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EDITOR'S NOTES

Welcome to the 30th anniversary edition of the *Automotive History Review*. In the July 1973 *Newsletter* of the Society of Automotive Historians (Issue No. 30), President John Peckham reported that the officers and directors had decided on a new publication schedule which would include, per quarter, "two larger magazines." He noted that "Dick Brigham will be the magazine editor," and that "the magazine will carry longer articles [than the *Newsletter*] and more photographic material." Subsequently, in January 1974 (Issue No. 33), President Stan Yost advised that "Dick Brigham expects the first issue of the new magazine to be out for spring." At some point appeared *Automotive History Review* Issue No. 1 (Winter 1973-1974). We observe, now, the 30th anniversary of this publication, 40 issues later (the frequency of publication was never the anticipated two issues per quarter but has averaged one issue every nine months).

Issue No. 1 comprised 20 pages, including the blue-toned covers. The front cover was a portrait of Elwood Haynes while the rear reprinted the famous Cadillac ad "The Penalty of Leadership." Haynes was the subject of an article, as well as the cars of William Walters, photos of which graced the inside front and rear covers. Articles also covered Argonne, Red Bug, and Grant automobiles, and one which examined the question of whether the Clipper was a Packard or a separate make.

Dick Brigham's "Editorial Comment" set the tone for the new publication: "not just another magazine about old cars," but one which would be "a record of the work done by the Society of Automotive Historians in exploring the history of self-propelled vehicles." It would cover makes, factories, and the men who designed and built the cars. In addition, "we will explore the history of various types of power sources, the innovations in design and construction, and the path of evolution of the motor car–with all its branches and dead ends." Conceding that these facets of automotive history have been examined before with some duplication, Brigham, the Society's co-founder, believed that SAH "was organized to combine and coordinate the work done by its members," and observed that "this magazine is intended to serve as a permanent record of this work." I don't know that the *Review* ever served to combine and to coordinate, but the magazine has most assuredly served as a permanent record of work by many SAH members. Brigham went on to edit more issues of the *Review* than any editor since, a total of 17.

I must note here that the *Review* has received a welcome birthday present in the form of a Golden Quill Award for 2003 from *Old Cars*, which will join the others received in recent years. Our thanks to the folks in Iola for this recognition.

Now we turn to Issue No. 41. The SAH Student Paper Award program got underway in 2001, and the paper of the first winner appeared in the previous *Review*, No 40, *Jameson Wetmore's* "Driving the Dream–The History and Motivations Behind 60 Years of Automated Highway Systems in America." This year, the Awards Committee, headed by *Sinclair Powell*, decided to make separate awards to graduate-level and undergraduate-level students. The graduate-level winner was Dean C. Ruffilli, a Ph.D. candidate at the University of Western Ontario, Canada. His paper entitled "Mini: The Creation of a Cultural Icon, 1959-2001," is the lead article in this issue. Given the recent reintroduction of the Mini by BMW, and its resurgence in America, the topic is indeed timely. The undergraduate-level award winner was Owen T. McDonough, a junior at the College of William and Mary in Williamsburg, Virginia. His paper is entitled "Scooters in America: The Future is the Past," and, at 20, he is probably the youngest writer the *Review* has ever published. You will find his point of view humorous and instructive. He is particularly appreciative of the support he received from Seth C. Bruggeman, Professor of American Studies at William and Mary. We apologize for the small size of most of the images in the article, but they were downloaded from websites and cannot be enlarged without negatively affecting their quality.

At this point, I should note the increasing use of web site citations in scholarly papers. The problem that this creates for future reference was the subject of an article in *The Washington Post* on November 24, 2003, titled "On the Web, Research Work Proves Ephemeral" (p. A8). The digital librarian at the Internet Archive in San Francisco, Brewster Kahle, is quoted as saying that "The average lifespan of a web page today is 100 days." Web sites referenced in scientific articles, which may take up to two years to be published, may have moved to other locations on the Internet or disappeared, rendering useless the uniform research locators (URLs) that had been provided in footnotes. Several organizations, including Google and Kahle's Internet Archive, are taking snapshots of web pages and archiving them, but with an estimated 7 million new pages added to the Web every day, "archivists can do little more than catch up." I hope that those of you who are citing web pages in your work will print out actual copies, rather than simply making notes, so that, as the author of a work, you will have a permanent record of your sources.

Both the award winners are considered to have been peer-reviewed. In accordance with the undertaking discussed in the Editor's Notes in *Review* No. 40, we have endeavored to do the same for the other articles published in this issue. The third article is by *Ferdinand Hediger*, our Swiss member who has written extensively on automobiles and who is well known to those who attend the SAH Paris dinners. Ferdy's most recent appearance on this side of the Atlantic was "Tailor-made by Gangloff," appearing in Vol. 43 No. 3 of *Automobile Quarterly* (Third Quarter 2003). In 1989, Ferdy was awarded the SAH Award of Distinction for "Klassiche Wagen 1919-1939." For this issue, he has contributed "Arms and Autos" which covers manufacturers of armaments that also manufactured automobiles, and contains brief histories of both sides of a company's business. Ferdy comes by this interest naturally, as for many years he made his career with the Hammerli arms

continued on page 17

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Spring 2004 Issue Number 41

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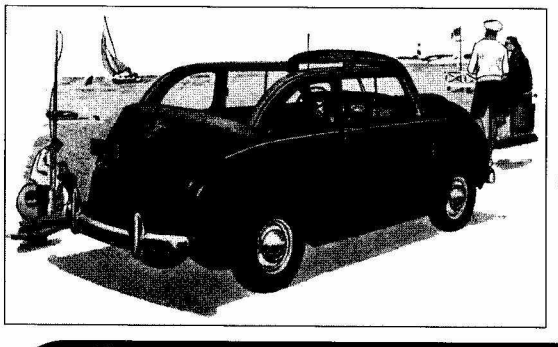
Front Cover: The original Mini, in the opinion of some, the most influential car of the second half of the 20th century.

Rear Cover: l to r, 1926 Franklin, 1926 Wills Sainte-Claire, cars mentioned by John O'Hara in his stories.

Acknowledgements: Except where noted, Messrs. Ruffilli, McDonough, Hediger, and Lumley provided the illustrations for their articles. Mr. Leach selected the illustrations for his article from the collection of the editor. Front and rear cover photos from the editor's collection.



According to the company's 1947 catalog: "The Crosley Convertible Sedan comfortably seats 4 passengers."

Mini: The Creation of a Cultural Icon, 1959-2001[1]

by Dean C. Ruffilli

The 20th century was shaped by the automobile. The automobile is ubiquitous but it is far more than simply a mode of transportation; it is an intensely personal symbol of class, status, style and wealth as well as a tool for sport and recreation.[2] When we drive our cars, they become an outward expression of the image which we wish to project about ourselves to others.[3] The make and model, the color, the style, and any personalized modifications such as spoilers or even fuzzy dice, all reflect our personality, our tastes, our wealth and our social status. Mass-produced vehicles not only signify the identity of their owners but also reflect the collective socio-cultural values of the motoring public. As Roland Barthes argues, "cars today are almost the exact equivalent of the great Gothic cathedrals: I mean the supreme creation of an era, conceived with passion by unknown artists, and consumed in image if not in usage by a whole population which appropriates them as a purely magical object."[4]

The Morris Mini-Minor, 1959 (from the editor's collection).

Some automobiles, however, capture the popular imagination better than others and pass into the culture with additional attached symbolism or connotations.[5] These become metaphors for the values and beliefs of particular groups or classes and may even become symbols of a particular era or lifestyle. Therefore, Porsches and Corvettes symbolize sportiness, speed and style (or male mid-life crises), Rolls-Royces symbolize wealth and status while others such as Ford Pintos or East German Trabants have come to symbolize poverty, backwardness, and a hopeless lack of style. The BMC Mini is a unique example of this process. As a radical break with the conservative design and stylistic conventions which dominated postwar British automotive design, the Mini symbolized the sweeping changes that transformed the declining Imperial Britain into "Mini Britain" or "Cool Britannia." Yet when the 1960s came to a close and what had been radical only a few years previously became the norm, the Mini did not simply fade away. Fuelled by massive sales and popular nostalgia for the era with which it was so closely associated, it became a cultural icon as a quintessentially British car and as such remains indelibly a part of British cultural life and indeed, a recognizable symbol of Britain the world over.

This paper will explore the process by which the Mini was imbued with a cultural meaning which transformed it into an icon of a turbulent decade and a symbol of Britain which has a nostalgic resonance to this day. This transformation was fuelled and supported by four major elements. Alec Issigonis' design of the Mini, initiated in a period of fuel shortages and pent-up consumer demand resulting from years of austerity, was a classic of automotive design due to its timeless shape and the technically innovative engineering which has influenced the design of all subsequent small cars. The Mini's design facilitated its stunning success in racing and rallying during the 1960s which not only raised its profile before a public eager for news of British successes but also provided the little car with a sporting style which attracted legions of devoted supporters and buyers. These factors, however, only singled the Mini out as a successful, perhaps even legendary automobile, not as a symbol of the era. This was provided by the massive popularity sparked by the adoption of the Mini by England's "smart set" during the 1960s, transforming its image from "people's car" to stylish accessory and indeed, symbol of 1960s Britain. Despite the changing tastes of the British socio-cultural elite during the 1970s, the Mini continued to expand its influence by its ubiquitousness and the nostalgic devotion of its owners and fans. This not only secured its place within British popular culture but also influenced BMW's revival of the Mini name at the turn of the 21st century.

The 1940s represented a time of great change, hardships and recovery for Britain. The election of the Labour government in July 1945 which promised the creation of a social welfare state was soon followed by financial crises, austerity measures, the beginning of its Cold War and wars in Korea (1950-53), Malaya (1948-1955) and Suez (1956). These events not only dominated the public consciousness but in large part determined the shape of postwar society. In the midst of these challenges Clement Attlee's government did not place a high priority on getting the motoring public back on the road, instead using the automobile industry to aid Britain's return to prosperity by "encouraging" manufacturers to export the bulk of their

production in order to earn vital export income. The few Britons able to obtain governmental permission to purchase a new car were also confronted with hefty price tags which were double those of 1939, in large part due to a massive 66.6 percent purchase tax.[6]

Yet British automakers did not initially respond to this changed market with innovative solutions. They tended to continue to build small but expensive sedans of obsolescent design which could not compete with foreign designs, particularly the Continental micro or bubble cars such as the three-wheeled Isetta by Iso. The manufacturers compounded their problems through inefficiency and poor decisions, such as the 1945 rejection by a British motor industry delegation of the Volkswagen Beetle which they believed to have "no attraction to the average buyer. It is too ugly and too noisy. Such a type of car can, if at all, only be popular for two or three years at the most." However,[7] in 1959 a new competitor from the British Motor Corporation (BMC) entered the market which broke from this dismal trend.

BMC was the Frankenstein-like product of the 1952 merger of Austin and Morris. Intended to create a British automaker capable of competing against American-owned Ford and Vauxhall, the merger of the two firms actually yielded a bulky corporate structure composed of six marques (Austin, Morris, MG, Riley, Wolseley, and Austin Healey) which contributed to an atmosphere of waste, inefficiency, and duplication.[8] Despite these shortcomings BMC did have the advantage of having a brilliant chief engineer. Alexander Constantine Issigonis was a Greek emigré whose family had been evacuated from their home in Turkey by the Royal Navy during the Chanak Crisis of 1922, a move which his father did not survive.[9] Upon arrival in England, despite his mother's desire for her son to develop his talents as an artist, Issigonis pursued his love of machines at Battersea Polytechnic and, having become enthralled with automobiles, decided to pursue a career in automotive engineering.[10]

Issigonis' potential as an innovative automotive engineer was soon illustrated. After a stint during the early 1930s with London's Edward Gillett working on a semiautomatic gearbox, Issigonis later joined Humber in Coventry where he was largely responsible for the company's innovative "Even Keel" independent front suspension.[11] During the Second World War, Issigonis was employed largely on civilian projects. In 1942, he produced almost single-handedly the design which became the unit-body Morris Minor of 1948, featuring independent front suspension and rack and pinion steering for the first time on an economy car.[12] The Minor, which by 1958 had sales of over 1 million, was during this period as Jonathan Wood notes "unquestionably. . . . The finest small car in the world. . . . For apart from its visual appeal, it was one of the first vehicles in its class to handle well, a combination of Issigonis's deliberately locating the engine as far forward as possible and by making the front suspension 'softer' than the rear."[13] After a short interlude at Alvis, Issigonis returned to BMC in 1956 where, in his new capacity of Chief Engineer, he was instructed by Leonard Lord, who despised the bubble car trend of the mid-1950s: "God damn these bloody awful bubble cars. We must drive them off the streets by designing a proper miniature car."[14]

The oil crisis, prompted by the closure of the Suez Canal following the 1956 war, gave new impetus to the small car project. The free-thinking Issigonis ultimately proved to be the right man for this challenging task as he was willing to adapt experiment ideas to a production car and make them work. Indeed, his small car, initially given the code ADO (Austin Drawing Office) 15, was guided only by two stipulations: it had to use an existing BMC engine and had to be ready for production within two years.[15]

ADO 15 was, unusual even for the 1950s, essentially a one-man design as what was to become the Mini was the product of Issigonis' fertile mind and skilled hand. During the winter of 1957, the design of ADO 15 began to take shape as a mass of sketches drawn often "over long lunches and dinners, on scrap paper, on envelopes or on menus."[16] Having experimented with front-wheel drive and a transversely mounted engine at Alvis, Issigonis revived these ideas for ADO 15 in order to provide a compact powertrain for the small car. The problem which then arose was how to position the gearbox in such a layout without increasing the overall size of the car. As Wood argues, "Issigonis's masterstroke was to retain the transversely mounted four-cylinder A Series engine, while the gearbox was located underneath it in the sump and connected to the crankshaft by an idler gear."[17] Issigonis' engine and gearbox layout not only provided the design with a compact power unit which allowed him "to devote an unprecedented 80 per cent of the remaining space for passenger accommodation" but also set the pattern for most subsequent front-wheel drive designs.[18]

A unique suspension arrangement allowed Issigonis to maximize the interior room while also providing the Mini with exceptional handling characteristics. Building on the designs of his former colleague Alex Moulton, Issigonis provided the ADO 15 with all-independent suspension (unique on a British economy car) sprung not with conventional springs but with "moulded rubber elements" between two metal cones, which had the advantages of being light, compact, sturdy and most important, relatively inexpensive to produce.[19] Mounted on this system were specially-designed Dunlop 10-inch wheels which almost eliminated the need for wheel arches in the passenger compartment and also eventually became one of the best known characteristics of the design.[20]

The externals of the ADO 15 design were not so much styled as they were simply to cover the internal components of the 'two-box' (engine and passengers) car. Issigonis was a firm believer in form following function and indeed later noted that "the Mini was never meant to be styled. It is a functional thing. . . . A car should take its shape entirely from the engineering that goes into it" adding that "the thing that satisfied me most was that it looked like no other car."[21] The Mini's cost-effective external welds and rounded panels became part of its charm and its purposeful shape made a 40-year old design (by the time production was ended in 1999) appear as fresh as it did in 1959.[22] Jack Daniels remembered that during the prototype stage of ADO 15 the great Italian designer Sergio Farina (of Pininfarina fame) visited the Cowley factory and was asked by Issigonis "'What ought I do to it, Sergio?'" to which Farina replied, "'Do? Don't touch it. It's unique.'"[23]

By July 1957, only four months after receiving Lord's instructions, Issigonis and his six-man team had produced wooden mock-ups of ADO 15 with handbuilt prototypes and detailed engineering drawings appearing by October.[24] The first prototypes were tested extensively during the winter of 1958 and, following some corrective design changes, ADO 15 entered production in the spring of 1959 at two different plants under two different badges: the Austin Seven at Longbridge and the Morris Mini-Minor at Cowley, with only small detail differences justifying this rather inefficient duplication; in any case, the car soon became known by the shorthand "Mini."

When the Mini was unveiled to the public on the "day when motoring changed forever," it was accompanied by a wave of largely positive press acclaim. *The Guardian* praised the new cars, noting that they "provide striking evidence of the new thinking that has gone on within the industry."[25] *The Guardian* also took particular note that "there are some important advances in small car engineering to the Morris Mini-Minor and the new Austin Seven" and introduced their readers to the wonders of the Mini's suspension and powertrain layout.[26] The magazine *Country Life* aptly summed up the initial impact of the Mini, asserting that "certainly, the two BMC cars are an adequate answer to those who until now have felt that there was no British car capable of competing with certain models from abroad. This is no longer a defensible argument."[27]

Alec Issigonis had provided BMC with an inspired (but not entirely original), almost timeless small-car design which had the potential to transform how the automobile industry and its customers thought about compact cars. The Mini development engineer Jack Daniels argues that it was one of the most significant designs of the 20th century: "the Ford Model T was the car that started mass production. . . . The Mini was the first car to change cars and change them for the better."[28] The Mini, like its designer, had a unique, eccentric style, which if properly exploited, could secure BMC's future. However, such a move depended upon BMC management possessing the vision and the skills to sell the Mini.

For most auto makers, motorsports provide an attractive vehicle for selling their new products as victories can increase sales while providing their entire line with a "sporting image" and an air of technological mastery. Although BMC had previously recognized this with its Austin-Healeys, it was initially slow to recognize the competition potential of Issigonis' radical design. However, following some promising early efforts by privateers, BMC's decision in the late fall of 1959 to develop a works-supported Mini motorsports program was to have a momentous impact not only upon the popularity of the Mini but also upon motorsports in general.

At the core of the Mini's motorsport mystique were its giant-killing exploits on rallies such as the Monte Carlo, which captured the British motoring public's imagination during the 1960s. These came in spite of its designer's claim that "When the Mini was designed and into production, I never gave competition motoring a single thought. We were preoccupied in the design with getting good roadholding and stability, but for safety reasons, and to give the driver more pleasure. It never occurred to me that this thing would turn out to be a successful rally car."[29] Its potential was dramatically demonstrated to the BMC Competitions Department in September 1959 (one month after the launch) when a "virtually standard Mini" driven as a support vehicle by the department's manager Marcus Chambers in the Norwegian Viking Rally finished an impressive 51st overall.[30] The program, however, began slowly largely because the early Minis were severely handicapped by the small capacity and power output of their 850cc and 997cc engines. A solution appeared in September 1961 with the Mini Cooper, a joint effort between BMC and the noted racecar constructor and designer John Cooper.[31] Being familiar with both the Mini's early rallying efforts and its A-series engine (which powered his Formula 3 cars), Cooper suggested to Issigonis in early 1961 that BMC should produce a more powerful Mini to assist the Competitions Department in rallying and to provide a basis for future racing efforts.[32] Despite being unconvinced, Issigonis passed on Cooper's proposal to BMC managing director George Harriman who enthusiastically approved it.[33]

Cooper focused much of his attention on extracting more power from the Mini's A-Series engine which he expanded to displace 997cc and added twin SU carburettors, modified cylinder heads and a 3-branch exhaust to produce in road-going form 55bhp "and substantially more than that in competition tune."[34] As well, he added a remote shifter (in place of the standard long direct-engagement gearstick) and 7-inch Lockheed front disc brakes, which enhanced the Mini's already tremendous handling.[35] These modifications produced the Mini Cooper of which over 150,000 were built between 1961 and 1970, securing its place as an iconic car while also yielding for John Cooper a tidy royalty of £2 per car.[36]

The 997cc Mini-Cooper was the Competitions Department's main weapon during the 1962 rally season and they used its increased power to great effect. Now managed by Stuart Turner, the works Minis, "painted in the soon to be familiar red with a white roof [ostensibly to aid spotting from the air]" tasted victory when Pat Moss won the Tulip Rally outright in May, a feat which clearly illustrated the growing competitiveness of the Mini in international rallying.[37] The 997cc Cooper remained the mainstay of the Competitions Department through mid-1963, where its superb handling characteristics allowed it to keep up with more powerful rivals. As the Irish works driver Paddy Hopkirk noted after he passed an Austin-Healey 3000 during the snow-plagued 1963 Monte Carlo rally, "I though there was something wrong with his car when I was able to overtake him; it was only then I realized how fast the Mini was on slippery surfaces."[38] However, the Mini Cooper still suffered from a distinct lack of "grunt" which in late 1962, John Cooper attempted to address in the 70hp Mini Cooper S with its 1071c engine, strengthened gearbox, wider wheels and better brakes.[39] Although the Cooper S was intended to provide a more powerful homologated car to permit the Competitions Department to compete for overall victories, it also served a crucial marketing role as the most sporty and thus desirable of the Mini range.

This sporting character was enhanced in large part by the works Minis' dominance of the prestigious Monte Carlo Rally between 1964 and 1967, when they recorded three overall wins and one controversial disqualification which garnered the Mini additional publicity. The Mini Cooper's increased power and superb handling characteristics were essential keys to success in

Fig. 1 – Mini wins the Monte in 1964 . . .

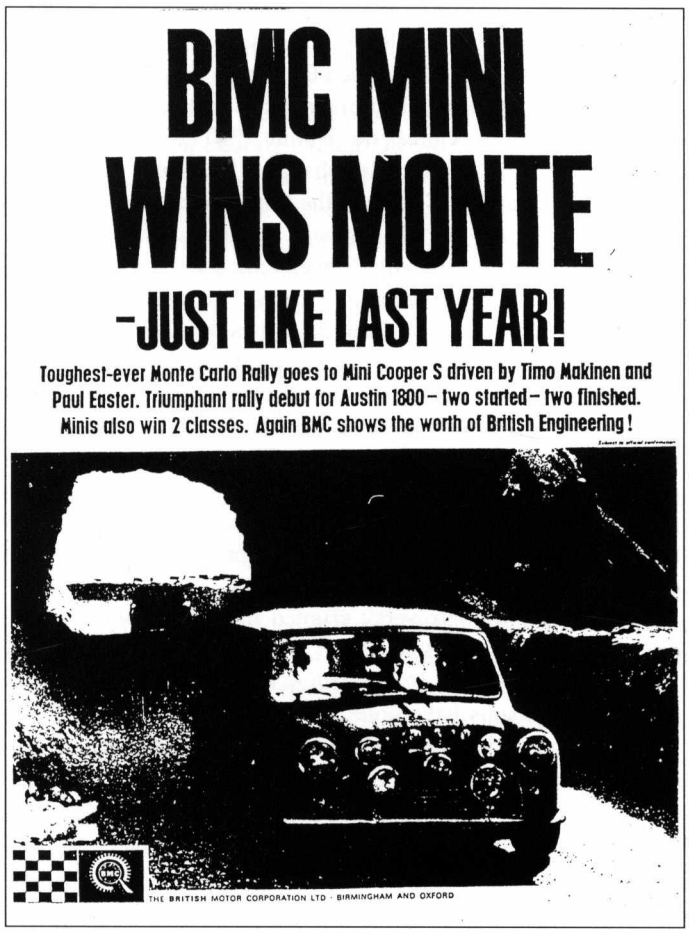


Fig. 2 – . . . and again in 1965.

"The Monte," which as John O'Callaghan noted in *The Guardian* was a mid-January trek "from five . . . starting points-Glasgow, Minsk, Monte Carlo, Paris, and Oslo" which took competitors "on their four-day drive over some 2,500 miles."[40] For 1964 BMC entered six works cars, including four 1071cc Cooper Ss, one of which driven from Minsk by Paddy Hopkirk and Henry Liddon entered the final day's speed test in Monaco with a chance for overall victory.[41] Hopkirk captured the overall victory, Pat Moss-Carlsson won the Ladies Cup and BMC took two team prizes to yield, as *The Guardian* triumphantly reported in a front page article on January 24, 1964, "the first British victory in the rally since 1956."[42]

The following year, the BMC returned to Monte Carlo as the defending champions with the new 1275cc Cooper S, and in "sub-zero temperatures, huge snow-drifts and treacherous ice" which took a tremendous toll on the field with "only thirty-five of the original 237 starters" qualifying for the timed special stages in the Maritime Alps, captured overall victory again.[43] Emerging victorious in their works Mini was the crew of Timo Makinen and Paul Easter, who "brought victory for the second successive year to the BMC Mini range by holding on to their leading margin in the road section of the rally through Wednesday night's testing drive in the mountains behind Monaco."[44] The works Minis went on to dominate the 1965 international rally season, with Rauno Aaltonen eventually becoming European rally champion, the first time this had ever been done in a British car.[45] BMC made good use of these victories in marketing the Mini with celebratory announcements of its triumphs. Racing and rallying illustrated not only its mechanical reliability and speed but also its sportiness, transforming it very much into a poor man's sports car. Soon after the conclusion of the Monte Carlo Rally in 1964 and 1965, BMC took out prominent half-page newspaper advertisements which trumpeted with large bold headlines such as "BMC Wins 'Monte' Outright With Mini Cooper 'S'" and "BMC Mini Wins Monte–Just like Last Year!" (see Figs. 1 and 2).[46] The advertisements, stylistically unremarkable with their bold print and large photograph of the winning Mini, were carefully conceived not only to attract those potential buyers who closely followed the rallies and now wanted their own Mini Cooper so that they could terrorize English farmers by screaming down country lanes like deranged versions of Paddy Hopkirk or Timo Makinen but also attempt to convert those consumers still skeptical of the Mini's performance and reliability. Indeed, the ads directly address the latter concerns by noting in the 1964 version that "B.M.C. Builds to Win" while in 1965, it informs the reader in all seriousness that "again BMC shows the worth of British Engineering!"[47]

The Mini continued to win in 1966, although its efforts were overshadowed by a political controversy that led to the disqualification of the works Minis which placed 1-2-3 in the Monte Carlo Rally. Peacock argues that this disqualification had been planned in advance and was not a secret in the days leading up to the rally, noting that "before the start of the 1966 Monte,

the Mini crew of Timo Makinen and Paul Easter ate at a restaurant called the Bec Rouge in Bayonne. The head waiter suggested if anything other than a French car finished first at the Monte, it would probably be thrown out. Laughs all round, to the opening of more Côtes de Rhône."[48] The roots of this "conspiracy" rested in rule changes intended to exclude "homologation specials" such as the Mini Cooper S and the Ford Lotus Cortina which only vaguely resembled their road car equivalents, thereby allowing French cars such as Citroëns and Renaults a chance at overall victory.[49] After the Minis of Makinen, Aaltonen, and Hopkirk finished 1-2-3, the French organizers, desperate to prevent a third straight British victory, dismantled all three cars in a desperate attempt to discover a rules violation but ultimately, according to *The Guardian* had them "disqualified for alleged infringements of complex regulations about headlight dipping systems."[50] The victory was handed to the Citroën of Pauli Toivenen (who refused to accept his prize), despite photographic evidence showing that the Citroëns also had the "illegal" lights.[51]

A storm of controversy erupted in Britain following the organizers' decision. Both BMC and Ford lodged ultimately fruitless protests while *The Guardian* ruminated that "the extra-ordinary judgments have gone far to destroy the Monte Carlo Rally. It is hard to see how it can be regarded again as a serious event in the European motoring calendar for years, if, indeed, it can ever regain its old place."[52] Despite BMC's threats, the company could not ignore the appeal of Monte Carlo nor could it ignore the notoriety and publicity which the affair had provided for the Mini, and thus they returned in 1967. Aaltonen's Mini Cooper S won the 1967 Monte Carlo Rally, but it was the beginning of the end of the works rallying effort as rival manufacturers began to pump money into their works campaigns in such a way as to make that of BMC look positively ramshackle.[53] The Mini had indeed had a good run, winning the 1965 European championship and almost 30 international rallies between 1964 and 1967 including three of four Monte Carlo Rallies, an entirely unexpected record for a "people's car" and one which ensured that "the words Mini and Monte will always be inseparable."[54]

The Mini's sporting image was also fuelled by its exploits on the racetrack, particularly in the British and European Touring Car Championships. As the motoring writer John Tipler observes, fans loved "Mini Coopers hounding the big cars in a true David-versus-Goliath scenario," particularly when "there were . . . so many Minis in action that there was no track space left as they vied with one another for the racing line."[55] The first Minis appeared at the 1959 Boxing Day British Saloon Car Championship (BSCC) race at Brands Hatch (south of London) and although only one of the four entered completed the race, they heralded a new era of Minis "snapping at the heels of a Jaguar or a Lotus Cortina," falling behind on the straights but driving past the big cars through the turns.[56] The Mini required a unique (and spectacular) driving style which involved judicious use of the brakes, much squealing of tires and a steely will which, if done correctly as touring car ace Sir John Whitmore remembers, ensured that corners "could all be taken flat out, if I sort of threw the little brick at it."[57] The Mini's small size and limited power were handicaps on all but the twistiest tracks but this paradoxically provided much of the Mini's crowd appeal. Many in the growing audience for saloon car racing during the 1960s were present to see "their" Mini (or a reasonable facsimile) doing battle with other production cars "identical" to those of their neighbors and often defeating their larger and more expensive rivals.

Yet brand identification and a unique on-track style do not alone provide an explanation for the Mini's popularity with the fans; it was also a winner. Minis dominated their classes in the British and European Championships from 1962-65 and occasionally emulated their rallying cousins by defeating bigger cars for overall wins and overall championships. This success was achieved largely by privateer teams with works support, particularly the Cooper Car Company with "their" Mini-Coopers.[58] The secret of the Mini Cooper's success was the 1961 decision by the governing body of the BSCC, the BRSCC, to force all entries to "run in their as-homologated (i.e. stock) condition.[59] The Mini Cooper, with its homologated performance upgrades and superb handling characteristics, simply obliterated its primary class opposition (the Ford Zephyrs and Anglias) and even began to nip at the heels of the much larger Jaguar 3.8s.

Despite Ford's response of the Lotus Cortina driven by such star drivers as Jim Clark, the Mini continued to win. Arguably, its greatest touring car success came during 1964 in Europe, where the Surrey timber merchant (and later, successful Formula 1 Constructor) Ken Tyrrell ran 970cc Mini-Cooper Ss in the ETCC for Warwick Banks and Belgian Julian Vernaeve. After a tight battle with the Alan Mann works-backed Ford Anglias and the factory DKWs, Banks triumphed at the final round at Monza, Italy, although as Tyrrell remembered, it was a near thing as the Fords pressed Banks' Mini perhaps too close for comfort:

> At one of his refuelling stops late in the race he started unbuckling his harness and climbing out of the car. I asked him what he was doing and he said he was going for a pee. I pushed him back in and said, "Do it in the car, we're trying to win a championship here!" And we did.[60]

The Mini's success continued into 1965 with Banks (now with Cooper) winning the BSCC 1-litre class and teammate John Rhodes winning the 1300cc class and finishing 2nd and 3rd in the overall standings, but this marked the zenith of the Mini's touring car career.[61] For although Rhodes won the 1300cc class for the next three years and Alec Poole won the 1969 overall title through consistency, the Mini-Cooper, despite having over 140bhp by 1968 (versus 55hp of the 1959 production model), was becoming increasingly uncompetitive in the face of the more powerful Ford Escorts and American muscle cars such as the Mustang and the Camaro.[62] By the end of the 1960s, however, the Mini's stature as an iconic racer had been secured in the minds of the motoring public. The Mini seems to be surrounded with humorous anecdotes surrounding its touring car career, such as the 1966 Brands Hatch track announcer who, watching eight Minis scream past in a line, allegedly blurted "if God had meant Minis to go that fast he would have given them bigger wheels."[63] But in many ways it is this good-natured bemusement which surrounds the history of the Mini racer and,

indeed, drove its popularity. The Mini, with its front-wheel drive and light weight, set a pattern of nimble front-wheel drive touring car racing which continues to this day in Britain and Europe. To a British public worn down by the effects of war, austerity, and the loss of Empire, the psychological impact not only of a British car but also an attainable "people's car" cheekily defeating all comers at home and abroad should not be underestimated.

On a more practical level, the Mini's success in motorsport fuelled consumer demand, thus increasing its sales and its presence on British roads. As Laban argues, "the old line about winning races on Sunday selling cars on Monday was never better proved than with the Mini. And in the Mini's case it didn't just sell cars. More than ever before in the history of the motor car, Mini owners bought the car, then cried out for all the bits to make it look, sound and go like the ones they'd been watching on the racetrack or the forest stage."[64] Soon an entire "speed-shop" industry for the Mini appeared catering to the need for "any self-respecting boy racer's hot road Mini," which had to be in either the red and white of the Competitions Department rally cars or the green and white of John Cooper's touring cars with many also sporting "trick" camshafts, carburetors or even straight exhaust pipes (if driven surreptitiously when in the presence of the local constabulary).[65] The Mini's motorsport prowess came to be viewed as stylish in British popular culture, providing the Mini with an image far beyond a mere economy car.

In some ways the Mini appeared at precisely the right time. Its fuel efficiency appealed to motorists concerned about the price of gasoline in the wake of Suez. Its small size appealed to urbanites, women, and young drivers, while its interior most definitely provided significantly more room than the bubble cars. However, these features may also have prevented some consumers from taking the Mini seriously while its innovative design may also have scared away consumers worried about unreliability and repair bills. More surprisingly, BMC also appeared to have been confused both as to their new design's target market and how much to charge for a Mini. BMC's marketing of the Mini (or lack thereof) provides an example of the fatal flaw of the postwar British auto industry, which, plagued by slow and conservative thinking, almost ruined such an innovative and promising design.

Following the Mini's launch in August 1959, sales did not live up to BMC's expectations. In 1959, in a shortened production year, 19,749 Minis were produced at Longbridge and Cowley but in its first full year of production only 116,677 were produced, signifying a serious shortfall in expected demand.[66] One cause of the poor sales may have been a series of often quite severe technical problems. Minis soon became notorious for providing the occupants with wet feet if the car came into contact with even the smallest puddle while the engine arrangement tended to expose the ignition system to dampness.[67] BMC received complaints about windows that would not open, excessively noisy cooling fans, exhaust pipes fracturing under the weight of the engine as well as mounting service claims for shattered wheels "as enthusiastic drivers began to discover the joys of screaming down country lanes with the Mini [almost] on its door handles."[68] With the exception of the latter fault, these problems were natural given the haste in which the Mini was produced and its novel design, but that was small solace for Mini owners struggling with their unreliable vehicles.

Although such technical problems could drive customers away, they do not entirely explain the Mini's initially poor sales performance. Len Holden, in his study of cars and national cultures, argues that the generally staid, conservative designs produced by the British auto industry during the 1940s and 1950s in fact "represented the last phase of the predominance of the middle classes over the car market."[69] The Mini represented a radical break with this phase, although BMC was dangerously slow in recognizing that the market had changed just as the culture of postwar Britain was changing. With the return of prosperity during the 1950s, teenagers became, for the first time, a distinct social group having disposable income and a voice. Similarly, as Iain Chambers contends, the working classes, left to dominate urban culture following the flight of the middle classes to suburbia, not only began to benefit from the increased standard of living (and disposable income) which the return of prosperity yielded, but also began to influence popular culture in a climate of increasing urbanization and suburbanization.[70] These two groups were to be at the heart of the social and cultural revolution which swept Britain during the 1960s, transforming all aspects of society, including the shape and size of the automobile market. As Holden observes, "the swinging sixties forced manufacturers and image makers to acknowledge the importance of the masses as a huge market and the symbol of that decade–'the Mini'–was to epitomize an affordable car with style."[71]

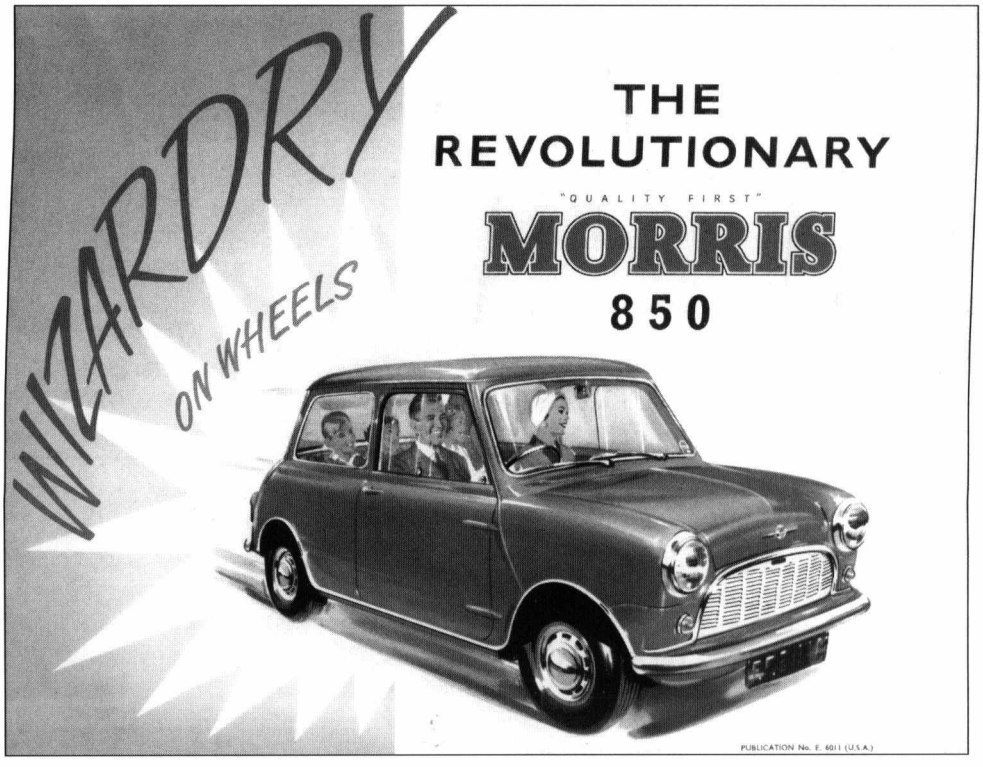
The Mini's image problem also stemmed from the lingering effects of the English class system. Tim O'Sullivan argues in his examination of the evolution of automobile advertising in Great Britain, "you do not just buy a car, you invest in and drive a mobile signifier, something which says something about you and which comes 'wrapped' in a web of meanings and values."[72] The early Mini was burdened with the unpopular perception that it was underpriced. Both Issigonis and Lord envisaged the Mini as a reasonably priced "people's car" for the largely urban masses but initially the Mini did not appeal to its intended market, nor to any other large segment of the British market. As Laban notes, the working classes generally wanted nothing to do with the Mini as "to them, the Mini was a sore thumb way of saying, 'look at us, we're poor and we're weird.'"[73]

BMC did not immediately recognize the extent and seriousness of the Mini's image problem. A brief examination of the initial Mini advertisements in *The Guardian* illustrates the very conservative tactics of BMC in marketing their new cars. On Wednesday August 26 and Thursday August 27, 1959, in support of the launch of the Mini, it ran advertisements extolling the virtues of the Morris Mini-Minor and the Austin Seven respectively (see Figs. 3 and 4). The Morris was introduced as being "Wizardry on wheels!" and "the most revolutionary small car ever built!" with the price being tastefully inconspicuous.[74] The Mini-Minor's unique engine layout and internal space are both emphasized but the advertisement is dominated by a frontal perspective of the Mini-Minor which is oddly middle-class in its imagery, given that this is ostensibly a car for the masses. The

Fig. 3 – Introducing newspaper ads for the Morris Mini-Minor.

Fig. 4 – . . . and the Austin Seven.

Mini-Minor is shown carrying a "typical" (respectable) British family: dad, dressed in a suit and tie, behind the wheel, mum beside him with her well-coiffed hair and a nice dress and son and daughter in the roomy back seat all smiling happily as they chat with a mother (perhaps their neighbor) holding her baby casting an appreciative gaze upon the new "wonder car." This iconic scene paradoxically attempts to sell a "people's car" using the rapidly eroding symbolism and stereotypes of the prewar middle-class market, an illustration of the ambivalence with which BMC viewed its new product and indeed the very concept of the "people's car."



The Morris Mini-Minor introductory sales brochure (from the editor's collection).

The Austin Seven advertisement the following day emphasizes many of the same qualities. This is dominated by a large cut-away drawing pointing out the various "incredible new" features which, taken together, ensure that the reader has "never seen a small car like this before."[75] In the photograph at the top of the ad a new Austin Seven is closely examined in the driveway of a reasonably-sized suburban home by smiling children obviously enthralled by this new and unique addition to the neighborhood (or are they admiring its owner's thriftiness and sense of style?). This photograph,

The Austin 7 Mini's introductory sales brochure (from the editor's collection).

although not illustrating the Austin as a family car (as the case with the Morris was), with the setting and the presence of children, convey an impression of domesticity and suburbia, indicating that perhaps BMC was still tied to the prewar notion of the car market being composed primarily of middle class consumers.

Despite its image problem, the Mini was a tremendous bargain. A 1959 base model Mini (Austin or Morris) cost only £497 whereas its main competitors ranged from the obsolete Ford Popular at £419, the new but uninspired Ford Anglia at £589, the Morris Minor 1000 at £590 and the other "people's car," the Volkswagen Beetle at £702.[76] Interestingly, the Mini dramatically undercut bubble cars such as the Messerschmitt TG500 (£654) and the Isetta 600 (£676) which makes one wonder about the continued popularity of these tiny cars. [77] However, Leonard Lord's decision to undercut the bubble car market as well as all other major small car designs was economically ill-conceived. Despite Issigonis' attempt to incorporate cost savings such as external welds and the use of the existing A series engine, the complex integration of the engine and gearbox and the unique suspension was very costly, reducing unit profitability.[78] This problem was compounded by severe underpricing, the cause of which may be traced to the amateurish marketing skills of BMC, particularly of Leonard Lord, who hoped that by making the Mini the lowest priced car on the market, sales would be large, a theory which failed to take into account the high production costs of Issigonis' complex design. The near-absence of production cost analysis at BMC was revealed definitively when Ford of Britain, desperate to discover how BMC could afford to undercut its competition so dramatically, obtained a Mini and stripped it down for a detailed cost analysis. They discovered, to their amazement, that on a base model priced at £496, BMC was losing an estimated £30, prompting wags to assert that "Mini cars make mini profits."[79] As the Mini increased in popularity, BMC's losses paradoxically began to mount, creating the bizarre scenario of the Mini's massive 19 percent market share actually damaging of the company's bottom line.[80]

These massive sales were the result of a dramatic shift in the popular perception of the Mini. As Marsh and Collett assert, "what eventually made the Mini such a phenomenal success was not its inherent virtues but its adoption by the rich avant-garde. Lord Snowdon and Princess Margaret bought one as a runabout and soon the Chelsea Mews and fast-rising Carnaby Street were packed bumper to bumper with them. Twiggy, Lulu, Spike Milligan, Peter Sellers- these were the people who drove Minis."[81] It was the latter, a founding member of the 1950s BBC satirical "Goon Squad" and comedic actor remembered for his role as the bumbling Inspector Clouseau in the Pink Panther series of films who, in large part, made the Mini a stylish status symbol.

Although Sellers, like the other celebrities who purchased Minis, recognized the value of its size and economy, observing that "for thousands of us who had to get around London quickly, the arrival of the Mini was like the answer to a prayer," they often transformed the Mini from a people's car into miniature limousines, transforming the car's image and significantly improving its comfort.[82] Sellers' own Minis became progressively more ornate and outrageous during the 1960s, with his 1963 Mini Cooper perhaps being the epitome of the stylish Mini with its Connolly leather seats, mahogany dashboard, power windows and "imitation wicker trim . . . which was actually painted on, by Hooper craftsman Geoff Francis."[83] This car was used in the Mini's first major motion picture appearance in Blake Edwards' 1964 "A Shot in the Dark," the second in the "Pink Panther" comedy series, starring Sellers as the bumbling, stereotypically French detective Inspector Jacques Clouseau.

The Mini's initial appearance is pure slapstick, for Clouseau, hot on the trail of a lead which he believes will once and for all exonerate Maria, a millionaire's maid (Elke Sommer), of charges of murder, forces a blissfully unaware bicyclist off the road with a blast of the horn. The trail ends at Camp Sunshine, a nudist colony, where Clouseau finds not only the maid but also another murder victim. Seeking to protect Maria from the murderer, Clouseau bundles her into the Mini and roars away, knocking the hapless bicyclist into a pond. Unfortunately, they left their clothes behind and must drive through Paris attracting the appreciative attention of onlookers.[84] The Mini reappears at the climax of the film when Clouseau's superior, Commissioner Dreyfus (Herbert Lom), unwittingly driven insane by Clouseau, plants a bomb in its engine

compartment in one of a series of attempts to kill his subordinate. Instead, the six prime suspects of the various murders (eight by this time, although four have been committed by Dreyfus in failed attempts to kill Clouseau) end up in the Mini, which explodes off screen.[85]

The Mini's appearance and the incongruity of its use as a police inspector's mode of transportation was used by Edwards at a simple level to enhance the comedic effect of the scenes. However, "A Shot in the Dark" also has a strain of dark and satirical humor in which Sellers' Mini plays a part. It must be remembered that in 1964, the Mini was at the height of its popularity in England and was a stylish accessory "worn" by the smart set and aped by the masses. As a result, Clouseau's ownership of a Mini, particularly in such a gaudy customized form (as was often favored by the rich and famous), is a thinly veiled (and self-deprecating for Sellers) shot at the smart set and their imitators. If a socially inept fool such as Clouseau has one, then how truly stylish could it be to have a Mini? Sellers' love of the Mini certainly did not prevent him from lampooning it if it produced a laugh from the audience, which ultimately was all that mattered.

Following Sellers' lead many members of the British smart set began to purchase Minis: Paul McCartney, George Harrison and John Lennon all had Minis (but not Ringo); the Rolling Stones' Mick Jagger and the Monkees' Mike Nesmith purchased them, as did Princess Grace of Monaco and Prime Minister Harold Wilson.[86] The Mini even starred in a major motion picture, 1969's "The Italian Job." This classic theft and car chase movie with an all-star cast including Michael Caine, Noel Coward and Benny Hill, "consumed six Alfas, two Aston DB4s, four E-Types, a Lamborghini Miura and fourteen Minis" during filming.[87] The prominence of the Mini ensured that "The Italian Job" became a cult film among Mini fans for as Ruppert notes, "it was the best 90-minute advert the Mini ever had, it is still shown twice a year and you still end up watching it."[88] Caine's motley gang use three Mini Coopers (red, white and blue of course) as their getaway cars following their daring daylight robbery in the center of Turin of a heavily guarded armored car filled with $4 million in gold. These Minis make good use of their speed and small size, driving down stairways (past a surprised wedding party), across a river spillway and through sewers, all the while managing to elude the Italian police in their Alfa Romeos.[89] Whatever it lacked in plot, "The Italian Job" showcased the Mini in a cheekily heroic role, further strengthening its popular image and providing it with free advertising, although British Leyland (formerly BMC) refused to participate in the filming, prompting Laban to wryly observe that "that was just another illustration of how poorly BL understood what they had."[90]

The influence of the smart set on the dramatic turnaround in the Mini's popular image cannot be underestimated; as by 1961 sales were over 150,000 per year and by 1969, over 250,000 per year.[91] Rather surprisingly, some of the credit must also go to BMC itself as they quite astutely recognized the value of the unsolicited celebrity endorsements which had suddenly appeared in 1961-63. As March and Collett note, there was a subtle shift in BMC's marketing of the Mini at this time for although "the technical sophistication and compact nature of the car were still heralded in the sales brochures and advertisements," a new tactic was also introduced:

> Leading figures in public life were given a Mini on loan for a year, free of charge. All they had to do was to be seen driving around in it. As a result, Minis were soon to be seen at Ascot, Henley, outside smart restaurants and clubs, and being loaded up by Harrods' porters. The Mini, originally conceived of by Issigonis as a new people's car, now became synonymous with fashion and style—with . . . The Swinging Sixties.[92]

The Mini's conversion from dumpy, undesirable people's car into a stylish and sporty status symbol during the first half of the 1960s was quite remarkable. Its small size and near-absence of "style" are what attracted the smart set and later many of their masses of fans to the Mini in the first place. The Mini had attracted the social elite of Britain because owning one was an open rejection of the wealth-based class system and as such became inexorably tied with the changing tide of the Swinging Sixties. The Mini represented a refreshing change from the stuffiness of the past; it was a symbol of youthful vibrancy which heralded the end of Imperial Britain and the rise of youth-oriented Mini-Britain. Although the ride at the top of the wave was ultimately fairly short, the memories live on.

The elite-backed rise to prominence of the Mini was short-lived. When the Beatles broke up and women's skirts began to lengthen ever so slightly, the Mini began to move out of the cutting edge and into the mainstream mass market as the smart set returned to old notions of class, both socially and stylistically. Their vehicle of choice during the 1970s could not have been more different than the Mini: the Range Rover. Laban argues that this urbanized descendent of the famous Land Rover "caught the imagination of the London smart set, just the way the Mini had a decade earlier. But the Mini had been about fun; the Range Rover was far more smug. It was another sign that the smart set was growing up."[93] The urban middle class' embrace of the ostentatious luxury of the oversized Range Rover does have a socio-economic explanation. Marsh and Collett, using the theories of the American anthropologists Kroeber and Richardson regarding the inverse relationship of women's skirt length and the state of the economy, note that "the same has also been true of cars: during periods of expansion they get smaller and during hard times they get larger."[94] The logic of this "is that when times are bad there are additional incentives to show off one's pecuniary power because fewer people are able to do so" while "in good times there is far less incentive to compete in this way because more people are capable of at least some display of ostentation."[95] By the 1970s, the Mini became the preserve of the (working-class) masses, a move which returned the Mini to its roots as an economical people's car but now with the added attraction of the memory of its former social status and racing prowess which ensured that its popularity and image would continue to thrive.

British Leyland, the descendant of BMC, recognized that the Mini was no longer the stylish status symbol which drew hundreds of thousands of buyers of all classes during the 1960s. Their marketing of the Mini, particularly during the 1970s, drew heavily upon nostalgic references to the 1960s and the successes

Fig. 5 – A 1974 Mini advertisement.

Fig. 6 – Two icons of the Swinging Sixties – the Mini and Twiggy.

of the Mini in that era. For example, a full page pre-1974 election advertisement in *The Guardian* positioned the Mini, symbol of the apparent harmony of the 1960s, as a unifying force for a Britain torn by politics, labor disputes, a flagging economy, troubles in Northern Ireland and yet another fuel crisis. (Fig. 5).

A more overtly nostalgic advertisement involves former supermodel Twiggy standing in front of a mid-1970s Mini with the rather odd caption "as a matter of fact, this isn't my favourite car of all time."[96] (Fig. 6) Although at first glance this appears to be another rather inept BMC/BL marketing effort, in fact it emphasized the attachment owners ostensibly felt towards their first Minis in an attempt to attract both repeat buyers and new customers seeking to build their own memories with a Mini. Twiggy observes: "My all-time favourite was a Mini I bought a few years back" but adds that "I thought you could never recapture the thrill of your first Mini. Until I saw this one."[97] She concludes: "my favourite car of all time will always be my first Mini" and "if your next Mini's your first, you'll soon see what I mean."[98] The new features of this Mini are given scant attention in the ad's text as the Mini's design elements had by this time become well-known (and changes from year to year were slight); the emphasis is upon Twiggy's endorsement (she herself being an icon of the 1960s) and the nostalgic connection many people feel towards a first or a favorite car.

The Mini's rise to prominence during the 1960s had been accompanied by the growth of a significant aftermarket and memorabilia industry. In large part, as noted above, this industry largely focused on fulfilling the desire of "boy racers" to emulate their racing and rallying heroes while providing other Mini owners with the opportunity to personalize their automobiles. This industry grew in parallel with the explosion of Mini sales, spawning, by the 1970s, an entire Mini marketplace providing not only add-on parts for all purposes but also entertainment for Mini aficionados. Mini owners with deep pockets could send their car to noted coachbuilders such as Hooper or Radford for a custom interior or to a race tuner such as Cooper, Broadspeed or Downton (who prepared one of Enzo Ferrari's three Minis) for added performance.[99] Those on more limited budgets could personalize their Mini with Union Jack roofs, extended pedals (for heel-toe gearchanges), racing mirrors, sunroofs, whitewall tires, various engine and exhaust performance parts, cupholders and fuzzy dice and even oddities like a roof mounted tent and a trunk extender.[100] Other cars, such as Corvettes, also developed a significant aftermarket industry but only the Mini developed one so eclectic which catered to the multitude of personalities which drove and loved Minis. Indeed, today there are two glossy mass-market magazines published in Britain but distributed worldwide, *Mini Magazine* and *Mini World*, devoted to profiling Mini conversions and indeed, as Mini World's North American website notes, "literally everything about those BL/BMC/Rover little front wheel drivers!"[101] The Mini industry has made tremendous use of the internet, with numerous suppliers such as the California-based Mini Mania and its partner, London-based Mini Spares, catering to a

generation of computer-literate Mini fans seeking the same upgrades as previous generations not only for classic Minis but also for the new BMW Mini.[102] As well, the multitude of Mini clubs around the world have used the internet to inform their members and prospective members of their activities while hundreds of personal pages of varying quality discuss virtually every aspect of the Mini phenomenon.

The Mini's continued cultural presence through the 1990s may also be attributed to the influence of another Mini fan and autophile, British comedian Rowan Atkinson. The Mini, by the 1980s had, through its use in various films and television programs, become a handy metaphor for directors to inform the audience that the action is occurring in Britain. But just as the stylish Mini became a target for Peter Sellers and Blake Edwards' satire in "A Shot in the Dark," the Mini's quintessential Britishness could also become a target for comedy and satire, the best example being Atkinson's 1990s BBC series "Mr. Bean." Atkinson's alter ego, Mr. Bean, the gravely-voiced eight-year old in a man's body with his tweed jacket and constant companion Teddy, is the proud owner of a lemon-yellow Mini with a stylish black hood. The Mini provides the perfect foil for Atkinson's largely visual comedy as it is the vehicle by which both everyday scenarios and eccentric (and unfortunately, common) road behavior become objects of humor when performed by Bean and his Mini.

Bean does with his Mini what all of us at one time or another have wished we could do. For instance, faced with a £16 parking garage fee, Mr. Bean, in what has been described as "surely the best TV pantomime ever," attempts "to sneak his Mini out of a carpark without paying."[103] After several abortive efforts to escape the garage, he finally tenses behind his howling Mini, waiting for the next car to lift the gate. It is at this moment he spies his recurring nemesis, a blue three-wheeled Reliant Robin entering the garage; Bean's eyes grow large as he leaps out of the garage, forcing the Reliant to reverse, and ultimately roll onto its side. Bean also uses his Mini to its full capability, loading it to the brim with renovation materials and a recliner strapped to the roof. Finding himself unable to fit behind the wheel, Bean ingeniously rigs a system of ropes and a long broom to enable him to drive in comfort and style from the roof of his Mini. All goes according to plan until his braking broom breaks just as his accelerates along a downhill grade, ultimately coming to grief in the rear of a (nicely padded) mattress delivery truck.[104] Unfortunately, Bean's recklessness ultimately costs him his beloved Mini when, eager to obtain a convenient parking spot at the local armory's open house, he parks on the parade ground where his Mini is crushed by a 60-tonne Challenger tank to the delight of all but a tearful Mr. Bean.[105]

The humor of Mr. Bean's adventures in his Mini is drawn from several sources. Most obviously, Atkinson and his writing partners Richard Curtis and Robin Driscoll drew upon the humor inherent in the Mini's small size and in the common driving situations which are taken to the illogical extreme by Bean. In many ways, the Mini is also the ideal car for this hopeless underachiever and social misfit. His rather quaint and beat-up Mini is a far cry from the stylish models driven by the 1960s smart set but his adventures in it and the popularity of the series make it stylish in a very campy way.[106] Bean's Mini is merely a representation of thousands of similar Minis which still pound Britain's roads, their owners either blissfully unaware of the decrepit state and lack of style of their aging vehicles or perhaps reveling in their eccentricity. When Bean drives the yellow Mini, viewers can laugh at his actions (some of which they may have done themselves) or the incredible lack of style, both of which are a satire of the general motoring public and certain Mini owners, respectively. In either case, the massive popularity of the "Mr. Bean" series has transformed his bad taste into good taste; you would not want to emulate Mr. Bean but he and his Mini are "cool."

The Mini's campy style, driven by the power of nostalgic reminiscences of its 1960s glory days, has also contributed to its rather surprising resurgence of popularity in Britain and abroad over the last 15 years. The revived interest in the Mini came from Japan, where the Mini was embraced as a nostalgic symbol of the 1960s. As John Cooper noted, quite modestly, "The Mini Cooper is a bit of a cult in Japan."[107] This resurgent interest eventually spread to Britain, prompting the Rover Group to ask the Cooper Car Company to produce Mini Cooper kits and Rover even began producing factory Coopers during the early 1990s "with the classic white roof and minilite-style wheels."[108]

The purchase of the Rover Group by BMW in January 1994 and the subsequent divestiture of the company in 1999 by the German giant started a new chapter in the history of the Mini.[109] Although a new British consortium purchased Rover's sedan and MG lines and now operate under the classic MG name, BMW retained the Mini nameplate. In 2000, BMW unveiled its new MINI (BMW capitalizes the Mini name), which is unabashedly inspired by the original but seeks to bring Issigonis' classic concept into the 21st century. As Hong argues, the new Mini, designed by Frank Stephenson (born 1959), "wears a design, just like the original, that simply brings a smile to your face. BMW designers have taken the essence of the traditional Mini's styling and moulded the happy and friendly look into a modern car."[110] This strategy is based on an awareness of the lingering popularity of the Mini based on nostalgia and its timeless design elements and is reminiscent of Volkswagen Group's renewal of the Beetle concept in 1998. It specifically targets aging and nostalgic baby-boomers who want to relive their youth with a more comfortable and modern version of the car of their youth while also seeking to attract youthful buyers who are attracted by the cultural appeal and style of the new interpretation.

BMW understood the importance of nostalgia in reviving the new MINI, enlisting the Cooper Car Company to "work on the design and production of engine and chassis enhancement kits for the new MINI Cooper."[111] Indeed, their marketing of the new MINI emphasizes the new version's lineage as BMW's North American MINI Cooper publicity brochure begins:

> Let's Glance In The Rearview Mirror. The year was 1959. The place was Longbridge, England. As the finishing touches were being put on the first Mini, nobody could've foreseen what was to come. How were they to know that Minis would revolutionize how cars were designed? Or that they'd take home the top honours at the Monte Carlo Rally in 1964, '65 and '67? Or be the first automobile that both

> royalty and commoners could agree on? Or that 41 years later it would finish second in the "Car of the Century"balloting, behind only the Ford Model T? As they stood there, as the first Mini rolled off the line, all anyone knew is that they were in the midst of something special. So in case you were wondering, that's where the feeling of deja vu might be coming from.[112]

In addition to remaining true to the basic design concepts of the original Mini, they also have embraced the desire, often nostalgic, of most buyers to personalize their new MINI just as they may have done with the original. Their publicity brochure tells the prospective buyer to "Rally-stripe it. Fender-flare it. Chrome-trim it. Mud-flap it. Rooftop-flag it. Dashboard-hula girl it. From the very beginning, owning a MINI has been all about embracing customization. So challenge your creativity. Make your MINI uniquely yours. Your dealer can give you some pretty wild ideas about vehicle accessories and Motoring Gear."[113] This shows how the Mini image and memory has been commodified by BMW; the new MINI mimics the elements of the original but as of yet has not possessed the same spirit. The revival of the Mini by BMW is simply the most recent phase of the lingering cultural resonance of the Mini.

To its owners and fans, the Mini is not simply another car; despite its squat, boxy appearance, it has style and class and exudes history. To them, the Mini has an iconic quality, and a mystique which no other car can match. Ruppert believes that it is because "it is classless, yet classy. It is small, yet perfectly formed. It is cute, it is cheap to run and buy used, it is a British institution, it is a Mini. We have all learned to drive in, dented, overloaded, got a lift from and attempted to make love in a Mini. If not, why not? At some time or other a Mini will affect your motoring life, probably for ever."[114] It transformed the way small cars are designed and changed how the motoring public viewed such vehicles and along the way also made motorsports history during the 1960s with its giant-killing performances. The Mini will always be linked with the 1960s and its association with the smart set that transformed a declining imperial, conservative Britain into a centre of vibrant popular culture and transformed British society forever. It is the symbol of a generation which came of age during a time of change and left an indelible mark upon society and history in the process. Issigonis' Mini, like Mary Quant's mini skirt, Carnaby Street, the Beatles and London's cultural renaissance have become symbols of an era, even if the values and context in which they emerged have been lost to history. The elements that made the Mini a cultural icon are diverse but the root of its success is not a secret. The Mini is fun. It effortlessly carries the weight of nostalgic memories and of being a symbol of Britain, becoming not only an extension of its owner's personality but indeed that of an entire nation. Its timeless design belies its strong connection to an era of hope and change. The Mini symbolized a reinvention of the concept of Britain just as it was itself a reinvention of the concept of the car. It was the right car at the right time and has been so ever since.

Endnotes

1. This research paper was written in the spring of 2002 for the graduate seminar in British History, The University of Western Ontario. It has been revised with the assistance of Doctors Neville Thompson and Douglas Leighton as well as my fellow PhD candidates in the Department of History.

2. David Thoms, "Motor Car Ownership in Twentieth-Century Britain: A Matter of Convenience or a Marque of Status," in "The Motor Car and Popular Culture in the Twentieth Century," ed. David Thoms, Len Holden and Tim Claydon (Aldershot: Ashgate Publishing Limited, 1998), 43

3. Len Holden, "More than a Marque: The Car as Symbol: Aspects of Culture and Ideology," in "The Motor Car and Popular Culture in the Twentieth Century," ed. David Thoms, Len Holden and Tim Claydon (Aldershot: Ashgate Publishing Limited, 1998), 28

4. Roland Barthes, "Mythologies," trans. Annette Lavers (New York: Hill and Wang, 1972), 88

5. Ibid., 109. Barthes argues that "every object in the world can pass from a closed, silent existence to an oral state, open to appropriation by society, for there is no law, whether natural or not, which forbids talking about things." Therefore an object becomes a symbol or icon when "a type of social usage . . . is added to pure matter."

6. Brian Laban, "The Mini: Forty Years of Fun" (London: HarperCollins Illustrated, 1999), 11

7. Ibid., 12. Laban quips, "while the Beetle staggered into obscurity, Britain forged ahead with masterpieces like the Ford Popular, the Hillman Minx and the Austin A30. . . . These were the sort of cars that were the forerunners of the Mini.

8. Jonathan Wood, "Wheels of Misfortune: The Rise and Fall of the British Motor Industry" (London: Sidgwick & Jackson Limited, 1988), 109, 111

9. Laban, 15-16; Wood, 106. His father, Constantine, had become naturalized while studying in England while his mother, Hulda was the daughter of a wealthy Bavarian brewer in Smyrna.

10. Laban, 16, 18-19. Laban notes that "until Hulda died in 1972, the two of them never lived apart. But it was a mixed blessing. . . . In the early days, she probably protected him from some of the problems of organizing his everyday affairs. On the other it may be that the relationship, and Alec's own feeling of responsibility for his mother as she grew older and more frail, stifled his social life. . . . He never married and it may be that he never really had any serious relationships with women."

11. Wood, 106

12. Ibid., 107-108

13 Ibid., 108

14. Laban, 24

15. James Ruppert, "Mini" (Ramsbury, Wiltshire: The Crowood Press Ltd., 1997), 15

16. Laban, 25

17. Wood, 137. Interestingly, Wood asserts that this may not have been a unique design by Issigonis, instead noting that although Issigonis was the first person to build such a layout, this ingenious configuration had been featured in an article (which Issoginis had likely read) in the September 5 issue of *The Autocar* as part of a specification for an economy car designed by engineer Alan Lamburn.

18. Ibid., 137; *The Guardian*, August 26, 1959
19. Ruppert, 19-20
20. Wood, 137
21. Sir Alec Issigonis quoted in Ruppert, 20
22. Ruppert, 20
23. Jack Daniels quoted in Russell Bulgin, "It's okay by Jack," *AutoWeek* September 18, 2000, 15
24. Laban, 28
25. *The Guardian*, August 26, 1959
26. Ibid
27. Quoted in Laban, 32
28. Daniels quoted in Bulgin, 15
29. Issigonis, quoted in Laban, 98
30. Laban, 112
31. Ibid., 112
32. Ibid., 121
33. Ibid
34. Ibid., 114. The figure of 997cc was significant as classes in both racing and rallying during the 1960s were generally determined by engine displacement; as a result, the 997cc Mini-Cooper remained in the same 1-litre class as the 850cc but now produced more power.
35. Ruppert, 146
36. Ibid
37. Ibid., 132
38. Paddy Hopkirk quoted in Ruppert, 130; *The Guardian*, January 19, 1963
39. Laban, 123. The significance of the 'S' is a matter of some debate. Laban asserts that Harriman "wanted to call the car a Mini Cooper Special, but Cooper was dead against that, so they eventually settled on just the initial, 'S'." On the other hand, the 2002 BMW Mini Cooper publicity brochure states the S stands for either Special (Issigonis) or Sport (Cooper). Just another element of the Mini mystique
40. *The Guardian*, January 13, 1964
41. Ibid., 13, January 22, 1964
42. Ibid., January 24, 1964
43. Ibid., January 22, 1965; Ruppert, 133
44. *The Guardian*, January 22, 1965
45. Ruppert, 133
46. *The Guardian*, January 27, 1964, January 23, 1965
47. Ibid
48. Anthony Peacock, "Gifts of Fate," *Autosport*, January 3, 2002, 64
49. Ibid.; Ruppert, 134
50. Peacock, 64; *The Guardian*, January 21, 1966
51. Peacock, 64; Ruppert, 136
52. *The Guardian*, January 21, 1966; Ruppert, 136
53. Ruppert, 138
54. Laban, 116
55. John Tipler, "Racing Cars: Masterpieces of Engineering" (London: Brown Books, 2000), 85
56. John Baggott, "Mini: The Racing Story" (Ramsbury, Wiltshire: The Crowood Press Ltd., 1999), 8
57. Sir John Whitmore quoted in Baggott, 10
58. Baggott, 8
59. Graham Robson, "Ford in Touring Car Racing" (Sparkford, England: Haynes Publishing, 2001), 17
60. Ken Tyrrell in Baggott, 5
61. Robson, 15
62. Ibid
63. Bob Judd, "Tale of Two Minis," *Road & Track*, February 2002, 56
64. Laban, 120
65. Ibid., 106
66. Ibid., 49
67. Ibid., 46; Ruppert, 30
68. Laban, 49
69. Holden, 30
70. Iain Chambers, "Popular Culture: The Metropolitan Experience" (London and New York: Methuen, 1986), 30
71. Holden, 31
72. Tim O'Sullivan, "Transports of Difference and Delight: Advertising and the Motor Car in Twentieth-Century Britain," in "The Motor Car and Popular Culture in the Twentieth Century", ed. David Thoms, Len Holden and Tim Claydon (Aldershot: Ashgate Publishing Limited, 1998), 289
73. Laban, 50
74. *The Guardian*, August 26, 1959
75. *The Guardian*, August 27, 1959
76. Laban, 50
77. Ibid
78. Timothy R. Whisler, "The British Motor Industry 1945-1994: A Case Study in Industrial Decline (Oxford: Oxford University Press, 1999), 164
79. Wood, 139; Whisler, 56. As early as 1965, Cooper Brothers Accounting presented BMC management with a commissioned report that clearly pointed out the problems in the area of pricing and the damaging effects it was having on the corporation's bottom line. Despite a 1966 restructuring, the damage had already been done
80. Wood, 146
81. Peter Marsh and Peter Collett, "Driving Passion: The Psychology of the Car" (London: Jonathan Cape Ltd., 1986), 52
82. Laban, 56
83. Ibid., 57-58, 62
84. "A Shot in the Dark," prod. and dir. Blake Edwards, 102 min., United Artists, 1964; re-released MGM/UA Home Video, 1997, videocassette
85. Ibid
86. Judd, 56; Laban, 54
87. Laban, 157
88. Ruppert, 195
89. "The Italian Job," prod. Michael Deeley, dir. Peter Collinson, 99 min., Paramount Pictures, 1969; re-released Paramount Pictures, 2001, videocassette
90. Laban, 157
91. Ibid., 62
92. Marsh and Collett, 53. Intriguingly, celebrity endorsements of the Mini in BMC advertising campaigns do not appear until the mid-1970s, long after the Mini's initial stylish phase
93. Laban, 84
94. Marsh and Collett, 41
95. Ibid., 42
96. Laban, 85

97. Ibid

98. Ibid

99. Ibid., 153, 154, 156; "Cooper, the marque of racing heritage . . . from 1940 to . . ." www.johncooper.co.uk/cgi-bin/johncooper/hazel.exe?action=SERVE&item=bmwmini/historybmw_FS.htm, February 20, 2002

100. Laban, 148-149, 154

101. http://www.minimag.co.uk, February 20, 2002; http://www.ewacars.com/mghmv.html, February 20, 2002

102. "Mini Mania Company History" http://www.minimania.com/company.cfm, February 20 2002; "Mini Mania-Mini Spares Home Page" http://www.minimania.com/home.cfm, February 20, 2002

103. *National Post*, March 22, 2002

104. "Best Bits of Mr. Bean," prod. Sue Virtue, dir. John Howard Davies, 74 min., Tiger Aspect Productions, 1996, videocassette

105. Ibid

106. Chambers, 106. Chambers argues that if kitsch is the reduction of everything "to an accessible aesthetic" then camp "is more removed, more ironic, more refined than kitsch," adding that "if kitsch is 'bad taste', then camp, as Susan Sontag puts it, is 'the good taste of bad taste'."

107. Laban, 145

108. "Cooper, the marque of racing heritage. . . . From 1940 to. . . ." www.johncooper.co.uk/cgi-bin/johncooper/hazel.exe?action=SERVE&item=bmwmini/historybmw_FS.htm, February 20, 2002

109. Whisler, 398

110. Patrick Hong, "Mini Cooper: Road Test," *Road & Track*, February 2002, 50; Denise McCluggage, "Now and Then," *AutoWeek*, September 18, 2000, 11

111. "Cooper, the marque of racing heritage. . . . From 1940 to. . . ." www.johncooper.co.uk/cgi-bin/johncooper/hazel.exe?action=SERVE&item=bmwmini/historybmw_FS.hm, February 20, 2002

112. "Mini Cooper, Mini Cooper S," [MINI Cooper Publicity Brochure] BMW North America, LLC, 2002

113. Ibid

114. Ruppert, 7

EDITOR'S NOTES—*continued*

company, as sales manager, and managing director for his final seven years. Hammerli target rifles and pistols are among the most famous. Ferdy does not assume that his work is inclusive, and suggests that our readers might be willing to contribute additional entries on this subject. This is a splendid suggestion, and we shall be pleased to publish such. This article was reviewed by *Karl Zahm*, a former director of SAH, who has written extensively on automotive subjects, most often in *The Bulb Horn*. From his comments, I learned that the plural of "cannon" is "cannon."

Darwyn Lumley, now the secretary of SAH, submitted "Crosley's Even Smaller Car—an Oehrli Design" They didn't get much smaller than the Crosley here in the United States, and I find most amusing the idea of a compact Crosley; I hope you will too. Darwyn, a retired educator, is a mainstay of SAH's Southern California chapter and its Literature Faire. He based his story largely on papers in *Randy Ema*'s possession. I thought that Dr. *Paul F. Sable* would be a fitting reviewer for this article on the basis of his interest in early postwar American automobiles, as evidenced by his presentation at the 1996 automotive history conference, "The Hybrid Cars of the 50s and Their Influence on the American Automotive Industry" (see Abstract, *Review* No. 32, p. 53). Paul was the founder of the Burn Prevention Concours d'Elegance and is currently Vice Chairman of the Board of Allentown's (Pa) forthcoming transportation museum, America on Wheels.

Finally, we have "John O'Hara and Automobiles," by *Macdonald Leach*. Don was part of the New York import auto scene in the 1950s and '60s, working for the Rootes Group for a spell, and becoming U. S. national advertising manager for Citroën. He served a stint as the advertising manager for the *SAH Journal*. Don was inspired by *Kit Foster*'s paper on cars in the stories of John Steinbeck which appeared in *Review* No. 39. His article was reviewed by Cecil M. Yarbrough, a retired senior editor at Prentiss-Hall in New York.

Pat Chappell and Kit once again served as the faithful proofreaders for your editor. To them and the peer-reviewers, Karl, Paul, and Cecil, go my thanks.

Scooters in America: The Future is in The Past

by Owen Thomas McDonough

Why Scooters?

I bought my 1982 "angel blue and white" Honda Passport in the summer before my sophomore year in college. Dickey Summers, the fellow I bought the 72cc machine from, was a 110-pound, 78-year old man with a wispy high-pitched vibrato voice who insisted the bike was a motorcycle. Being that the motorbike has an engine displacement larger than 50 cubic centimeters, it is by Pennsylvania law a motorcycle. However, I feel that the determining factor that should decide what is and what is not a motorcycle should be the Biker Bar Test (BBT): Can you take your bike to a biker bar and not get laughed (perhaps thrown) out the door? I knew I'd get ridiculed. Thus, the bike would not pass the BBT and is therefore not a motorcycle regardless of what my license plate and registration say. So, at the age of 19, I bought a 20-year old scooter.

Nearly a year later, I still don't really know why I bought the bike. Though it has two wheels and is a motorized vehicle, a scooter did not signify transportation in my mind. Truthfully, I just wanted to have a cool toy (that might have the added benefit of landing me some dates on campus). In the short time I've had it, scooters and scooter culture have become a growing part of my life. As my interest has grown, I have realized that there is an entire culture of American men and women of all ages who are obsessed with these little machines. Without a doubt Vespas, the Italian scooters that started it all following World War II, are the most "fetishized" scooters of all time. What makes Americans so drawn to Vespas and Vespa mimics? What have Italian scooters signified throughout their evolution over time? Why is a sound image of transportation united with a concept other than transportation? Similarly, why do so many Vespa look-alikes, whether they are Italian, Japanese, or American, advertised as "classic" and "retro," flood the new scooter market today? Do the "new" classics and the "originals" signify the same Italianicity, freedom, style, sexiness, and fun?

Definitions and Origins

What is a scooter? A definition, other than the "Biker Bar" definition, is in order here. "Function: noun. Date: 1919: a low 2- or 3-wheeled automotive vehicle resembling a child's scooter and having a seat so that the rider does not straddle the engine."[1] According to an extensive online frequently-asked questions page (FAQ) "about scooters by Vespa, Honda, Lambretta, Yamaha and others . . . ", scooter:

> . . . refers more properly to a "motorscooter," which [is] "a subclass of motorcycles utilizing a distinctive structural design. These are generally two-wheeled vehicles originally based on motorized versions of children's push scooters. . . ."
>
> Motorscooters (or simply "scooters") have been around almost as long as motorcycles and the distinction between the two has often been blurred. The most *commonly* accepted definition of scooters requires two-wheeled vehicles (or two-wheeled vehicles modified to have a rear axle) that have wheels between 8 and 14 inches in diameter (smaller than motorcycles), step-thru frames and typically engines that are low and close to the rear wheel. Scooters also often incorporate full bodywork, including legshields and generally are designed to be easier to operate than standard motorcycles. It should be noted that scooters may be of any engine size, though historically they typically have ranged from 50cc to 250cc.[2]

Two-wheeled motorized transport began as early as 1894 with the German Hildebrand & Wolfmüller motor-powered bike. One of the first production two-wheelers and probably the first scooter, it had a displacement of 1488cc, but had a top speed of only 28 mph and a horsepower output of 2.5.[3] Patented in Munich, it was actually liquid-cooled and had a step-through frame (Fig. 1). The bike became the first powered two-wheeled vehicle to be offered to the public on a production basis and was notably original in its move away from the foot pedal as the main source of engine power. As a pioneer, this model was not a commercial success. However, it paved the way for a new generation of cheap and affordable transport. Thus, the scooter was born. It would take half a century, however, for interest in such a vehicle to really grow.

Fig. 1 – 1894 Hildebrand & Wolfmüller motor-powered step-thru bike. . . . The first scooter?[4]

Post World War II: enter Vespa and Lambretta. Following the destruction of the war, the Italian government was willing to subsidize companies able to help in the economic recovery once more. Enrico Piaggio owned the Pontadera aircraft factory in Genoa. Due to pressure from the victorious Allies to engage only in non-military activities, and to the war-damaged state of his factory and country, he took upon the task of providing a scooter for Italy and its people. In 1946, he employed the nation's leading helicopter designer, Corradino d'Ascanio, to design a 98cc prototype.[5] The frame was a "step- thru" design (which enabled women to ride in dresses or skirts) with wide legshields to keep the rider clean out of the wind. Signor d'Ascanio moved the gear shift lever to the handlebar to make

Editor's Note: The occasional out-of-sequence endnote references mean that the reader should look back at the original reference.

the vehicle easier to handle than a motorcycle. With the buzzing two-stroke engine positioned on top of the rear wheel and the rear section resembling a wasp's abdomen, Piaggio nicknamed the design vespa, the Italian word for "wasp."[6] The name and the design stuck (Fig. 2). By its 50th anniversary in 1996, Piaggio had sold over 15 million Vespas around the world, more than four times the amount of Harley-Davidsons sold in 100 years time.[7] Vespa has produced over 90 different models since 1946, and is without a doubt the best selling name in scooter history.

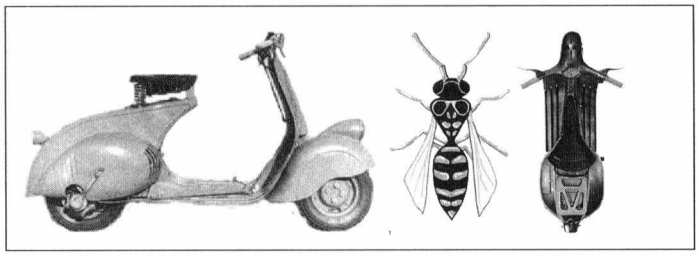


Fig. 2 – 1946 Vespa (wasp) with solo seat and enclosed engine[8,9]

A year after Piaggio unveiled his Vespa design, Ferdinando Innocenti, an Italian steel tubing manufacturer whose operation was devastated by the war, decided to enter the emerging niche for the production of cheap, reliable, personal transportation. He named the company Lambretta for the region of Milan in which his factory was based. The company's first scooter, the Lambretta A, first went on sale on December 23, 1947. It was economical (160-180 mpg at a time when gasoline was severely rationed), with a top speed of 45 mph and an air-cooled two-stroke engine (Fig. 3). During its first year of sales, the A model, which was available in five different colors (green, red, beige, blue, and grey), sold 9,000 units. Unlike the Vespa, the Lambretta featured a second seat and a 123cc engine making it possible to carry a passenger. Similarly, while Piaggio's bike had an engine enclosed by sleek, aerodynamic protective metal covers, the Lambretta model had an exposed motor. It was "undressed" as compared to its Vespa rival. Innocenti's engines remained "open" until he released his 1951 CL model, which also had larger legshields reminiscent of Piaggio's Vespas. Demand for the enclosed and "dressed" CL model was so high that Innocenti abandoned open, undressed bikes from '51 on. Starting in the early 1950s Vespa and Lambretta designs fed off one another so much so that "by the late 1960s, they were, in styling if not in performance and engineering detail, virtually identical."[10] Since the birth of the Italian scooter, scooters around the world have retained the original Vespa/Lambretta silhouette.

Fig. 3 – 1947 Lambretta A (open and undressed)[11]

Jewelry on Wheels–A Sexed Object

In the 1950s, Europe was still trying to cope with the destruction of the war. Public transportation had been devastated by the conflict, and gasoline was scarce and expensive. Scooters took over. They were cheap, fuel efficient, and could travel all over Europe's war-beaten cities and towns. By 1949 in Italy alone there were over 100,000 scooters on the road. France, scared that the Italian companies would dominate the market, joined with bikes from several manufacturers including Roussey and Motobécane. At the height of scooter sales, a reporter from *The New Yorker* wrote, "This is more than a fad, it's a revolution and I don't see how anything can stop it."[12] But Piaggio remained the top seller in Italy and throughout Europe. Ten years after the first Vespa rolled off the line, 1 million had been sold. A revolution had begun.

The new form of transportation that was taking Europe by storm was a sexed object (which within a decade became a sex object as will later be discussed). With its wide legshield, enclosed innards, easy to operate controls, and step-thru design, the Italian scooter was ideal for the female rider. It was a petite, non-threatening, user-friendly machine that kept the rider clean and enabled a skirted woman to ride without straddling a gas tank. It was the female counterpart of the male motorcycle. Not surprisingly the new transportation was marketed largely to a new demographic of consumers: teenagers and females, both of whom would not have been targeted before the war.[10] The scooter was a new machine for a new buyer. The two-wheeled machine signified freedom. It freed the Italian woman. It gave her the freedom to consume, to travel, and to let her hair flow unrestrained in the wind.

It was not until the early 1960s that Lambrettas and Vespas were being exported to the United States. Upon their arrival, women were the targeted buyers. American men, like those in Britain, initially saw the bikes as "a threat to masculine culture on the road."[13] "Scooters were displayed (and sometimes sold) not in car or motorcycle showrooms but in exclusive 'ladies' fashion shops. They were thought to be a good thing to dress a window with, regarded less as a means of transportation than as chic metal accessories, as jewelry on wheels."[14] The feminine look of scooters with their airplane-esque flowing curves, wide legshield resembling the female chest and hips, and overall small stature gave the machine a gender: female.

To men, function takes precedence over form; to women image reigns superior. The object that was the Italian scooter simulated femininity. To prove there was function behind form, Piaggio and Innocenti took upon an advertising campaign that went beyond print or film media. They created a lifestyle around their bikes to promote community of buyers and believers:

> Both Innocenti and Piaggio invested in aggressive advertising campaigns supervised by their own publicity departments. By the early 1950s, both companies were publishing their own magazines (in three or four European languages) and had formed their own scooter clubs with massive national, later international memberships. Through these clubs they organized mass rallies and festivals. They mounted exhibitions, sponsored tours, trials, races, hill climbs, competitions. Against those interests which sought

to discredit the scooter's performance, Innocenti and Piaggio set out to display the versatility and range, its resilience, its androgynous qualities ("feminine" and sleek but also able to climb mountains, cross continents. . . .)[15]

The image of the bike at rest might have signified femininity, but by putting the bike in motion and to feats of strength and endurance Piaggio and Innocenti were attempting to prove the masculine side of their machines. "Club scootering become more muscular, scooter runs longer, trials more arduous."[16] To motorcyclists scooters still remain sexed. They are inferior, female machines (for inferior effeminate riders). (This is a topic I would like to further investigate, but it goes beyond the scope of this work).

While attempting to counter the feminine sign the scooter revealed, the scooter manufacturers were also trying to sell more than just the product; they were trying to sell an image that accompanied the object. Though the bikes originated as a utilitarian, cheap, maneuverable form of transportation to combat the devastated state of post World War II Europe, manufacturers soon realized that they could take advantage of the image of the scooter. The scooter represented freedom to travel as you pleased. On a scooter, you were free to go where you wanted, when you wanted. This freedom was also associated by the openness of the vehicle and the oneness of the rider with the wind, the road, the sky. This freedom, in turn, signified youth. To ride a scooter was to remain young or become young again. The aerodynamic machine returned adults to their carefree, innocent childhoods. On a scooter they were free to live as children (this, perhaps, is also due in part to the fact that Piaggio and Innocenti based their motorscooter designs on those of a children's push scooter). With its image and text, the ad below (Fig. 4) encompasses the signs of femininity, freedom that lies ahead, and a fun, carefree childhood innocence. This ad, in fact,

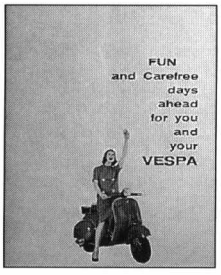


Fig. 4 – Femininity, freedom and fun.[17]

states that the "FUN and Carefree days" lie "ahead" of the rider and her Vespa. The future was in the past even when scooter advertising was in its infancy. The carefreeness, fun, excitement, and freedom of a youth that was passing or had already passed was now ahead of the scooterist and the machine. Thus, in the future on her bike, this woman will be able to relive the past. Femininity, freedom, and youth all culminated in the sexiness of the scooter. . . .

Jewelry on Wheels–A Sex Object

Sex sells. And the Italian scooter sold very well. With its flowing curves and petite stature, it had a womanly figure. To see a woman straddling a scooter was in itself sexual. With flowing curves, cleanliness, and the Italian "romance factor," Piaggio and Innocenti quickly realized they could market sex through the image of their scooters. Advertisements, musical recording, and Hollywood movies (think Audrey Hepburn and Gregory Peck's love ride in 1953's "Roman Holiday") were all selling the sexiness of the scooter and the scooter lifestyle. With their accessory lines, Vespas and Lambrettas could be "dressed-up" like beautiful movie stars. Accessories such as windscreens, baskets, bumpers, clocks, radios, glove boxes, chrome, chrome, and more chrome dressed the female body of the scooter in style. She was elegant, refined, luxurious, sexy. She carried herself with fluid grace (but her two-stroke smell, well that was another story).

Piaggio and Innocenti's bikes signified the "good life." When you owned, rode, or simply stood beside a scooter, you became an extension of her beauty, style, grace, and glamour. The scooter linked the owner (usually a member of the lower or middle socioeconomic class) to the high class, fashion conscious, carefree lifestyle of cinema stars and models. While it was designed to pull poverty-stricken Europe out of its postwar devastation, within a decade the scooter became an image of affluence.

Advertisements sold the bike; they also sold the lifestyle. To ride a Vespa or Lambretta was to be jet-setter. The Lambretta X-200 Special ad (Fig. 5) signified the youth, the sexiness, and the freedom-to-travel-the-world-in-high-fashion lifestyle that the Italian scooter manufacturers were selling (for just under $350). "Destined to Take-Off" denotates the take off of the plane in the background, but similarly connotates the upward social mobility of the young lady on the scooter because she is the proud new owner of a new, fashionable, sexy lifestyle. Like the jet, she will take off. Likewise the aerodynamic curves of the scooters in the ads connect the body of the bike to the body of the airplane and the body of the woman in each advertisement. All three bodies are charged with sexual energy.

Fig. 5– Selling a scooter. Selling an image. Selling a lifestyle.

Note too that the bike signifies the freedom and empowerment of young women. The women in the ads are "manning" the controls. The scooter enables these women, not a chauvinist society, to be in charge of their own destinies.

In Great Britain, 1960s youth bought the style, freedom, and sex appeal that the Innocenti and Piaggio were selling. The Mods adopted the clean, tailored look of Italian fashion as early as 1958. The young men dressed in slim-fitting suits, tight, narrow pants, pointed shoes, and slick short hair parted to one side. The girls wore pointed high-heeled stilettos, mini-skirts, tight blazers, short-cropped hairstyles, pale face makeup, and mascara. Initially as no more than a fashion accessory, they soon adopted the clean, tailored look of the Italian scooter to

accompany and compliment their wardrobes. The teens rode or dreamed of riding a Lambretta GT 200 or a Vespa GS 160. The Mods were "English by birth, Italian by choice." [20]

The Mods set themselves apart with their choices in style and selection of commodities such as wardrobes, haircuts, record collections, amphetamines, and scooters. The material culture with which the Mods surrounded themselves provided a magnification of power for an otherwise powerless youth and an enhancement of beauty that was associated with all things Italian.[21] Specifically, they united around the scooter. In 1960s England, they signified scooters and scooters signified them. The scooter gave these youths freedom to travel, freedom to escape their oh-so-boring middle class lives, freedom to unite. To set themselves apart all the more, Mods accessorized and dressed up their scooters with extra, unnecessary headlights (Fig. 6), mirrors, front and back racks, faux fur seats, and as much chrome as possible. Why? Because with their machines, they were making a statement of authority. To dress a scooter as such enhanced the power of the bike and its rider, giving authority to both. Dan Rose would argue that the two elements, rider and machine, functioned together as a cyborg.[22] The machine empowered the rider, letting him be seen (and heard). United with the scooter, the rider was, as the ad promised, "destined to take-off." It made both more beautiful (at least in terms of Mod aesthetics). United with the scooter, the Mod was altered. His arrogance, pride, and sense of self beauty, power, and worth were enhanced. Customization of their bikes set them apart as a group and rebellious community, but also as individuals within that community. Though it had two wheels and a motor, the scooter did not signify transport for Mods. It was a form of identity.

Fig. 6 "Mod" is not short for "Modest"[23]

The Loss and Revival of Freedom

American scooter enthusiasts lost their freedom to purchase a lifestyle of freedom, fashion, and fun in 1983 when the Environmental Protection Agency (EPA) banned the sale of two-stroke engines with a displacement greater than 50cc. With his 125 plus cc engines, Piaggio, who had a hold on the scooter market throughout the world, decided that it would not be cost effective to redesign his machines for the American market. Thus, the Italian scooter that started it all began to vanish in America, an exile that lasted 16 years. It was kept alive during its absence in the form of restoration of existing scooters. The scooter created a new enthusiast: the scooterist determined to hold on to the past via the scooter. It was either hold on to the past by holding onto the handlebars of your Vespa, or accept the future with the Honda Elite, a plastic, automatic, angular, Japanese bike that nearly erased all that the flowing curves of the Vespa had come to signify.

Not wanting to see the freedom, fun, fashion, and sexiness of the golden age of scooters disappear, a select breed of American men and women made the Italian scooter an icon. For the last two decades groups of die-hards have devoted their weekends to restoring, riding, and displaying their machines. They have joined clubs that meet on weekends for a ride and lunch. They attend rallies with hundreds of other scooterists from across the country all trying to keep the past alive through metal and rubber. They use the internet to unite around the scooter, support each other, and answer each others questions. I joined some of their online groups, in fact, to get their opinions and thoughts first hand. One club, Two-Stroke Smoke, is devoted mostly to holding on to the authenticity and originality of Italian scooters. When asked why he joined such a group morpheusreloaded2003 (I refer to members of these groups by their "usernames") replied, "They're cool! Actually, it's a culture/subculture that draws people in. Associating with those people who enjoy and embrace similar ideas. Personally, I like to lean when I turn, and I like hanging out with people who understand what that feeling is, and what it's all about."[24] Restoring his scooter and uniting with others who do the same is about reviving the past and a feeling of freedom when he and his scooter lean into a turn as a single unit. April Whitney, who created an online "zine" called *Scootergal.com* to support and encourage female riders to restore and ride Vespas and Lambrettas, answered:

> This [joining local and online scooter clubs, attending rallies, etc] was intensified by the USA's banning of 2-stroke scooters in the 80s. Since the companies could no longer sell them here, they abandoned the market. Parts and accessories were scarce, so you had to network with other owners to get anything for your scooter. It's fun to ride with other people, check out other people's scooters and attend events.[25]

To keep the signs of the scooter alive, scooterists had to unite. Piaggio was no longer there for them to rely on for restoration assistance. A revolution of uniting in the name of restoration began with the exit of Piaggio from the American market.

To keep the signs Piaggio and Innocenti created alive, men and women like morpheusreloaded2003 and April Whitney have kept their machines alive. Overhauling them from the ground up, they have attempted to restore them to the day they rolled of the production line in Italy. The goal is to come as close to that original machine as possible in this day and age. The time in which the original object was created, however, cannot itself be recreated. While these scooterists can alter the past through attempts at restoration, time does not stand still. Therefore, the key element necessary for a true and complete restoration is a time that has already past. This element cannot be incorporated into the process. Are restored Italian scooters an anachronism on wheels? The signs that they created 40 years ago have been altered by time.

Freedom to buy the signs of the past was revived in 1998 when Piaggio reentered the American market along with some

marked alterations to the machine that placed the company in the pages of history books. Two models are being sold in boutiques throughout the country; the ET2 and the ET4. The ET2 ($2,995 MSRP) is a 50cc two-stroke scooter, while the ET4 ($3,995 MSRP) is a 150cc four-stroke machine. Both are constructed of a pressed steel monocoque and have automatic transmissions. The tri-fold brochure for the new models opens "VESPA: Made in Tuscany (Italy) by Piaggio, since 1946. The legendary steel-bodied Vespa motor scooter is now fully automatic"[26] Automatic?! Manual transmission and Vespa go hand in hand. It is apparent that Piaggio is marketing its machine to a new class of buyers; those who want the "retro" name and look without the hassle. To operate the machine, one must simply roll back on the throttle. That's all there is to it. The machine is a reproduction that "enables the original to meet the beholder halfway."[27] The original Vespa and the signs it created live on in the scooter's silhouette and the Vespa name. By reviving the freedom of Americans to purchase the freedom that is synonymous with Vespa, the company has attempted to reproduce its classic, high-fashion, glamorous look for a buyer who does not want to have to restore an old machine, be a weekend mechanic, or even learn how to use a clutch. "I think they're ok for people who want the look of an old bike but can't handle the cost and maintenance and don't really care about having the real thing," responded one scooterist to my survey (see *Appendix*) about reproduction scooters in America.[28] The reproduction meets the buyer halfway.

Upon unfolding the brochure, the reader sees a hybrid; half new machine, half old machine–both halves Vespa. The picture is a profile of the hybrid scooter. The front end (front wheel, legshield, headlamp, and steering column) is that of a new ET2. The rear end (seat, enclosed engine, and back wheel) is that of d'Ascanio's 1946 machine. Piaggio is visually uniting its new models to its past in hopes to fuse the signs it historically created with the signs it is attempting to recreate. The machine is meant to signify the freedom and good life that the company had historically sold to American buyers. The caption below the hybrid reads:

> Life's better with Vespa. It's as true today as it was in 1946 when the first Vespa motor scooter was created–and it's as true as it was when Vespa became an integral part of freedom, well-being and rejection of traditional culture personified by the 60s. Mods, starlets, hipsters and Italian grandfathers may not agree on music or politics, but for over fifty years they've agreed that riding a Vespa makes getting from here to there an adventure. [25]

Not only does the new Vespa link itself to an earlier generation of itself, but it similarly claims to unite separated generations of buyers; young and old. The object creates a harmony between different eras and those who lived in those eras. The Vespa signifies unity. The scooter that started it all has returned, and it is trying to reproduce the signs its ancestors created.

The Sex Object Revisited

The Vespa has returned to America. Similarly, a sex object has returned. The lifestyle that Piaggio sold is back, and this time it is overtly sexual. This sexuality is perhaps best seen in the television advertisements the company has recently shot. One 30-second ad is set in a backyard on a summer afternoon. It opens with a young man appearing to be speaking to a beautiful woman reading in a nearby lawn chair. "You will take me places I've never been before," he says in an Italian accent praising "her" curves and sleek figure. "Your petite but powerful body will purr with excitement when we are together." He continues, "I must mount you now." Until this point, the conversation is directed to the woman in the chair. What the camera is hiding from the viewer is the new Vespa that is just beyond the woman. After this overt build up of sexual tension and excitement, the camera pans out to reveal the Vespa. The man mounts the machine. The woman says, "That's weird." This ad anchors the femininity of the machine itself while praising its beauty, petite stature, curves and sex appeal. The bike signifies sexual excitement. The man's Italian accent develops the Italianicity and Italian romance of the machine. Piaggio is still trying to sell the sexy, romantic good life that it created nearly 50 years ago. In fact, the company's new slogan (although it's been implied for 40 years), "Life's better with Vespa," ends the commercial.

The writer of the commercial, Mark Guzman, said, "It's a sexy ad, but more than anything, we want to show that the Vespa's a perfect mode of transportation."[29] I disagree. If Piaggio honestly wants to prove that its new scooters are the "perfect mode of transportation" why doesn't the ad mention the fuel economy (upwards of 75 miles to the gallon), the cleanliness of the four-stroke engine, or the ability to park just about anywhere? The ad doesn't even show the scooter in motion. Yes, Piaggio is selling an efficient and economical form of transportation. However, the company is attempting to sell the sexiness of the scooter and the lifestyle associated with it, just as it did in the '50s and '60s. In fact Giancarlo Fantappie, the president of Piaggio's United States division admits, "We're selling a lifestyle, not just a scooter."[30] Through advertisements such as this one, the company is trying to reproduce the signs that made it famous.

"The Future is in the Past"

> "When you buy a Vespa, you are buying a piece of history, a piece of Italy, a romance it's nostalgic. The vintage bikes they are the history, they keep the light burning." [6]
>
> *Rino Alessandrini, director of operations and technical services for Piaggio USA*

Some Americans want to hold on to the past so much that they want to make the past their future. But the golden age of scooters and scooting has passed. It was a "simpler time" when you didn't have to worry about destructive emissions, wearing a helmet, getting crushed by a sport utility vehicle, or getting the old scooter joke "scooters are like fat chicks: it's cool to ride one til your friends find out" thrown at you. The freedom, style, and fun that the Vespa and Lambretta created in the late 1940s, the "good-life" they sold in the '50s and '60s, and the community they constructed around the machine, climaxed in the golden age of the scooter. It is this past that today's scooterists want to relive. Manufacturers realize this seeking of the past through form and function and are therefore attempting to recreate that

lifestyle by reproducing the machine that catalyzed it. Vespa and Lambretta have spawned copies.[31] Meet Stella, "the brochure introduces the scooter. Die-hard scooterists agree that Stella is truly the scooter they've been waiting for; it has the appeal of vintage and the reliability of modern. The *future* is in the past."[33] The Genuine Scooter Company of Chicago is trying to simulate the sexiness, freedom, and fun of the original Italian scooter with its Stella ($2,699 MSRP). Its slogan for the scooter is "Collectible Right Out of the Box," and they claim that, as their name suggests, they "didn't call the company 'Genuine' for nothin'! We're the real deal. We are real scooter people" [31] If the original Vespas and Lambrettas are "real" and "genuine," isn't the Stella just trying to reproduce that real, that genuine-ness via signs? "It is no longer a question of imitation, nor of reduplication, nor even of parody. It is rather a question of substituting signs of the real for the real itself . . ."[33] The Stella is simulating those "real" qualities of the "original" scooter in terms of its sound image and accompanying concepts. To all appearances, the Stella is a Vespa, its silhouette a direct descendant of the d'Ascanio 1946 wasp design. It is constructed of compressed steel, has a broad legshield, aerodynamic metal cover to conceal the innards on the wasp-like abdomen, a large circular protruding headlamp, the word "Stella" used as the logo and written in the cursive font that Piaggio uses for "Vespa," a manual transmission, and perhaps most importantly to folks seeking the authenticity of an original Vespa or Lambretta, a 150cc two-stroke engine (Fig. 7). In the tri-fold brochure, the company asks, "Look familiar? She should, because the Stella is THE scooter which most reflects the traditional styling that scooter enthusiasts around the world have come to love."[31] The Genuine Scooter Company is trying to reproduce the sound image in order to stimulate the concepts that Piaggio and Innocenti created 50 years ago.

Together the brochure and website for the Stella express those concepts visually and textually. First, the company is simulating the fun that Vespas and Lambrettas once sold. It

Fig. 7 Seeing double.[34-37]

emphasizes the machine's 150cc two-stroke engine (apparently permitted back into all states but California by the EPA because it is reed valve, and thus slightly cleaner than old two-strokes). Stella advertisers have used the inability to sell in California, the West Coast state generally associated with all things new, trendy, young, and hip, with posters that read "Stella . . . Too HOT for CALIFORNIA, but very cool for everyone else." The machine, they claim, is too fun and exciting for California. Now, that is saying something to Americans who associate California with the epicenter of American-cool. The large two-stroke engine reproduces the fun of the golden age of scooting, and the Genuine Scooter Company claims to be the only one recreating that fun in Piaggio's and Lambretta's footsteps. "2-STROKE EXCITEMENT: Stella is the only 2-stroke metal scooter being sold in the US today. Anyone who's tried knows: 2-STROKES ARE MORE FUN!" reads the brochure.[31] The engine is simulating the fun of a scooter that everyone in America thought had disappeared forever. Is the real thing back? Or is it just a reflection of the real?

The simulation does not stop at fun. The Stella recreates the freedom that Americans lost when they lost the Vespa in 1983: the freedom to buy a metal 150cc two-stroke, the freedom to have total control over the bike via its manual transmission, the freedom to relive the '60s on your scooter (even if you weren't alive in the '60s!). The brochure highlights this freedom: "YOU'VE GOT TOTAL CONTROL. Shift it . . . Let's scoot! Like a sports car, Stella has a manual transmission that allows you to maximize the benefits of her power and awesome fuel economy."[31] The website reiterates this freedom to buy and freedom to control the machine: "Do all scooter buyers want an automatic transmission? Hell no! That's just what all the importers are selling. Would you want a sports car with automatic transmission? Stella's manual shift allows her rider total control."[32] When Vespa and Lambretta were selling scooters to Europeans after World War II, they were selling a freedom to travel, have fun, and be in control of one's destiny. The mechanics of the Stella are simulating those freedoms. The text of the brochure and website are anchoring the reader's/buyer's thoughts on the freedom that originated in Italy over 50 years ago. Finally, the Stella is simulating and attempting to sell the sexy lifestyle that Piaggio and Innocenti invented through their advertising campaigns in the 1950s and '60s. The company immediately sexes the machine. "Her classic steel body is familiar, but her performance is unparalleled."[32] Stella is a female object; a femininity that is anchored in both the shape of the vehicle and the word choices the company uses in its text to the potential buyer. But she is not just any female; she is a star. She represents the glamorous, movie star "good life." The cover of the brochure reads, "Inside and out, Stella is a star–from her throaty, powerful two-stroke engine to her high gloss paint job and retro curves."[38] She is sexy. The Genuine Scooter Company is simulating the sex appeal of the age of female empowerment that Vespa and Lambretta created. To solidify the machine's sexiness, the website has backgrounds that can be downloaded to one's personal computer desktop with a beautiful woman posing on the Stella. The website reads, "We've just added a new page which features a few of our recent print ads, our brochure, and some desktop wallpaper images of the Stella scooter and young lady that are quite 'easy on the eyes.'"[32] The black and white images are of a beautiful young brunette woman sitting side-saddle on the Stella. She is wearing Capri pants, ballerina-like shoes and top, and her hair held up by a bow in the back. Behind her and the scooter are classic European automobiles from the '50s and '60s. The caption beside the woman and the bike reads "She's a Classic." Who is a classic? The Stella? The

girl dressed in a look of the 1950s? The cars in the background? All the images (keep in mind they are black and white as well) are working together to simulate a picture of the past. The bike, just like the cars, is collectible . . . in fact it is "Collectible Right out of the Box." Like the costumed girl, it is dressed in the scooter clothing of the past (i.e. the "Vespa" clothing if you will). Together the cars and the woman create a classic, clean, bygone, unadulterated sexiness that is meant to be associated with the scooter. The scooter does not signify transportation. Rather, it is a sign signifying sexuality, but a sexuality that is clean and innocent. By the same token, The Genuine Scooter Company had a blurb about its Stella in the December 2002 issue of *Playboy* magazine in a brief article entitled "Return of the Scooter." Maybe that sexiness isn't so innocent after all. . .

The Japanese company Yamaha is also trying to recreate the signs that were and still are associated with Italian scooters of the 1950s and '60s. After Vespa reentered the American scooter market, Yamaha saw an opportunity to undercut Piaggio with a Vespa look alike at just above half the cost ($1,699 MSRP). To connotate the Italianicity that was so essential to the name, history, and image of Vespa, Yamaha called their 50cc two-stroke the "Vino," the Italian word for "wine." (Italy is known for its world famous vineyards and wines, so the word "wine" itself has the ability to anchor one's thoughts on Italy). Like the Vespa, the font in which "Vino" is written is reminiscent of the slanted, flowing cursive "Vespa" logo that Piaggio has used for more than half a century. The legshield is broad and curved outward like that of the Vespa. It sports a large, circular, chrome-trimmed headlight, chrome back rack, 10-inch wheels, and a wide floorboard all derived from d'Ascanio's original design. "Full-size floorboards and wide, sculpted front apron provide excellent splash and wind protection and classic styling accent."[39] The web site for their Italian-inspired machine opens:

> Can you say ciao bella? Then say hello to the oh-so-chic, Vino Classic. Traditional Vino styling gets the ultimate, retro cosmopolitan twist with two additional color schemes and a fully-chromed front-end that includes the headlight, turn signal housings, speedometer and mirrors.[39]

Can you say "Hello, beautiful?" Immediately the Vino is sexed. The question implies that she is a beautiful Italian woman. She is "chic" and "cosmopolitan." The scooter is sexed and trying to sell the sexiness of a fashion-conscious, intelligent, and empowered woman.

Yamaha, in fact has two models of the Vino: the Vino and the Vino Classic (Fig. 8). What makes the Classic "classic?" Yamaha emphasizes the chrome on the Vino Classic by using a bold font to draw the reader's attention to the descriptive words. In fact, the only differences between the Vino and the Vino Classic are the chrome details and $100. Apparently, a classic comes at a higher cost. Later in the description the words "chromed rear luggage rack" are bolded.[40] Why does chrome make the Vino Classic a classic? The Mods, who dressed their scooters up in as much chrome as possible, made a statement that said, "The more chrome your scooter's got, the more authority you and it have got." The Vino Classic, with its chrome features is attempting to recapture that era when the Italian scooter more or less ruled Europe. Just as the Italian Vespa and Lambretta sold a carefree, upper-class, fun, romantic, sexy lifestyle (with the movie star glitz associated with the chrome on the bike) the Japanese company Yamaha is trying to do the same. In the words of Dick Hebdige, the Vino is Japanese by birth, Italian by choice.[20]

But Yamaha is not simply trying to reproduce (perhaps "mimic" is a more accurate word choice) the scooter and the lifestyle that Innocenti and Piaggio created. It is trying to sell modernity. On the Vino website, the words "retro," "cosmopolitan," "classic," and "chic" are interspersed among statements that stress the incorporation of modern technology into a "classic" machine. The company is marketing a classic without certain aspects of the "real" classic. The website boasts

> The Vino Classic is powered by a responsive fan-cooled engine. Simple electric starting system with automatic choke system provides hassle-free starting. Just turn the key, push the button and go. It uses a variable ratio V-Belt transmission that automatically shifts for you so you have the correct gear ratios when you need them. The enclosed, no-maintenance drive system also offers clean, quiet operation.[40]

Reproductions are attempting to reproduce the outward sign via the sound image of the object. At the same time, they are trying to address the wants of a 21st century buyer; the ease of an automatic transmission, the cleanliness of not having to mix the oil and gas for the two-stroke engine, the "easy to read instrument panel," and the automation of the choke to make "cold starting a cinch." Again, the reproduction is meeting the consumer halfway. It boasts of Italian style, romance, freedom and fun with its design, chrome, and name. At the same time it caters to a breed of scooter buyers that want a classic without having to labor over it on the weekend, get their hands dirty mixing the fuels, or learn how to use a clutch. To operate this "classic," simply twist and go. The Vino is a scooter

Fig. 8 – The Vino Classic: a scooter masquerading as a Vespa.

masquerading in a Vespa costume. Outwardly, it says Vespa. Hidden behind that plastic skin is a new machine for a new buyer. Scooterists who want to relive the past by restoring "original" Italian scooters have much to say about such mimics:

> Engineering-wise, the knockoffs are very different (four-stroke engines, tube frames, automatic transmission). Materials-wise, they are often plastic (chintzy) bodied. Purpose-wise, they seem designed to grab the people who like retro, but don't want the maintenance hassles of an old bike. I'm a Vespa fan, and I want a metal bodied, two stroke, manual transmission scooter, and I'm not afraid to fix it myself. So the new bikes are knockoffs at best, in my mind.[28]

In his survey response he continues:

> "They [Yamaha Vinos] are somewhat of a "poser mobile." Will anyone care about the Vino in 20 years? Will any Vinos be in one piece in 20 years? Probably not. Vespas are better looking, more modifiable, and more durably built–the new bikes have their place, but are in no way the same sort of bike.[28]

Gayle Materne, owner of the Vespa boutique in New Orleans said, "It's [the Vespa] a classic. Everything else is just an imitation."[41] The Vespa is being imitated. Japanese manufacturers such as Yamaha and American companies like the Genuine Scooter Company (whose machines are actually produced in Japan) are trying to reproduce the signs that Piaggio and Innocenti created five decades ago. The future of scooters is in the past. That past *is* the Vespa and the Lambretta. It is human nature to want to hold on to the past. We do so with material objects that are a sensory link to a bygone time. It is only natural that scooterists want to hold onto the past through Italian scooters. Vespas and Lambrettas are the machines that started it all. They created the signs of sexiness, freedom, fun, youth, romance and escape that manufacturers today are attempting to reproduce. In the words of the Genuine Scooter Company, "The future is in the past."[32]

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Automobiles and Arms

by Ferdinand Hediger

There have been at least two dozen companies and marques worldwide involved in manufacturing both arms and automobiles. How was it that great car manufacturers began to produce handguns, machine guns and cannon? Why did some of the most important arms factories switch to automobiles and trucks? There are at least two very good reasons. For arms as well as for automobiles, similar requirements regarding the quality of manufacture and the interchangeability of parts are vital. To achieve this goal, mass production had to be strictly according to engineering drawings and within closely defined manufacturing tolerances. Another reason, much more banal: during economic depressions and because of political treaties automobile and arms companies often diversified into the other field to survive. The success of such enterprises was varied as the following examples will demonstrate.

Argentina

Hispano-Argentina

The famous semi-automatic Colt 45-caliber pistol, model 1911 and the standard sidearm of the Armed Forces of the United States was adopted in 1916 by Argentina. Later it was

Fig. 1 – Ballester Molina semi-automatic pistol

produced locally under license and became known as the Ballester Molina (Fig. 1).

In 1940 Carlos Ballester Molina founded the Hispano-Argentina Fabrica de Automoviles SA in Buenos Aires. Because of World War II and the conversion of the industry in the Western World to produce war materiel there were hardly any imports of passenger cars. The first model was a rather heavy touring car resembling the American production of the time but fitted with a 6-cylinder diesel engine (Fig. 2). Due to inflation the demand was insufficient. Therefore a light car with a twin-cylinder engine of only 1 litre capacity was launched. The lack of proper raw materials and of qualified craftsmen led to abandonment of this project as well.

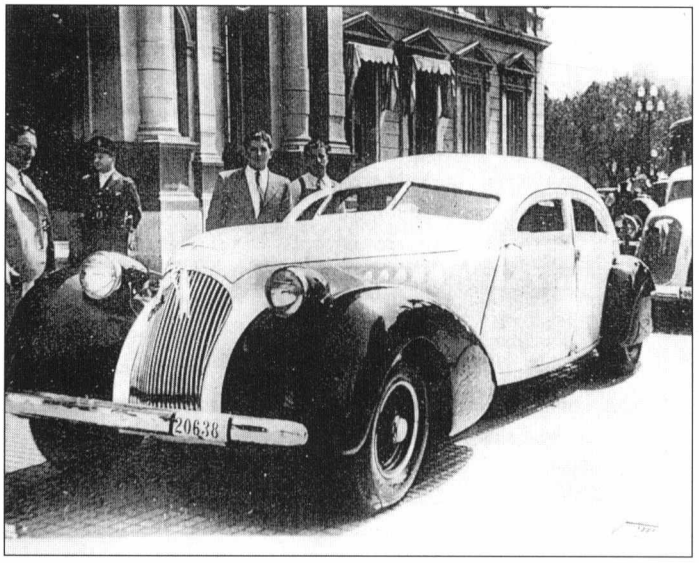


Fig. 2 – 1940 Hispano-Argentina, collection V. Christian Manz

Austria

Steyr

One of the most versatile technicians and inventors of the 19th century in Europe was the arms designer Josef Werndl. He founded an arms factory in 1864, which later became the Steyr works. In 1867, the Austro-Hungarian war ministry ordered 250,000 breech-loading rifles Werndl had designed. Soon Werndl rifles were exported all over the world. The dynamic development of infantry weapons reached a peak in the 1890s when 10,000 workers produced up to 13,000 rifles every week. By the turn of the 20th century the program was complemented by machine guns, pistols and sporting rifles. During World War I, Steyr was the most important arms producer of the Central European Powers. After the War, the Versailles Treaty prohibited Steyr from manufacturing arms. The prohibition lasted until the 1930s and the company became an important supplier of the Wehrmacht. At the end of World War II most of the works had been destroyed. Arms production began again in 1950 with sporting rifles, assault, and sniper rifles.

As the factory had begun to produce aero engines in 1916, it was quite natural that Steyr would consider manufacturing automobiles when the ban on producing arms was imposed by the Treaty in 1919. Steyr hired Hans Ledwinka, who was chief designer with the Nesselsdorfer Wagenbau-Fabriks-Gesellschaft, later to become Tatra. The famed engineer designed and developed the so-called "Waffenauto" (arms automobile) for Steyr. It had an advanced 6-cylinder OHC engine with a 4-speed gearbox bolted directly to the engine. It was launched in 1920. Very rapidly sports versions, a light 4-cylinder model and trucks followed. By far the most successful Steyr was the small 6/30 HP, first offered in 1926. By 1929, Steyr had delivered a total of 21,672 passenger cars and 3,644 trucks (Fig. 3).

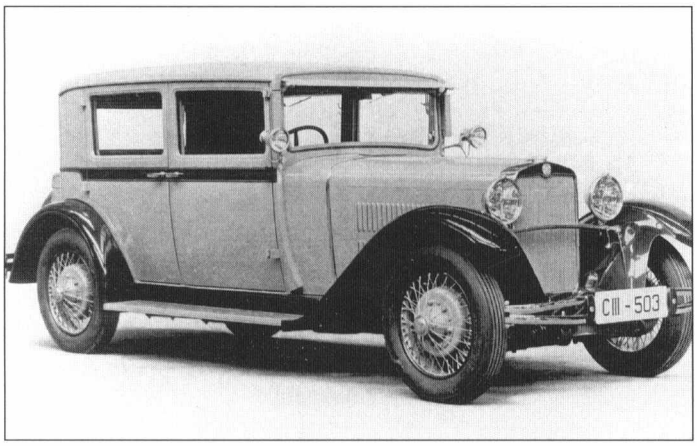


Fig. 3 – 1929 Steyr Type XX 8/40 PS sedan

Here begins the short, but important, co-operation with Ferdinand Porsche, who designed the model 30, a small 6-cylinder car with swing axles. He also created the famous grand luxe "Austria" with an 8-cylinder OHC engine which was on display at the Paris Salon but was never produced in quantity. Porsche left Steyr by 1930. By 1935, all three Austrian automobile manufacturers merged into the new Steyr-Daimler-Puch AG. Austro-Daimler as well as Puch had a long tradition of producing passenger and commercial vehicles. Up until 1945 various models of automobiles were made. With about 13,000 units, the small fully-streamlined Types 50 and 55 were the most successful. The company did of course also produce a range of all-wheel-drive military vehicles. After World War II, the works were rebuilt and production of agricultural tractors and trucks was resumed. Steyr-Daimler-Puch assembled Fiat cars and Puch produced a modified version of the Fiat 500 which was quite successful in its class in rallyes and mountain climbs. Apart from the heavy trucks of Steyr, the all-wheel-drive Haflinger and Pinzgauer became well known in the armed forces of various countries. Subsequently, Steyr-Daimler-Puch was split up. Magna of Canada took over truck production, and DaimlerChrysler A.G. manufactures Chrysler minivans and Jeeps in the works at Graz.

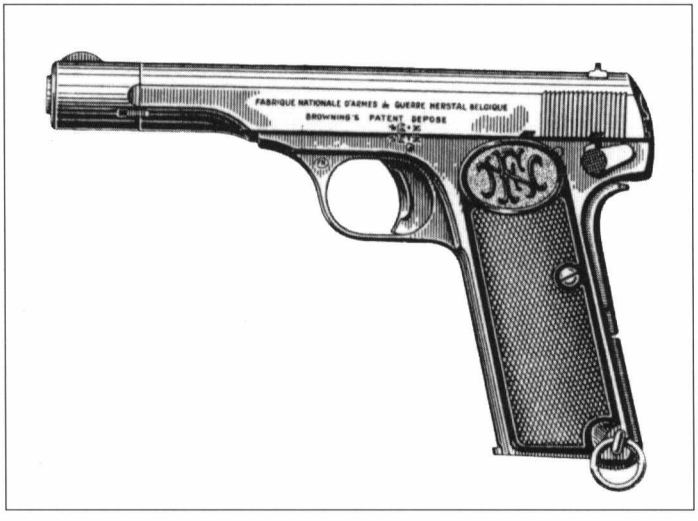


Fig. 4 – FN semi-automatic pistol of Browning design

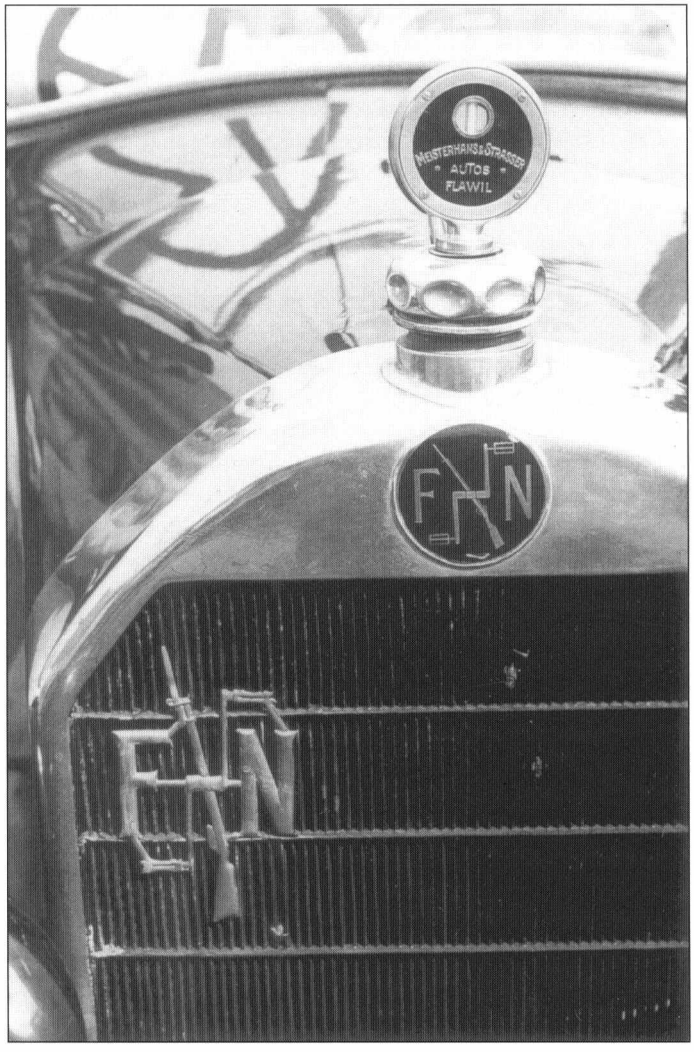


Fig. 5 – Distinctive corporate symbol used on FN automobiles

Belgium

FN Fabrique National

The Fabrique National of Herstal (FN) was one of the largest manufacturers of infantry weapons. The company was founded in 1889. Bolt-action repeating rifles of the Mauser type were produced in huge quantities and exported all over the world. Not only the Belgian Army but the armed forces of many countries adopted these rifles as their standard infantry equipment. The semi-automatic pistols of the American genius arms designer John M. Browning were also produced in various versions and very large quantities (Fig. 4). Later machine guns and assault rifles were added. FN also was probably the most important supplier of infantry weapons and ammunition after World War II in the Western World. Up to 98 per cent of production was exported. For the civilian market FN offered sporting rifles and the famous over-and-under shotguns for trap and skeet shooting.

Automobile manufacturing began in 1899 with light twin-cylinder voiturettes. These were followed by several small passenger cars (Fig. 5). By 1920, a big luxury model with 3.8 liter engine was offered as well. In 1923 the type 1300 was launched. It had a 4-cylinder engine and was often seen with

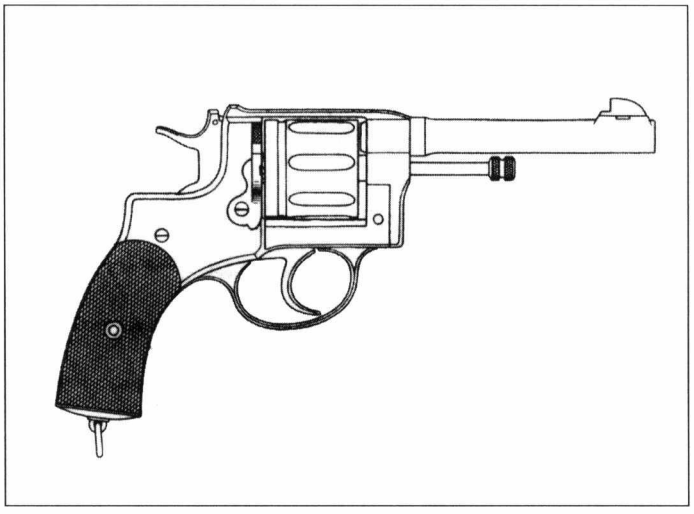


Fig. 6 – Nagant revolver, 1910

handsome touring bodies. The successor types 1400 and 1625 were fitted with slightly larger engines. These light and well handling cars were also successfully used in motor sports events. In 1930 FN offered a new luxury car with a straight eight engine of 3.2 liters capacity which was produced in limited quantities only. Production of passenger cars came to an end in 1939 and after World War II only motorcycles and trucks were made.

Nagant

The Belgian arms designer Nagant became famous for its gas-tight revolvers and collaborated in developing the Russian infantry rifle model 1891. Initially, all revolvers (which were adopted by various armies) were produced in the Belgian arms center at Liège. Whereas in normal revolvers there is always an open space between the cylinder and rear end of the barrel through which a small part of the pressured gas escapes, the Nagant design seals this gap by moving the cylinder forward just before firing. The Russian army revolver was the 7.62mm caliber version model 1895 and soon local production under license started. These durable handguns remained in service even after World War II (Fig. 6). The Moisin-Nagant rifle in various versions also had a career of more than 50 years as the standard infantry weapon of czarist and soviet armed forces. It was produced in millions of numbers until 1945.

At the turn of the 20th century the first Nagant automobiles were built under a license agreement with the French maker Brillié. As with the originals, the Gobron-Nagant also had peculiar engines of opposed and reciprocating pistons in 2 and 4 cylinders. Later, conventional engines were chosen and exported in limited numbers. Before 1914 Nagant cars were successfully engaged in various sports events. For the Grand Prix of 1914 a high performance racing engine of 4.5 liters capacity and twin overhead camshafts was prepared. Two cars started and while Leon Elskamp had to abandon the race after more than 8 hours, his team-mate Draguin Esser finished in 6th position. After World War I Nagant continued to build various 2- and 3-liter cars with were fast and very durable. In 1925 a 3-liter Nagant won the 24 hours race of Spa. In 1928, the

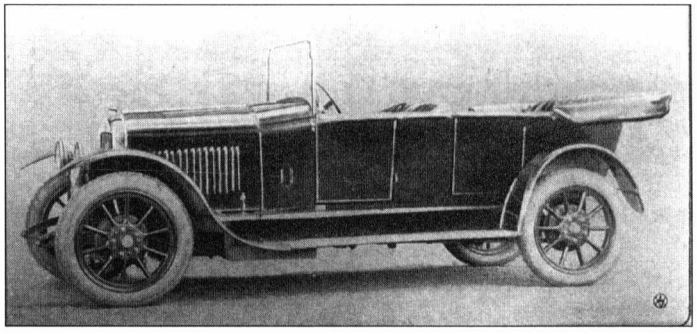


Fig. 7 – c1925 Nagant 4-cyl. 10 HP touring car,
La Vie Automobile

automobile section of Nagant was taken over by Impéria-Excelsior located also in Liège (Fig. 7).

Pieper

Henry Pieper, another Belgian, realized that mass production of handguns, for which large contracts from all over the world were placed with the manufacturers of Liège, could only efficiently be filled with special machine tools (Fig. 8). He designed such equipment and formed the Société des Etablissements Pieper to produce breech mechanism and barrels for a wide variety of infantry rifles. One of the more important customers was the Russian army. Pieper also invented a rifle with electric percussion.

The automobile production of Pieper was limited to four years, from 1899 until 1903. The first model was a voiturette available with a single or twin-cylinder engine and belt drive, quite similar to the successful French De Dion-Bouton (Fig. 9). Later Pieper turned to electric motorcars and the so-called Auto-Mixte with petrol engines linked to generators which activated the electric motors that drove the vehicles.

Switzerland

Martini

Friedrich von Martini, born in 1833 in Hungary, emigrated as a young engineer to Switzerland. In 1864 he formed together with a partner the Martini-Tanner & Co. in Frauenfeld. For the sharpshooters of the Swiss army 15,000 American Peabody breechloading rifles were purchased by the government. Martini, apart from producing machine tools, developed an improved version of the action mechanism which was patented in 1869. Two years later the Martini action was adopted by the British army for the standard Henry-Martini rifle. Although the Martini action was also chosen by the armed forces of Spain, Romania, Bulgaria and Turkey, it was not adopted by the Swiss army. Here the very advanced Vetterli

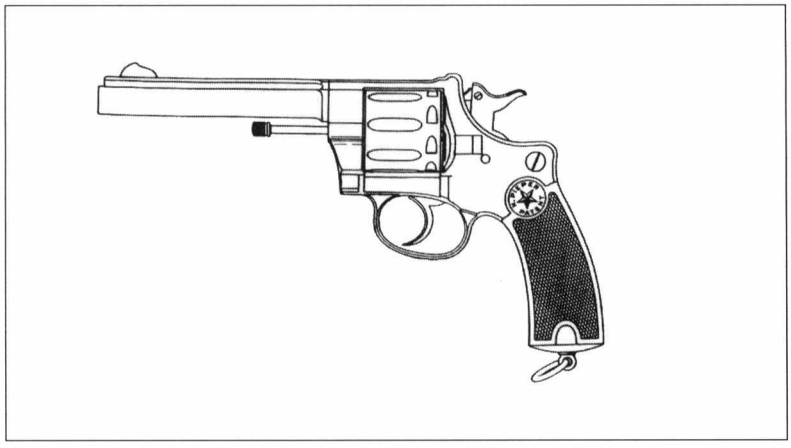


Fig.8 – Pieper revolver

Fig. 9 – 1900 Pieper 1-cyl. 3-1/2 HP 2-seater, courtesy Nick Georgano

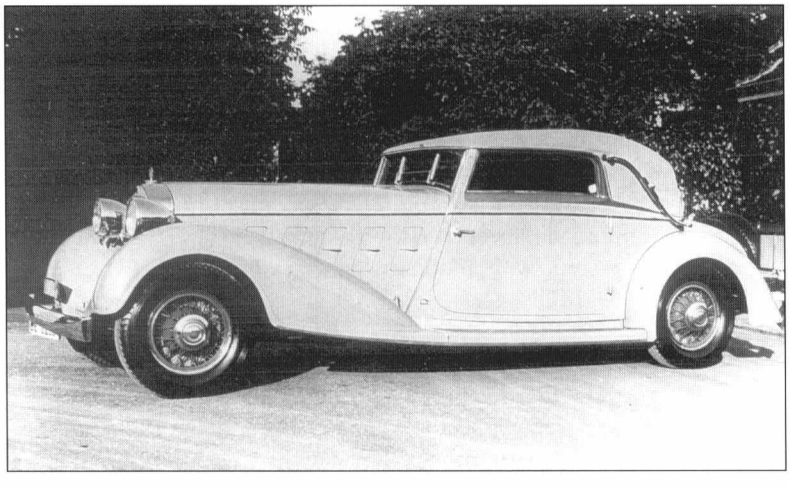


Fig. 10 – 1934-35 Martini HF 6-cyl. convertible, by Worblaufen

repeater model 1869 was selected. Martini then sold manufacturing and sales rights and turned to other activities. The Martini target rifles however continued to be used with superb success by marksmen in top competitions until the advent of the Second World War. The Martini action was also used for many of the most famous single shot target pistols up until the present time.

At the Swiss National Exhibition of 1883 in Zurich Martini displayed a stationary gas engine for industrial use and five years later the first petroleum engine was launched. Adolf von Martini, the eldest son of the company founder, bought a Benz motorcar in 1896 and had a copy with various improvements made in the factory. Two years later a new model was built and soon model 3, the first with front-mounted engine, made its appearance. A first series of 30 Martini passenger cars with V4-engines was produced in 1902. Only one year later a license agreement was signed with the French make Rochet-Schneider and a new factory was erected in St. Blaise near Neuchâtel. Martini, as so many other companies, was more or less constantly troubled by financial problems. For some time the company became the property of an English group. During the First World War the Martini 4-cylinder model of 3.6 liters capacity was produced and exported in good numbers. By 1924 the two Swiss brothers Robert and Walter Steiger, who had manufactured automobiles under their own name in Germany, became the new owners of the company. They modernized the facilities and launched two 6-cylinder models with 3.1 and 4.4 liters capacity. With the economic Depression of the early 1930s the German Wanderer W11 was built under license, while a big model of Martini's own design continued to be made in dwindling numbers (Fig. 10). In 1934 the Martini automobile company, one of the oldest and most renowned in Switzerland, was liquidated.

Saurer

Shortly after the turn of the 20th century, Saurer, by far the most important Swiss manufacturer of heavy commercial vehicles, also made a short escapade into the field of infantry weapons. The Swiss army, since 1870 equipped with advanced small arms, was looking for new more efficient and modern rifles and carbines. Prototypes of various models, developed and designed by Hans Stamm of St. Gall, were made by Saurer and submitted in 1905 for evaluation by the Swiss army. Neither the straight-pull action repeater nor the very advanced selfloading rifle was, however, adopted.

In 1896 Saurer built the first engine for a motorcar. The first heavy truck with a payload of 5 tons was completed in 1903 and shortly thereafter passenger cars were also produced. In 1911 the United States of America was crossed from the East to the West coast for the first time by a truck, a 3-ton platform model made by Saurer.

Branch factories were founded in France and Germany and production license agreements signed in England, Austria and the USA. Until 1914 passenger and commercial vehicles were made. Later Saurer specialized

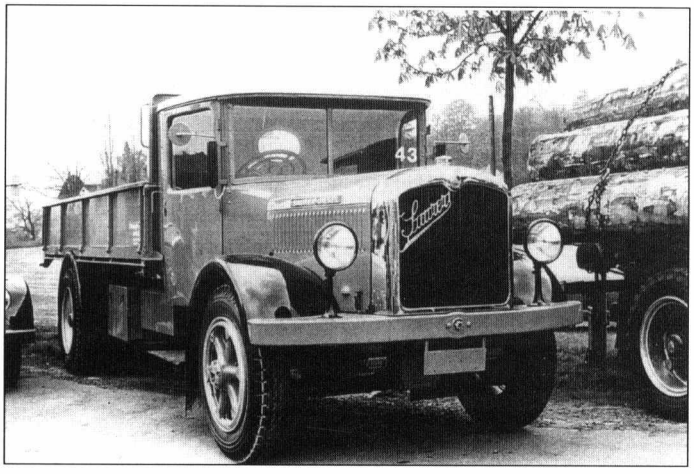


Fig. 11 – 1929 Saurer 5 BLD truck, 6-cyl. 100 HP Diesel engine

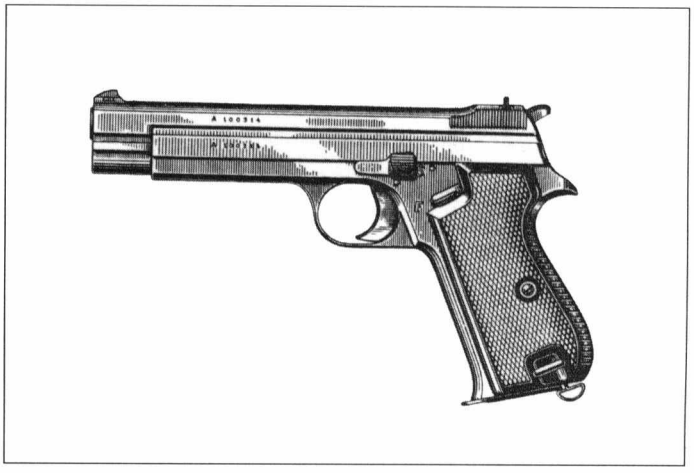


Fig. 13 – SIG automatic pistol

in trucks and textile machines. In the 1920s Saurer A-model trucks were exported to many countries where they often served very well for decades. The company was one of the pioneers of the modern diesel engine. From 1928 the B-series trucks could be ordered with gasoline or diesel engines (Fig. 11). With the C-line, Saurer launched its famous direct injection diesel in 1934. At about the same time Saurer began to assemble passenger cars of the Chrysler group for the Swiss market. Technically interesting and complex cross-country trucks with 2, 3 or 4 axles were made for the Swiss army. In 1955 the D-series, partly with turbo-charged engines, was launched. With a wide range of trucks and tractors for road and construction site use, Saurer vehicles remain a frequent sight on Swiss roads, albeit the fact that the motor vehicle branch of the company was sold to Daimler-Benz in 1982. Production in Switzerland ceased shortly afterwards.

Semag

The Semag company located close to Zurich pursued the development of the 20mm Becker rapid fire cannon after the Armistice of 1918. Six years later it was liquidated and the Swiss machine tool company, Oerlikon, took over the prototypes and staff. The Becker became the famous Oerlikon cannon for military aircraft of all kinds and anti-aircraft use. About 300,000 Oerlikon cannon were produced under license in the USA during the Second World War.

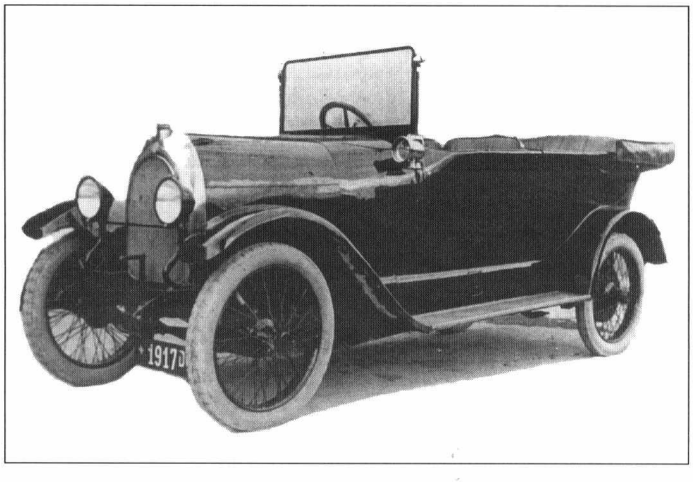


Fig. 12 – 1920 Semag tourer, by Ramseier & Jenzen

At least one prototype of the Semag passenger car was made, around 1920 (Fig. 12). Only a few details are known. A photograph shows a 4/5 seater phaeton. The body was built by Ramseier & Jenzer of Berne. The medium-sized car probably had a conventional 4-cylinder engine. Its rounded radiator-shell resembled Fiat models.

SIG

The most important Swiss manufacturer of small arms, SIG Schweizerische Industrie-Gesellschaft in Neuhausen, was founded in 1853. Producing railroad cars in the beginning, its managing director, Friedrich Vetterli, invented an advanced repeating rifle which was adopted by the Swiss army in 1869 and by the Italian army in 1871. Shortly after the turn of the 20th century SIG made one of the early self-loading rifles based on the design of the Mexican general Mondragon, which saw limited service with the early German fighting planes in World War I. Later light machine guns and sub-machine guns were exported to various countries. The semi-automatic 9mm pistol P210 was adopted by the Swiss army in 1949, and in 1957 the SIG assault rifle became the standard ordnance infantry weapon. SIG-Sauer semi-automatic pistols produced in Germany, Switzerland and the USA were adopted by many police departments, special forces and the Swiss army. A new assault rifle in caliber .223 replaced the earlier models in 1990 (Fig. 13).

Activities in the field of motorcars were less successful. The gifted engineer Martin Fischer, who had designed the Turicum cars with friction-wheel transmission (1904-08) and touring cars under his own name, was looking for a company to produce his light car after World War I. In 1921 SIG built a few of his voiturettes with tandem-seats and the Motosacoche V2 motorcycle engine (Fig. 14). No regular production however followed and the project was soon dropped. In the 1920s a few of the handsome Martini Six chassis were built with coachbuilt bodies made in the railroad stock department of SIG. During World War II the shortage of gasoline created a boom for

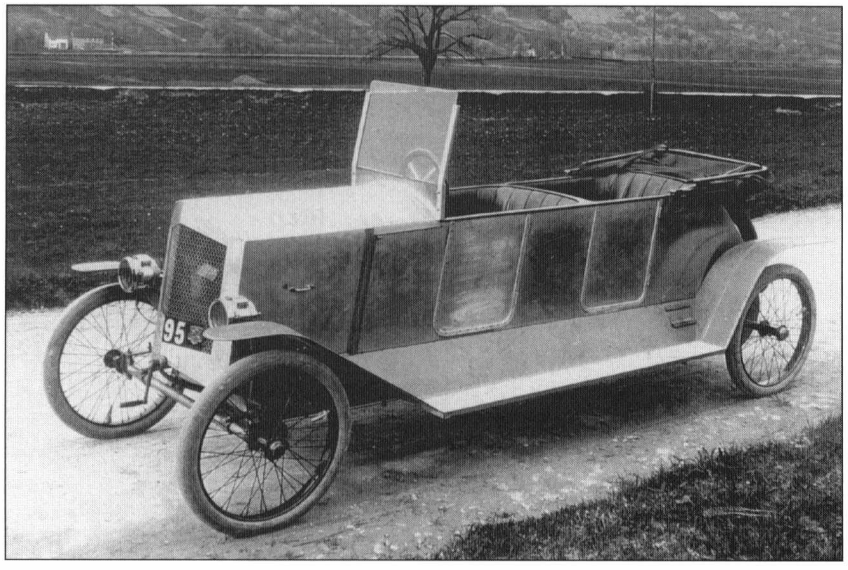


Fig. 14 – 1920 SIG cyclecar

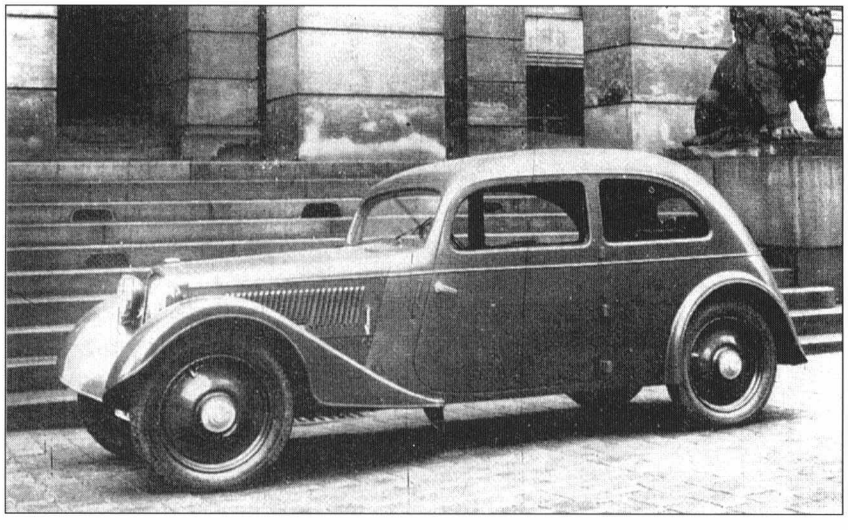


Fig. 15 – c1935 Jawa 700, from Jawa, *Kralik and Spremo (1989)*

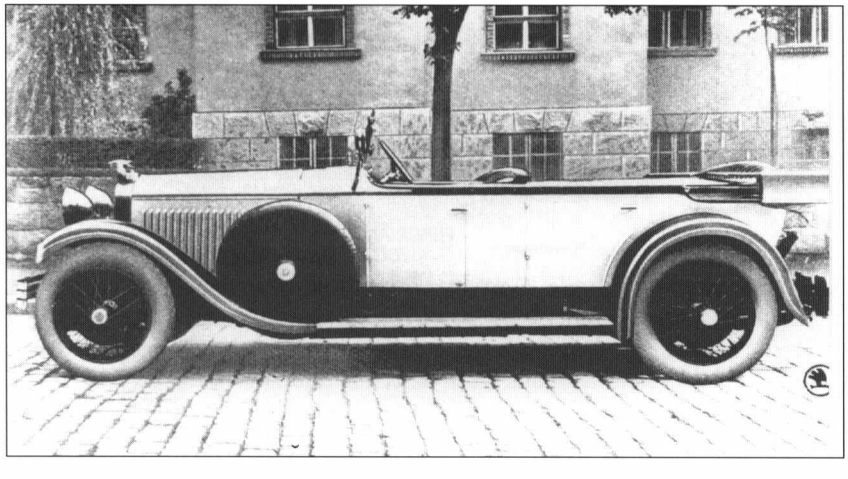


Fig. 16 – Škoda Hispano-Suiza phaeton, 1920s

commercial electric vehicles and SIG manufactured several types with payloads up to 4 tons.

Czechoslovakia

Jawa

František Janecek, born in 1878, a versatile engineer, held a number of patents for various military small arms improvements. Shortly after the proclamation of the new Czechoslovak republic, he founded an arms factory in Prague where in the 1920s machine guns of the army were modified.

With the acquisition of a license to produce German Wanderer motorcycles in 1934 the company adopted the new name of Jawa, a combination of Janecek and Wanderer. In addition to motorcycles, the company also began to produce the Jawa 700 small car under license from DKW. The majority of the cars had standard sedan bodies, but there were also some aerodynamic sports coupés and convertibles (Fig. 15). In 1937 a new model called the Minor, designed by the Tatra works but based on DKW principles, was launched. It also had a small twin-cylinder 2-stroke engine and front-wheel drive. Jawa stopped production of automobiles in 1939 and the Minor formed the basis of the post-war Aero Minor.

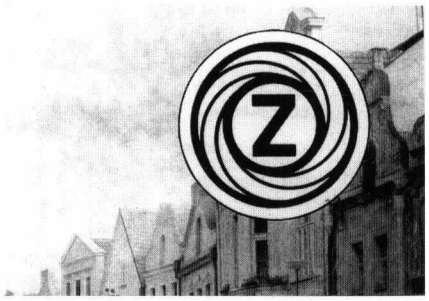
Škoda

Škoda was one of the most important industrial enterprises of the Austro-Hungarian empire. In the early years of the 20th century the company produced a machine gun designed by Colonel Georg von Dormus, heavy cannon and mortars. Perhaps the most famous product was the heavy artillery C-train of 1917-18 with the 42 cm Škoda mortar. For road transportation of this monster, Ferdinand Porsche designed a special tractor with a 150 hp engine and generators, supplying the electric power also for the wheels of the heavy trailers. After the armistice Škoda, located in Bohemia, became part of the newly formed republic of Czechoslovakia.

The first Škoda automobile, launched in 1923, was a licensed production of the famous luxury car Hispano-Suiza H6B (Fig. 16). Chassis, engine, gearbox and all the mechanical and electrical parts closely followed the original design. The coach-built bodies were made by Škoda in its own works in Plzen. In 1925 the old Czech car manufacturer Laurin & Klement became part of the Škoda concern which continued to produce the cars in the works at Mlada Boleslav. In the next years various models with 4-, 6-, and 8-cylinder engines were produced. These cars were conventional in their design but excelled in first class workmanship and durability. In the 1930s advanced new designs with independent wheel suspension and central tubular frames were launched. The best-known models were Popular, Rapid, and the

6-cylinder Superb. After World War II new, light but still very durable passenger cars and heavy trucks followed. In 1964 the Škoda 1000 MB with rear-engine was introduced and it sold in considerable numbers. The trucks and tractors became known under the new name of Liaz. After the Velvet Revolution of 1989, the passenger car division was taken over by Volkswagen and is presently offering a variety of handsome and competitively priced small and medium-sized cars.

Z



The government-owned arms factory in Brno (Zbrojavka, Brno) is an offspring of the former artillery workshops and was founded in 1919. Many of the Bohemian craftsmen in the Austrian arms factories in Vienna, Steyr, and Budapest returned into their homeland, the newly-formed Czechoslovakia, and brought along the manufacturing drawings and test protocols for infantry handguns and rifles (Fig. 17). Soon mass production started. In addition large quantities of artillery grenades were produced. Mauser rifles made in Brno were exported and adopted by numerous armies of Europe, Africa, and Latin America. The light machine guns ZB 26 and ZB30 were especially successful. The economic crisis of the early 1930s brought along a massive reduction of orders and led to dismissing part of the staff. A considerable contract with Great Britain for the Bren light machine gun soon put the

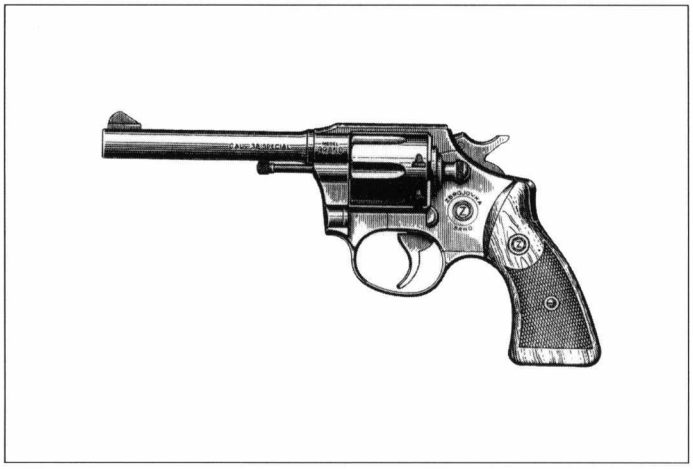


Fig. 17 – "Z" target revolver

company in full action again. The technicians delegated to the United Kingdom in 1938 succeeded in carrying along all drawings and documents despite the fact that Czechoslovakia was occupied by Germany. After World War II, production of modern military arms as well as target and sporting arms for the home market and export was soon resumed.

In 1924 the automobile with the shortest name, "Z," was introduced. Here as well the lack of orders for infantry arms led

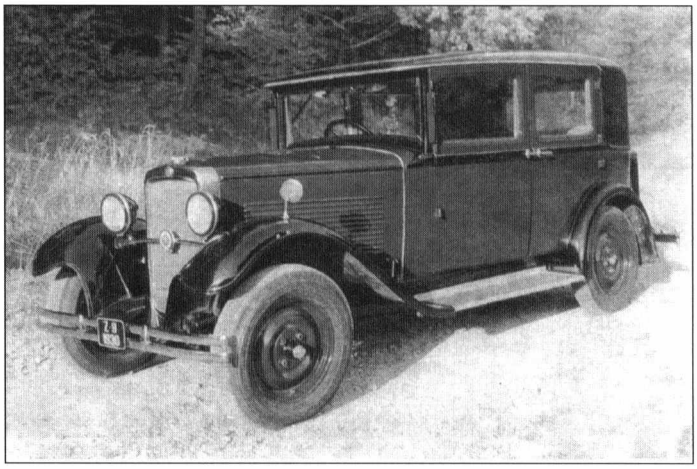


Fig. 18 – 1929-31 "Z" Model 9, 2-cyl., 993cc engine

to the diversification. The first model was a simple, light voiturette with a single-cylinder 2-stroke engine of 600 cc capacity. The marque became quite famous for its unorthodox racing cars. These also had two-stroke engines. Some had reciprocating pistons and Roots superchargers; later a very unusual design with four twin-cylinders with common combustion chamber was realized. The passenger cars with twin- and 4-cylinder engines (models Z4, Z6 and Z9 or Z5 respectively) were the best known (Fig. 18). They were mainly sold on the home market. In 1939 car production was closed down.

Germany

Bergmann

Theodor Bergmann took over the Murgtaler Eisenwerke in Gaggenau in 1889. As with many industrial and arms companies, Bergmann also worked intensively on the development of a semi-automatic pistol. In 1894 his first model was produced which made Bergmann one of the pioneers in the field. Various other models followed. The most successful was patented and launched in 1903. It was designed for the powerful new 9mm cartridge and adopted by Denmark, and later Belgium, Greece, and Spain as their standard military and police handgun (Fig. 19). In Gaggenau and in the new works in Suhl machine guns and from 1918 onward the first truly working and valid sub-machine guns based on drawings of Hugo Schmeisser

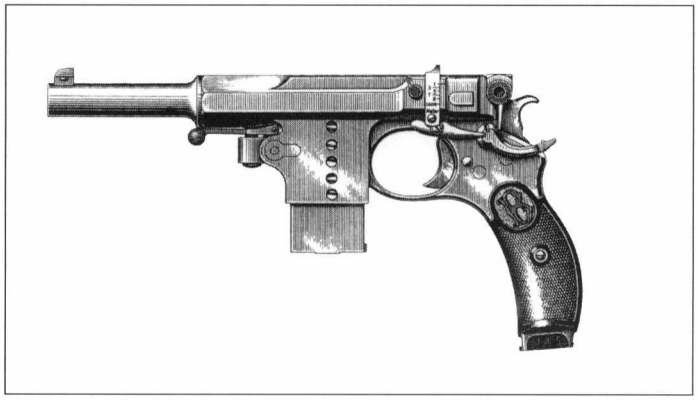


Fig. 19 – Bergmann automatic pistol

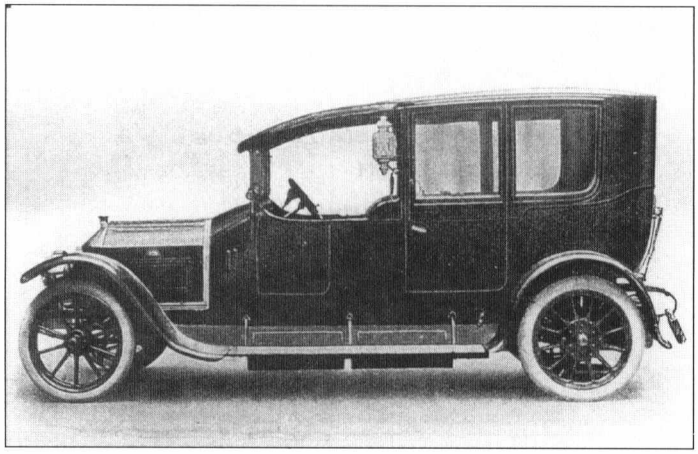


Fig. 20 – 1911 Bergmann-Metallurgique 19/45 PS torpedo limousine, coll. Neubauer, Hamburg

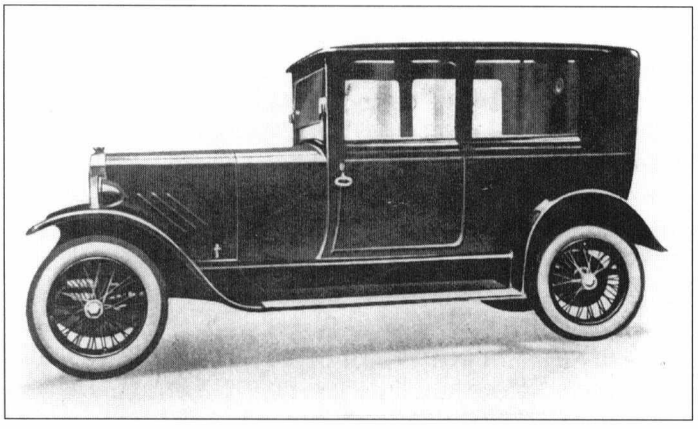


Fig. 21 – 1924 D-Wagen 5/25 PS, coll. Neubauer, Hamburg

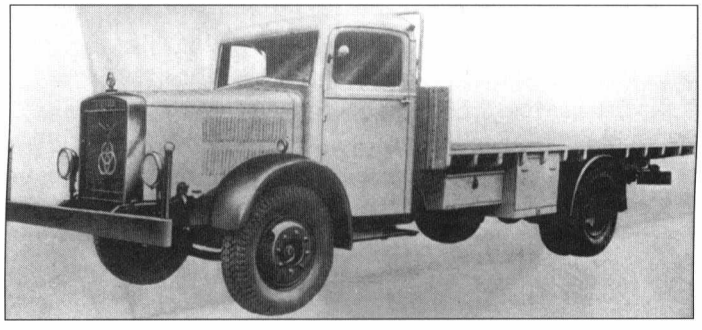


Fig. 22 – Krupp 3.5t, type LD 3.5, courtesy Nick Georgano

were produced. Early in the 1930s new sub-machine guns model 34 and 35 were introduced. They mainly saw service in the Spanish civil war. Production ceased with the end of World War II.

In 1894 Theodor Bergmann, who had closely watched the development of the motorcar by Daimler and Benz, hired the young designer Josef Vollmer. The first three- and four-wheeled motor vehicles with single-cylinder engines were completed. From 1895 onward these were sold under the brand name Orient Express and were mainly exported to England and France. Development however was slow and sales were not up to expectations. In 1904, when the motorcar department was sold to the S.A.F. (Süddeutsche Automobil Fabrik GmbH), a new wind brought further development. The light and astonishingly cheap Liliput model, still with a single-cylinder engine and friction-wheel transmission was not very successful. Soon bigger and stronger 4-cylinder models appeared, whose engines were also used in the commercial vehicles of Gaggenau. In 1906 a very advanced and efficient 4-cylinder engine with over-head camshaft was launched and proved quite successful in motorsport events. One year later a close co-operation with Benz of Mannheim began and by the end of 1910 S.A.F. was taken over by that company (Fig. 20).

D-Wagen

The Deutsche Werke AG, Haselhorst-Spandau, near Berlin was producing arms and ammunition of various types. Its greatest activity was during World War I.

The company began manufacturing the D-Wagen and the motorcycle D-Rad shortly after the Armistice of 1918. The conventional model 5/20 PS with a 1.3 liter four-cylinder engine was displayed at the 1924 Berlin Motor Show (Fig. 21). Production was rather limited and in 1927 it ceased altogether, The factory was used for the assembly of American Durant automobiles for a short time, and then was taken over by DKW.

Krupp

Founded in 1811 in Essen, the Friedrich Krupp company soon became one of the foremost producers of steel, machinery, rails and wheels for railroads, and, last but not least, cannon. Krupp cannon in many calibers and sizes were supplied to the German and some foreign armies as well, with production peaking during the war years.

During World War I, the company also produced the Krupp-Daimler artillery tractors. From 1919 onward, a wide range of heavy trucks, dumpers, buses, and military and special vehicles were built (Fig. 22), but no passenger cars. Krupp abandoned the production of road vehicles in 1968.

Mauser

Two brothers, Paul and Wilhelm Mauser in 1873 founded an arms factory in Oberndorf, Neckar, which developed into one of the leading small arms works of the world. The breech-loading rifle model 1871 adopted by the German army was already a design of the Mauser brothers. The company reached its stride by 1889 with a new repeating rifle which was chosen as standard rifle by the Belgian army. Variations of the basic design, which was probably the most successful of all repeating actions, were later adopted by the armies of Turkey, Argentina, Spain, Sweden and Brazil. Ultimately it became the famous model 1898 infantry rifle of Germany. Mauser rifles were built under license in many parts of the world. In Oberndorf apart from the rifles, revolvers and pistols in various sizes and calibers were developed. Perhaps the most famous was the semi-automatic pistol model 1896 (Fig. 23). Mauser-type actions also served until the present time as the basis of hunting rifles. In 1945 the factory was occupied by the French troops. Most of the manufacturing equipment and machinery was dismantled and

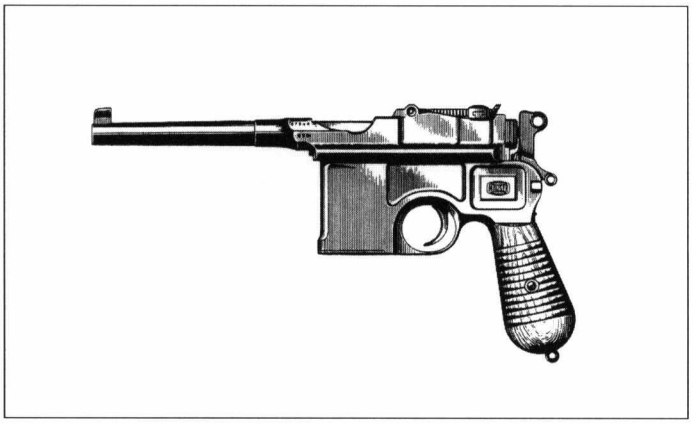


Fig. 23 – Mauser automatic pistol

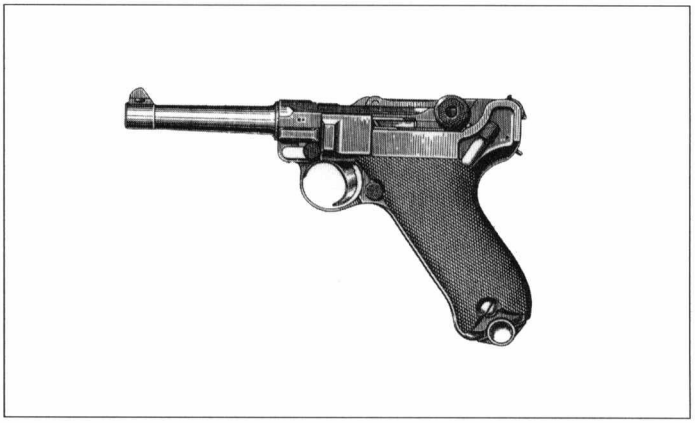


Fig. 25 – Simson Parabellum 08 (Luger)

the buildings were destroyed. Later the factory was rebuilt and production of measuring instruments and equipment for the industry began. When Germany was allowed again to produce small arms, Mauser, immediately began to make hunting and target rifles and, later, military small arms as well.

According to the treaties of Versailles German companies were not allowed to produce any military arms. Mauser therefore sought new possibilities to keep the big factory going. In 1922 a rather peculiar automobile, the so-called "Einspur-Wagen" (one track car), was presented. This odd design with only one main wheel in front and at the rear and two small, retractable supporting wheels on either side, did not find enough interest and was soon dropped. The conventional type N 7, with traditional chassis frame and a 4-cylinder OHV engine, was made in small quantites only and by 1927 the excursion into the field of automobiles was terminated (Fig. 24).

Simson

Suhl in the forest of Thuringia was already a center of small arms manufacturing in the 16th and 17th centuries. The products were exported to most countries of Europe. The arms factory Simson thus has a long tradition. Around 1880 Simson was involved in the design of a repeating mechanism adopted to the German ordnance rifle model 1871. Basically Simson, however, was producing hunting rifles and shotguns. When the Nazis came to power, Simson was ordered to convert many thousand Dreyse machine guns to handle the German standard infantry cartridge, and later to help produce the large quantities of infantry small arms need in the Second World War (Fig. 25). During the period of the cold war, Suhl was part of East Germany and the Simson works, now under governmental rules, made hunting arms.

Simson began in 1911 to manufacture automobiles. It was however only after the Armistice that the marque became quite famous for its high-performance and up-to-date design. The brand-name Simson-Supra, which was first used for the sports car 8/40 HP, developed by Paul Henze, was then kept for all later models. This sports car was quite fast with a top speed of about 70 mph. It had an advanced 4-cylinder OHC-engine with slanted valves and 2-liter capacity. In a high-performance version "S" double overhead camshafts were fitted. In 1926 a new 6-cylinder model, type R, with 3.1 liter capacity followed (Fig. 26) and in 1931 the new straight-eight Model A was launched but produced in limited numbers only. In 1933 car production was abandoned.

France

Hispano-Suiza

Originally a subsidiary company of the Spanish enterprise, the works in Bois-Colombes near Paris became more independent with the years. The production of aero engines, which began during the First World War, continued and in 1934 the French branch of Hispano-Suiza added aircraft and anti-aircraft rapid-fire cannon, mainly 20 mm caliber. Four years

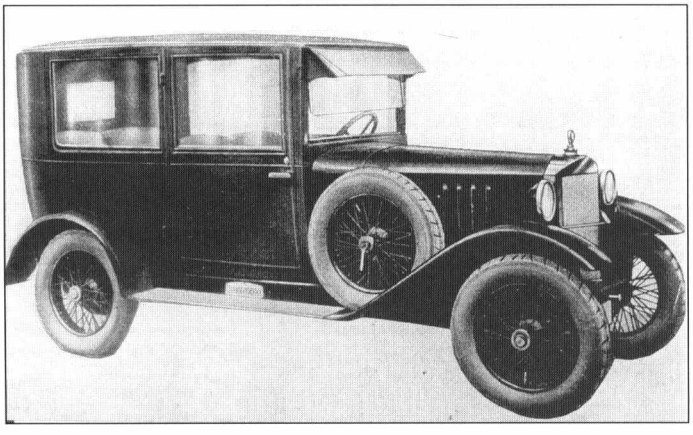


Fig. 24 – 1925 Mauser 6/24 PS, coll. Neubauer, Hamburg

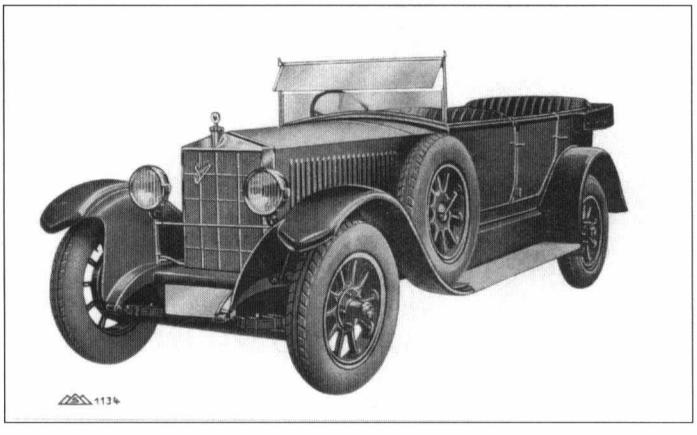


Fig. 26 – 1926-30 Simson-Supra Type R 12/60 PS 6-cyl. Tourer

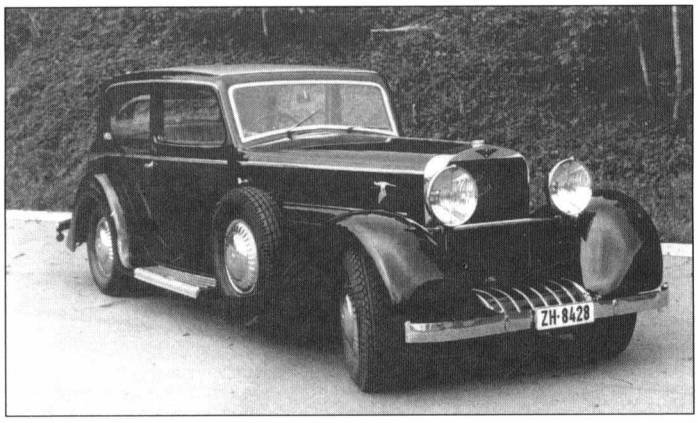


Fig. 27 – 1933 Hispano-Suiza J12, body by Graber

later new branches for manufacturing these cannon were opened in England and in Geneva. Production increased considerably during World War II. In Geneva, the Finnish submachine gun Suomi was produced under license for the Swiss army. After 1945 the French Hispano-Suiza company expanded its activities into heavy industrial equipment, armored vehicles and landing gear for aircraft. The company also took over the Bugatti factory in Molsheim. Modern rapid-fire cannon remained the main product of the armament branch and the Geneva factory became part of the Bührle-Oerlikon concern.

In 1904 the Hispano-Suiza automobile factory was formed in Barcelona. The name, as is well known, was chosen in honor of the two founders. Marc Birkigt, the technical director was a Swiss, born in Geneva, and Damien Mateu, financing the new venture was a Spaniard. As other makes, Hispano-Suiza offered a wide range of touring cars. With the model Alfonso XIII of 1912, perhaps the first true sports cars, the marque was in the limelight for the first time. Successful participation in motor racing events led to early experiments with supercharged engines. The masterpiece of Hispano-Suiza was the model H6, presented to the public at the Salon of Paris in 1919. In many respects this model in variations remained till the early 1930s at the peak of the greatest, most expensive and most perfect automobiles in the world. From 1931 onward it was replaced by the new model J12 with its beautiful V-12 OHV-engine (Fig. 27). Apart from these top-of-the-line models, there were somewhat less-expensive models with 4- and 6-cylinder engines made in Barcelona and Bois-Colombes. At the beginning of the Second World War, automobile production ceased in France but continued on a limited scale in Spain till 1943.

Fig. 28 – Hotchkiss Model 1914 heavy machine gun

Hotchkiss

Benjamin Berkley Hotchkiss was born in 1826 in Connecticut in the USA. As a young man he acquired knowledge and craftmanship in handguns working at the famous Colt factory. At the age of 41, he emigrated to France, where he developed a new military breech-loading and

repeating rifle. In 1875 he founded an arms factory in St. Denis near Paris. Hotchkiss died in 1885. The factory however prospered and his name became famous, especially for machine guns and the 37mm cannon for ground and naval use. Of the latter, 10,000 were supplied to the French navy together with some four million shells. The machine gun, designed by the Austrian baron Adolf von Odkolek, was also adopted by the Japanese armed forces. For the first time the principle of gas-pressure operation was successfully used. Instead of having the recoil operating the bolt to eject the empty case, reload the next cartridge and cock the action, the barrel had a small hole tapping some of the gas pressure to force the gas piston back, which in turn would operate the action. It remained the standard system for many automatic weapons up to the present time (Fig. 28). After 1945 various mergers of companies were effected. A huge concern, named Thomson-Houston-Hotchikiss-Brandt since 1966, has a staff of up to 35,000 workers. In addition to mortars, cannon and ammunition, in later years electronic equipment, trucks, medical equipment and many other products were added.

The first Hotchkiss automobile was made in 1903. One year later three huge racing cars of 100 hp took part in the

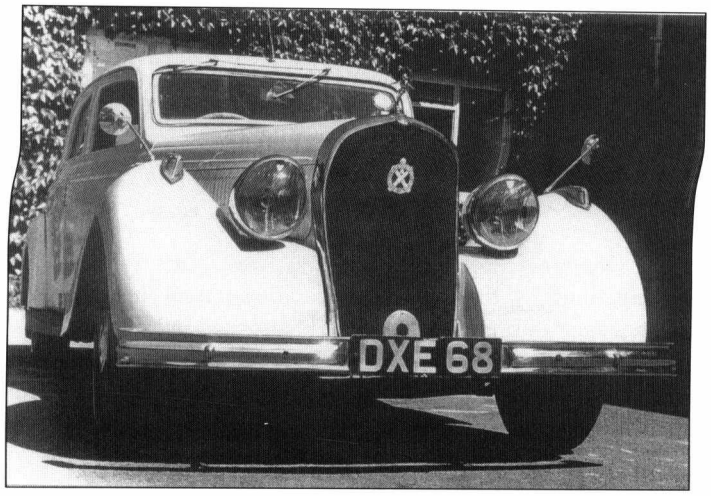


Fig. 29 – 1936-37 Hotchkiss Type 686 3-1/2 liter sedan, with the manufacturer's symbol of crossed cannon on its grille

preliminary races for the Gordon Bennett Cup. The make offered its first 6-cylinder passenger car in 1907. Until the outbreak of World War I various models in the middle and luxury class followed. During the 1920s the program consisted mainly of 2- to 3-liter capacity touring cars of remarkable durability. In the next decade the Hotchkiss cars had a more sporting reputation. Hotchkiss won the famous Monte Carlo Rallye six times and in other motor sport events the marque was always a serious competitor (Fig. 29). Development was interrupted by the Second World War and Hotchkiss never really recovered, primarily due to the extremely high taxation of big cars by the postwar French government. The last Hotchkiss cars, including some designed by the front-wheel drive pioneer Jean-Albert Grégoire, hit the road in 1954. Then the automobile branch of the company was closed down.

England

B.S.A

The history of arms manufacture in Birmingham can be traced back to 1683. In the 19th century the arms industry located there was booming and Birmingham became the center of English hunting rifle production. More than 1 million infantry rifles and 145,000 Lewis machine guns were produced from 1914 till 1918. A new machine gun was developed in 1924 but production remained limited. Toward the end of the 1930s the Birmingham Small Arms Company, Ltd. (B.S.A.) began the production of machine guns in 8mm caliber and later also 15mm. Both designs originated in Czechoslovakia. After World War II, B.S.A. returned to the manufacture of hunting and target rifles as well as air rifles. In a branch factory 30mm aircraft cannon were made.

The first B.S.A. cars were presented in 1907. Before the company had produced parts for Roots (1896-1904) automobiles. Up till 1911 various medium-sized 4–cylinder models followed. The company took over Daimler in 1911 and, in common with that marque and many other European companies, produced some sleeve-valve Knight-engined models. After 1918 an advanced small car, produced by the Hotchkiss works of Coventry, was launched. The later models were in fact small Daimler cars. The motorcycle branch of B.S.A. presented the

Fig. 30 – c1938 B.S.A. Tickford drophead, courtesy Keith Perks

famous Beeza 3-wheeler sports cycle with V-2 engine, which three years later was developed into a regular 4-wheeled motorcar with front-wheel drive. After B.S.A. took over Lanchester in 1931, various 4- and 6-cylinder models were made in the Daimler factory. In 1935 the motorcycle factory offered the B.S.A. Scout sports cars with 4-cylinder engines of 1100 and 1200 cc. (Fig. 30). The B.S.A. marque came to an end in 1940. Daimler continued production until 2002, having been taken over by Jaguar in 1960 which in turn was taken over by Ford in 1989.

Rolls-Royce

Whereas it is well known that Rolls-Royce for decades has been one of the leading manufacturer of aero engines, there is hardly any mention of the fact that the company in 1941 developed an extra heavy .50 caliber machine gun. However, this gun was not produced in quantity.

Among car enthusiasts details on the Rolls-Royce luxury automobiles are well documented and known, therefore the following short history only repeats the most important milestones. In 1904 the very first motorcar was developed by Henry Royce at the request of the enthusiastic motor sportsman C. S. Rolls. Two years later the Rolls-Royce Ltd company was formed and soon the 40/50 HP 6-cylinder model was launched, which became the famous Silver Ghost of international renown. It was produced in Manchester, later in Derby and also in Springfield, Massachusetts, USA. In 1922 the smaller 20 HP with a 3.1 liter engine became available and in 1927 the 40/50 HP New Phantom replaced the aging Silver Ghost. Three years later the improved Phantom II and the 20/25 HP followed. In 1931 Rolls-Royce took over Bentley, famous for its many successes in motorsport events. The Phantom III with a V-12 engine replaced the big 6-cylinder model. With the Second World War the time of the glorious, big-engined luxury cars came to an end. In 1946 production was resumed with the Silver Wraith with a 4.25 liter engine. Rolls-Royce succeeded in capturing a good share of the dwindling market for luxury cars in the following decades with various new models including a small number of truly great Phantoms with limousine and town car coachbuilt bodies especially for official

state carriages and wealthy private customers. In 1998, the automobile part of Rolls-Royce was taken over by Volkswagen, then by BMW on January 1, 2003.

Italy

Ansaldo

Ansaldo was one of the oldest and most important industrial companies during World War I when it took over the license production rights of the light machine gun developed by Giovanni Agnelli. The Italian army placed a substantial order, but these machine guns came too late and were not used in the war. They were issued to the troops only after the Armistice.

In 1920 a newly-formed department of the Ansaldo concern took up the production of a sporting tourer. During the 1920s various 4- and 6-cylinder models became available. They were famous for great durability and good performance. In 1929 the marque tried to take a slice of the luxury market by launching a new model with a straight-eight engine of 3.5 liter capacity. Some of the chassis were fitted with very handsome bodies by the best coachbuilders of Italy and other countries (Fig. 31). Two years later however, Ansaldo stopped the production of passenger cars, the last ones being sold in 1936.

Breda

The Societa Italiana Ernesto Breda in Brescia, a locomotive manufacturer, began producing machine guns during World War I for Fiat, under contract. In 1930, Breda took over all arms activities from Fiat, and soon erected a new plant in Piacenza. Breda light- and tank-machine guns were standard

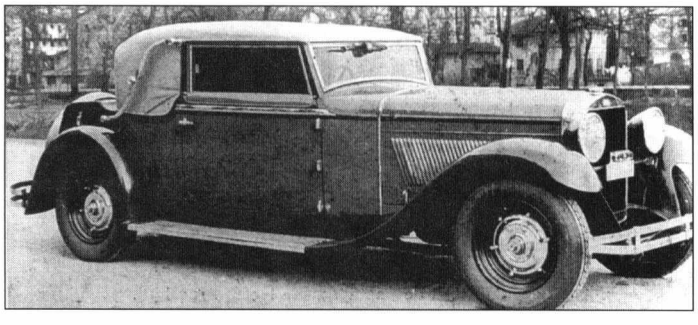


Fig. 31 – 1930 Ansaldo Tipo 22, 8-cyl., body by Farina, Autocarrosserie

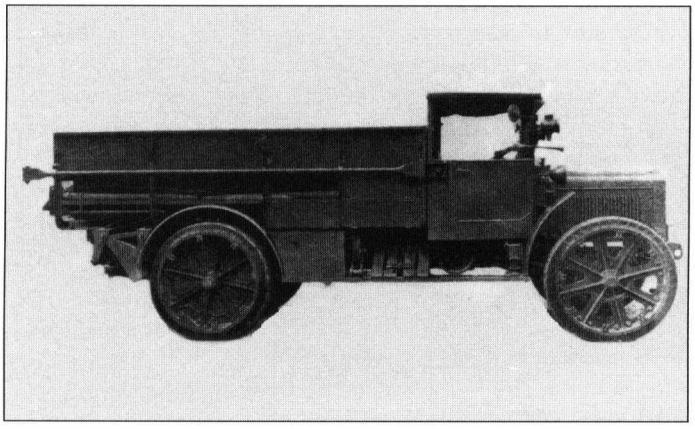


Fig. 32 – c1935 Breda heavy gun tractor, courtesy B. H. Vandervee

in the Italian army. Extra-heavy 50-caliber machine guns were also used by the Japanese in aircraft during World War II. In peacetime, Breda manufactured shotguns.

In the 1930s, Breda began to manufacture heavy 4X4 artillery tractors (Fig, 32), followed by various models of forward control 6X4 trucks. These military vehicles were supplemented by half-tracks in World War II. Later, trolley buses were supplied to various Italian towns. In 1958, Breda took over the remains of Isotta-Fraschini and launched an advanced truck and bus, but closed these activities one year later.

Fiat

The prototypes of an experimental machine gun, designed and developed by Revelli, were made in 1911 by Fiat of Turin. These were tested by the Italian and the U.S. armies. This automatic weapon was adopted by the Italian armed forces as model 1914 and produced in substantial quantities (Fig. 33). During the First World War, a semi-automatic rapid-fire 25 mm cannon was also issued. In 1926 the Italian government placed an order for 2,000 Fiat light machine guns. Production was assigned to Fiat's newly-founded subsidiary SAFAT, also in Turin. In 1930, the arms department of Fiat was taken over by Breda.

Founded in 1899 Fiat developed into a huge industrial concern within just a few years. Abroad Fiat became well known

Fig. 33 – Revelli (Fiat) Model 7/12 machine gun

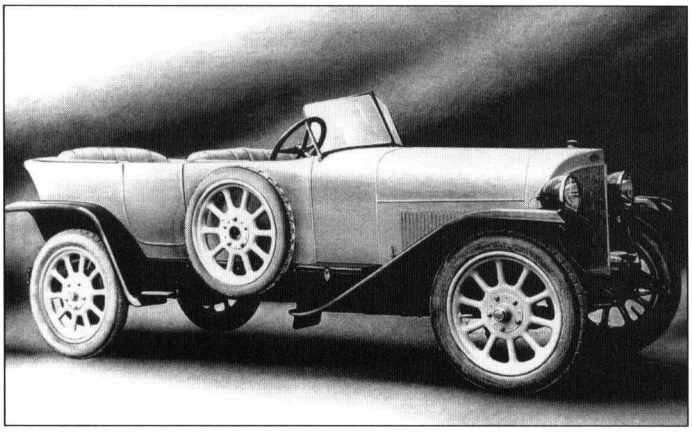


Fig. 34 – 1921 Fiat Mod. 510 6-cyl. 20-30 HP sport torpedo

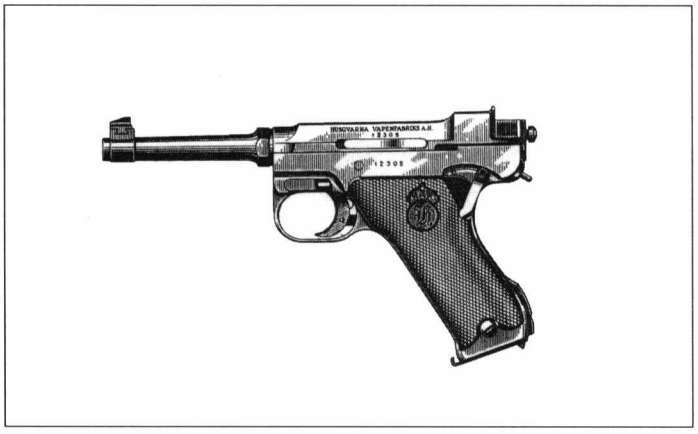


Fig. 36 – Husqvarna automatic pistol

mainly by the many successes of its red cars in motor racing events. There was a wide range of passenger cars from light voiturettes to huge luxury tourers with engines of up to 11 liters capacity. After 1918 various small models became the most important of the increasing production, but there remained always some big-engined luxury cars in the program (Fig. 34). The unforgettable Topolino with its tiny 500 cc 4-cylinder engine became available in 1936 and about half a million were produced. The most successful Fiat of the postwar years was the famous 1100. Irresistibly Fiat had taken over many of the smaller companies in Italy and continued to do so in recent decades with such famous makes as Ferrari, Lancia, and Alfa Romeo.

Isotta Fraschini

Acitivities of the great automobile and aero engine company were limited to the production of small quantities of the Scotti machine guns and cannon, which had a new type of gas pressure mechanism. There never resulted substantial or even mass production.

Founded in 1899, the company began to sell and later assemble French Renault cars. The first Isotta Fraschini motorcar became available in 1902. It was followed by a wide range of models from the voiturette to an impressive touring car with a huge 140 HP engine. In 1919 Isotta Fraschini brought out an advanced straight-eight model with 4-wheel brakes, the Tipo 8, which remained in variations the only true luxury car of Italy till 1935 (Fig. 35). In 1947 the company tried to make a comeback with the Monterosa model with a V8 engine mounted in the rear, but the venture failed and two years later Isotta Fraschini was dissolved.

Sweden

Husqvarna

In addition to rifles, Husqvarna Vapenfabriken A.B. also produced the Swedish Ordnance Parabellum 9mm pistol model 40 based on a license from the Finnish Lathi company (Fig. 36). Later mainly hunting rifles for the home market and exportation were made.

Husqvarna is best known for its motorcycles, which were often used successfully in motocross competitions. In 1943 it built a prototype of a 3-wheeled car with an air-cooled twin-cylinder two-stroke engine. No regular production resulted.

United States of America

Maxim

Hiram Percy Maxim was the son of the inventor of one of the first machine guns, which was produced by various companies including Nordenfelt and Vickers (Fig. 37). He himself designed and developed the Maxim silencer around

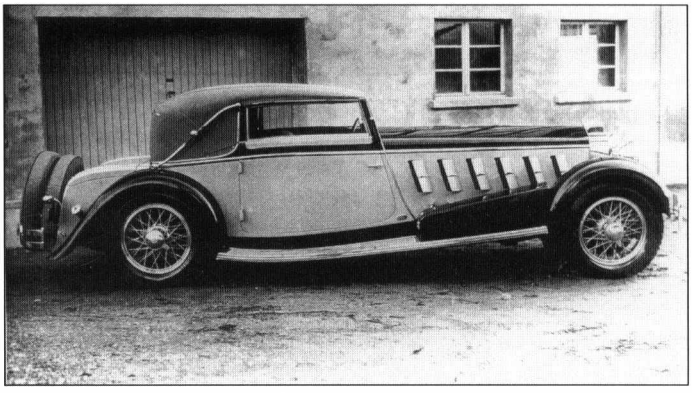


Fig. 35 – Isotta-Fraschini Tipo 8A , 8-cyl., 7,370 cc., 100-120 HP, 1925 but rebodied by Worblaufen in 1934.

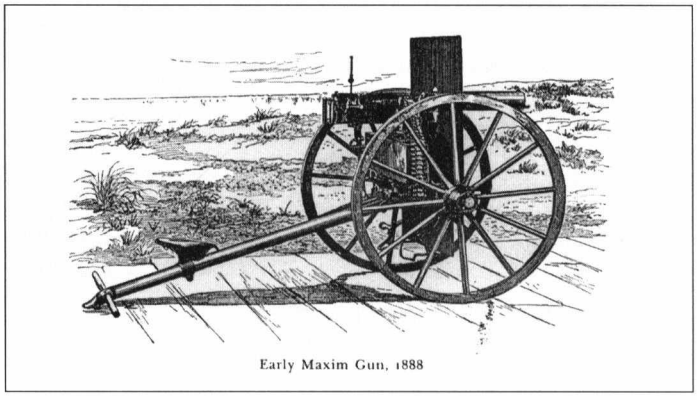


Fig. 37 – Maxim machine gun, 1888

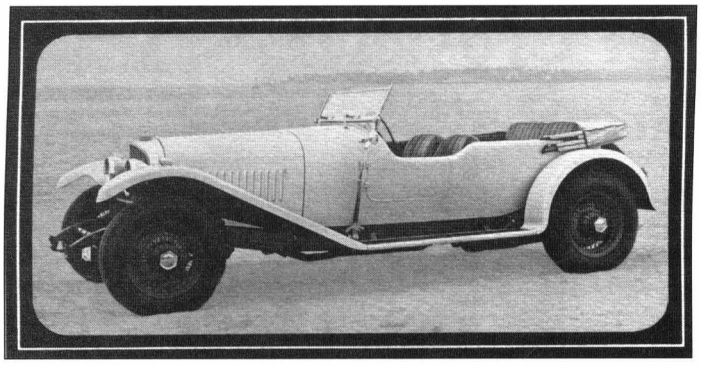


Fig. 38 – The still-born Ruger of 1969-70, collection of the editor

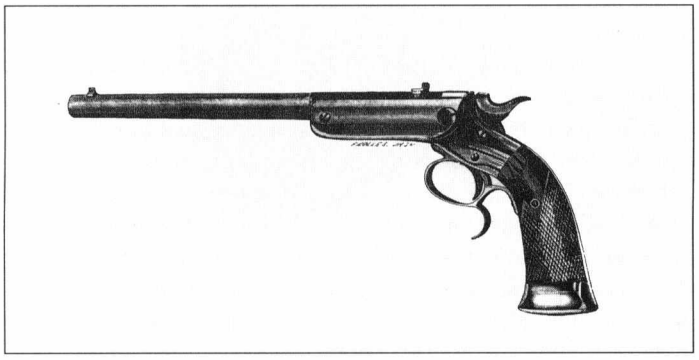


Fig. 39 – Stevens single-shot pistol

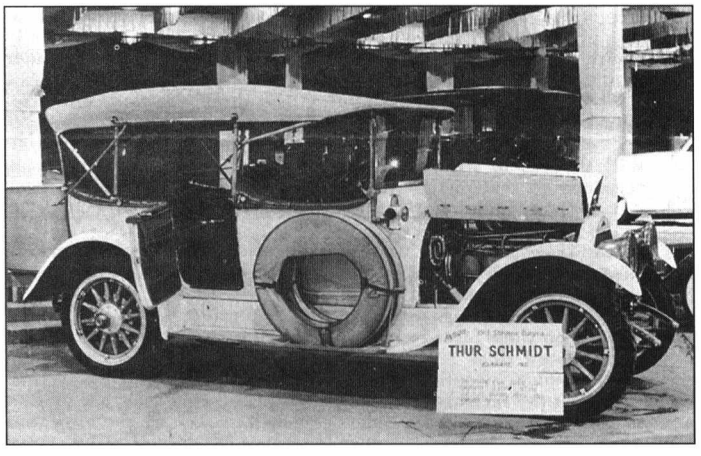


Fig. 40 – 1913 Stevens-Duryea (collection of the editor).

1908, which could be adapted to many firearms and was rather successfully marketed for some time.

Before that, Maxim had built a motor tricycle in 1895 and was very active in the automotive field at the turn of the 20th century. He worked with Pope and later the Columbia Electric Vehicle Co of Hartford. Various models of gasoline and electric automobiles and vans were produced. In 1907 Maxim left Columbia and planned to start his own factory with T. W. Goodridge formerly with Studebaker, but after a prototype had been built the venture was not continued.

Ruger

Sturm, Ruger & Co., Inc., of Southport, Connecticut, USA, was formed in 1949. Bill Ruger had designed an interesting .22 caliber self-loading pistol with mass production in mind. Alex Sturm looked after the financial side of the business. When the new gun was launched, it revolutionized the market and became one of the few success stories in the field. Stampings welded together were used for the frame. The design incorporated a simple tubular receiver and cylindrical bolt. The gun was priced at $39.95 retail. It was not only the cheapest of all semi-automatic pistols, but also easy to handle, a good performer, and durable. The pistol is still being manufactured. Over 1 million have been sold to date. Later, revolvers, defense pistols, hunting rifles, and carbines were added.

Bill Ruger's love of classic cars led to plans in 1969-70 to launch a replica fashioned after a Bentley of the '20s (Fig. 38). The company issued sales literature but the project never went beyond prototypes; the car never entered production.

Stevens-Duryea

Joshua Stevens began in 1864 to produce his single-shot pistol with tilting barrel in a small arms factory in Chicopee Falls, Mass. (Fig. 39). Several improved models, target pistols, small-bore rifles and shotguns followed. In 1885 the factory was enlarged and the company reformed. In 1917 the merger with Savage Arms was effected.

J. Frank Duryea brought a new design to the Stevens arms factory in 1901 and had it built there, a light 2-seater with a flat twin engine of 5 HP. Four years later a 4-cylinder model followed and in 1906 a mighty 6-cylinder car with 9.6 liter capacity was introduced.

In 1906, the arms company spun off the automotive operations which became the Stevens-Duryea Company. After further luxury touring cars (Fig. 40), the last basically new model, a 6-cylinder of 80 HP was introduced in 1915 and remained available into the 1920s. At this time Raulang electric cars and taxicabs were also made here. Car production came to an end in 1924 with sales continuing for a few years afterwards.

Epilogue

These 29 descriptions of arms and automobile factories had to be brief and they are not very detailed. In all probability further makes could be added after in depth research and study. These descriptions should however clearly show the close links between two product lines, which at first glance do not seem to have much in common.

In addition to the marques selected for this article, many automotive companies on both sides of the Atlantic had a very substantial share in the production of war materials during both World Wars. All truck manufacturers manufactured special military and all-wheel drive models, some expanded into armored wheel and track vehicles. Then there were many companies which switched to mass production of ammunition, igniters, shells, and other military equipment (for example, Berliet, Citroën, Pic-Pic, Chrysler). A few companies produced airplanes and changed to automobiles or continued with both (for example, Voisin, Farman, Bristol, Saab). Some companies continued to manufacture aero-engines in peace time years (Rolls-Royce, Hispano-Suiza, Isotta-Fraschini, Bugatti, Duesenberg, BMW, Gnome & Rhône, Lorraine-Dietrich, Mercedes, Benz, Peugeot, Renault, Packard, Saurer to mention just a few).

An Even Smaller Crosley: An Oehrli Proposal

by Darwyn Lumley

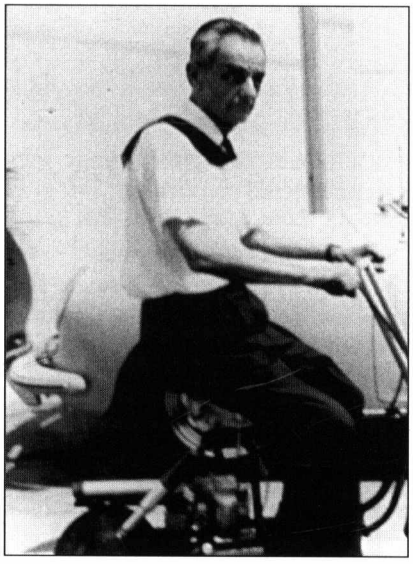


Fig. 1 – John W. Oehrli, 1960, on a motor scooter of his own design.

From 1946 to 1952, Crosley Motors, Inc. offered a vehicle with an overall length of 145 inches, a width of 49 inches and a wheelbase of only 80 inches. As such, it was the smallest car offered by a U.S. manufacturer. Yet, in 1947 a proposal was made to Crosley for the manufacture of an even smaller vehicle! Central to the story is an interesting and innovative engineer, John W. Oehrli (Fig. 1). He is one of the many creative people who have helped to provide us with a better way of living, but have not received the credit, which they deserve. John W. Oehrli was born in Altoona, Pennsylvania, in 1902 and died in California in 1965. After his death, his wife provided many of his papers to well-known Auburn-Cord-Duesenberg expert automotive restoration specialist, and SAH member, Randy Ema. Among the papers were Mr. Oehrli's professional resume, as well as the documents and photos which are the basis of this account.

New information may later come to light and the story may well be modified and/or enhanced. But what is available now provides an interesting view of the creative contributions of one engineer to the automotive world as well as the specific proposal made to Crosley Motors.

In his resume, John Oehrli notes that from the age of 13 until he was 20, he worked as an apprentice machinist. During that time, he saved funds to attend college, graduating with honors in Mechanical Engineering from Syracuse University, New York. The resume also states that in the summer of 1921 he worked as a toolmaker on experimental parts at the Franklin Motor Car Co., located in Syracuse. While doing research for his book *The Franklin Automobile Company* (Society of Automotive Engineers Press, 1999) Sinclair Powell did not find information to support Oehrli's Franklin employment through interviews with former Franklin employees. However, Mr. Powell noted that quite a few Syracuse University students were summer employees of the H.H. Franklin Motor Car Company. Since all Franklin employment records were destroyed, we shall assume that the resume is correct.

After graduation from Syracuse, in 1925, Oehrli began work with the Lycoming Manufacturing Company of Williamsport, Pennsylvania. He was with Lycoming for eight years before taking an extended leave due to illness. However, while at Lycoming he worked on automotive engines for Auburn-Cord-Duesenberg as well as International trucks and also on various marine engines. His resume indicates that he held a number of differing positions at Lycoming, working his way up through draftsman, tool designer, engine designer, checker, chief draftsman, and finally to Assistant Chief Engineer in charge of automotive engineering.

By the age 30, in 1932, John W. Oehrli had a substantial engineering background. From 1924 through 1932, as Chief Engineer in charge of all automotive engineering, Oehrli was involved with the L-29 Cord, the fabulous Duesenberg Straight Eight, the multi-cylinder Auburns, and various engines for marine use. The contrasts between these engines and the engine Oehrli was to propose to Crosley in 1947 are so great in every respect they practically defy enumeration. Yet, in 1947 John W. Oehrli proposed an 8.5 horsepower, air-cooled, 2-cylinder engine to Powel Crosley, Jr.

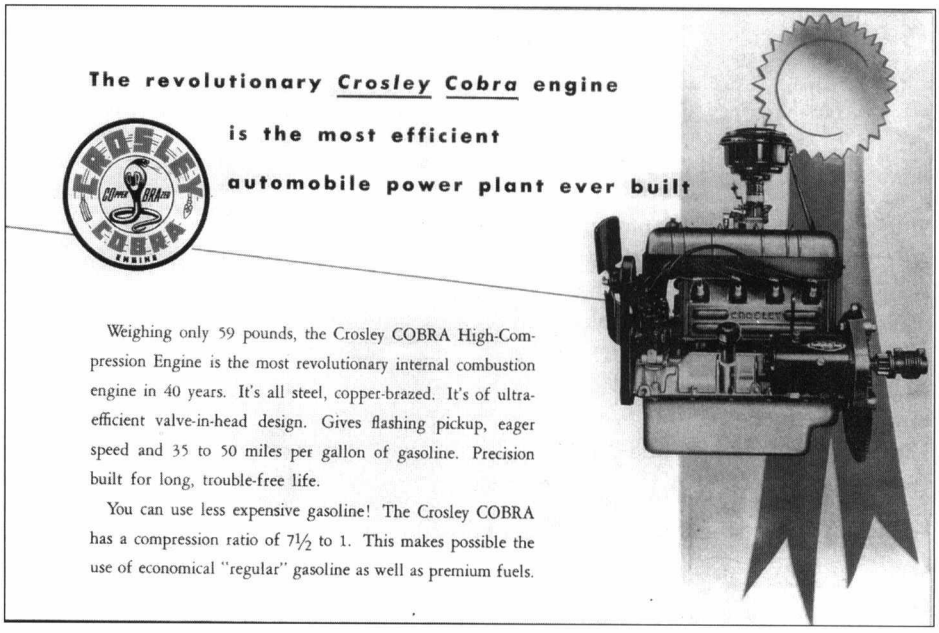


Fig. 2 – 1947 Crosley sales catalogue description of COBRA engine.

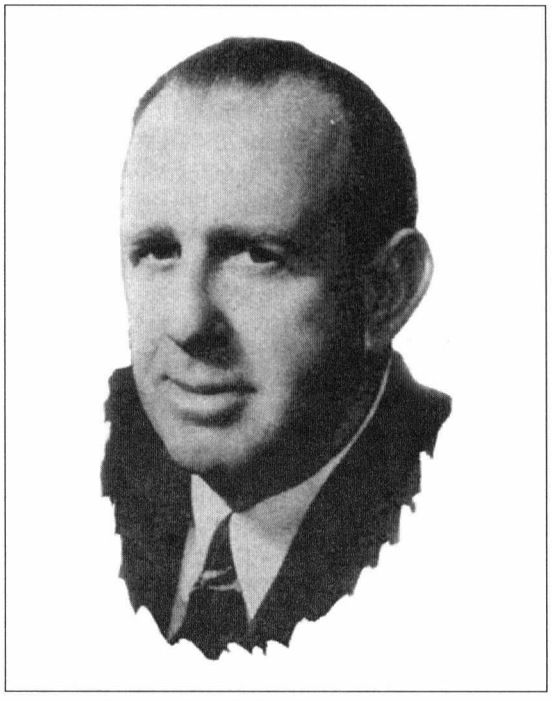


Fig. 3 – Powel Crosley, Jr., from the 1947 Crosley sales catalogue.

Oehrli was not necessarily proposing the replacement of the four-cylinder COBRA engine of 1947 then in use in Crosley automobiles (Fig. 2). Instead, he appears to have been attempting to interest Crosley in producing a 3-wheeled car, driven by a V-belt. From the available correspondence, as well as the cooperation provided to Oehrli, it appears that Crosley was interested. However, it seems that both Oehrli and Crosley had additional ideas in mind. As far as Oehrli was concerned, any work he could obtain from Crosley was to be considered. Crosley, on the other hand, seemed interested in gaining the expertise of Oehrli in other automotive matters.

Crosley's possible interest should not come as a surprise. For, aside from his personality and business success, Crosley and Oehrli had at least one earlier business connection. Auto hobbyists often incorrectly marginalize Powel Crosley, Jr. as a sort of aberration in the auto world (Fig. 3). In fact, he was a large man, both in stature at 6 feet 4 inches in height, and in business success. In 1944 at the peak of his business success, he had built a corporation that earned over $3,000,000 in that year alone. Also, in 1944 Crosley sold most of his holdings to AVCO (formerly Aviation Company) for $15,000,000. The sale included about one-third of Crosley's manufacturing facilities for radios, radar, and electronic equipment as well as the facilities for manufacturing Crosley refrigerators, radios, ranges, and home heating units. Also included were the two remaining Crosley radio stations, WLW in Cincinnati and WINS in New York City. Retained, however, was the ownership of the hometown Cincinnati Reds major league baseball team and, spun off from the Crosley Corporation was the love of Powel Crosley's life, Crosley Motors.

Presumably, Crosley also retained the rights to other ideas he had marketed, including the Xervac, a gadget designed to stimulate hair growth through alternative vacuum and pressure applied to the scalp. The Xervac, and many other products including the first refrigerator to place shelves inside the door (the Crosley Shelvador), were the consequence of Crosley's abiding interest in mechanical contrivances. While not an engineer, Crosley was a man who could take an idea and develop it into a product. In fact, he had been a pioneer in what were first called home radio sets, in radio broadcasting, in adapting the radio to use in automobiles, in early television, in home appliances, and in other ideas that were not necessarily successful such as the Xervac.

Powel Crosley, Jr. was not an individual who would dismiss an idea without examination. But, where he had not succeeded to his level of expectations was the automobile world. Early in life, Crosley had been associated with a number of auto manufacturing ventures. None of them turned out as he wished, so he turned to automotive accessory sales, which became a basis for his other later successes. But, by 1939 Crosley was sufficiently wealthy and had a solid base for an entry of a car bearing his name.

The introduction of the Crosley car at the 1939 World's Fair in New York City fulfilled a long-held Crosley ambition (Fig. 4). Powering the 1939 Crosley was a 2-cylinder Waukesha engine, hardly one designed for automotive use. Here is where an early Crosley-Oehrli connection takes place; the development work on the Waukesha engine, to adapt it for use in the Crosley car, was done at Lycoming under the direction of John Oehrli. According to Oehrli's resume, the work was done

Fig. 4 – The first Crosley, 1939 – 50 mpg, 50 mph, $325.

in the years from 1935 through 1937, specifically under his direction. (This may be the first publication of the Lycoming-Crosley connection.)

It was not unusual for Lycoming to take on what may seem like a strange engineering project; there are, after all, significant differences between Duesenberg and Waukesha engines. For example, among his other responsibilities at Lycoming, Oehrli worked on an engine for a John Deere grain combine. Apparently his work was well considered for from 1937 to 1939 Oehrli was in Waterloo, Iowa at the Deere Tractor Works doing work which assisted in the introduction of the "B" Model, the first "styled" farm tractor. According to his resume, Oehrli obtained equipment and conducted the first combustion analysis on the famed John Deere 2-cylinder farm tractor engine. Further, Oehrli's resume notes he designed the new tractor engine with the first use of channel frame in place of the usual angle iron. Of course there is probably very little connection between the 2-cylinder Deere engine and the later 2-cylinder Oehrli proposal to Crosley in 1947. But, on each project the sum total of knowledge and experience of a good engineer is increased. Some lessons are learned, some are tried and accepted, some discarded, and some saved for future use.

The Model "B" John Deere in farm tractor circles is considered to be a classic. It had a very long production run, encompassing many years, and is remembered as one of the most well balanced farm tractors ever produced. In a very cursory reading of farm tractor information and histories, Oehrli's name has not yet been found, so it may be this is the first publication of the Oehrli-Deere relationship. While seemingly unrelated to the proposal to Crosley of 1947, the Deere experience is one additional bit of information in proof that Oehrli was a proven, experienced, and competent engineer. His later proposal was not the work of some eccentric daydreamer.

In 1939 Oehrli returned to Lycoming in Williamsport which was then a division of Aviation Corporation (later to become AVCO). During that time he was Chief Design Engineer, and the Project Engineer in charge of liquid-cooled engines. At least two of the projects of this period may have had some effect on his 1947 proposal to Crosley. One was a 40 horsepower inboard marine engine, which went from design to production in five months. In his handwritten resume notes, Oehrli takes credit for Lycoming going into marine engine production with designs he provided. The other engine, possibly related to the Crosley proposal, was a 50 horsepower engine designed for Piper aircraft. Lycoming was attempting to broaden its product offerings, as the company had a large but idle automotive tool line.

But in 1941 Oehrli left Lycoming for Pennsylvania State College (now Pennsylvania State University), to become an Assistant Professor in Mechanical Engineering in Machine Design and Aircraft Engine Design, with consultant work to engine manufacturers. By 1944 he had relocated to Southern California, so that when he made the Crosley proposal in 1947, he was living in Claremont. There he taught one or more classes at the Claremont Colleges and had become involved in the Salsbury Motor Scooter Company of nearby Pomona. For three years he taught at U.C.L.A. in machine design.

A sudden closing of Salsbury in August of 1947 due to its financial condition spurred Oehrli into the developmental work on the engine he would offer to Crosley. In 1946, Oehrli had been in contact with the Hale Fire Pump Company of Conshohocken, Pennsylvania, considering the possible production of a small engine of about 12 horsepower. Oehrli believed he had noted a market on the west coast for such an engine to be used in a variety of applications. Motor scooters, motorcycles, marine use, and possible stationary engine use were some of the ideas Oehrli had in mind for a small engine. It appears that Oehrli and R. B. Sargent, the General Manager of Hale, were friends of long standing. From Hale, through Sargent, Oehrli obtained some parts he needed for the prototype engine he was constructing.

Oehrli named his prototype engine the GO-21 (Figs. 5 and 6). It seems to have originally been intended for use by Salsbury. But Salsbury's end was not a surprise to Oehrli as he had noted it had tooled to produce an engine which was too costly. In his role at Salsbury, Oehrli recommended use of a better engine and one that would also cost less to produce. When Salsbury closed, Oehrli did not hesitate and on September 26, 1947, he ordered a distributor, crankshaft gear, coil, and oil pump assembly from Crosley. These were shipped to him by Crosley on September 30, free of charge. For the parts to arrive so quickly it seems that Oehrli and Powel Crosley had some previous correspondence. Certainly there was a basis of trust and confidence in Oehrli with or without any prior communication. Perhaps their contacts had been greater in scope than those made during the developmental work on the prewar Crosley from 1935-1937.

Before he created the GO-21 Oehrli had arranged with Hale to purchase all drawings, parts, and patterns for the Hale 21 cubic-inch engine. Oehrli offered to pay Hale a total of $11,000, with $5,000 down and the remaining $6,000 by installment payments. It is unclear if this arrangement came to fruition, but it is clear that in December of 1947 Oehrli had a prototype engine ready to test. He did so on the dynamometer at the supposedly closed Salsbury plant. How Oehrli arranged to enter and use the facilities is unknown.

Oehrli's intent had been to produce a small engine utilizing the concepts of aircraft technology. He was attempting to lower the weight of a small engine and it appears he did so. The 8.5 horsepower GO-21 weighed 44.8 pounds whereas the 7.7 hp. Briggs & Stratton weighed 113 pounds (Figs. 7 and 8). The supposed lightweight competing Aerolite engine weighed 60 pounds and developed 7.5 horsepower. In power and lightweight the GO-21 seemed to be superior to the presumed competition.

From his friend Hale, at Sargent, Oehrli found that Briggs & Stratton, the industry leader, did not plan to produce a lightweight engine in 1947. It seemed that Briggs & Stratton could sell all of their current engines, due to the backlog of demand in the civilian market following World War II. Aerolite, with some start up costs and a higher-tech product, planned to sell its engines at $95 each. With such information, Oehrli believed he had a full competitive engine, especially as he thought he could reduce the weight to as little as 35 pounds. As he worked out the pricing for the entire 3-wheeled car proposal to Crosley, Oehrli reckoned he could produce GO-21 engines for $80 each.

With Salsbury out of the picture, Oehrli had found he could sell about 500 GO-21 engines for use as forest-fire

OEHRLI MODEL Ó-21 ENGINE

General Specifications.

Two cylinder opposed, four cycle, air cooled.

2.75" Bore, 1.75" Stroke, 21 Cu. In. Piston Displacement.(Total).

10 BHP @ 4600 RPM with 72 octane non-premium gasoline.

Compression ratio: 7 to 1.

Cylinder and head one piece aluminum with large cooling fin area.

Inserted cylinder sleeves, valve seats, and valve guides.

Lubrication from submerged pump. Positive lubrication to valves.

Downdraft carburetor with oil heated fuel distributing zone.

Battery or magneto ignition.

Governor and fuel pump furnished, when required.

Rotary valve breather not affected by speed or dirt.

Power take-off from crankshaft ~~standard~~ shaft

Power take-off from camshaft optional, provides spped reduction ½.

Weight with ignition, carburetor, & flywheel: 48 Lbs.

Width 19", Height 15", Length 12".

Fig. 5 Type GO-21 engine: specifications

OEHRLI MODEL GO-21 ENGINE

This engine has been designed to overcome the three major handicaps possesed by nearly all engines in the small engine field,

1. Vibration due to inherent unbalance.
2. Short life due to excessive exhaust valve temperatures.
3. Excessive weight.

Single cylinder engines have a large part of reciprocating forces unbalanced. This becomes increasingly objectionable as speeds are increased and isolation becomes expensive and troublesome. This engine, being of the opposed cylinders, is almost perfectly balanced and has less unbalanced forces than a four cylinder in-line.

It is well known that the conventional ell head air cooled engines will "burn up" exhaust valves in a very few hours if operated at full throttle due to the impossibility of getting air and cooling surfaces where needed. This also limits piston & ring life. This new engine has a simple overhead valve arrangement with long aluminum fins surrounding the valves. The compact combustion chamber reduces cooling requirements and permits use of higher octane fuels as these become available.

Except for crankshaft, flywheel, and valves, the engine is made almost entirely of aluminum. The design permits making the major parts as aluminum die castings with very little machining required. The result is a rugged design which weighs less than half that of engines now available in the 6 to 10 hp class.

The short stroke, which has demonstrated its advantages in the highly successful light airplane engines, permits higher crankshaft speeds and greater flexibility with reduced piston speed and consequently less wear. This also is responsible for the compactness of the engine.

The symmetrical inlet manifold with downdraft carburetor and hot-spot at the distributing zone, provides exceptionally good distribution of fuel and air to the two cylinders and permits easy starting, and the engine will idle evenly at 400 rpm immediately after starting at 50 F.

Fig. 6 – Type GO-21 engine: characteristics

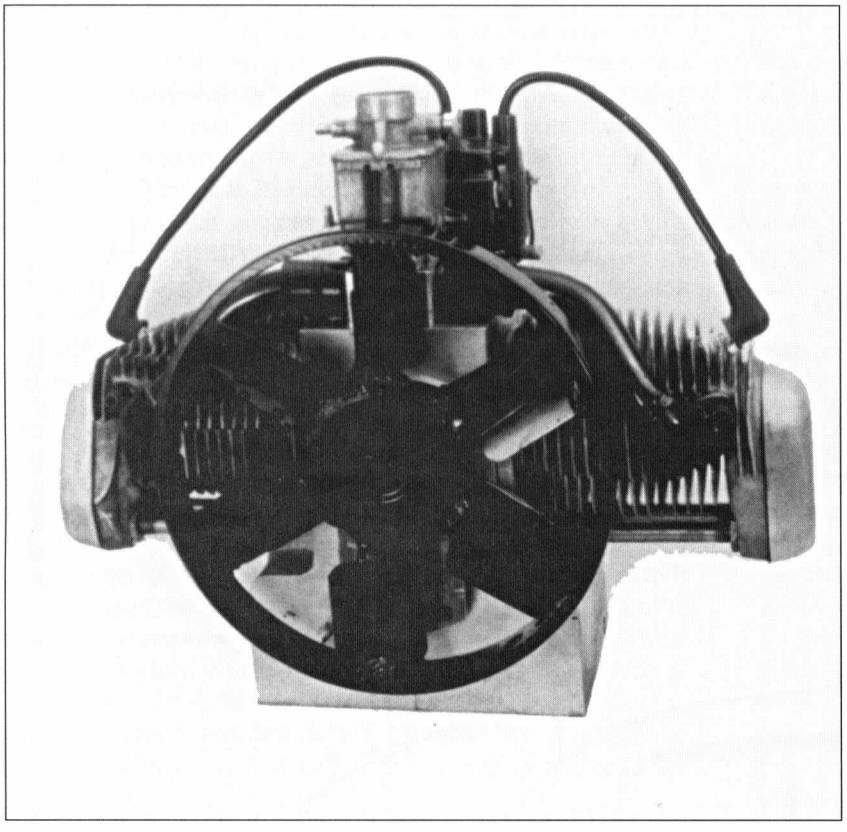


Fig. 7 – Type GO-21 engine: front, or fan, view

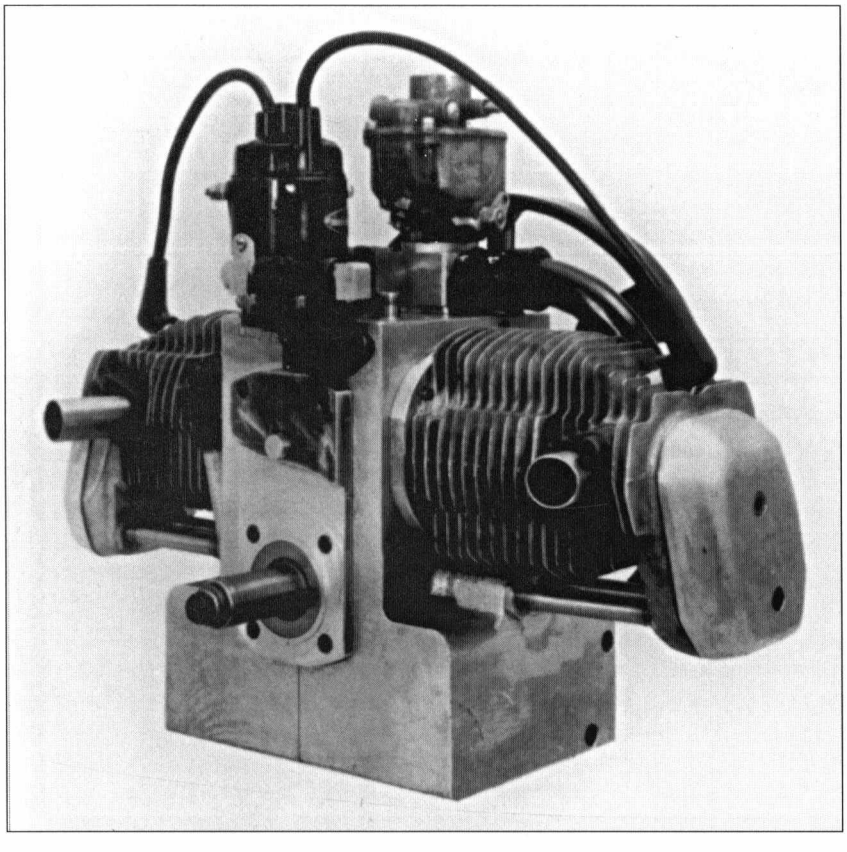


Fig. 8 - Type GO-21 engine: rear view, showing power shaft

pumps. Nevertheless, to Oehrli Crosley seemed to be the largest potential market.

Within a month of his September 1947 parts-order letter to Crosley, Oehrli was in Cincinnati conferring with Powel Crosley, Jr. Upon his return to Claremont, CA, Oehrli summarized his observations in a letter to Crosley. First he thought the 1947 Crosley with the overhead camshaft engine was too expensive to manufacture. A new power plant could both reduce costs, and along with a new transmission design, provide smoother operation. Secondly, he was proposing a new vehicle to Crosley which he thought should be developed aggressively which would be equipped with a 2-cylinder engine of conventional light aircraft design. But it should be simplified by use of a torque converter. The GO-21 could first be used in the 3-wheeled vehicle he was proposing but also in a later and larger vehicle.

Oehrli also responded to an apparent offer by Crosley to serve as a consulting engineer in Cincinnati for a few months. Oehrli believed that moving to Cincinnati for such a period of time would not be profitable, and that the living conditions for him and Mrs. Oehrli would not be appropriate. But more importantly he thought being in Cincinnati would prevent establishment of his small engine development group. Perhaps Oehrli's responses to Crosley were part of a negotiating strategy. But even with Crosley a possible customer of importance, Oehrli may have considered a good market for small engines aside from Crosley.

The small amount of information that is available tends to indicate that Oehrli did not want to appear too eager for the Crosley business. He did inform Crosley that he had some exceptionally capable men ready to start on the development of the proposed engine. But the facts on hand seem to indicate that two months before making that statement he had 75 percent of the work on the engine completed.

Using the 3-wheeled vehicle concept, the basic idea was to produce sprightly acceleration, possibly superior to that of much larger vehicles. This, in part, was to be the consequence of keeping the vehicle weight low as well as by the use of a torque converter. In a handwritten chart Oehrli prepared in October of 1947, some indications of the performance possibilities were noted. For example, the weight of the 3-wheeled vehicle, with passengers aboard, was estimated at 850 pounds. That of the 1946 Cadillac was 4,950 pounds. While the Cadillac had a factor of .40 in low gear, determined by calculating vehicle weight, gear ratio, and useful torque, the 3-wheeled vehicle's factor was .31. That of the Salsbury motor scooter, known for rapid acceleration from a standing start, was .35. In high gear the comparisons were .17 for the Cadillac and .14 for the Oehrli proposal.

Oehrli also provided some other ideas to Crosley. One was the use of a torque converter for the

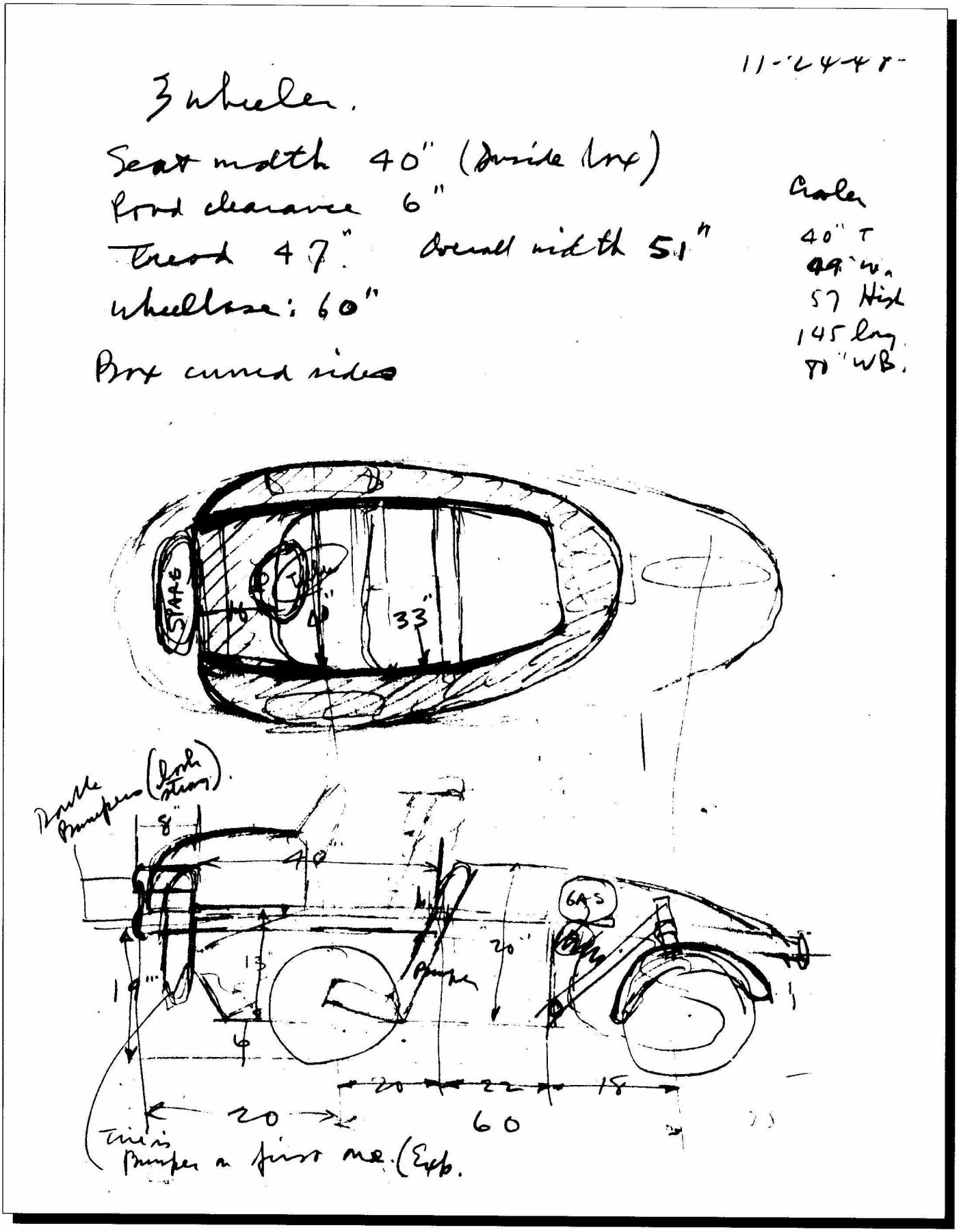


Fig. 9 - Oehrli's sketches for the 3-wheeled vehicle. Nov. 24, 1947.

production Crosley, replacing the 3-speed transmission in use. According to most sources, the production transmission was both noisy and difficult to operate. In addition to making smoother operation, the torque converter would provide additional performance. A second idea, in handwritten notes, headed by "Sports Car Engine," involved using two Crosley 44-cubic-inch COBRA engines to create a 90-cubic-inch engine (While the COBRA engine had some problems, being constructed of sheet metal, and assembled through brazing, the basic design has proven to be both successful and to have a long-production run through a number of successor companies. The replacement for the COBRA was named CIBA, and was of conventional cast iron block design).

Although Crosley did not implement the design, Oehrli did not give up on the 3-wheeled vehicle idea. Late in 1948, he penciled in some comparative dimensions for the production Crosley and his proposed 3-wheeler. The tread of his proposed vehicle was to be 47 inches while the Crosley was 40 inches. The Crosley was two inches narrower, at 49 inches than the width of the proposed vehicle. The Crosley was 45 inches longer than the proposed vehicle's 100 inches. The wheelbase of the 3-wheeler was 20 inches shorter than the Crosley, at 60 inches (Fig. 9). Oehrli's sketches for the 3-wheeler also illustrate the gravity flow of gasoline as well as the interesting use of a spare tire as the front bumper.

A tiller, rather than steering wheel, was to be used. The tiller was to serve multiple uses, serving as the starter and for brake actuation in addition to steering. In entering, or climbing aboard, the 3-wheeler the tiller would be pushed to one side. Upon sitting, the driver would push or pull the tiller downward to start. To stop, the tiller was to be pulled or pushed upward. Power was apparently to be applied via a standard accelerator pedal.

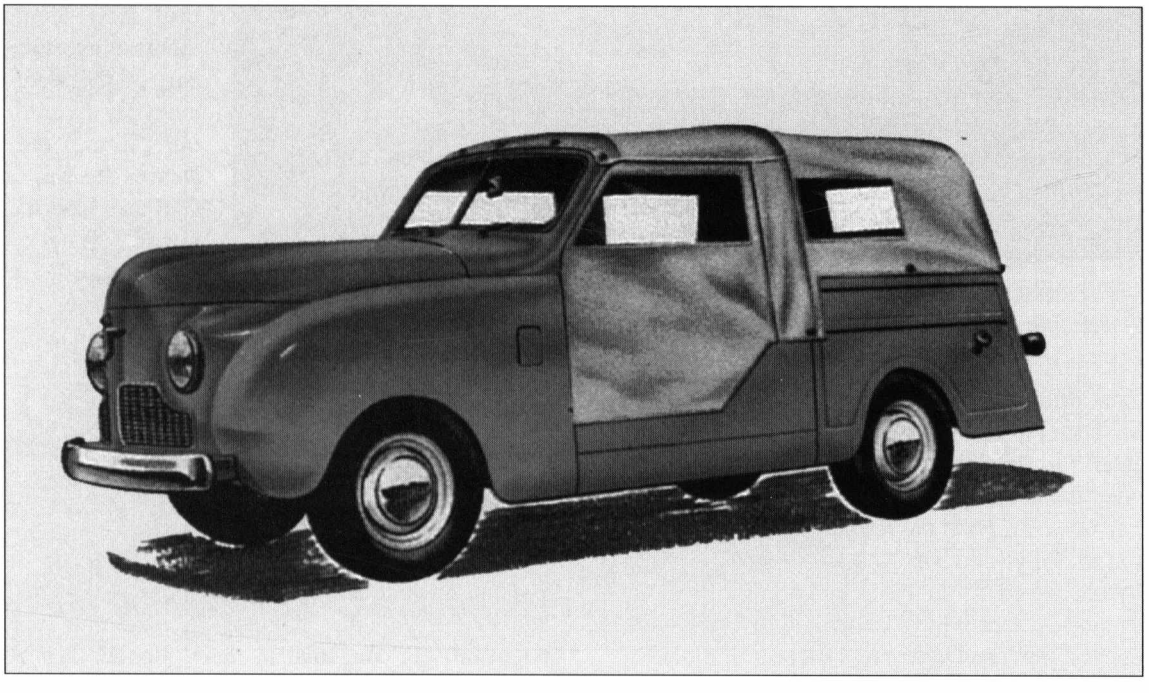
Oehrli also had a unique suspension system in mind. He especially was interested in eliminating "squat" when cornering or braking. Two compression springs, one on each side, were to be the complete suspension for the car.

All told, Oehrli estimated production costs at $215 with a proposed sales price of $360. The proposal is one of many in the auto world that did not come to fruition. A search has been made of Crosley documents but no mention of the proposed 3-wheeler has been found. John W. Oehrli and Powel Crosley, Jr. may have had many more contacts, but we know of at least two connections. One of those connections resulted in the 1939 Crosley.

As for John W. Oehrli, he went on to have continued success. His long-term employer became the McCulloch Corporation to which he took his engine concept. In a telephone conversation with the late John R. Bond, a fellow McCulloch employee, Bond said that Oehrli was primarily responsible for the well-known Paxton/McCulloch supercharger. Oehrli was also involved in tool designs, including self-sharpening cutters for woodcutting as well as adjustable low cost dado cutters. For many years McCulloch has been known for chainsaws and other tools. Oehrli also took the v-belt transmission idea with him, and perfected the automatic transmission.

After spending 13 years with McCulloch, Oehrli went into his own consulting business for an additional three years. He died of a heart attack in 1965 in the prosperous Los Angeles suburb of Palos Verdes. John R. Bond characterized John W. Oehrli as a "wonderful man."

Acknowledgements: John R. Bond, Randy. C. Ema, Ronald Irwin, and Sinclair Powell



The Crosley 1947 catalogue identified this model as a "sports-utility." Could this have been the first use of the term?

John O'Hara and the Automobile

by Macdonald H. Leach

Fig. 1 – Late 1960s Rolls-Royce Silver Shadow

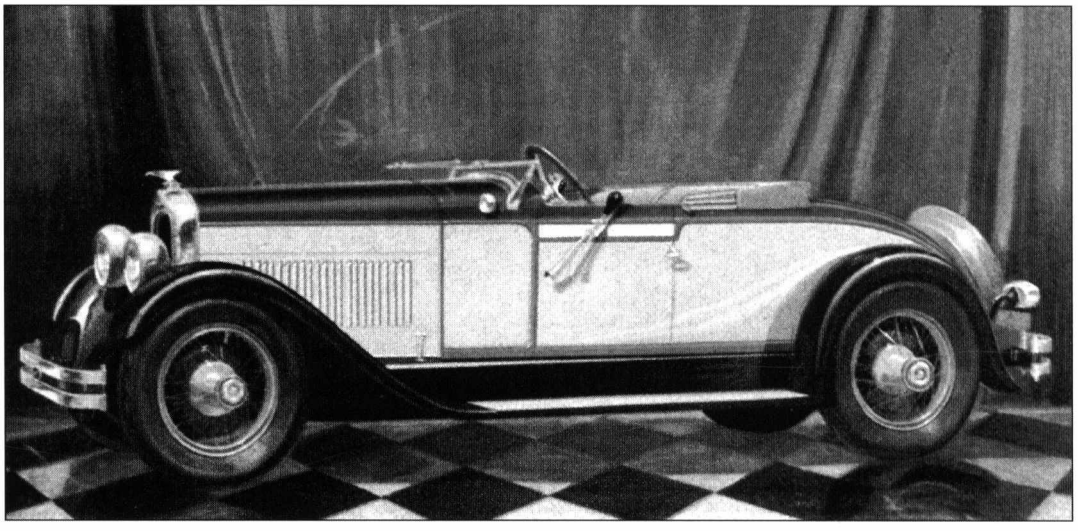


Fig. 2 – "It isn't a Dort, it's a brand new Marmon . . . ."
1926 Marmon Eight Two-Passenger Speedster

John O'Hara, often called the "photographer" of the first half of the 20th century, of course was much, much more. Leading contender for the title Best American Short Story Writer, he was also the author of wildly successful novels such as *Appointment in Samarra*, *From the Terrace*, and *Butterfield 8*. He also did a stint in Hollywood. His *New Yorker* stories written as a series of letters signed "Your Pal Joey" became a highly successful stage musical (for which he wrote the book, with songs by Rodgers and Hart) and later a less successful movie. It is, however, in his short stories that the "photography" of the day and age shines the brightest. His works are vivid, often cruel, brightly illuminated, unrelenting pictures of the way life was lived day to day by the middle and upper classes in the United States in the first half of the 20th century.

John O'Hara loved cars! He owned many: classics, antiques, sports cars, and regular models. In his last years (he died in 1970) he bought a new Rolls-Royce (Fig. 1). At lunch at Le Chanteclair, ex-racing driver René Dreyfus' restaurant on East 49th Street in New York, someone asked O'Hara why he hadn't bought a Bentley. O'Hara snorted, and then said, "I want to get what I pay for—why, buying a Bentley instead of a Rolls would be like those people who bought a Pierce-Arrow and then had drum headlights put on" (the trademark for many years of the very expensive Pierce-Arrow being the built-in fender-mounted headlights).

It would be difficult to write of life in the first part of the 20th century without mentioning the automobile, part of the woof and warp of everyday living. As it does in our lives, the automobile weaves its way in and out of O'Hara's works. In "Christmas Poem" (*The New Yorker*, December 19, 1964), the son is back from college for Christmas holidays, and in bantering talk around the dinner table the boy teases his sister about her boyfriend's old Dort. She replies: "It isn't a Dort, it's a brand-new Marmon, something I doubt you'll ever be able to afford." . . . "So he got rid of the old Dort did he?". . . . "He never had a Dort, and you know it." And the conversation moves on (Fig. 2).

From "Mrs. Allanson" (1964): "The late Frank Allanson had chosen the Franklin because it was an air-cooled car, and the cult of the Franklin included three or four men with whom Allanson was congenial in many matters. But Sara Allanson, although she did not drive, was very soon proclaiming the Franklin to be the superior of the Pierces and Packards, the

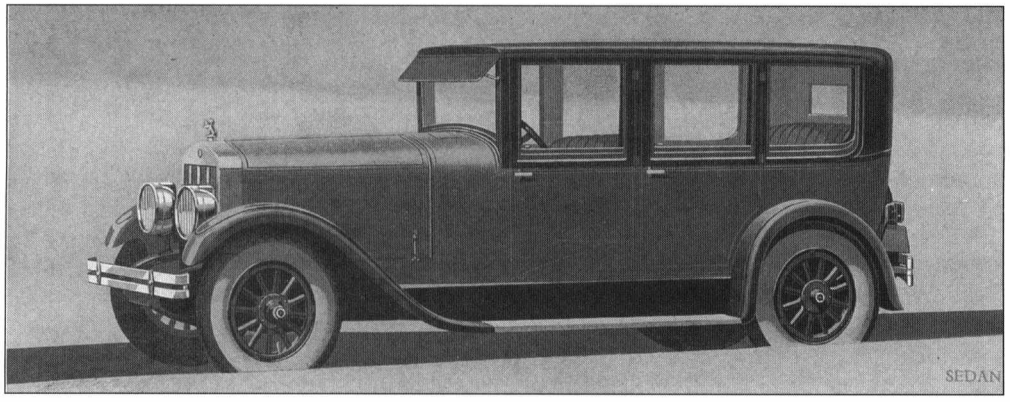


Fig. 3 – ". . . the Franklin, in its way, spoke for itself as an example of money saved."
1926 Franklin Sedan

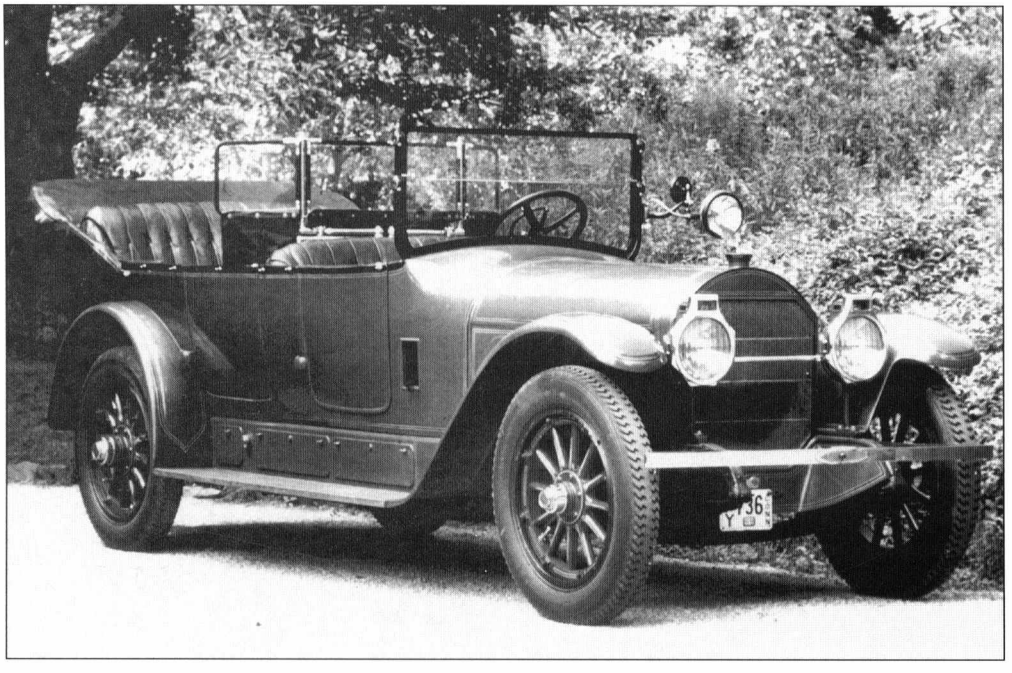


Fig. 4 – a "dark green Locomobile phaeton driven by a chauffeur without livery."
1922/23 Locomobile Touring Car

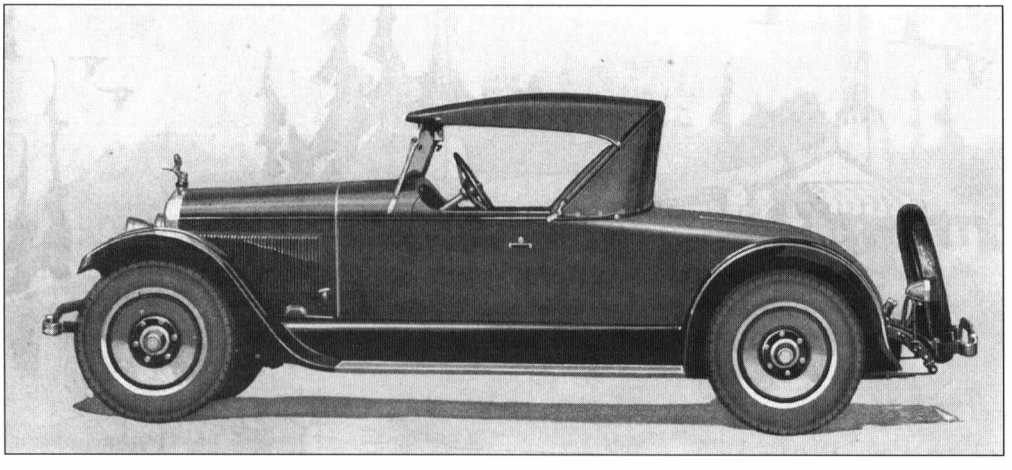


Fig. 5 – "Got rid of that yellow Marmon – traded it in on a new Wills Sainte-Claire roadster."
1926 Wills Saine-Claire Four-Passenger Roadster

Stearns Knights and Peerlesses, and Hayneses and Paiges and Chandlers that belonged to the families she knew best. She was particularly hard on the Pierce-Arrow since the Pierce spoke for itself as an indication of money spent, while the Franklin, in its way, spoke for itself as an example of money saved." (Fig. 3)

In "A Man to Be Trusted" (first published 1974) a boy goes with his father to his father's employer's house and is impressed with a "dark green Locomobile phaeton driven by a chauffeur without livery." (Fig. 4) The Locomobile had a small brass plate on the dash marked "Built for Philip Haddon, Esquire." There was an unspecified closed car for winter use.

In "Pat Collins" (*The Cape Cod Lighter*, 1962): "Aloysius Aquinas Collins came to town in 1923 because he had heard it was a good place to be, a rich town for its size. . . . [A]mong the rich there were two Rolls-Royces, a dozen or more Pierce-Arrows, a couple of dozen Cadillacs, and maybe a dozen each of Lincolns, Marmons, Packards. It was a spending town; the Pierce-Arrow families bought small roadsters for their children and the women were beginning to drive their own cars." Earlier in his life, as a boy in Philadelphia, "he would stand for hours, studying the sporty roadsters and phaetons outside the Penn [University of Pennsylvania] fraternity houses; big Simplexes with searchlights on the running boards, Fiats and Renaults and Hispanos and Blitzen-Benzes." . . . [A]nd then he would walk up North Broad Street, Automobile Row, and because he was a nice looking kid, the floor salesmen would sometimes let him sit in the cars on display. He collected all the manufacturers' brochures." (This touched me greatly, because as a child in the mid-30s I used to do the same, working my way up North Broad stuffing my school bag with catalogs.)

In so many of the stories there are just brief mentions—enough to make car fanatics' hearts beat faster and put our ears up: There are such image-making phrases as "Got rid of that yellow Marmon—traded it on a new Wills Sainte-Claire roadster." (Fig. 5)

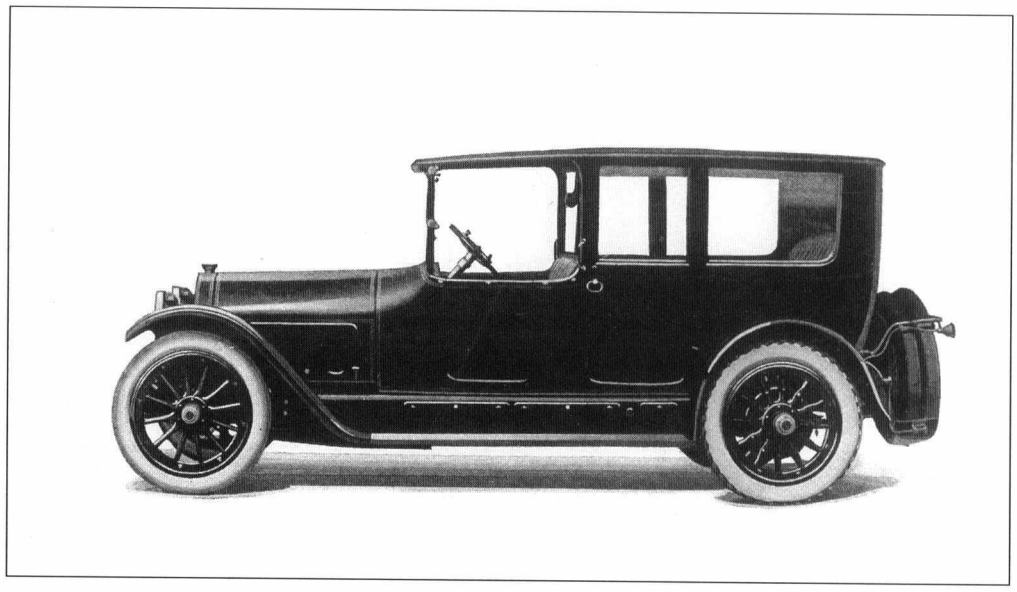


Fig. 6 – ". . . finished in Brewster Green, and the only one of its kind in the county." 1918 Locomobile Limousine

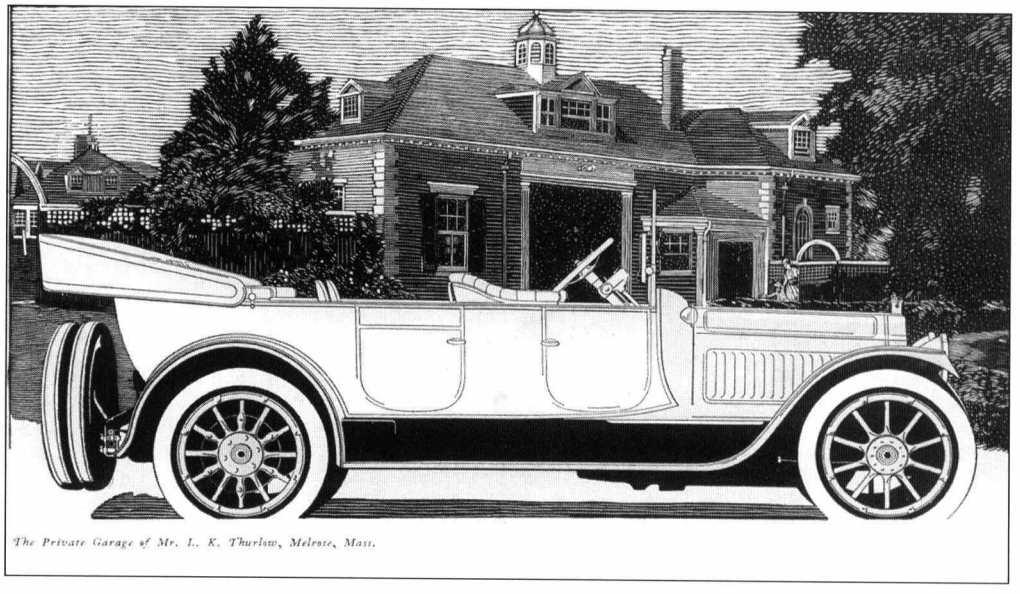


Fig. 7 – ". . . the big Packard Twin Six came rumbling into view. . . ." 1917 Series 2-35 Packard Twin Six Standard Touring Car–Seven Passengers

And there is the retired actress living in a New York apartment who looks out her window and counts the Cadillacs and LaSalles parked in her block, wishing she had some General Motors stock. Another aged (or aging?) actress is being escorted to the Broadway Limited after (one gathers) she bombed in New York. Taken, she realizes, not by the head of the New York office, but at least in the studio's Packard, and not in a taxicab.

One story in which the car plays the central role is "The Locomobile" (originally published—where else—in *The New Yorker*, July 20, 1963). A young man just discharged from the service (it is 1919) returns home to a small Pennsylvania town to wind up his mother's estate. As with most of O'Hara's people, it is a substantial estate, of a large house, coach house, large grounds, etc., and two Locomobiles– one a phaeton, the other a limousine. We are concerned with the limousine—"finished in Brewster Green, and the only one of its kind in the county. It had less than15,000 miles on the odometer, and six new Pennsylvania Vacuum Cup tires." (Fig. 6) The chauffeur had lavished much loving care: Always waxed and polished, "was it ever once pulled up at the porte-cochere without fresh flowers in the cut glass vases? Didn't he always warm the laprobe in front of the carriage house stove?" The chauffeur is not mentioned in the will, and the son and heir decides to give the Locomobile to him. The chauffeur says, "If a man owned a car like this he could consider himself fortunate. I guess there ain't but two or three hundred of them in the country, if that. A car like this don't wear out, and you never get tired of looking at it. The Pierce-Arrow people are improving the looks of their new models, but they have a long way to go before they catch up to this one."

The chauffeur decides to drive the Locomobile "for hire." "There's a lot of ladies in town, old maids, widows. I'll charge 'em so much a head to the country club, golf club, Reading, Philadelphia, card parties, evening parties. . . ." One hopes the Locomobile had a long and happy life!

From "Winter Dance" (*The New Yorker*, September 22, 1962): "When the big Packard Twin-Six came rumbling into view it was an exciting sight to the boy. The radiator and hood had a leather cover that was streaked with ice. . . . Icicles hung from the fenders, and the running boards carried an extra thickness of frozen slush. All the side curtains were securely in place. The windshield was solid ice, except for an arc directly in front of the chauffeur, which the manually operated wiper had kept partially clear. There was something triumphant and majestic now in the way the big Packard eased its way down South Main." (Fig. 7)

Matthew J. Bruccoli, noted author and biographer of O'Hara, quotes O'Hara as saying, "The Twenties, the Thirties, and the Forties are already history, but I cannot be content to leave their stories in the hands of the historians, and the editors of picture books."

It is said best that "All great fiction writers are great social historians."

Letters to the Editor

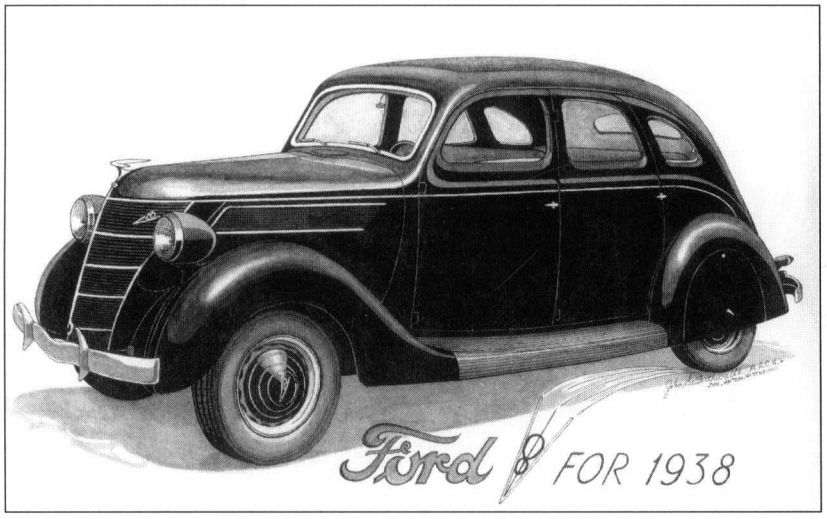


Fig. 1 – 1938 MAVAG Ford

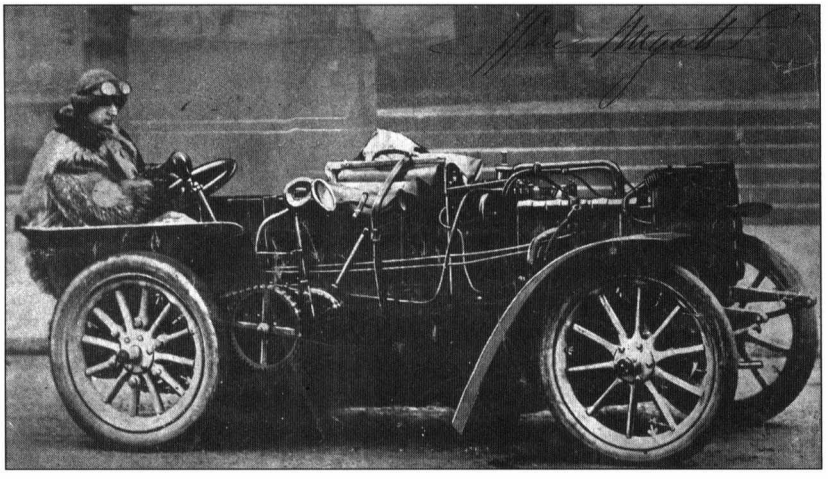


Fig. 2 – Cover photo of Review No. 40, *retouched by Ettore Bugatti*

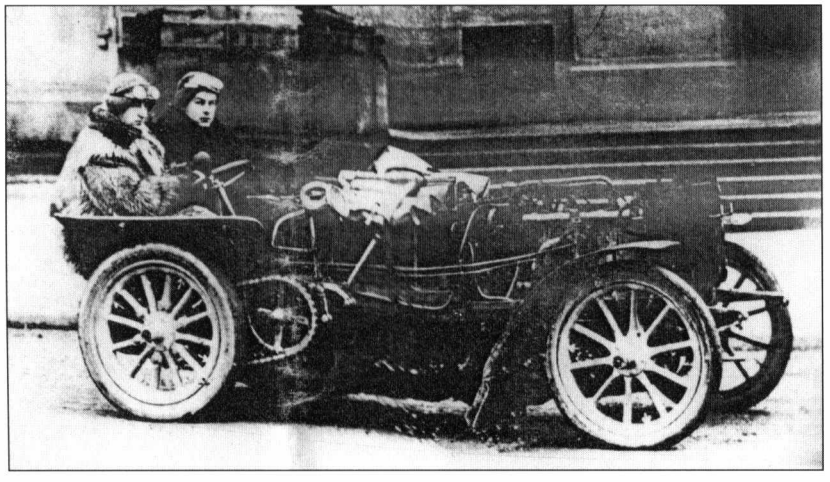


Fig. 3 – The unretouched photo: Ettore Bugatti and Emile Mathis

Review No. 38 (Winter 2002)
The History of Ford in Hungary (Negeysi)

I'm enclosing a drawing of the 1938 MAVAG Ford mentioned on page 35 (Fig. 1), with the thought that readers might be interested in it. Drawing cars has been my interest for a number of years and is now my livelihood.

John B. Satterthwaite
Pennsylvania, USA

Review No. 40 (Summer 2003)

Front cover: *Ed.: The caption read "Ettore Bugatti at the wheel of an underslung vehicle he built in 1901 at the age of 19 years." This occasioned comments on both the accuracy of the photo and the description of it.*

The photo (Fig. 2) is not entirely historically correct. . . . The original of this photo shows a young Emile Mathis as Ettore's passenger. According to the photocopies enclosed (Fig. 3), Ettore had the photo used in some piece of literature or publicity and had Mathis obliterated. This seems to have been in character, of course, and then Ettore gladly signed his name to it.

I do not think your suggestion that the car has an underslung frame can be supported. The photos that include Mathis seem to be clearer in the area of frame detail of the car and it appears to me that a normally located frame rail is visible.

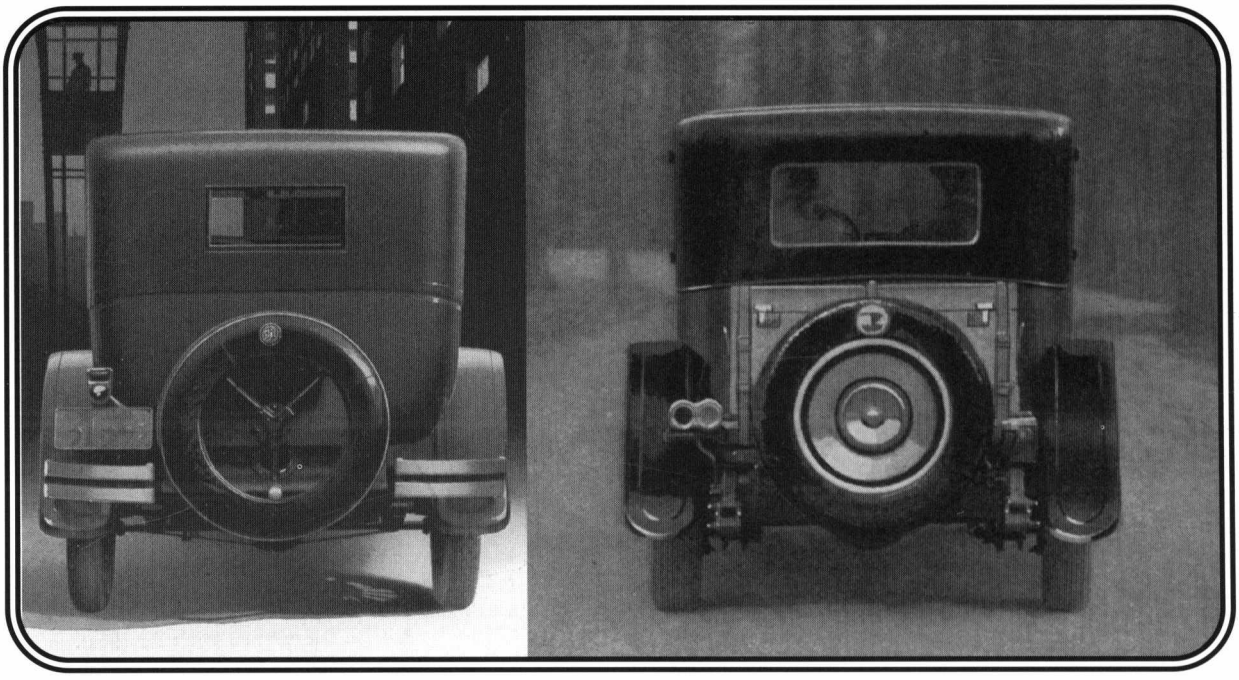
Fred Roe
Massachusetts, USA

The car shown on the cover is the prototype of the Dietrich-Bugatti, built in 1902 when Bugatti was 21. The photograph originally included Mathis as passenger, but he was touched out and an earlier date given for the 1929 brochure . . . I think "surbaissé," which you translated as "underslung," refers to Ettore's driving position low behind the rear axle. The committee objected because they believed he wouldn't be able to see the road ahead. My French books don't indicate a single word for underslung but talk about the springs pushing on the axle and other such circumlocutions.

Arthur Jones
Pennsylvania, USA

Ed.: Arthur called my attention to the following in Lost Causes of Motoring, Volume 2 *(Lord Montagu of Beaulieu (1971), p.139):*

It is known that Ettore's plans for Paris-Madrid embraced a 50 h.p. car, in which the driver and mechanic sat over the rear axle while water circulated through the frame tubes in the best Peugeot tradition. The organizers rejected this as being unsafe, whereupon Bugatti rebuilt it on more orthodox lines. The final entry list shows that both Bugatti himself and Mathis were down to drive German de Dietrichs, but in fact neither started.



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