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 from 1 to 8 p.m.  
 Refreshment Served Everybody Welcome

**About the Shape of Cars of the Future**

Expert Forecasts Some Novel Features Likely to be in Cars of Future.

(By L. H. Pomeroy, of the Daimler Co.)  
 Those of us who are intimately concerned with the problems and future development of motor-cars know more or less the probable course of events. What we do not know is when they will materialize.

In this spirit I submit my guess at the future, based on what is happening now in engineering circles and places where they argue.

All engineers are familiar with the sales dictum that we must give the public what they want. This sounds all right until it is realized that the public have never wanted anything beyond the elements until they have once had it, and not always then.

We therefore have to think of future developments from the viewpoint of what we think the public are likely to want and to keep on wanting.

**Streamlining and Other Features**  
 With all its faults the modern car is a remarkably successful machine, but a census of opinions from users would probably be pretty unanimous in welcoming increases in performance, economy, comfort, silence and safety. I say nothing of reduced cost, except that a car differs from no other object of human consumption in that by making it worse it can be made cheaper, and that by making it more expensive it can be made better.

These five items—performance, economy, comfort, silence and safety, are closely inter-related, and to a large extent mutually inconsistent. They exist to a high degree in modern cars but not in any one car.

The problem is whether a sharp break away from existing orthodox construction will enable a marked advance to be made in the combined and final result. Maximum power with minimum weight are the factors in economy; maximum passenger accommodation with reasonable over-all dimensions, the elimination of mechanical tire and wind noises, and last but not least, ease of handling, perfect brakes and steering, and sufficient robustness to emerge from a collision with something left, all come into the picture.

In an article of this length it is not possible even to skim the surface of the contentions points which arise, but one item at least deserves mention. It is that of the streamlined body, not as now popularly regarded, but given greatly superior aerodynamic qualities by being mounted on a chassis turned end to end, thus bringing the engine to the rear.

This idea, simple in itself, implies enough work to keep engineers busy for a long time to come, since many related problems have to be solved. Rear-engined cars present the dilemma of either increasing the unsprung weight of the rear axle by mounting the engine on it, with a host of associated difficulties in operating an engine in a state of rapid vertical alternating movements, or of carrying the engine on the chassis and transmitting its power to the rear wheels by short universally jointed axle shafts.

The difficulties arising with universal joints working through large angles are well known. Yet passenger comfort demands large axle movements to use low rated springs, which make these difficulties somewhat formidable.

It is highly possible, in fact almost certain, that rear-engined cars will not be suitable for the average user until roads are much smoother and more uniform than now.

There seems no way, however, of taking advantage of the possibilities of streamlining other than by the rear-engine construction. Further, it will be necessary to resign the whole ex-

terior to reduce parasitic resistance, just as it has been necessary to do so in the case of aeroplanes.

At the same time the advantages to be gained are so enormous as to make the effort worth while. Very seldom, indeed, in any accepted construction can advantages in the order of 30 per cent. in performance and economy be effected by a studied redistribution of its components.

Even if, and when, it is an accomplished fact, we shall experience the reluctance of the public to purchase a new form of car.

From the early days of the "torpedo" body to the modern concave rear panel and built-in luggage compartment definite sales resistance has been experienced from 90 per cent. of the public. The remaining 10 per cent. have jibed at motor manufacturers for being slow-witted and out-of-date. Therefore good, as always, has to be done by stealth.

Not the least modern effort of car designers to improve comfort and effectiveness has been that of independent front springs. It is not usually understood that the chief factor in ensuring passenger comfort is that the softness of the front springs shall be equal to that of the rear.

The first difficulty that arises is that with conventional suspension soft front springs result in very defective steering, due to lack of control of the geometry of the front axle. The independents have, of necessity to provide this, and can thus offer soft front springs with the attendant improvement in suspension comfort. They also tackle the not unimportant matter of "road fight" on the steering wheel.

**Elimination of Road Shock**  
 On the other hand, the many systems—"wishbone," transverse, Lancia, Dubonnet, Girling, and so on—indicate a lack of unanimity which justifies a non-committal attitude as to the final solution.

Independent suspension may be regarded as of the rather than the future, but it still has a long way to go. While it is doing it there are the alternatives of rubber and pneumatic suspension.

Eliminating the road shocks which occur some five or six times a second from masses weighing one or two hundred weights, and ensuring that "my lady" in the rear seat shall not know about it, is no mean problem.

From the body and chassis we may proceed to what is going on in the prime mover—the engine itself.

What is wanted is an increase of power in the middle speed range. In this connection the supercharger will come into its own. In the past supercharging has been regarded as a means of increasing maximum horsepower. This has its limitations, for the maximum horsepower is limited by bearing pressures and by heat flow through exhaust valves and pistons.

On the other hand, if an engine will develop safely, say, 30 h.p. per litre at 4,000 r.p.m., it will develop this safely in so far as heat flow and bearings are concerned at 2,000 r.p.m. Modern supercharger developments are oriented from this viewpoint.

Thus, by the application of a device weighing, say, 10 per cent. of the engine weight and about two per cent. of the car weight, it is possible to increase acceleration by some 50 per cent.

**Troubles of Cylinder Wear**  
 The future car will also make the most of the research work that is now going on all over the world in respect of the important details which make all the difference between satisfaction and annoyance.

Incidentally, our own Institute of Automobile Engineers' Research Department is doing work that compares favourably with that going on in any other country. It is directed by a committee of the representatives of leading manufacturers in this country who are not too proud to admit their troubles and to seek means for remedying them.

Possibly of first importance has been the research committee's study of the causes of cylinder wear, which in the main has been shown to be due to corrosion due to rusting of the cylinder during cold starting and cold idling. It is ironic that cars of six or seven years ago should not have manifested excessive cylinder wear because they had engines which needed to be raced after starting to prevent them from stopping, thus producing the necessary increase of cylinder wall temperature to inhibit corrosion.

Against this, as soon as engines were designed to start easily and to idle when cold, excessive cylinder wear took place, and the cries of the diehards swelled to a mighty roar.

Next in order is that of oil consumption, another matter which is now getting under control, largely due to thermostatic methods of inhibiting cylinder corrosion. The factors involved are, however, extremely complex and call for the most meticulous accuracy in production methods.

In no respect, perhaps, do engines differ more than in the application of the skill of the designer and construction in relation to the problem of oil consumption.

In these and many other matters constructive research is proceeding in the investigation of problems the solution of any or all of which may and will profoundly affect future design.

**Greater Use of Light Alloys**  
 No review of this nature would be complete without reference to future possibilities of light alloys of the aluminum and magnesium types.

The concentration which has taken place these last 20 years on making cars as cheaply as possible has resulted in their being made principally from cast iron and sheet steel. Yet there is no doubt that, for the attainment of a given result in terms of performance and safety, the extra cost of light alloy construction is negligible in all but the cheapest cars.

This view is, however, only true if the sources of supply of the semi-finished material in its various forms are available to motor manufacturers.

In respect of economy and comfort the use of light alloys gives results so far quite unattainable in any other way.

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**A BEAUTIFUL BIRD**  
 (From the Elmira Signal)  
 A pure white male peacock, of which there are only two in Canada, drew more than 500 persons to the home of A. Schmalz, Preston bird fancier, at the week-end. The bird, evidently enjoying the large gallery of spectators, exhibited its beautiful plumage, which has a spread of nine feet, one feather also measuring five feet. The other white peacock is at Millbrook, Ont.

**JUST A LITTLE HIGHER**  
 Judge—"Where do you live?"  
 Musty—"Nowhere, your honor."  
 Judge (to second tramp)—"And where do you live?"  
 Dusty—"I've got the room above him!"

**First T. & N. O. News Agent Passes at Bay**

Was Once on Train Held up by Jessie James. In North Since Building of T. & N. O.

Albert Adams, news agent for many years on the T. & N. O., and widely known as a consequence of his business, died at North Bay this week. He was subject to heart attacks and was found dead on Monday morning in his bed at the Continental Hotel, North Bay. Dr. Ranney, who was called, found that an inquest was unnecessary. Mr. Adams apparently passing away from one of his heart seizures. He had had one of these attacks on Tuesday morning but had apparently recovered and was able to be up and around on Sunday evening. He was 72 years of age. For the past three years or so, Mr. Adams had been living retired. He and his wife had been residents at the Continental hotel for about a year and a half. Last week Mrs. Adams left for a visit in Toronto. She and a brother living in Iowa are the only near relatives surviving.

The late Albert Adams was a native of Iowa and had been a news agent in his native state and through the Middle Western States. One of the stories told of his early experiences as a news agent was that a train on which he was working was held up by the notorious train bandit, Jesse James, and one of his gangs. The conductor on the train was shot dead by the bandit but the news agent was not molested. It is said that the news agent offered Jesse James an apple from his stock and the apple was accepted and the young news agent left free.

Almost from the completion of the T. & N. O. Albert Adams followed the work of news agent on the line. He was the first news agent to ply his on a T. & N. O. train and continued at the work for some thirty odd years, retiring some three years ago.

Mrs. Adams was notified of the death of her husband as soon as it was known

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**Carrier Pigeon Not Much Impressed by Ceremonies**

Paul Revere, the first of 400 homing pigeons to reach Philadelphia from Washington as part of the Emergency Peace Campaign liberation there, slipped away during the reception in his honour at the mayor's office in city hall.

Taken there for the official delivery of the messages he carried from Mrs. Franklin D. Roosevelt to Mayor S. Davis Wilson, Paul escaped from the rubber band around his wings and perched over one of the high doors. For nearly half an hour he eluded the mayor and others who pursued him about the large room.

Finally a window was opened and, obeying his instincts, he set out again for his home in Germantown.

Huntingdon Gleaner:—For many years John Vogelsang has been digging graves in a Buffalo, New York, cemetery. "Well, I guess I'll dig the next one for myself," he jokingly told a companion on starting a grave. He did not finish it. He slumped down in the half-completed grave, and before medical help could reach him, was dead of a heart attack.

**A Hall-School Song**

The following little poem was sent to The Advance by a friend:—

Said Jimmie to Roy—  
 "Now Roy, my boy,  
 Sometimes you may think me a fool!  
 But I can't see the fun  
 When nothing is done  
 About using the old Central School."

"You remember, last fall,  
 They talked of town hall?  
 Why, they actually voted the thing!  
 But listen, my mate,  
 While I talk real estate  
 To the music of 'how the birds sing!'"

"What d'you say to a saw-off!  
 No, no, not a gnaw-off,  
 But a perfectly fair exchange!  
 The school board go hang!  
 And the council—gosh dang,  
 I'll keep them well out of the range!"

"So now we agree  
 Since I see that you see  
 Economy breathes through my theme!  
 Let's up and be doing  
 With vigor pursuing  
 The big DUN-BAR-TLEMAN scheme!"

Acton Free Press:—Life begins at 40, and so do fallen arches, lumbar, bad eyesight, falling hair, and the tendency to tell a story to the same person three or four times.

**Callander Woman Mangled by Wheels of Freight Train**

Despatches this week from Callander, near North Bay, note that a horrible tragedy took the life of one of Callander's prominent residents Saturday morning when Mrs. Henry Hurtubise, aged 62, was dismembered beneath the engine wheels of a C.N.R. way-freight at the main railway crossing there.

An inquest into Mrs. Henry Hurtubise's death will be held Friday evening at 7 o'clock in Callander. Dr. A. R. Dafoe, coroner, and Crown Attorney H. Stone, Parry Sound, will officiate. Funeral of Mrs. Hurtubise was held Monday morning from the residence to the church, thence to the Roman Catholic cemetery for interment. Rev. Father E. E. Bunyan officiated.

Extremely hard of hearing, Mrs. Hurtubise, on the way to the store, walked directly in the path of the slow-moving train which was preparing to make a stop. The fireman shouted a warning but apparently she did not hear his words. One more step and she would have been clear.

A horrible sight met the eyes of those who hurried to the scene. The woman's head was on one side of the tracks and her body on the other side. Both feet and both arms were also severed. She was dragged about the length of a rail and a half.

The mangled body was carried to the township hall and after it was viewed by Dr. M. G. Ranney, her son-in-law, and police, permission was given to remove it to McGuinity and Heavener's undertaking parlours at North Bay. Witnesses stated the train was not travelling more than eight miles an hour at the most. Some said it was barely moving and were under the impression that Mrs. Hurtubise thought it was at a standstill. She apparently heard no noise whatever.

Fireman Arthur Harris, Allandale, saw the woman and shouted at her, but she did not hear. He also shouted for the emergency brake, but it was too late. Mrs. Hurtubise was apparently dragged beneath the wheels, mangled terribly and then carried a little distance.

Her defective hearing is believed to have caused the accident because she made no noticeable attempt to escape being hit. She was apparently entirely innocent of the fact that the train was moving.

Provincial Constable E. Sheppard, North Bay, and Constable Payne, Callander, questioned members of the train crew, all from Allandale, and conducted a general investigation at the scene of the accident which occurred about 8.30 a.m. Members of the train crew were Engineer A. Conlon, Conductor Reg. Bidwell and Fireman Arthur Harris.

Highly respected by her townfolk, Mrs. Hurtubise's tragic death came as a dreadful shock to Callander citizens Saturday. It cast a gloom over the entire village. Her husband gave the information that he had often cautioned her to stop and look up and down the tracks at the crossing. He said she was extremely hard of hearing.

Besides her husband, eight children survive. They are: Mrs. R. Dupuis, Vermont; Mrs. D. Savie, Montreal; Mrs. L. Rochefort, Astorville; Mrs. M. G. Ranney, Callander; Mrs. N. Moreau, Orillia; George, Detroit; Russell, Callander, and Archie, Montreal.

Mrs. Hurtubise had been a resident of Callander for the past 15 years.

Sudbury Star:—The British Museum has acquired the earliest known book on Ethiopia, dated 1521 and written in Portuguese. It probably makes better reading than the latest known chapter on Ethiopia, dated 1936 and written in blood.

**Moore, Dodger Outfielder, Breaks Ankle**



Randy Moore, right-fielder for Brooklyn Dodgers, is carried off the diamond at Ebbett's Field with a fractured ankle, received when he tried to steal second with a slide. Moore will be lost to the Brooklyn outfield for at least six weeks.

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