

Rolls-Royce Owners' Club of Australia

A Tale of Two Henrys

Gilbert M Ralph, Melbourne, 1999



Henry Ford (1863-1947).



Henry Royce (1863-1933).

Despite the extreme contrast in the nature of the motor cars they built, Henry Royce and Henry Ford had more in common than might at first be expected. Each made a remarkable contribution, not only to motoring, but to the nations they were proud to represent.

Many Rolls-Royce owners have read of Henry Royce, the modest 'mechanic', who introduced such remarkable standards of engineering excellence into the manufacture of internal combustion engines, and the accompanying motor car chassis, as to become an industry leader almost overnight. Within a few years his 40/50 horsepower (hp) model (the Silver Ghost) was acclaimed 'the best car in the world'. Such cars were produced, regardless of cost, to satisfy a very limited market of motoring enthusiasts, many of whom were wealthy aristocrats known to the Hon Charles Rolls with whom Royce had formed an alliance in 1904 to produce 'Rolls- Royce' motor cars.

Henry Ford made no less of a contribution to motoring. Not only did he develop a simple, economical automobile but he pioneered mass production, and other manufacturing practices which enabled him to progressively reduce the cost of his cars. His philosophy was to make a practical motor car at a price everyone could afford. The Australian author-TV personality, Clive James, wrote in his book *Fame in the 20th Century*, that, 'Henry Ford put his name on the century like no one else. He put America on wheels and the whole world followed. He turned the automobile from a privileged carriage into a mass-market consumer utensil. He was hailed as a genius with a vision of the new, infinitely mobile democratic society. The Ford Motor Company was the new America.'

Henry Royce wasn't mentioned among the 250 biographical sketches of the people Clive James believed shaped the 20th Century.

What excited my interest in these two Henrys was the coincidence of advertisements for Ford and Rolls-Royce which appeared on opposite pages of the 1908 Edition of *The Encyclopaedia of Motoring* - a 700-page book with more than 50 fascinating advertisements. The Fords referred to were obviously earlier than the Model T and the Rolls-Royce was most likely the 40/50 hp following its celebrated 14,371 mile run under RAC supervision in 1907 when the running cost was determined at 4½ d per mile.



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Advertisements for Ford (left) and Rolls-Royce motor cars from the 1908 Edition of *The Encyclopaedia of Motoring*. The Fords referred to were obviously earlier than the Model T and the Rolls-Royce was most likely the 40/50 h.p., following its celebrated 14,371 mile run under RAC supervision in 1907 when the running cost was determined at 4½d per mile.

Many aspects in the lives of Henry Royce and Henry Ford had a remarkable similarity. For example they were both born in 1863, worked for railway companies, became electricians, installed electric generators in their homes, were capable machinists, able mechanics, tireless workers, technically dominant in their enterprises, enjoyed successes in motor racing, set world motoring records, were innovative, became pioneers in the use of alloys, developed V8 engines, designed aircraft engines, planned their own factories, shared an interest in farming, contributed to the war effort and late in life received high distinctions.

On the other hand, they were quite different in nature and behaviour. Their personal characteristics were so diverse that, had they met, they would most probably have reached

an instant dislike of each other. Royce had an excellent command of English; Ford was verging on illiterate. Royce was composed and rational, Ford erratic and unpredictable.

Both men had modest beginnings. C W Morton in *A History of Rolls-Royce Motor Cars*, gives a good account of Royce's life. His father was a miller who died young, leaving the family in poor circumstances. Henry's aunt paid for the early years of his apprenticeship at the Great Northern Railway Workshops at Peterborough but when her funds dwindled, he was unable to complete it and drifted to London where he became involved in the relatively new business of electricity. He was receptive and learnt quickly. At the age of 19 he was 'Chief Electrician' to the Lancashire Maxim and Western Electrical Co. Two years later Royce and his friend A E Claremont set up in business as F H Royce & Co in Manchester where, initially, they manufactured simple electrical equipment such as doorbells. In this they were successful beyond the average.

It was while they were working in Manchester that Claremont and Royce married sisters, Edith and Minnie Punt. The Claremont's had no children. Henry was fond of children, but Minnie was terrified of childbirth and as a consequence they had no children. They did however adopt Minnie's orphaned niece, Violet Punt. They were devoted in the early years of their marriage, Minnie being very tolerant of the long hours Henry spent building up his electrical business. In 1893 they moved into Brae Cottage in the fashionable area of Knutsford, south of Manchester.

Henry Ford was born at Dearborn, south of Detroit, to an Irish-born farmer with a large family. As a child he showed a great interest in mechanical things and loved to tinker, especially with clocks and watches. He was disinclined to stay on the farm and in 1880 took a job with the Michigan Car Co, makers of railway rolling stock. He then worked in the machine shop at James Flower & Co but did not complete his apprenticeship. Later he joined Westinghouse Engine Co where he was involved with steam engines. He became interested in electricity and following his marriage to Clara Bryant in 1888, moved to Detroit and worked for Detroit Edison Co where he became Chief Engineer at a salary of \$1,000 per annum. The couple lived in a modest rented house nearby where Henry pursued his interest in mechanics and electricity. He attended night school to make up for his earlier lack of education. Their only child Edsel was born in Detroit in 1893.

F H Royce & Co grew steadily during its first decade and the range of products grew to include electric motors, generators and cranes. Royce was not so much of an inventor as a perfectionist, and it was his careful study of other machines that led to patentable improvements such as his sparkless commutator. During this same period Ford's reputation for innovation at Detroit Edison grew. In 1893 his interest in internal combustion engines was intensified and he began building an engine in the back shed, often working through the night. His friend James Bishop helped him build a light chassis with four cycle wheels, a single seat, tiller steering and an electric bell as warning device. It was an excited Henry who drove the car around the block in July 1896. This was a remarkable achievement considering

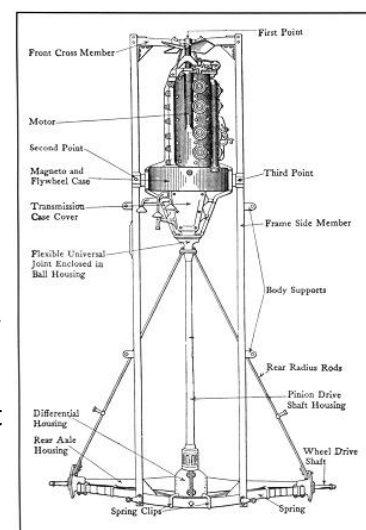
he had probably never driven a horseless carriage let alone owned one. This was six years before Royce acquired his first car.

Thomas Edison, whom Ford met in August 1896 at the Association of Edison Illuminating Companies in New York, praised Ford's inventiveness and observed that his 'car has an advantage over the electric car because it supplies its own power'. Henry was inspired by Edison's encouragement and on his return to Dearborn sold his first car for \$200 and began making another one. 'Crazy Henry', as he became known, was obsessed with the automobile and at the age of 36 he declined promotion at the Edison plant to take up the position of Chief Engineer with the Detroit Automobile Company of which he was a partner. Its first prototype - a delivery wagon - was ready in January 1900.

In England at the turn of the Century there were few motor cars and for the most part they were either German or French. Royce must have looked at these with interest and as a successful manufacturer of electrical equipment it is surprising to me that he did not attempt to build an electric car. Instead, he bought a used two-cylinder Decauville and soon became aware of its numerous shortcomings. For a while he tinkered with it until finally he was so distressed by it that he decided to build a car of his own. He, like Ford, became obsessed and often worked through the night. The engine and chassis were very similar to the Decauville. There was no inventiveness in what he did - just technical improvements, better materials and quality workmanship. Royce's 10 hp twin made its first run on 1 April 1904. By comparison it was quiet and reliable. With its success Royce was into the motor car business.

Royce entered his first 10 hp car in the Automobile Club Sideslip Trials in April 1904 and it performed faultlessly attracting the admiration of Massac Buist, a motoring correspondent and friend of Hon C S Rolls. Subsequently Henry Edmunds introduced Rolls and Royce and by December the name Rolls-Royce was established and a range of cars from a two cylinder 10 hp to a six cylinder 30 hp were on display at the Paris Salon. Rolls, and other drivers, enjoyed a considerable degree of success in the following years in a variety of trials and endurance runs which obviously helped promotion of the marque.

Both Ford and Royce recognised the value of competing in races and reliability trials as a means of establishing their products in the marketplace. Ford entered his first race in October 1901 and came second; mainly because so many other participants withdrew. Two years later his new racer '999' won a major race in the hands of Barney Oldfield, a champion cyclist Ford taught to drive overnight, because his wife Clara refused to let him compete. A few weeks later Ford in a twin of '999' set a world speed record of 60 mph. These successes attracted



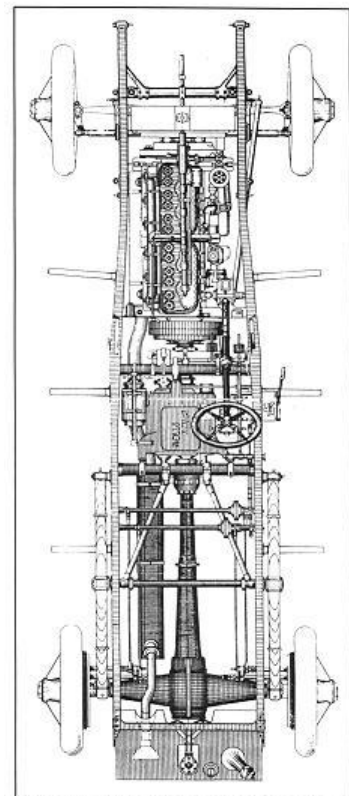
The Ford Model T chassis, less front axle. Note the absence of intermediate crossmembers to brace the chassis rails.

financial support from Alexander Malcolmson which enabled Ford to establish the Ford Motor Co. with himself very much in control. He quickly ordered 650 two-cylinder 8 hp engines and transmissions from a local manufacturing firm, Dodge Bros, and soon after the Ford Model A appeared and sold quickly. About the same time as Rolls-Royce were receiving good publicity following endurance trials such as the 874 mile Lands End to John O'Groats Run, two Ford cars successfully completed the 4100-mile Trans-America Race.

Whilst Royce was keen to develop a six-cylinder engine because of the smoothness of its power strokes the first few were plagued with crankshaft failure. Royce persisted and quite by accident discovered the slipper flywheel which eradicated torsional vibrations common in such engines. Rolls-Royce exhibited a 30 hp six-cylinder Rolls-Royce at the New York Automobile Show in December 1906. Amongst the cars on the Ford stand was a luxury Model K - a six-cylinder Ford which Henry had been obliged to build to satisfy the wishes of his partners. It was the only one he ever built. Later he is reputed to have said, 'A car should have no more cylinders than a cow has teats'. Charles Rolls attended this Show, and it is not known whether he and Ford met. Ford would certainly have been aware that Rolls was there since he was the winner of the under 25 hp class race in a Rolls-Royce 20 hp. The car was sold to Captain Hutton who set a world land speed record for an under 60 hp car over a five-mile course at Ormond Beach in the following year.

The two Henrys did agree on one thing - or at least separately came to the same conclusion at about the same time - and that was to abandon the multiplicity of models and concentrate on one model only. Royce discontinued the 10, 15, 20 and 30 hp models, and the two V8 models, and settled on the newly designed 40/50 hp model which of course later became known as the Silver Ghost. Ford, having utilised all the letters of the alphabet from A to S, settled on his latest creation, the Model T. The Silver Ghost remained in production from 1907 until 1926 during which 7876 were made (and 1703 of these in Springfield, USA). The Model T was available from 1908 until 1927, by which time over *15 million* had been produced. This fact alone prompts the question, 'Which car was the more successful?'

Martin Bennett, Editor of Praeclarum, suggests that if there is any similarity between a Rolls- Royce and T Model Ford it is limited to the truncated triangular shape of the top tanks of their radiators. There were certainly many striking differences. One was complicated, the other simple. R-R were heavy, Fords were light, The Ford chassis consisted of two pressed steel channel sections, which unlike the heavily cross-braced Silver Ghost chassis, had only two cross members - one at the front



The Rolls-Royce Silver Ghost chassis is the very antithesis of the light and simple Ford Model T. Note particularly the massive tubular crossmembers.

and one at the rear for the transverse springs. The engine boasted a three-point mounting and the body had six bolts holding it to the flexible chassis.

It is of interest that Henry Ford once owned a Rolls-Royce. I have seen no evidence that Royce owned a Ford. Fasal and Goodman in *The Edwardian Rolls-Royce* record that a Silver Ghost, Chassis No 1972, with a Lookers Ltd of Manchester Torpedo Tourer, was sold to the Ford Motor Company (England) Ltd in 1912 and that it later passed to Henry Ford of Detroit, USA. Collier and Horowitz in their book *The Fords - An American Epic*, describe how Henry, his wife Clara and son Edsel went to England in 1912 where Henry had discussions with Sir Percival Perry about forming an English company. Presumably the Rolls-Royce was bought after the English subsidiary was established and it was shipped to USA later. Whilst in England on this occasion the Fords visited Ireland where they saw Henry's father's birthplace. It was described as 'a crumbling structure with a caved-in roof and two barren rooms'. Henry had a very humble Irish ancestry.

The English subsidiary prospered and became the avenue through which Ford established his various European subsidiaries. In England they had plants at Dagenham, near London, and Trafford Park, near Manchester, in the vicinity of the Royce Ltd factory. The Trafford Park factory was an integrated facility where the raw materials, such as coal and iron ore, came in at one end and completed motor cars drove out the other end.

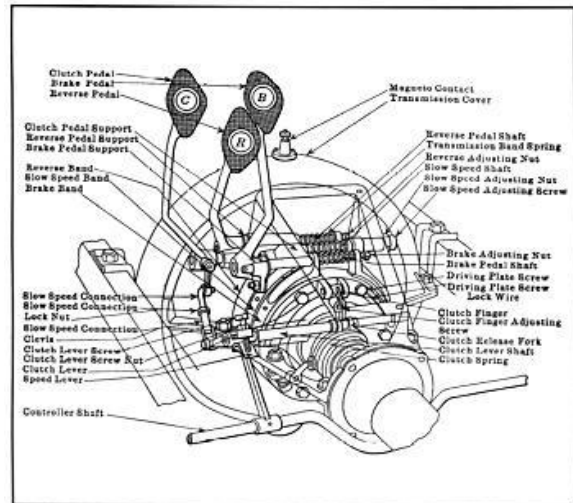
During World War I both Rolls-Royce and Ford redirected their energies to the war effort. Many Silver Ghosts were converted and saw service as Staff cars, Ambulances and Light Armoured Cars. They were fast and reliable. Model T Fords were also used on the battlefields of Europe. They proved as durable in the rough slushy conditions on the Western Front as they had on the farms in USA.

Both Henrys were among the first to utilise alloys and the spindly looking axles, springs, crankshafts and connection rods on T Models owed their incredible strength to vanadium steels which Ford pioneered. Royce was also alert to the benefits of alloying, particularly in the case of aluminium and he led the world in the use of aluminium alloys in aircraft engines. By 1946 R-R held over sixty-five patents for such alloys, many of which were being made under licence around the world.

By the mid 20's the T Model was obsolete and rapidly losing market share to Chevrolet and Dodge. Henry was reluctant to change, and it was his stubbornness that nearly brought the company down. (Henry had complete control of the company since 1912 when he had bought out the minority shareholders. In 1926 he was the richest man in USA.) Finally, when sales halved, he gave in, and threw all his energy into designing a new, more conventional car. Like Royce, Ford worked remotely from the Plant during this period with several capable draftsmen, notably Lawrence Sheldrick, who had been involved with a doomed X-8 Henry once built. The Ford plant was closed, re-equipped and within eight months the new Model A was released with great fanfare and Ford's popularity recovered. At least when the T

Model was abandoned it was replaced by a completely new model. The successor to the Silver Ghost - the New Phantom - was essentially a new ohv engine in the old chassis.

The engineering philosophies and practices of the two Henrys were markedly different, even though the marketing departments of each of the companies would have you believe that their products were designed by capable engineers, made from the best materials, fashioned to the most exacting standards to provide years of reliable, economical, comfortable motoring. In reality their cars were at the opposite ends of the scale. A Ford was cheap to buy, economical to operate but unreliable, noisy, poorly made, frustrating to drive, rough to ride in and extremely common.

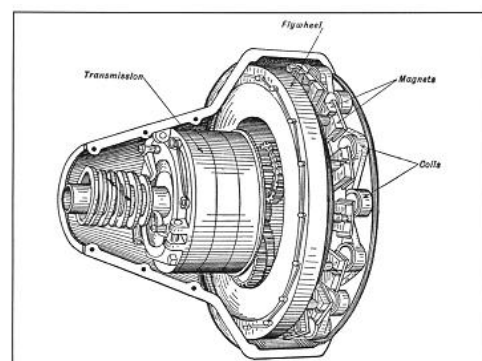


Above: the Ford Model T planetary transmission showing the clutch, reverse and brake pedals. The clutch pedal also engaged low gear.

A Rolls-Royce on the other hand was expensive, costly to maintain but reliable, silent, well made, easy to drive, smooth to ride in and rare. In terms of their relative longevity, I would guess that whilst there may be tens of thousands of T Models surviving in collectors hands the survival rate of Silver Ghosts would be significantly higher.

Next time you see a T Model compare its rugged simplicity. The two halves of the differential housing on a T are held together by seven bolts. On a Ghost there are twenty. Each axle housing is attached to the differential housing by twelve rivets on a Ford. On a Ghost there are twenty-four bolts. The Ford has no water pump, no oil pump, no petrol pump, no starter motor, no belt or gear driven generator or magneto, no governor, no gear change lever, no shock absorbers, no speedometer - there's practically nothing to go wrong!

Henry's T Model had far more original features than any Royce product. Victor Page, in his comprehensive 1918 manual, *The Model T Ford Car*, mentions a 'very ingenious and practical dynamo' which was 'used on the Ford car only'. The coils were stationary and the sixteen V shaped permanent magnets attached to the flywheel not only provided the magnetic field but also contributed to the weight of the flywheel and acted as an oil 'pump' by lifting oil from the common engine-gearbox sump and tossing it into a funnel from which it drained to the timing gears at the front of the engine. Another unique feature was the pedal operated system of planetary gears for low and reverse. Modern automatic transmissions are based on the same technology. Royce was less innovative and tended to



The Ford Model T magneto, built into the flywheel, and the ingenious planetary transmission.

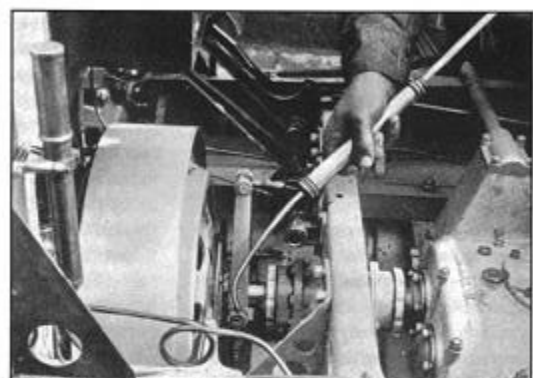
adopt other makers' ideas and improve on them, such as with the servo brake system built under licence from Hispano Suiza.

Whilst Rolls-Royce enjoyed a reputation for silence and reliability, T Models were characteristically noisy and far less reliable. They were called the 'Tin Lizzie' because they were tiny. Parts frequently worked loose and fell off due to excessive vibration. The magnetos were troublesome, and the transmission bands wore rapidly, especially when drivers resorted to pressing the reverse pedal when the foot brake proved ineffective. It was not uncommon to see early Model T Fords reversing up steep hills because the gravity feed petrol tank was lower than the carburettor when going forward. The many jokes and cartoons about Fords were based on their numerous shortcomings. For example, 'What does the Model T use for shock absorbers?' Answer, 'The passengers'.

Rolls-Royce on the other hand gained an enviable reputation for quality and the name came into general usage to define a whole range of products intimating that they were the best that money could buy. Rolls-Royce have recently endeavoured to put an end to that practice. Some commentators say it was not the company that made the claim that the Rolls-Royce was 'The Best Car in the World', but a motoring journalist when describing his impressions of the 40/50 hp model soon after its release.

Intentionally avoiding the six-cylinder engine Ford's next great advance was to popularise the V8. This had none of the sophistication of Royce's Legalimit V8 engine of thirty years before. It was, however, the car that restored Ford to first place in the world market. Both Ford and Royce bought into competitor companies, but for quite different reasons. Ford acquired Lincoln in 1922 to satisfy his son Edsel's desire to become involved with the luxury car market. Royce bought Bentley Motors in 1931 from the Receiver partly to eliminate a serious challenge to its own supremacy - the Bentley 8.

Both Henrys became involved in aircraft engine design and manufacture - Royce during WW I when in a prompt response to the nation's need he designed the V12 Eagle aero engine and had it on test in less than six months. Edsel Ford became interested in flying during the 1920s especially after he flew with Charles Lindbergh in the Spirit of St Louis. Ford's most famous aircraft was the Trimotor one of which was the first aircraft to fly over the South Pole. Henry Ford even investigated the practicability of using a T Model engine in an aircraft in the hope of achieving in the air what he had done on the road. When this proved a failure Henry ordered Edsel to withdraw from the aircraft business.



The Rolls-Royce Silver Ghost transmission was by contrast relatively conventional though massively built. The conventional clutch, brake and accelerator pedals are partially hidden by the trembler coil box at top left. The chauffeur is oiling the clutch mechanism. (From the 1909 40/50 h.p. Handbook.)

The two Henrys were honoured by different nations for quite different things. Royce was created Baronet of Seaton in Rutlandshire in June 1930 for his important work on aero engine development and the successful winning of the Schnieder Trophy for Great Britain in 1929. Ford, on the other hand, received no official recognition in the country of his birth but from a foreign country. He was well known for his anti-British sentiments and for his admiration for the thrifty and technologically adept Germans. On his 75th birthday Ford was awarded the highest honour which Germany bestows on a non-national, the Supreme Order of the German Eagle in recognition of his contribution to mass production. That was a year before the Second World War began. In addition to being anti-British, Ford was anti-Jewish.

During World War II, when Britain was desperate for more fighter aircraft, the Prime Minister, Winston Churchill, asked the US president, Franklin Roosevelt, for assistance in manufacturing Rolls-Royce Merlin engines. Roosevelt contacted Edsel Ford, who was then President of Ford Motor Company, and Edsel agreed to make the engines to R-R specifications. The Ford company began immediately to set up a production facility when along came Henry to enquire what was taking place. When he was told, he flew into a rage declaring how he hated the British in general and Churchill in particular and that the Ford Motor Company would not be a party to it. When told the President had promised to help Churchill, Henry declared that was the President's problem. An embarrassed Edsel reported back to the Government and Packard took over the contract. I wonder how Henry reacted when he learned that Ford in England were compelled by Churchill's wartime government to make Rolls-Royce Merlin engines at its Trafford Park Works?

Both Royce and Ford were said to be very capable tradesmen - indeed Royce described himself as a 'mechanic'. Massac Buist, the noted motoring correspondent in his book, *Rolls-Royce Memories*, describes how, 'With his own hands Mr Royce can do anything on any machine that any employee in the Works to-day can undertake'. When he found an inferior casting, Royce is said to have asked for a sledgehammer with which he smashed the faulty work. Ford, who was also a skilled tradesman, had an equally quick response on spying a faulty workmanship. Once when visiting the pattern shop, he espied some faulty work. He invited the patternmaker to pick up one of the offending pieces, and he took the other, and he challenged the workman to throwing competition - and out the nearby window went the inferior pieces.

The two Henrys were both tall and energetic. They were work-a-holics. Over-work undoubtedly contributed to Royce's deterioration in health. With Ford he is more likely to have contributed to other peoples' ill health the way he treated them, especially his son Edsel who suffered dreadfully from stomach ulcers and died prematurely at the age of 49 never to succeed to the position he aspired. Henry was devastated by the loss and since there was no succession plan, he returned to take over the running of the day-to-day affairs of the company with disastrous results. Henry worked through a few old cronies who, so frustrated the few capable managers that remained that many of them resigned. Henry Ford

It took years to establish his authority within the company. There was no such trouble within Rolls-Royce where there was a much less autocratic management.

As a matter of interest Henry Ford's grandson, Henry II, did not share his namesake's dislike of the English. He and his second wife Cristina did have lunch with Queen Elizabeth II and Lord Mountbatten at Windsor Castle, and he later bought a house in Henley-on-Thames. It was Henry II who, in 1948, visited war-torn Europe and tried to buy 51% of Volkswagen. If he had been successful, and other things being equal, can you imagine the reaction of some Rolls-Royce enthusiasts to the current ownership question if faced with a Ford-Volkswagen-BMW-Rolls-Royce structure?

Both our heroes are reputed to have had extramarital relations. Henry Ford is said to have had a love affair with Evangeline Dahlinger. She bore a son, John, whom Henry took a great interest in and generously provided for during his lifetime. Royce, who had initially been very devoted to Minnie, tended to drift apart from her, particularly following his major operation - a colostomy - after which he became increasingly dependent upon his nurse, Ethel Aubin. Donald Bastow in *Henry Royce - mechanic*, remarked that there were 'indications of a close physical relationship' between her and Royce and indeed she was amply provided for in his Will.

Royce died on 22 April 1933, aged 70, was cremated and his ashes placed beneath a bronze bust at the Nightingale Road factory. They were later transferred to Alwalton Church, near his birthplace. At the time of his death, he was working on the design of the Merlin aero engine. Ford also died in April, but in 1949, by which time he had become even more erratic and eccentric. Over 100,000 people passed by his coffin as it lay in state in the Henry Ford Museum at Dearborn near where he was buried. For a man who once declared, 'History is bunk', it may surprise some that Henry Ford went on to establish one of the world's outstanding museums at Greenfield Village, Dearborn.



Henry Ford (1863-1947).

There is obviously a great deal more that could be written in this *Tale of two Henrys*. It would be inappropriate for me to suggest which of the two left the greater legacy to the motoring world. Perhaps the solution for an enthusiast with such a dilemma would be to have one of each make in his garage as a tribute to the two Henrys who, I believe, have both made very significant contributions to world transportation.



Henry Royce (1863-1933).