



The last century's first decade foreshadowed the cultural and economic, gorgeous and sometimes garish, high noon of the Belle Époque; which was also the heyday of the craftsman automobile.

Experimentation was slowly giving way to engineering, the word "production" was not yet intimate with the word "series," model lineups were haphazard and categories...fluid. The basic varieties of motorized personal transport were the economical but flimsy cycle car, a "motorization" of an existing paradigm; the stately, deep-voiced and hopefully docile touring car of 3 to 6 liters capacity; and the huge, bellowing and frankly dangerous racing car of 10 to 18 liters. To this orderly triumvirate, as the Great War approached, was added a new classification; the *voiturette* or sports car.

To the Europeans of the day, a "sportsman's car" was a

thinly veiled version of the previous year's Prince Henry competition car. In this mold one could find Vauxhall's 3.9-liter, Benz' 6.6 & 7.4, and Dr. Porsche's eminent 5.7-liter creation for Austro-Daimler. Mark Birkigt of Hispano-Suiza offered the seminal 3.9-liter Alfonso XIII. The most expensive of the range, and the closest to out-and-out competition standard, were the 9.5-liter Mercedes 37/90 PS and the Isotta-Fraschini KM. Development and refinement of these highly crafted performance cars occupied an ebullient decade of automotive history, brought to a close only by the guns of August.

The *voiturette* class seemed unlikely to spawn worthy challengers. If the *voiturette* was no spindly cycle car, neither was it a long-hooded gentleman's racer with lavish amenities. Displacing only 1.4 liters and weighing 750 pounds dry, such a car achieved performance through discreet balance of power and weight; but its advanced engineering, artful construction, and meticulous fit and finish made it worthy of consideration alongside larger, heavier, and much costlier vehicles. The blossoming of the *voiturette*, truly the precursor of almost all modern competition cars, is inseparable from the story of Ettore Bugatti and his vision.

Much has been written about Ettore Bugatti, but most of that in breathless retrospect. In 1910, Bugatti was almost completely unknown even to the automotive enthusiast; but he was not a novice in any material way. By then he had worked for, or with, Prinetti & Stucchi, Gulinelli, de Dietrich, Mathis, and Deutz, amassing ten years of engineering experience at the venerable age of twenty-nine! If he was not *le Patron* yet, he certainly possessed the unbending will and belief in excellence that would soon make him a star among constructors.

Still nominally in the employ of Deutz, he began build-

ing a *voiturette* in his basement machine shop, and called it at first *le pur-sang* - the pure-blood, or thoroughbred. But with his typical thoroughness, he then assigned a type number to every automotive project he had ever worked on, so that his cycle-car for Prinetti & Stucchi became *ex post facto* the Bugatti Type 1, and so forth. By this reckoning, his slipper-bodied, jewel-finished *voiturette* was called the Type 13, and he obviously believed that logic (at least his logic) handily trumped superstition. This was the car that embodied, so to speak, the ambition of a brilliant engineer not yet thirty, determined to make name and fame for himself in the volatile venue of autocraft. The legal constraints of his contract with Deutz might pose obstacles? But his shop and tools were his personal property. Some of the design detail was original to Bugatti? No matter, his intuition would prevail. The valve gear was nearly impossible to overhaul? The benefit in performance was far more compelling than the overhead of servicing. The axiomatic nature of all future Bugattis was thus firmly established; an owner who found deficiencies simply didn't understand the car.

Perhaps there was much to understand about the Type 13 - and even a few things to forgive - but there was more to enjoy. The 1327 cc engine was tiny but formidable. Bugatti placed himself squarely in the engineering *avant garde* of 1910 by tucking as many mechanical assemblies inside the case as possible. Water-jacketed cylinders crowned by exposed valve springs, and garnished with a snake's nest of obvious piping, may have been the common denominator of the day but had no place in Bugatti's evolving universe. The smooth-sided case with its domed cam cover, flanked by the exhaust and carburetor, evoked an Art Deco simplicity at a time when that esthetic was barely known to industry.

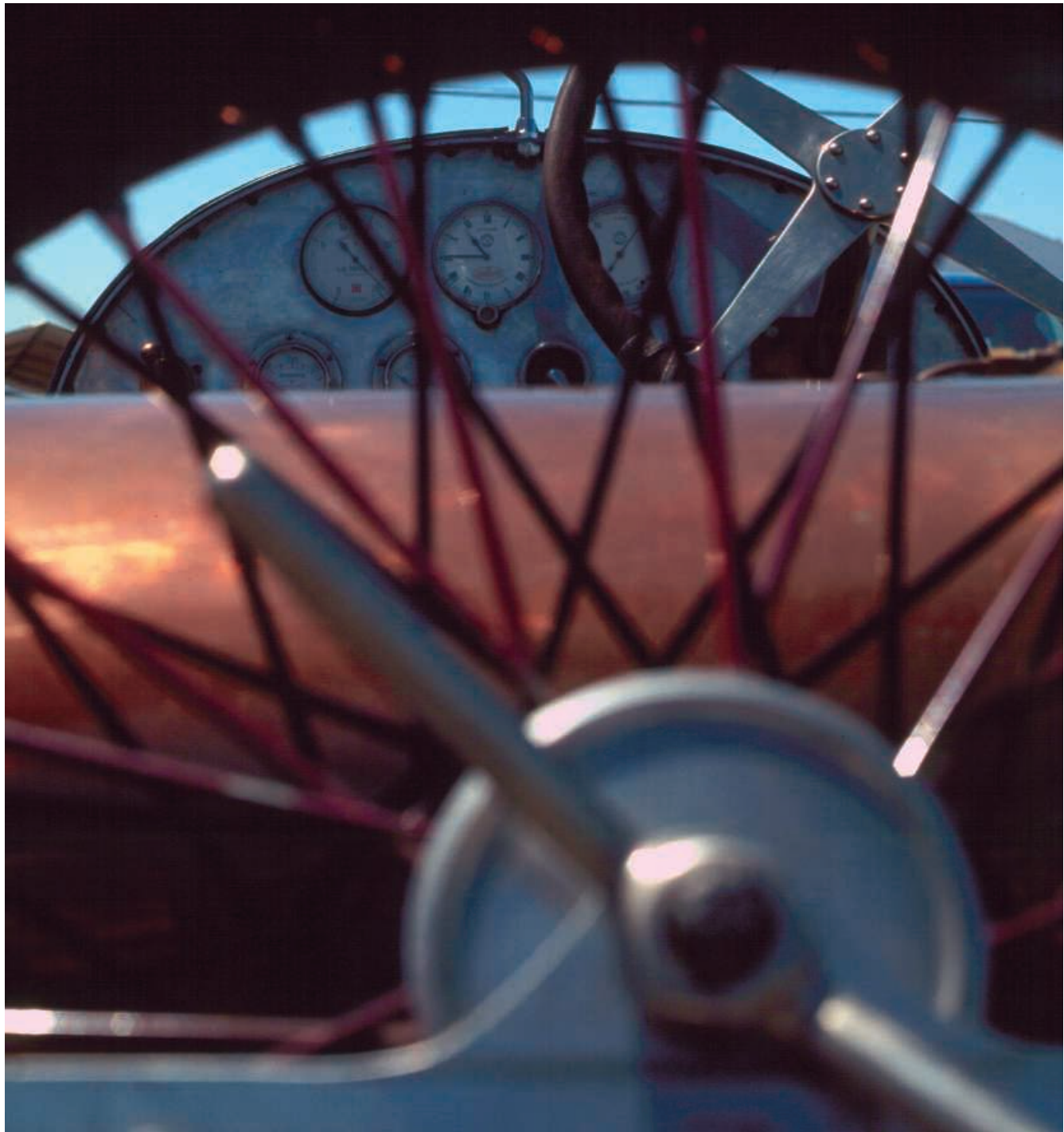
Within the case, sophistication prevailed unimpaired. Eight overhead valves were operated by a single overhead

cam through Bugatti's signature-to-be curved tappets. The intake valves were on the opposite side of the exhaust, providing effective breathing through the cross-flow arrangement. The block was an admirably complex casting, whose fixed head sidestepped the well-known shortcomings of primitive gaskets. Everything about the design encouraged easy revving, and the recommended maximum of 3000 rpm was startlingly higher than industry standards. Bugatti was to find great satisfaction with this engine for many years, doubling the number of valves and gradually introducing other refinements which the basic configuration accepted gracefully.

The pressed steel frame-rail chassis was loyal to the same irrepressible standard of construction, quite unheard of in this displacement class at the time. The separate four-speed transmission was connected by open propeller shaft to the differential, which was linked to a chassis cross-member by a pressed-steel torque arm which located the axle. The front and back axles were suspended by half-ellipse leaf springs.

The whole result was an endearing but misleading automobile that - at least at first - in profile somewhat resembled a Dutch wooden shoe, and would contain two adults only if they were devoted friends. If a Prince Henry Benz was a lion, then a Type 13 was a kitten - or so thought the young blood in the majestic Benz who encountered one on a rustic road, then found the pesky thing impossible to shake. If the two were in congested city traffic, the suddenly corpulent Benz had no hope of pacing the slippery creature from Molsheim.

Bugatti was eager to exploit its virtues in competition and entered his factory manager, Friderich, in an event - which today might be called Formula Libre - at the Sarthe circuit in July 1911. The uneven competition ranged from a five-year-old 18-liter Lorraine-Dietrich to a team of fresh 6-liter Rolland-Pilains. The summer heat hovered around



the century mark, the course ran thirty-four miles to the lap and was in abusive condition, and after eight hours' racing, most of the competitors had simply expired. Friderich, probably astonished, brought the tiny thoroughbred across in second, to the accolade of the French public.

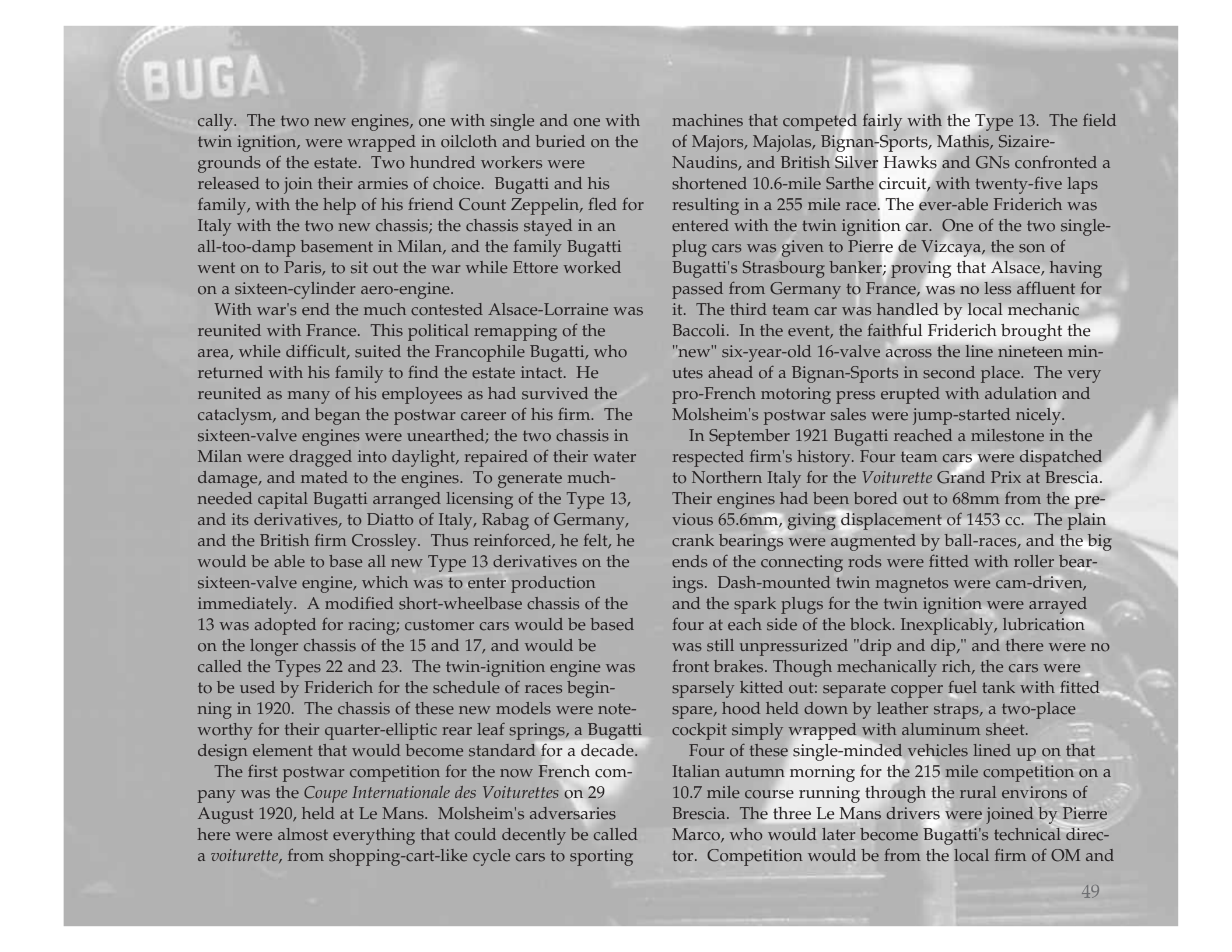
The newsreels of this race impart a dark humor to Bugatti's accomplishment with the T-13. The organizers having been deterred by the expense of forty-five miles of palisading, and its accessories, that year's competition was not accorded *Grand Prix* status, nor was it to that standard. Instead, the cars being raced that day were an early clue to a new direction; the precursors of the sports-racers that have ever after filled the grid at Le Mans. We see drivers fighting for control of the primitive, large-displacement bolides, which tended to capsize in corners at any provocation, or to shoot into the underbrush as engine-laden understeer became an absence of steering. Off the course and out of camera frame, stage left, next please! Contrast most of the *voiturettes*, Bugatti's direct competition, like the independently sprung Sizaire-Naudin teetering precariously around the course and barely escaping its own billowing cloud of exhaust.

Ironically, the field had comprised both classes mixed only because the organizers feared that either class alone would barely draw a crowd. Yet this race posited, and then proved, one of the cardinal truths of auto racing: *a brilliantly engineered, agile small car can at least run neck-and-neck with a crude, heavy-handling big car.* To be sure, the film does not show the Type 13 streaking up the straights leaving the bellowing dinosaurs hazed by its scornful dust. It merely ends with a few frames of Friderich, unexpectedly in second place, sitting in the little car grimy-faced and looking dazedly at the camera while the French crowd cheers behind him. How had his car achieved this with only fifteen horsepower?

French and British magazines began extolling the virtues of the remarkable lightweights from quasi-German Alsace. Sports pages ran David and Goliath editorials, setting the Bugatti against tall-hooded Prince Henry hopefuls and scarcely comparing it to fellow *voiturettes*. Promotion boosted sales, which began to cover operating costs, if barely. Working with the forty-five-inch track of the Type 13 chassis, Bugatti extended the seventy-nine-inch wheelbase to 95 inches, creating the Type 15, and then to 101 inches, resulting in the Type 17.

Le patron needed to feed and operate his growing duchy. Falling back on his earlier strategy of licensing, he produced a *miniatura* with an 883cc T-head engine, designed for series production by a manufacturer with ample resources. Friderich, prototype in tow, was sent first to Wanderer who had little interest, then to a much more receptive Peugeot. The French firm licensed the design, dubbing it "Bébé", and manufactured more than three thousand before 1916. Concurrently, Bugatti produced the 5-liter Type 18 or *Garros*, an updated, half-sized version of the 10-liter four-cylinder he had licensed to Deutz in 1907. In 1913 he strung two T-13 blocks on a common crank and made his first straight eight, in two versions which were not successes but presaged copious rewards in the postwar world. Automotive engineering, Bugatti knew, was advancing around him; the pace of development was rapid and the Type 13 was not the standout among *voiturettes* that it had been even two years earlier. Of course, no other car was a Bugatti, but - He updated the engine with four valves per cylinder, and developed two new chassis.

But not only the state of automotive engineering was on the move; so too were the newly mechanized armies of Europe, a far greater threat to Bugatti's livelihood. Appreciating that Molsheim's location would doubly imperil it in the coming conflict, Bugatti prepared strategi-



cally. The two new engines, one with single and one with twin ignition, were wrapped in oilcloth and buried on the grounds of the estate. Two hundred workers were released to join their armies of choice. Bugatti and his family, with the help of his friend Count Zeppelin, fled for Italy with the two new chassis; the chassis stayed in an all-too-damp basement in Milan, and the family Bugatti went on to Paris, to sit out the war while Ettore worked on a sixteen-cylinder aero-engine.

With war's end the much contested Alsace-Lorraine was reunited with France. This political remapping of the area, while difficult, suited the Francophile Bugatti, who returned with his family to find the estate intact. He reunited as many of his employees as had survived the cataclysm, and began the postwar career of his firm. The sixteen-valve engines were unearthed; the two chassis in Milan were dragged into daylight, repaired of their water damage, and mated to the engines. To generate much-needed capital Bugatti arranged licensing of the Type 13, and its derivatives, to Diatto of Italy, Rabag of Germany, and the British firm Crossley. Thus reinforced, he felt, he would be able to base all new Type 13 derivatives on the sixteen-valve engine, which was to enter production immediately. A modified short-wheelbase chassis of the 13 was adopted for racing; customer cars would be based on the longer chassis of the 15 and 17, and would be called the Types 22 and 23. The twin-ignition engine was to be used by Friderich for the schedule of races beginning in 1920. The chassis of these new models were noteworthy for their quarter-elliptic rear leaf springs, a Bugatti design element that would become standard for a decade.

The first postwar competition for the now French company was the *Coupe Internationale des Voiturettes* on 29 August 1920, held at Le Mans. Molsheim's adversaries here were almost everything that could decently be called a *voiturette*, from shopping-cart-like cycle cars to sporting

machines that competed fairly with the Type 13. The field of Majors, Majolas, Bignan-Sports, Mathis, Sizaire-Naudins, and British Silver Hawks and GNs confronted a shortened 10.6-mile Sarthe circuit, with twenty-five laps resulting in a 255 mile race. The ever-able Friderich was entered with the twin ignition car. One of the two single-plug cars was given to Pierre de Vizcaya, the son of Bugatti's Strasbourg banker; proving that Alsace, having passed from Germany to France, was no less affluent for it. The third team car was handled by local mechanic Baccoli. In the event, the faithful Friderich brought the "new" six-year-old 16-valve across the line nineteen minutes ahead of a Bignan-Sports in second place. The very pro-French motoring press erupted with adulation and Molsheim's postwar sales were jump-started nicely.

In September 1921 Bugatti reached a milestone in the respected firm's history. Four team cars were dispatched to Northern Italy for the *Voiturette* Grand Prix at Brescia. Their engines had been bored out to 68mm from the previous 65.6mm, giving displacement of 1453 cc. The plain crank bearings were augmented by ball-races, and the big ends of the connecting rods were fitted with roller bearings. Dash-mounted twin magnetos were cam-driven, and the spark plugs for the twin ignition were arrayed four at each side of the block. Inexplicably, lubrication was still unpressurized "drip and dip," and there were no front brakes. Though mechanically rich, the cars were sparsely kitted out: separate copper fuel tank with fitted spare, hood held down by leather straps, a two-place cockpit simply wrapped with aluminum sheet.

Four of these single-minded vehicles lined up on that Italian autumn morning for the 215 mile competition on a 10.7 mile course running through the rural environs of Brescia. The three Le Mans drivers were joined by Pierre Marco, who would later become Bugatti's technical director. Competition would be from the local firm of OM and

the Milanese aero firm of Chiribiri, fielding 1.5 liter side-valves. A Brescian privateer, Sig. Silvani, had entered an SB, which is thought to have been a modified Type 13.

The 40hp Bugattis found the competition less than formidable, as was often true of contemporary Italian races; the French blue cars performed brilliantly on a course noted for challenging and diverse terrain. Friderich averaged an impressive 72 mph to take the laurels, with de Vizcaya immediately behind, followed by Baccoli and Marco - a sweep! and accolades were not slow in coming. The post-war Type 13 was lauded across the Continent.

It is impossible to overstate the impact of this international victory for the forty-year-old Ettore, which extended far beyond the financial security it was to provide. On the ides of March twenty-two years earlier, he had piloted a Prinetti & Stucchi tricycle of his own design to victory in the Verona-Mantua-Brescia-Verona race. Lurching and jouncing over the primitive roads of 19th-century Italy, at the mercy of an awkward and unpredictable triangular chassis, ears filled Ulysses-like with the maddening chorus of two deDion-Bouton singles while he staved off the unrelenting challenge of Count Roberto Biscaretti di Ruffia; he had covered the one-hundred-mile course in four hours and five minutes, averaging 24.65 mph. It was his maiden triumph and without doubt a heady moment for a boy - although an iron-willed boy - of eighteen.

Now, watching his four French-blue Type Thirteens cover the same unforgiving ground and sweep the field, he was completely vindicated and surely knew it. His intuition for riddle and solution, his instinctive definition of how a self-propelled vehicle should operate, had been proved correct without a serious misstep.

Bowing to the tradition of victory, he bestowed the name of the race on the model of car that had conquered all. From that day, the Type Thirteen in its short-wheel-base racing trim was known as the Brescia Bugatti; and

the considerably improved Types 22 and 23, when they appeared, became the popular Brescia Modifiés. It was a most satisfying climax to the first chapter of this engaging autocrat's accomplishments.

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