THE LONDON MOTOR SHOW.

MORE POINTS FOR MEDICAL MEN.

By H. MASSAC BUIST.

A FURTHER study of the motor-car designing, manufacturing, and marketing situation as it is revealed at the Exhibition which closes at Olympia, Kensington, at 10 p.m. on Saturday evening next, October 22nd, reveals an average slight reduction in prices, although it had been given out at the end of last summer that these would tend to rise. Inasmuch as vehicles costing less than £150 have been available for over a season, a more practical point is that machines are being offered in a still wider variety of forms, many of which will appeal to the medical man.

NIGHT SERVICE PROBLEMS AND SOLUTIONS.

Take the question of night driving. The dipping headlight device is employed to proportionately a greater extent for the sufficient reason that no "dimmer" scheme is really effective against dazzle, whereas the dipping headlight is a convenient compromise. It gives clear illumination when that is practicable, yet it enables the considerate driver to spare oncoming traffic or pedestrians from being dazzled by his approach. Hence some of the largest as well as some of the smallest cars are fitted with dipping headlights. Among those that are not, however—and these are the majority of standardized products—nearly all have a dimming device of some sort. Although these have been developed in detail it cannot be recorded that any one solves the problem. Curiously enough, one of the likeliest solutions—namely, the momentary drawing of the bulb in and out of focus by Bowden wire control—has not been taken up by the industry. But the new Lucas scheme of tilting the reflect, and the bulb held in it, by pneumatic means is standardized by several car builders and is both convenient and effective, as is admirably illustrated in the standard equipment of the developed Hillman cars.

A useful device for night driving is seen on some of the new six-cylinder engined Rover models. This takes the form of a light, controlled by a switch convenient to the driver's hand, and set on the near side at shoulder height, at the extreme back of the body. Merely by touching this switch full illumination can be obtained instantly in a rearward direction. That is very convenient in manoeuvring in a garage, and particularly in strange and circumscribed areas, as when backing in a patient's carriage-drive.

But one notices that for the most part illumination of the instrument board is either neglected or is done on an unsatisfactory system, as by having an ordinary top light. Why this should be so—seeing that in several American and in a minority of British and Continental examples the instruments on the board can be illuminated by diffused light, whereby only the face of each instrument shows up and there is no reflection in the driver's eyes—is a mystery. The system most generally exploited on European and even on American constructions really illuminates the floor-board and, particularly, the change speed gear lever, which is quite unnecessary, since the light radiates from the face of most of the instruments. Nor does the diffused light scheme, which solves the problem, lead to extra expense. It is merely a matter of designing the fascia-board to take it as a standardized fitting. It will be appreciated that when the face of an instrument only is lit up a clearer result is obtained for an equal volume of illumination. It is also important from the driver's point of view that inside the car there should be no reflections of light to the prejudice of his clear vision of the road ahead and of the surroundings on either side.

As regards car types, undoubtedly the vogue for covered coachwork will enjoy the greater patronage through the introduction of roofs that slide or are otherwise partly removable. They are even likely to have an effect on the demand for landaulette type bodies because the latter are apt to develop leakage, greater or less, with long use. But with some of the sliding, non-rattling roof schemes there is no such likelihood. Further, should any small part get damaged or worn, permitting a leak, it is very cheap and easy to make good. But experience so far does not

indicate that in the best and most practical of these arrangements there is likelihood of any such wear or damage.

SILENCING.

Noise, which is one of the great problems of the age in all forms of human enterprise, has been receiving attention as regards engine exhaust. The chief means exploited for achieving quieter car running is to employ lower geared back axles, which is rather a means of evasion than a solution. Unfortunately, in general the question of the noise of the exhaust has not been sufficiently investigated. It is to be hoped that heed will be paid to the Home Secretary's recent memorandum on this matter.

Admittedly, silencing the exhaust presents quite a pretty problem. Thus, through the intake manifold from the carburettor the gas is drawn into the cylinders at a regular rate. But for every cubic foot that so enters about 5 cubic feet of gas will issue from them, by reason of the much higher temperature of the exhaust at the moment of its expulsion. Therefore its passage through the exhaust pipe has to be very much faster than the intake of the gas, which is, nevertheless, also very rapid. Moreover, the exhaust does not issue from the engine in an even flow, like the feed from the carburettor, but in a series of blasts. Theoretically the easiest way of solving the problem would be to reduce suddenly the temperature of these burnt gases and, therefore, to shrink their volume before they enter the silencer. But there is nothing in the current motor-car show at Kensington to suggest that that theory has been worked out in a practical fashion and the result incorporated in standard car practice. All the cars shown have conventional exhaust boxes. More might be done, one would think, by employing at least a fishtail silencer terminal in the manner required by the Brooklands Automobile Racing Club's regulations. Undoubtedly the improvement in regard to quiet on the track is quite remarkable since these rules came into force. Yet there one is dealing with a more difficult problem, for the engines are of a higher compression and run even faster than do those of the average touring car. We cannot, of course, add an indefinite number of baffle plates to silencers, because that would merely choke the issue of the exhaust from the engine. The burnt gases must have a free exit from the exhaust ports. But many standardized cars, particularly of the cheaper sorts, could be provided with silencers each having two more baffle plates, and that without prejudice to the functioning of the power unit.

As for noise from the gears, little progress has, on the whole, been made in this direction. What has been attained is due, not to the employment of expensive methods of gear production such as Rolls-Royce, Bentley, or Daimler use, but merely to the tendency to use the central, or cheaper, American form of change speed gear. Manufacturers are not to blame for seeming to neglect this problem: its solution always involves high cost on one count or another. In cheap car construction, and even in regard to most full-scale chassis, it is not a selling point to have quieter gears, the fact being that "bodies sell cars" nowadays, at least in regard to 90 per cent. of such transactions. But the industry has the gear problem constantly in mind, and would act promptly if a cheap solution were offered.

GLAZING AND ACCIDENTS.

Apart altogether from the attainment of better visibility—rendered possible in no better degree than by all-steel coachwork, which gains adherents, and by the increasing employment of the one-panel windscreen, which is expected to come into far more general use twelve months hence—one finds, nevertheless, that in standard practice the various forms of safer glass are not widely used. The three-ply scheme is the best known in this country. On the "Safety" Stutz, among other transatlantic cars, there is used a type of glass which appears to have fine piano wire drawn at intervals horizontally through it, and incorporated entirely within the sheet, so that one drives, as it were, with a windscreen scored for writing music on it. The objection to the former is that it does not show the view in full natural colours; to the latter, that a series of fine rods divides the roadscape.

As to glazing, no form of safety glass has yet been devised which is as transparent as ordinary glass, and flexible or unbreakable glass is still in the experimental stage. Therefore one notices in some coachwork constructions this year that the front panel, or windscreen, is made of ordinary glass, and that safety glass is used for the rest of the glazing. This is not a mere concession to the natural desire to behold scenery as it is; it is also based on the fact that, as regards full-scale cars at least, the experience of the repair shops of most of the big manufacturers reveals the head-on collision as the exception rather than the rule, most of the damage being done to the side or rear. Therefore, it is argued, it is not so important to have the windscreen of safety glass as to have the windows made of it.

PROMINENT NEW CAR TYPES.

The surprise created by the announcement that General Motors' English factory, the Vauxhall Company, of Luton, had introduced a 20/60-h.p. six-cylinder engine car built on an output basis of 10,000 a year—and for which it is understood that the General Motors Corporation, which will market it overseas, has placed an order for 15,000—is followed this week by the announcement of a larger Morris model, in other words, the arrival of the inevitable six-cylinder engine Cowley built car. While this is something in the nature of a bargain machine for the specialist, or for the medical man who has to make frequent long-distance journeys, nevertheless the average medical man will observe two things: first, that this is not a cheaper Morris car, and secondly, that it does not make the six-cylinder engine available for Morris cars of the 11.9 and 14/28-h.p. types. Instead, it is a 17.7-h.p. machine of approximately the same engine volume as the new 17-h.p. Fiat, which comes in "the two litres" and a "bittock" class. Therefore an even greater number of medical men will be interested in the lowering of the Morris prices in respect of the four-cylinder engine cars, which are shown also in improved condition, with four wheel braking on all types. An interesting example of the all-steel body, cellulose finished, is the 14/28-h.p. Morris-Oxford saloon in claret at £250. This model is well worth the extra money in spite of the remarkable value of the 11.9-h.p. Cowley type, which is available as a four-door coachbuilt saloon at £185—a well ventilated vehicle with good visibility. Beige is the new coachwork colour introduced for these cars. It is illustrated effectively in the 11.9-h.p. Morris-Cowley four-door four-seater, listed at £152 10s. with four wheel brakes. The tool accommodation has been improved.

Perhaps the Standard Motor Company's announcement of widest interest concerns its re-entry into the light car field with a 9-h.p. four-cylinder side-by-side valve engine machine, which is shown with a four-seat body, and also as a fabric saloon, Standard being a recruit to this system of covered body construction. The taxation rating of this vehicle is £9 a year, the side-by-side valve engine having 1,154 c.cm. cylinder volume. The chassis is listed, with tyres, tools, and spares, at £165. The four-door four-seater is catalogued at £190 complete, and the saloon on this same chassis at £215 complete. Unit construction is employed for the engine, clutch, and gearbox. The design may be studied in detail, because different parts of the assembly are shown separately. They are sturdy. The complete cars reveal that Standard adheres to its praiseworthy policy of providing roomy accommodation, giving in the "Falmouth" fabric saloon, as well as in the "Selby" open four-seater, ample width and leg room for four tall adults. It is understood that at the end of the month a two-seat type, with a dickey, will be available, though it is not shown. In regard to this firm's other exhibits of six-cylinder engine types it is observable that they are now available, at choice, with a gearbox giving four speeds forward, among other variations from the earlier models. The "Folkestone" six-light fabric saloon on the re-rated six-cylinder engine 18/42-h.p. four-speed model has two additional lights, and a front seat adjustable as to both leg reach and angle of back rest. The exterior is pleasing in outline, having a well rounded roof and rear corners; there is a single panel windscreen hinged at the top and having a central adjustment within reach

of the occupants of either of the front seats. The bonnet is finished with cellulose. The price is £440 complete. Corresponding coachwork on a three-speed chassis is listed at £395 complete.

The extraordinary progress made in motor manufacturing is well illustrated in the 12/24-h.p. all-steel Citroën four-door saloon de luxe with rounded back and curved window frames, separately adjustable front seats, and triple cellulose finish, at £225; the chassis embodies sundry refinements such as oil and air purifiers, a very neat steering wheel, control for the lamps and horn, an electric starter button on the fascia-board, and so on. The point of this development is that here we find a big scale manufacturer making no attempt to offer the lowest priced car on the market by process of economizing this way and that. Instead, the product has been improved certainly out of recognition if we measure progress in this case during so brief a period as twenty months only. Mechanically, the design is vastly better; artistically, the complete car suggests that its cost must be at least £100 more even when put in competition with American prices, and as regards accommodation this is now ample.

How many people are aware that about 12,000 parts go to the making of one of these chassis, which are among the simpler on the market? From now on every part in this chassis is displayed separately, without fee, at Devonshire House, where alike the mechanically minded and those who know nothing of such matters may learn "the anatomy of the motor car." In this case the average price of a car part from cylinder casting to a split pin is about fourpence. Here the visitor may see even the components of electrical accessories, including engine starting and car lighting equipment, the various processes of building all-steel bodies, the different stages of cellulose finishing, all the components of the upholstery scheme, and the extraordinary number of parts which it is possible in big scale production programmes to make strong, light, and simple by pressing processes.

An idea of the variety of the new style of cars offered by established manufacturers may be indicated in tabular form, thus:

Maker.	Country.	Cylinders.		H.P. Rating.	Annual Tax.	Price.	Body Type.
		No.	Vol.				
Alvis ...	Br.	6	c.cm. 1,926	14/75	15	£ 595	Open 5-seat.
Armstrong-Siddeley ...	Br.	6	1,919	15	15	400	Saloon 5-seat.
Arrol-Aster ...	Br.	6	3,048	21/60	21	795	Saloon 5-seat.
Austin ...	Br.	6	2,244	16	16	395	Saloon 5-seat.
Bean ...	Br.	4	2,297	14/40	14	395	Saloon 5-seat.
Bentley ...	Fr.	4	4,398	24.8	25	1,295	Open 4-seat.
Berliet ...	Fr.	6	1,811	14/40	15	465	Saloon 4½-seat.
Clyno ...	Br.	4	951	9	9	160	Saloon 4-seat.
Clyno ...	Br.	4	1,593	12/35	12	250	Saloon 4-seat.
Daimler ...	Br.	12	3,744	30	32	1,970	Complete saloon.
Darracq ...	Fr.	6	1,999	16	17	615	Saloon 5-seat.
Delage ...	Fr.	6	2,170	15.7	16	625	Saloon 5-seat.
Dodge ...	U.S.A.	6	3,666	—	25	565	Saloon 5-seat.
Fiat ...	It.	6	2,244	17	17	475	Saloon 5-seat.
Hillman ...	Br.	4	1,954	14	13	325	Saloon 5-seat.
Horch ...	Gy.	8	3,132	21/60	21	750	Saloon 7-seat.
La Salle ...	U.S.A.	8	4,967	—	32	995	Saloon 5-seat.
Lea-Francis ...	Br.	6	1,696	14/40	14	625	Saloon 5-seat.
Marmon ...	U.S.A.	8	3,110	24.2	25	650	Saloon 5-seat.
Mercedes ...	Gy.	6	6,246	33/140	33	2,150	Saloon 5-seat.
Morris ...	Br.	6	—	17.7	—	—	—
Peerless ...	U.S.A.	6	3,258	25/62	26	475	Saloon 5-seat.
Peugeot ...	Fr.	6	1,991	15.7	16	385	Saloon 5-seat.
Renault ...	Fr.	6	1,427	12.5	13	299	Saloon 5-seat.
Riley ...	Br.	4	1,087	9	10	285	Saloon 4-seat.
Rover ...	Br.	6	2,023	—	16	425	Saloon 5-seat.
Standard ...	Br.	4	1,154	9	9	215	Saloon 4-seat.
Star ...	Br.	6	2,468	18/50	18	495	Saloon 5-seat.
Stearns-Knight ...	U.S.A.	8	6,324	—	40	1,450	Saloon 7-seat.
Triumph ...	Br.	4	1,377	7.9	8	192	Saloon 4-seat.
Vauxhall ...	Br.	6	2,762	20/60	20	495	Saloon 5-seat.
Wolseley ...	Br.	4	1,533	12/32	12	315	Saloon 5-seat.
Wolseley ...	Br.	8	2,814	21/60	21	750	Saloon 5-seat.

The specification of the new 6-cylinder engine Morris had not been issued at the time this article went to press; the cost of the chassis is £251; of the 5-seat tourer £320; of the 5-seat saloon £350. Some American manufacturers do not give their cars any h.p. ratings.

Owing to changes of price and equipment details at the last moment, in some cases it is impossible to ensure that every particular set down holds at the time of publication. But every care has been taken to achieve accuracy.