

¶The wonderful landmark of a great city.

EFFEL TOWER IN PARIS

IT IS now fifty years since Gustave Eiffel, on March 31, 1889, unfurled a gigantic Tricolor atop the daring iron structure that, towering 984 feet above the ground, has become the emblem of Paris. That day was, for the modest and ingenious "magician in iron", an hour of triumph; yet he was not to know how complete was that triumph until years later. He had won a victory over manifold and perplexing problems, and he had shown that derisive critics were wrong; but he had not won Paris to that homage for his creation which only years of living with the Eiffel Tower could inspire. For that day M. Eiffel gave to Paris a colossal landmark to orient the stranger within the gates, a tourist attraction that has been "climbed" by no fewer than 18,000,000 persons, and a symbol of itself—a long enduring monument to the genius that is France and the beauty that is Paris.

The original idea for the tower, strangely enough, came from America, where an iron structure of similar magnitude had been proposed for the Philadelphia Centennial Exposition

of 1876 but never built. Eiffel took up the idea and proposed such a tower to draw visitors to the Paris Exposition of 1889.

The proposal, however, drew criticism and abuse; it was cartooned and caricatured as the Tower of Babel. It was assailed as hideous, useless and humiliating. A petition protesting against it was signed by 300 "passionate lovers and defenders of menaced Parisian beauty." Among the signers were Charles Gounod (who later made the amende honorable), Francois Coppee and Alexandre Dumas fils. "I never saw such a horror," screamed Paul Verlaine; "it is frightful, odious and ignoble." To escape from "this inevitable, torturing nightmare" Guy de Maupassant exiled himself from the capital. Joris K. Huysmans stigmatized it as "a hollow chandelier * * * a dishonor to Paris".

These words seem strange and inexplicable today; they were equally inexplicable to Gustave Eiffel in the Eighteen Eighties. He knew what he was about, and he knew it could be done. He was a brilliant engineer and his fame as a bridge-builder was already world-wide.

He had served as consulting engineer to Japan and Russia, and bridges bearing his name spanned rivers in Portugal and Indo-China, in Bolivia and Hungary. His structures always were daring in construction, but they were also things of strength and beauty. In 1861, when only 29 years old, he had built the remarkable viaduct over the Garonne River at Bordeaux, and in 1879 he had constructed the Garabit Bridge in South-Central France, which Larousse calls his greatest achievement. Eiffel had also designed the intricate iron skeleton for Bartholdi's Statue of Liberty, which stands in New York Harbor.

He was 53 years old when he began work on the Eiffel Tower—two years before actual construction was started, four years before it was finished. The first two years were spent in proving mathematically that such a tower was feasible and in "building" the tower on paper. Under Eiffel's direction forty draftsmen and calculators worked two years on full-size plans for the structure. Every detail was worked out on 5,000 sheets of drawing paper, each 40 by 36 inches. Each of the 15,000 iron plates that went into the finished structure was designed individually; the exact location of each of the 2,500,000 rivets was set down. So accurate was this pre-construc-

tion work that not the slightest alteration was necessary when the metal tower began to take shape.

Construction of the massive foundations was begun on Jan. 22, 1887. For each of the four great pillars which rise 620 feet before merging into one towering shaft a base eighty-six feet square was built. The base foundations were put fifty-one feet underground and were locked to the earth with T-shaped keys far below the bed of the Seine. More than 31,000 cubic meters of soil were excavated and 12,000 cubic meters of masonry were used.

The foundations completed, the strange metallic skeleton began to rise on them on June 30, 1887. Unexpected problems came up: materials, men and workshops had to rise with the tower, and the safety of all had to be constantly assured. But Eiffel, oblivious of criticism, kept to his schedule and finally, two years after the first spadeful of earth had been turned, the tower was completed.

The tower brought Eiffel both honor and wealth. For building it he was made an officer of the French Legion of Honor. As largest stockholder in the Eiffel Tower Company he received large and continuous dividends. The company financed its construction, which cost 7,800,000 francs; but

within two years it had more than paid for itself, and it still pays handsome dividends.

With his growing wealth Eiffel extended his interest in aerodynamics, which had been one of his enthusiasms for years. As a result of his studies he received the Smithsonian Institution's Langley Medal in 1913 for his contribution to aviation. And he helped Marconi and Branley in their wireless experiments. At his own expense he installed the first official radio station in France on top of the tower. The headquarters of the French Wireless Service are still housed there. A kindly, unassuming old gentleman even at the age of 91, he died in 1923.

But the tower he built lives on, and now it rounds out its first half century. Every year or so somebody starts a rumor that it is to be torn down; and every year the rumor is promptly denied, for the Eiffel Tower has come to stay. It is a part of Paris. It has lived in Paris, and France and the whole world change.

Both peace and war have beaten about the base of Eiffel's tower. Fires, floods, scandals and riots have occurred within its shadow. Victory parades, days of mourning and rejoicing

have passed and during its lifetime there have been such times of partisan passion as those of the Dreyfus affair; and there have been moments of national reconciliation and sacrifice.

As a beacon and watchtower it has served meteorology, aviation, radio and television. It has told the time of day to Paris and the universe. It has forecast sunshine and storms to the peasants of Flanders and Gascony, and the Breton fishermen plying their perilous trade on the Newfoundland Banks.

Paris and her people have changed during the fifty years that have flowed past the tower that Eiffel built. And still it is Paris, the city that scorned the tower and reviled it and came to love it, to look up to it and to feel that it is an almost sacred part of the city itself. The average Parisian of today would even echo the words of E. V. Lucas when he said: "How long the Eiffel Tower is to stand I cannot say, but I for one shall feel sorry and bereft when it ceases to domineer over Paris. Whatever its faults, it is great; and when it goes, it will make a strange rent in the sky."—*Bernhard Ragner, condensed from The New York Times Magazine.*

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