speedsters, 1928; 160 HP V-12s, 1932; and the stunning supercharged Model 851, 1935 (see cover).

Take a look at Cord. Aesthetic appeal and enterprising engineering were abundant also in the more expensive Cord's long-hooded L-29 of 1929-31 and the coffin-nosed 810/812 of 1936-37. Of the Cord's many unusual features, the most striking was front-wheel drive, an idea as old as the horse-drawn carriage. Cord's version was adapted from Harry Miller's racing practice by C.W. Van Ranst, an early associate of the Duesenbergs. Engines were 125 HP straight-eight Lycomings. The long and heavy engine of the L-29 caused weight-distribution problems, solved later by the 810 Cord's compact V-8 engine. Superchargers developed for the 812 Cord in 1937 boosted horsepower to 175. Like Auburn, Cord owes its classic status to glamorous good looks and flashy performance. Buehrig's body design of the Cord 810/812 was so outstanding that it was among only eight cars honored by the Museum of Modern Art in 1951. The Cord's premature death has been attributed to its premature birth, jinxed as it was by delays and mechanical bugs as well as a high price tag.

But Auburn was only third in the number of automobile manufacturers it hosted in those years. Indianapolis was the champ with 66 manufacturers (but only 38 produced more than 50 vehicles), including Duesenberg, Stutz (Blackhawk), Marmon (Roosevelt), Cole, American, Pathfinder, and Empire. Nineteen manufacturers were in place even before the Indianapolis Motor Speedway began carrying the famous 500-mile race in 1911. The auto industry began in the city with Charles H. Black, operator of a wagon works and blacksmith shop. In 1893, he completed a car similar in design to the imported Benz horseless carriage he had driven two year earlier. From 1897 to 1900 Black built a small number of cars for sale to

the public. The second manufacturer in town was the Indiana Bicycle Company, which began producing the Waverley Electric in 1898.

Elkhart followed Indianapolis, with 16 manufacturers, including Elcar, Pratt, Crow, Black Crow, and Sterling. Following Auburn in fourth place was Richmond, with 10 makers including Westcott, Crosley, Davis (the four-wheeled one), Richmond, and Pilot. With nine, Anderson was home to Nyberg, Anderson, Erie, Lambert, and Laurel, and South Bend, to Studebaker, Erskine and Avanti. Connersville, a major railroad center, served five manufacturers including Lexington, McFarlan, and the Cord 810/812. Muncie also gave birth to five

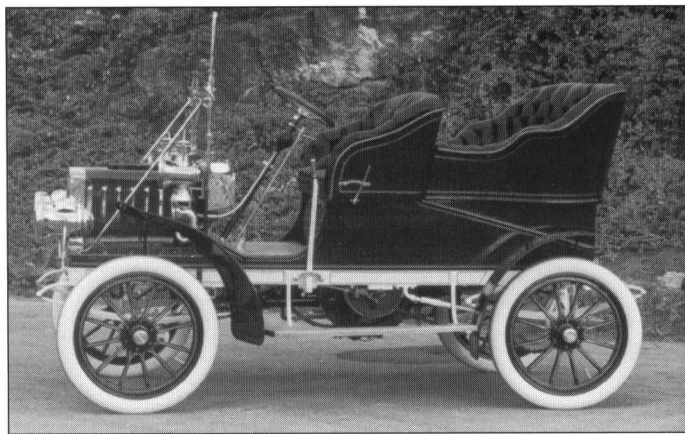
marques, including Inter-State, Stratton, Durant, and Sheridan. But it's generally agreed that the industry in Indiana began in Kokomo, where Elwood Haynes and the Apperson brothers, Elmer and Edgar, developed a single-seater runabout, first driven on an Indiana roadway in 1894. By 1898, Haynes-Apperson vehicles were available to buyers. The Haynes and Apperson marques followed a few years later in the wake of the partners' business disputes.

Today, a century later, Indiana still plays a role as a producer of vehicles, with Hummer in Mishawaka, a General Motors truck plant in Ft. Wayne, and a Subaru/Isuzu car and truck factory in Lafayette.

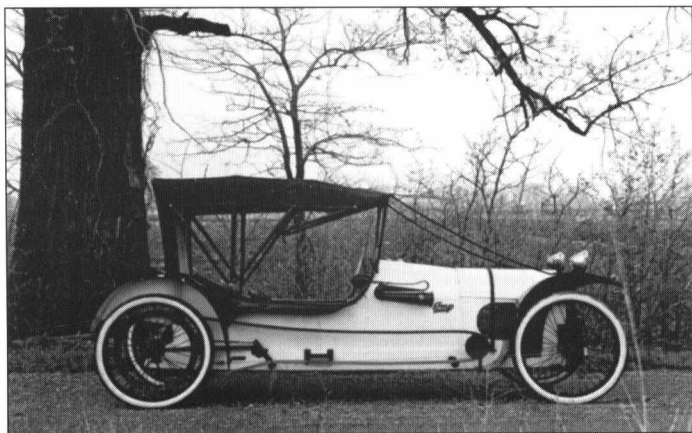
Auburn-Made Cars



1907 Kiblinger Runabout



1904 Auburn – The earliest known to exist.



1913 Imp Cyclecar.



1909 Zimmerman Runabout

All photos courtesy of Auburn-Cord-Duesenberg Museum.

The Luxury Car Market in the 1920s: Competition, Efficiency, and the Case of Stearns-Knight

By Robert R. Ebert and Jaclyn L. Gribben

Introduction

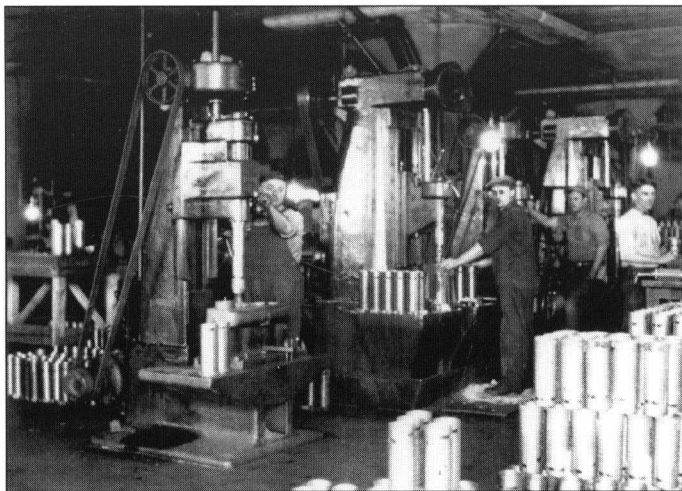
The decision to dissolve The F.B. Stearns Company of Cleveland, Ohio, at the end of 1929 marked the closure of a firm that manufactured luxury automobiles for a third of a century. The failure of Stearns has been variously attributed to the stock market crash of 1929 and the Depression, as well as to the long-term effects of management problems in the early 1920s. However, competitive conditions and production technologies used in the United States automobile industry were changing rapidly during the 1920s. The question we raise, therefore, is: to what extent did these changing production techniques and changing market conditions in the 1920s contribute to the failure of The F.B. Stearns Company?¹

History of The F.B. Stearns Company

Table 1 is a chronology of major production and business developments in the history of The F.B. Stearns Company.

The F.B. Stearns Company was established in 1898 and incorporated in West Virginia. In 1902, the company was reincorporated in Ohio with a capitalization of \$200,000, which was increased to \$400,000 in 1912. Only \$242,000 of the \$400,000 capitalization was issued, however. In 1917, after a serious case of pneumonia, Frank B. Stearns relinquished the presidency of the company. In 1918, he resigned as Chairman of the Board, sold all his holdings, and severed all connections with the company.

By this time, Stearns had developed a reputation as a performance luxury car. Perhaps the technological feature for which Stearns-Knight cars were best known was their Knight sleeve-valve engine. Basically, a sleeve-valve is similar to the sliding valves used in steam engines. The sleeves have a stroke of about one-inch, and move in opposite directions. The parts of



Machining sleeves at the Stearns-Knight factory, 1920s.

each sleeve register with the parts of each other and engine block parts. The sleeve-valve principle was the invention of Charles Yale Knight, who initially found more acceptability for the engine in Europe than in the United States. Daimler in England, Mercedes in Germany, Minerva in Belgium, and Panhard in France were marques which adopted the sleeve-valve engine.

In 1909 Stearns' chief engineer, James Gilman "Pete" Sterling went to England to study the Daimler-Knight engine. Stearns then subjected test motors to severe and grueling test conditions for two years, concluding that the Knight sleeve valve engine was efficient and durable.

On July 1, 1911, Stearns introduced the first Knight-powered production car in the United States, a 4-cylinder 1912 model. In August 1912, Stearns discontinued conventional poppet-valve engines and introduced the Stearns-Knight six-cylinder. In August 1915, Stearns brought out a V-8 Knight engine for its 1916 models.

In 1917, George W. Booker along with other investors, obtained control of Stearns and became president of the company. Booker had handled Stearns cars in St. Louis and interested Philip Wick of Youngstown and two other investors, S.H. Tolles and J.R. Kraus. Little is known of Kraus from the available record. Tolles and Wick were directors of Stearns at least as far back as 1913. Tolles of Cleveland appears to have been a partner in Tolles, Hogsett, & Ginn, which were the attorneys for the Board of Directors of Stearns at the time of liquidation (Court of Common Pleas). Given that Tolles was on the board at least as early as 1913, it is reasonable to assume his firm was the legal counsel for Stearns for some time. Phillip Wick was part of the Wick family of Youngstown, Ohio, which had numerous interests in industry and finance.

Therefore, by nature of personal interest in autos or their tenure on the board of Stearns, the principals who assumed control of the company in 1917 were not strangers to either the company or the automobile industry. Together these investors were the largest stockholders. At the time of the change in controlling ownership in Stearns the capitalization of the company was changed to 100,000 shares of common stock, and \$750,000 of 7 percent cumulative preferred stock.

In the 1917 to 1925 period, under Booker's leadership, Stearns invested about \$1.3 million in buildings to expand the company's plants at Lake View Road and Euclid Avenue in Cleveland. The new management discontinued the V-8 engine after 1919 and concentrated production on one model – the small 4-cylinder L-4. The next new model introduced by the firm was the S-Six for 1923.

In 1925, John North Willys of the Willys-Overland Company bought a controlling interest in The F.B. Stearns Company. During the next four years, a variety of new six and eight-cylinder Stearns-Knight models were introduced, including an in-line eight in 1927 called the Model G-8.

**TABLE 1: STEARNS AND STEARNS-KNIGHT
HISTORICAL TIMELINE**

1879:	Frank B. Stearns (FBS) born in Cleveland.
1893:	Visit to Chicago World's Fair created interest of F.B. Stearns in self-propelled vehicles.
1896:	FBS completed his first one-cylinder vehicle.
1898:	F.B. Stearns & Co. formed with the help of Ralph R. and Raymond M. Owen.
1899:	Ralph Owen drove a Stearns from Cleveland to New York.
1900:	Fall, 1900: First single cylinder four-stroke cycle Stearns Stanhope model put on the market. New shop rented on Euclid Avenue across from Lakeview Cemetery.
1901:	New four-stroke engine with 10 brake horsepower.
1902:	Name of company changed to The F. B. Stearns Company with addition of new capital. A two-cylinder touring car with 20 h.p. introduced.
1905:	Four-cylinder, cast-in-pairs, L-head engine introduced.
1907:	Addition made to Euclid Ave. plant. Six-cylinder model introduced, the 45-90 with 800 cubic inch displacement. Big Stearns four was called the 30-60. It set 3 world records and had 19 victories.
1909:	"Baby Stearns" Model 15-30, four-cylinder introduced.
1910:	Stearns' chief engineer, James G. Sterling, sent to England; negotiated a license to build Knight sleeve-valve engines in the U.S.
1911:	Stearns' first Knight-engine car introduced with four-cylinder engine, as a 1912 model. Stearns bought old Royal Tourist plant in Cleveland.
1912:	Stearns offered only the four-cylinder engine.
1913:	Six-cylinder engine added.
1914:	New body style and enclosed bodies introduced. Truck production discontinued. Stearns started building Rolls Royce airplane engines for defense purposes.
1915:	Stearns L-4 (Light Four) introduced as a lower-priced quality car. Five-story addition built onto the plant.
1916:	Six-cylinder engine dropped; new V-8 introduced as first V-form Knight engine.
1917:	FBS retired from management at age 37. Company re-capitalized; George W. Booker named president.
1918:	FBS sold interest in the company. Production of cars curtailed because of World War I.
1920:	V-8 engine dropped; Stearns line limited to four-cylinder SK-L4.
1922:	Six-cylinder S-Six introduced in July 1922 as 1923 model.
1924:	New four-cylinder model SK-B4 introduced for 1924 (same as SK-L4 with shorter wheel base). New smaller six-cylinder engine introduced for 1925 models.
1925:	Control of The F. B. Stearns Co. purchased by John North Willys in December 1925. H. J. Leonard made president.
1926:	Over \$500,000 invested in expanding Stearns' plant and equipment. Last year for four-cylinder cars.
1927:	In-line Eight introduced as Model G-8.
1928:	Lower-priced line of sixes, the Series 6-80, introduced.
1929:	The F. B. Stearns Company ceased production due to financial problems.
1930:	Formal dissolution of The F.B. Stearns Company. Creation of the Stearns-Knight Corporation in Cleveland as parts supplier.
1935:	The Stearns-Knight Corporation moved to Detroit.

The Economics of Automobile Production in the 1920s

Between 1903 and 1924 there were 180 companies that manufactured automobiles on a commercial scale. Of those 180 companies, only 59 remained as of 1925. By 1926, the number of surviving firms declined to 44. Attrition continued into the 1930s, and by the outbreak of World War II, only nine firms were actively engaged in the production of automobiles.

The F.B. Stearns Company survived a third of a century before exiting the auto industry at the end of 1929. What forces were at work in the industry that caused Stearns to fail after it had survived for 30 years?

Bresnahan and Raff (see "Research References" at the end of the article) examined the causes of failing of auto firms in the 1929-35 period. They concluded that firms whose plants and organizations embodied mass production had a competitive advantage because they were able to achieve a low average-cost per unit. Firms that exited the industry tended to be low in labor productivity, which had the tendency to drive up per-unit costs. Adaptation of mass production technologies, which lowers unit costs, tends to be a pivotal element in analysis of the auto industry during the last decade of The F.B. Stearns Company.

During the 1920s, the automobile industry in general went through a transition where a variety of models and frequency of model and design changes became important. The success of General Motors in the inter-war period is often attributed to its marketing strategy. By the mid-1920s, GM had established a policy of producing a line of cars in each price class from the lowest priced to the luxury cars. The price steps between the lines were narrow so that no wide gaps existed in the overall corporate product line.

Alfred Chandler in his 1964 work, *Giant Enterprise*, observed that by the mid 1920s marketing was a bigger challenge than production in the automobile industry. Production expanded rapidly in the early 1920s, from 1.5 million cars in 1921 to 4.3 million cars in 1923. From 1923 until 1929, sales averaged slightly less than 4 million cars per year but production capacity reached 6 million units. Marketing cars, not to first time buyers but to the replacement market became the major challenge.

Chandler argues that GM's response to conditions in the 1920s was to steadily improve the performance of cars and make frequent style changes with the emphasis being on expanding its share of the market. Raff, however, believes that the marketing innovations at GM were effective only because they could exploit innovations within the factory. According to Raff, central to the strategies of the firms that were successful in the inter-war period were production plans that minimized costs and provided a practical foundation for marketing ideas profitably.

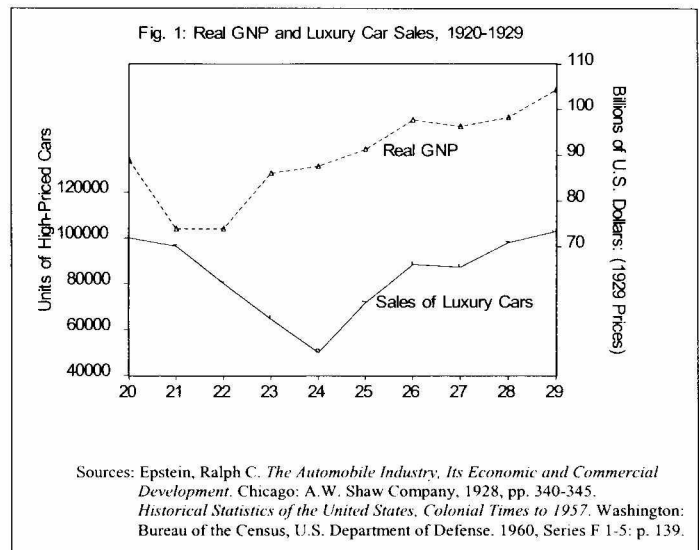
Raff's analysis concludes that GM's significant marketing innovations were effective only because they were made possible by innovation within the production process itself. The GM system differed from Ford in that it (GM) did not have machine tools dedicated to a single part or operation, but rather the operations were dedicated through jigs and fixtures which were less expensive to replace or update. The ability to quickly change jigs and fixtures made model changes less expensive. By following a common parts strategy across several lines of cars, but differentiating those lines through styling and design, GM achieved significant economies of scale. That

strategy, in turn, enabled GM to meet its competition with lower costs and, therefore, increase its market share.

The Luxury Car Market in the 1920s

Although The F.B. Stearns Company exited the automobile industry in late 1929 at the early stages of the Depression just after the stock market crash, those events were hardly the principal cause of the firm's demise. We argue that the failure of Stearns in 1929 was primarily a result of its methods of low-volume production, pride in heavy but expensive labor content, failure to introduce new products in the post World War I period, failure to adapt to changing manufacturing techniques, and luxury automobile market conditions. It seems to us that only those luxury automobile manufacturers able to achieve economies of scale and frequent product innovations were able to survive.

Analysis of the luxury car market in the 1920s must first take into consideration the short and long-term effects of the economic downturn of 1920-21. Figure 1 shows the decline in Real Gross National Product in 1920-21 and the subsequent economic expansion through most of the 1920s except for 1927. The slight 1927 downturn is often attributed to the national economic impact of the shutdown of the Ford Motor Company for six months to re-tool for the Model A. Figure 1 also shows that the sales of high-priced luxury cars declined sharply with the recession of 1920-21 and did not start to recover until 1924. Sales of luxury cars, which reached 99,978 units in 1920, did not exceed 100,000 units until 1929, when 102,752 were sold.



The downturn of 1920-21 led to changes in the automobile industry including the forcing out of W.C. Durant as president of GM. Pierre S. duPont became president of GM and relied on Alfred P. Sloan Jr., to put production and inventory control reforms into place. Sloan, who came to GM from a parts supplier purchased by GM in 1916, established a de-centralized form of administrative organization at GM. The car, truck, and accessories divisions retained autonomy and a general office of executives and advisory staff specialists maintained overall coordination, control, and planning. Sloan succeeded duPont as president in 1923. By the mid 1920s the GM management innovations became a model for American businesses.

While GM was reorganizing its management and production systems in the 1920s, Ford was running into difficulties. For example, GM's earnings of \$262 million, \$296 million, and \$265 million, respectively in 1927, 1928, and 1929 were 20 percent of sales in 1927 and 1928, and 17 percent of sales 1929. Ford, though, lost \$30 million in 1927 and \$71 million in 1928. Its earnings of \$91.5 million in 1929 were only 8 percent of sales. As the era of Ford's single model strategy of producing only Model Ts ended, GM was on the ascendancy with a full line of cars incorporating frequent styling changes.

GM's strategy also encompassed conscious exploitations of economies of scale and scope. GM achieved economies of scope by spreading fixed costs and tooling, design, and parts production costs over several production lines. Introduction of the Pontiac in 1926 was an important development in this strategy. Pontiac was designed to fill a price gap between the low-priced Chevrolet and the medium-priced Oldsmobile but had to share parts with Chevrolet.²

While GM was implementing its production and market strategies, most of the luxury car market was fragmented with several prominent producers. With the possible exception of Packard, throughout the 1920s none of these luxury car producers had annual rates of production sufficient to reap the benefits of significant economies of scale. Figures 2 and 3, which show production of luxury cars, including Stearns, in the 1920-29 period, also demonstrate that most luxury car builders had very low levels of output.³

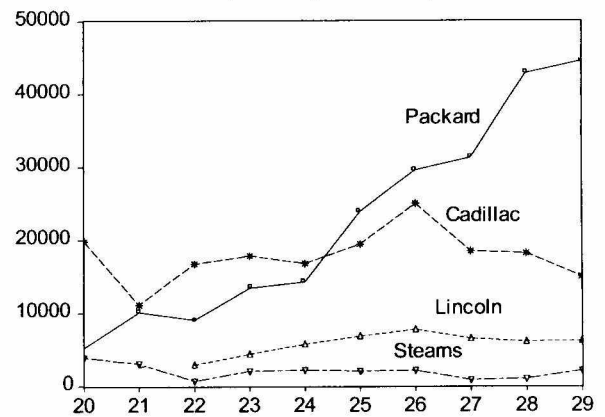
The dynamics of the luxury car market in the 1920s came after a period of relative stability in the pre-World War I era. Epstein (see "Research References" at the end of the article) concluded that the market for high-priced cars was essentially saturated during 1912-16. Demand for luxury cars, therefore, was principally a replacement demand during that time with the annual demand being an average of 17,400.

From 1917 to 1920, though, Epstein found that the demand for high-priced cars increased rapidly. By 1919, sales were over 35,000 and in 1920 about 100,000. According to Epstein, at least part of the reason for the sharp increase in demand for luxury cars was due to deflation in the price of cars in that period. He theorized that the reduction in the price of luxury cars permitted persons in lower income levels to become demanders of luxury cars.

Although the luxury car market weakened between 1921 and 1924 (See Figure 1), the relative increase of affordability of the high-priced cars at a time of general economic prosperity in the late 1920s brought with it recovery in the high-priced segment of the market. However, Figure 4 demonstrates quite clearly that Stearns did not participate materially in the growth in the luxury car market during that period its sales strengthened at the end of the 1920s.

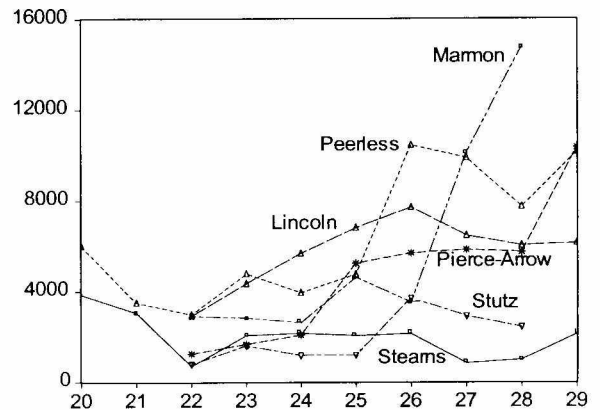
The luxury automobile producers for which a statistical association was tested were Stearns-Knight, Cadillac, Franklin, Lincoln, Peerless, Pierce-Arrow, and Packard. The sales of these makes were tested against the sales of all high-priced cars, the unemployment rate, per capita Gross National Product, and the prime rate of interest to see if any of these economic variables could be considered determinants of demand for the makes of luxury cars studied.⁴

Fig. 2: Stearns-Knight Sales compared to Packard, Cadillac, and Lincoln; 1920-1929



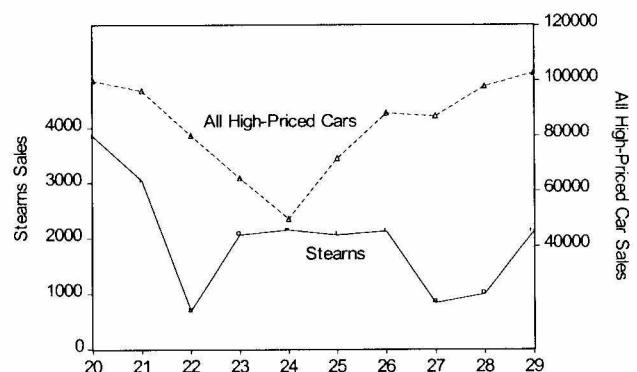
Sources: *The 100-Year Almanac and 1996 Market Data Book, Automotive News*, April 24, 1996, pp. 105-122. Stearns-Knight Data accessed at <http://www.aseltine-associates.com/SKSpec.html>, August 17, 2001

Fig. 3: Stearns-Knight Sales Compared to Several Smaller Luxury Car Manufacturers, 1920-1929



Sources: *The 100-Year Almanac and 1996 Market Data Book, Automotive News*, April 24, 1996, pp. 105-122. Stearns-Knight Sales Data accessed at <http://www.aseltine-associates.com/SKSpec.html>, August 17, 2001

Fig. 4: Stearns-Knight Sales Compared to all High-Priced Cars 1920-1929



Sources: *The 100-Year Almanac and 1996 Market Data Book, Automotive News*, April 24, 1996, pp. 105-122. Stearns-Knight Sales Data accessed at <http://www.aseltine-associates.com/SKSpec.html>, August 17, 2001

None of the macroeconomic variables were associated statistically with the sales of Cadillac or Franklin. Lincoln, Peerless, Pierce-Arrow, and Packard sales were associated statistically with Per Capita Gross National Product, indicating that expansionary economic conditions had a positive influence on the sales of these makes. Of these, only Pierce-Arrow, Peerless, and Packard had sales records that paralleled the high-priced luxury car market overall. Statistically that result is consistent with the fact that those three makes (the three "Ps") accounted for 63 percent of luxury car sales by the late 1920s. Falling interest rates are expected to lower the cost of borrowing and thereby encourage the purchase of consumer durable goods like cars. A statistically significant inverse relationship between interest rates and sales of Lincoln, Packard, and Peerless cars was found in the analysis. We conclude that the sales of a number of luxury brands, particularly the three Ps that were dominating the market (Packard had 44 percent of the market itself), were statistically associated in a predicted way with a number of economic variables.

The sales of Stearns-Knight cars, however, were not related statistically to any of the variables discussed in a way predicted by economic theory. What can be concluded from the graphical and statistical analysis is that in a period of a strengthening economy and luxury market, Stearns-Knight sales languished and the company was not keeping up in a market increasingly dominated by Packard, Peerless and Pierce-Arrow.

The F.B. Stearns Company Competitive Position

Stearns historians cite the concentration of The F.B. Stearns Company on a single four-cylinder model, the L-4, during the 1919-23 period as a serious strategic error on the part of Stearns management. The Stearns strategy contrasts with that of Packard which became the acknowledged dominant luxury car builder during the 1920s (see Figure 2).⁵ Packard introduced the twelve-cylinder Twin-Six in 1915 and continued it in production until 1923. However, Packard supplemented its product line with the lower-priced (but not "low-priced") Single-Six in 1920, which sold in the \$2,485 to \$3,575 price range compared to \$3,850 to \$5,500 for the last Twin-Sixes. Then, for the 1924 model year the Twin-Six was replaced by the Packard Single Eight (Straight Eight) in the \$3,650 to \$4,950 price range.

While Packard had a relatively broad product line, Stearns retrenched and, in 1920, abandoned the V-8 model in the \$2,575 to \$4,000 price range in favor of the L-4, which in its basic form could be purchased for about \$2,000 and at the upper end, was less than \$4,000. Not until July 1923 did Stearns reintroduce a six-cylinder car, and an eight did not reappear until 1927. The data summarized in Tables 2 and 3 give prices for representative models of Stearns and competitive luxury cars in the 1918-29 period.

Packard strategy went beyond its models and its pricing however. After World War I, Packard President Alvan Macauley became determined to modernize production processes and to reduce the amount of handwork and labor used to make cars. As a result, Packard invested \$10 million of war profits plus \$7.5 million raised through the sale of preferred stock in the company's production processes. The Packard modernization

program brought in many new machine tools and new standards of production precision with the objective of making automobiles by coordinated machine methods (*Fortune*, January 1937, p. 58). Between 1918 and 1926, Packard re-invested \$35.5 million or about 56 percent of its net profits in new production methods and equipment. Packard invested another \$30 million, or about 40 percent of earnings, in plant and equipment between 1926 and 1930 (*Fortune*, op. cit., p. 61). Packard's investment in its production capabilities paid off as the company's share of the luxury car market increased from 5 percent in 1920 to 44 percent in 1929.

**TABLE 2
STEARNS-KNIGHT RETAIL PRICES
REPRESENTATIVE YEARS AND MODELS: 1918-1929**

Year	Model	Price
1918:	Touring: SK-8 (5 passenger)	\$2,375
	Limousine: SK-8	\$3,875
	Touring: SKL-4 (7 passenger)	\$1,925
	Limousine: SKL-4	\$3,350
1919:	Touring 4 cyl.: 5 passenger	\$2,100
	Touring 4 cyl.: 7 passenger	\$2,465
1920:	Touring 4 cyl.: 5 passenger	\$2,450
	Limousine 4 cyl.	\$4,250
1922:	Coupe Brougham 4 cyl.	\$3,450
1926:	Touring - C; 5 passenger	\$1,875
	Coupe Roadster - C	\$2,185
	Five Passenger Touring Sedan - S	\$2,750
	Seven Passenger Touring Sedan - S	\$3,150
1927:	Four Passenger Touring (6 cyl.)	\$3,250
	Seven Passenger Sedan (6 cyl.)	\$3,550
	Seven Passenger Limousine (6 cyl.)	\$3,750
1929:	4 - Door Sedan 6-80 (5 passenger)	\$2,495
	Cabriolet Roadster 6-80	\$2,495
	Seven Passenger Limousine 6-80	\$2,945
	Five Passenger Sedan H-8-90	\$5,500
	Seven Passenger Limousine J-8-90	\$5,800
	Cabriolet Roadster H-8-90 (145" chassis)	\$6,100

Sources: Aseltine, Arthur, letter from Forbestown, California, April 25, 2002. Handbook of Automobiles, annual editions, National Automobile Chamber of Commerce, New York.

"Stearns-Knight Price List," January 20, 1920; January 1, 1922. The F.B. Stearns Co., Cleveland.

"Stearns-Knight Prices," October 15, 1928, Stearns-Knight Sales Corporation, New York.

Note: for several years in the 1920s, prices for Stearns-Knight cars were listed as "Prices Upon Application" in the Handbook.

The philosophy and experience of The F.B. Stearns Company contrasts dramatically with the capacity and

**TABLE 3
MAJOR COMPETING LUXURY AUTOMOBILES
SELECTED YEARS AND REPRESENTATIVE MODELS**

	1927	1924	1920	1918
Cadillac:				
Touring/Sedan	\$2,995	*	*	\$2,805
Limousine	\$4,350			\$4,160
Franklin:				
Roadster/Touring	\$2,365	\$1,950	\$2,700	\$2,000
Limousine/Sedan	\$2,940	\$2,950	\$3,750	\$3,200
Packard:				
Touring Salon/Phaeton	\$2,585	\$2,585	*	\$4,100
Limousine/Sedan	\$5,100	\$4,950		\$5,850
Peerless:				
Roadster	\$1,695	*	\$2,900	\$2,340
Limousine	\$2,995	*	\$3,900	\$3,690
Pierce Arrow:				
Touring	\$3,095	\$5,250	\$7,650	\$4,800
Vestibule Suburban/ Limousine	\$8,000	\$7,000	\$9,450	\$8,000

*"Prices Upon Application" statement in Handbook of Automobiles.

Source: Handbook of Automobiles, annual editions, National Automobile Chamber of Commerce, New York.

efficiency enhancing strategy of Packard. Stearns emphasized the low-volume output of its facilities as evidence of a mark of quality and craftsmanship. For a number of years in the early 1920s, the following statement (with minor modifications) appeared in Stearns sales catalogs:

For many years the Stearns-Knight has been built and is still being built under a unique system of intensive production. It is made in strictly limited quantities, because the building of any pre-eminently fine article is impossible to build on a large scale. The fixed policy is to build only a limited number of cars a day, in order to concentrate the powers of a large plant and organization on a small number of vehicles of the most superior sort. . . . In the days of hasty methods and large outputs the Stearns-Knight is built unhurriedly and accurately, under favorable conditions and atmosphere created by a fixed limited production.

Stearns invested only \$1.3 million in plant and equipment between 1917 and 1925. This must be examined in the context of competitors' strategies and the statement quoted above about Stearns' limited production philosophy. Was the statement referring to "intensive production" a marketing strategy to justify Stearns' inability to produce cars on a mass-production basis? Or, was it a statement of corporate philosophy? It is difficult to ascertain from available records which of these alternatives was, in fact, the case. Nevertheless, the reality under the Booker administration was that Stearns had not developed the products or an organization capable of

challenging competitors for the luxury market, such as Packard or Cadillac or even Peerless or Pierce-Arrow.

Unfortunately, Stearns did not publish reliable regular financial statements that include dollar sales data and income statements. Therefore, comparisons of its financial situation and profit re-investment strategy with those of other firms are difficult.

Tables 4 and 5 present balance sheet data that are available from annual reports and *Moody's Manual of Investments* for The F.B. Stearns Company for several years. No income statement was presented in the annual reports for those years. Table 5 gives limited data on sales information reported by Stearns on survey forms sent to the National Automobile Chamber of Commerce.

From early 1921 through 1924, Stearns earned a total of only \$341,344. With 190,000 shares of stock outstanding in 1921 and 1922 and dividends of \$4.00 per share in 1921 and \$2.50 per share in 1922, the total dividends paid for those two years was \$1,235,000. Then, the number of outstanding shares was increased to 260,000 in 1923 and 1924. Dividends paid in 1923 and 1924 were \$2.00 per share in each year. Therefore, the dividends paid from 1921 to 1924 were \$2,275,000, totalled 6.7 times earnings (670 percent). This certainly left very little cash available for re-investment and product development. The liberal dividend pay-outs may have pleased stockholders for a time but is in contrast to the 44 percent of earnings paid out in dividends by Packard and 67.7 percent, 49 percent, and 28.7 percent of earning paid out by GM in 1922, 1923, and 1924, respectively.⁶ Stearns' liberal dividend policy virtually guaranteed that the company would not have the funds to invest back into product or production capabilities.

Stearns' financial position in the early 1920s must be characterized as weak, even compared with some of the other independent luxury car manufacturers (See Table 6). Although Pierce-Arrow, Franklin, and Peerless had some periods of weak performance in the early 1920s, the evidence indicates they were in much better financial condition than Stearns as the decade came to an end.

Stearns did engage in some product development in the early 1920s. By 1922, its four-cylinder L-4 was becoming dated and it was apparent new models were needed to stimulate sales. A new 368-cubic inch six-cylinder sleeve-valve engined car called the S-Six on a 130-inch wheelbase was introduced in July 1922 for the 1923 model year. Sales increased in 1923 and 1924 (See Appendix A). In 1924, the model line was enhanced with introduction of the 121-inch wheelbase C-6-75 for the 1925 model year, with a 249-cubic inch engine. The new smaller six was available in the same six body styles as the four-cylinder Stearns-Knight model B-4 (the L-4 with a shorter wheelbase), but sales sharply decreased through 1926. Just before the New York Auto Show in January 1925, the power of the larger S-6 was increased from 66 to 70 horsepower.

However important and interesting the product developments were at Stearns in 1924-25, the most significant development occurred at the end of 1925. On December 15, John N. Willys, President of Willys-Overland Company, and some associates, acquired control of The F.B. Stearns Company. It was reported by the media that Willys and his associates paid

TABLE 4
THE F.B. STEARNS COMPANY FINANCIAL DATA
1921-1929¹

	1929	1928	1927	1926	1925	1924	1921
Operating Profit (Loss)	\$ (2,364,507.81) ²	\$ (279,725.82)	\$ (597,475.38)	\$ (589,309.53) ⁵	\$ (117,234.88) ⁶	\$ 341,344.21 ⁷	
Consolidated Surplus (Deficit)	\$ 3,166,412.12	\$ (801,904.31)	\$ (522,178.49)	\$ 75,296.89	\$ 409,890.33	\$ 527,075.21	\$ 185,7318
Includes Special Credits (Charges)		\$ 547,580.003	\$ 547,580.003	\$ 254,766.09			
Cash and Deposits	N.A.		\$ 34,835.58	\$ 56,736.37	\$ 27,604.10	\$ 17,752.14	N.A.
Inventory: Finished Cars	N.A.		\$ 83,640.60	\$ 81,761.61	\$ 290,441.22	N.A.	N.A.
Materials & Finished Parts		\$ 1,176,712.404	\$ 770,164.47	\$ 644,594.54	\$ 763,682.50		
Bonded Debt							
6 1/2% Gold Bonds (Unretired)	\$ 400,000.00	\$ 500,000.00	\$ 600,000.00	\$ 700,000.00	\$ 800,000.00	0	0

¹Balance Sheet data are as of December 31st of each year. Earnings data are annual.

²Estimated from Price-Waterhouse Audit of April 15, 1930.

³Unearned surplus in 1927, resulting from appreciation in value of land.

⁴Total of cars, parts, work in process.

⁵Includes \$80,591 for special advertising expenses and \$5,682.40 for commission on preferred stock sold. Loss before these items was \$503,036.13.

⁶Loss from operations was \$19,763.37.

⁷Cumulative profits April 30, 1921 to December 31, 1924; estimated from consolidated surplus accounts reported in *Moody's Analyses of Investments*. Profit and/or loss data not available for 1921.

⁸As of April 30, 1921.

Sources: *Consolidated Balance Sheets: The F.B. Stearns Company, Cleveland, Ohio: 1925-1928.*

Moody's Analyses of Investments, 1920 to 1925 editions, and

Moody's Manual of Investments, 1926 to 1930 editions; New York.

Price Waterhouse and Co., "Intermediate Account of the Directors of The F.B. Stearns Company, Dissolved Report and Accounts," April 15, 1930.

TABLE 5
THE F.B. STEARNS COMPANY FINANCIAL DETAILS: 1923-1926
(AS REPORTED TO THE NATIONAL AUTOMOBILE CHAMBER OF COMMERCE)

	<u>1926</u>	<u>1925</u>	<u>1924</u>	<u>1923</u>
Average number of employees	413	346	460	613
Wages and salaries	\$ 806,000	\$ 682,688	\$ 860,806	\$1,107,241
Average Wage/Salary	1,951	1,973	1,871	\$1,806
Costs of parts and materials	1,986,507	2,136,000	3,024,204	3,220,227
Wholesale value of parts sold	164,106	222,757	253,381	\$291,734
Wholesale value of cars sold	2,418,511	3,048,887	3,681,325	4,188,544
Average Wholesale value of cars sold	2,012	1,774	1,762	1,883
Production:				
Open Cars	213	212	405	817
Closed Cars	989	1507	1684	1407
Total	1202	1719	2089	2224

Sources: National Automobile Chamber of Commerce data sheets

"For Annual Statistical Review of The Automobile Industry," completed by The F.B. Stearns Company for 1923, 1924, 1925, and 1926; all signed by M.L. Henschen, Secretary.

TABLE 6: FINANCIAL DATA
LUXURY AUTOMOBILE MANUFACTURERS
1920-1929

	<u>1920</u>	<u>1921</u>	<u>1922</u>	<u>1923</u>	<u>1924</u>	<u>1925</u>	<u>1926</u>	<u>1927</u>	<u>1928</u>	<u>1929</u>
(Dollar Value in Millions of Dollars)										
Packard Motor Car Company										
Sales	58.9	30.8	38.0	55.7	46.0	60.5	77.4	71.7	94.7	107.5
Net Income	6.3	(1.0)	2.1	7.1	4.8	12.2	15.8	11.7	21.9	25.2
ROE ^a	13.2%	0%	4.8%	15.0%	10.8%	31.3%	34.1%	22.9%	36.2%	38.4%
Pierce-Arrow										
Sales									19.4	28.0
Net Income	1.8	(8.8)	(0.3)	0.4	0.8	1.6	1.3	(0.8)	1.3	2.6
ROE ^a	30.6%	0%	0%	8.6%	15.1%	20.1%	14.5%	0%	85.0%	68.7%
Franklin										
Sales	28.6	22.5	NA	21.3	NA	NA	NA	NA	NA	NA
Net Income	0.7	0.4	(1.3)	1.2	(0.8)	2.0	0.07	1.0	1.4	2.2
ROE ^a	10.6%	5.5%	0%	17.4%	14.8%	30.2%	1.2%	496.6%	22.6%	35.6%
General Motors										
Sales	567.3	304.5	463.7	698.0	568.0	734.6	1,058.2	1,269.5	1,459.8	1,504.4
Net Income	37.8	(38.7)	51.5	62.1	45.3	106.5	176.1	238.3	272.3	246.0
ROE ^a	11.9%	0%	14.1%	15.3%	10.4%	28.2%	33.6%	38.3%	37.8%	30.2%
Peerless										
Sales	14.9	12.1	16.0	21.0	15.5	17.4	19.3	14.0	11.9	10.1
Net Income	1.1	(0.1)	1.0	0.7	(0.9)	0.1	0.9	(0.7)	(1.7)	1.5
ROE ^a	10.2%	0%	8.6%	6.4%	0%	1.5%	9.4%	0%	0%	28.7%

^aReturn on Equity

Sources: Moody's Industrial Manuals, 1919-1930.

Seltzer, Lawrence H., A Financial History of the American Automobile Industry. New York: Houghton Mifflin Company, 1928, pp. 230-233, 250-251.

\$10 per share for controlling stock. Payment consisted of \$2 cash and interest-bearing notes calling for payment of \$4 in May 1926 and the remainder before the end of 1926. Willys purchased 150,000 shares of Stearns in the transaction (*The Cleveland Press*, Dec. 16, 1929). That meant he held a 57.6 percent interest in Stearns, which had 260,000 shares of common stock outstanding.

The announcement of his purchase of a controlling interest in Stearns noted that John N. Willys “has given the Knight motor the greatest development in America.” With production of over 214,000 cars in 1925, Willys-Overland was a volume producer of automobiles whose model line-up included the low-priced Overland and Whippet cars and the medium-priced Willys-Knight car. In buying a controlling interest in Stearns, Willys added to his stable of sleeve-valve cars the high-priced Stearns-Knight automobile, a car of luxury and quality.

At the time of the acquisition of his interest in Stearns, Willys indicated that the Knight products would continue to be marketed under the Stearns name. He was quoted as saying: “I have not at any time entertained the idea of changing either the identity of the Stearns plant or the Stearns product. That motor car will be a high class product, greatly refined and improved.”

George W. Booker, president of Stearns, echoed the new owner: “The Stearns car will continue to be manufactured and sold by The F.B. Stearns Company, operating independently as at present. There will be no merger with Willys-Overland.” It is the view of Stearns enthusiasts and historians that Willys was good on his word. Initially, Stearns continued to operate mostly independently of Willys-Overland and the cars Stearns built during the Willys era were among its finest and most luxurious. However, Willys did get involved in some engine sharing with, and marketing of, Stearns-Knight cars after 1927.

Willys chose an experienced industry veteran to run Stearns and to replace Booker’s administration. Hiram J. Leonard had been an executive of the Moline Plow Company when Willys-Overland bought that company in 1922. He was made a vice-president of Willys-Overland and then, in 1926, was brought to Cleveland to head Stearns (*The Cleveland Press*, May 18, 1948). He found out all too soon that the challenge confronting him at Stearns was of a large magnitude.

Stearns in Decline

In a letter to stockholders of The F.B. Stearns Company dated September 15, 1926, Leonard stated that:

Our operations . . . have not been profitable for the first eight months, as we have been balancing our inventory; cleaning up old models; cleaning up an accumulation of cars in warehouse thruout [sic] the country and otherwise putting our affairs in order, allowing us to introduce a new line of cars which we feel sure . . . will place us in a profitable position in the future).

At the time of the dissolution of Stearns in 1929, Leonard elaborated further on the condition of the company at the time Willys assumed control:

The management took charge of the company Jan. 1, 1926, at which time, although it was not known for months,

the company was practically bankrupt. The inventory was unbalanced, written up beyond its real value and its product scattered throughout the country in the hands of dissatisfied dealers. Large sums of money were owed to banks and the company was involved in considerable litigation.

There was outstanding \$800,000 in bonds calling for retirement of \$100,000 a year. The plant and equipment were in a deplorable and disorganized state, which required an expenditure of substantial sums to render it usable. Fixed charges and bond retirement required in principal and interest approximately \$150,000 a year. Taxes totaled \$60,000. Insurance and other charges brought these charges to about \$500,000 a year.

Given what Leonard and Willys discovered, it must be concluded that Willys paid too much for Stearns at \$10 per share. During the first week of December 1925, stock in Stearns was being sold at \$6.25 per share, with the “Bid” being \$6 and the “Ask” being \$7. By December 15, 1925, the day of the Willys acquisition, the “Bid” was \$7.25 and the “Ask” was \$8. The rise in price in early December 1925, therefore, was undoubtedly a result of Willys acquiring shares. *The Cleveland Plain Dealer* reported that the investors from 1917 (including Booker, Wick, Tolles, and Kraus) were the largest stockholders when Willys bought into Stearns. These undoubtedly were the stockholders who sold large blocks of Stearns shares to Willys, and after 1925 these names do not appear on the list of directors of Stearns.

Figure 5 shows the progress of Stearns stock on a quarterly basis in the 1920s. Financially, it is clear that John N. Willys took a risk in investing in Stearns. By the time he liquidated his holdings in mid-1929, the price of Stearns stock was being quoted on the Cleveland Stock Exchange at only \$3 a share. Figure 6 illustrates graphically how stock in Stearns performed in the 1920s in comparison with the stock of three other independent luxury car makers, Packard, Peerless, and Pierce-Arrow. Stearns stock under-performed its competitors and in the end virtually collapsed.

It is difficult to make definitive conclusions why Willys did not undertake more rigorous due-diligence prior to

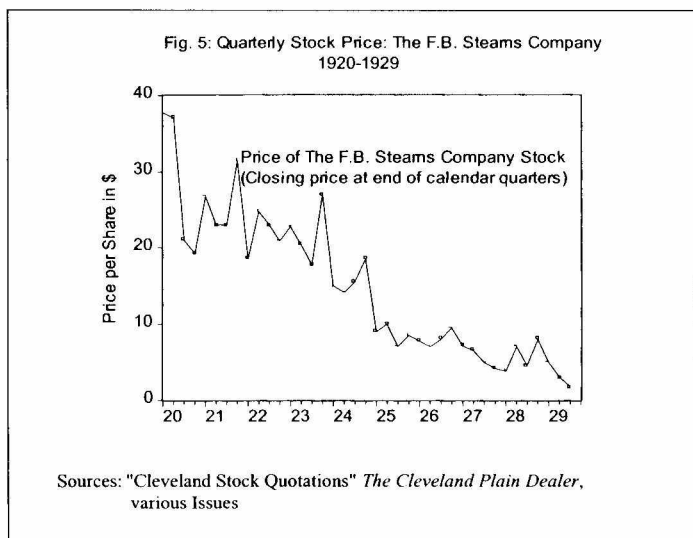
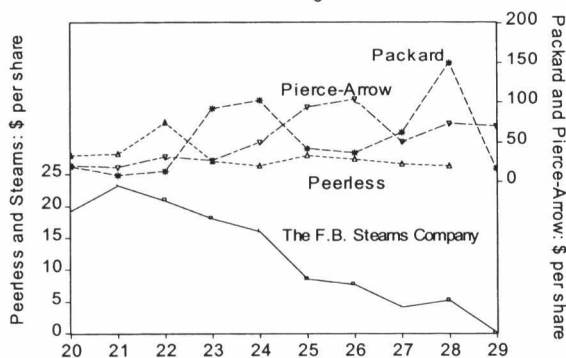
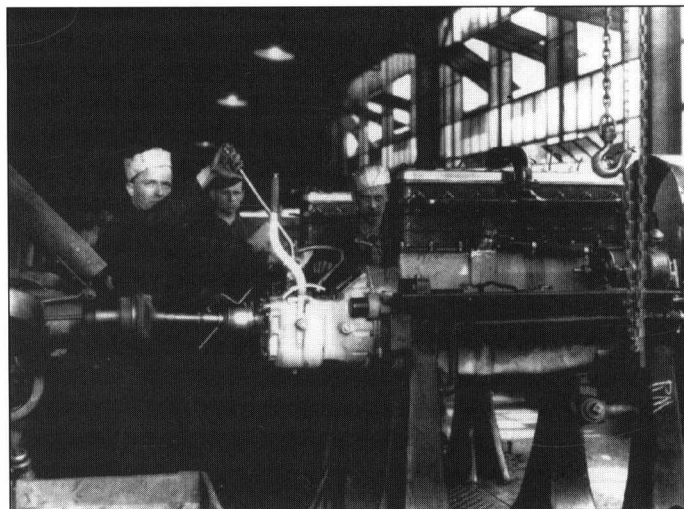


Fig. 6: Stock Prices: Major Independent Luxury Auto Makers
1920-1929: Year-end Closing Prices

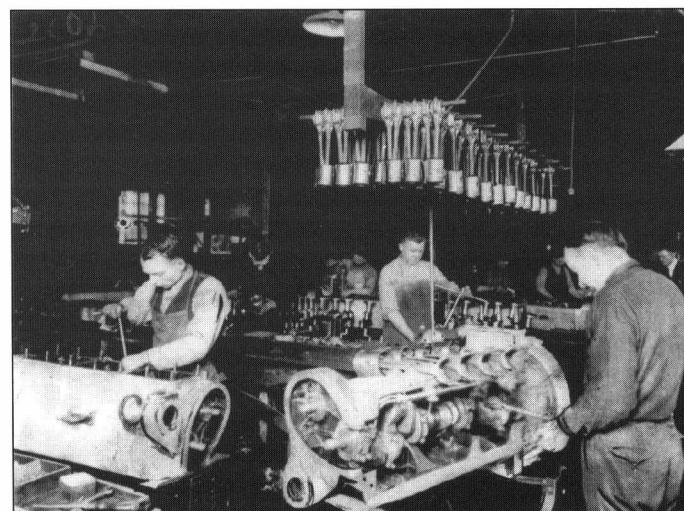


¹ Packard graphical data based on year-end closing price, 1923-1928 and average annual price 1920-1922

Sources: *Moody's Industrial Manual*, various issues 1920-1930, and *The Cleveland Plain Dealer*, various issues 1920-1930.



Testing the Stearns-Knight eight-cylinder engine, c. 1927



Stearns-Knight engine assembly, 1920s

his purchase of control of Stearns. Statements by Leonard and the financial evidence indicate that things were in far worse condition at Stearns than had been realized. The only logical conclusion is that Willys had a strong desire to add the Knight-engined luxury Stearns-Knight to his stable of products and, perhaps, wanted Knight patent rights held by Stearns.

As desperate as Stearns' financial condition was, the company still managed to build some of its most luxurious automobiles during the involvement of Willys in the company's affairs. The new management discontinued production of the old four-cylinder line and after the 1926 model year, also discontinued the small Model C-Six. In the September 15, 1926 letter to stockholders, Leonard indicated Stearns had put in production a "new line of cars" that "we [the company] believe will be salable and be a credit to the reputation of this Company."

The new line introduced in September 1926 was the Model D series 6-85. The car had an updated version of the larger sleeve-valve six used in the model S-6-95, and a wheelbase of 137 inches. The model line featured longer, lower bodies in ten styles. During the 1927 model year the engine in the Model D-6-85 was redesigned to incorporate seven main bearings, which was considered a requirement for luxury cars of that era.

In January 1927, a new Stearns-Knight eight, the Model G-8-85, rated at 100 horsepower (compared with 82 h.p. for the six cylinder D-6-85) was introduced. The engine was of sleeve-valve straight-eight design with nine main bearings. That engine was retained for the remainder of the company's history. In 1928 horsepower increased to 112, in 1929 to 120, and for the few 1930 models produced, to 125.

In the annual report for 1926 (February 1, 1927), Leonard was cautiously optimistic about the future of the company and its new products. However, he observed the Stearns-Knight distributor and dealer organization was "in a state of stagnation or discouragement and with a financial condition parallel to that of this Company so that . . . the results

[were] much more unsatisfactory than might have been anticipated."

The new Stearns-Knight eight had the same 137-inch wheelbase chassis as the Model D Series 6-85. In 1928, a 145-inch wheelbase chassis became available for the seven-passenger models (designated the Model J, Deluxe 8-90) with five-passenger cars continuing to be produced on the 137-inch chassis (designated the Model H, Deluxe 8-90). Custom bodies, principally by Brunm, were available on these models.⁷

Another new model introduced in May 1928 was a smaller, updated and improved 255-cubic inch six-cylinder engine with 70 horsepower. This model was the first major cooperative production effort between Willys and Stearns-Knight. The engine and chassis were made in the Willys-Knight plants and used in the Willys-Knight Model 66-A beginning in 1927. Stearns designed the engine and chassis, and built the bodies for the Stearns-Knight 126-inch wheelbase Model M and 134-inch wheelbase Model N. In a price range of \$2,195 to \$2,645, the Models M and N were designed to compete in a somewhat lower-priced segment of the luxury car market. The eight, for example, had a price range of \$3,950 to \$5,250 on the

137-inch chassis. The chassis alone on the 145-inch wheelbase cars ran \$4,500 to \$5,800 to which, of course, the cost of the custom body had to be added .

As shown in Appendix A, production of Stearns-Knight cars was disappointing in both 1927 and 1928 with only 828 and 991 cars made respectively. Output in 1929 increased to 2,118, but the problems were accumulating. Table 4 shows that in the 1925-29 period, which is after Willys bought into Stearns, the firm operated at a deficit. By 1927, the consolidated accumulated surplus had converted to a deficit. And even those numbers were artificially inflated by over a half million dollars reflecting estimated appreciation in the real estate owned by Stearns.

When Willys took control of Stearns, he did not participate in active management for two years. However, a series of events occurred in late 1927 that suggest Willys began to take a more active role in Stearns and that he may have been concerned about both the structure and performance of the company. On October 15, 1927, Lawrence E. Corcoran, general sales manager of Pierce-Arrow, was appointed sales manager of Stearns. Corcoran had more than 20 years of experience in automobile merchandising. At Pierce Arrow, he was particularly effective in building the dealer organization. Regarding his appointment, Stearns president Leonard stated: "The addition of Mr. Corcoran will increase the growth which our company is enjoying, particularly because his experience lies fully within the special field reached by the Stearns-Knight product" (Press Release No. 66).

Then, on December 9, 1927, O.T. Lawson, Stearns production manager since 1925, was named vice president and member of the board of directors. According to press accounts, his position was a newly created one and his responsibilities included taking charge when president Leonard was away (*The Cleveland Press*, December 9, 1927). A reasonable hypothesis might be that more management depth was believed to be required at Stearns, and given his experience (which included stints at Bendix Brake Company and Stephens Motor Co.) Lawson could provide that. Leonard continued as president all the way through the liquidation proceedings into 1930.

A more active role for John North Willys in Stearns affairs became quite clear with the creation of the Stearns-Knight Sales Corporation in December 1927. The press release announcing the creation of the new company contained the following statement:

The announcement of the new sales corporation, which will be an auxiliary to the parent company, was made by H. J. Leonard, president of The F. B. Stearns Company, following a conference with John N. Willys, president of Willys-Overland, Inc., at Toledo, Ohio (Press Release No. 72).

The press release went on to say that creation of the Stearns-Knight Sales Corporation was part of a large expansion program planned by Stearns-Knight for 1928. "This move will prove an important factor during 1928 in establishing for the Cleveland manufacturer an even more distinctive and individual position in the quality car field than it holds today." The specific role of the Stearns-Knight Sales Corporation was to take over the sales, servicing, and advertising of Stearns-Knight cars (See 1928 ad, page 19). John N. Willys became board chair of the new

company (a position he did not hold in The F. B. Stearns Company of which he was not even a director). H. J. Leonard became president of the new Stearns-Knight Sales Corporation and L. E. Corcoran was made general sales manager (*Automotive Industries*, Dec. 3, 1927).

It is interesting that Willys took a more active role in the Stearns-Knight Sales Corporation than he had in The F. B. Stearns Company itself. We can only speculate on his reasons because the available record is not helpful in determining his motives for this action. We suggest that Willys became more active in Stearns because of the firm's rapidly deteriorating financial position. Willys, president and board chair of Willys-Overland, had a reputation as an astute businessman. He may have seen the formation of Stearns-Knight Sales Corporation as a means of reinvigorating the marketing efforts for Stearns-Knight cars and offering, thereby, a chance to return Stearns to profitability.

At the time Willys took a financial interest in Stearns, he had stated that "Stearns would be entirely separate from Willys-Overland." The component sharing of Stearns-Knight and Willys-Knight cars already has been discussed, so clearly, Willys was also aiming for some integration of the two firms' operations. Another indication of that was creation of the Stearns-Knight Sales Corporation as a subsidiary of Willys-Overland rather than of Stearns (The 1929 and 1930 *Moody's Manual of Investments* discussion of Willys-Overland listed Stearns-Knight Sales Corporation as a subsidiary of Willys-Overland but made no mention of The F. B. Stearns Company itself. (*Moody's*, 1929, p. 1256 and 1930, p. 1891). At least in the marketing aspects of its operations, Willys appears to have asserted himself more than in the day-to-day production operations of Stearns.

Throughout the late 1920s, Leonard continued to be optimistic about the prospects of Stearns. In February 1928, he reported to stockholders that the number of sales personnel had been increased in 1927 (undoubtedly reflecting creation of the Stearns-Knight Sales Corporation). He also stated that sales campaigns were successful throughout the country and in export markets which had helped to strengthen weaker distributors. In addition, the number of dealers had increased, which he believed would strengthen the company's position in 1928 (The F. B. Stearns Co. Annual Report, Feb. 13, 1928).

In February 1929, Leonard was even more optimistic. He reported that in 1928 the number of distributors had increased from 41 to 64, "with a large increase in the number of dealers operating under them" (The F. B. Stearns Co. Annual Report, Feb. 15, 1929). He also reported that the number of cars shipped from the factory in 1928 was 1,576 compared with 1,016 in 1927. Included in that number was a sizeable increase in exports from 37 in 1927 to 83 in 1928. Leonard also stated that the Stearns balance sheet as of December 31, 1928 showed an improvement over the previous years. This comment by Leonard is puzzling because the company's surplus (deficit) account deteriorated from 1927 to the end of 1928 (See Table 4).

Financially, the serious condition of Stearns was reflected in its policy toward its preferred stock. As of December 31, 1928, no dividends had been paid on its



For those who appreciate supreme achievement

THE ULTIMATE along a given line of endeavor is immediately appreciated by the connoisseur. Into the keeping of such discriminating individuals the art treasures of the world eventually find their way.

Only that which is superior—which is the result of true inspiration and persevering effort can win the recognition of this group. Their books are first editions, their paintings originals. In the stables are thoroughbreds—and in the garages—invariably a Knight-motored car—and usually a Stearns-Knight.

Knight motors, both in Europe and America, have set a pace in performance and in quiet, easy operation that far outdistances any other type of motor. Stearns was the American pioneer of this famous sleeve-valve engine, and now offers the exclusive combination of the Knight Motor and the Worm Drive Rear Axle.

Likewise, Stearns body design has set a standard of luxury, has attained an ideal of beauty that proclaims the craftsmanship by which the distinctive models were created and executed.

In this age of keen competition, it remained for Stearns to combine, with a master touch, the greatest of all motors and the most artistic and individual of all coachwork. The result may rightfully be called supreme achievement and deemed worthy to rank high among one's most treasured possessions.

STEARNS-KNIGHT SALES CORPORATION, CLEVELAND

JOHN N. WILLYS, *Chairman of the Board*

H. J. LEONARD, *President*

Stearns-Knight

Motor Cars of Quality



Footnotes

1. This argument was suggested but not developed by Menno Duerksen in his 1984 six-part series on Stearns-Knight in *Cars and Parts* in 1984 (Duerksen, Part VI, p. 46).

2. See Raff, pp. 741-742, for an extensive discussion of General Motors Executive Committee minutes, which discuss this point.

3. Data for all luxury makes on a consistent year-to-year basis in this time period were not available. One notable make whose output is not covered for lack of data is Duesenberg. Others include Locomobile and Winton (both of which exited the industry in the 1920s).

4. Statistical association by itself does not imply causation. However, the macroeconomic variables chosen for the study can reasonably be expected to have an influence on the

sale of consumer products and thus were included in the analysis.

5. See *Fortune's* article on General Motors, December 1938, p. 150 for discussion of Packard's dominant position relative to Cadillac.

6. General Motors had a deficit in 1921.

7. Over the years a number of coachbuilders including Baker Rauch, & Lang of Cleveland, Brunn's Carriage Manufacturing Company of Buffalo, Phillips Custom Body Company of Warren, Ohio, and Witham Body Company of Amesbury, Massachusetts, made custom bodies for Stearns-Knight cars. (For this information, the authors are indebted to Marián Šuman-Hreblay of the Slovak Republic who is working on a dictionary of world coachbuilders.)

APPENDIX A: STEARNS-KNIGHT MODEL YEAR OUTPUT 1912 - 1930^a

Model Years	Model	Series	Model Code	Starting Serial Number	Ending Serial Numbers	Total Made
1912	FOUR			5000	5875	876
1912 Total						876
1913	FOUR			6000	6412	413
1913	SIX			8000	8327	328
1913 Total				741		
1914	FOUR			6500	6800	301
1914	SIX			8328	8728	401
1914 Total					702	
1915	FOUR			7000	7039	4
1915	SIX			9000	9109	110
1915	L	L-4 (Light 4)	L	1	702	702
1915 Total						852
1916	L	L-4 (Light 4)	L	703	2800	2098
1916	EIGHT			10000	10900	901
1916 Total						2999
1917	L	L-4 (Light 4)	L	2801	4744	1944
1917	EIGHT			10901	12078	1178
1917 Total						3122
1918	L	L-4 (Light 4)	L	4745	5901	1157
1918	EIGHT			12079	12350	272
1918 Total						1429
1919	L	L-4 (Light 4)	L	5902	7102	1201
1919	EIGHT			12351	12403	53
1919 Total						1254
1920	L	L-4 (Light 4)	L	7103	10952	3850
1920 Total						3850
1921	L	L-4 (Light 4)	L	10953	13999	3047
1921 Total						3047
1922	L	L-4 (Light 4)	L	14000	14693	694
1922 Total						694

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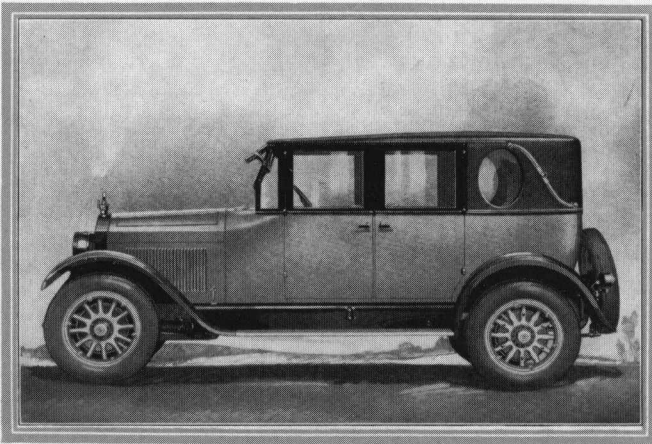
APPENDIX A: STEARNS-KNIGHT MODEL YEAR OUTPUT 1912 - 1930^a (cont'd)

Model Years	Model	Series	Model Code	Starting Serial Number	Ending Serial Numbers	Total Made
1923	L	L-4 (Light 4)	L	14694	15003	310
1923	S	SIX	S	1	1753	1753
1923 Total						2063
1924	S	SIX	S	1754	2692	939
1924	B	B-4 (Big 4)	B	1	1213	1213
1924 Total						2152
1925	S	SIX	S	2693	2905	213
1925	B	B-4 (Big 4)	B	1214	1315	102
1925	C	6-75	C	1	1249	1249
1925	S	6-95	S	2906	3399	494
1925 Total						2058
1926	B	B-4 (Big 4)	B	1316	1393	78
1926	C	6-75	C	1250	1808	559
1926	S	6-95	S	3400	4460	1061
1926	D	6-85	D	1	433	433
1926 Total						2131
1927	F	6-85	F	600	1089	490
1927	G	8-85	G	1	338	338
1927 Total						828
1928	F	6-85	F	1090	1541	452
1928	G	8-85	G	339	641	303
1928	H	DeLuxe 8-90	H	15650	15695	46
1928	J	DeLuxe 8-90	J	11650	11772	123
1928	M	6-80	M	21550	21571	22
1928	N	6-80	N	51550	51594	45
1928 Total						991
1929	H	DeLuxe 8-90	H	15696	15976	281
1929	J	DeLuxe 8-90	J	11773	12037	265
1929	M	6-80	M	21572	22610	1039
1929	N	6-80	N	51595	52127	533
1929 Total						2118
Grand Total						31907

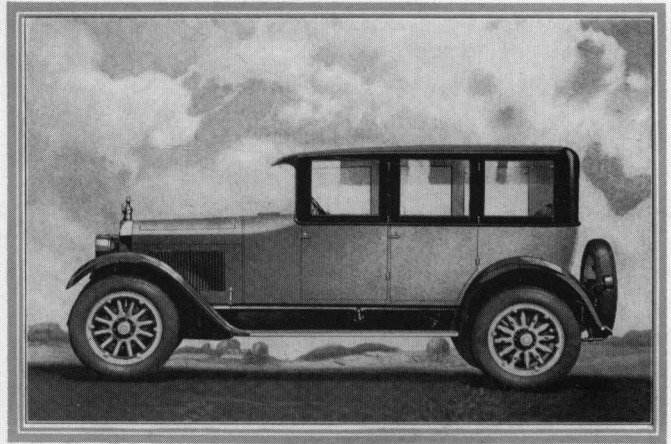
a. No reliable source for serial numbers on pre-1912 non-Knight Stearns models exists. In "The 100 Year Almanac and 1996 Market Data Book" published by *Automotive News* on April 24, 1996, pp. 105-106, some sales figures are given for 1901-1911 models. However, these are not believed to be accurate by Stearns historians and, thus, are not reported here.

b. Stearns-Knight production ended December 20, 1929. The last units produced were 1930 models. However, no data are available on the serial number break between 1929 and 1930 models. The Stearns-Knight Corporation listed the last serial numbers produced as H15976 and J12037.

Source: 1912 to 1929 data courtesy of Arthur Asetline at "The Stearns and Stearns-Knight Motor Cars," <http://www.asetline-associates.com>

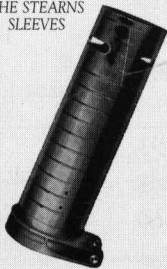


5-Passenger Brougham



5-Passenger Sedan

THE STEARNS SLEEVES



For silence, power and economy no poppet-valve engine can equal the Knight. For long life, absence of vibration and continuous service, no Knight engine can equal the STEARNS.

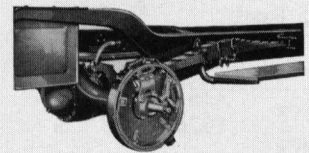
THE sleeves are two cast iron tubes, machined and finished with almost unbelievable precision to slide within the cylinder proper. These sleeves are provided with port openings and when the sleeves are actuated by the eccentric shaft these openings are opened and closed, remaining open for the correct duration of time to admit the full fuel-charge; closing at the explosion and opening again at that period of the stroke when the burnt gases are expelled. Upon this accurate timing depends much of the efficiency of the Stearns Engine.

Front springs are forty inches long and two and a half inches wide. Although spring dimensions may mean nothing to you, they do mean a lot in easy riding

STEARNS cars are equipped with the widest springs used on any passenger car, being 2-1/2" wide. The front springs are unusually long. These are the two distinctive features of the Stearns spring-suspension which promote easy riding, and eliminate the bobbing or choppy action unpleasantly familiar to many motorists.

The rear springs are of the cantilever type, acting both as shock absorbers and snubbers, as well as affording that feeling of security, absence of sway and general riding-comfort.

SPRINGS AND SUSPENSION



1925 Stearns-Knight Model C (from the editor's collection)

The text in the left column discusses the famous sleeves.

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The Cole is Equal to The Sum of Its Parts and Greater Than Any One of Them!

by Leroy D. Cole

Introduction

This article will introduce you to the Cole motor car and the manufacturing principles of its founder, Joseph Jarret Cole, better known as J. J. Cole.

J. J., like many men in the early automobile industry, came off the farm and entered the buggy business or some other manufacturing process that came out of the industrial revolution. Cole's first car, produced and sold in 1909, was a high wheeler, a step up from a horseless carriage. By June 1909, he and chief engineer, Charles Crawford, had developed and were building the 1910 Cole 30 Flyer. This was a modern automobile which went on to win many races in 1909 and 1910 including the Vanderbilt Cup. Cole did not manufacture any of the major parts of his car. In this he limited himself to what he did well in the carriage business i.e., the upholstery, the paint and finish of bodies and the assembly.

By January of 1913 he was using the term "Standardized Car" and in July of that year ran a six-page ad in *The Saturday Evening Post*, in which he defined his philosophy of automobile manufacturing. Several company booklets spoke to that end before 1913, and, because the Society of Automotive Engineers (S.A.E.) had pushed for standardization on common parts, that term already denoted the benchmark of the industry. By late 1924, J.J. decided to exit the motorcar business and began liquidation in 1925. August of that year saw his untimely death and his son, J.J. Jr. took over the winding down of the business and redirected the company resources into other ventures.

The Million Dollar Conference

Cole called the first ever "General Sales Convention," October 8-9, 1912, to talk to his dealers about quality and salesmanship. The following year, he convoked the "Million Dollar Conference" of auto parts suppliers on July 17-18, 1913, whose object was to define economic standardization in its relation to the public.

Many of the companies represented at the Conference already supplied parts to Cole: Northway motors, Mayo radiators, Timken axles and bearings, Stromberg carburetors, Spicer universal joints, Gemmer steering, Detroit Steel Product springs, Firestone Tire & Rubber Co., Janney-Steinmetz gas tanks, Warner speedometers, Taylor tire pumps, and Delco self-cranking, lighting, ignition, and horn (the company being represented by C.F. Kettering).

According to the "Standardization Number" of *The Cole Bulletin*, J.J. Cole began the Conference by saying that:

The object of the conference is to ascertain how best to scientifically handle the problems of volume and overhead which lie at the bottom of all quality increase combined with cost reduction. In other words, the conference is called

for the purpose of analyzing economic standardization with relation to the automobile. The idea of the standardized car is to obtain the best possible parts *in big, vital units* from the recognized *specialist* in each instance and to blend these parts into a harmonious, mechanical whole. The fact that each *specialist* is recognized as the standard among his kind insures maximum quality. And the fact that in each instance these *specialists* buy in vastly larger quantities than their competitors insures cost reduction (emphasis supplied).

Cole continued:

This conference marks an epoch in the automobile industry. The first work of the automobile builder was to drive the pistons at any cost. We have now, however, arrived at a time when we must take up the conscientious study of price reduction. And bear in mind that at the same time we are reducing price we must be consistently increasing quality. These men represent the best that the automobile industry at this moment knows about building component parts of good motor cars.

In the glossary of the automobile industry specialization and quality are interchangeable. These men are *specialists* – each has selected for himself a problem and has mastered that problem. Each has given 100 per cent of himself to the particular motor car unit for which society is holding him responsible. Each has earned for himself the distinction of being the recognized best in his individual line. It is to these men that the user is looking for the quality which goes into his car, and for the preservation of his bank roll (emphasis supplied).

No man need defend the gospel of specialization. It is generally accepted as the only avenue whereby quality can be built up and price pushed down. . . .

The big part that the Cole organization plays, therefore, in addition to selecting only standardized parts, consists in organizing them and adapting them to each other so that the Cole when finished is an institution within itself and not simply a haphazard aggregation of parts.

Cole then presented "Mr. Reeves" of the Curtis Publishing Co. who spoke glowingly of a six-page advertisement about the Cole car to appear in the following week's issue of *The Saturday Evening Post*. Homer McKee, Cole's director of sales and advertising, recounted the development of the ad. We will examine the ad in some detail later in this article.

One of the purposes of the Conference was to allow Cole's suppliers to present views regarding the quality of their products, and at this point the floor was turned over to them. A Timken representative observed that the large quantity of axles

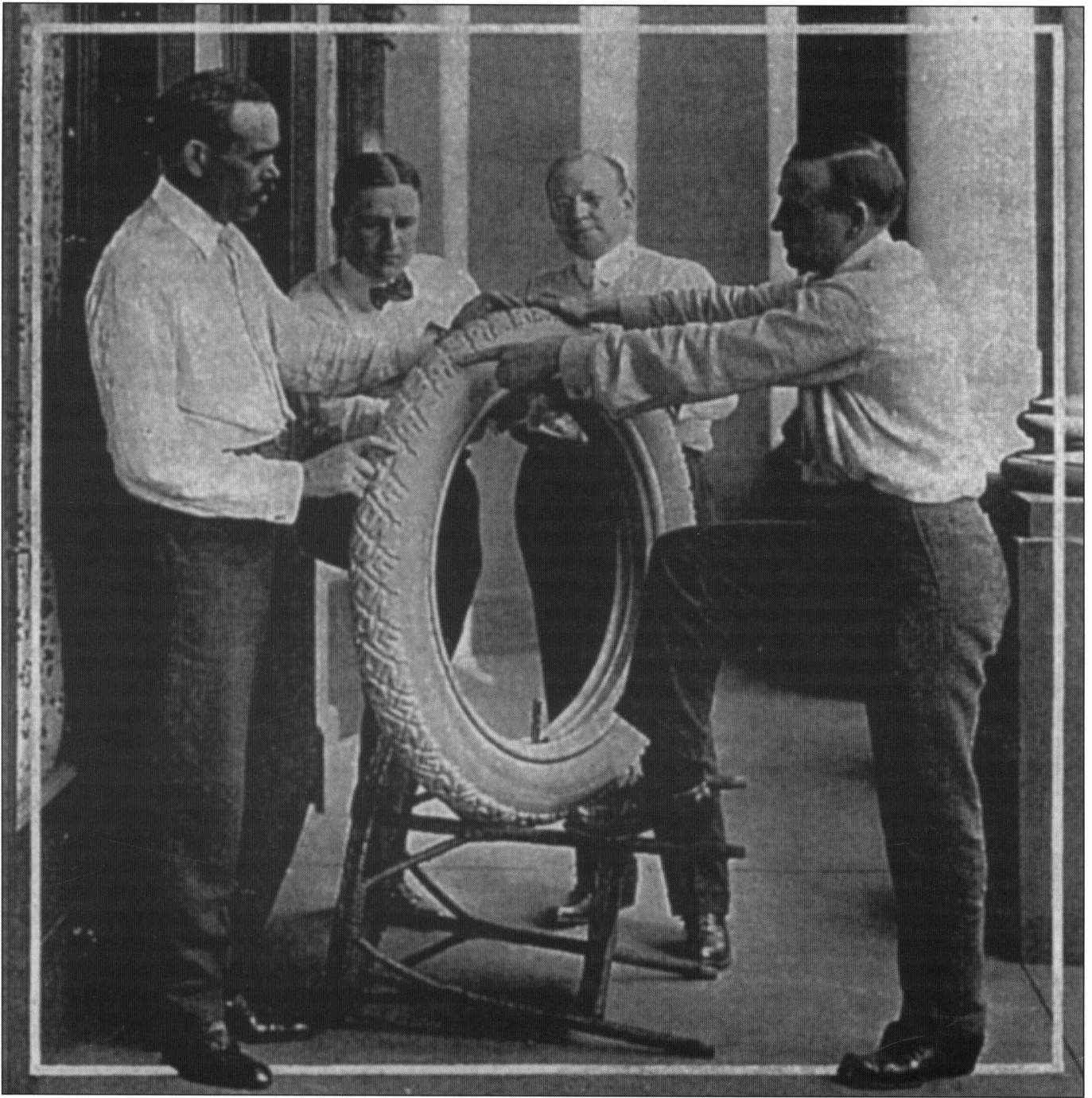


Fig. 1 – At the Conference: Harvey Firestone explaining to J.J. Cole the theory of Firestone non-skid tires.

the company manufactured allowed them to buy “materials of the very best quality at the lowest price.” Another Timken representative recounted that the company “maintained all of their working gauges by the use of the well-known Swedish standard block gauges.” F. H. Knobloch of Northway Motor and Manufacturing Company commented on the importance of periodic replacement of machinery and the need to ensure that the inspection department was independent of the production department.

The second day continued in the same vein. Supporting J.J. Cole’s philosophy, “Mr. Steigner,” the president of

Stromberg, spoke of “how impossible it is for a manufacturer of a motor car to produce a carburetor at anywhere near the same price that [Stromberg] is able to build it,” because of the cost of the specialized machinery involved. Steigner pointed out that standardized units made in large quantities can be purchased more economically than the manufacturer could make them himself. J.J. Cole summed it all up with the comment that there was no one man in the world “who was master of the intricacies of the automobile, and the maximum service value in automobile parts could only be arrived at by the intelligent co-operation of specialists in each line of engineering.” (Fig. 1)

The Six-Page Advertisement

Cole's six-page advertisement appeared in the July 26, 1913, issue of *The Saturday Evening Post*. It cost the company \$30,000 (Fig. 2). Pre-publication copies were given to the attendees at the Conference the week before, to reinforce J.J. Cole's manufacturing philosophy and to introduce the new Series Nine.

In the ad, Cole highlights his philosophy and presents his argument. He compares the history of the automobile to the history of other products: steam engines, electricity, phones, and other innovations. He notes that industries soon shake out and the cream rises to the top. The "top" becomes the standard and therefore it is the best, the benchmark, the standard of its kind. Cole observed in his review of the history of the automobile that:

You and I and everybody else have heretofore known of only two types of motor car – the manufactured and the assembled.

Any car built by a single group of men, under a single roof, was called a "manufactured car." Any car put together under a single roof, after the parts had been collected from various outside sources, was called an "assembled car." But things move fast in the automobile industry.

When these two original types became modified, the good points of each were preserved. Newer and better systems of manufacture were added.

A big fundamental thought has been introduced. This thought was "build from nothing but the recognized bests – and it makes no difference where these bests come from so long as you get them."

This new principle of construction was worked out by the Cole Motor Car Company, of Indianapolis, originators and builders of The Standardized Car.

A Standardized Car is any car built entirely of perfectly inter-related standardized parts – a standardized part being *any part which has been built so well that it has been accepted as the standard whereby all other similar parts are measured* (emphasis added).

Cole then asked the reader "How you may know a standardized part when you see it?," and answered:

You recall having known, at some time in your life, some man who was so good, so true, so capable, that for the rest of your natural days you will invariably measure every man you meet by him. He is therefore your standard man. You may have had a certain motor under the hood of your car, at one time, which was so powerful, so dependable, so quiet, that you will henceforth compare all motors by it. This motor is therefore your standard motor.

The same is true of a radiator or a steering gear – there is always one you consider best. Now what pleases you in a motor car will please others, for we all expect the same things in the motor car – efficiency, service, economy, quietness, beauty, and grace. People finally reach an agreement on all big questions. In motor cars the judgment of the people is the composite judgment of the user and the engineer.

The people buy all the cars in the world – they drive them hard – they break everything that will break – wear out everything that will wear out. When they get through they have stopped guessing what parts are best – they know.

Now if it is possible to know what parts are best, and you are trying to build the best possible motor car, there is no way around it – you simply must get those parts or you can't build the best possible motor car. This is precisely the Cole idea.

To illustrate his point, Cole listed "the parts which have been built so well they are now standard" (Fig. 3).

We've seen already that a mainstay of Cole's philosophy was to buy the best, the best being those units produced by experienced, knowledgeable, successful specialists. Cole's ad continued by asking "How the Cole finds out what parts you consider standard?" The answer was:

When a new Cole is about to be built, a conference of all Cole distributors is called in Indianapolis, and these men, who at all times are close to the people – to you – agree with our engineers what the car ought to be in order to give complete satisfaction. Every part of the car is discussed, and in this conference the entire sentiment of the motor using public is concentrated. If you have condemned a given motor car unit, your envoy, the Cole representative from your territory, will likely vote against the part you have judged "Not standard." If you have praised a certain part, this man will be influenced in its behalf; your opinion will tend to prove to him that among its kind it is your standard.

Now the voice of every other motorist gets into this Cole standardization conference in just the same way, so that when a complete set of parts is finally agreed upon, the standardized car, which will be built out of them, will be actually built to fit your personal needs. In an indirect way you have helped build this Cole. That's why a Cole owner will fight for his car – it is the mechanical embodiment of his own judgment.

The ad continued by stating, in essence, a policy of partnership with the supplier:

You have noticed that the parts of the Cole have been referred to as *units*. A motor car unit is any part which performs a single mechanical function. The aim of any intelligent builder of anything is, first to reduce his product to its simplest units, and then associate the various units in absolute harmony. The Cole Motor Car Company buys parts in vital units – and these units come from the part maker to the Cole, crated, oiled, tested, inspected and in a *state of final assembly* (emphasis supplied).

That is why the Cole Motor Car Company could not call its product "Assembled."

The fact is, every unit is assembled by the specialist who builds it – each specialist knows best how to get that absolute precision demanded by the Cole – because his unit is the child of his own brain and hand and therefore particularly obedient to his control.

The tangible proof of this was the Series Nine Cole for 1914 (Fig. 4).

Cole - "The Standardized Car"

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THE AUTOMOBILE

July 24, 1913

Why did COLE buy the BIGGEST AD ever printed?

Why did he literally buy the most expensive advertising medium in the world by the yard?

Why did he spend \$30,000 in one smash?

He did it for—YOU

COLE has always been the strongest champion of the automobile dealer in America. Cole has always contended that the foundation of the automobile industry is the dealer, and that in order to succeed any automobile factory must consider the dealer first. The only time the dealers of America ever got together in a convention with the idea of figuring out how to make more money was at the call of J. J. Cole. You have possibly heard J. J. Cole say—"The secret of success in this business is building a car on which the dealer can build his own business." You have said to your factory time and again—"I could make money if you would give me a car that wouldn't consume all my profit in service." The Cole's answer is—"The Standardized Car"—the car made from radiator to rear axle from the best stuff in the world, and by the greatest specialists in the world—the car that leaves your profits with you.

Fig. 2 - Cole advertisement referencing its six-page ad and its cost (The Automobile, July 24, 1913 (p. 108).

Cole - "The Standardized Car"

These are the parts which have been built so well that they are now standard

MAYO RADIATOR—selected because it is the best radiator—embodying the best principles of construction. It's the cellular honeycomb type.

THREE-POINT SUSPENDED NORTHWAY UNIT POWER PLANT. The standard—because the workmanship and material used in the Northway are of the highest standard, making it the quietest and most efficient.

TIMKEN AXLES AND BEARINGS THROUGHOUT. When you say Timken, you have said all—in axles and bearings Timken means the best. In your Cole both front and rear axles are Timken—and the bearings are Timken.

STROMBERG CARBURETOR—selected because it has earned for itself the right to be called standard.

GEMMER STEERING GEAR. The most flexible, obedient and reliable steering gear ever made—the acknowledged standard.

DELCO ELECTRIC SELF-CRANKING, LIGHTING, IGNITION AND HORN. In your Cole all electrical apparatus is combined into a single Delco electrical unit—even the horn is a Delco, and among automobile electrical apparatus manufacturers the Delco is recognized as the standard.

SPICER UNIVERSAL JOINTS—because Spicer has made and is making the best universal joints—the standard.

DETROIT STEEL PRODUCTS SPRINGS. Cole springs are made from a superior quality of spring steel of high elastic limit, suitable to withstand the stresses to which they are subjected—standard.

HYDRAULIC PRESSED STEEL FRAME. Special frame steel—heavy in gauge—extra wide and deep in section, insuring minimum deflection—standard.

JANNEY-STEINMETZ SEAMLESS STEEL GASOLINE PRESSURE TANK. Compressed air pressure feed with a gasoline tank supported by the frame at the rear of the car—the standard construction on high grade cars—and the standard tank.

FIRESTONE DEMOUNTABLE RIMS—the standard of all rims.

FIRESTONE TIRES. The cars which won first and second place in the last 500-mile race at the Indianapolis Motor Speedway were the only cars in the race equipped with Firestone tires. This was the most severe test to which a stock tire was ever put, and the Firestone proved itself standard.

STANDARD ACCESSORIES—Warner Speedometer, Taylor Tire Pump, Solar Lamps. The hinges, dash equipment, lever control set, and all parts down to the minutest nut and bolt are strictly the best of their kind—standard throughout.

You can get all these standardized parts only in the Cole—all the best cars have some of them. Not only is every part of the Cole the standard of its kind, but every principle employed in its making is the recognized standard principle of construction.

For example, Three Point Suspended Unit Power Plant, all working parts enclosed; Pressure Gasoline Feed; three-quarter elliptic springs in rear, and on your new Series Nine Cole you will have left hand drive with right hand center control, making access to the front seat through the right or left doors equally convenient.

Fig. 3 - List of the "best" parts used in the Cole Series Nine.

Announcing "Series Nine" Cole

The Cole for the past four seasons has been regarded as one of the most aristocratic cars ever built. Its beauty of design, its almost noiseless motor, its superb appointments have been the pride of every Cole owner. The Cole has incorporated every new desirable feature as soon as it became absolutely practical—and not before.

The New Series Nine Cole is easily the most superior and best looking Cole ever built. It has earned a right to be called The Standardized Car, which is the greatest compliment that could be paid it.

The new "Series Nine" Cole comes in two chassis—a four and a six cylinder

The four cylinder Cole with a wheelbase of 120 inches comes in the following models:

Five-passenger Touring Car . . .	\$1925
Four-passenger Toy Tonneau . . .	\$1925
Two-passenger Roadster . . .	\$1925
Three-passenger Coupé . . .	\$2350

The prices on both Fours and Sixes, include as complete equipment:

Genuine Pantasote Top and Dust Cover, Rain-Vision Windshield, Warner Speedometer, Delco Electric Horn, Power Tire Pump, Firestone Demountable Rims, extra rim and rear tire irons.

The tire sizes on the four cylinder Cole will be regularly 34x4½, permitting an oversize of 35x5. On the Cole Six, 36x4½, permitting an oversize of 37x5.

The Cole Six with a wheelbase of 136 inches comes in the following models:

Seven-passenger Touring Car . . .	\$2600
Six-passenger Toy Tonneau . . .	\$2600
Two-passenger Roadster . . .	\$2600
Four-passenger Coupé . . .	\$3000
Seven-passenger Limousine . . .	\$4000

The Cole shown below is the new seven-passenger six cylinder Cole Touring Car. See the car itself on the floor of your local Cole Salesroom.

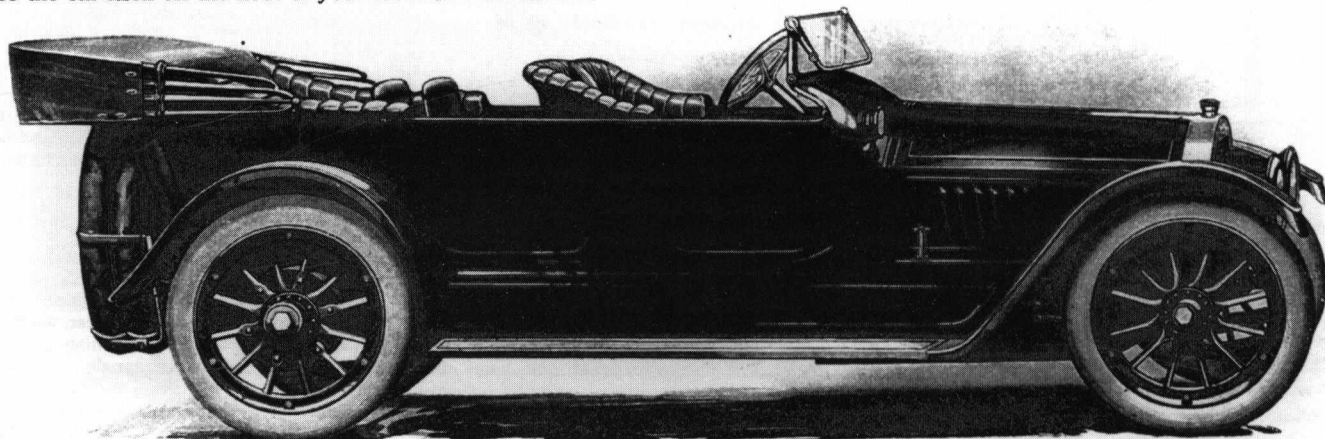


Fig. 4 – Introductory ad for the Cole Series Nine.

The Difference Between an "Assembled Car" and a "Standardized Car"

In another article, Cole wrote about the differences he saw between an "assembled car" and a "standardized car" like the Cole:

Under the old system of assembly, the matter of producing a car was approached in somewhat the following manner:

It was first decided at what list price the car was to be marketed. To illustrate: Suppose that a company capitalized at \$250,000 decided that a car with a wheelbase of, say, 112 inches and selling at \$900 would be a saleable product.

Note, please, that the price was determined before the car was even designed. The next logical move was to design a car, in the rough, with its proportions determined by the length of the wheelbase.

The staff of engineers may have agreed that a certain motor was desirable from an efficiency standpoint; but if that motor is too expensive, in view of the proposed selling price, it was forgotten and a cheaper motor substituted. So with the rear system, the radiator, etc. Perhaps a certain body maker had a thousand bodies on hand, of which he was willing to dispose at a reduced price.

These bodies were bought. The same may have been true of the frames. Of course, various parts had to fit

approximately, but this "approximate" idea is just the point we are getting at. When the car was completed it would stand up on a dealer's floor; it would make a reasonably good demonstration; but it was not built for itself—that is, it was not co-ordinated. Its margins of safety were undersized here and oversized there. It was a misfit. It was made to sell—not to give service.

With the new standardized type of car the methods employed are just the reverse of those employed in the making of the so-called assembled car.

The "standardized" maker determines what his car is to be before the matter of price is considered. He demands above all else quality, because he is building with service to the user paramountly in mind.

His engineering department determines on all the essentials of the car—its body lines, its principles of construction, its type of motor, its wheelbase, the size of the wheels and tires, etc. Every detail is thrashed out to the very bottom. The motor builder who is best qualified and who bears the best reputation is enlisted. The best rear system builder is called in. Every detail of the construction is turned over to the recognized authority in each particular instance. Then, and not until then, are prices on all these parts obtained. When all the prices are in, the selling price of the car is set; and, henceforth, during the life of this particular model there is no variation.

Now, to the actual mechanical task of building the car

It's the old story of specialization. It's the old story of "standardization" as well.

We used to get a good watch for \$100. We can buy as good a watch now for \$25. Why? Standardization! We used to pay as much for a bicycle as we do for a motorcycle now. Why? Standardization again.

The growth of the standardized maker is the logical result.

Cole After 1913

In 1916 Cole hired F. H. Knobloch from Northway to run the Cole plants. Knobloch, who had attended the 1913 Conference, brought an efficiency engineer with him, K.T. Keller, the future chairman of Chrysler Corporation. The idea was to constantly improve efficiency and quality. Because Cole was a well run organization William C. Durant tried to add Cole to the GM family in 1917 and in 1923 attempted to persuade Cole to join Durant Motors. Sometime in 1923 Cole was also informed that GM (i.e., Sloan), which had controlled Northway since 1909, was no longer interested in selling motors to outside companies, the Cole being the last independent make using the Northway engine. Cole then hired Jack Edwards of Edwards-Knight fame, an acknowledged expert in Knight engines. Was Cole considering a Knight 8? Regardless, he did not enter into manufacturing his own engines, per his philosophy, and bought no more motors from Northway after 1924 (engines and parts were still being sold from a large inventory when the company was liquidated in 1929).

The joy of the Cole enthusiast, who is restoring one of the "standardized" cars, is that parts are available because Cole used "standardized parts," not custom built units that would have to be replicated in machine shops.

After Cole

Increases in mass production destroyed specialty houses especially in the drive train area, Continental and Lycoming being the exceptions. Ford and GM could now efficiently "tool up" in-house to produce a million of this part and six million of that. That made sense at the time, and it brought the price of cars down. By 1938 you could buy a Buick 8 for less than \$800 and it would start when it rained. But in 1960 there began a movement of specialty cars within each division. There were large Chevys and small Chevys, likewise with Ford. GM now built specifically-designed components for, say, an average year in the 1960s, 400,000 Corvairs, 300,000 Chevy IIs, 500,000 Chevelles, and 700,000 Impalas. Parts commonality within companies grew less. Coupled with this explosion of models were the work rules imposed on the plants by the unions. As prosperity was spread out to the salaried and hourly workers efficiency began to fall off. The quality of cars was hostage to the mandated use of parts from inefficient company-owned parts suppliers. John Rinz, once head of Ford

in Venezuela observed in 1979 that "as soon as possible the automobile corporations will be only assemblers, because they cannot control their parts plants."

In the last five years, we have had five of the best sales years in automotive history and, yet, all of the United States automobile makers are struggling for profit. The problem as I see it is twofold.

(1) Manufacturers were not trying to buy the best parts, but rather the cheapest. The purchasing departments had gone mad. It mattered not to them who delivered the lowest priced part, but who quotes the lowest. There is a difference. Both quality and delivery suffer. This was the era of Inaki Lopez at GM and Jac Nasser at Ford. Hopefully, both companies have learned a lesson. GM has spun off its electronics supplier, Delphi, as has Ford with Visteon. This is a reverse of the Durant, Sloan, and Ford's philosophy of consolidation.

(2) As a result of (1), manufacturers have destroyed relationships with the very suppliers that keep them supplied. As contrasted with GM and Ford of the '90s, Cole had a great relationship with his suppliers. A parts representative showed up at Cole's plant and with hat in hand explained that he had added wrong and the quote he gave was too low. J.J. Cole then recognized the man's mistake and rewrote the purchase order for the higher amount saying, "I don't want to do business with a company who doesn't make a profit."

The industry appears to be headed towards a modern version of Cole's production technique. Manufacturers are attempting to standardize parts such as door locks and latches. Cole's reliance on outside suppliers relieved his company of the need to invest in engineering individual components, freeing it to devote its funds on fit and finish. Were there snags? Of course, but Cole did not have to rush his staff to a hob machine to figure out why gears were not meshing. In fact they never saw the gears, as they were in "units," or "modules" ready to be assembled into a Cole. As Cole recognized, modules of parts added to the simplicity of manufacture. Cole called them "units." *Automotive News* noted in its February 18, 2002, issue that Toyota and other Japanese car makers were moving to lower costs by buying modules. The idea today is to have a car made up of six to eight modules, each unit built by outside suppliers, some in adjoining plants, feeding the assembly line of the marque. This is the way Bob Lutz wants to build the new Cunningham C7. And we have recently read that Johnson Controls will have significant responsibilities providing interiors for future GM automobiles. Is the car of the future an "assembled car" or a "standardized car?" That depends on whether the manufacturers will seek the best or merely the good enough.

The illustrations in this article appeared in the "Spring Conference Edition 2002" of the Cole Bulletin published by the author. A copy of the Bulletin is available upon request to: Leroy D. Cole, P.O. Box 183, Goodrich, MI 48438 USA.

Elizabeth Junek: Racing the Bugatti

by Patricia Lee Yongue



*Mme Elisabeth Junek, with Bugatti Type 35C in which she won the 1.5 to 3-litre class at Nüburgring, 1927
(See SAH Journal No. 149, March-April 1994).*

Bugatti

Debate persists among road racing historians over the dominance of Bugatti in Grand Prix competition during the 1920s. Were Ettore Bugatti's beautiful and well-handling cars so successful because they were inherently superior to their rivals; or, was there merely a dearth of true competitors combined with a plethora of Bugattis? After all, works race cars as accessible to amateurs (especially women) as Bugattis were supposed to be could not possibly be formidable competitors except in a mediocre field. Skeptics of Bugatti excellence often suggest as a metaphor for the marque's dominance the 1926 French Grand Prix at the Miramas Autodrome, where three newly-supercharged Type 39A Bugattis comprised the entire field and only one, piloted by Jules Goux, finished. As David Hodges represents the event, Goux chased himself around the "featureless" circuit until he finally won!¹

Debate also persists about the wonderfully fascinating Ettore Bugatti himself and how his personality sculpted the peaks and valleys of Bugatti racing. Did the collapse in the 1930s of his feudal, benevolent, landlordship at the Molsheim factory, and his quiet retreat to Paris – about the time his rough-hewn, younger countryman Enzo Ferrari was plotting a future as a Modena dictator (*Il Commendatore*) – merely signal the denouement of Le Patron's inherent old-fashionedness? It was an old-fashionedness, some maintain, that almost cost his works cars their dominance when he initially rejected the supercharger, which Fiat had been the first to fit to a GP car in 1923.² Was Bugatti's insistence on marketing a race car that was also a touring/sports car obsessional and counter-productive? Was Bugatti dangerously diverting attention away from engineering works race cars, making collapse inevitable? Or, did the seemingly magical interplay of Bugatti's artistic and engineering sensibilities finally reveal a nature more artistic and aristocratic than mechanical or competitive or promotional? Was it a nature that could not – and knew it could not – endure, let alone prevail in, a dramatically changed world headed for even more dramatic change with the rise of Hitler and World War II? Was the motor racing world, like the world itself, becoming more supportive of a too tough nature like Ferrari's that became more inscrutable and omnivorous as *Il Commendatore* became older? Did Le Patron's exceedingly lovely but largely ineffective Type 59, raced in the 1930s, symbolize a passing?

Ettore Bugatti dressed, behaved, and lived like an old world gentleman and clearly did not cultivate the image of a man who toiled day and night in his workshop, like a Dr. Frankenstein, feverishly forsaking everyone and everything else to the cause of mechanical or artistic invention. (Fig. 1). His modernist aesthetic sensibilities, as well as his genteel upbringing, rejected mythicizing the garret and the manic inventor. But Bugatti was a genius who indeed experienced those fits of thinking and work frenzy marking the creative – and the competitive – spirit. His passion for automobiles and racing and his industriousness were unassailable. From youth he continually designed, sketched, planned, experimented, built, piloted. He was dedicated to the production of superb race cars and touring cars, and he could be generous with information and latest factory developments to select promising independents (like Raymond Mays).³ He wanted all of his race cars to succeed



Fig. 1 – Ettore Bugatti with his trademark melon bowler hat.

and to represent the Bugatti image well, but cars and parts did not come cheaply to most.⁴ Nor did Bugatti sacrifice his works cars' competitive edge by giving away factory secrets. Independents (also called *isolati* and identified as amateurs, as opposed to the majority of contestants, who were works drivers and considered professional) would have to diagnose, experiment, and tweak largely on their own. Despite the fact that Bugatti remained unusual among constructors in outrightly selling competition cars, he did not sell to leisure users new or "used" race cars tuned to works standards.⁵ That he did may have been a myth which he did not mind encouraging.

Bugatti's leadership in aerodynamics innovation, particularly during the 1920s, cannot be contested. As for Le Patron's deferred use of the supercharger, his delay seems to have been less a matter of expense, technical lag, or purist idealizing of naturally aspirated engines and demonizing of forced induction, as his daughter L'Ébé believed, than it was his sporting sensibility.⁶ There is evidence, from a patent filed early in 1924, the inaugural year of the Type 35, that Bugatti had plans for a supercharger, but he did not proceed with the 1924 design, perhaps for technical reasons.⁷ Meanwhile, he led the protest challenging the fairness of blown and naturally aspirated cars racing in the same class. When his cars began to lose steadily, however, Bugatti redesigned his supercharger. In 1926, along with its superbly contoured, beautiful body and the engineering that guaranteed remarkable road-holding and cornering, the

Type 39A Bugatti (a conversion of the 2-litre Type 35 into the 1.5-litre engine required by new GP rules) was fitted with a Bugatti/Moglia Roots-type blower.⁸ Following Miramas, the Bugatti went on to win auspiciously and to enter the space of its greatest moment, the late 1920s.

The female racecar driver: introducing Elisabeth Junek

Ettore Bugatti's unique combination of old world and new, artist and technician – symbolized best by the blown 2.3-litre Type 35B – charged that moment, I think, with another distinction: the maturation of the female race car driver. As Il Commendatore would later outrightly scorn female pilots, Le Patron seemed to delight in them. At least, he did not visibly or in available correspondence discredit them. In some instances, he courted them to race.

Part of Bugatti's acceptance of women as racecar drivers likely had its source in his aesthetic sensibility. Consciously or not, he seemed to understand the beauty of his racecar and the beauty of the female body as complementary. Women who raced were, like their male counterparts, wealthy or sponsored by a wealthy spouse or patron. They were also often attractive, graceful, and charming – even begoggled and smeared with road dirt – insofar as their affluence and class had demanded and permitted attention to physical beauty and manners from childhood. Their inevitable muscularity was translated into athletic fitness, and they deliberately compensated for any perceived loss in femininity with other traditional feminine marks: smart, trademark outfits; ribbons; scarves; ladylike postures and costume for promotional photographs. Physical female beauty and automotive beauty were most familiarly and famously connected in the Concours d'Élegance, exhibitions in which grand automobiles were adorned by exquisitely dressed (often socially prominent/aristocratic) women in a tableau presentation – an upper class ritual reflecting woman's ornamental role and her status as construction and technology of man, moving only on patriarchal command. However he may have enjoyed so-constructed women, Ettore Bugatti likewise seemed to enjoy beautiful young women in motion, piloting his beautiful race cars in major contests.⁹ Ivy Cummings (owner and namer of the famous "Black Bess" 5-litre chain driven Bugatti), Hellé-Nice, Anne Rose-Itier, Eileen Ellison, and Kay Petre are among the more well-known female Bugatti pilots.

In a kind of poetic justice, as it turns out, the first woman to embrace the Bugatti race car was also the woman who was arguably the premier female racer of the 1920s, the woman who first raised, then set the standard for subsequent women racers. Czechoslovakian Elisabeth Junek (1900-1994), born with the 20th century, brought women into the *nunc* age of racing not only with her well-publicized accomplishments, which included being the first woman to finish the arduous Targa Florio circuit in Sicily, but also with her professionalism, her racing mentality, and her love of the race car. She was technically an amateur, but, like many male independents, she had the knowledge, talent, and heart of a professional. She was ambitious without being unrealistic, a trait which some motorsport enthusiasts may view as too "feminine," hence disadvantageous on a field pumped with testosterone. Elisabeth

Junek claimed she did not like participating in all-women events but did so only on request, leaving us to wonder whether she realistically could sustain an international racing career longer than she did. Her GP appearances were minimal. In her moment, merged with Bugatti's, however, she performed historically.

For nearly four years and forty races, Elisabeth Junek crafted her skills and reputation as a pilot. She became a model for women, who were trapped before World War I into mainly ornamental or adventurer racing by sanctions against them and/or by the sheer unwieldiness of the vehicles, but who as a result of their wartime automotive experience were personally and socially freer to pursue motorsport. Elisabeth Junek's example and success – which she and her husband were very interested in publicizing – had to have been a force motivating women to contest seriously in the new voiturette class (engines limited to 1.5 litres) that became popular during the 1930s and to raise the level of competition in such all-women events as the Coupe des Dames. Mme. Junek perceived her own racing career as both a personal and patriotic achievement and also as a means to effect change in policy and attitudes in Czechoslovakia toward automobiles, speed, and women drivers.

Save for one race, which she contested in 1925 in a Panhard-Levassor, Elisabeth Junek raced only in Bugattis. While this fidelity to one constructor was unusual among both male independents and works drivers, it allowed her to develop a sophisticated knowledge of and comfortability with the race car's technology and driving personality unusual among women drivers. Mme. Junek well understood what women had to do differently from men, given the differences in experience, in order to compete solidly with men. Her fidelity to Bugatti, however, was also always a matter of the heart. So passionate was she about the Bugattis, in fact, and so intertwined were they in her other great passion, her marriage to Čenek Junek, that she entitled her autobiography *Ma vzpomínka je bugatti* (1972), translated into German as *Bugatti – Mein Leben* (1990): "Bugatti – My Life Story."¹⁰ Ettore Bugatti respected Elisabeth Junek, paid attention to her observations and recommendations about her cars, and, as far as I have been able to learn, made her the first of the independents to use the legendary Type 35B (2.3-litre, supercharged) in a race.

Elisabeth Junek's story is fascinating. She was a spunky young woman, known as Alzbeta (Betka) Pospisil, who, after she finished high school at sixteen, wanted to earn at least some of her living. She sought a position as a secretary, but when it quickly became apparent that her first offer required sexual as well as secretarial services, she accepted a position in the new Olmütz (Olmoc) branch of the Prague Credit Bank, run by wealthy, 22-year old Čenek (Vincenz) Junek. During The Great War, Čenek had lost effective use of his right hand due to a gunshot injury incurred on the Russian front and had returned to civilian life. Eliška, as she would be called, and Junek eventually became engaged, but only after a fairly contentious employer-employee relationship in which he criticized her every move and she refused to bow and scrape in apology. Instead, keeping her tears private, which she said women employees often did not do, she fought back with increased assiduousness. Čenek reciprocated with more criticism but also with more complicated assignments for her. This scenario, they both

agreed, was the objective correlative of love! Later, Eliška went with Čenek to Brunn (Brno) to be part of a bank team he was assigned to create. Then she went to Prague, where he had been appointed to an important post in 1918, after the revolution that secured what she describes as the miracle of independence for their country. Prague, with its whirlwind of new ideas and events, changed her perspective irrevocably.



Fig. 2 – The first couple of racing: Elisabeth and Čenek Junek.

Eliška was always concerned about her independence and took a number of steps to insure her freedom and identity as well as to accommodate herself to her husband. “Freedom,” she wrote, “was the big voyage.” Before the marriage, she applied herself to new lines of study – languages (especially English), arts, philosophy – and to mastering the piano. But against her father’s and Čenek’s wishes, she spent her dowry first on solo European travel. She wanted a year to herself, though that year neither began nor ended quite as planned.

After a miserable one day in Lyon, “the ugly city of chimneys,” she ended up in Antibes, known as the Flower City, where she learned French and took a gardening job and also learned a great deal about raising carnations. For her surprised and of course pleased employers, she designed a greenhouse for

growing asparagus. Her long-range itinerary included travel via Spain all the way to Ceylon, and working her way to India on an English ship – a goal, she said, that inclined her women friends to treat her “as already a corpse” rather than as a romantic adventurer, which is how they would envision a man with the same dream. Unable to persuade his fiancée to abandon such plans, Čenek finally wrote to her father, pleading with him to order Eliška back home. She returned only when she discovered to her aggravation that, in those postwar years, the Spanish were suspicious of Czechoslovakian names and denied her a visa. She observes that she was prevented from going places that would later celebrate her. In fact, when she retired from racing, she would make those trips to India and Ceylon with two Bugatti touring cars from Molsheim.

Čenek wanted Eliška to continue with him in the banking business after their marriage in 1920, but she wisely declined. When she discovered Čenek’s new passion – a “fatal love” – for motorsport, however, which he had acquired and developed through much study during her absence, she secretly spent the rest of her dowry on driving and racing lessons and procured her license. Automobiles had not been part of her childhood, but they would be central to her womanhood. “Girl,” she told herself, “if you want to live alongside him, you have to follow his interest with your whole body and soul.” Čenek was ecstatic, and so was formulated one of the few, if terribly brief, racing partnerships between husband and wife. Neither Elisabeth nor Čenek would know young marriage outside of racing; nor would either know racing outside of marriage. They celebrated their honeymoon as car drivers, motoring in their Mercedes racecar to training for the Karlovy Vary-Mariánské Lázně races, and, not unusually for the era, incurred seven flat tires en route from Prague to Karlsbad (Fig. 2).

Elisabeth well describes the obstacles to racing provided by gender as by the political, economic, and social situation in the new Czechoslovakia, a country looted ferociously, including of its metals, after the war and hard pressed to endorse automobile production factories until the 1930s, when it became the fifth largest producer in Europe.¹¹ Socially, in a collusion of politics and public opinion, a mass antagonism toward the automobile as bourgeois pomp and circumstance developed. The government enacted rigid speed limits and assessed heavy taxes on gasoline and road use. Elisabeth writes that many people caught slashing automobile tires, instead of being fined, were commended! Women had had an especially hard time fighting for driver’s licenses and cars in a society that not only disapproved of cars in general but that

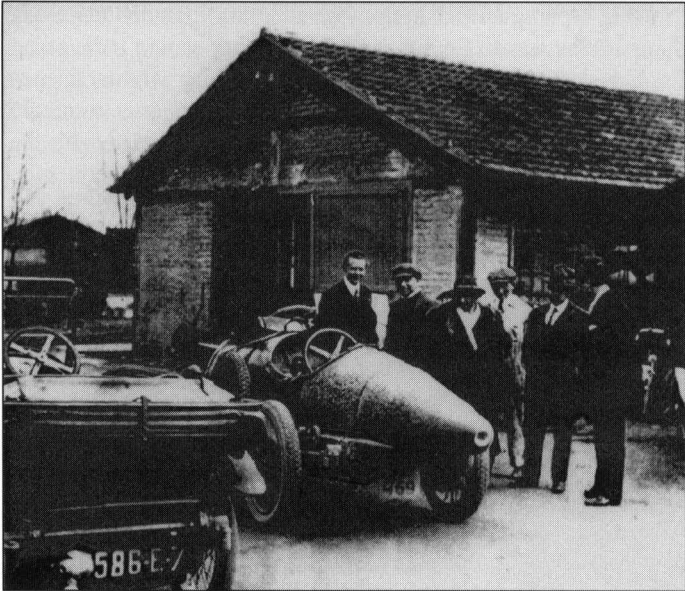


Fig. 3 – The Bugatti “cigar” at Molsheim.

believed women were not as capable as men of piloting motorized vehicles. Every woman who fought for the right to drive was immediately labeled a suffragette, a blue-stocking – an identity that assured social ostracization and even persecution (just as it did in the United States and Britain). Women subsided for a time into passivity, Elisabeth writes, a situation which only reinforced the prejudice that women were weaker than men. Eventually, but slowly, automobiling and motorsport came of age in Central Europe, and more women began to drive. By 1925, 216 Czech women had driver’s licenses. Elisabeth acknowledges to helping toss out speed limit laws enacted to discourage motoring and most certainly racing. The racing she did in her homeland, where she won many prizes, she counts as her most important. When she raced at home, Elisabeth’s Bugatti was usually (but not always) painted yellow and black.

After their Mercedes was irreparably damaged at Karlovy-Vary, Elisabeth and Čenek purchased their first Bugatti. They had first encountered the marque in Paris, during the 1921 Christmas holidays, as they were ambling along the Champs-Élysées, arguing “to the point of blood” about which of the fantastic new automobiles on display was king, when they beheld one which instantly ended their debate. There stood a Bugatti, with a wreath for the wonderful victory in Brescia. It was love at first sight.

There is some confusion over the Bugatti (or Bugattis) they fell in love with and eventually bought from Ettore Bugatti in 1922. The Brescia car was a T22/23 modified from the Type 13, and perhaps they did buy it. But we know that for 60,000F the Juneks bought as their first racing car the eight-cylinder, 2-litre Type 29/30 “cigar,” a two-seater GP car (chassis 4001) which Ernest Friderich had driven to victory most recently in Strasbourg and which Eliška later named “Babuschka” (Fig. 3). The couple also fell in love with Le Patron, and he

became equally enamored of them. Bugatti demurred letting them drive the Strasbourg “cigar” back to Prague, which he thought to be an exotic place near Asia, so he employed a company driver/mechanic, Pierre Marco, to do the job. Since hill climbing was the type of racing the Juneks had trained to and were currently competing in as partners, they soon decided that they needed to put a different, less aerodynamically designed body onto “the cigar.” Elisabeth drove the Bugatti from Strasbourg to the Molsheim shop, and “for the first time in my life,” she writes, “I held the steering wheel of a real race car in my hand.” Elisabeth was so overcome by the feeling of the racer that she took off on a touring adventure and promptly got lost “in countless villages with names that ended in – heim.”

After acting as Čenek’s right hand for two years, Elisabeth began her own career in September of 1924, when she soloed at Lochotin and took first place in “Babuschka.” She did not take her first training for the event in a race car; rather she trained an hour a day in a 1.5-liter Fiat 501 Spinto. She writes that, instead of trying to perfect specific skills, she strove in her early training to develop independence, confidence, and a methodology. She was doubly conscious of the need to avoid accidents because she realized early on that, while men’s accidents were considered disasters, women had accidents because they had done something stupid.

Elisabeth and Čenek eventually bought several models of Bugatti for training and racing, including the famous – or infamous – Type 32 Tank (4059) raced by Friderich in the 1923 Tours GP (Fig. 4). Where they could, Elisabeth and Čenek raced together, sometimes relieving one another in one car, sometimes piloting two cars. Usually, though, they raced alone, in different classes – Čenek always in the racing class, and Elisabeth in the sports car class. One of the interesting, if highly confusing, features of Elisabeth’s racing career are the transformations in bodywork she made of “Otakárek,” the 1924 GP Lyon car (4329) she and Čenek bought and raced many times in Czechoslovakia and on which she had several victories. This was the car the public christened “Blue Lightning” and which she raced in the 1926 Zbraslav-Jílovistě hillclimb, winning first

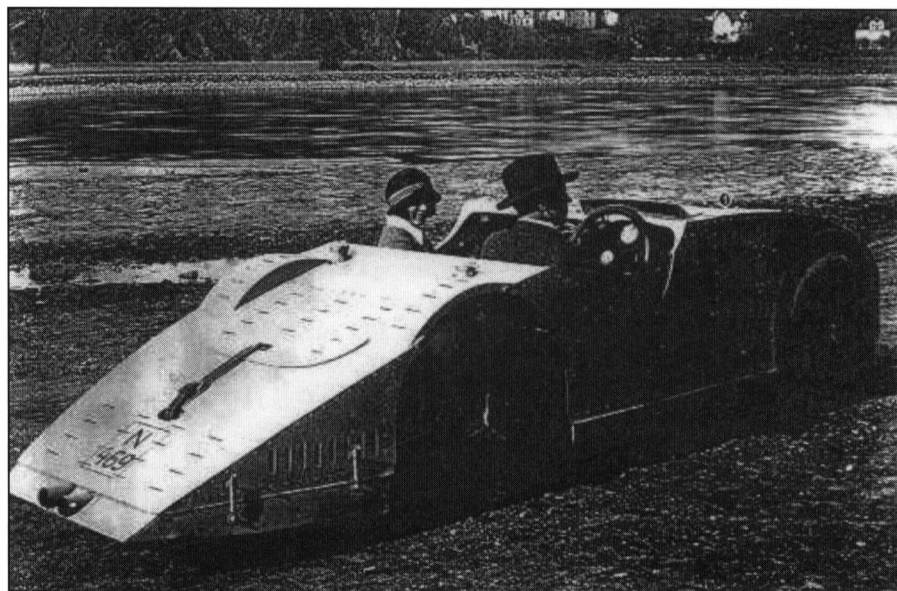


Fig. 4 – The famous, or infamous, Bugatti Type 32 “Tank.”



Fig. 5 – Racing rivals arm in arm, Countess von Einsiedel and Elisabeth Junek.

place in her class and beating Čenek, who had won his class, for fastest time of the day (FTD). Many historians, from extant photographs, presume the cars (chassis) themselves changed, but others, working from Elisabeth's papers and *Mein Leben*, believe she might have regularly changed the bodies of a single GP chassis to one of the higher sports bodies that Ettore Bugatti used in the 1925 French touring car GP. The Junek mechanic could easily change out the body on a GP Bugatti, which is held in place by the visible wired ear screws, and the Juneks kept in close touch with the local Bugatti distributor in Prague, an engineer named Vladimír Gut.¹²

The 1926 racing season was a winning one for the Juneks, a culmination of several years of learning about the strengths and weaknesses of the various constructors and drivers against whom they regularly competed. They were, however, eager to race the course that had become at least for some an icon of tough road racing, the Targa Florio in Sicily, and they wanted to race it in the Type 35B, the 2.3-litre supercharged car that would become one of the most illustrious vehicles in motorsport history (according to Antoine Raffaëlli, the car she used was actually a Type 35T which she had retro-fitted with a blower, bringing it to 35B specs).¹³ Elisabeth writes that she fell in love with the course as surely as she had fallen in love with the Bugatti – at first sight. The seduction of the challenge, she said, was instant. The Madonie circuit was a 67.11 mile course (5 laps, about 9 hours of driving) which she and Čenek drove many times before the race, and once even walked it, to comprehend fully its navigability. The couple photographed the circuit and acquired aerial photos of it. Elisabeth drew sketches of its individual stretches and she made note cards for each segment, indicating its topography and challenges and how she

intended to drive it. She studied the course from every angle. Her training car was a 1.5-litre Bugatti that was always filled with the flowers that became an Elisabeth Junek signature.

Elisabeth did not finish the 1927 Targa due to a broken steering column, but for her singular effort, which included a second round lead, she was awarded a gold medal by the Royal Italian Auto Club. The failure, after such hard training and studying, left her numb, but she quickly decided she needed to race soon in order not to undo the mental stamina she had developed. Unfortunately, two weeks later, during practice for a hillclimb event in Czechoslovakia, a student driver and the Juneks' mechanic were killed in a crash in "Otakárek." Stunned, Elisabeth and Čenek nonetheless entered the race, but bad luck continued. Elisabeth lost the women's trophy to Countess Margot von Einsiedel, who from that point on became Elisabeth's nemesis (Fig. 5). Elisabeth took smug comfort, however, in the fact that the Countess lagged eight seconds behind Elisabeth's prior winning time.

Against predictions by motor writers of her failure in her "moody sports car," a Type 35C (2-litres, supercharged), and rejecting a request by the head of the sports commission to let Čenek relieve her after two-thirds of the race, Elisabeth, the sole woman entrant, and feeling very much the outsider, did win her 1.5-3-litre class in the German GP at Nürburgring in July 1927. This is the race Elisabeth called her David and Goliath race, in which her unquestionable rival on one stretch became Christian Werner piloting his heavy-class Mercedes. She could hear the superchargers of the giants "howling like sirens" as Werner screeched up behind her. She, another Bugatti pilot, and Werner piled around a curve, the spectators cheering wildly. She and Werner plunged ahead of the other Bugatti. The chase lasted for eight kilometers, until the inevitable happened: Goliath applied all his whopping power on the straight-away and overtook David. Soon after this devil-will-win race, she accepted an invitation to contest the Coupe des Dames at Montlhéry, not because she liked racing against women only, but because she wanted to race the circuit, and clearly she also had something to prove. Assigned to start in Čenek's Type 35B from the "scratch" position – dead last – was the realization of her worst fear, but the assignment itself was simple: "beat everything in front of me." She did. The victory, she observed, left no doubt as to her status among women racers in international competition. Still, she felt compelled to defend her win two months later, in the same car, in the Coupe du Salon at Montlhéry, where the announcement of her entry resulted, she writes, in the withdrawal of half the field, including (I presume) Countess von Einsiedel. She won this race as well.

The Auto Club of Czechoslovakia awarded Elisabeth a gold medal for service to her nation, and cherishing this prize, she decided to resign from racing to devote herself to family. But

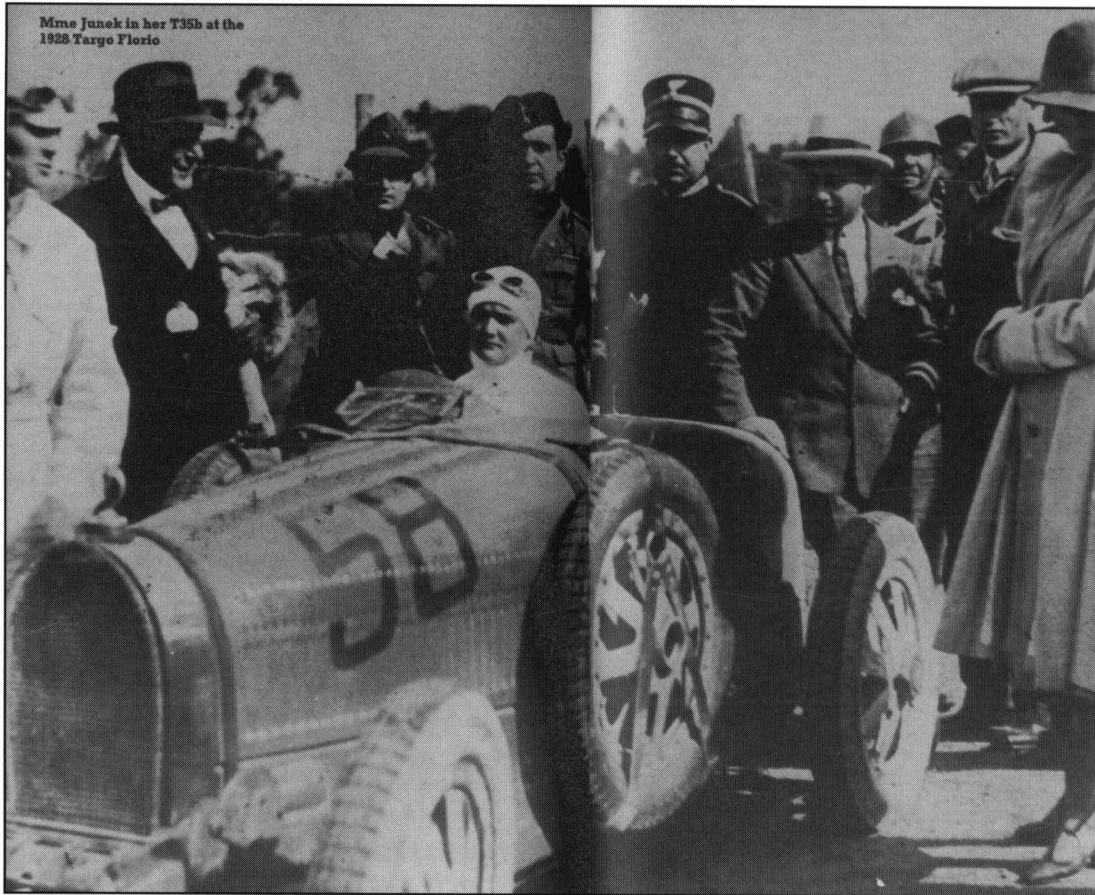


Fig. 6 – Mme Junek in the Bugatti 35B, Targa Florio, 1928.

Čenek also did a little research. Insofar as the Countess had done her majority training and racing in Chiribiri and Steyr cars, and Elisabeth had raced against her already, the Juneks tried to assess her conditioned style and what trouble as well as what success the Countess was likely to experience with her Type 37A Bugatti (1.5 liter, four-cylinder, supercharged) at the Targa. Clearly the more popular of the two women with the press and in the grandstand, Elisabeth's victory over Margot was celebrated in the press, one commentator going so far as to portray the Countess, who had miscalculated a turn and slipped, as a shrieking female about to confirm the essential weakness of the species until Elisabeth scooted by her and finished the race.

Elisabeth led the race briefly and she just might

have won, had it not been for those two suspiciously-placed rocks. She managed to keep her front tires out of the way of the rocks, but could not prevent damage to the rear tires. She had to stop for change of tires and this set her back in the pack. She did, however, become the first woman ever to finish the 22-year-old race. She finished in fifth place overall, second among the independent drivers, and first in the ladies' competition.

After a June race at home, Elisabeth and Čenek, at the climax of their success, set out once again for Nürburgring. What began in love, however, would end all too soon in tragedy, and with as much tragic irony as a Shakespearean play. Čenek was killed in a crash on lap five, just after he had taken over the driving from Elisabeth. It was one of the few times lately they had entered an event as a couple, and they had entered with the Type 35B, in sports car trim fitted with cycle wings, with which she had so triumphantly completed the Targa Florio.

Elisabeth Junek retired from career racing at that moment.¹⁴ Even Le Patron, whose finest moment circumscribed hers, could not bring her back.

The photos in this article (title photo, Figs. 1- 5) were provided by the author. Fig. 6 is from Bugatti by Ronald Barker (Ballentine).

motorsport, at home and abroad, would not accept her resignation. Vincenzo Florio and Ettore Bugatti himself urged her to try the Targa once again, Le Patron promising her every help imaginable.

In 1928, with Čenek pressed by business affairs to remain in Prague, she went alone to Sicily with more determination to learn and to win the Targa. Her training car was "Otakárek." Her race car was the Type 35B (Fig. 6). Čenek now coached her via their continuous correspondence, which is a remarkable study in racing on its own and in Elisabeth's sense, often different from Čenek's, of issues that needed attention. She consistently requested changes to the car based on its feel, her strengths and weaknesses vs. the car's, and her style of performance measured against its style at as many points in the circuit as were possible to measure. She increased the field of her knowledge. She tested her abilities, fatigue, etc. on different stretches, under different climate conditions, and at numbers of laps. She reacquainted herself with the course and knew every feature – except, perhaps, for the two large, sharp stones she suspects a "mischievous" rival team placed in her way to try and sabotage her.

Elisabeth's rivalry with Countess Margot von Einsiedel, now driving a Bugatti, was what she and her husband and the press were most concerned about. Čenek advised her from Prague not to worry about the men. "Just be careful of that von Einsiedel woman." To that end, Elisabeth and her team did a little spying when Margot showed up to practice; but she and

Notes

1. David Hodges, *The French Grand Prix* (London: Temple Press Books, 1967), 82. Hodges was one historian who questioned the skill and talent of Bugatti works drivers as well as the superiority of the race cars.

2. Fiat had first installed a Wittig vane-type blower driven off the crankshaft nose of a straight-eight 2-litre engine, then switched to the Roots-type blower with which it won at Monza in 1923, making Fiat the first supercharged car to win a GP on its home turf. Daimler-Mercedes had used superchargers on its 1922 Targa Florio and sports cars.

3. In his autobiography, *Split Seconds* (London: G.T. Foulis & Co., 1951), Raymond Mays writes of visiting Molsheim in 1923, conversing intently with Ettore Bugatti, and finally receiving Le Patron's agreement to make changes in Mays' Brescia Bugatti ("Cordon Rouge"). Bugatti also "undertook to let me have a new and latest type 1 1/2-litre Brescia model in addition, all for an incredibly small sum of money" (50-52). Bugatti could easily discern that Mays was a serious racer with a good deal of mechanical skill and inventiveness who, owing to a father not thrilled by his son's racing passion, lacked the discretionary money gentlemen usually had.

4. Hugh Conway, in *Grand Prix Bugatti* (London: G.T. Foulis & Co., 1968), for example, cites the cost to independents of the Type 35 presented at Lyon in 1924 as about 100,000F (62).

5. See, for example, Ronald Barker, *Bugatti* (New York: Ballantine, 1971), 77.

6. See L'Ébé Bugatti, *The Bugatti Story* (Philadelphia: Chilton Book Company, 1967), 79.

7. See David Sewell, "Bugatti, Blowers, and Lyon," *Pur Sang*, 34 (Summer 1984): 26-30.

8. Interestingly, the first recorded use of a supercharger in a Bugatti occurred in America, at the Atlantic City Speedway (a board track) on May 1, 1926. In an "after-market" gesture, a Baron de Rachewesky installed a centrifugal blower, but it blew up. Bugatti factory superchargers first appeared in three eight-cylinder Type 36 works cars run at the local GP d'Alsace in May 1926, and in a Type 39A driven by an amateur at the British GP at Brooklands in July 1926. The Type 36 had an engine derived from the Type 35, but its chassis and bodywork were different from the 35, and it lacked road springs.

9. American novelist Ernest Hemingway must have comprehended, although he chose to mock, the affinity between Bugatti car and woman. In the posthumously published *The Garden of Eden* (1986), set in the mid or late 1920s in France and Spain, one of the female protagonists, Catherine Bourne, drives a "small low" blue Bugatti. Catherine is a young, wealthy American heiress recently married to David Bourne, an

American writer. She is spoiled, slightly lunatic, perverse, and unproductive, but she is beautiful and slim. She admits to a destructiveness, which ends up in physical destruction of her husband's manuscript, lesbianism, and coercing her husband to have sex with her lesbian lover, whom she acquired on one of her many shopping/beauty salon excursions in the Bugatti. The "noise" of the Bugatti, its intrusiveness in David's writing hours, metaphors not only the "intrusion" of the "motor" in civilized life (David considered his life idyllic when his wife pedaled a bicycle), a typical modernist pose, but also woman's intrusion in man's journey toward perfectibility, a typical Hemingway pose. I might note that the Bugatti pilot Ernest Friderich opened a Bugatti agency in Nice, on the Cote d'Azur, in 1924, which Hemingway likely knew of.

10. I wish to thank I. Werner Striek of Austria, who surprised me with a copy of the difficult-to-find *Mein Leben*, along with other Bugatti research materials. All quotations by Elisabeth Junek are from Elisabeth Junek, *Bugatti – Mein Leben* (Wien: Wolfgang A. Siedler Verlag, 1990). An excellent summary of her life is B.P.B. de Dubé's "Elisabeth Junek: Lady and a Tiger," *Automobile Quarterly*, 7 (Winter 1969): 316-27.

11. See *Automotive History Review*, No. 38 (Winter 2002), an issue featuring the history of automobile production in Central/Eastern Europe. Four articles in this issue focus on Czechoslovakian vehicles.

12. I am extremely grateful to Dick Ploeg of the Netherlands, who has meticulously and patiently guided me through the evolutions of Elisabeth Junek's Bugattis and through many other matters related to GP and hillclimb racing in the 1920s and 1930s. Dick is currently preparing a manuscript on women Bugatti racers for which I am also grateful. He has shared much research material with me, including Les Matthews' "Conversations with Eliška Junek," *Bugattics*, 57 (1994): 7-11.

13. Antoine Raffaëlli, *Memoirs of a Bugatti Hunter* (Maeght Editeur, 1997), 162. Elisabeth raced the car (4815) before it was supercharged to make it a 35B. With it she won the 1926 Knoviz-Olsany hillclimb. The Type 35T had been introduced in 1926 at the Targa Florio. It was an unblown Type 35, but the lengthening of the stroke to 100 mm. had increased the engine capacity to 2.3 litres. Raffaëlli includes much material on the Juneks' Bugattis.

14. I would also like to thank three other gentlemen for their indispensable assistance with my research on the career of Elisabeth Junek: Tom Melahn of Maine; Roland Saunier of France and Czechoslovakia; Marián Šuman-Hreblay of Slovakia. Two University of Houston students to whom I also owe much for helping with German and Czech translations are Bambi Buettner and Michael Skupin.

John Steinbeck: Car Guy or Consummate Raconteur?

by Kit Foster

A Lincoln Zephyr, silvery and low, whisked by. She turned to see where the others were and saw them clustered about the truck. Reassured, she said, "How'd you like to be goin' along in that?"

This description of the Lincoln-Zephyr (Fig. 1) is widely recognizable as being from *The Grapes of Wrath*, not only a great piece of social commentary, one which earned its author a Pulitzer Prize, but also one of the great car books of all time. *Grapes* is not a solitary example – Steinbeck, whose word portraits of people and society remain some of the great works of popular literature, managed to weave into a number of his novels a surprisingly realistic and detailed characterization of the automobile.

and buys an automobile, a Model T, of course. He doesn't know how to drive it, nor is the salesman very proficient, so a mechanic is dispatched to instruct.

Joe went on hurriedly, "Main difference of a Ford automobile from other kinds is its planetary transmission which operates on a rev-rev-a-lu-shun-ary principle...."

"First you got to retard the spark and advance the gas, else she'll kick your goddam arm off. This-here – see it? – this-here's the spark.. You push it up – get it? – up. Clear up. And this-here's the gas – you push her down. . . .

He took a deep breath. "Now you ready? Spark retarded, gas advanced. Spark up, gas down. Now switch to battery – left, remember – left." A buzzing like that of a

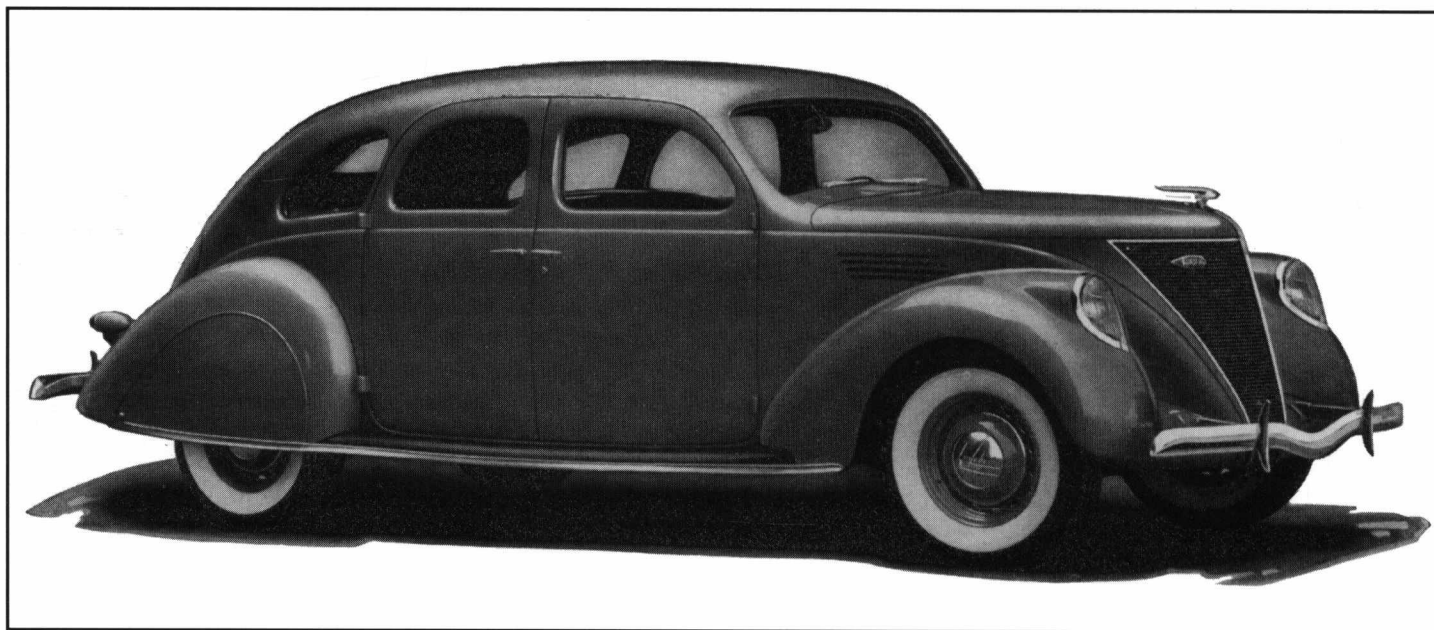


Fig. 1 – The 1936 Lincoln-Zephyr (from the editor's collection)

In *Cannery Row* he tells us of another icon:

The Model T Ford truck of Lee Chong had a dignified history. In 1923 it had been a passenger car belonging to Dr. W.T. Waters. He used it for five years and sold it to an insurance man named Rattle. Mr. Rattle was not a careful man. The car he got in clean nice condition he drove like fury. Mr. Rattle drank on Saturday nights and the car suffered. The fenders were broken and bent. He was a pedal rider too and the bands had to be changed often. . . . The body of the car was so battered that its next owner cut it in two and added a little truck bed.

In *East of Eden*, Adam Trask succumbs to temptation

gigantic bee sounded. "Hear that? That's the contact in one of the coil boxes. If you don't get that, you got to adjust the points or maybe file them. . . ."

He moved to the front of the car "now this-here is the crank and – see this little wire sticking out of the radiator? – that's the choke. Now watch careful while I show you. You grab the crank like this and push till she catches. See how my thumb is turned down? If I grabbed her the other way with my thumb around her, and she was to kick, why, she'd knock my thumb off. . . ."

"Now," he said, "look careful. I push in and bring her up until I got compression, and then, why, I pull out this wire and I bring her around careful to suck gas in. Hear that

sucking sound? That's choke. But don't pull her too much or you'll flood her. Now, I let go the wire and I give her a hell of a spin, and as soon as she catches I run around and advance the spark and retard the gas and I reach over and throw the switch quick over to magneto – see where it says Mag? – and there you are.”

His listeners were limp. After all this they had just got the engine started.

The impact of the Model T on society was not lost on Steinbeck:

Someone should write an erudite essay on the moral, physical, and esthetic effect of the Model T Ford on the American nation. Two generations of Americans knew more about the Ford coil than the clitoris, about the planetary system of gears than the solar system of stars. With the Model T, part of the concept of private property disappeared. Pliers ceased to be privately owned and a tire pump belonged to the last man who had picked it up. Most of the babies of the period were conceived in Model T Fords and not a few were born in them. The theory of the Anglo-Saxon home became so warped that it never quite recovered.

Writers, excepting Tom Clancy, are not known for the accurate embrace of technology. Those who deal with social issues, as opposed to adventure, tend to obfuscate or even vilify the automobile. So how did John Steinbeck come by his insightful motoring commentary? Was it from his own knowledge, or was it harvested from others? In short, was Steinbeck the proverbial “car guy,” or just a skillful raconteur?

There is ample evidence he was both. Biographer Jackson J. Benson (*The True Adventures of John Steinbeck, Writer*, New York: Penguin Books, 1990) doesn't tell us much of Steinbeck's childhood pursuits – whether, like many SAH members, he had an early particular interest in cars. Benson describes young John as “brash, stubborn and lazy,” and quotes Steinbeck's mother as lamenting “He'll either be a genius or amount to nothing.” (p.19) Steinbeck's entry in the Salinas High School yearbook notwithstanding, Benson characterizes him as shy and not terribly popular, and largely unsuccessful in athletics and drama – his principal achievements being associate editorship of the yearbook and considerable writing for it. (pp. 24-25)



Fig. 2 – A 1923 Pierce-Arrow seven-passenger touring car, similar to the one Steinbeck piloted in the summer of 1925 (from the editor's collection).

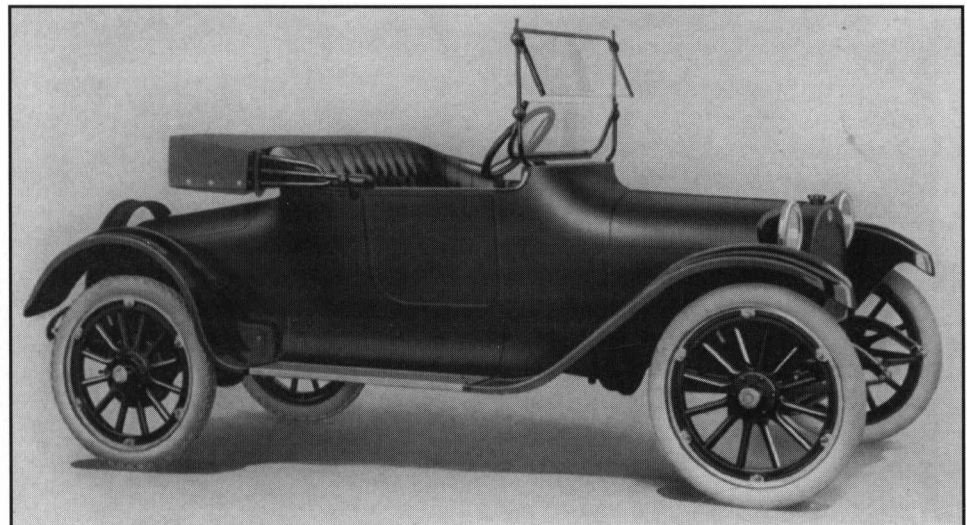


Fig. 3 – The 1915 Dodge roadster of a type that Steinbeck bought in 1925 (from the editor's collection)

During Steinbeck's time at Stanford University (where he would eventually earn about three years of credit but never enough for a degree) he worked at the Spreckels Sugar plant in Salinas – in the carpenter shop, the machine shop, and as a bench chemist. Never dedicated to hard work nor the master of the manual arts, he nevertheless enjoyed tinkering, but his exploits in the machine shop, for example, resulted in his getting metal filings in his eyes, which required bandages for two weeks.

In 1925, John Steinbeck went to work at a resort lodge near Lake Tahoe. One of his jobs was to drive a Pierce-Arrow to the post office and depot, for mail and to pick up guests and their luggage (Fig. 2). Benson says of Steinbeck: “Always

Here is the World's Lowest Priced QUALITY AUTOMOBILE

\$ 525

F.O.B. FLINT, MICH.

PRICE SUBJECT TO CHANGE WITHOUT NOTICE



TOURING, ROADSTER OR
LIGHT DELIVERY CAR
\$525, F. O. B. FLINT, MICH.
FULLY EQUIPPED



FOR ECONOMICAL TRANSPORTATION

5-PASSENGER SEDAN \$875
4-PASSENGER COUPE \$850
F. O. B. FLINT, MICH.
FULLY EQUIPPED

Fig. 4 - The 1922 Chevrolet Touring Sedan (from the editor's collection)



*Fig. 5 – A 1925 Hudson Super Six Brougham, owned by the author.
The truck in which the Joads traveled to California in *The Grapes of Wrath* began life as a similar car.*

fascinated by machines of every kind, and at this point in his life enamored of cars, John took great delight in driving the Pierce-Arrow,” though by describing it as having sixteen cylinders the biographer displays his own automotive naiveté. (p. 87)

As the people in Steinbeck’s life often turned up in his novels – Doc, the biological merchant in *Cannery Row*, for example, was based on his good friend Ed Ricketts, to whom the work is dedicated – so, too, are the automobiles often derived from those that were part of his world. In May of 1925, John bought a 1915 Dodge roadster (Fig. 3), which he and friend Lloyd Shebley used on a number of double dates, including the initial outing with Carol Henning, who later became Steinbeck’s first wife. Whether from familiarity or nostalgia, it’s not surprising to see Dodge immortalized in *Grapes*:

Yes, sir. ’22 Dodge. Best goddamn car Dodge ever made. Never wear out. Low compression. High compression got plenty of sap for a while, but the metal ain’t made that’ll hold it for long.

Not surprisingly, the touring car driven by the Wilsons, newfound compatriots of the Joads, is a 1925 Dodge, and the Dodge’s decrepitude becomes part of the story.

Tom backed the truck close and then he got out and walked to the touring car . . . Al retarded his spark and listened to

his idling motor. Tom asked, “What’s the matter, Al?”

Al speeded the motor. “Listen to her.” The rattling pound was louder now.

Tom listened. “put up your spark an’ idle,” he said. He opened the hood and put his head inside. “Now speed her.” He listened for a moment and then closed the hood. “Well, I guess you’re right, Al,” he said.

“Con rod bearing, ain’t it?”

“Sounds like it,” said Tom.

The reader is then treated to the epic story of the hunt for a part in nearby garages and junkyards, and a description of the repair, including some homespun medicine for a gashed knuckle.

“They’s only four cylinders to these here ol’ Dodges. I took one down one time. Got main bearings as big as a cantaloupe. Now – let her down – hold it. Reach up an’ pull down that gasket where it’s stuck – easy now. There!”

The author sounds like he’s describing his own experience with an engine, and he might well have been.

Before her marriage to John Steinbeck, Carol owned a Buick, which John purchased from her “for a few dollars.” Not long before their wedding, on a trip south on the El Camino Real, the Buick began to make “peculiar noises.” Benson says

Steinbeck nursed the car into San Jose, stopping at Carol's parents' home.

John determined that the car's condition was terminal. He was able to sell it for junk and went out looking for a replacement. He was proud of his knowledge of old used cars and thought himself a pretty good backyard mechanic, but pride doth often lead us into temptation, and a custom-made Marmon, purportedly driven at one time by Barney Oldfield, captured both his imagination and a good part of his cash reserve. (p. 166)

This weakness, apparently, was something he shared with Scott Fitzgerald. But while Fitzgerald was scathing about his Marmon, Steinbeck's affair was briefer and his disappointment less acrimonious. After about a month, the Marmon digested its differential. John and his friend Dook Sheffield scoured the junkyards of Los Angeles for a replacement ring gear, which it took Steinbeck a full two weeks to install. But because he was a tinkerer and not a skilled mechanic it failed again some 30 miles later. The Marmon was quickly sold and replaced with a 1922 Chevrolet (Fig. 4).

The Chevrolet became both transportation and friend, and the Steinbecks drove it for about five years. The radiator leaked badly, and John attempted to use cornmeal as stopleak. Dook Sheffield later recalled, while driving down Sunset Boulevard, "the radiator started spouting, spouting cornmeal all over the windshield and then all over us." Benson says of John and Carol and the Chevy:

They . . . pack[ed] up the car and drove south, not knowing where they would stop or what they would do when they got there. As the Chevy chugged along the coast highway, overheating and threatening collapse, they must have felt very much as the migrants felt making their way along Highway 66 to California. (p. 257)

As Doc had come from Steinbeck's experience, so came the Joads. Benson has them, albeit as a composite, modeled after the family of Sherm Easton, chairman of the camp committee at the Weedpatch migrant worker camp in Arvin, California, which Steinbeck visited in 1938. (p. 341) The Joads' car, a major role in *Grapes* and a lead in the 1940 John Ford movie version, was inspired, according to a Steinbeck family friend, by witnessing migrating Okies driving through Salinas in their home-made, converted trucks. The friend, a Mrs. Hargis, recalled saying to John as one such vehicle drove by: "There's a story in that somewhere." Indeed there was. (p. 286)

For the Joads' deliverance, Steinbeck chose not a Chevy, like his own, but a Hudson Super Six (Fig. 5). By the 1930s, heavily-built cars of the decade earlier had become a cheap substitute for purpose-built trucks. Many were the Lincolns and Packards and Hupmobiles made into wreckers or service cars for dealers, and thousands more were made into ersatz stakebed trucks for the westward migration. Steinbeck describes the preparations for the Joads' departure:

A truck stood in the yard, a truck with high sides but a strange truck, for while the front of it was a sedan, the top had been cut off in the middle and the truck bed fitted on. And as they drew near, the men could hear pounding from

the yard, and as the rim of the blinding sun came up over the horizon, it fell on the truck, and they saw a man and the flash of his hammer as it rose and fell . . . Tom sauntered forward, sidled embarrassedly toward the truck. It was a Hudson Super Six sedan, and the top had been ripped in two with a cold chisel. Old Tom stood in the truck bed and he was nailing on the top rails of the truck sides.

The Hudson, overloaded and overheating, goes the distance and gets the Joads to California, where they find the promised land still eludes them.

There's other evidence to confirm Steinbeck's characterization as "car guy." In 1931, writing discouragingly to George Albee about *To a God Unknown*, then a work in progress, he likens it to an automobile engine:

If the Unknown God were well done it might be submitted, but it is torn down like a Duzenberg (sic) having its valves ground. And it won't be rebuilt for a year and a half.

The Steinbecks, says Benson (referring to John's prosperous, third marriage period in 1953) "had a series of very good cars" (with little detail of what they were) "and boats (John had a new boat almost every year.)" (p. 772) For touring in Europe he bought a Jaguar. Driving to Naples, John was speeding along when he noticed a donkey crossing the road. He slowed a bit to pass behind it, and then saw it was hitched to a horse and the horse to a wagon, which was, in turn, leading a cow. Slamming on the brakes, Steinbeck went into a skid, and executed a 180-degree turn. As the car came to rest and the dust settled, the driver of the wagon dropped his reins and applauded "Magnifico! Magnifico!" Mavis McIntosh, his New York agent, called Steinbeck the wildest driver she had ever known.

In 1956, when the Steinbecks were living on Long Island, he worked out a plan for a workspace in which he could write without being interrupted. He wrote to one of his agents:

I've worked out something. I've built a work table which sits on the front seat of the station wagon and makes the second seat a work room. It is very comfortable and it will even hold a typewriter. So the first thing every morning I will drive out and park someplace and not come back until I've done my daily stint . . . I can park in a different place every day and it is really the most efficient little work room you ever saw. If it is cold I can warm it up with the heater.

The first time he tried his new workspace he parked on the beach and became mired in the sand. He had to be pulled out by a beach buggy. He promptly abandoned his new scheme.

So John Steinbeck was a car guy, not just the consummate raconteur. But was he a consummate car guy? Most of his car stories ring true, but there's one that's always bothered me. As Tom and Al Joad put the new piston and rod in the old Dodge they realize they don't have a piston ring compressor. Tom suggests a trick he learned from an old mechanic: wrapping some brass wire carefully around the ring to press it into the groove. Once the engine was running the heat would melt the wire and allow the ring to expand to the cylinder walls, as it was supposed to. This has always seemed rather far-fetched, perhaps a rural legend. Maybe there are some folklore mechanics in our midst who can tell us if this shortcut really works.

Michigan's Motor Cities: We Put the World on Wheels

by William Ruxton Chapin

Today, I am going to spend a few minutes talking about an organization that is preserving and promoting the automobile heritage of southeast Michigan. It is called MotorCities – Automobile National Heritage Area (ANHA).

No one will disagree that southeast and central Michigan is deeply rooted in the automobile industry. The imprint of the industry, its workforce, and its economic vitality can be found not only in factory complexes but also in office buildings, downtowns, neighborhoods, and parks. The large plants throughout the region are a distinguishing characteristic. They represent the vitality and economic potential that have shaped this area.

For many years, various aspects of the auto industry have been presented in many museums and interpretive venues across the area. But the powerful story of how the production of automobiles changed the region and the nation has not been fully communicated. Even today, visitors are unable to appreciate the breadth and importance of the region's story to the nation and the world. Residents do not fully appreciate what their predecessors have accomplished and how this story is written large across the landscape.

The Automobile National Heritage Area Partnership is a non-profit entity that was formed as a result of intensive citizen interest and support for preservation of the region's automobile heritage. After some conceptual planning and considerable organizational effort, a coalition of citizens was successful in securing Congressional designation for ANHA in 1998.

National heritage areas are a relatively new concept created by the National Park Service. Starting in the mid-1990s, nearly two-dozen heritage areas have been designated by the Federal government to recognize important regions and areas across the nation.

General Management Plan

Early on in the process, the ANHA Partnership was charged with the responsibility of preparing a General Management Plan. For over 10 months during 2001, the Partnership created that plan. In early November last year, it was submitted to the Secretary of the Interior as required by the legislation passed by the United States Congress.

The preparation of the General Management Plan offers the opportunity to:

- Create regional linkages, interconnecting widely scattered sites that are part of a common regional history.
- Define regional identity, enlarging the heritage constituency and changing the perception of the region.
- Build on existing interpretive resources, making the story more accessible and apparent to residents and visitors.
- Strengthen regional visitation, building the tourism base and increasing its economic impact.

- Revitalize communities and districts associated with the story, enhancing the quality of life in Michigan.
- Create a mechanism and forum that can be a catalyst for regional action; advocating for using the shared automotive heritage of the region as a unifying force for growth and development.

The ANHA Partnership has a compelling vision: the Heritage Area will help our citizens appreciate how the automobile changed Michigan, the nation, and the world, making this rich heritage a source of pride for our communities and a positive influence on our region's future.

This region is large. It covers much of southeast and central Michigan. That includes the cities of Detroit, Flint, Lansing and Jackson. By the numbers, that's about 10,000 square miles, 13 counties and 250 or so townships.

Clearly, "partnership" is a key tenet of the organization. ANHA realizes that it cannot cause large change unilaterally. We are committed to serve a catalyst role in promoting automobile heritage and encouraging others – industry representatives, citizens, communities, and businesses – to recognize resources. And act in concert to use the region's heritage in positive and productive ways.

The key mission goals of the ANHA Partnership include education, preservation/revitalization, and tourism. These goals are strongly reflected in the recommendations of this plan.

MotorCities Identity

To succeed with the mission goals, a clear and memorable identity for the ANHArea is an important recommendation. The name "MotorCities" conveys the unique and memorable qualities of the region and will be integrated with a new logo. The name and logo, coupled with printed informational and interpretive materials and environmental communication, will "brand" the Heritage Region, changing resident and visitor perceptions about its quality and character.

Resource Management Zones

Resource management zones are a key aspect of the Plan. The three types of management zones within the proposed MotorCities boundary are: the Heritage Region, Stewardship Communities and Hub Districts.

The Heritage Region defines the overall external boundary of the heritage area. It comprises a contiguous area that encompasses a diverse mix of auto heritage resources.

Stewardship Communities are those jurisdictions where multiple and significant automobile heritage resources are located. The plan has tentatively designated these areas. But we have left open the possibility that other areas may meet the criteria for such designation over time.

Hub Districts are areas within the Stewardship Communities where resources are most densely concentrated and where the MotorCities story will be told.

Within each zone, the ANHA has a primary mission. For the Heritage Region as a whole, it is education. The ANHA Partnership will develop educational programs and materials that communicate the heritage of the region. Preservation and revitalization is the primary mission within the Stewardship Communities. The ANHA Partnership will assist Stewardship Communities as they identify and preserve auto heritage resources. And in the Hub Districts, our mission is a visitor experience. We will cooperate with our resource partners to enhance and improve the visitor experience.

Affiliates are areas beyond the Heritage Region boundary that share aspects of automobile heritage. And they may be identified from time to time by the ANHA Partnership for collaborative efforts. For example, we will provide opportunities to affiliates to participate in joint marketing, which will have mutual benefits.

Interpretive Themes

Interpretive themes are defined for all of the Heritage Region. They make its history understandable and accessible for residents and visitors. The key overriding interpretive themes include:

The Industry of the Century. The automobile industry innovations in production and marketing. And how they changed not only Michigan, but also the nation and the world.

Communities of the Automobile Region. How the Automobile Region was formed, what it became, and how it is perceived.

Torque and Tension: management, labor, and the automobile family. Encompassing the people of the region, especially the workers. But it extends – albeit for a smaller set of individuals – to embrace managers and owners.

Auto Inspiration: the arts, design, and architecture. Capturing the close linkages between automobile design, the world of art, and architecture – especially industrial architecture.

America on Wheels. Embracing the pervasive impact of the automobile industry and the car on our environment, culture, and way of life.

There are some other key features as well:

Hub Gateway Venues

Hub Gateway Venues will be designated at key interpretive institutions in each Hub District to serve as locations where visitors will get an overview and an orientation to MotorCities. I happen to call these venues “hub caps.” These proposed nine locations each have – or will have significant existing exhibits and content dealing with automotive heritage.

The proposed locations are:

1. The **Detroit Historical Museum** located in downtown Detroit. A key attraction in the museum is the Motor City Exhibit that features an operating section of Cadillac’s former Clark Street assembly line.

2. The **Michigan Historical Center** in Lansing. It surrounds visitors with Michigan history from prehistoric times through the mid seventies. One of the major exhibit environments is the 1957 Detroit Auto Show.

3. **Nankin Mills.** Built in 1863 near Dearborn, the mill was bought by Henry Ford in 1918 as part of his Village Industry project.

4. The **Buick Gallery** and **Alfred P. Sloan Museum.** Flint’s history as the birthplace of General Motors and the city’s involvement in the birth of the UAW are all part of these two museums.

5. The **Ypsilanti Automotive Heritage Museum** and **Miller Motors Hudson.** They are located near Henry Ford’s famous Willow Run Assembly plant. This is where the famous B-24 Liberator bombers were built during World War II. The museum shows off some of the creative thinking that is associated with that plant throughout the years: Kaiser-Frazer in the late 40s, GM’s Hydramatic transmission, the Chevrolet Corvair, and GM’s front-wheel-drive X bodies. Ypsilanti is also the home of another creative thinker – Preston Tucker. It is here where he built the prototypes for his Tucker Torpedo. Attached to the Ypsilanti museum is Miller Motors – the world’s last remaining Hudson dealership.

6. The **Walter P. Chrysler Museum** in Auburn Hills.

7. The **Henry Ford Museum** and **Greenfield Village** in Dearborn, where you can explore innovation in America. One of the highlights is the *Automobile in American Life* exhibit. Even those of you who have visited the museum in the past will be surprised by all that’s new: an IMAX theater, the Benson Ford Research Center that opened early in 2002, and a range of new exhibits and activities currently being developed to celebrate the 100th anniversary of Ford Motor Company in 2003.

8. **Walker Tavern Historic Complex.** From 1836 to 1855, this Federal style home served as a favorite stagecoach stopping place on the five-day trip from Detroit to Chicago. The complex interprets Michigan’s pre-automotive stage-coach era during the first half of the 19th century.

9. **General Motors Heritage Center,** now under development at the GM World Headquarters at Renaissance Center in downtown Detroit.

Heritage Programs are defined to insure that the ANHA Partnership will fulfill its mission goals. Thirty-six heritage programs have been described to respond to the Partnership’s key missions of education, revitalization, and tourism. These programs include a broad range of interventions, in partnership with other public and private entities.

Closely related to these Heritage Programs are potential **Demonstration Projects** dealing with key automobile heritage resources. One of them could be developing a viable alternative use for the long-abandoned Highland Park Ford Model T plant.

Resource Management recommendations are provided to insure that the ANHA Partnership and other responsible entities will preserve key resources and use them effectively to accomplish the organization’s revitalization goal.

Let me give you just a few of the facts and figures as they relate to cost, timing and economic impact of the General

Management Plan. The total cost of the plan is put at approximately \$58 million, over an assumed implementation period of ten years. These costs will not be borne entirely by the ANHA Partnership. That is consistent with the organization's philosophy of serving as a partner and a catalyst for action.

Three Phases of implementation are recommended, including: Phase 1, which is for the first five years. The intent of this phase is to mobilize the implementation process, to create key heritage infrastructure and to establish the MotorCities identity throughout the region and at key venues within the Stewardship Communities.

Phase 2 covers years 6-10. During this phase the ANHA Partnership will develop the framework of the Plan, using the identity and initial heritage infrastructure to support expanded fulfillment of its education, revitalization, and tourism mission goals.

Phase 3 extends out to years 11-15. During this phase, MotorCities will have evolved into a self-sustaining operation whose scale will be commensurate with its obligations and will be strongly influenced by its track record to date.

A very conservative analysis of the potential economic impact of the plan reveals that it is likely to be substantial. It is estimated to draw an additional annual 750,000 visitors to the MotorCities region in the tenth year. It should attract a net new annual \$468 million of visitor spending. This annual visitor spending alone in year 10 is estimated to result in nearly \$1 billion of positive annual impact to the region's economy.

MotorCities has five Founding Partners, who have contributed significantly to the launch of the effort: DaimlerChrysler, Ford Motor Company, General Motors, the UAW and the National Park Service.

Major Initiatives Underway

MotorCities has three major initiatives underway. Each of them supports one of the key mission goals of education, preservation/revitalization and tourism.

The group of nine Hub Gateway Venues recently met to agree on the tourism program elements that should be implemented this summer at each of the locations. These elements include an overall heritage area display along with maps and brochures for local attractions within the Hub Districts.

I also want to mention a project of the Motor City Packards Club at this point, because it may result in the tenth Hub Gateway Venue for the heritage area at the historic Packard Proving Grounds in Shelby Township Michigan. In 1927, Packard Motors commissioned Albert Kahn to design this

lodge-garage building for the Packard Proving Grounds. Engineers and auto executives stayed in one of nine bedrooms in the English Tudor style building. Today, the club is working diligently on a mixed-use project for the building and the grounds. If successful, it will result in the structure being fully restored and open to the public.

MotorCities and the UAW have joined together to create the first ANHA education initiative. The UAW Joint Funds from DaimlerChrysler, Ford and GM have pledged nearly \$600,000 over a two-year period. The project – called **MotorCities Memories** – collects the stories of the residents in the heritage area and develops them into materials that teachers in Michigan and the United States can use to meet their educational goals.

Near the end of 2001, MotorCities began an effort to collect information about historic buildings, landscapes and natural features that relate to the automotive resources. These are the ones that make our part of Michigan unique in the world. It is called the **Historic Automotive & Transportation Resource Inventory**. This project will add resources to ANHA's Geographic Information System Inventory. Our unique GIS database allows for significant amounts of information to be maintained in an electronic database that is tied to intelligent maps. Over 1,000 automotive heritage resources have been entered. We've publicly launched the resource inventory database on our MotorCities website, www.autoheritage.org, in July 2002.

I want to mention two other initiatives under way that might be of interest. We have announced the **MotorCities Grants** Program. In the first year of the program, available grants will total \$70,000. Grants are to be awarded to groups or individual projects relating to automotive heritage within the region boundaries. The second is our new Membership Program. Since I am chairman of the Membership Committee, it would hardly seem fair if I couldn't put in a plug for becoming a member of MotorCities – ANHA. You don't need to live in Michigan. In fact, Indiana dollars or European Euros will work just as well.

I think you can sense that I am enthusiastic about MotorCities and what it can potentially do for automotive heritage throughout the United States. Our board, staff, and stakeholders all look forward to working with auto historians, car collectors, museum owners, auto enthusiasts and anyone else interested in automotive heritage and culture. It doesn't matter where they live. Because as they say: Michigan made auto history. We want to make more of it.

Abstracts of Other Papers Presented

1908-1911 Buick: "Race Cars From Hell"

by Terry Dunham

It took a lot to succeed in the car business in the early days. It took a feature, price, confidence in the company that had produced the contraption, something special. In the case of Buick, it took a better engine, a patented overhead valve engine that Buick would come to advertise in the next six decades as the "valve-in-head."

It also took a Buick race team. A team driving cars powered by that same ohv design, to get the word out to the American public that something special, something really powerful, lay under the hood of a Buick automobile. From 1908 through the early days of 1911, the Buick race team was a force to be reckoned with in this country.

Buick's winning reputation on the racetrack started in 1904, almost coincidentally with the introduction of the Model B, Buick's first production car. On August 27 of that year, Walter Marr, Buick's chief engineer (Fig. 1), entered a Buick in a five-mile AAA sanctioned event at Grosse Pointe, Michigan; the car finished third. Before the end of the year, Buick's New York and New Jersey agent, H.J. Koehler, drove a two-cylinder stripped chassis up Eagle Rock near Newark, setting a record for the class. From Thanksgiving 1904 through Christmas 1906, Koehler accumulated no less than 36 racing cups and medals. And his sales climbed so much so that on October 1, 1906 he ordered 500 cars from the factory. That was 10 percent of Buick's 1906 production!

At the same time, on the west coast, Buick agent and former factory employee, Charles S. Howard, and his mechanic, Frank Murray, were responsible for a significant number of early Buick victories in the San Francisco Bay area.

The publicity impact of these victories was not lost on William C. Durant when he formed General Motors in 1908 out of Buick, Oldsmobile, and Cadillac. In early June, he approached young Buick employee Bob Burman, 24, and asked him to form a company racing team. Burman had earlier made a racing name for himself and was quick to agree. Louis and Arthur Chevrolet were two who would run successfully under the Buick banner.

Burman's racing strategy seemed simple enough; his car either held together running wide open and Burman won, or the car broke and Burman lost. As a result, there never seemed to be any middle ground for the team either. The team thrashed its racing machinery unmercifully in what usually appeared to be nothing more than a brawling free-for-all. But Buick drivers won far more than their share of races. Burman, unfortunately, was killed on his 32d birthday, but in a road race, driving a Peugeot.

Louis Chevrolet (Fig. 2) was just 30 when he joined the team, after having raced for Fiat in New York. Another early member was Charles Ewing Easter, who was 27 when he joined

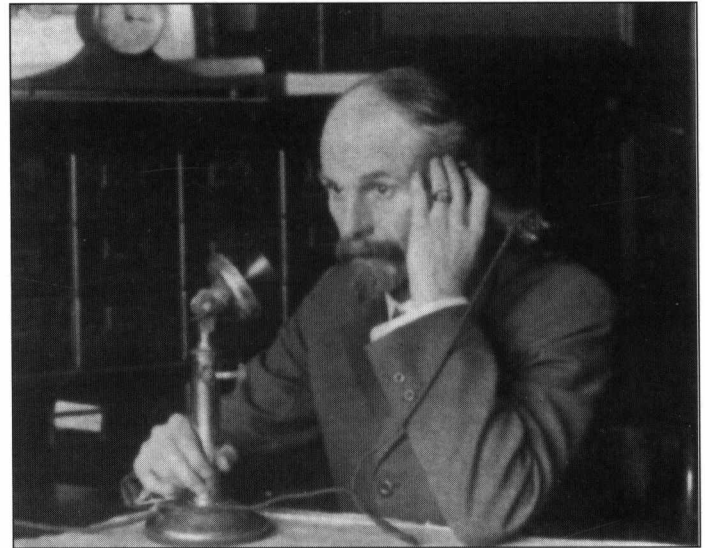


Fig. 1 – Walter Marr, Buick's first chief engineer



Fig. 2 – Louis Chevrolet

the team and had raced earlier with the F.B. Stearns team. Easter's biggest win with a Buick came on October 10, 1908, in the Motor Parkway Sweepstakes. The event opened the Long Island Motor Parkway.

To close out 1908, Buick decided to compete in the Savannah Grand Prize and Light Car Races, held in late November. The team traveled from race to race in a railroad

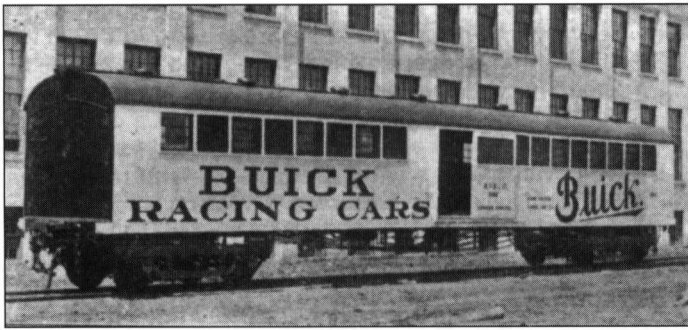


Fig. 3 – The box car used to move the Buick team around the country from race to race.

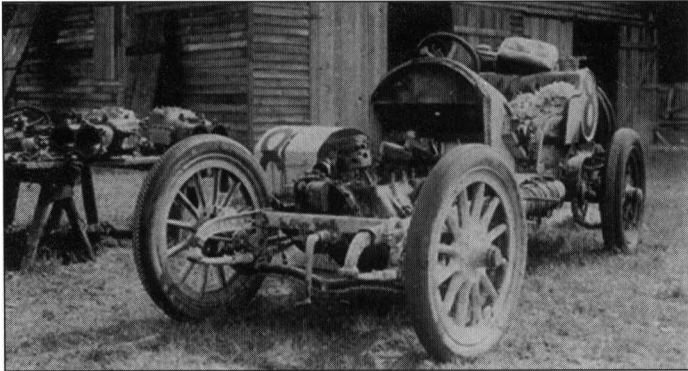


Fig. 4 – Surveillance of the competition: surreptitious Buick photo of the wrecked Benz and its disassembled engine.

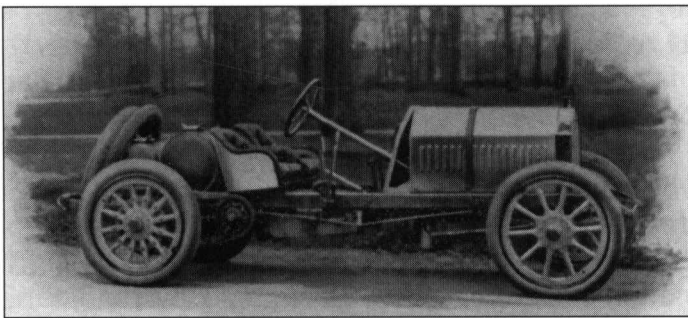


Fig. 5 – The Marquette-Buick Model 100

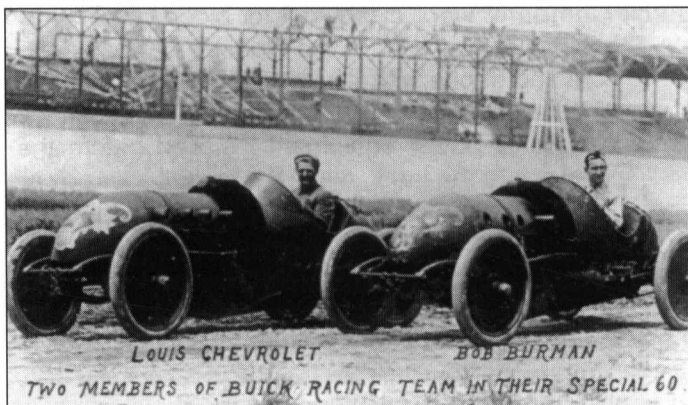


Fig. 6 – The Buick Bugs

boxcar, specially identified and outfitted with a machine shop and a blacksmith's forge (Fig. 3). It also carried a tow car to move the racecars from the railroad station to the track. En route to Savannah, two of the four Model 10s aboard were secretly converted to underslung suspensions with the hope that the lower center of gravity would give them "the racer's edge." Burman's specially-built larger Grand Prize racer had also been converted during the trip. That was sufficient to gain him second place in the Light Car Race (an unmodified Model 10 took fourth), but suspension failure the next day ended his Grand Prize hopes.

Walter Marr knew that some pretty big changes had to be made if Buick was ever going to be competitive. It happened that a Benz overturned and was wrecked near where the Buick team was encamped. Marr quickly inspected the suspension and later had a Buick photographer surreptitiously take pictures of the Benz's disassembled ohv engine on workbenches inside the Benz camp (Fig. 4). He learned a lot about why the Benz machines were so fast. When he got back to Flint, he built three large ohv 4-cylinder racing engines, mating them to three chassis produced by another GM company, Marquette.

Marr's philosophy was akin to "all's fair in love, war, and racing." Buick registered them with the AAA as the "Buick 30," indicating they were production cars of 30 horsepower, when, in reality, they were hybrid hand-built racing machines with far more than 30 horses under the hood. The Marquette frame was only half an inch longer than the Buick production frame, and that made it relatively easy for Buick to sneak two of the illegal racecars into the stock production classes. The third car was known as the Model 100 (its true horsepower), and was the fastest and most competitive cars raced by the team (Fig. 5), even more than the better-known Bug of 1910 (Fig. 6).

The single-seater design of the Bugs made them among the first race cars built in the country with no provision for a riding mechanic. They had two independent brake systems, both inadequate. Four short chrome exhaust stacks protruded from the left side of the ending cowling. When the driver backed off the throttle to slow for a corner, long blue flames would erupt from all four stacks. They were extremely difficult machines to drive, and as a result they had virtually no success in closed circuit track and road racing. However, Burman took his machine to Jacksonville Beach, Florida, where it set several records in straightaway competitions.

But meanwhile, in 1909, Walter Marr's new Marquette-Buick hot rods were winning spectacular victories in New Orleans, Daytona, Lookout Mountain, Jamaica, and most importantly, Crown Point, with Louis Chevrolet at the wheel of a "Buick 30" running on three cylinders. During 1909, Buick racked up 166 victories, winning more than 90 percent of the events entered by the team.

The AAA caught up with Buick in 1910 and its cars were disqualified in early season races. The team returned to Savannah in November where the rules for the Grand Prize had changed and the Model 100 was eligible to run. Burman finished third, with 15 tire changes plaguing him for much of the distance. His Buick won \$2,000 for being the first American car to finish, and was further credited with having made "the best showing ever attained by an American car in a long road race." Louis Chevrolet wanted to compete in the first Indianapolis 500

in May 1911, and his Marquette-Buick 100 posted the fastest qualifying time, 93 mph. But he had failed to complete the necessary entry forms on time, and, under the rules, he had to get unanimous consent from the other drivers and manufacturers in order to participate. All the drivers signed, but three manufacturers didn't, among them Marmon, whose Wasp won the race.

By 1911, Durant was gone and the bankers running GM had no use for the team. But the company continued to advertise its exploits for several years. Burman's Bug survives, and can be seen at the Sloan Museum in Flint. A Marquette-

Buick driven by Louis Chevrolet is on display at the Speedway Museum in Indianapolis.

Terry Dunham is well-known as the co-author of the Automobile Quarterly book *The Buick – A Complete History*, which will be published in its 6th edition in 2003 in time for Buick's centenary. His interest in Buick dates from 1957 when a modified 1957 Dodge coupe he was driving was beaten by a stock 1937 Buick Century in a back road drag race. A native of Michigan, Terry worked for General Motors from 1963 to 1992 when he retired. The photos accompanying this abstract are from the November 2001 Buick Bugle.

American Speed Culture in the 1950s and the Emergence of Stock Car Racing

by Ben Shackelford

This paper explored the relationship between "Hot Rod" and "Custom" automotive culture, "Stock Car" racing and American automakers during the 1950s. Using research accomplished during a Lemelson Fellowship at the Smithsonian Institution during the summer of 2001, Ben's purpose was to demonstrate that the emergence of national popular interest in automotive styling and performance helped direct the growth of NASCAR Grand National stock car racing.

Following the Second World War, enthusiasts resumed automobile racing throughout the United States. In California, this resumption met with fertile circumstance and spawned the hot rod and custom car culture of the 1950s. The West Coast convergence of amateur enthusiasm, entrepreneurial talent, applied engineering, and magazines such as *Hot Rod* and *Rod and Custom* helped foster new relationships between automobile owners and their machines. In addition to finding widespread

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Los Angeles 7, Calif.

FOR YOU! This push-jammed catalog of latest custom accessories—illustrated. Send only 25c to cover handling and postage—TODAY!

Fig. 1 – Representative advertisement of the 1950s for custom equipment for Ford and Chevrolet owners (Hop Up, May 1953, p. 3, from the editor's collection).

publicity in periodicals, the competitive dimensions of hot rods found national expression through the development of drag racing, while custom car builders attracted national attention in car shows and design competitions. Through these vehicles as well as the emergence of the speed parts industry, American speed culture was influenced by the vitality, originality and emphasis on performance prevalent among "Hot Rodders." (Fig. 1)

An emphasis on custom styling and performance soon permeated the national automotive marketplace. In the performance field, advertisements soon presented larger engines with higher compression. Cars soon reflected "custom" styling packages for the American consumer. Ultimately, perceptions of performance and style were combined in automotive advertising and dealer option palettes.

In this atmosphere the marketing potential of "strictly Stock" racing began to bear fruit. Though the fascination with longer, lower styling, electrically controlled convenience features, unnecessary amounts of horsepower and custom paint was cultivated among California enthusiasts, they were not suitable as a marketing tool. Indeed the "hot rod" and "custom" emphasis on creativity and craftsmanship was fundamentally at odds with the American automotive production ethic. Stock car racers offered the lure of high performance competition without

the creative and mechanical individuality of the drag racers and custom car builders.

By the end of the 1960s, the National Association for Stock Car Automobile Racing (NASCAR) emerged as the most influential sanctioning organization. Its success can be attributed in part to the growing American fascination with automotive speed and competition. Interviews with experienced car builders Smokey Yunick, Ray Fox, and Sam Packard describe how, even at the dawn of stock car racing, they looked westward to California for performance components and technical expertise. This suggests that the moonshine and magnolias story of NASCAR's emergence might be diluted by the influence of California enthusiasts and the national speed culture they helped shape.

Ben Shackelford is a Ph.D. candidate at the School of History, Technology and Society, at the Georgia Institute of Technology, Atlanta. He has his M.S. from Georgia Tech in the history of technology and his B.A. from the University of the South, in British history. Outside academia, Ben has worked as a millwright, welder, mechanic, and fabricator, and, from 1994 to 1996, as crew chief for Peregrine Motorsports. He is currently writing The Spirit of Competition: Communities of Innovation in Stock Car Racing.

As we were going to press, Pat Yongue provided a copy of "Before NASCAR: The Corporate and Civic Promotion of Automobile Racing in the American South, 1903-1927," Randal L. Hall, The Journal of Southern History, Vol. LXVIII, No. 3 (August 2002). The article provides an explanation of why Savannah was so important to the racing community at the time Buick appeared there, and the motoring environment in the South that preceded NASCAR. The article closes with a particularly informative discussion of the board track at Charlotte (1924-27).

A High-Banked Learning Curve: Putting Motorsports Within Academia

by Mark D. Howell

Dr. Howell addressed the need for universities and colleges to accept motorsports as part of their academic curricula. His presentation focused on the tradition of academia to compartmentalize subjects according to their distinction as either "high" or "low" culture, and the way that emerging programs in motorsports education are being tested against such a scale.

He examined and explained the need for motorsports-based programs in institutions of higher education, programs ranging from community college courses to graduate level theoretical work that results in both masters and doctoral degrees. He specified how the rapidly changing environment of motorsports, and the ever-increasing intensity of competition seen in today's business of racing, requires that race team personnel be better educated in all areas of necessary skills. From job-specific technical knowledge, to higher-level critical thinking, analysis, communications, and problem solving skills,

tomorrow's racer need to be ready for anything his or her position within the sport requires.

Dr. Howell discussed how colleges and universities are gearing up to make such specialized education a reality, and cited specific examples of academic programs already making a difference within the world of motorsports competition. These include Clemson University which offers a motorsport engineering program on the graduate level, and the University of Northern Ohio, where students can build their own cars to race on the University's private race track. Dr. Howell also cited the example of a professor with a Ph.D. in aerodynamics who left academia to join the Penske Team.

Dr. Mark D. Howell is in the Communications Department of Northwestern Michigan College in Traverse City, Michigan, where he also lives. His presentation to the Third Automotive History Conference in 2000, "You Know Me! Barney Oldfield and the Creation of a Legend," was reprinted in Review No. 36 (p. 26).

Sports Car Racing As A Distinct Form of Motorsport

by Janos L. Wimpffen

This was a discussion of the emergence of sports car racing, its unique relationship to overall automotive history, and its general position within car culture. The examination was made within a variety of geographic and chronological constructs.

There has been little agreement as to what exactly encompasses the term “sports car racing.” Paradoxically, that fundamental problem has enticingly left this branch of auto racing at the fulcrum point between professional and amateur involvement, between manufacturer support and private teams, and between broad popularity and frequent struggles for mere survival.

The origins of the form can be dated to the early post-World War I years. It flowered in the immediate post-World War II period. Throughout the century of its history, sports car racing has been conducted differently in each of the five motor racing countries: the UK, France, Germany, Italy, and the United States. Sometimes the history of sports car racing has closely paralleled that of other speed events, while for the most part there has been considerable divergence.

The technology of sports car racing has fluctuated

greatly over the past 50 years. It has been both a platform for significant innovations as well a bastion for rigid orthodoxy. Frequently these contrasting approaches would take place within a single season or even an individual race. An example of this tension has been the mixing of a spectrum of cars, from purebred prototypes on the one hand, to nearly roadworthy grand tourers on the other.

Porsche and Ferrari are the two most fabled marques and their rationale toward sports car racing has been in almost diametric opposition to each other. Other manufacturers such as Ford, Jaguar, and Mercedes have played important support roles at various junctures. Janos Wimpffen reviewed the interplay between the various key competitors, with the purpose of offering useful insight for historians working on other aspects of motoring.

After obtaining his Ph.D. and spending 25 years in transportation planning, Janos L. Wimpffen “decided to do some serious work,” and wrote Time and Two Seats, a history of sports car racing. A resident of Redmond, Washington, Dr. Wimpffen is the American editor for DailySportsCar.com.

Mr. Ford Comes to London, Ontario, 1916

by Douglas Leighton

The Ford Motor Company established a regional assembly plant for its Model T cars in London, Ontario, in 1916. By the early 1920s, these operations had ceased, although the company continued to own and use the building for another decade. Used for other industrial purposes for many years, the site was eventually purchased by the large local Siskind law firm. The building remains essentially intact, though much renovated.

Henry Ford himself came to London to open the new facility, attended by a great deal of regional publicity. This event, and the building’s original purpose, have largely been forgotten. A study of the opening and evolution of the assembly plant casts some light on the nature of the early automotive industry, on the

changing nature of automobile production, on industrial architecture, and on the role of American celebrities in the early 20th century.

As associate professor of history at Huron University, London, Douglas Leighton’s presentation was “another installment in my exploration of the automobile industry in southwestern Ontario up to 1939.” Readers will recall Dr. Leighton’s previous conference contributions, “Dreaming of What Might Be: William Stansell, London Motors and the London Six, 1921-26” (reprinted in Review No. 36, p. 20) and “Early Automobile Manufacturing in London, Ontario” (abstracted in Review No. 32, p. 62). Professor Leighton has taught a 4th year honors seminar course for the past 10 years titled “The Automobile and Modern Culture.”

Around the World Again

by Kevin Clemens

In 1908 an epic automotive adventure took place as the New York to Paris race attracted worldwide attention. The year before a race from Peking to Paris had captured the imagination of motoring enthusiasts. After such a huge adventure, no journey seemed too difficult for the automotive. This view was incredibly optimistic and the problems encountered in the first race around the world were almost beyond the comprehension of modern motorists. An American Thomas Flyer driven by a team of American drivers eventually won the race.

Ninety-two years later, the second ever Around the World motoring competition took place. The Classic Rally Association presented its "Around the World in 80 Days Motor Challenge" for classic cars built before 1968. This event covered 22,000 miles over nearly three months, visiting 16 countries on four continents. The route carried the competitors across Europe, the republics of the former Soviet Union, and China. Some of the places visited are not normally accessible by private automobile and are among the most remote parts of the world. Kevin

Clemens competed in this epic event, the first true around-the-world motoring challenge that finished at the same point it started. His car: a 1959 Mercedes-Benz 220S sedan (Fig. 1).

Mr. Clemens' discussion began from the historical perspective of 1908 and contrasted the difficulties endured by the teams in the New York to Paris run with those encountered by the modern day adventures driving old cars in the Around the World in 80 Days. It was a view not only of then and now, but also a glimpse at motoring in some of the most remote corners of the world.

Presently a free-lance automotive journalist living in Hilliard, Ohio, Kevin Clemens spent 12 years as a performance time engineer with Michelin Tire, and 10 years as technical editor at Automobile Magazine. He is the feature editor at European Car. He reports that this is his 20th year racing vintage sports cars. He presented a paper on "The Dixie Highway: A Return to Yesterday" at the Third Automotive History Conference (abstracted in Review No. 36, p. 42).



Fig. 1 – a 1959 Mercedes-Benz 220S sedan of the type that Kevin Clemens drove around the world 41 years later (from the editor's collection).

Fidel's Cuba: Treasure Island of American Cars

by Rick Shnitzler

“... old American cars are as important to Havana as the gondolas are to Venice, the double-decker buses are to London, and the cable cars to San Francisco.” John Dowlin, *Old Cars Weekly*, April 20, 2000.

Cuban authorities have confirmed the survival of 60,000 American cars made during the 1930s, 1940s, and 1950s. Rick Shnitzler previewed the new PBS documentary “Classic American Cars of Cuba,” and discussed the routines of care, maintenance, and use which have typified inside Cuba since the Eisenhower era. The presentation focused on individuals, families and workplaces, and cited affection and ingenuity as the self-same values which motivate restoration of sister vehicles inside the United States.

His presentation was in the context of a four-year cultural initiative which goes by the name “Taillight Diplomacy,” and is within the U.S.-Cuba Sister Cities Association. TLD advocates the conservation and enhancement of the fleet of antique American cars in Cuba today. TLD seeks

to create the conditions for face-to-face cultural exchanges between Americans and Cubans who love the same cars. Rick read a message from Eduardo Mesejo, curator of Havana's Automobile Museum, to the Conference in which he spoke with pride of the ability of his countrymen to keep their cars running without spare parts, held together by intelligence and ingenuity, and the thought that Americans might learn something from this. Rick regarded this as the first governmental recognition of Cuba's old American cars and that it defined policy toward the United States and the U.S. antique car community.

A member of SAH, Rick Shnitzler (Fig. 1), is an urban planning consultant who frames land use and zoning impact issues and crafts citizen strategies. He studied architecture at the Rhode Island School of Design and planning at the University of Washington, Seattle. He also undertook graduate studies at Syracuse University under a HUD fellowship. From 1975 to 1995, he was a professional flea market vendor and a familiar presence at Fall Carlisle and Hershey meets.



Fig. 1 – Rick Shnitzler in Cuba with a 1953 Buick and friends.

Cars on the Tube and the Silver Screen: Automotive Product Placement in Television and Motion Pictures – 1950 - 2002; Societal and Legal Implications

by Thomas A. Adamich

Throughout history, automotive advertising has utilized a number of media (i.e., television, motion pictures, radio, print, outdoor, Internet) to profile and showcase cars in a variety of contexts. One particular avenue of expression – product placement – presents cars in an array of situations, from the everyday to the unusual.

This paper traces the development of automotive product placement in television and motion pictures from its “golden age” of the early 1950s to the present. Emphasis is placed on how changing societal patterns (including demographics, leisure habits, etc.), the development of product placement as a marketing tool, the evolution of the two types of media profiled, and, most importantly, the emerging legal issues/requirements have influenced automotive product placement and contributed to its widespread use as a media marketing tool for the automotive industry.

The following is an excerpt from Tom Adamich’s paper (pp. 10-12):

Davy Crockett-Disneyland

While Chevrolet’s [early] use of automotive product placement in television focused on showy, dramatic, and openly-overt references to Chevrolet vehicles, Hudson’s automotive product placement efforts on screen were far more subtle. This subtlety can be directly related to actual program content and Hudson’s role in the automotive manufacturing community as an independent – with leaner advertising budgets and fewer financial resources than the “Big 3.” Davy Crockett, part of Disneyland’s “Frontierland” adventure series (appropriately named for one of the parks at Disneyland in California) chronicled the adventures of Davy Crockett, the legendary frontiersman of the early 1800s as he lived in the wilderness of the West. Because the automobile had not been invented at that time, direct association to Hudson vehicles could only be made during commercials, a form of modified automotive placement viewed as a more “subtle” approach.

Hudson’s “subtle” approach proved to be very successful for Hudson, as Davy Crockett was one of Disney’s most successful shows, and Davy Crockett is still considered one of its most recognized characters. Fess Parker starred as Davy Crockett in the original episode, “Davy Crockett – Indian Fighter,” on December 15, 1954 (Brooks and March, *The Complete Directory to Prime Time Network and Cable TV Shows, 1946-Present*, 1999). The inclusion of Buddy Ebsen, well-known movie actor who later starred in *The Beverly Hillbillies*, made the show an instant success. Eight episodes were produced and aired during 1955. While these episodes were never considered a separate series, their promotion impact and positive effect were used effectively by Hudson in several ways.

According to headlines in the Hudson All-American Go-Getter, published by Hudson’s Merchandising Department, the “Hudson-Crockett U.S. Trip [Got] Tremendous Impact.” This cross-country tour featured Parker as he visited 22 key Hudson cities and received great enthusiasm as crowds met his caravan of Hudson Hornets in each city. Furthermore, the tour was supplemented by the “Sun Valley Contest” which featured the chance to win a trip to Disneyland and was promoted to families with Davy Crockett comic books, pictures, and posters (Fig. 1). According to Herb Lang of Detroit’s Lang Auto Sales, “Our showroom traffic has increased 1,000 percent since the Disneyland contest began. We are spending large sums in additional promotion. . . .” Art King from Oklahoma City added, “The Crockett-Hudson ‘tie up’ betters any promotion by the Big 3!”

Another famous Crockett-Hudson “tie up” featured the presentation of a new 1955 Hudson Hornet to Parker for his “important contribution to Americana in a powerful document of the best qualities of the pioneers.” According to Stewart J. Wolfe’s “Fess Parker: Uncrowned King of America’s Kids,” which appeared in the October 1955 issue of the *Hudson Family Magazine*, the character Davy Crockett and the man Fess Parker

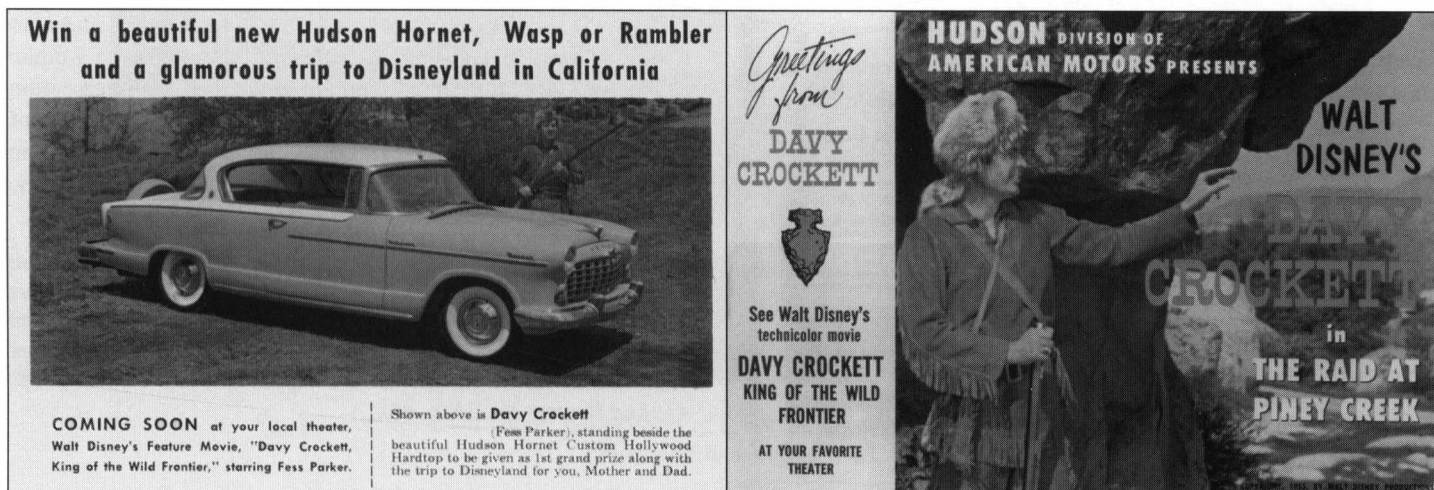


Fig. 1 – Covers of Hudson comic book promoting Davy Crockett, 1955 (from the editor’s collection).

“sets a moral pace that is a living example of the best in American manhood.” This effective use of what could be identified as the “ripple effect” of modified automotive product placement (i.e., how automobile manufacturers effectively used their associations with television programming) has been characterized by noted Hudson historian and SAH member D.J. Kava as “an early cross-over example.” Kava adds that this presentation and its connection to the “Sun Valley Sweepstakes” tour and its use of the dealer tour, coloring book, and television connections are examples of “a mature advertising industry . . .

probably only limited by the client’s budget!” (Kava, D.J., personal interview, April 15, 2001).

Tom Adamich is currently the cataloguing librarian for the Stetson University College of Law, St. Petersburg, Florida. He also serves as a consultant to other libraries. An Ohio native, Tom is a graduate of the University of Akron and did post-graduate work at Kent State. At the third automotive history conference, he spoke on “Woodies, Workhorses, and the Wonder Bread Generation: The Rise and Fall of the Station Wagon and the Rise of the Minivan” (abstracted in Review No. 36, p. 48).

My Mother The Car?

Auto Bodies and Women’s Bodies in Contemporary American Women’s Literature

by Deborah Clarke

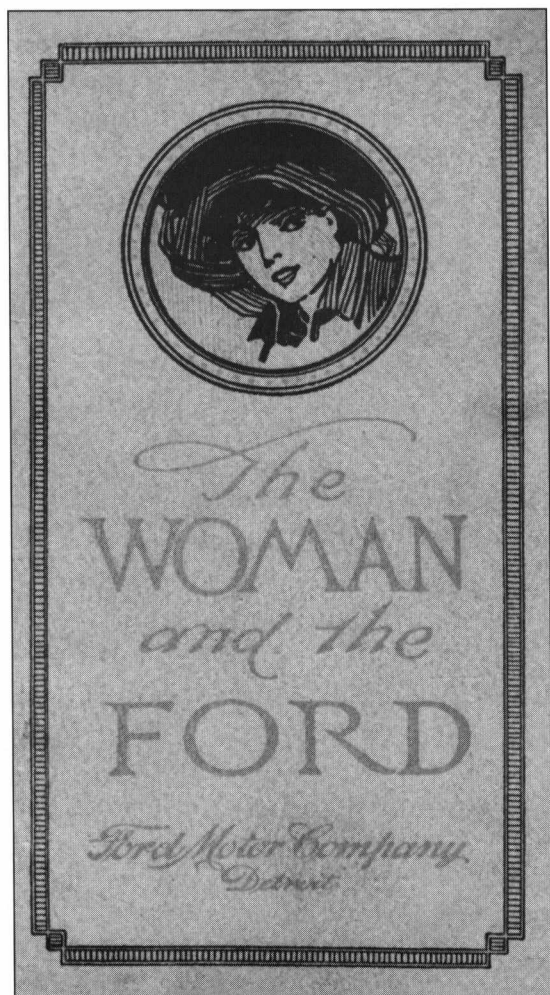


Fig. 1 – Cover of 1912 Ford Model T catalogue referred to by Professor Clarke in her talk. (from the editor’s collection).

What impact has the development of the automobile had on American female identity? The automobile has long been coded as feminine – the Tin Lizzie, with a bonnet over the engine, and skirts to hide the machinery could easily pass, linguistically anyway, as female. The strong symbolic connection between the car’s body and the female body offers a space in which to examine the extent to which women’s bodies may be seen, in the 20th century, as mechanized, as opposed to the longstanding association of women with nature. From the identification of June with the car bought with the money from her life insurance in Louise Erdich’s *Love Medicine* to June Jordan’s poem, “*The Rationale, or She Drive Me Crazy*,” where the car and woman are conflated, to the numerous advertisements which picture women’s bodies draped across automobiles, the slippage from woman to automobile highlights the precariousness of female identify in an age of technology. If the difference between woman and car is nearly elided in American culture, then how can women writers view cars and car culture as anything but oppressive? By twisting the presentation of the automobile, women writers claim as female some of the power and mobility inherent in the machinery. Examining the connections between women and cars helps to open up larger issues of gender and technology in American culture. With notions of home becoming increasingly mobile, women’s bodies becoming increasingly technological, and auto bodies becoming increasingly feminized, the notion of woman as car becomes an extremely potent symbol of the intersection among technology, gender, and literary expression. Professor Clarke argued that the car has transformed women’s identify in terms of the mobility it offers, the symbolism it evokes, and the marketing it has inspired (Fig. 1).

Deborah Clarke is a professor in the Department of English at Penn State University. Her papers, “Driving the Past: Women Writers and the Paradox of Automobility, and Anxiously Popular: Women and the Automobile Culture of the Early 20th Century” were presented at earlier Conferences (abstracted in Review No. 34, p. 41; and Review No. 36, p. 46).

Studebaker's Centennial: Studebaker Serves As a Model of the Evolution of the American Automobile

By Dennis E. Horvath

Studebaker began auto production with about 20 electric cars in 1902. This start is proudly documented with the sale of its second auto to Thomas Alva Edison. Studebaker had a rich history in vehicle manufacturing spanning over 110 years.

Dennis's paper took a look at how Studebaker serves as a model of the evolution of the automobile in America. The paper covered what contributed to Studebaker's growth as a major automobile manufacturer in the first part of the 20th century (Fig. 1). Other points included descriptions of the company's key innovations, its style-leading automobiles of the 1950s and 1960s, competitive factors contributing to the decline of American's independent automotive manufacturers, and a look of some of Studebaker's marketing materials.

Studebaker enjoyed the longest span of any Indiana auto manufacturer, 1902-63. During its first two decades,

Studebaker vied with Ford and other manufacturers for the top four spots in auto production. Studebaker made the transition from one of the larger auto manufacturers to the last independent auto producer in the United States. Studebaker's contributions to automotive history have been numerous. Examples are the first six-cylinder engine with a monobloc engine casting, the first deferred payment plan, free-wheeling, "First by Far with a Postwar Car," and the Avanti personal luxury car.

SAH member Dennis Horvath is the author of Cruise IN: a Guide to Indiana's Automotive Past and Present. In that vein, he is now working on Indiana Cars: a History of the Automobile in Indiana. Dennis lives in Indianapolis. He spoke on Indiana: What Might Have Been at the 2000 Automotive History Conference (abstracted in Review No. 36, p. 42).

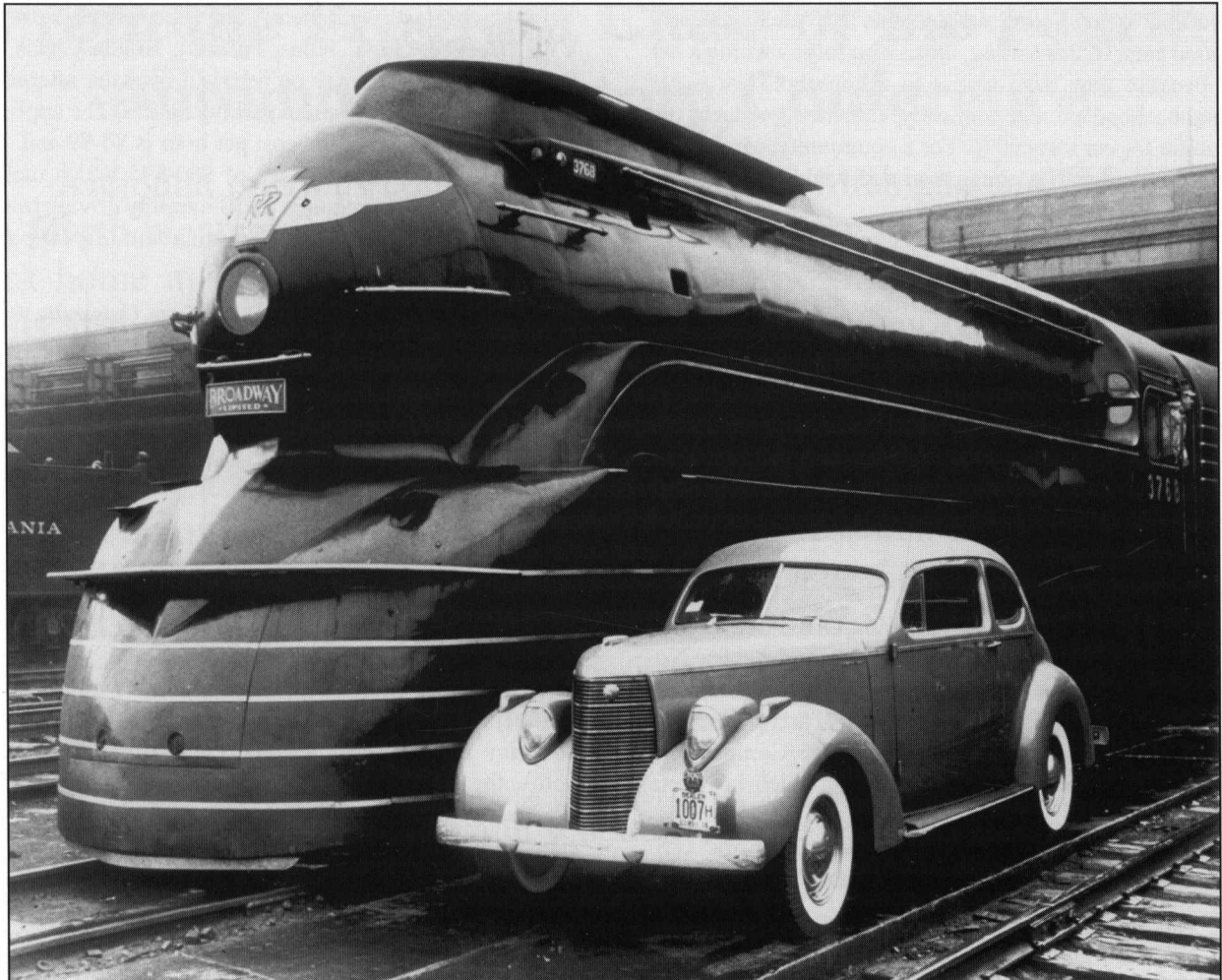


Fig. 1 – Two Raymond Loewy streamliners of 1938, the Broadway Limited and the Studebaker (from the editor's collection)

Car Sharing: An Exploration of the “Car-Lite” Lifestyle

by Tom Brownell

With 213 million registered vehicles, the United States ranks number one in car ownership worldwide. Few Americans can imagine life without a car. How would we get to work? How would we bring home groceries, visit friends and family, or go on vacation? Cars (a term used broadly to include pickup trucks, SUVs and whatever other kinds of motorized vehicles provide personal transportation) are as essential to our existence as food and air. Yet with all their usefulness, cars are a mixed blessing – both for us personally and for our communities. Our vehicles eat a big chunk of our personal income. Last year, Americans spent \$744 billion to replace their aging and worn out vehicles and billions more for fuel, tires, service and insurance to operate their vehicles. Our communities support our vehicles by providing parking, building roads, and tolerating noise and pollution.

In a handful of communities across the nation, car-sharing groups have organized to preserve the pluses vehicles bring to our lives while helping to reduce the minuses. In its essential structure, car sharing supplements individual cars with neighborhood cars. In this setting, those who forgo owning a car – usually because they have access to a household car – car share a neighborhood car. Economically, car sharing reduces the financial strain for car ownership. For a community, car sharing relieves parking and traffic congestion and could reduce some of the irksome sounds and smells.

Not everyone is a candidate for car sharing. But those who already carpool, walk, or ride a bike find car sharing with the neighborhood car offers an inviting alternative to car ownership. For Maura Brennan of Traverse City, Michigan, car sharing is neither utopian nor experimental. Maura describe her family’s decision to sell both family cars and join CarSharing – Traverse as an experience in car-lite living – a lifestyle, she says, that “. . . has helped me to slow down and simplify my life . . . to schedule less and take time to enjoy what I am doing (including getting there and back).”

The car sharing-concept, which resembles time sharing a vacation condo, has been borrowed from Western Europe where it has gained both acceptance and popularity. While car sharing is currently available only in a handful of American communities, interest is growing. At a national car-sharing conference held summer 2001, it was apparent that car sharing in America is gaining momentum.

Professor Brownell’s paper traced the history of the car-sharing movement and looked at car sharing as an alternative to car ownership with both financial and environmental benefits.

Professor Brownell discussed in some detail the Traverse City car sharing program. In the four or five years that the program has existed, it has somewhat over 70 members in a city of 25,000 population. The initial membership fee is \$100, and subscribers pay a per-mile fee as well.

There are similar programs in effect in Boston, New York, and Washington, D.C. called “Zipcar,” whose motto is “wheels when you want them.” The Zipcar fleet is comprised of VWs (Beetles, Golfs, Jettas, Passats), Honda Civics and Ford Focus wagons. Cars may be reserved over the internet and are located in reserved off-street parking spaces. The application fee is \$30. In Washington, the cost per hour is \$6-\$9 and 40 cents a mile, or a maximum daily fee of \$50-\$95 which includes 125 free miles. The plan requires a \$30 monthly driving minimum or a \$75 annual fee with no driving minimum. Zipcar pays for the gas.

Tom Brownell is a professor at Ferris State University, Big Rapids, Michigan, in the College of Technology (Automotive and Heavy Equipment). He is also editor of This Old Truck, and has presented papers at earlier conferences: “The Arsenal of Democracy: America’s Auto Industry at War,” abstracted in Review No. 32, p. 53, and “The Automobile, Dominant Symbol of the 20th Century,” abstracted in Review No. 36, p. 43.

EDITOR’S NOTES – continued

second and third Conferences, he spoke on Divco and Flxible (reprinted respectively in *Review* No. 34, p. 6, and *Review* No. 36, p. 4). Now a member of SAH’s Board of Directors, Bob turned to Stearns-Knight this year, and we are pleased to present “The Luxury Car Market in the 1920s: Competition, Efficiency, and the Case of Stearns-Knight,” which he wrote with Jaclyn L. Gribben, a junior economics major at Baldwin-Wallace. This is a study in the decline of an old-line U.S. automaker during the competitive environment of the postwar decade.

Former SAH president and current Board member *Leroy D. Cole* has long been fascinated with the car whose name he bears. He founded the Cole MotorCar Club of America and with his wife, Cora, publishes a twice-yearly magazine based on the one that Cole published during the ’Teens. Leroy provided the current issue to Conference attendees as a guide to his talk, “The Cole is the Equal to the Sum of its Parts and is Greater

Than Any One of Them,” which captures the manufacturing philosophy of an early manufacturer of quality motor cars, and he is willing to send a copy to any reader who requests it. The issue contains the six-page Cole ad which appeared in *The Saturday Evening Post* in July 1913. American readers born before the 1960s will fondly recall the arrival of the *Post* every Wednesday and the trip through it to find the latest auto ads, especially during new-model season in the Fall.

Patricia Lee Yongue made her second appearance at a History Conference, discussing “Elisabeth Junek: Racing the Bugatti.” Mme. Junek was the best known Czech female autosports figure during the 1920s. Pat, who is an associate professor of English at the University of Houston comes by her interest naturally as she was a drag racer during the 1950s. Pat’s previous presentation, “Auto-phobia in American Literature: the Challenge for Motorsports,” was abstracted in *Review* No. 36 (p. 44).

EDITOR'S NOTES – *continued*

SAH's own *Kit Foster* needs no introduction. Currently the Society's treasurer, he is a past president and vice-president of SAH, and, for several years, was simultaneously editor of both the *SAH Journal* and the *Review*. His work is frequently seen in the pages of *SIA* and *Autoweek*. For the Conference, he spoke on "John Steinbeck: Car Guy or Consummate Raconteur?," which we reprint here. He is currently writing a book on F.E. and F.O. Stanley and the Stanley Steamer, to be published by the Stanley Museum.

Although not part of the SAH end of the Conference, *William Ruxton Chapin* addressed the National Association of Automotive Museums, co-sponsor of the Conference, on the Automobile National Heritage Area now getting underway in Michigan. This project has the potential of being a significant contribution to the preservation of automotive history, and I thought that you would be interested in reading about it. Bill comes by his interest naturally, being descended from the founders of both Hudson and Ruxton.

The remaining papers are represented by their abstracts. Many presentations are based on slides these days and it is not feasible to reproduce them in their entirety. You will find biographical information about the presenters at the end of each abstract. I could not resist making Terry Dunham's contribution, "1908-1911 Buick: Race Cars from Hell," which leads off the group, something more than an abstract. The complete article appears in *The Buick Bugle* (November 2001). According to Terry, AACA described itself as a "family organization" and refused to use the "H" word in the title. I told Terry I had no such qualms. Hell no.

Once more, this issue could not be as error-free as it is without the help of *Kit Foster* and *Pat Chappell* as proofreaders. The three of us share a passion that a publication contributing to automotive history should be as accurate as possible.

– Taylor Vinson

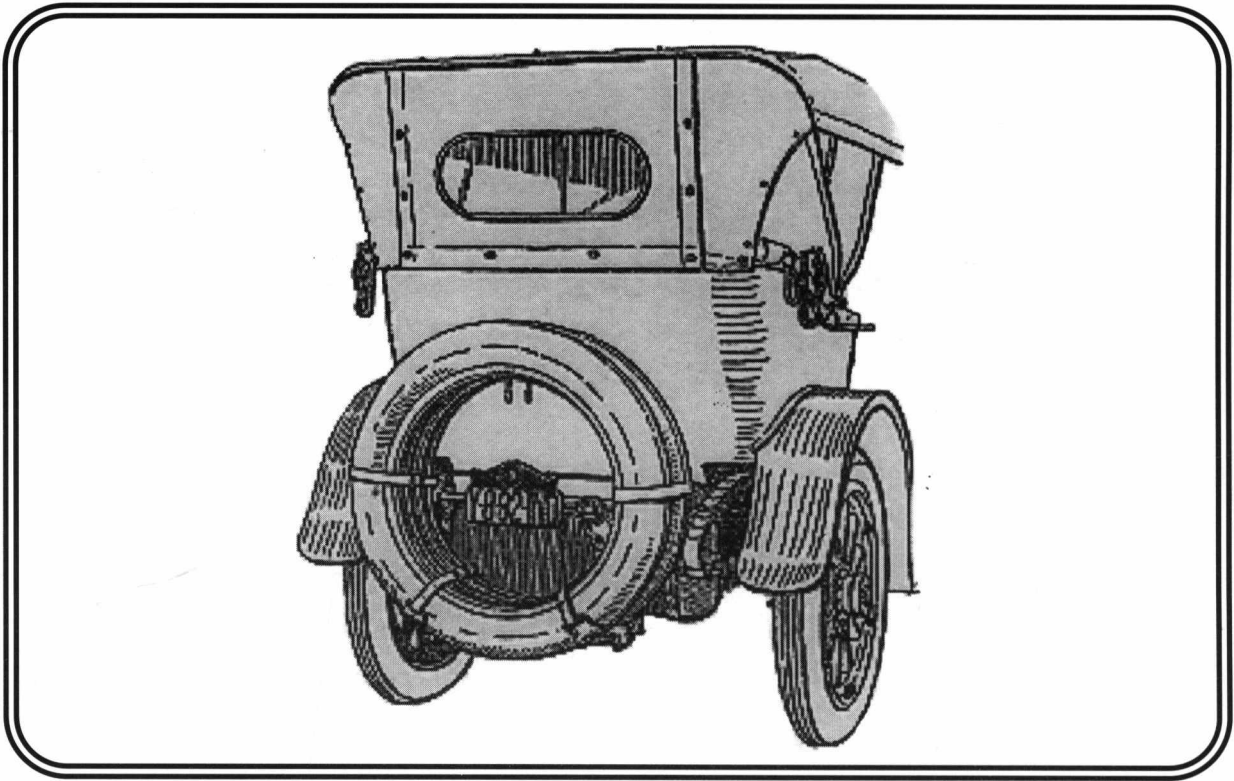
From the Program Chair of the Fourth Automotive History Conference

Although previous conferences were held in Michigan and California, the fourth biennial SAH/NAAM Automotive History Conference was truly back home in Indiana, as a result of the warm hospitality extended by our hosts at the Auburn Cord Duesenberg Museum. General chair Bob Sbarge and his team did an exceptional job, putting their new conference facility at our disposal and coordinating all aspects of the registration, sessions and associated events. We're grateful to them for a job well done.

Each conference is a new smorgasbord of research and opinion, and this one did not disappoint. From the cars of Cuba to the Inca Trail in South America, by way of Henry Ford in London, Ontario, we were educated and entertained by our presenters, and this issue of *Automotive History Review* presents the editor's choice of papers for your enjoyment. The remainder are abstracted for your interest.

At press time, the venue and schedule for the fifth biennial conference, to be held in 2004, had not been decided. We expect it to rival or surpass previous conferences in terms of content and participation. As they say in advertising, watch this space!

Kit Foster



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