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CAR DESIGN IN THE 1950'S

THE REASONS FOR THE CONTRAST IN BRITISH AND AMERICAN CAR DESIGN.

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BY
CORMAC SHERRY

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PREFACE

The car is a phenomenon among mass produced objects. Stationary, it remains an inanimate object, something to be looked at and admired. On the move the car becomes something else. It takes on a spirit and a character of its own. The driver becomes part of the machine and the machine an extension of the drivers whole personality. The car evokes many strange emotions in man.

At no time in the cars history has this potential for spirit and character been developed so strongly as with American cars designed in the fifteen years after the second world war. In stark contrast, all the emotional play present in the American car, seems to be absent from their British counterparts, designed in the same period. In this thesis, I intend to investigate the reasons for the divergence in approach to car design which occured in the fifties. I hope to achieve this by looking at the designers, their role, and how the attitudes of the market influenced their designs.

CHAPTER 1

The Historical Context

With the defeat of Germany in June and Japan in August 1945, came the signal to all industries around the world to start the process of re-building. To many industries, 1945 could be looked back upon as a new beginning. With the car industry, this is not wholly the case. We can see that many of the developments of the next decade had their roots in the two decades before the war.

By the beginning of the war in 1939, the car had reached what can be considered the third stage in the history of its evolution. The car or the horse-less carriage had its first successful journey in the 1880's (Historians cannot agree on the date or place). Up until 1909, the car was considered very much a novelty and was owned only by the affluent in both America and Europe. In the 1900's, Henry Ford saw the potential and the need for a car for everyman. With the introduction of the model T (Fords own brain-child), came the second stage in the cars development. Fords aim and the aim of the car industry world wide for the next fifteen years, was to produce cars as cheaply and efficiently as possible.

The success of this policy depended to a great extent on the consumer wanting only the basic product. 1923 marked the high point for the model T. The car cost only $290 and demand had never been higher.

Slowly, however, the market changed. By the late 1920's, it had changed from a sellers to a buyers market, as demand dropped due to market saturation. The priorities of the manufacturers had to be re-thought. It became obvious that purely functional cars (like the model-T) were not alone what the public wanted. A milestone was reached when in 1926 for the first time ever, sales of General Motors cars manufactured according to these re-thought priorities, were greater than that of Ford. The new approach (and what can be considered the third stage) was to cater for the consumers desire as well as his needs.

The growth of the industry in Britain followed much the same lines of development in the early decades as that of America. American companies were quick to develop ties with the British market. Ford set up a manufacturing plant to mass produce the model T in 1914 in Manchester and general Motors bought Vauxhall in 1925. The big three home based manufacturers of the period were Austin, Morris and Standard.

Other manufacturers of note catering for particular niche were Rolls Royce, SS Company, Rover and Alvis.

Ford had been the leading manufacturer of cars in Britain up until 1924. They lost this position as a direct result of the new taxation system introduced in 1921. It was calculated from the bore size of the power unit. Model - T owners were required to pay £22 a year to tax their cars while owners of the best selling car of 1924, The Morris Cowely, paid only £12.

Both British and American car production fell as a result of the economic crisis in the early years of the 1930's. In 1932, however, Britain became Europes premier car manufacturer when their total car production passed that of France. In Britain, as in America, because of the depression in the 1930's, many of the smaller manufacturers went out of business or were taken over by larger organisations. The Morris group acquired Woisely and Riley making it by far the strongest car manufacturer in Britain before the war.

While the companies in both countries continued to develop in the same way, two fundamental differences in the nature of the British market, compared to the American market, were making themselves apparent.

Firstly, Britains volume sales were only a fraction of those of America and consequently manufacturing was based more on batch production systems rather than the assembly line and mass production techniques which had been introduced by Henry Ford in 1909, in America. Secondly, the luxury and performance segment of the market, was much stronger in Britain than America, and had a much more notable influence on the development of the car in Britain as a result.

In America by the late 1920's, the character of the car industry had already been well established. All the big manufacturers - General Motors, Ford and Chrysler had cars aimed at every section of the market. General Motors who had lagged behind Ford in the first years of the decade, became America's premier car manufacturer in 1926, a position they were never to relinquish.

Under Alfred P. Sloan Jr., General Motors was probably the car manufacturer most aware of the need for a systematic approach to styling. In 1927 the art and colour section was created as a separate department in General Motors under the control of Harley J. Earl, an issue dealt with in a later chapter.

These activities at general motors did not escape the attention of other manufacturers and soon Ford and Chrysler followed suit. Chrysler set up its styling department, also called the art and colour section, a year later. Although Ford waited until after the war to set up a specific department, they developed the policy of 'design refinement' under the control of Edsel Ford, Henry Fords son.

The depression hit hard in America as in Britain and many of the smaller manufacturers went out of business or got 'swollowed up', the net result being that the big three got bigger. The market for luxury cars also suffered and many manufacturers such as Dusenberg and Pierce-Arrow either went out of business or reverted to the production of less expensive cars.

Streamlining, burn out of the depression and the emergence of the industrial designer was the main influence on car styling in the thirties. Streamlining stemmed from scientific research into aerodynamics and among the first products on which it was used were aeroplanes. The streamlined cars provides for us the first example of where car design has been directly influenced by aviation. The aeroplane by the mid thirties had taken hold of popular imagination in America. The new planes symbolised with their speed and seemingly unlimiting ability to go where they pleased, the ease with which the people wished they could escape the depression.

Streamlining soon became applied to all sorts of products purely for its symbolic value. The car was no exception, although aerodynamics could be, and was applied to cars to increase fuel efficiency and aid stability. The management of car manufacturers believed the contribution of streamlining was limited only to the area of styling. This belief stemmed from the growing opinion in Detroit, that the appearance of the car was more important than any advance in the engineering.This policy had the effect of relegating the position of the engineer from the role of innovator to the position where it was his job to solve the problem created by the stylists.

As the shadows of the depression were beginning to lift, war broke out in Europe in September 1939 and car production in Britain was forced to stop for the next six years. America entered the war in 1941 and all the car plants were converted to the war effort. Planes, tanks and all classes of weapons would be manufactured in place of Cadillacs Dodges, Fords and Plymouths. General Motors halted production as the largest manufacturer of cars. They were closely followed by Ford and then Chrysler. Many of the smaller car manufacturers did have the stamina to survive the war, but as with the depression some closed their doors never to open again.

By 1941, General Motors had what amounted to a strangle hold on the market, with their share of slightly more than fifty percent. They showed the importance they placed in styling when they promoted Harley Earl to the new post of director of styling in 1938. Earls policy of planned obselesence had already been introduced and his idea on making cars longer and lower could be seen to be having its influences. The stylists and company directors had long realised that a new body shape could improve sales far more than any change in the engineering specification.

Looking back we can see that many of the chasing pack of manufacturers were looking to General Motors for inspiration rather than inovating themselves. We can also see, that many factors which were to influence the development of the American car in the 1950's, had already been set in motion in the 1930's.

CHAPTER 2

Britain and America - An Economic Contrast

"The fifties were a busy decade that began with jet air travel still a novelty and ended with the space age under way."[1] Britain, a country ruined after the war had managed to re-build both physically and economically. By the end of the 1950's, it was witnessing a consumer boom which had taken America by storm ten years earlier. America had come through the war relatively unscathed and for the first time, in 1945, in nearly twenty years it was not in a depression but prosperous.

The economic climate of both countries directly after the war was very different. In America the majority of the population could at last get their hands on products which, during the war, they could only dream about. In Britain, during the late 40's, people had to be satisfied with their dreams. The implications for all industry especially the car industry were far reaching. American car manufacturers were spurred on by the desires of the people, while in Britain the socialist government of the day told industry that their motivation must be the good of the nation and economic recovery, not economic profit.

The British economy was in total ruin, after the five years of conflict the national reserves of foreign currency were nearly depleted. As a result, industry was told by the government to export. A target of fifty percent exports was placed on the car manufacturers. The government had introduced what they called a purchasing tax at twenty five percent on all luxury products during the war. While it was removed from refrigerators and similar products in autumn 1945, the minister, Hugh Dalton announced that it would remain on cars for the foreseeable future. The tax only applied to cars sold on the British home market. Cars intended for export were not affected at all. The government requirement to export also caused shortages on the home market. This made cars a luxury which many could only dream about and few could buy.

Those that could afford cars, were only slightly better off. When car production got going again in Spring 1946, the manufacturers simply produced their pre-war models because they could not afford the time involved in producing new designs. As a result, all cars up until 1947, were simply touched up versions of 1938 and 1939 models. On top of this, when new designs were available, the manufacturers concentrated on giving these cars up for sale on the overseas market.

The price of cars in Britain had doubled over the course of the war. This came about as a result of increases in material cost and higher point of sale over-heads. With tyres almost unavailable and petrol rationed to approximately the quantity that would drive a car for around 270 miles allocated once a month, we can see that immediate post war motering in Britain was a fairly arduous business. Petrol rationing stayed in force until 1952.

In America on the other hand, the economic situation was not as bad. America had only entered the war in December 1941. Many countries including Britain were heavily in debt to the United States government and in the treaties after the war, along with the other allied forces, they had forced Japan and Germany to pay reparations.

The Americans soon realised that they needed foreign trade to keep their own growing economy buoyant, so by 1948 the Marshal aid package for Europe had been devised and put in action. This economic help made Europe more dependent on America but also gave the world an economic boost which was to everyones advantage. In short, America in the decade after the war was by a long way the strongest economic power in the world.

In the car industry, the mood on either side of the Atlantic was in stark contrast. In America, the mood was one of optimism. The order to recommence production had come in the summer of 1945 when the war in Europe was over and the end of the war in the Pacific looked near at hand. During the war years, all the major manufacturers in America had received hefty government contracts to produce military supplies. They produced everything from guns to aeroplanes and won much praise for their efforts. The war had not damaged any of the factories and in general, in 1945, it was only a matter of re-constructing the production lines. The only major problem faced by the industry was the lack of raw materials. If anything, the power of the big three car manufacturers, General Motors, Ford and Chrysler, had been strengthened rather than diminished as a result of the war.

In Britain, the situation was completely reversed. The Americans talked of reconversion, but the British needed reconstruction and regeneration. The car industry had suffered much physical damage at the hands of the German airforce and had given much of its factory space up to the military, some of which was never returned. For the first number of years after the war, there were no suitable sites available for testing cars in Britain and all testing had to be carried out on the continent, mainly in France.

In some respects this was an advantage because it gave the companies a chance to experience conditions outside the United Kingdom first hand, but it only further emphasizes the problems faced by the car industry. On top of this came the lack of a real market on the home front and the world wide shortages of raw materials.

The only hope for recovery was to export, something British manufacturers had never been very interested in before the war. The prospect of having to sell fifty percent of all their cars overseas left the companies facing many new problems. It was soon realised that cars designed for the twisting, well built English roads, were not suitable for the demands of the new market which were mainly in South Africa, New Zealand and Australia.

The physical differences between America and Britain had an enormous effect on the development of the car in both nations. In Britain, space was a premium in urban life and journies tended to be short hops along twisted lanes and narrow streets. Petrol costs were much higher and motorways in Britain were not in existence until the last years of the fifties. As a result cars in the United Kingdom tended to be smaller, more fuel efficient and have less emphasis on internal comfort than their American cousins.

The governments export requirements in Britain created the situation whereby the car was being designed for a very wide market, with the result that designs tended towards having very general or even anonymous styling. The cars showed a tendency towards design for ease of production and manufacturing methods. They can be described as utility designs.

On the other hand in America, where roads were wider and the country larger, cars tended to be much bigger. There was already a well established network of highways which linked the States by the beginning of the 1950's. Petrol costs were much lower, with petrol of good quality in plentiful supply as rationing ended directly after the war. In a country where people thought nothing of driving a hundred miles for an evenings entertainment, much more attention was payed to the comfort of the interior.

The re-emergence of the motor industry in Britain after the war involved much effort and fierce battle. In America, however, car manufacturers had little more to do than pick up where they had left off. While the British industry had to look for a new direction and market, the market for cars in America was there, waiting to be tapped.

The economic situations had a big influence on the development of the auto-industries and their cars in both countries. The geographical differences between the two countries can also be seen to have played its part.

CHAPTER 3

The Social Influences on Car Design in the Fifties

In America, the attitudes and expectations of the car buying public after the war, did much to influence the styling trends in cars in the following years. However, the desires of their British counterparts played a much less important role in the development of British car industry. This difference stemmed from the need for British manufacturers to deal with a much wider market. The British public did flock to the annual Earls Court motor shows, but the car was very much a luxury for the ten years after 1945.

The majority could only look forward to the day when they could afford a car. The British designers did not ignore the styling factors which had such a strong influence on American cars, simply they were not as convinced of the value of taking the attitudes and expectations of the consumers into account. This came about because, for the first years after the war, the British consumer did not have the resources to pick and choose and had to take what he could get.

As we have already seen, America was in a very strong economic position after the war and the people took full advantage of the fact. The 1950's in America saw the growth of the suburbs, the post-war baby boom, increases in leisure time and prosperity, and the birth of the youth culture in the mid fifties. The post war period also saw the birth of consumerism and a credit boom where Americans were encouraged to buy today and pay tomorrow.

After the shock of world war two and the depression which had preceded it, the confidence of the American people had been severely shaken. Americans had been insecure and conservative in their attitudes and "nothing was more desirable for millions than order"[1] and regulation.

A market research report undertaken for the car industry directly after the war, showed up this cautious attitude. Seventy five per cent of those questioned wanted "four door saloons painted black, light grey or dark blue with ample headroom, large windscreens and side windows"[2]. They wanted "simple cars with a plain exterior finish rather than chromium plate ornamentation".[3] However, these criteria were soon to change, as much as a result of the influences of the advertising industry, as any of the economic factors.

America had suffered no physical damage because of the war and as a result the majority of people were quick to forget the hard times which had passed and were optimistic about the future, while still being sceptical of sudden change. In the late 1940's, America was the showcase of the world. Her citizens were proud of their nation and they identified with the image of their country as 'the land of the free and the home of the brave'. The fifties in America has often been described as the decade of innocence, innocent in the respect that people tended to forget reality and try to live out 'the all American dream'.

The 'ad-men' were quick to realise the value of using 'the American dream' to sell everything including cars. The size of the advertising industry had grown many fold in the years after the war, as a result of the up turn in the economy. The people involved realised that cars to Americans were no longer only a means of transport, they spotted the need to give psychological as well as practical satisfaction and were quick to point the car manufacturers towards catering for the whims and fantasies of car buyers.

Designers and 'ad-men' quickly realised the potential of playing to mans emotions. They realised that the car in post war America "had to be something more than it was before. It had to share in some of the excitment of the jet age and take on the flavour of the fantasy world. Drivers did not want to be reminded of driving a car, they wanted to imagine themselves as pilots instead"[4]. They wanted to imagine the car as being capable of taking them safely to a carefree future and to use it as an escape from the rigours of everyday life.

The post war American was caught consciously or subconsciously by the idea of the car being an extension of the drivers physical strength. They liked to think of the car being able to threaten the world with its power and size and to see it as an object that could, because of its impressive appearance, help its owner to gain a higher social standing. As part of post war society, the car began to mean different things to different people. The young saw its power and speed, the middle aged saw security and the old prosperity. All saw the car as a mark of prestige.

The expectations of American car buyers played an important part in influencing the design and development of the car. During the war it was a widely held opinion by the American people that the car would soon after the war become a thing of the past and would be replaced by personal helicopters. Ideas like these were fueled by many articles in post war magazines and rumours of war time innovations. It was obvious to the car industry that ideas like these were groundless but to the people they were more optimistic dreams of the future. The 1950's was the decade when Americans became obsessed with the idea of extra terestrial life and unidentified flying objects (U.F.O's). The space race got into full swing in the mid years of the decade. Americans were captivated by the image of the pilot and his plane, as a result of its successful involvement in the second world war and the Korean war. From all this interest in the skys, it was not difficult to understand how car designers came to be so strongly influenced by aviation. We see in the Studebaker of 1950 (fig 8), the 'propeller nose' model, with its bonnet shaped like an aeroplane engine cover, detailed with a small propeller-like chrome decoration at the front. Another feature borrowed from aviation were the tail fins inspired by the Lockhead P-38's tail booms, which first appeared on the 1948 Cadillac (fig 1). The P-38 was a world war American persuit plane.

The dawn of the teenage culture towards the mid 50's reinforced many of the images and symbols associated with car styling. The prosperity of the teenagers gave them a remarkable level of freedom. To teenagers, cars were primarily recreational vehicles. With the car, they could escape the world of school and grown ups. The image of a fighter pilot for the driver and the sexy curves of the automobile were readily accepted and the 'back seat' and its size took on a new meaning.

In the 30's and 40's, the city had been the place to live. There was the convenience of public transport and neighbourhood shopping. However, the post war American yearned for "space, fresh air and healthy living".[5] As a result, the 50's saw a mass exodus to the suburbs and with this came new requirements for the car. The shop or the school were no longer a few minutes walk away but rather a couple of miles. The car was needed to go shopping or to take the boys to 'little league'.[5] Sometimes two cars were needed, one for the husband and another for the wife.

The manufacturers began to pay much more attention to the fact that in the fifties, women were having a much greater influence on the make of cars which would grace her driveway. As a result, car interiors were given less harsh appearances and cars like the 1956 Chrysler Convertable, (fig 2) were available in two tone white and pink or even lavender.

In the fifties, America was provided with a new male stereotype, the coporate executive. He was the man "who choose to do everything by the rules, who was content or tried to be content - working within a corporate structure rather than striking out bravely on his own".[6] Working with the vast impersonal enterprises tended to make anonomous people out of the men that worked from nine to five. As a result, many turned to the car as a way of re-asserting their individuality in their free time and as a way to let off steam.

Two major influences on the life style of people in America were the increased availability of colour magazines and the ever growing number of homes which had at least one television. Through these media, the 'ad-men' were able to create all sorts of images. The sky was the limit as far as what he could say and make people believe.

By the beginning of the fifties, purity of line symetry and balance were no longer as important as the symbolic features of the car. The average American wanted cars that expressed something of the age that he lived in and said something about the kind of personality he wanted to show to the world.

The car user or driver had an unusual relationship with the car in that he climbed inside. The driver becomes one with the car and "the appearance of the car becomes his own appearance".[6] Once the driver is inside, the car is no longer a separate object, but rather an extension of the owners personality and physique. The American car designers seems more tuned into this aspect of the car than their British counterparts, especially those involved with General Motors. "General Motors cars were impractical and unbeautiful, but people flocked to buy them because their cars satisfied their emotional need".[7]

General Motors cars such as the 1952 Oldsmobile 98 (fig 3), were designed and made to look heavy. This was achieved by using both size and visual effect. On the Oldsmobile 98, General Motors used large radius curves which look heavier than square corners. In supplying big cars to the market place, they were pandering to the idea that 'biggest was best', a notion held by the vast majority of Americans in the 1950's. The car owners believed that if they had a large strongly built car, they could smash through any accident. However, there is a fundamental flaw in this argument which the car manufacturers never cared to point out. In reality, big cars are much harder to stop and much more difficult to control in emergency situations. Another reason for making them big, lies in the fact that big cars appeal to the buyers sense of value for money and the idea that you have 'got a lot of car for your money'.

In America, the car of the fifties in many ways became fashion accessories rather than consumer products. In a subtle way, the car was designed to pander its owner and flatter his ego. It was the decade, when the advertising people and manufacturers studied the market and gave the people the emotional and psychological satisfaction they wanted.

The American car owner of the fifties needed a sense of security. At the same time, he wanted the car as a symbol of prestige and he wanted to be able to express his individuality. The manufacturers and designers made sure he got what he wanted.

CHAPTER 4

The Role of the Designer

Two of the mafor influences on car design in America in the 1950's were the setting up of the art and colour section of General Motors in 1928 and the rise to prominence within general Motors of Harley J. Earl. Another factor was the birth of industrial design as a profession and the growth in awareness of the American people of such prominent designers as Raymond Lowey. In America, cars tended to be designed from the outside in, while in Britain the process was usually the reverse, inside to out. In Britain, styling was applied to cars when all the technical problems had been resolved and the engineer was the man who made the decisions that counted, not the stylist or the marketing people.

As we have already said, events in the decade before the war had a major influence on the development on the car industry in both Britain and America. One of the most influential events in the case of the American industry was the setting up of the art and colour section in General Motors.

All through the twenties, the popularity of custom built cars had grown. By the middle of the decade the volume manufacturers were beginning to take note. The answer for many was to send more chassis out to have custom made bodies fitted.

Lawrence Fisher, the general manager of Cadillac (part of the General Motors group) decided to try a different approach. He decided to hire a design consultant from the ranks of the custom body trade "in the hope that he [the consultant] could give production Cadillacs the elusive custom built look".[1] The man Fisher choose, was Harly Earl, the director and chief designer of Earl Carriage Works, Los Angeles.

Earl started work with Cadillac in 1926 and his first assignment was to the Cadillac Phaeton project. The car was an immediate success, because it managed to provide custom car features at much less than one would have to pay for the real thing. However, at $2,986, the car could hardly be considered cheap. The average yearly wage for Americans was $3,000 in 1928. There were many motorists who wanted the custom look, but could not afford the price.

For these people, General Motors slotted in a new model whose price was between that of the Cadillac and the Buick "Six" (the mid priced model on the General Motors range). Earl was given the job of styling the new car which was to be called the LaSalle (fig 4). "The LaSalle was the first car built by a major company in which appearance was the principle design goal".[2] When the car was introduced in March 1927, it created a sensation and was an immediate success. It was not unusual in its overall appearance because it was built for conservative taste, but there were many small details which set it apart.

From the success of the LaSalle project, General Motors management saw immediately the benefits of a systematic approach to design. As a result, in the summer of 1927, Earl was asked to head what General Motors referred to as the art and colour section. In the new department, Earl was given a staff of fifty people and responsibility for the styling of all the cars produced under the General Motors name.

Harly Earl through his position in General Motors and his ability as a designer became one of the most influential men in the car industry in America.

In 1939, he was promoted to the newly created position of vice-president of styling, a position he held until he retired in 1958. Earl standing at 6'3" was a giant of a man. He used his strong personality and physical size to terrify his staff. By criticism, recommendation and pointing with his shoes or steel tipped cane, he got things done the way he wanted. It is a strange characteristic of the man, that he rarely put pen to paper to sketch his ideas, in the black, art and colour studio which he nicknamed 'the hatchery'. He arranged each division in cubicles. This was intended both to encourage rivalry between the different divisions and help ensure individual styles for each car.

Earl was a shrewd business man and was very much aware of the value of styling in selling cars. Alfred P. Sloan in his autobiography tells of Earls own approach to design. "My primary purpose for twenty eight years has been to lengthen and lower the American automobile at times in reality, and always at least in appearance. Why? Because my sense of proportion tells me that oblongs are more attractive than squares".

Earl had a great love of drama and theatricals. He made the annual show for the release of new General Motors models, motoramas,as they were known into theatrical spectical with dancing girls and live music. At these shows, he would unveil new 'dream cars' both to highten the sense of excitment and help introduce new styling themes.

Earl quickly realised the nature of the market he was dealing with. He realised that the majority of car buyers were reluctant to except physical change. However, he did realise that the vast majority of Americans saw the car as a status symbol and were willing to accept forms and ideas they did not like, just for the prestige value which came along with having a new car. Earl along with the general manager of General Motors, Alfred Sloan, was responsible for many developments in the approach to car styling, which had such a major influence on the American cars of the fifties. Shortly after his arrival in Cadillac, Earl put forward in a memo to Sloan, his ideas on planned obsolesence or as he referred to 'the dynamic economy'. Basically, Earls idea involved building cars which were not meant to last. They were engineered and styled so as to become "unfashionable and unfunctional so quickly that in a matter of one or two years time, an owner would be obliged to get rid of the car he or she had, and buy a new one".[4]

Out of this memo, was born the idea of the annual model change. It was not fashionable to change the engineering specification radically from year to year, but Earl and his team could provide the American car buying public, with small cosmetic changes to the cars styling.

Around the same time, Earl introduced what became known as 'hand-me-down' styling. This approach involved introducing a particular styling theme to the top range of cars, in the case of General Motors, the Cadillac and then in subsequent years giving other cars going down the price range, the same theme. There were two advantages to this approach. Firstly, the buyers of up market cars were in general, found to be less conservative and more willing to accept change. Secondly, it added much to the prestige value of a car to have some new and distinctive feature on more expensive cars, which helped to distinguish them from cheaper models.

To overcome the essentially conservative nature of the American car buyer, Earl would introduce new styling ideas slowly. Rather than give the car a new image all at once, he would introduce it over a number of years. The 'Tail Fin' is a fine example. First seen on the 1948 Cadillac (fig 1), it grew in steady incroments over the years until it could become no taller in 1957.

Again, rather than knocking the overall height of the car down to its lowest possible level in one go, he did it in stages all through the fifties. With this approach, Earl was able to teach the public what to expect when new models were released.

Another development in the late thirties which increased the power of Earls department over the engineers, was the introduction by General Motors of interchangable body shells. With body shapes looking much the same, it became essential that unique styling characteristics in each model be developed so as to emphasise each cars individuality. This was achieved by giving careful consideration to bumpers, hubcaps, tail lights, paint colour, and to interior and exterior trim.

Chrome had been used all through the history of the motor car to give the car that extra bit of sparkle. Earl realised chromes value in its ability to change the visual appeal of shapes which were virtually identical. He also used it to play to mans fascination for bright shine objects, plus, he realised the worth of the 'light value of chrome', (The fact that it is reflective), as he called it, to enable General Motors cars stand out from other cars.

Most people if they were going to buy a Cadillac, wanted the world to realise it was a Cadillac. It was essential, that the car could be recognised at a distance. When Earl began investigating, he discovered that cars could be recognised by the identifiable bright metal trim on the cars body. Initially, Earl wanted to use copper, but a market survey pointed to the publics desire for chrome, so Earl duly obliged. Earl set his team to work on the problem and they found that if there was a blend or radius on the top edge of a bar, it would nearly always catch the highlight, even on a cloudy day. Basically, the excessive use of chrome which reached its heights in the mid-fifties, stemmed from two factors. Firstly, the need to give cars with virtually identical shapes, individuality, and secondly, chrome could be used to make cars stand out in a crowd and therefore increase its prestige value.

While Earls approach advocated continuous changes, he also realised that cars from year to year, must retain some detail which never changed, so that brand loyalty could be maintained. Earl developed a number of trademarks for General Motors cars, the most famous of which were the Buicks, Ventiports or 'Port Holes', or the Cadillacs 'Tail Fins'.

One of the major inovations on a practical side introduced by Earl in Detroit, was the use of clay to mock up forms. Up until Earls arrival, wood had been used. "The use of clay instead of wood, encouraged Earls stylists and model makers to create flowing complex curves".[5] Concept sketches were translated directly into three dimensional clay forms from which scale drawings were taken, rather than vice versa. This approach had a number of advantages. Firstly, it was much easier to build clay models rather than wooden models and secondly, clay forms were much easier to alter.

Earl was a master in the use of symbolism. Many of his symbols were lifted straight from aviation. Earl was obsessed by aeroplanes and often made "fellow passengers on aeroplanes feel uncomfortable when he tore pages out of In-flight magazines, if they contained pictures of aircraft he liked".[6]

The Tail Fin now considered synonymous, with American cars of the fifties, was one of the first features of world war two aircraft incorporated into Earls designs. In the summer of 1941, when on holiday, Earl visited Selfridge Airforce Base and saw the P-38 manufactured by Lockhead. The radical new design had effectively three fusilages and twin-tail booms.

Earl was inspired by the appearance of the tail booms and after the war, in 1948, they appeared as 'Tail Fins' on the Cadillac. It is ironic in a way that the P-38 had no real influence on future aircraft design when we consider its impact on car design.

Another feature first introduced by Earl, was the wraparound windscreen. The wraparound design first appeared on Earls own personal custom car, the LeSabre (fig 6). The LeSabre took its name from the post war F-86 jet, which had taken Earls fancy. He wanted the windscreen to look like the canopy of the military jet.

The LeSabre was one of many personal or dream cars designed by Earl. He often used the car for his own personal transport, but their main function was to introduce new styling themes to the general public. The LeSabre was Earls first dream car after the war. It was built in 1948 and is generally regarded as the concept car from which the Chevrolet Corvette (fig 7) was developed.

The Corvette introduced in Spring 1954, was the first real attempt by the American car manufacturers to design a sports car in the fifties.

The Corvette was introduced as a direct response to the growing interest in British sports cars, such as Jaguars and Mg's. Turning to these foreign makes, was in some instances sparked off by a rejection of Detroit design, but the main reason people went to the trouble of importing cars was to show the world they could afford them.

The Corvette was a failure with only nine hundred being made in 1954. The simple reason for its failure was the fact that it did not appeal to its targeted market. At less than half the price of an imported sports car, it was too cheap. It had a very unexiting mechanical specification. The car had very poor handling qualities, automatic transmission, a small six valve engine and no form of new mechanical innovation. In general, it was a very unexciting car to drive. The only innovatory aspect of the car was its fibre glass body.

The car was saved from being dropped from the General Motors range, strangely enough, because of Fords introduction of the Thunderbird. The Ford personal/sports car had a years more development than the Corvette, and consequently did not make the same mistakes. General Motors decided to keep the Corvette in their range, both to save face and so that it could act as competition for the Thunderbird.

Though not a financial success, it was not a complete disaster. It did have its fans, those who could not afford it, loved it simply because it dripped of all the symbolism that the average American car buyer wanted, all through the early fifties. The car with a revamped engineering specification which included the new Chevolet V8 engine, (see next chapter) climbed up the sales curve in 1956 and 1957. In 1958, when car sales across the board dropped, it was one of the few models for which sales figures were greater than in previous years.

Raymond Lowey is another figure heavily involved with car design in America in the fifties. Loweys approach was different from that of his compatriot - Earl. He preferred to pay more attention to the influences of European styling and proportion, than using symbolism. This approach was to gain a mixed reception.

Lowey had gained a high reputation as a designer from both the public and manufacturing industry in the 1930's. His training was in engineering, but his career as an industrial designer was born out of the attitudes to design which existed in the early 1930's in America.

One of the major projects undertaken by Lowey in the 1950's with the car industry, was his involvement with Studebaker. In 1951 and 1952, sales of Studebaker cars had fallen dramatically after a high point in 1950, created by the financial success of the 1950 model (fig 8). The management believed that "to put the company back on a sound footing, something special was needed".[7] Lowey obliged by giving the car, what was referred to in all the advertising campaigns, as 'European Flair'.

The two door hard top (fig 9), had a bold lean look which instantly set it apart. At fifty six inches, it was the lowest American production car on the market and it looked even lower, because most of its reduction had been made in the body proper rather than in the top. The body side had a crease sweeping from the front wheel arch into the door. The grille bumpers, hubcaps and other details were simple and tasteful. Gone was the propeller nose with its propeller-like decoration, which had given the 1950 model such a strong link with aviation, as was much of the chrome trim.

The design was highly aclaimed by the critics and the car received awards for design excellence from many independent institutes, including the Museum of Modern Arts, New York. To car manufacturers, such praise is welcome, but a real measure of success is the number of sales. As the month passed, it became clear that the new car was not popular with the car buying public. Studebakers market share continued to drop again, and in 1955, the model was replaced by a much altered version. The final analysis "the Studebaker of 1953, was short on the kind of fantasy element, which made its predecessor [the 1950 model] successful".[8]

Harly Earl was not typical of American designers in the fifties, but he was the man they needed to emulate, if they were going to be successful. Alex Issigonis, the best known and probably most influential British designer in the 1940's and 1950's, was more typical of the British car designer.

Issigonis, like Earl, had his theories on how car design should be approached. He had little time for industrial hierarchies and organisational structures. He liked to work with a small team which could get on with the job in hand, without outside interference. He believed that a designer should never work in response to market researchers or product planning committees.

Issigonis said "a designer has only to make a good car that satisfies him and if he is a practical man, it will satisfy the world."[9] Road behaviour and internal comfort were the criteria to which Issagonis payed most attention. This aspect of his work can be seen in his two greatest achievements, the Morris Minor (fig 10) and Austin/Morris "Mini" (fig 11).

Issigonis began his involvement with Morris in 1936, his particular area of expertise being car suspension. He was given the task of designing the Morris utility car during the war. This car was eventually to become the Morris Minor, the first mock up appearing in 1943 and the car was launched in 1948. Issigonis believed that a designer should work on every aspect of the project and he even designed an engine. The engine was not used because of cost and time considerations, much to his disappointment.

On its release, the car was an immediate success and supply could not keep up with demand. The car was described as 'the fastest slow car around' because of its excellent performance capabilities. For its time, it had a remarkable amount of passenger and luggage space. Its overall shape was simple and clean lined, its proportions pleasing and its visual appeal strong. The car also marks a milestone in engineering terms.

Its road holding and stability were way ahead of any car of the day, besides high performance sports cars. It was one of the first British cars to use independent front suspension and was the first British car to use a load bearing unit body construction. "All his cars have made a strong visual statement, and it would be hard to believe that this has always been purely a by product of seeking functionalism in engineering design."[10] A fine example of where Issigonis used his feel for proportion, came late in the minor project. Even though many of the metal presses had been made, he was not happy with the overall shape. So, late one night, he asked his technicions to cut one of the prototypes in half. He then stood back and asked for the half to be taken apart. The result of the nights work was that the car became four inches wider.

This whole exercise served no purpose other than that of making the car look better. This four inch change resulted in the release date being put back a number of months. It also left the early production Morris with an unusual feature, a four inch gap in the rear bumper (fig 10).

Issigonis's greatest achievement was undoubtedly the 'Mini' (fig 11) launched in 1959. The car had remarkable road holding capabilities, made revolutionary use of ten inch tyres and payed much attention to making maximum use of internal space. All these features had gone through some stage of development during his work on the Morris Minor project.

In the fifties, as we can see, there existed a stark contrast in the roles played by the designers in both countries. In America, automatic stylists took, Earl, and his approach to design as their yard stick. In Britain, on the other hand, the designers payed much more attention to the practical aspects. Designers such as Issigonis, designed cars which satisfied the functional requirement or what they considered to be the functional requirements of the motorist. In many cases, American cars were designed to satisfy the customers real needs, but as the fifties passed, this approach got compromised by the fast 'buck policy' of the large manufacturers beneath layers of symbolism and ornament.

CHAPTER 5

A Contrast in Approach to Engineering Design

The differing social and economic conditions of the day, had a marked efect on the engineering specification of the car in Britain and America. In the fifties, in Britain, the engineer still made the decisions that counted, while in America, the stylist gave the engineer the form in which the car had to be fitted.

In Britain, after the war, the car still had a very strong class appeal and cars in production could be very neatly divided into two sections; performance car and saloons. The saloon cars styling and engineering specification were strongly influenced by the performance cars. In turn, performance cars were influenced by the requirements of car racing. In Europe, adjility and power, rather than straight line performance, were the mark of a good car.

In Britain, petrol was more expensive and possible disposable income was scarce. As a result manufacturers were forced to do 'more with less' which to a great extent encouraged the technology of efficiency and practicality. British designers descovered that if they were to make the body and chassis of a car lighter, they could make the engine small and not loose out on performance. This approach became known as the 'benevolent circle' effect. The Americans on the other hand were content to make cars bigger because that was what people wanted. The extra cost was not an important factor as the people were well able to pay and petrol was cheap.

Before the war, there was a class structure linked to the ownership of American cars. However, largely as a result in developments such as the introduction of interchangeable body shells and more powerful engines, the class lines began to disappear. After the war, in the prosperous economic climate, the American people developed a taste for luxury. Detroit duly obliged, by giving all cars the same sort of glamour, prestige and performance. Gone was the pre-war selling point of practicality and safety, which were still considered major design criteria in Britain.

The world war had brought the capabilities of the combustion engine used in aircrafts, to near their performance limit and with the ending of hostilities, the information became freely available on both sides of the Atlantic. One of the first major influences of the war from a technical stand point, was the introduction of the over head value (O.H.V.) V8 engine in both countries. The engine was first introduced in 1949 in America and then in Britain in 1953.

After the Americans had introduced the over head value V8 system, their engineers seemed satisfied simply to make the engines bigger from year to year. In contrast, British engineers investigated the use of other configerations in an attempt to make their cars more weight and fuel efficient. The American attitude seems to have been 'if its good enough to do this year, make it bigger and it will be good enough for next year'. This attitude can be explained easily. The manufacturers were not interested in trying to use the mechanical specification as a market ploy, they simply realised that the average American car buyer did not understand what was going on under his bonnet. However they did play to the idea held by many Americans, that biggest was best.

The idea 'biggest is best' was also applied to the engine rating measured in break horse power. After the war, car buyers in America began to associate break horse power with prestige value and out of this developed the race by the manufacturers to build bigger engines with more and more power. By the mid fifties, the manufacturers simply started the break horse power, when advertising cars, without any mention of the performance to go along with it. In the fifties, American car buyers witnessed a power race which came about through intense enlargement of the over head value V8. By 1955, the over head value V8 was the standard American car engine.

Another feature which came to prominence in America in the fifties which did not have similar success in Britain, was the use of automatic transmission. Automatic transmission was introduced by Buick in 1939 and by 1949 was an option on all the cars manufactured by the big three in Detroit, Ford, General Motors and Chrysler.

There are a number of reasons why automatic transmission was accepted in America and rejected in Britain. In America, the car needed much more handling and women in particular liked the idea of concentration on what was happening around them, rather than having to try to control the car using a stick shift. American designers were much more tuned into the need to sell cars to women than their British counter parts.

Secondly, automatic transmission systems were much more expensive and much less fuel efficient, something which placed an immediate restriction on its use in Britain. In Britain, where people were interested in the pleasure which could be taken from driving, the idea of letting the car do most of the work for itself was sneered at. Finally, the highway system in America suited the principle of automatic transmission much better than the small short twisting roads in Britain of the 1950's.

In America, the engineer played a subservient role, with the result that engineering of the cars was not given sufficient attention. As a result of this, American cars tended to be wasteful and in many cases dangerous. Many of the larger manufacturers were unhappy with the state of affairs, but were unwilling to change a winning formula.

In Britain, what the car market needed were solutions to engineering problems such as efficiency and practicality, rather than styling. Both America and Britain were similar in that their engineers and stylists were strongly influenced by the economic environment and as the economic situations were so different, so too were the cars.

CONCLUSION

After World War Two, the American car industry and notable people such as Harly J. Earl, were well aware of the colossal emotional power of the automobile. In the 1950's, in response to the social economic and geographical requirements of the day, American manufacturers provided some of the best built and most attractive cars the world has ever seen. However, as the engineer gave ground to market strategists, the result was that American cars became tail-fined, chromed up monsters.

It is unfortunate that these chromed up monsters are the cars, which have become steriotypes for the 1950 car in America and not their more attractive predecessors. As the fifties passed, the Detroit manufacturers became so obsessed with what was happening in Detroit, that it stopped looking to the rest of the world for influence and new ideas. As a result, in its attempt to plicate a market with an underlying conservative nature, it left itself with no place to go in terms of styling and engineering. Eventually, the dream cars of a generation born out of a healthy economic environment were to die as a result of a period of economic insecurity and the consequent jolt back to reality which hit America in the late fifties.

In Britain, the same psychological and emotional stimuli were present, but the poorer economic conditions proved to be a much stronger influence in directing the development of the car. The British designers tended to be anonymous. Their styling was in general bland inconspicuous and in no way adventurous. They attempted to satisfy everybody and offend nobody. The designers ignored the potential of using the emotional approach in an attempt to satisfy the users 'real needs' and 'real requirements' as well as their own need for ease of production and quality.

In short, the contrasting economic and social environment which existed in Britain and America, plus the differences in geographical make up, all played their part in causing the divergence in approach to car design which occurred in the immediate post war period.

FIG 1 The 1948 Cadillac designed by Harly Earl. The Cadillac was the first American car to incorporate 'Tail Fins'.

FIG 2 1956 Chrysler with pink and white colour scheme. Car manufacturers were well aware of the value of selling cars to women.

FIG 3 1952 Oldsmobile designed and made to look heavy.

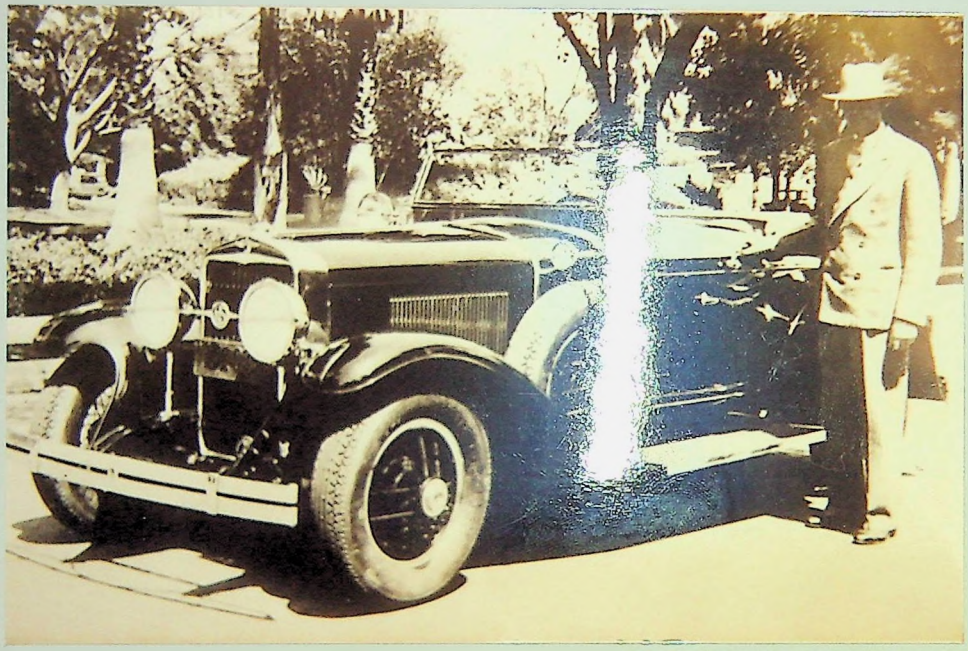

FIG 4 1928 LaSalle. The first production car where appearance was the main design consideration; picture also shows Harly Earl.

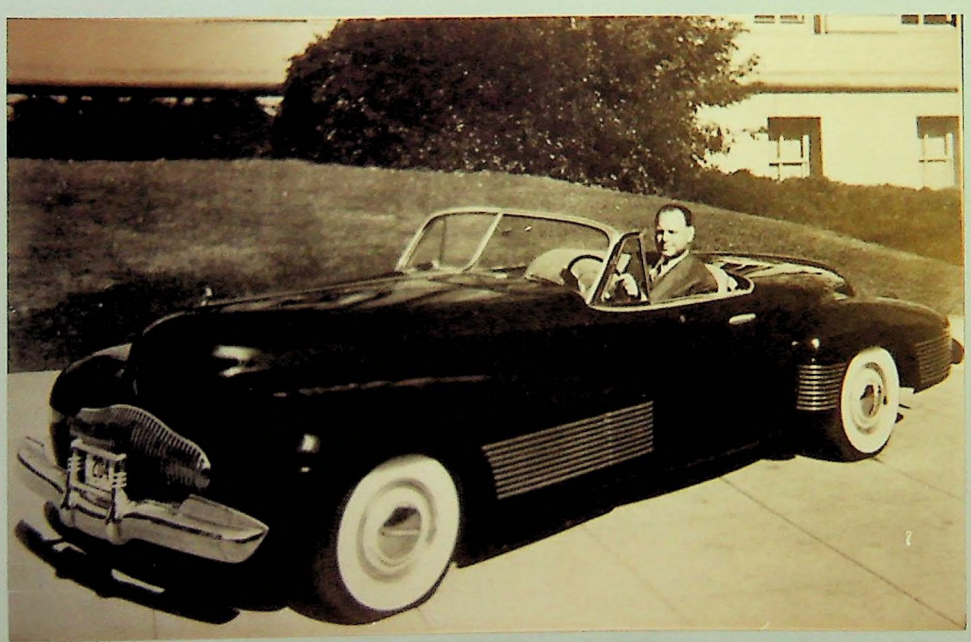

FIG 5 Harly Earl, with Y - Job 1938. This car is considered to be the for-runner for a number of General Motors design themes.

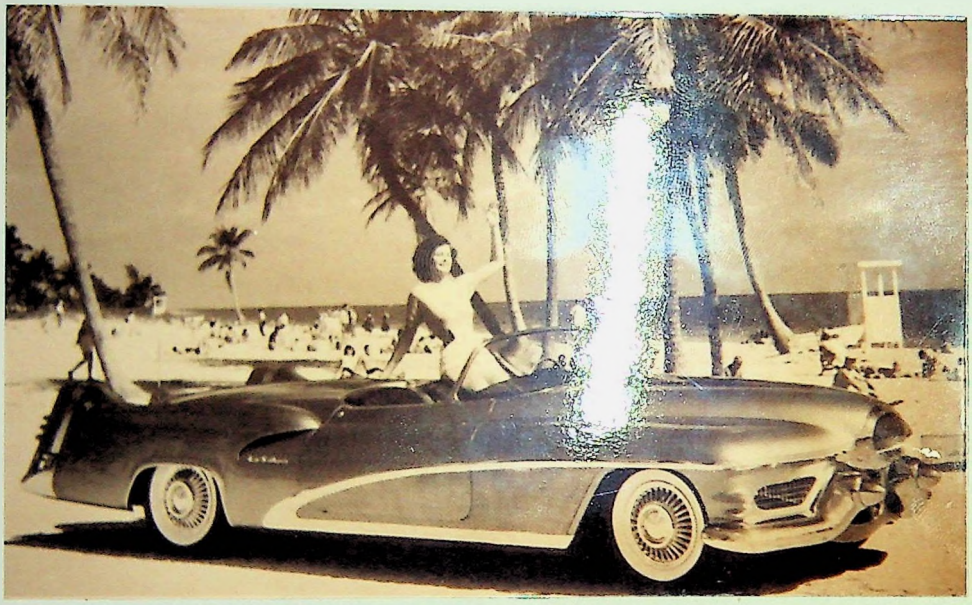

FIG 6 1948 LeSabre. Heavily influenced by the military air-craft of the same name. It was the dream car which inspired the Corvette.

FIG 7 1954 Grevolet Corvette. The closest American manufacturers came to producing a sports car.

FIG 8 1950 Studebaker, Dripping in the kind of fantasy element, the American car buyers in the fifties loved.

FIG 9 1955 Studebaker designed by Raymond Lowey - praised for its styling but not a commercial success.

FIG 10 1948 Morris Minor designed by Alex Issigonis. At a late stage in development, four inches was added to its width.

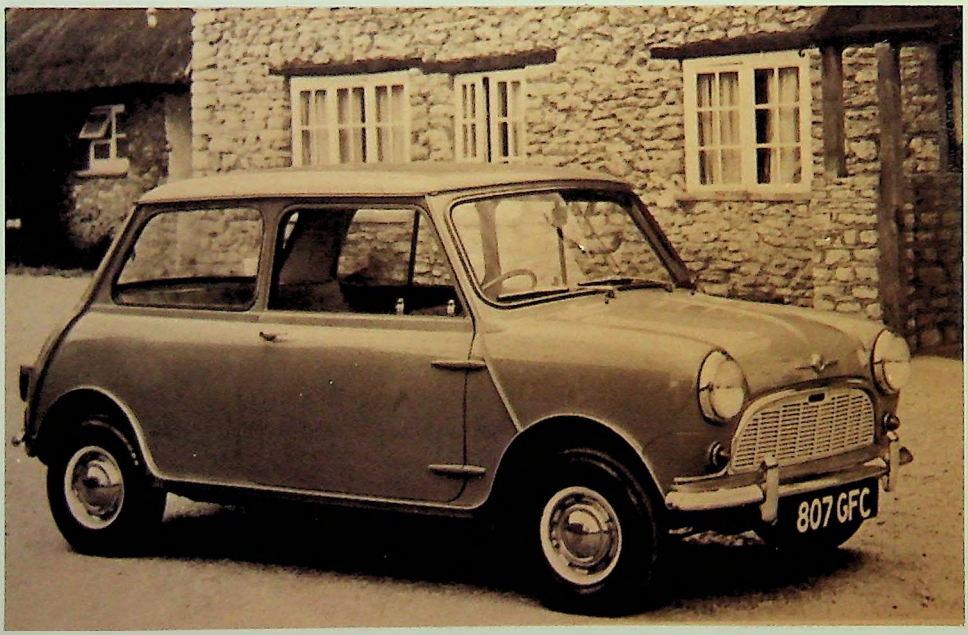

FIG 11 1959 Morris Mini designed by Issigonis. The car was designed around the space needed to seat four people comfortably.

NOTES

CHAPTER 2

1. Barry, D., Street Dreams, London: Academy Editions, 1988, page 76.

CHAPTER 3

1. Horn, R., Fifties Style, New York: Columbus Books, 1985, page 133.

2. Burgess Wise, D., The Motor Car, New York: G. P. Pontnam's Sons, 1977, page 267.

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5. DeWaard, J., Fins and Chrome. London: Bison Books Ltd, 1982, page 64.

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1. Wilson, P., page 122.

2. Ibid, page 123.

3. Sloan, A. P., My Years with General Motors. New York: Garden City, page 286.

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5. Bayley, S., Sex Drink and Fast Cars, London: Faber and Faber, 1986, page 12.

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