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JIM CLARK, **LOTUS 49, 1967**

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MOTOR SPORT

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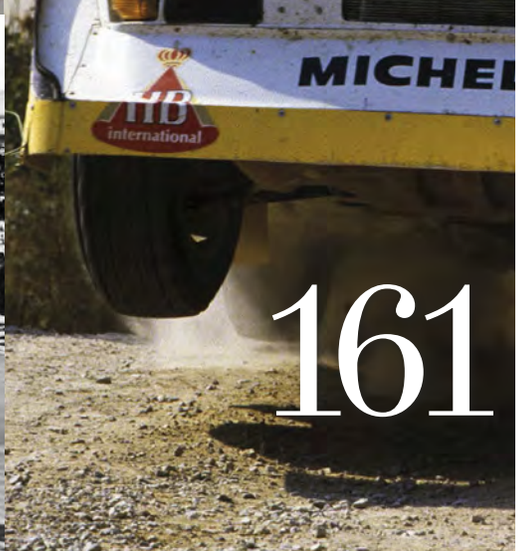














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DAMIEN SMITH
EDITOR

"IN INTRODUCING A NEW journal, it is usual to commence with a word of apology." These are the first, typically peculiar words to appear in this periodical. I'm not sure I entirely agree with that sentiment, but then I'm from a world entirely different from the one that existed in July 1924, when our magazine – your magazine – began its oddball odyssey through nine decades of competition motoring.

Having stated the need for apology (well, we are British), the first editorial offers an abrupt contradiction in the next sentence. How very 'us'.

"We feel that very little apology is called for in respect of the appearance of this publication," wrote my distant predecessor. "We are confident that *The Brooklands Gazette*" – as the magazine was called – "will make its own appeal to many thousands of keen motorists."

The magazine, which would adopt the name *Motor Sport* in 1925, was by no stretch the first of its kind. But from this beginning it promised to differ from anything else available on the bookstalls.

"This journal is not merely 'another motoring paper' added to the several which already seek public support," the editorial continues. "It is something entirely new, and something which we are convinced has been very much wanted. It regards motoring from a new angle; it seeks to meet to the full the requirements of those whose chief interests are in the sporting and competition side of the movement."

Sound familiar?

"We are confident that with the support of a large circle of readers and the benediction of those who control motoring sport and the motor industry, this journal is going to widely extend the general appreciation of motoring. Motor racing and competitions in general are the life-blood of motoring evolution. The motor car and the motor cycle of today are largely the excellent productions motorists know them to be, in virtue of the refining influence of strenuous competitions.

"By concentrating our main attention upon such competitions, and thus helping to foster and develop them on sane and practical lines, we hope to do more than provide fine sport for those who participate in competitive motoring, and trust that we shall be serving in no small measure the larger cause of the improvement of motor vehicles to the benefit of multitudes who would themselves never enter for a motoring competition."

Got that? Lofty ideals from the start.

The editorial also points out that "another important phase of our activities will be the reviewing of new cars, accessories and equipment. This we shall do, in all cases, only after personal trial of the products concerned, and our criticism of them will be entirely without fear or favour… We trust that *The Brooklands Gazette*, following upon the favourable reception it is assured, will show consistent improvement as time goes on."

As we mark 90 years in publication with this special celebratory issue, I hope you'll agree that we've delivered on that promise. Now we press on, with the 'magic ton' within our sights.

❖

EVERY TIME I'VE BUMPED INTO David Brabham at a race circuit these past six or seven years, I've made a point of asking: "How's your dad?" The response was nearly always the same.

David would smile and say, "You know, a month or so ago we were preparing to say goodbye. But then in the past few weeks he's picked up again, against all expectations. Now he's doing great!"

Sir Jack Brabham battled serious ailments for years and doctors were always predicting 'not long now'. But they hadn't taken into account exactly who they were dealing with.

When the end could be prolonged no further, Sir Jack passed peacefully, on May 19. To the last he remained the same twinkle-eyed hardnut, who gave no quarter in the heat of battle.

The timing of his passing made it impossible to produce a tribute that could go any way to doing justice to such a man, leastways in this issue. So please forgive us: we'll return to the matter next month, when his old friend Doug Nye will offer a true and meaningful perspective on a figure who was so much more than the first to win an F1 world championship with the engine behind his back, and the first and only to do so in a car bearing his own name. As headline epitaphs go, however, neither is too shabby.

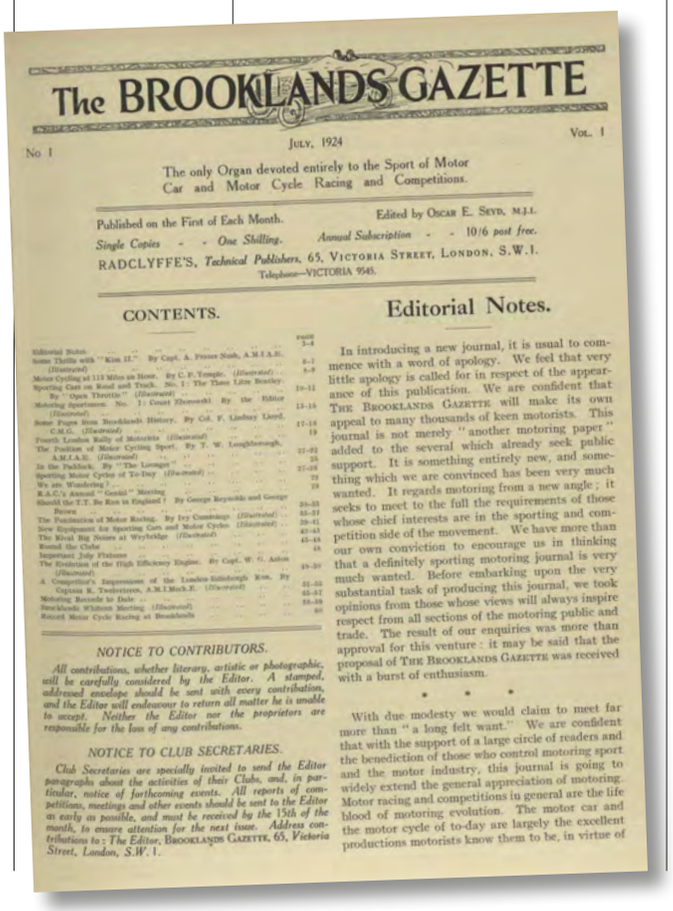
In the meantime Mark Hughes has offered an eloquent tribute on our website, where you can also now find our recently launched archive of every page of every issue since 1924. You'll find Jack gets a fair few mentions through the years.

He was, of course, inducted into our Hall of Fame in 2011, and more can be found on the great man on our dedicated 'micro-site'. Find it by clicking on the Hall of Fame tab within the main navigation bar at www.motorsportmagazine.com

To David, his brothers Geoff and Gary, Jack's wife Lady Margaret and the whole Brabham clan – including his grandsons Matthew and Sam, who are beginning their own chapters in this sport – we offer our sincere condolences. Jack Brabham was a true one-off. We'll never see his like again.

❖

SOMEHOW IT'S FITTING THAT, as we return to the monumental innovations from the past for this celebratory issue, we face the reality of 21st century progress in Formula 1. The sport is in a state of transition, and ▶



The BROOKLANDS GAZETTE

No. 1 — July, 1924 — Vol. 1

The only Organ devoted entirely to the Sport of Motor Car and Motor Cycle Racing and Competitions.

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NOTICE TO CONTRIBUTORS.

All contributions, whether literary, artistic or photographic, will be carefully considered by the Editor. A stamped, addressed envelope should be sent with every contribution, and the Editor will endeavour to return all matter he is unable to accept. Neither the Editor nor the proprietors are responsible for the loss of any contributions.

NOTICE TO CLUB SECRETARIES.

Club Secretaries are specially invited to send the Editor paragraphs about the activities of their Clubs, and, in particular, notice of forthcoming events. All reports of competitions, meetings and other events should be sent to the Editor as early as possible, and must be received by the 15th of the month, to ensure attention for the next issue. Address contributions to: The Editor, Brooklands Gazette, 65, Victoria Street, London, S.W.1.

Editorial Notes.

In introducing a new journal, it is usual to commence with a word of apology. We feel that very little apology is called for in respect of the appearance of this publication. We are confident that The Brooklands Gazette will make its own appeal to many thousands of keen motorists. This journal is not merely "another motoring paper" added to the several which already seek public support. It is something entirely new, and something which we are convinced has been very much wanted. It regards motoring from a new angle; it seeks to meet to the full the requirements of those whose chief interests are in the sporting and competition side of the movement. We have more than our own conviction to encourage us in thinking that a definitely sporting motoring journal is very much wanted. Before embarking upon the very substantial task of producing this journal, we took opinions from those whose views will always inspire respect from all sections of the motoring public and trade. The result of our enquiries was more than approval for this venture: it may be said that the proposal of The Brooklands Gazette was received with a burst of enthusiasm.

* * *

With due modesty we would claim to meet far more than "a long felt want." We are confident that with the support of a large circle of readers and the benediction of those who control motoring sport and the motor industry, this journal is going to widely extend the general appreciation of motoring. Motor racing and competitions in general are the life blood of motoring evolution. The motor car and the motor cycle of to-day are largely the excellent productions motorists know them to be, in virtue of

it's a bumpy ride right now.

Over the years, our writers have become used to finding themselves entirely in tune with our readers. Not this time. Nigel Roebuck, Mark Hughes and Simon Arron have all soaked up the sight and (lack of) sound in F1, placing what they have witnessed in context with what has come before – and independently finding themselves unified in the view that Grand Prix racing, as a spectacle at least, is in pretty good shape.

But many of you have told us you don't agree with that assessment. The verbal battering Simon received online left us in no doubt that our consensus, for once, is a long way from being an accepted truth.

No matter how positive we might remain about what we've seen, we recognise the sport will lose some of you along the way. The disenchantment of hard-core fans has never been more palpable – and it should be a huge concern for all involved in motor sport.

At this magazine, we'll continue to listen to, and respect, the views of our readers. But we can only write as we find, and at this point in time we believe F1 is facing greater challenges that threaten its future. How motor racing's premier tier is structured is rotten to its core, with problems that require a bigger fix than a mere blunderbuss exhaust.

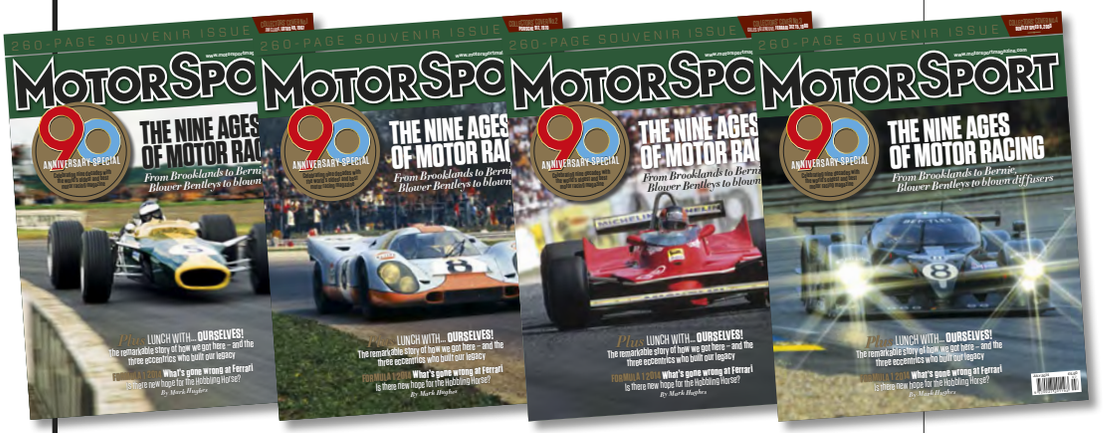
On that final point, we can at least be grateful for something: it didn't work!



IN NEXT MONTH'S ISSUE

Tribute to Sir Jack Brabham, a unique man

ON SALE JULY 4



TO MARK OUR 90TH ANNIVERSARY,

WE'VE PRODUCED FOUR DIFFERENT COVERS FOR THIS SPECIAL ISSUE, ALL OF THEM ON SALE NOW.

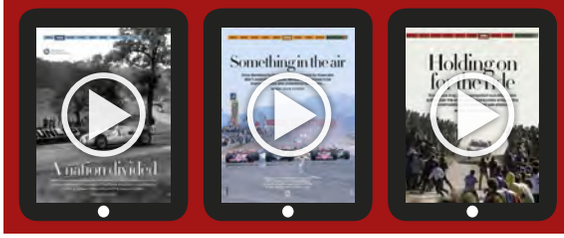
The covers, designed to reflect iconic imagery from different eras of racing history, feature Jim Clark in a Lotus 49, a Porsche 917 in 1970, Gilles Villeneuve in a Ferrari 312 T5 and the Bentley Speed 8 at Le Mans in 2003.

For details of how to purchase other covers from this set, please phone our subscription hotline 020 7349 8472

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See page 148 for more details

THIS MONTH'S EXCLUSIVES ON OUR TABLET EDITION



- *Silver Arrows footage from the '37 season*
- *Colin Chapman and the aero revolution*
- *The thunderous majesty of GpB rallying*

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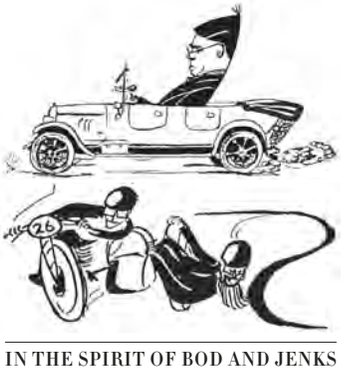
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IN THE SPIRIT OF BOD AND JENKS


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LAT

THE MOTOR SPORT MONTH

IN PICTURES

MAY 19, 2014

Sir Jack Brabham

REIMS, FRANCE

The sport lost one of its most distinguished figures, with the death of Jack Brabham at the age of 88. *Motor Sport* will pay full tribute next month, but here's a charismatic memento of the Australian in his pomp, aboard a Cooper T51 in the 1959 French GP. He finished third and took his first (of three) world titles at the season's end. The reign of the front-engined GP car was over.









GETTY

MAY 1, 2014

Senna, 20 years on

PORTO ALEGRE, BRAZIL

To commemorate the 20th anniversary of a national hero's death, Brazilian airline Azul came up with this distinctive tribute. It includes a small "#sennasempre" motif – Senna forever.

THE MOTOR SPORT MONTH

IN PICTURES



SIMON MORTON

MAY 5, 2014

Motor Sport Trophy

DONINGTON PARK, UK

Freddie Wakeman and Patrick Blakeney-Edwards won our 90th anniversary event during the Donington Historic Festival, in their Frazer Nash Super Sports. Sam Stretton (Alta), third in this shot behind the lapped Hine/Brown Lagonda, took second. Top left, editor Damien Smith handed the prize to Wakeman (centre) and Blakeney-Edwards.



JEFF BLOXHAM

MAY 4, 2014

Pre-1966 Touring Cars

DONINGTON PARK, UK

Lotus Cortinas to the fore at the fourth Donington Historic Festival. The David Tomlin/Martin Stretton car engages in aerial pursuit of Leo Voyazides/Simon Hadfield (47) and Grant Tromans/Richard Meaden.

REFLECTIONS *with*



Nigel Roebuck

>> WARRING TEAM-MATES >> MATTERS ACOUSTIC >> SENNA AND FERRARI



ALL IMAGES LAT

PARTY ANIMALS

Mercedes team-mates Nico Rosberg and Lewis Hamilton maintained a cordial relationship after winning the first five 2014 GPs, but outsiders wondered how long that might last – especially if Hamilton continued to do most of the winning. After Spain, the score was 4-1 in his favour.

REFLECTIONS *with* Nigel Roebuck

WHEN JOCHEN RINDT'S Lotus crashed massively at Montjuich in 1969, he was extraordinarily fortunate to escape with relatively light injuries. This was the time of the ludicrous 'tall' wings, and the flimsy supports on Rindt's car simply collapsed, as they had – a few minutes earlier, at the same spot – on the sister car of Graham Hill, the wreckage of which was hit by Jochen's 49.

Rindt always hated the whole concept of wings, anyway, thinking them an abomination on a racing car, and now, feeling thoroughly ill from the consequences of the shunt, he wrote a polite, but unequivocal, letter to Colin Chapman.



"I have been racing F1 for five years," he said, "and I have made one mistake (I rammed Chris Amon in Clermont-Ferrand), and had one accident in Zandvoort due to gear selection failure. Otherwise I managed to stay out of trouble. This situation changed rapidly since I joined your team: Levin, Eifelrennen F2 and now Barcelona.

"Honestly your cars are so quick that we would still be competitive with a few extra pounds used to make the weakest parts stronger. Please give my suggestion some thought. I can only drive a car in which I have some confidence, and I feel the point of no confidence is quite near." He didn't finish with three dots… but might have done.

At the next race, Monaco, the Lotuses arrived complete with high wings, but Rindt, still convalescing, was replaced in the team by Richard Attwood, who finished a fine fourth – and, like everyone else – raced *without* them, for although all cars ran with them on the opening day of practice, the CSI (then the motor sport arm of the governing body) decided literally overnight to ban wings forthwith.

Things were terribly *ad hoc* in Formula 1 back then, were they not? By the time of the next race, Zandvoort, wings had sprouted once more, but now of a sensible size and height. On the pole, as he had been at Montjuich, was J Rindt.

If Jochen was the first of them, Austrians in motor racing – not least Niki Lauda – have long been renowned for being famously direct. Like anyone else present, I have a clear memory of that morning in the Österreichring paddock in 1985, when Lauda announced he would be retiring at season's end. After he had finished speaking, Ron Dennis got to his feet, and we all assumed he was about to thank Niki for bringing so much success to McLaren. Not a bit of it: instead Dennis paid fulsome tribute to designer John Barnard, added that the team for 1986 was already sorted out, that Keke Rosberg was coming in to join Alain Prost and, er, that was it…

Apart from the lack of simple gratitude, it was breathtakingly insensitive, and not surprisingly Lauda – hurt as well as livid – didn't mask his feelings afterwards: "Well, that's Ron – he thinks only of the future, and in his mind I'm already the past…"

In point of fact Niki has never left the F1 scene for any length of time, and after years of working in television is even more prominent these days as the non-executive chairman of a Mercedes team that is dominating Grand Prix racing in 2014 much as it did 60 years ago, in the time of Fangio, Moss and the W196. Alfred Neubauer may not ultimately have parted with the company on the best of terms, but he had Mercedes-Benz in his veins and up in Valhalla must, I fancy, be savouring the domination of Hamilton and Rosberg, who in five races have taken 197 points from a possible 215.

Back in 1955 Stirling clearly had the better of Juan Manuel in sports cars, but in F1 was only too content to follow the master, and learn. In 2014, though, the situation at Mercedes is not like that, and Gerhard Berger – another plain-speaking Austrian – reckons that as time goes by the likelihood is that the Hamilton-Rosberg partnership will need a little managing.

"Formula 1," he said after the Spanish Grand Prix, "is always full of surprises, but Mercedes has such an advantage that I can hardly imagine the season will not keep going like this. It's still early, with everyone getting on well, but I don't think it will be long before Rosberg and Hamilton clash.

"Hamilton is maybe the fastest in the field, but he's very emotional, and I think it's possible to put him out of balance. Rosberg knows that he must be clever to compensate for the slight advantage Hamilton has with natural speed, and I'm sure that with his determination and perseverance he will make Hamilton's life difficult. I've told Niki that he will be like a nanny this year…"

'Rosberg knows he must be clever to compensate for the slight advantage Hamilton has with natural speed…' Not surprisingly, Berger's remark made me think of Prost and Senna at McLaren, particularly in 1988, before their relationship sank to the frigid depths.

All – including Prost – accepted that Senna was the out-and-out quicker of the two, particularly in qualifying, but if they finished 1-2, with Ayrton ahead seven times, so on five other occasions Alain had the better of him, and the notion that he could be beaten in equal cars invaded virgin territory in Ayrton's mind.

There was indeed more than one way to skin a McLaren, as Prost, as intelligent a man as ever sat in a racing car, had learned in two seasons as Lauda's team-mate. Take Monaco in '88, where Senna rushed away at the start, while Prost, beaten into Ste Dévote by Berger, spent more than half the race behind the Ferrari before Gerhard missed a shift – which you could still do in those days – and he was able to get through into second place.

By now Senna was 50 seconds up the road, so what could Prost do? Start setting new fastest laps, that's what. Who knows why this news should have been relayed to Ayrton, but it was and, as Alain had hoped, he at once reacted, setting several of his own. Urgently Ron Dennis



Hamilton and Lauda celebrate Bahrain success. Left, Lotus wreckage at Montjuich Park in '69

radioed that he was under no threat, and should back off: Senna complied, but then – his race-long rhythm thrown out of kilter – began making mistakes, the last of which pitched him into the barrier at Portier. Nine points to Prost.

Then there was Monza. As usual Senna was on pole, Prost alongside him, but in a season of remarkable Honda reliability Alain had a misfire from the start, and knew he wasn't likely to go the distance.

"I thought, 'OK, what can I get from today?' Because Monza is so quick, we knew we would have to be careful with fuel – but I knew I wasn't going to finish, so I kept up the pressure on Ayrton, hoping he would respond. He did…"

On lap 35, with 16 to the flag, Prost's Honda V6 let go, as expected, but by now his work was done: Senna, suddenly very concerned about fuel, backed off to the tune of three seconds a lap, whereupon the Ferraris of Berger and Michele Alboreto began to close in.

Had he kept his cool, Ayrton would surely, if narrowly, have won, but going into his penultimate lap he encountered the Williams of Jean-Louis Schlesser (standing in for a sick Nigel Mansell) at the first chicane and, rather than wait until they had cleared it, went for a gap that wasn't there. Thus the Ferraris swept on to a 1-2 finish, and the McLaren drivers left Monza just as when they had arrived there, three points apart.

This was to be the only one of 16 Grands Prix not won by the McLaren-Honda MP4-4, and if its designer Steve Nichols remembered the season well, he conceded at the time that what Frank Williams calls 'putting two bulls in one field' had not been without its difficult moments. "Drivers at that level are *very* intense, you know. Senna's like that in a very obvious, aggressive, sort of way, but even Prost... there's the sweet guy we all know, but underneath he's pretty goddam competitive! So put two people like that together, and you're bound to get a few sparks…"

Now, a quarter of a century on, we again have a situation where the World Championship looks to be a straight fight between team-mates, and most assume that Berger is probably right, that sooner or later – because such is the way of these things – there will be a clash between Hamilton and Rosberg.

In the first race of the season, Melbourne, Nico won while his team-mate retired, but since then they have finished 1-2 every time out, with Lewis ahead. With his life at last fitting comfortably on his shoulders, he has been driving quite beautifully, putting bling to one side, concentrating solely on winning another World Championship.

As for his rival, there have long been those reluctant to concede that Rosberg belongs at the top level, but they must surely now be thinking again. Yes, he has been losing races, but sometimes by fractions of a second – and to the fastest driver in the business.

I've never forgotten a remark made to me long ago by Mauro Forghieri about Didier Pironi: "When Gilles [Villeneuve] was alive, maybe we at Ferrari underestimated Didier, because he was always getting beaten by someone in the same car. Because we were judging him against Gilles, we didn't appreciate what a great driver he was…"

A couple of years ago, before Lauda became involved with Mercedes, he told me of his belief in Rosberg, then partnered by Michael Schumacher. "In the past no one could really judge Nico because of the competition he had within his team. I always rated him highly as one of the top guys, and with Mercedes he proves this to me at every race – his performance undermines Schumacher's performance, there's no doubt about that. I think Nico is doing a top, top job…"

About Lewis, though, Niki was at the time rather more circumspect. "He's always there, because most of the time the guy takes chances like nobody believes, and sometimes he gets away with them. Every day, though, there's a different hairstyle, a different beard, the earrings… I don't want to criticise anybody, but I was always one who wanted to keep his feet on the ground – I did not change my personality because I was suddenly famous.

REFLECTIONS *with* Nigel Roebuck



Best of enemies: Senna and Prost in the 1990 Spanish GP, where the McLaren retired and the Frenchman won

"Hamilton performs like hell – but he has changes going on in his life all the time, and I hope he will not get a conflict one day. It's OK as long as you can keep the two apart – this is the glamour world I want to live in, and this is my racing – but it's not easy and Lewis has to watch this. As a driver, I think he has to come back a bit in his aggression, but otherwise I like the way he drives, and he's quick like you can't believe…"

Lauda is credited with being the man who persuaded Hamilton to leave McLaren for Mercedes at the end of 2012, and as company chairman Dieter Zetsche watched Lewis win at Barcelona, perhaps he again congratulated himself for having rejected Ron Dennis's advice not to hire the Englishman.

In his own career as a driver, Lauda's relationships with team-mates were invariably cordial, the exception being that with Carlos Reutemann, pragmatically drafted into Ferrari after Niki's accident at the Nürburgring, when the team was initially by no means certain he would return. Lauda was more than disappointed when Clay Regazzoni was dropped for 1977, and Reutemann confirmed. Early that season I asked him if he were looking upon Carlos as a team-mate or rival, and the response was duly withering: "Neither!"

At first Niki was also highly suspicious of Alain Prost, who replaced John Watson as his McLaren team-mate in 1984. "Alain told me I'd been his hero in his karting days, and was always very nice with me – and that just made me more uneasy! Eventually, though, I realised that in fact he was completely straightforward, that I'd been wrong to have doubts, and then I liked him very much…"

Now Lauda has the task of managing the situation with Hamilton and Rosberg, and if anyone has the experience – and nous – to do it effectively, it is surely he. I rather agree with Berger's assessment that Hamilton is the fastest of all, but also decidedly the more emotional of the two, as evidenced by his radio conversation with the team during the late laps at Barcelona, when Rosberg, on fresher and quicker tyres, was closing in.

In this era of new, numbingly complex, technology, the contact between drivers and race engineers is far more frenetic than formerly, and in the case of some appears almost constant. "Where have you been the last couple of laps, lads?" said an anxious Hamilton on lap 40, fearful that the race might be sliding the way of Rosberg. A few laps earlier he had implored his team to, "Give me a hand – I've got too much oversteer. The rear end's everywhere…"

In the closing stages Lewis sounded decidedly grouchy, occasionally almost frantic, but finally, with a couple of laps to go, and Nico drawing ever nearer, it was time simply to go to work: "No more feedback, please…" At the flag the two silver cars were six tenths of a second apart, and Hamilton had his fourth victory on the trot.

Whatever else, the clearly audible conversation firmly dispelled any doubts there might have been about the Mercedes drivers being free to race: the two sides of the garage are in fierce competition with each other. "Conserve your tyres," Nico was advised a dozen laps from the flag, "to fight Lewis at the end of the race…"

My German colleague Achim Schlang has long been renowned not only for a quirky sense of humour, but also for lateral thinking. "At last I understand why the new cars are so quiet," he said to me in Barcelona. "People keep complaining about it, but don't they







understand that they *have* to be quiet, so the drivers can hear instructions on the radio – telling them how to drive…"

Experience and logic should tell you that, 26 years on, it is unlikely that Mercedes will better McLaren (and equal Ferrari's record from 1952) by winning every Grand Prix this season, but on the strength of the first five races I wouldn't wager much on it. As in the mid-Fifties Mercedes is simply doing a better job, and it is up to Lauda to keep the peace. Neubauer might have had an easy time with Fangio and Moss, but he could tell a tale or two about Caracciola and Fagioli, or von Brauchitsch and Lang. It's the way Grand Prix drivers are.

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NOT LONG AFTER THE 1967 RELEASE OF *GRAND PRIX* – still to my mind the best racing movie ever made – two associated albums appeared on the market, one the memorable soundtrack by Maurice Jarre, the other essentially a collection of 'off-cuts', issued under the title of *The Exciting Racing Sounds of Grand Prix*. If ever you see a used copy somewhere, buy it and have it transferred to CD, if only for a couple of minutes on side two.

"The sound of a Ferrari," says Phil Hill, introducing the segment, "is the favourite sound of just about everyone who ever drove one, and I am no exception. I think you'll understand why when you listen to this track of Mike Parkes, who took our tape recorder on a lap of Monza."

The recording was made during testing for the 1966 Italian Grand Prix, for which Parkes – making only his fourth start – took pole position, and the tape recorder of which Hill speaks was of course not some tiny digital masterpiece, but a reel-to-reel number accommodated with some difficulty in the tight confines of the Ferrari's cockpit.

If, though, Parkes were in any way impeded by the machine's presence, it is not apparent in his effort: this is very much a full-blown lap of Monza as it then was, devoid of chicanes, and is pure motor racing soul music.

That said, speak to a Ferrari driver of that era, such as John Surtees or Chris Amon, and they will tell you that the 3-litre V12 always *sounded* better than it went.

"At Maranello they'd fool themselves," says Surtees. "I remember the '66 car being wheeled out: I knew very well that the original plan had been for a proper Formula 1 racing engine – but I also knew that financial pressures meant that suddenly it became a short-stroke sports car engine! Le Mans was always Ferrari's priority in those days."

Amon, who joined the team in 1967 – when the Cosworth DFV made its debut – was similarly frustrated: "When they fired the thing up in the paddock, it always drew a crowd, that's for sure, but I used to tell them that the exhaust note was all very well, but I'd rather have some horsepower! Still… it was a beautiful sound, wasn't it?"

It was. And if it were that deep bark that we had recently lost, I could more easily understand the hue and cry about the new generation of power units in F1: as it is, frankly, I don't. The anaemic 2.4-litre V8s signified nothing after the 3-litre V10s, and if the sound they made was indeed loud, to my ear it was an uninteresting racket, with one engine note indistinguishable from another.

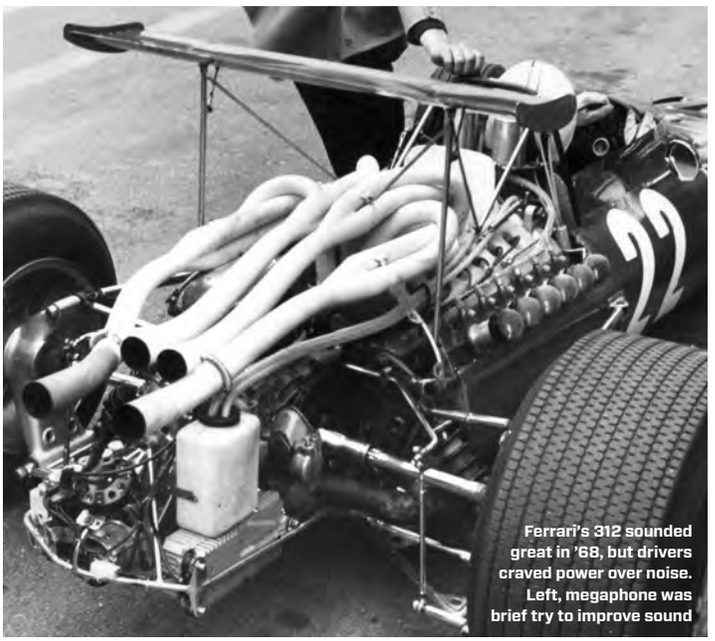
The more I think about it, the more it amazes me that, at a time when so much else is wrong with the internals of Grand Prix racing, all this attention is given over to its sound. Down Barcelona's long pit straight the 'hybrids' were indeed way quieter than we may have come to expect of an F1 engine, but the sound – mellow and muscular – was to me a pleasing one.

People talk airily about 'getting the noise back', but that's folly: the latest power units are turbocharged, and there is no point in pretending they can ever be made to sound like the engines they replaced. Now the stated aim is to make them sound as much as possible like the previous generation of turbos, but even that is unrealistic, for much of the old engines' enticing sound came from unburned fuel in the exhaust, and in this 'green' era unburned fuel is not to be countenanced.

During post-race testing in Barcelona Nico Rosberg's Mercedes appeared with a trumpet-shaped exhaust tailpipe, but if it had no adverse effect on the car's performance neither did it produce any more noise. A blessing, I felt, for it looked remarkably stupid, like something out of a cartoon, and had it worked as intended every car would have been similarly disfigured.

So many times over the last few years the thought has occurred that Bob Fernley, (deputy) team principal of Force India, speaks with





Ferrari's 312 sounded great in '68, but drivers craved power over noise. Left, megaphone was brief try to improve sound

more common sense than most of his colleagues put together. Given that his team is one of the smaller, more financially stretched, outfits in the paddock, Fernley was not surprisingly sad to see the destruction of FOTA (Formula One Teams Association) and – even more understandably – dismayed to witness the advent of the F1 Strategy Group (motto: 'Let them eat cake').

Given that his team routinely embarrasses those of Strategy Group members, it is easy to see why Fernley resents its having no say in the sport's future. It was these people in April who blocked the introduction of a budget cap in 2015, and I can readily imagine his reaction to Bernie Ecclestone's absurd pronouncement – between court appearances – the week after Barcelona: "Why don't the teams spend less? I don't think they need a budget cap. The people who don't need one will find a way around it. There are four teams not in the Strategy Group, and why not? Because the teams that are have committed to racing in F1 to 2020, and have put up sensible guarantees if they don't."

Fernley and others might reasonably argue that it would be easier to commit to a long-term future in the sport if the F1 cake were sliced a little more equitably, allowing the smaller teams greater financial security down the road, but he well knows that such a scenario is unlikely so long as the sport remains in the ownership of the despised CVC Capital Partners.

On the vexed subject of F1's new soundtrack, Fernley is also at odds with Ecclestone and his cohorts, suggesting – correctly – that the exhaust note is the one that comes with the hybrid power units, and should not be tampered with in an artificial attempt to stay in the past.

The key word is 'artificial', for that is what megaphone exhausts and the like are, and they belong in the same bin as DRS, double points and high-degradation tyres.

"THE FACT IS, F1 HAS BEEN GETTING SLOWER FOR YEARS."

I'm growing tired of the criticism of the new Formula 1, of the moaning that it's not only too quiet, but also too slow. All right, it was easy to take a cheap shot at it in Barcelona, to point out that during Friday practice Caterham's pair of GP2 drivers set quicker times than Kamui Kobayashi and Marcus Ericsson could manage, but that is to ignore the bigger picture.

This era of F1 is very much in its infancy, and given the chaotic scenes in pre-season testing when the teams were first coming to terms with this mind-boggling technology, I think the progress made, only five races in, has been staggering, most of all in reliability. As for the cars themselves, how can you be other than impressed when, for all its complexities, Nico Rosberg describes the driveability and response of his Mercedes hybrid as better than that of his V8 car from last year?

Of course for the moment they are struggling – at some circuits more than others – to match the lap times of last year, but that should hardly be a surprise, in light of the fact that this year's minimum weight limit is 50kg more than before, and downforce has been substantially reduced.

The fact is, Formula 1 has been getting slower for years. Glance at the lap records for long-established circuits, and you will find that most of them were set a decade ago, in the V10 era, when such as Michael Schumacher and Juan Pablo Montoya had close to 900 horsepower at their backs.

At the top end the new hybrid cars – those powered by Mercedes, anyway – are already streets quicker than the screaming V8s, and the prediction is that at somewhere like Monza we will see speeds previously unknown in F1. As well as that, with greatly increased torque going hand in hand with reduced downforce, these new cars – whatever their overall lap times – make for an infinitely more exciting spectacle than their predecessors, not least because they are patently

more difficult to drive. It pleases me that Lewis Hamilton suspects that Eau Rouge may not be flat – let alone 'easy flat' – this year.

Shortly before practice began in Spain I went to the Mercedes pit to hear the cars being fired up – first the regular V6 engine, then 'the ancillaries' or whatever you wish to call them, and to me the sound was stirring, not least the clearly audible spooling up of the turbocharger as Lewis drove out of the pit.

Mercedes has done a comprehensively better job than its rivals in preparing for this new world of F1, and the superiority of its cars was never more clearly shown than in Bahrain, where – after the safety car period – Hamilton and Rosberg left the pack behind at a second and a half a lap. Let us remember, though, that Sebastian Vettel's Red Bull did exactly the same in similar circumstances in Singapore last year.

Dietrich Mateschitz plainly relished the one, but not the other. Perhaps, if Renault's preparations had matched those of Mercedes, and Vettel had been able to continue his endless winning streak in 2014, the Red Bull patron might have been more welcoming to the new era; as it is, graciousness has been in short supply.

"To say I am sympathetic to the displeasure of the fans is an understatement," Mateschitz said after Barcelona. "It used to be about 'who is fastest wins', but now we have a plethora of regulations, restrictions, rules and penalties, and as it is they can no longer go to the limit..."

I think Lewis and Nico might take issue with that. Yes, we have new restrictions on fuel, but fears that the drivers would be coasting for much of a Grand Prix have thus far proved unfounded – indeed the much anticipated topic has barely raised its head, and the only 'saving' has been with tyres, just as it was last year, when Vettel walked the championship.

Surely even Mateschitz must understand that had we not followed this route of engine technology, and stayed instead with the antiquated V8s, we would have lost Mercedes and Renault as manufacturers, and we would not be welcoming back Honda. In two or three years Formula 1 would have looked like NASCAR.

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IN THE RECENT PAST THERE HAS, NOT SURPRISINGLY, BEEN a flood of reminiscence, both written and broadcast, about Ayrton Senna da Silva, who left us 20 years ago, but remains for many the greatest racing driver of all time.

Probably it was no more than inevitable that at some point Luca di Montezemolo would wish to involve himself in the debate, and sure enough on April 30 – the day before the anniversary of Senna's death at Imola – came a piece on the Ferrari website, suggesting that in his last days Ayrton was in discussion with Luca about the possibility of a move to Maranello.

Senna, di Montezemolo revealed, visited his home in Bologna on Wednesday, April 27 1994. "He told me he really appreciated the stand we [Ferrari] had taken against the excessive use of electronic aids, which didn't allow a driver's skill to shine through."

That rings true, as – with a slight reservation – does, "He made it clear to me that he wanted to end his career at Ferrari, having come close to joining us a few years earlier…"

Why the reservation? Because, at a press conference in Maranello a couple of years before his death, the only question I put to Enzo Ferrari was about the possibility of Senna's driving for him. The Old Man grinned – it was one of those moments when he forgot he didn't understand English – and replied that the matter had been discussed, but that the driver's financial demands had proved *imaginativo*…

This, of course, had been at an early point in Senna's F1 career, when he was driving for Lotus prior to moving to McLaren, and I don't doubt that several years on, after three World Championships, his fiscal requirements, however *imaginativo*, could – and would – have been met.

Although Senna's name was endlessly linked with Ferrari, other team owners believed he was using the rumours *pour encourager les autres*, to get a better deal for himself at McLaren or wherever, and certainly he was not unmindful of Alain Prost's Maranello experience. Whatever their personal differences, Ayrton respected Prost the racing driver like no other, and well knew that Alain's approach to his work was very similar to his own. "If he couldn't make it work," he confided to a friend, "that's not a very good sign…"

To this day, however, Prost admits that he always thought an F1 career somehow incomplete without a spell at Ferrari, and virtually every other driver of consequence has said the same. No matter how cynical the world of Formula 1, and no matter how disinterested in the sport's past its drivers, still the word 'Ferrari' resonates like no other. "You don't go there believing you will win all the time," Didier Pironi said. "You go there because they ask, and you can't refuse."

> "PROST ALWAYS THOUGHT AN F1 CAREER INCOMPLETE WITHOUT A SPELL AT FERRARI"

Senna, though, did refuse, and more than once, because his entire *raison d'être* was winning all the time. At the same time, though, even on Ayrton Ferrari worked its spell. Adriane Galisteu, his girlfriend during the last year of his life, reveals in her book his wish to finish his career in a red car: "Even if Ferrari's car is as slow as a Volkswagen Beetle, I still want to be driving it in my last race, on my last lap. Ferrari is the myth of F1, the tradition, the soul, the passion…"

This tallies with what Montezemolo has said, and the only part of his statement with which I struggle is the suggesting that, "Ways of allowing him to move from Williams were going to be evaluated".

It's a fact that the Williams-Renault FW16 initially fell short of expectations, that only Senna's genius had put it on pole position at Interlagos and Aida (and indeed Imola), but it was a car from the pencil of Adrian Newey, and Ayrton had every confidence that it would be brought to heel.

Senna had, after all, ended his long association with McLaren specifically because – having been beaten to the 1992 and '93 World Championships by Mansell and Prost – he felt he had to drive for Williams. "His manager, Julian Jakobi, was very close to him," Frank Williams told me at the end of 1994, "and he said that Ayrton remained convinced he would win the World Championship…"

That being so, while Senna may have harboured a dream of one day driving for Ferrari, it is not easy to take seriously the suggestion that, only two races into his Williams career, he was looking to have his contract bought out so as to join a team which at that point had not won a Grand Prix in nearly four years.

Unless, of course, Ayrton, who admitted to his one-time nemesis Prost that he missed the motivation of competing against him, was beginning seriously to think in terms of retirement, and wanted that to come with Ferrari. As with so much else to do with Senna, we may never know.

F1 FRONTLINE *with*



Mark Hughes

>> F1 COST ROW >> FERRARI IN DECLINE >> MERC'S SPANISH STROLL

SNAP DECISION

Fernando Alonso captures the moment as fans enjoy a pit walkabout on the pre-Spanish Grand Prix Thursday. It was a rare bit of levity during a weekend in which the Ferraris struggled yet again to find any kind of meaningful form. The local hero finished sixth, almost a lap behind Lewis Hamilton.

LAT

STRUCTURAL CHANGE IN Formula 1 is on the horizon. As the cost/income equation continues to get wildly out of kilter, there are smoke signals suggesting both a legal challenge and that the governing body might be recognising that it needs to act. "It's a joke what the teams have suggested," said FIA President Jean Todt on the matter of F1 cost controls. "The budgets are in the hundreds of millions and they are suggesting things that might save two million." This is not ordinarily the way the consensual Todt would choose to express himself in his current role.

Todt is referring to suggestions that came out of an unproductive and at times ill-tempered meeting at Bernie Ecclestone's Biggin Hill offices on May 1. Essentially the big teams don't want a cost cap and the small teams do. But even if the big teams could be talked into accepting a cost cap, it would be such a big number that it would be irrelevant to the small teams. As the strategy group (comprising the six big teams) outlined suggestions, the small teams knocked each of them down as meaningless to them. The areas where (small) savings can be made for teams with 700-800 people do not apply to those with a staff of 200-250.

The big teams insisted they retain the rights to spend as much as they see fit: if that ends up sending some of the smaller teams bankrupt in trying to compete, then so be it. History is littered with dead F1 teams, they pointed out. Yes, said one of the small teams, but history is also littered with many dead drivers and thankfully F1 didn't think it was a good idea to keep killing them.

So the big teams got exasperated, challenged the small teams to come up with some suggestions of their own and the small teams pointed out that they do not have a forum to make suggestions – that since the strategy group was staffed with only the big teams they felt unrepresented. At which point a principal from one of the big teams said, "Well, go and form your own club. You can call it the In The Shit Club." At which point any meaningful discussion largely broke down.

We are back 100 per cent to self-interest and, therefore, to the two things in this discussion that have always been obvious: 1) Cost limits are just one part of the equation, with income distribution on the other side – and that might be an easier subject to tackle. 2) Any change to the numbers in that equation must be imposed by the governing body.

On the first matter, the general principle of the successful teams getting more favourable terms is obviously only ever going to exaggerate the differences between them and the others. The budgets required to be successful are now so big that it's no longer possible for a small team to burst through the glass ceiling and instead they are caught in a situation where they are fighting for their existence. At least three, maybe as many as five, teams are currently struggling to survive. In a sport that generates such vast revenues, that's wrong. The payments need to ensure every current team can survive. It's also wrong that the sport's owners take such a significant slice of the revenues – and, as we all know, that goes back to Max Mosley granting Bernie Ecclestone a 100-year money-printing licence a few years back. This ended up with Bernie in a Munich court as he got involved with all the money leeches who attached themselves to the sport, but who'd had no previous interest in it.

On the matter of enshrining cost caps into regulations, it was until a couple of months ago the FIA's intention to do exactly that from 2015. But it surrendered this notion amid uncertainty over whether it had the legal mechanism to impose the cap against the big teams' wishes. Now, some of those in the smaller teams are implying a legal challenge if the FIA does not impose the cap. In Spain Sauber's Monisha Kaltenborn implied that, because of an agreement signed last year by all the teams agreeing to the idea of a cost cap in principle, then there could be a legal problem for any team now standing against that being imposed. "[The smaller teams] haven't threatened anyone… it's more for other [teams] to know what they're doing or not, and assess the legal effects of that."

Deadline for publication of the 2015 sporting regulations, in which any cost cap would have to feature, is June 30. Todt could probably do without having the complication of the European Union being involved in an F1 dispute and has called for teams to come up with something acceptable to all. When Max Mosley was in these situations, if he didn't receive anything he considered adequate, he'd impose something draconian and negotiate back from there. Maybe, for once, Todt will have to take a leaf from his predecessor's book.



LAT

STRAIGHT *talk*

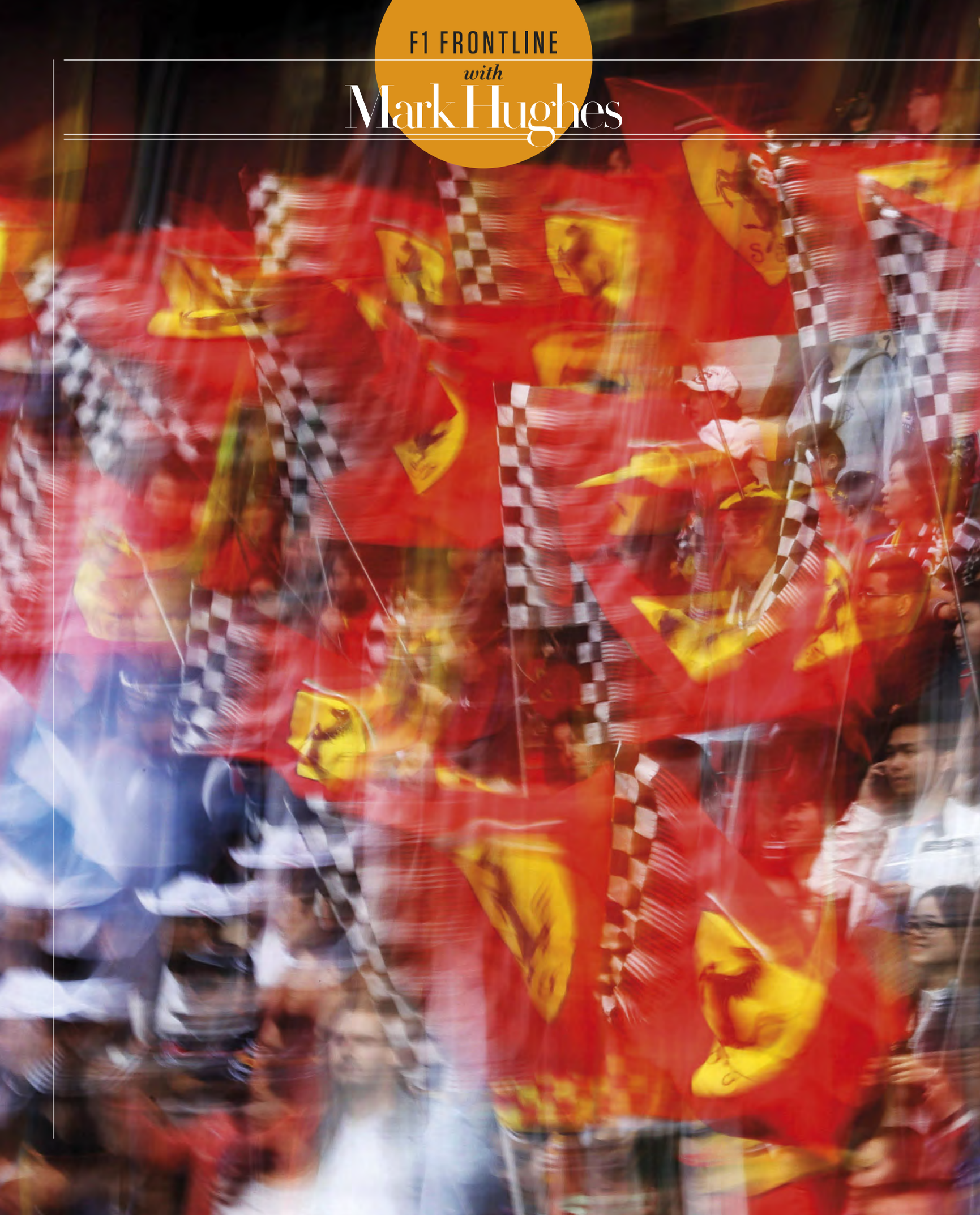
The financial conundrum facing the FIA president

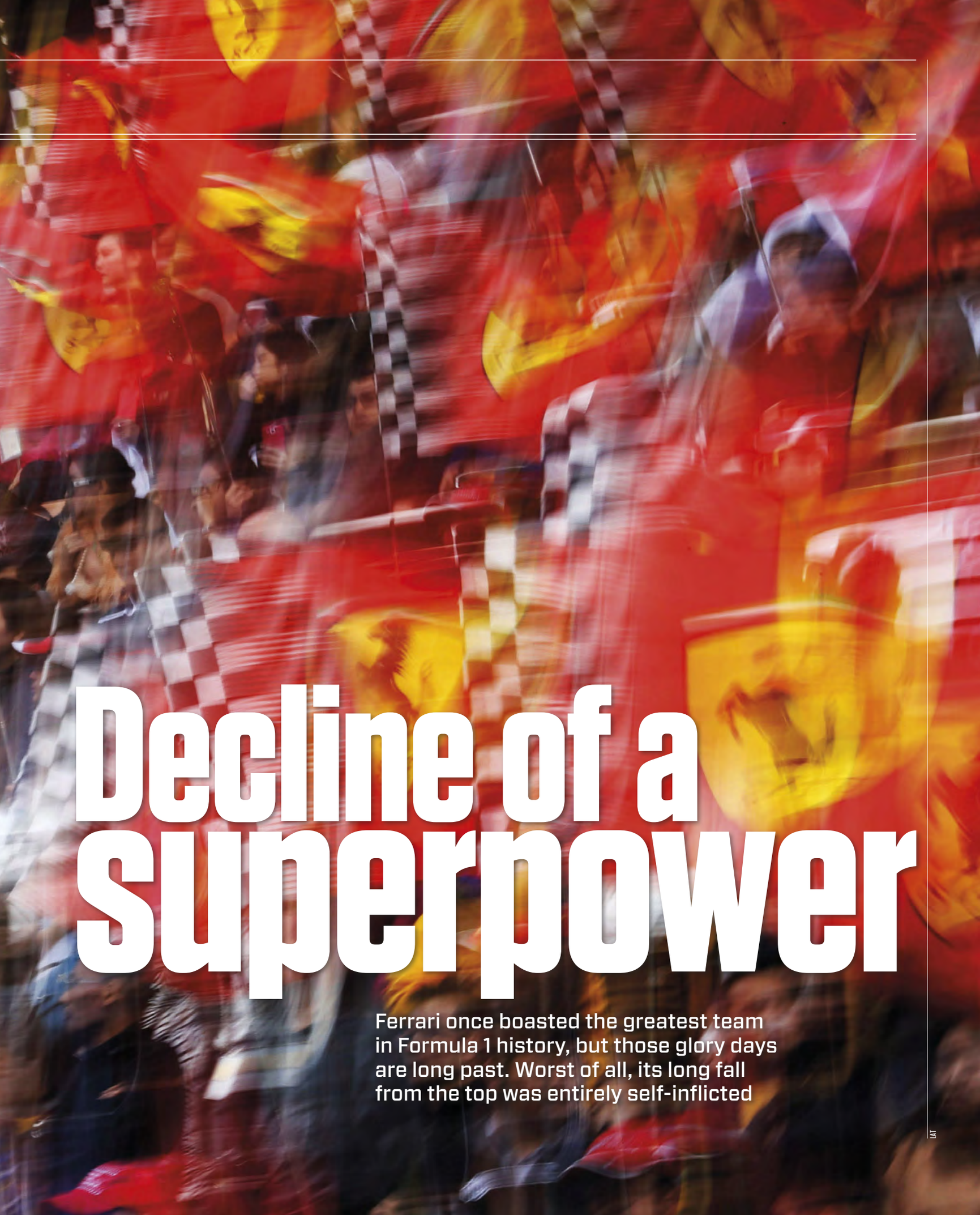
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F1 FRONTLINE

with

Mark Hughes





Decline of a superpower

Ferrari once boasted the greatest team in Formula 1 history, but those glory days are long past. Worst of all, its long fall from the top was entirely self-inflicted

FERRARI'S NEW TEAM PRINCIPAL SAT confident but silent alongside president Luca di Montezemolo at a press gathering in the Scuderia's motorhome during the Spanish Grand Prix weekend. Silent because he's still learning the ropes of F1, parachuted in as he was from a position as CEO of Ferrari North America? Or silent as in he's the man with the real power behind him and simply allowing di Montezemolo to act the part? In that question could lie the team's future prospects. Power politics are everything here, just as they always have been, and all is not quite what it seems. Team principal Marco Mattiacci has been placed in his role by Fiat chairman John Elkann, grandson of the late Gianni Agnelli, and the appointment has the full blessing of Fiat CEO Sergio Marchionne. It was not an internal, Ferrari-only appointment, though clearly Luca has been allowed to present it as such.

Stefano Domenicali – who resigned as team principal after the Bahrain Grand Prix following six years at the helm – was only ever di Montezemolo's employee, doing the job as he saw fit in between carrying out the president's specific wishes. This was in sharp contrast to how things had been before – when Jean Todt, Ross Brawn and Michael Schumacher between them formed a tightly knit circle of power. No-one – not even di Montezemolo – could break into that. They took control and between them agreed that they would share all information, effectively stripping the boss of any interruption or disruptive power play. It was the way Todt had worked at Peugeot, too, clearing a space for those doing the job so as to be immune from the pressures of management.

Because they and chief designer Rory Byrne were also supremely talented in their own areas of expertise, they combined with Ferrari's resources to become dazzlingly effective. They took the shambles that was Ferrari of the early '90s and progressively evolved it into the greatest team F1 has ever seen, unbeaten in the championship for five straight years. They developed structures, disciplines and procedures previously alien to the very Latin culture of Maranello and turned it into a tough fighting unit, with the late Nigel Stepney translating that approach to the ground troops so that Ferrari also had consistently the best reliability and pitstops in the business.

Todt and Brawn were employees only on paper. They completely transcended that status in reality. Di Montezemolo could take the credit for having recruited them in the first place (though in the case of Todt it was on the advice of Bernie Ecclestone, the Frenchman in turn targeting Schumacher who then insisted they needed Brawn and Byrne). But though the duration of success was beyond anything even the Scuderia had enjoyed before, perhaps the president felt one step removed, perhaps it wasn't Italian enough and perhaps there was an underlying resentment that he'd had to recruit 'mercenaries' from outside to reconstruct an edifice that had become almost derelict. It's possibly quite significant that when he announced Mattiacci he said: "I decided to appoint a young manager in whom I have a great deal of confidence and someone from the Ferrari family, rather than going around the world looking for some mercenary." Did he consider Todt and Brawn mercenaries? Did he resent the big money, high profile and recognised success of Todt and Brawn? Did the sweetness of their success have a bitter aftertaste? He's never going to answer such questions, this man who is sometimes like an actor playing himself, so the real person is never revealed, but his actions tally with that and his words sometimes betray it.


FERRARI

"I DECIDED TO APPOINT A MANAGER FROM THE FERRARI FAMILY, RATHER THAN SOME MERCENARY"

Early in 2006 Brawn informed di Montezemolo that he would not continue beyond the end of the season. Schumacher then only very reluctantly retired at the end of that year, his decision hastened by di Montezemolo's pressure. The boss had signed Kimi Räikkönen, not in any way the traditional number two that Schumacher had always enjoyed under the protection of Brawn and Todt. Michael was free to stay if he wished, but only as an employee. Feeling underappreciated and not sure if he could summon the focus he thought would be required to prevail over Räikkönen, he stepped down. A few days after the end of the season Todt was effectively dismissed, though in the Italian way it wasn't presented like that. He would stay as a special advisor, though in reality Domenicali was now the team principal, and would be labelled as such the following year. And so it was done; the three pillars of control (Brawn, Todt, Schumacher), whose combined forcefield had kept di Montezemolo one step removed, were now gone. He was back in charge. Part way through 2007 Brawn had meetings to see if Ferrari might want him back after his 12-month sabbatical, but predictably that idea didn't go anywhere.

Di Montezemolo did not try to replace the architects of the golden period with similar figures. Instead, he installed the home-grown Domenicali, a very able lieutenant but not one who either by circumstance or personality would ever be able to assume the level of control and responsibility that Todt or Brawn had taken. Rory Byrne went into semi-retirement and was replaced by his long-time number two Aldo Costa, another very able man but again a more conservative, less gung-ho persona than his predecessor. The excellent structure built up during the glory years allowed the team the momentum of success. Räikkönen won the 2007 title and Felipe Massa was an agonisingly close runner-up in 2008. But by the time di Montezemolo finally succeeded in recruiting Fernando Alonso, the technical momentum was



Ferrari's technical stumble has coincided with Fernando Alonso's five seasons in Maranello

LAT

already on the wane. Simulation technology had advanced at breakneck pace during this time and Ferrari had not kept up. From leading the field in this area, it was already badly lagging. Without a widely connected team boss, with a network that covered all the British teams and suppliers – and someone who could authoritatively demand more budget for facility upgrades and explain exactly why they were needed (ie Brawn) – Ferrari was very quickly falling behind the times technically. The dazzling rebuild of the early '90s ruin was beginning to look a little tired.

The challenge was exacerbated as it had voluntarily surrendered one of its key advantages over the British teams – an on-site test track. The testing ban neutralised Fiorano. Di Montezemolo had aligned himself with the British teams and against FIA president Max Mosley during 2008-09, a historically unusual position for Ferrari to adopt. He even, briefly, became president of team association FOTA. Some of the cost-cutting measures agreed in that time actually worked against Ferrari. Domenicali was also very active in the team body, working for the greater good but taking focus away from the slow slide into only semi-competitiveness that has characterised Ferrari in the Alonso era. At much the same time, the weapon that is Adrian Newey had been properly unleashed, free now from the constraints of McLaren and given the freedom and budget to do whatever he saw fit at Red Bull. Not only was Ferrari sliding gently down, but the bar was simultaneously being raised.

Things were slowly getting out of kilter and the big technical overview was not being represented at the highest level of decision making. Reconfiguration of the team's wind tunnel began four years ago, upgrading it to be able to use 60 per cent rather than 50 per cent scale models and incorporating an advanced format that could present a curving airflow to the car. It proved a disaster and, after being shut down and redesigned during much of 2012-13, it is only now beginning to give reliable correlation with the real world. The team had to rely on the Toyota wind tunnel in Cologne in the intervening period. It was unfortunate that the timing of the new tunnel coincided with how F1 aerodynamics were developing to use ever-more intricate and inter-related vortex generation to accelerate airflow all around the car. The development in F1 of counter-rotating vortex pairs (CVPs) – generating separate vortices that accelerate the airflow through the gap between them to create the various outwashes and invisible sealing that are such crucial parts of a current car – made the aero performance incredibly sensitive. It was the worst possible time to encounter a tunnel problem.

"In all my time at Ferrari, I don't think we ever brought new parts to the car that stayed on it over a race weekend," said Felipe Massa at this year's Spanish Grand Prix. "They never worked. At Williams the correlation between the tunnel and the track is fantastic."

Although the tunnel problem has had a major bearing on the team's performances of the last few seasons, it has really been a symptom of the underlying problem – which is that without someone at the technical level of Ross Brawn having an overview, the team management is simply having to rely on what its engineering staff are telling them. Strategic decisions are not fully informed – nor does the team have complete access to what is going on in F1's UK 'silicon valley'. Domenicali was a highly competent manager, but keeping Ferrari at the forefront of F1 technology requires more than that. It demands the sort of background that can make fully informed choices, that can anticipate technical problems before they arise and have the clout to demand changes or investment.

In the meantime di Montezemolo repeatedly tried to recruit Newey, offering a reported £10 million per year in 2011. Newey turned him down and renewed his Red Bull deal (which officially expires at the

end of 2017). It would be no surprise if the recent rumours of di Montezemolo trying again turned out to be true.

Brawn was a shrewd technical man at a very senior level and was not replaced on a like-for-like basis. At the track Domenicali was not the sort of personality able to pursue Ferrari's interests above all else, in the way that Todt and Brawn were. Things generally were less clearly defined within Ferrari in the post-Todt/Brawn era. The example of the Alonso/Massa team orders affair, at Hockenheim in 2010, was just one outward manifestation of a trait that was always there. This had its roots in Alonso's second race with the team, Australia 2010, where he was coming back through the field after a first-lap incident and was on-course to be challenging for victory until he encountered Massa in third place, going significantly more slowly. The team didn't ask Massa to move aside and, unwilling to risk a collision, Alonso was prevented from reaching Kubica and Button just ahead. As far as Alonso was concerned, a winnable race had been lost for the sake of 'being nice' to the other driver. Alonso met with Domenicali at the factory in the aftermath, made his point forcibly and the boss agreed that if such a situation should arise in future, the call would be made. But at no point was this agreement relayed to Massa, who only got to find out on lap 45 of the German Grand Prix when he received the infamous "Fernando is faster than you" message.



Marco Mattiacci sits and listens as di Montezemolo holds court in Barcelona

FERRARI

Alonso has found himself in a strange situation at Ferrari. Recruited as 'leader' of the team, something that hadn't lent itself to Räikkönen's personality, he has not received anything like the support Schumacher enjoyed. He has never been on the same solid footing, never been part of the fabric – because the real power has always been one step removed, the supposed team boss really just an employee of someone not present. Then, as the Spaniard's frustration spilled over with a throwaway line last summer, so di Montezemolo pounced. He berated arguably the world's best driver as if he were an errant schoolboy.

❖

AND SO TO THIS YEAR'S BAHRAIN GRAND PRIX, WHERE di Montezemolo had made his typically showbiz entrance, photographers surrounding him getting out of the back of the car, smile on full dazzle, waving to non-existent acquaintances off in the distance to make for more impressive footage. Later he pronounced to the journalists – we need to increase the fuel limit, this formula is for taxi drivers, the racing is dull etc. And then he left before the finish, a thrilling race, wheel-to-wheel dices right down the field, but the Ferrari drivers sank ever further back, a lack of traction and efficient energy harvesting leaving them bereft of electrical boost at critical points of the track. Luca couldn't watch any more and his car was duly summoned, and headed for the airport a long time earlier than it might had the red cars won.

For a man to whom image is so important, it was all very embarrassing – and the laughing stock quotient only increased when some of his points were put to those more intimately involved: "Increase the fuel limit?" said the engineers. "Where would we put the extra fuel? The cars have all been designed around 100kg tanks."

Montezemolo's former employee Todt was there and, asked about Luca's suggestions, replied. "I'll happily talk to him about them, but maybe he should talk with his engineers first."

> "ALTHOUGH HIS EXPERIENCE OF RACING IS NON-EXISTENT, THAT NEED NOT MATTER"

There's a lot that's still right about Scuderia Ferrari. It has potentially the best integration of chassis, aero and power unit of all, given that it's the only team that has these departments on one site. But the lines of communication, the attitude of all working together for the best overall car solution – as typified by Mercedes and the conception of the W05 written about in last month's issue – is not at the level it should be. This must be seen as a failing of management; the lack of overview and recognition of what is required. There are a lot of talented and passionate people working there – and technical director James Allison is a huge asset – but they need to be directed effectively and efficiently. There are multiple losses in this system.

So we return to that scene in Spain, with the silent Mattiacci sitting alongside the expansive di Montezemolo. "Mattiacci knows how to run a company and handle a group, which is very important. Now he has to do a full immersion in F1 – much as I did when I started in 1973. I was passionate but not an expert. In '92 Jean Todt joined as an expert of rally, not F1, but he quickly became an expert. I'm not happy about where Ferrari is, not at all; it is so much less competitive than my expectations. We need to be very clear about where the problems are, why we are not competitive, improve the situation as soon as possible without losing the talent, while maintaining a good, calm environment and have firm short-, medium- and long-term goals. I know that Ferrari has all the capabilities and opportunities to grow back to its form. In looking ahead we need to react in terms of mentality, in terms of organisation, in terms of speeding up time to market."

What was going on behind Mattiacci's impassive face as this was being said? If we knew that, we'd have more clues about whether he is the man for the job. Although his experience of racing is non-existent, that need not matter. Flavio Briatore, a man from the clothing industry, proved a highly effective F1 team boss. But he was guided by great technical men – Brawn and Pat Symonds notably. If Mattiacci can make someone like Allison a trusted ally and, once up to speed, transcend his position of employee and become a genuine boss, then it's possible. M

GRAND PRIX NOTEBOOK

SPAIN



Rd 5 CATALUNYA, MAY 11 2014

1	LEWIS HAMILTON	Mercedes W05	1hr 39min 42.743sec
2	NICO ROSBERG	Mercedes W05	1hr 39min 43.828sec
3	DANIEL RICCIARDO	Red Bull RB10	1hr 40min 06.810sec

FASTEST LAP SEBASTIAN VETTEL Red Bull RB10 1min 28.918sec
RACE DISTANCE 66 laps, 190.825 miles
POLE POSITION LEWIS HAMILTON Mercedes W05 1min 25.232sec



SO IT CONTINUES: MERCEDES DOMINATION, the Lewis Hamilton/Nico Rosberg struggle for supremacy. In many ways this race was a repeat of Bahrain, with Hamilton in front but Rosberg on faster tyres coming back at him in the closing stages. Although the pair were frequently separated by less than a second and crossed the line just 0.6sec apart, Hamilton ahead to take win number four from five, it was tense and strategic, without the wheel-to-wheel thrill of their dice two races earlier. But it could have gone that way at any moment: Hamilton locking up into turn 10 two laps from the end might have allowed Rosberg the chink of opportunity he needed, but it was at an awkward part of the track for passing and Lewis ensured he covered off the consequences of the error, running out to the far outside of the exit and thereby being on the advantageous inside for the looping turn 12.

He'd by this time requested that his engineer stop talking to him, as he concentrated only on the fight with his team-mate. In some ways Hamilton and Rosberg were fighting by proxy, as extensions to their sides of the Mercedes garage. It was fascinating listening in to the two halves of the team competing against each other – "Nico, you need to get the gap down to Lewis to 2sec by the end of this stint" and, at much the same time, beginning the crucial middle phase, "Lewis, you need to increase the gap over Nico by about 4sec in this stint" – especially so, as this is the destiny of the world title being decided. Because the rest are nowhere: Red Bull, Ferrari and McLaren are the only other three teams equipped and financed to mount a serious title bid and, around Barcelona, the most aerodynamically demanding venue on the calendar, they qualified respectively 1sec, 1.9sec and 2.1sec per lap slower than the dominant W05s. At the end of 66 laps the best Red Bull was third, 49sec behind, the Ferraris were fifth and sixth, one of them lapped, the other one almost. The McLarens raced hard to take 11th and 12th, one lap plus an extra half-minute adrift.

This dominance by one team has created pressures – both within Mercedes and among its competitors. At Ferrari, more details emerged about the change of management a few weeks earlier. The new team principal Marco Mattiacci – formerly CEO of Ferrari North America – was in fact the choice of Fiat's chairman John Elkann, the dynamic 38-year-old American grandson of late Fiat heir Gianni Agnelli. Fiat retains the whip hand at Ferrari, but it's not an influence that was pursued when things were going well. The mediocre form of the F14T in the early races, following the title drought since 2007, changed all that. Pressure was applied down the line: from Elkann to di Montezemolo to team principal Stefano Domenicali, who in turn was under pressure to fire someone from the engine department. When he refused and instead tendered his resignation, Elkann is said to have presented di Montezemolo with his new team principal as a *fait accompli*. In the Italian corporate way, di Montezemolo was allowed to present the appointment as his idea. At Barcelona Mattiacci silently sat alongside while di Montezemolo, who'd flown in for the second time in four races, outlined what was being done in response to Mercedes (see Ferrari feature on page 36).

At McLaren meanwhile Eric Boullier has been overseeing a similar 'root and branch' review of how the team works at the factory. A committee overseen by technical director Tim Goss has been partially dismantled in an effort to free up ideas transfer and feedback.



Victory in Spain was Lewis Hamilton's fourth on the bounce. It put him ahead in the standings for the first time in 2014

There is clearly something wrong when a team with such resources and facilities has delivered a car with aero numbers considerably worse than those of the car from the much smaller Lotus team, from which Boullier arrived. Around the fast curves and long straight of the Circuit de Barcelona-Catalunya, those aero numbers told more than ever. Jenson Button did well to get into Q3 but, more than 2sec adrift of Lewis Hamilton's pole time, he would only have scoffed had he heard Hamilton's complaints about how his W05 was not handling as well as it had on Friday. These two cars have the same Mercedes power units, let us not forget – though Ron Dennis believes that they are losing as much as 40bhp simply through fuel. McLaren relies on its long-time supplier Mobil, but the works team's fuel partner Petronas developed the engine from its concept stage. The concurrent development of fuel and lubricants has become vastly more significant in the new turbo era.

Red Bull consolidated its status as best of the rest, with Daniel Ricciardo qualifying and finishing third. But that has to count as a disappointment – certainly for the team and probably the rest of F1, too. The hope was that with an upgraded Renault power unit – software that allowed the energy recovery system to be "95 per cent as good as it's going to be" – and a new fuel from Total reckoned to be worth 0.15sec per lap, the full potential of the RB10 might see it trading blows with the Mercedes. Well it arrived fully loaded and with slightly narrower sidepods and the end result was: Hamilton 1min 25.232sec, Ricciardo 1min 26.285sec. "The lap was good," Danny said. "I was expecting it to be closer than that." It was a lap that pretty much extinguished the hope that the title fight is not going to feature only the two Mercedes drivers.



Daniel Ricciardo goes wheel to wheel with Valtteri Bottas en route to third

Perhaps Sebastian Vettel could have found a little more time from the car, had his weekend gone more smoothly – but surely not a whole second. He missed Friday practice almost entirely when the wiring loom chafed and shorted on the replacement chassis that had been prepared for him. Before he'd completed a lap of Q3, the gearbox selected two ratios at once and the five-place penalty for the replacement unit left him 15th. He drove a sparkling race to fourth, the RB10's superb stopping ability very evident as he compensated for the car's inherent lack of straightline speed by braking super-late into Turn 10, where he made most of his passing moves.

As easily the second-quickest car on the track after the Mercedes, it was not unnatural that he should be able to come through, but it required an out-of-phase three-stop strategy to do it, relying on the car's speed and its newer rubber to overcome the extra stop over most of the rest. He set the race's fastest lap along the way, giving some to suggest that had he started near the front he might have challenged the Mercs – but this was a false comparison. The three-stop strategy allowed him to be on a far better combination of light fuel load and fresh tyres than the two-stopping Mercs for the purposes of fastest lap comparison. He set his time on lap 55, 11 from the end when carrying about 17kg of fuel on option tyres that were three laps old. Rosberg set the second fastest lap – on lap 51, on six-lap-old prime tyres and carrying around 23kg of fuel. Tyre degradation was reckoned by most teams to be in the order of 0.1sec per lap, the prime tyre was itself about 0.8sec slower than the option (giving Vettel a total tyre advantage of 1.1sec in this comparison) and the 6kg difference in fuel loads when the times were set would equate to around 0.2sec.

Subtract 1.3sec from Rosberg's actual best lap and you get the approximate lap time he could have set given the same fuel load and tyres as Vettel – and it works out at 1min 27.9sec compared with Vettel's actual 1min 28.9sec, tallying very well to the 1sec advantage Mercedes-Benz enjoyed over Red Bull in qualifying.

Inside Red Bull, there's a belief that there are three tenths to come from Seb if they can develop energy harvesting/engine mapping that allows him to drive the car the way he naturally wants on corner entry. He was always able to extract lap time from the blown exhaust cars in the first part of the turn by using a sudden turn-in that would upset the rear into sliding, giving him very quick direction change, and he would then counter-intuitively stand on the throttle – often one gear down, in order to bring the revs up – using the extra rear downforce from the exhaust-blowing to halt the slide once he'd got his direction change. Obviously the 2014 cars cannot be driven that way, given the lack of exhaust blowing, but it's believed there is scope to configure the mapping and energy harvesting in a way that might at least partially mimic that trait. It's all ifs and buts – and it isn't going to find them one second. And that's from the team with easily the second fastest car.

The wildly partisan crowd rose as one as Fernando Alonso went down the inside of Ferrari team-mate Kimi Räikkönen into Turn Four three laps from the end, having trailed behind him from Turn One of the first lap. But it was only for sixth place and almost a lap down. The team's first priority is to fine-tune its car's energy harvesting efficiency. It had been improved since China and was delivering more electrical boost, but its harvesting rate was still not as quick as that of Mercedes, meaning it ran out of steam earlier down the straights. Furthermore, the slow sections of the track exposed its traction shortcomings. Räikkönen's paranoia antennae were raised by Alonso's race strategy and he was asking for explanations from the team afterwards. At the first stops Fernando had pitted first, even though Räikkönen was running ahead of him, but this was actually because the team needed to cover the Williams of



Read Mark's race report on the Spanish GP
@ THE MOTOR SPORT DIGITAL GP REPORT

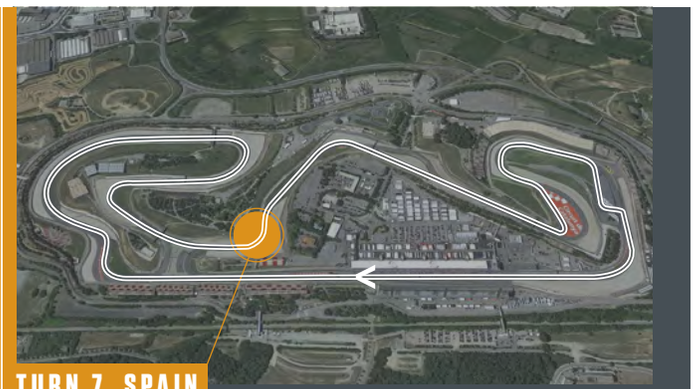


Formula 2: once again, the Mercedes drivers were in a race all their own in Spain

Felipe Massa, which had just pitted for new tyres. Later, attempting to combat Vettel, Alonso converted to a three-stop while Räikkönen was left on a two. It didn't repel Vettel but it did allow Alonso to use his newer option tyres to pass Räikkönen on old primes.

But both Ferraris gave best to Valtteri Bottas's Williams-Mercedes, which took a well-judged fifth. In a car prone to over-working its rear tyres, Bottas drove well, running third for his first stint and using his Mercedes power to out-accelerate and then stave off Ricciardo. But the car ultimately didn't have the pace to hold off the Red Bulls. The Lotus E22 of Romain Grosjean might also have beaten the Ferraris, had it not suffered a partial ERS failure that made it very slow on the pit straight and allowed the red cars to tow past. Grosjean held on to finish eighth ahead of the Force Indias of Sergio Pérez and Nico Hülkenberg, whose dice lasted all race and was only settled when Pérez went around Hülk's outside at Turn One after the final stops.

So what pressure could there possibly be inside Mercedes, with a car so dominant? Räikkönen wasn't the only one with competitive paranoia; Hamilton had it, too. Both his stops were slow – a sticking front-left and right-rear – and he was constantly questioning the team's strategy calls. At one point he even questioned where his race engineer had been for the previous few laps, as he struggled with an oversteer problem. Then there was a misunderstanding with the front wing angle he wanted at his final stop, all contributing to an edgy feeling – as Rosberg continued to come at him hard, using the alternative strategy of a prime tyre middle stint/option finale that had also been deployed by the team in Bahrain as a way of giving both drivers a chance. In the absence of anyone else to race, they have only each other – and it's great that Mercedes is allowing it to happen… even if it does cause a bit of unease within the cockpit's intensity. M



TURN 7, SPAIN

Close to the edge

"At the compression of the hill after they've turbocharged their way down from the Seat hairpin, the latest cars don't really like being braked – it's noticeable how much more respect the drivers are giving the extreme edges of the track on approach than last year, allowing for some waywardness as the torque reversal on the rear axles destabilises them – but they like accelerating out of there even less.

Last year they wouldn't be using their KERS boost here as they already had as much torque as the rear tyres could handle; now there's no choice – the additional electrical torque is there regardless. In combination with the deletion of both exhaust-enhanced rear downforce and the beam wings, the 2014 generation of car is deliciously overpowered for such a slow corner.

So they squirm their way up the hill like excited pups on a polished floor and the most excited pup of all is Kimi Räikkönen's traction-light Ferrari. In this session Kimi hasn't yet got the new rear suspension, as fitted to Alonso's car – he will get it in the afternoon – and the behavioural difference is visible; a full-on power slide over the kerbs on the right and again as the track kinks the other way through Turn Eight immediately after, steeply uphill all the way, pointing at a blue, blue sky on a perfect morning, the heat already beginning to bubble.

As he crests the hill approaching Campsa – blind apex, sixth gear, about 135mph – he might just have sub-consciously registered a flash of blue and yellow in his peripheral, the colours of Aviedo, Alonso's home town. This is where the people from the area gather every year – and this time they have planted a banner reading 'F. Alonso. Best Driver In The World.' They might have a point; Fernando's hustling momentum into this turn, working the throttle far more busily than in the V8 era, looks and sounds wonderful. Praise be, he's driving it on the throttle, through a corner the best V8 cars took flat from the moment the steering was turned."

MAP DATA: GOOGLE, GRAYBUILDINGS © 2010 INSTITUT CARTOGRAFIC DE CATALUNYA



If all goes to plan, ZEOD will complete Le Mans stints on electric power alone

ALL IMAGES LAT

Nissan ZEOD on target

Le Mans racer poised to fulfil electric dreams | BY GARY WATKINS

NISSAN'S RADICAL ZEOD RC LE Mans 24 Hours racer is on course to complete the first all-electric lap of the Circuit de la Sarthe in June, according to the programme's architect.

Darren Cox, who is head of Nissan's global motor sport programmes, believes the petrol-electric hybrid – which takes the Garage 56 grid spot reserved for experimental machinery – will hit its targets in the French enduro on June 14/15. These include completing one lap of the 8.47-mile track solely on retrieved energy and hitting 400kph (186.4mph) down the Mulsanne Straight with only the electric element of its powertrain engaged.

The plan is for the ZEOD, which will be driven by Lucas Ordoñez, Satoshi Motoyama and Wolfgang Reip, to complete the final lap of each stint solely on electric power.

He also believes the car will be able to lap slightly faster than an LMP2 car when powered by its bespoke direct-injection turbocharged internal combustion engine and under the four-minute mark on electricity alone.

"We are very confident that we will meet all those objectives," Cox said. "We believe that they are all achievable based on what we have so far learnt during testing."

Cox stressed, however, that the likelihood of the ZEOD completing the 24 Hours without problems was "almost an impossibility".

He said: "It would be an unbelievable achievement if we managed to deliver 24 hours of continuous running. That's what we are aiming for, but not what we are expecting."

The ZEOD programme is a likely prelude to Nissan joining the LMP1 ranks. A condition of the Japanese manufacturer being granted the Garage 56 slot was a three-year commitment to P1 from 2015.

It has only said so far that it is planning for its P1 entry, but there was a major announcement scheduled for the end of May, after *Motor Sport* closed for press, at which it was expected to outline its plans to return to the top-division at Le Mans for the first time since 1999.



"It would be an unbelievable achievement if we delivered 24 hours of continuous running,"
Darren Cox

Silverstone sale collapses

SILVERSTONE WILL CONTINUE TO be owned by the British Racing Drivers' Club for the foreseeable future, after negotiations to sell the track to an undisclosed bidder broke down.

The BRDC revealed last autumn that it was negotiating to sell the track and Silverstone Circuits Ltd at the same time as it announced a deal for property group MPEC to take a 999-year lease on 760 acres of land surrounding the circuit. The proposed sale has fallen through and the timescale of a so-called Members' Charter, which empowered the BRDC board to negotiate a sale without having to seek the members' approval, has now lapsed.

BRDC chairman John Grant said: "After intense efforts to secure an acceptable deal, we have not been able to bring negotiations with the second potential investor to a satisfactory conclusion.

"The BRDC will now retain full ownership of SCL, whose highly experienced management team will continue to operate, promote and further develop Silverstone as a premier racing destination."

Grant underlined that the future of the British Grand Prix at Silverstone was safe "with or without another investor" for the remainder of its 17-year contract.

Grant added: "The circuit business has enormous potential and MEPC's development of Silverstone Park – a high-tech business park on land surrounding the circuit – will enhance the circuit's image and value over the next several years."

Two more for Formula E

FORMER TORO ROSSO F1 DRIVER Jaime Alguersuari and 2013 GP2 runner-up Sam Bird are the latest drivers to be confirmed for the inaugural FIA Formula E Championship, after signing for the Virgin team.

Alguersuari and Bird join Lucas di Grassi and Daniel Abt, who have already been announced by the Audi-backed Abt team, as the first drivers confirmed for the 2014/15 Formula E season.

The series kicks off on September 13 in Beijing, on a track laid out around the city's Olympic stadium.

Virgin founder Sir Richard Branson said: "Jaime and Sam are young yet experienced drivers – and fantastic guys off the racetrack to boot. I'm delighted to welcome them both to the Virgin Racing family."

The 10 Formula E teams have now received the first of their four Spark-Renault chassis. The second batch is due to be delivered in mid-June and the remaining cars before the middle of the following month. The first scheduled Formula E test is due to take place at Donington Park, early in July.

Formula E Holdings has also announced that it has secured the final tranche of funding for its first season, with an additional €50 million (£40 million).

— OBITUARY —

Nigel Stepney



NIGEL STEPNEY, WHO has been credited with playing a key role in the successes of Ferrari during the 2000s, has died at the age of 55 after a road traffic accident.

The Briton, who later achieved notoriety for his part in the 2007 Formula 1 'Spygate' industrial espionage affair, was employed in 1993 at the behest of Ferrari designer John Barnard. His recruitment, which pre-dated the arrival of Jean Todt, Michael Schumacher and Ross Brawn, was an important step in the Scuderia becoming the efficient racing team that was able to win five F1 world titles with Schumacher.

After he was dismissed by Ferrari for leaking confidential technical information to McLaren, he ended up working for Gigawave, running its on-board camera business before going on to supervise its short-lived GT team.

After Gigawave closed its racing operation at the end of 2009, Stepney persuaded one of its potential sponsors, Sumo Power, to set up its own team to mastermind Nissan's assault on the new FIA GT1 World Championship. Under the banner of Sumo parent company JRM, it won the title with Michael Krumm and Lucas Luhr the following season.

Stepney was still working for JRM at the time of his death. He is survived by partner Ash and young daughter Sabine, as well as three children from an earlier marriage.



The first privateer car built to the new LMP1 regulations made its debut at the Spa round of the World Endurance Championship in May. The Anglo-Swiss Rebellion Racing team had two of its eponymous Toyota-powered R-Ones present for the second round of the championship, after being forced to run its old Lolas in the series opener at Silverstone. The best of the R-Ones, which have been designed and built by ORECA in France, finished seventh in the hands of Nick Heidfeld, Nicolas Prost and Mathias Beche.



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LAT

GORDON KIRBY

THEORY OF EVOLUTION

THIS YEAR'S INAUGURAL TUDOR UNITED SportsCar championship – a merger of the Grand-Am and ALMS – is at the beginning of a new road to discovering the future of American sports car racing. Through the opening three races of the season – Daytona, Sebring and Long Beach – the new body searched (to the considerable displeasure of many) to find the right balance of performance for the Daytona Prototypes and P2 cars.

P1 cars have been ruled out and many observers believe the Daytona Prototypes will be encouraged to emerge as the dominant force in the new series. Nevertheless, slowly but surely it is finding its way forward, and recently I discussed the series' growing pains with IMSA's president Scott Atherton, who spent the previous 14 years in a similar role with the ALMS.

"There are many positives to a unified championship and I am confident that we will progress on all fronts," Atherton said. "We've got plenty of true factory teams on the GT side. The GT categories are very strong and we are working hard to balance the performance of the DP and P2 cars, to push the prototype category forward in the best possible way.

"To have taken those two very dissimilar categories and merged them was the most challenging, most excruciating process I have ever experienced. There was some tough sledding through my 14 years with the American Le Mans Series, but this process made that look like a walk in the park."

Atherton itemised the TUSC's strengths. "We have a tremendous calendar of 12 races at great venues around the country and into Canada, plus we have a five-year commitment from a major sponsor in Tudor Watches.

"We also have a five-year agreement with Fox Sports, a real TV partner who wants to build the sport in partnership with us, plus 11 car manufacturers and three tyre companies."

Atherton hopes to find a solution to the thorny question of whether we will ever again see the latest Le Mans P1 cars racing regularly in America. "I believe we can get to a place where we are more integrated with Le Mans and the World Endurance Championship," he said. "We have continued our relationship with the ACO and share an end goal of bringing commonality to the series in 2017.

"We're trying to take very much a long-term view. Our initial goal was to protect our teams and their inventories. We wanted to keep them viable so that everyone involved in both the Grand-Am and the ALMS would have a home in the new series.

"The conversations have already started to define the next generation of prototype rules and regulations. The same conversation is focused around the GT category, so that when we do announce the next generation it won't be a formula that's unique to the Tudor championship but will be in line with the rest of the world – a single formula that would be applicable to the Le Mans 24 Hours, the Tudor championship in America, a European championship and an Asian championship."

Atherton would love to see P1 cars racing in the TUSC but is deeply sceptical of achieving his dream. "I think that's the biggest challenge we face," he said. "Nobody is a bigger fan of P1 cars than I am, but history suggests – and frustratingly we've proven to ourselves more than a few times – that it's not sustainable for anyone other than a few factory teams."

It will be interesting to see how the TUSC evolves. Will it become an integrated, regional partner of the WEC in 2017? Or will it settle down for the long run as a more restricted, NASCAR-like form of racing? Time will tell.



Car builder A J Watson, centre, advises Pedro Rodriguez in his 1967 Watson-Ford at Indy

GETTY

— OBITUARY —

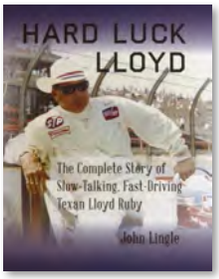
A J Watson

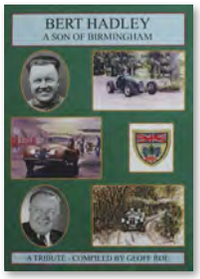
AJ WATSON, CONSTRUCTOR OF Offenhauser-powered Indy 500 'roadsters' in the 1950s and '60s, has died aged 90. During that time his cars dominated the Indy 500, winning six times. Chief mechanic on Bob Sweikert's victorious Kurtis in 1955, he did the same job on his own winning cars with Pat Flaherty in '56 and Rodger Ward in 1959 and '62. Jim Rathmann (1960), Parnelli Jones ('63) and AJ Foyt ('64) also won the 500 driving Watson-Offies.

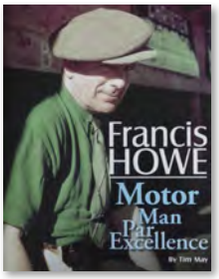
From Glendale, California, Watson's career took off in 1955 on joining John Zink's team. After winning two Indy 500s, Watson moved to Bob Wilke's Leader Card team in 1959, leading to Ward's two victories. Watson also built cars for others and, in 1963 and '64 respectively, 13 and 14 Watsons made the Indy field. He was one of the first roadster builders to construct a rear-engined car, with Ward finishing second at Indianapolis in '64, though these cars weren't as successful as his roadsters.

He continued to run the Leader Card team, racing Eagles from 1969-77 and scored his last wins in 1971 and '74. He then built his own cars based on March Lightning chassis before retiring in 1982.

A lean man of few words who always wore a crew cut, Watson was a humble, hard-working type without an ounce of pretension. His cars were beautiful, fast and reliable and without doubt he personified the 500's great roadster era. Watson passed away at his Indianapolis home only days after his 90th birthday.







BOOKS & FILMS

Hard Luck Lloyd

John Lingle

Lloyd Ruby's Indycar career didn't boast the results his talent and determination warranted, with only seven wins to his name.

Much of that was down to luck and circumstance (his sports car record boasted two Daytona victories and one at Sebring and he was one of Carroll Shelby's go-to guys) and this book aims to set the record straight about 'the greatest driver never to win the Indy 500'.

Lingle has spoken to most of Ruby's surviving contemporaries and family members and the result is a warm recollection of a quiet but fiercely driven man who remained philosophical about his failure to win at Indy. With a wealth of stats and more than 275 photos, there's something here for everyone. **ACH**

Published by Racemaker
ISBN 978-1-935240-05-1, $49.95

Francis Howe

Motor Man Par Excellence

Tim May

Earl Howe's name crops up constantly in racing history, yet this is the first biography of the man who was at the centre of it, both behind the wheel and also making racing's wheels go round.

His RNVR days and political career, as an MP and then a Lord, were both significant, but it's the racing that fascinates. Howe had the finest cars – 38/250, Delage 15 S8, 8C2.3, ERA, T59 – and raced in style. The pale blue overalls and cloth cap popped up all over Europe, but as May illustrates Howe was a tireless organiser too: BRDC president, RAC official, FIA steward, circuit entrepreneur.

Avoiding hagiography, the book examines his legacy, but as this enlightening and fact-packed work then goes on to show, the racing Lord did a great deal for British motor racing. **GC**

Published by GMS
ISBN 978-0-9928680-0-0, £72.50 (£65 plus p&p)

Bert Hadley,

A Son of Birmingham

Tribute compiled by Geoff Roe

Bert Hadley's Brummie roots flavour this tale of the apprentice who became the mainstay of 'The Austin's race team. Most famously associated with the sophisticated 750cc Twin Cam Austin racers, Hadley became a rapid racer too – ERA tried to poach him for the works team and later he drove at Le Mans and the Mille Miglia in Jags, Triumphs and Healeys.

Author Coe knew Hadley, who died in 1993, so while this big paperback is hardly a coffee-table production, it does include first-hand facts on Austin racers from Dutch Clog onwards, together with tales about Bira, Kaye Petre, designer Murray Jamieson, Bert's barneys with Lord Austin, and helping Tom Wheatcroft to resurrect two Twin Cams.

With plenty of photos and correspondence (including from WB and DSJ), it's a timely record of an intriguing racing story. **GC**

Published by the Pre-War Austin 7 Club
ISBN 978-0-9572426-2-3, £18

Road

Directed by Michael Hewitt and Dermot Lavery

The sport of real road racing is a huge anachronism in an age that has an unhealthy obsession with health and safety: grown men racing motorcycles between the hedges at jaw-dropping speeds, enjoying a buzz they can't find anywhere else, knowing full well what will happen if they make a mistake or something goes wrong.

No other film captures the allure of this sport better than *Road*, which follows the story of the Dunlop dynasty – Joey, Robert, Michael and William – with unflinching candour as they pursue their dreams at the Isle of Man TT and in Irish events. The story is at times harrowing, but more importantly the film captures the essence of why these men pursue their sometimes fatal addiction. **MO**

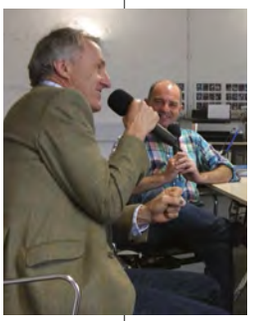
On limited cinema release from June11 and available on DVD later



WEB SPIN

PODCAST EXTRACT FROM JAMES WEAVER ON THE 1986 LE MANS 24 HOURS

"I was driving for Richard Lloyd, who was running the Liqui Moly Porsche 956 for Mauro Baldi, Price Cobb and Rob Dyson. He was also running the factory Nissan team with two cars. We had the new R85V car, designed by Gordon Coppuck – it was absolutely stunning, a fabulous thing – and then we had the old bucket, which was the '85 March 85G.



"I was supposed to be in the new car, but at the last minute I was levered into the old one. Practice was a bun fight, and I said the Porsche Curves were fourth gear. The Japanese drivers said fourth was too tall and got the engineers to put a really short fourth gear in. When you changed to fifth there was such a huge revs drop the thing wouldn't go. Anyway, they were told not run the engine at 7000rpm because it had a horrible vibration and it would break the crank. They set off down the Mulsanne at 7000rpm and strangely the crank broke…

"We were now down to one car and [team manager] Keith [Greene] was pretty cheesed off. He decided to take the Japanese driver out of the old car and stick him in the new one so I could have the weekend off. I sat down in the motorhome to have a few glasses of wine, but the organisers said we had four people in the car and they were going to exclude us. Keith did some fast talking and ultimately the ACO said they'd turn a blind eye if I got back in the car.

"I said, 'What shall I do, Keith?' 'Run around the motorhome twice. If you can make it, I'll see you in the pits.' I did that, went to the pits, jumped in the car and said to Keith, 'That's odd, the water temperature's at 40 degrees, we need to tape the radiators up.' It wouldn't run because it was so cold. So eventually he said 'Look, drive up to the end of the pitlane and sit with it on the limiter for five minutes to see if you can get it hot enough and therefore have enough power to get onto the track'. That's what I did. Of course, as soon as we got on the Mulsanne the temperature dropped.

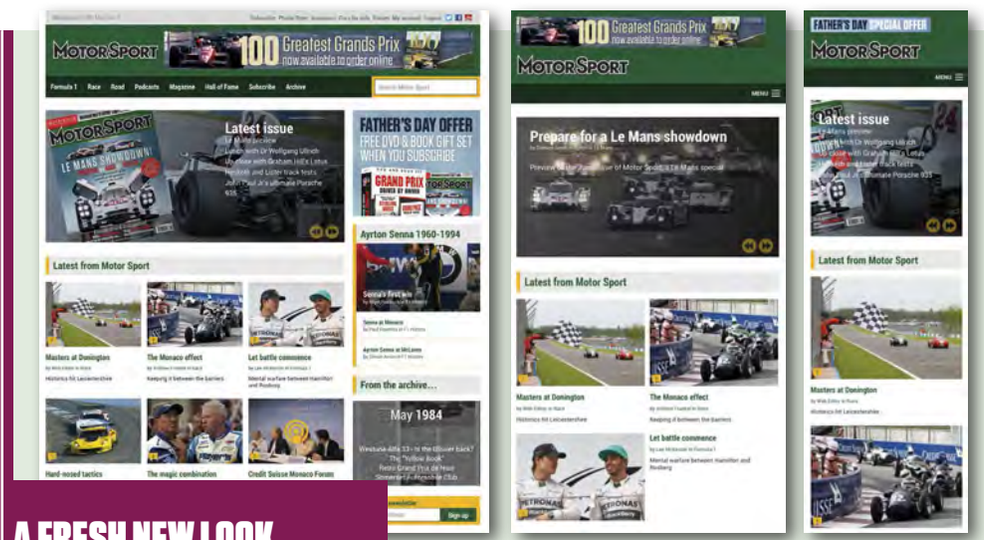
"Things got worse to the point that when I was in the motorhome the Japanese team manager said he wanted me to drive again, 'because [Takao] Wada' – who was actually a good driver – 'can't see at night.' He'd waited until halfway through the race to say so!

"So I set off again, but did only three or four laps because they decided that a full-course yellow was the cue to call me into the pits, drag me out and put old Wada-san in! They said, 'He's going to drive under yellow and then when the track goes green, you can get back in.' This guy's sat in the car for half an hour and, when the yellows were over, they pulled him out and I carried on.

"At the next pitstop it wouldn't start, so they had this idea of jump-starting it, which is not allowed. They got a tiny little Japanese bloke, taped a battery to his stomach, zipped his overalls up and stuffed the jump leads down his arms. He had crocodile clips for hands, goes to start it, misses and shorts himself out. This poor bloke is lying on the ground sparking away. Even the ACO noticed this so there was hell to pay. Everyone was shouting so Keith said, 'Get in the car and drive off'. Which is what I did."

Weaver's Nissan R85V was classified 16th, 85 laps behind the winning Porsche.

What we're all talking about @ www.motorsportmagazine.com



A FRESH NEW LOOK

There has been a lot of development on www.motorsportmagazine.com over the past few months, including the launch of our archive and a fresh new layout.

One of the big changes with the new design is that the website is now 'responsive'. This means that you can now read the content more easily on desktops, tablets and mobiles. On a desktop, if you reduce the width of your browser window you'll be able to see the full beauty of a responsively designed page as all the content reorganises to fit the new size of screen, while pages will also adapt to whatever tablet or mobile you use.

We hope you like the look of the 'new' site. It still has all the same insightful, up-to-the-minute content, but we think you'll find it easier to read and simpler to search for your particular interest. Try it!


TYCO SUZUKI/DAL

MAT OXLEY

ALWAYS CHASING THE NEXT BUZZ

GUY MARTIN ISN'T YOUR AVERAGE motorcycle racer. He might be a pro, but is anything but full-time, splitting his year mostly between his other somewhat contrasting jobs – truck fitter and TV star – while doing a bit of decorating and harvesting on the side. You could say he likes to keep busy.

He certainly likes a challenge. His latest obsession is 24-hour mountain-bike racing... solo 24-hour mountain-bike racing.

"I like the mental side of it, trying to break myself mentally," he says cheerily. "Do I sleep? No I don't, I just stop every four or five hours for maybe two or three minutes."

It is this ceaseless quest for the next buzz that makes Martin the man he is. If he was an engine, he would be a two-stroke 500 V4, churning out 400 horsepower per litre.

Although it is his TV appearances – in documentaries like *The Boat That Guy Built* and *Speed with Guy Martin* – that have made him famous, he is best known in motor sport for his exploits on road circuits, most famously the Isle of Man TT.

Martin doesn't shirk the danger question when talking about the TT. In fact he is alarmingly frank about the allure of racing's most dangerous event. "It's quite easy to kill yourself at the TT and that's the reason I do it," he says. "I'm not as wild as I look; it's all in control, so if I do kill meself, it'll be because something's gone wrong."

In fact Martin did come close to killing himself when he overstepped the mark at the 160mph Ballagarey right-hander (nicknamed Ballascary) during the 2010 Senior TT. He emerged from the fireball of a crash with bruised lungs and minor fractures to his upper spine.

"I crashed because I was pushing beyond the line. And I'll push over the line this year, if it's necessary, because there are times and places to do that, but everything I do is controlled and calculated."

This year's TT – race week runs from May 31 to June 6 – is Martin's 11th and he goes into the event still without a win. The 32-year-old from Lincolnshire has been on course for victory on several occasions, only to break down; few places are more punishing on machinery than the historic 37-mile road course.

However, some onlookers suggest that Martin's failure to win a TT has more to do with his insatiable hunger for other challenges. It's an accusation he takes on the chin. "Maybe that's why I've not won a TT, because I've not channelled all my energy into it," he says.

"I still want to win one, but more than anything I just love riding the course. You go to the TT and that first night of practice you're thinking, 'This is why I do it, this is why I race motorcycles'. It's the speed, you're licking on and it's how long you've got it wide open in top, then you're on the side of the tyres, revs rising. And then there are the smells of the different parts of the course: wild garlic on the run to Ballaugh, the fresh air on the Mountain. There is nothing like it."

Only one thing spoils Martin's enjoyment of the Island: his celebrity status. He is now the Valentino Rossi of the roads and struggles with the constant adulation.

"I can't have five minutes to myself. I want to sit in the awning with my guys, tinker with the bike but I can't."

His escape route from the hubbub is unusual, to say the least. "I've got a job so I can get off the bike and get away from the pits. Last year I painted a bloke's garage in Jurby and this year I'm painting his house. That way I can switch off: paint the wall, paint the wall. I've got to be doing something, got to be something ..."

Short circuits no longer hold any appeal for Martin. "In the summer I do a bit of work on a farm near Cadwell Park. A few years back I was practising at a British Superbike meeting and I could see the farm as I went into the hairpin. As much as I love riding motorbikes, I'd genuinely rather be in a tractor getting the harvest in than doing a BSB round."

Martin's next challenge after the TT is the Pikes Peak hill climb; yes, another crazy challenge. "I'm right into the oddball stuff," he says, as if we hadn't already worked that out.

He will contest the Colorado event on his home-built, turbocharged Suzuki GSX-R1100, filmed by Channel 4 cameras. "I could do it on my TT superbike, but that'd be the easy option, that'd be cheating. I like what Sébastien Loeb did there last year. If I can rock up with my bike, which is a rare thing, and have a go, it'll be mint."

After that he's got his eyes on the nine-day TransRockies mountain bike race. "That's the next thing: multi-day stuff, camping every night. Proper!"



"I'm not as wild as I look; it's all in control, so if I do kill meself, it'll be because something's gone wrong."

❖

MARC MARQUEZ CONTINUES TO MAKE history in MotoGP. When the 21-year-old reigning champion won the recent Spanish Grand Prix at Jerez he became the first man in 43 years to win the first four races of the season from pole position. The last man to do that was Giacomo Agostini, way back in 1971.

Agostini is still the only rider to have won every race of a premier-class season. The legendary Italian won all 10 rounds of the 1968 championship aboard his three-cylinder MV, competing mostly against Matchless and Norton singles. That year his victory margin in all but one of the races was at least a minute.

Ago could have gone on to repeat his full house over the next three seasons but instead he would take a clean sweep of victories to secure the title before swanning off to the Bahamas, leaving the also-rans to squabble over the scraps at the last few races.



Rebuilt 28.5-litre Fiat is set to run again during the Festival of Speed weekend

STEFAN MARJORAM

Record Fiat back on track

Rare old-timer to tackle Goodwood hill this summer | BY PAUL LAWRENCE

MORE THAN A CENTURY AFTER IT last ran in anger, a rare Fiat S76 will be one of the stars of the Goodwood Festival of Speed (June 26-29). Unofficially the fastest car in the world in 1911, the 28.5-litre Fiat has been restored over the past decade by Duncan Pittaway.

Only two S76s were built. One set a flying-mile record with Pietro Bordino on Saltburn Sands in 1911, and was later recorded at more than 135mph in Belgium, but was denied the kilometre record when it was unable to complete a return run within the specified hour.

One car was dismantled by Fiat while the other was purchased by Russian aristocrat Boris Soukhanov. After the First World War this found its way to Australia, where it was modernised and raced as a Fiat Racing Special.

Pittaway brought the chassis back to the UK in 2003 and reunited it with the original engine from the dismantled car. The restoration has taken a decade but the car is now ready to run once more.

"As the last and largest of the huge-engined Edwardian monsters, it should be sensational to see," Pittaway said. "All the original S76 components that survived have been restored, from the chassis and engine down to the suspension, axles, pedals and steering box. The gearbox, radiator and bodywork have been created using the original Fiat drawings."

Another star of the Festival will be the ex-David Purley Lec CRP1 Grand Prix car from 1977, which will run in anger for the first time in more than 35 years.

Acquired from the Purley family after being on show at Donington Park, the CRP1 has been restored by WDK Motorsport, and Joe Twyman will drive it at Goodwood.

— OBITUARY —

John Etheridge

Race engineer and GT40 expert John Etheridge has died aged 73. A vital part of Aston Martin's race crew with DP212 and 214, he was head-hunted by John Wyer to build and run GT40s at FAV, and was much valued by Wyer. In 1968 he set up his own firm, rebuilding and race-preparing Astons and GT40s, including the prototype, and also building the 'run on' Safir GT40s.

Bell reunited with Porsche

FIVE TIMES LE MANS WINNER Derek Bell will return to the French track in June, to celebrate his 50-year career by racing a Porsche 962.

Bell, now 72, will share Mark Sumpter's 962 in the Group C race supporting this year's 24 Hours and says it will be an emotional experience – particularly if they are able to score a podium finish.

The British sports car ace started racing in 1964 and won his first ever event, driving a Lotus 7 at Goodwood. He went on to win Le Mans in 1975, '81, '82, '86 and '87, the last four of those with Porsche. His final win came in a 962C.

"It's half a century since I first started racing," Bell said, "and Mark's offer of racing his 962, in the year when Porsche returns to the top tier, made competing at Le Mans irresistible.

"I'm still a racer at heart. I would like to think we have a realistic chance of winning our class or even making the podium. For me, that would be a very moving experience."

Sumpter pointed out that partnering Bell at Le Mans would be the realisation of an ambition. "Derek is the most famous and successful Porsche racing driver, so I'm delighted to be racing with him, particularly at Le Mans," he said.

Dutch F1 racer to Revival

GIEDO VAN DER GARDE, FORMER Caterham Formula 1 racer and now a Sauber reserve, will make his Goodwood Revival Meeting debut this September.

The 29-year-old Dutchman will take part in the Goodwood TT Celebration event (for closed-cockpit GT cars built between 1960 and 1964), sharing the AC Cobra of compatriot David Hart – a Goodwood regular. Last season, Hart finished fourth in the TT with World Touring Car Championship front-runner Tom Coronel.

Van der Garde isn't a complete stranger to Goodwood, having driven F1 Caterhams up the Festival of Speed hill. He is looking forward to his first Revival and said: "You can't slide a modern F1 car and still be fast, but the Cobra was made to go sideways."

New Silverstone GT event

GT CARS OF THE 1990s WILL BE demonstrated at this year's Silverstone Classic (July 25-27), in what the event organisers hope will be the precursor to a full race in 2015.

This year, between 30 and 40 cars will take part in 25-minute demonstration sessions on each of the event's three days. Cars from Lister, McLaren, Porsche and Lotus are all expected, including at least one Porsche 911 GT1 and a Lister Storm.

"We're celebrating a really popular

period in GT racing, which started in 1994 and ran through FIA GT1 and GT2 right up until 2000," said event boss Nick Wigley. "There's nowhere else for them to run and we're certainly looking at making it a race next year."

Shelsley Classic expands

THE BIGGEST AND BEST EVENT SO far is promised for the annual Classic Nostalgia weekend at Shelsley Walsh hill climb on July 19/20, with action focused on cars from the 1950s-70s.

The paddock and orchard will feature competition cars, trade stands, military vehicles, car clubs and a classic trial, while live period music and an aerobatic display will add to the spectacle.

Sir Stirling Moss will make a guest appearance on Sunday to sign autographs and take part in a question and answer session in the courtyard.

There will be competitive track action for pre-1980 single-seaters, sports, GT and touring cars.



Eifel Festival sells out

THE ORGANISERS OF THE ADAC Eifel Rallye Festival in Germany (July 24-26) have been inundated with 200 entries for 150 places.

To manage the entry, promoter Reinhard Klein has accepted only one example of each model running in a particular period livery. "The quality and originality of cars has increased," said Klein. "We get ever closer to our aim of showing the history of our sport in as authentic a way as possible."

Attending drivers will include Björn Waldegård, in a works Mercedes-Benz, and Stig Blomqvist in the Audi Quattro he took to victory on the 1984 Swedish Rally, above.



Maseratis will feature prominently in the entry for the seventh Cholmondeley Pageant of Power (June 13-15). As the marque's centenary is celebrated, the entry for the speed event in the grounds of Cholmondeley Castle, Cheshire, includes a 250F Grand Prix car, the Tec-Mec evolution of the 250F and the T61 Birdcage of Alan Minshaw (above).

After a month-long competition, the Datsun 260Z of Geoff Olholm and John Doble won the Sydney-London Marathon. The Australian crew spent most of the European leg with a 12-minute lead over the similar car of fellow Aussies Mark Pickering and Dave Boddy. However, a late push from the Team Tuthill Porsche 911 of Belgian crew Joost van Cauwenberge and Jacques Castelein took them into second overall, 5min 43sec behind the winners. All 15 cars that started the European leg were classified as finishers.

PRODUCTS



BENTLEY-INSPIRED No1 WEEKEND HOLDALL £495
www.caracalla1947.com



AMALGAM 1:8-SCALE LOTUS 79 MODEL
£3950 www.amalgamcollection.com



VINTAGE RALLY JACKET as designed by Graham Hill £149.99
www.historicaracewear.com



ALFA ROMEO VINTAGE HELMET
£209.66
store.alfaromeo.com



MOTOR SPORT CAP £10
http://shop.motorsportmagazine.com/



1955 MERCEDES-BENZ 300SLR MILLE MIGLIA No722 MODEL €253
http://www.cmc-modelcars.de/en



WHEN THEY WERE NEW

Bentley 3-litre

Our very first road test, taken from *Motor Sport*, July 1924 | BY 'FULL THROTTLE'*

THE SPORTING CAR, AS A CLASS, has characteristically more distinction than that possessed by touring types. Being out of the ordinary, and intended to emphasise particular motoring qualities, the sporting car usually has quite an individuality. Some sporting cars, of course, seem to stand quite apart from orthodox standards.

In the latter category one may place the 3-litre Speed Model Bentley. This car embodies all the qualities one has come to consider essential in a sporting car.

A brief review of the chassis reveals at once how interesting a proposition the Speed Model Bentley is, and this opinion is vastly enhanced when one takes the car for a trial. The engine is a four-cylinder monobloc of 2996cc capacity. Its design has much originality: there are two inlet and two exhaust valves in each cylinder, operated by a totally enclosed overhead camshaft and rockers, running in oil. The pistons are of aluminium, designed for high compression. Cooling is by pump circulation controlled by an automatic thermostat. On a sporting car one usually has to "drive on the spark" more than is requisite on a touring car, and to obtain really the best running from the Speed Model Bentley one makes no exception.

The system of dual-controlled magnetos enables one to obtain particularly effective ignition. A notable point is that a petrol consumption of 25mpg at 30mph is guaranteed, which, considering its wide capabilities, is not excessive. The clutch is of the inverted cone type, lined with Ferodo. The four-speed gearbox is operated by a simple right-hand gate change carried on an extension of the box.

In a car of such advanced design, one naturally expects to find front-wheel brakes, and the system of fully compensated internal expanding brakes operating on all four wheels and controlled by pedal is very effective. The handbrake operates on the rear wheels. The tank holds 11 gallons of petrol, and a two-way tap near the filling cap gives access to a reserve supply of two gallons.

Chassis lubrication is by oil, supplied from an oil-gun through screwed oil plugs. The only grease cup on the chassis is situated on the water pump. After the chassis has been lubricated it can be run for three months of normal mileage without further lubrication, apart, of course, from the engine's requirements.

From the foregoing it will be appreciated that the Speed Model Bentley is a particularly interesting car. Our road experiences with this model, although not at the moment as extensive as we should like, have convinced us that it must possess a fascination for every sporting motorist. It is naturally fast, but that is by no means the sum total of its outstanding attraction. Very few sporting cars are really docile in control, many are not at all comfortable. The Speed Model Bentley is a happy exception.

Owing to its high gear range one must, of course, remember that the four speeds are there to be used. Gearchanging is so easy a matter, however, that one finds not the smallest objection to always starting on first and to a fairly frequent use of the lower ratios in traffic. On each gear the car is instantly responsive.

There is one feature of the Bentley that may be described as unique, and to this we would give due prominence: how many sporting cars, or cars of any sort, will do 70 miles an hour on second gear? The Bentley makes light of this.

The acceleration is quite remarkable. The Bentley will hang on to about the 70 mark on second gear indefinitely, and the change down at speed with a quick double-clutch is not unduly difficult.

One can change into top at practically

BENTLEY SPECIALISTS
Taylors
www.taylorsuk.com
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www.graemehunt.com
Milford Vintage
www.vintage-engineering.co.uk

any speed, slow as well as fast, and the Bentley will attain the neighbourhood of the 80 mark without much forcing.

Steering on the Bentley is delightfully easy, comparable in its comfort to that experienced on a high-quality light car. The four-wheel brakes, operated by pedal, are remarkably powerful, and very easy and smooth in operation. Although there is not an overabundance of seating room, the Speed Model Bentley is quite comfortable to ride in.

The electrical and other equipment is very complete, and the general layout of the car very pleasing to those who desire a high-quality sporting vehicle that is quite practicable for ordinary touring and exceptionally attractive among sporting designs for town and general use.

The price of the Speed Model Bentley with four-seater body is £1125 and with two-seater body £1100, purchasers being afforded the option of choosing the colour of body and upholstery. The manufacturers are Messrs Bentley Motors Ltd of Hanover Street, London, W1. The extensive Bentley factories are at Cricklewood, London.

Interest in the Bentley is naturally enhanced by this car's splendid victory in the French Grand Prix d'Endurance last month. The Bentley [left] was the only British car among 40 competitors, and its outstanding performance throughout the race provides a notable tribute to British engineering in general, and to Bentley design and workmanship in particular.

Magnificently driven by Duff and Clement, the Bentley maintained a thrilling struggle with some of the best representatives of French automobile science throughout the 24 hours that the race occupied. This event is indeed appropriately named, a trial of endurance, for it is difficult to imagine a more exacting test under road conditions than this gruelling struggle of speed throughout a day and a night.

The Bentley had no mechanical trouble, and at the end of the race was in good condition and still lapping consistently. The distance covered by the Bentley in 24 hours, with Duff and Clement alternately at the wheel, was exactly 2188km, or 128 laps of the course. Second place was taken by the Lorraine-Dietrich, driven alternately by Stoffel and Brisson, with 2061km to its credit.

** We don't know who he was!*

BENTLEY 3-LITRE FACTFILE

Production: 1921-29
Power: 80bhp
Max speed: 90mph

Start of a legend. Finest sporting car of its era, say many (though not 30/98 owners). Le Mans success heaped glory on the badge and dedicated enthusiasts have made this and its 4½ and six-cylinder successors into a symbol of Britishness. Few remain in original form, saloons especially rare; many 3-litres now have bigger engines. Perfect spec: for investment, a genuine blown 4½; for rarity, a 3-litre saloon

AUCTIONS

A summary of classic and racing auctions from around the world - in numbers | BY ALEX HARMER

RM Auctions

@ MONACO MAY 10

TOP SELLER
1966 Ferrari 275 GTB/C
Chassis 09067 Ninth of only 12 built
€5,712,000

1967 Ferrari Dino 206S
€2,072,000

1968 Alfa Romeo Tipo 33/2 Daytona
€1,260,000

1958 Lister-Jaguar 'Knobbly'
€1,176,000

1966 Brabham-Repco BT20
Denny Hulme's '67 Monaco winner
€1,092,000

1989 Ferrari F1-89
Raced by Berger, tested by Prost
€616,000

1974 Hesketh 308
Ex-James Hunt
€280,000

1982 Renault RE30B
Ex-René Arnoux
€229,600

1971 Lola T260 Spyder
Ex-Jackie Stewart
€224,000

€41.3 MILLION SOLD

@ MONTEREY AUGUST 15/16

STEVE McQUEEN'S FERRARI 275 GTB/4
Delivered while McQueen filmed *Bullitt*. Custom built: Chianti Red paint, Borrani wheels, specially-designed mirror, retractable radio antenna and custom seat trim

Bonhams

@ STUTTGART JULY 12

Mercedes-Benz Museum sale

300SL chassis 4500019
Stirling Moss and Denis Jenkinson's 1955 Mille Miglia recce car.

Subsequently sold to HWM, then club racer Peter Woozley. Finished second in the Stanley Sears Trophy at Snetterton, 1959. Offered in '55 spec

Artcurial

@ LE MANS JULY 5

1964 AC Cobra 289
Driven to 18th place at Le Mans 50 years ago by Count Jean de Mortemart and Régis Fraissinet

1930 Lancia Lambda roadster
Barn find with ultra-rare, complete and original body
Estimate: €350,000-400,000

1980 BMW M1 Procar
Ex-Giovanni Rossi, European Hillclimb Championship
Estimate: €300,000-400,000

JUNE AUCTION CALENDAR

1	**BONHAMS** Greenwich Concours d'Élégance Auction, Arch Street, Greenwich, CT
7	**BONHAMS** The Banbury Run Sale, Oxford
7	**HISTORICS AT BROOKLANDS** Car and motorcycles, Brooklands Motor Museum, Surrey
7	**OLDTIMER GALERIE** Classic Car Auction, Dolder Skating Rink, Zurich
13-14	**BONHAMS** The Michael Banfield Collection, Kent, TBC
13-14	**MECUM** Seattle 2014, CenturyLink Field Event Center, Seattle, WA
14	**COYS** Astir Palace Resort, Athens, Greece
19	**DVCA** Summer auction, Athelhampton House, Dorchester
19-21	**RUSSO AND STEELE** Newport Beach Sale, Back Bay Drive, Newport Beach, CA
21	**H&H** Rockingham Castle auction, Northants
23	**BARONS** Annual Jaguar Heritage Sale, Sandown Park, Surrey
27	**BONHAMS** The Goodwood Festival of Speed Sale, Goodwood, Chichester
28	**MECUM** Bloomington Gold 2014, University of Illinois, Champaign, IL



The Alfieri is due to become a production reality – and 911 rival – from 2016

Maserati targets 911

Alfieri to go head to head with Porsche talisman | BY ANDREW FRANKEL

MASERATI BOSS HARALD WESTER has confirmed than its stunning Alfieri concept, revealed at this year's Geneva Motor Show, will be put into production as a direct rival for the Porsche 911. The two-plus-two coupé will go on sale in 2016, powered by a range of V6 twin-turbo engines. Like the 911, it will be available with both rear- and four-wheel drive and in open and closed configurations.

The car comes as the next stage in Maserati's product onslaught intended to increase sales from fewer than 10,000 units in 2012 to some 75,000 cars by 2018. The new Ghibli is already helping turn the tide, but it is next year's Levante SUV and then the Alfieri that Maserati hopes will turn the marque into a brand roughly the same size as Jaguar is now.

It is not known how much of the show-stopping Alfieri concept will survive the transition into production, but Italian brands have a long track record of putting on sale cars that look very little different to those first shown as concepts.

Interestingly, Maserati is saying the V8 powerplant used in the current GranTurismo and Quattroporte will not be used in the Alfieri, though it is likely the company is simply keeping it in reserve so it'll not detract from the impact of the launch models and give them scope for expansion should it decide to produce a GT3 model or a super luxury version to compete with the Jaguar F-type R and Porsche 911 Turbo S. With no diesel rival and the vast majority of sales likely to come from diesel-averse markets like the US, China and Russia, the chances of a diesel-powered Alfieri are slight to non-existent.



Jag builds six more E-types

HALF A CENTURY AFTER THE last one was delivered, Jaguar is to build six new lightweight E-types, each to be sold for a price rumoured to be in excess of a million pounds.

The cars will be identical in every way to the original dozen that were built and sold between 1963 and 1964 and will use the next six chassis numbers, bringing the total production run to the 18 cars originally envisaged.

These will be the first 'continuation' cars Jaguar has created and, unlike the famous 'Sanction II' Aston Martin Zagatos of the 1980s, will be built in-house by Jaguar staff. Just four Zagatos were created by Aston Martin expert R S Williams and today they still command seven-figure values.

The original lightweight E-types were built in response to the competition success of an E-type modified by John Coombs and raced by the likes of Graham Hill and Roy Salvadori. Unable to change the chassis for homologation reasons, Jaguar nevertheless rebodied the cars entirely in aluminium and deleted much of the interior trim to reduce kerb weight by more than 150kg. Under the skin the cars were fitted with the ultimate-specification wide-angle 3.8-litre motor, complete with Lucas fuel injection and an aluminium block. In this form the engine produced a competitive 300bhp, which it directed through the rear wheels via a five-speed close ratio transmission.

Sadly, however, the lightweights never lived up to their promise and were no match in period for the Ferrari 250GTO, which produced the same power from just three litres and was lighter, easier to drive and far more reliable. Despite being entered for races on both sides of the Atlantic by the likes of Coombs and Briggs Cunningham, the cars failed to score a single important victory and came just as the sports car world was embracing the mid-engined revolution. In more recent times and

with far more power now available, cars built to lightweight specification have often proven the class of the field in historic racing, humbling cars they'd rarely have challenged in period.

Audi branches out with TT

LAST MONTH WE REPORTED LAND Rover's plan to turn both its Discovery and Defender models into sub-brands, each with their own product range, as Range Rover does already with the Evoque and Range Rover Sport. It seems it was not alone in thinking this way.

Audi has now decided that the TT's currency is too strong to be wasted on a single model with coupé and convertible derivatives. At the Beijing Motor Show in April it showed what it described as the TT Offroad Concept.

When sales begin in two years it will be first of a new family of TT-branded cars that could encompass anything from an Evoque-rivalling crossover SUV, like the Offroad Concept, to an ultra-sporting open two-seater sports car that provides hardcore opposition to the likes of the Porsche Boxster.

Expect other companies with strong-performing individual models to follow suit soon.

Lotus gets a new boss

LOTUS HAS A NEW CHIEF executive officer charged with turning the business around for its Malaysian owner, DRB-HICOM.

Jean-Marc Gales (below) is a well-respected figure in the industry; his greatest claim to fame was to be at the helm of the massive PSA organisation between 2009-2012. PSA owns both Citroën and Peugeot and his most visible success was the conception and launch of Citroën's DS sub-brand. DS has done so well that in China, which is now Citroën's largest market, it has been launched as a stand-alone marque.

The appointment of such a serious figure to the top seat at Lotus will do much to bolster confidence in a brand brought to the brink in recent years. The disastrous sales of the Evora, the age of the Elise and its Exige derivative and the widely ridiculed expansion plan of former CEO Dany Bahar have destroyed much of the credibility Lotus would once have taken for granted.

Sales have meanwhile been decimated, with fewer than 1000 new cars being built at the company's low point in 2012. But £100 million of new investment is now going into Hethel with a further £10 million from the government. These are not vast numbers – VW spent more than €10 billion on R&D alone last year – but the company is recruiting engineers, sales are rising slowly and Gales at least must believe the company has a future.

As for DRB-HICOM, it is saying very little about its plans. Having suffered the scorn resulting from Bahar announcing a radical five-model portfolio few believed could be delivered, the approach now seems to be to let actions speak louder than words. Even so it is known that the new Esprit had been all but finished at the time of Bahar's departure so it is likely it will lead the recovery plan as a low-volume, high-margin model, while a replacement for the Elise – now in its 20th year – is developed. DRB-HICOM has said it expects Lotus to be profitable again next year, which will be some achievement if managed. But it remains to be seen whether it is in for the long haul, or simply wants a return on its investment before shunting Lotus on to the next in a long line of proprietors.





Subaru will try to break its own outright lap record for a production car around the Isle of Man TT course. Driven by rally ace Mark Higgins, the WRX STi will attempt to beat the 19min 57.6sec lap he set in the car's predecessor in 2011. The STi will be standard save for safety equipment and uprated dampers designed to reduce the risk of the car being damaged over the course's many jumps. Higgins' last attempt became an internet sensation, claimed by Subaru to have been seen by almost 10 million people, largely because of his lock to lock 'save' going down Bray Hill at 150mph, described by him as "the biggest moment of my life".



Rivals watch the Leon king

A NEW SQUABBLE HAS BROKEN out between manufacturers vying to be the fastest to lap the Nürburgring Nordschleife. But this new round of corporate one-upmanship is being played out not by the likes of Porsche, Ferrari and McLaren, but manufacturers of small, mass-produced hatchbacks.

For years Renault had always been the hottest of hot hatch manufacturers around the 'Ring and was closing on an 8min lap when Honda announced its new Civic Type-R would be the first to go under this mark. Seat had other ideas, however, and flung a Leon Cupra R (above) around in 7min 58.4sec. Renault's response is the Mégane 275 Trophy, with some very trick equipment including an Akrapovic exhaust, a standard limited slip differential, optional fully adjustable Ohlins dampers and the stickiest set of Michelins the company could find. It is due to make its attempt this summer, by which stage Honda should have a representative Type R at the track too. And not to be outdone, after the glowing reception afforded the RCZ-R coupé, Peugeot is believed to be working on an 'R' version of the 308 hatchback. This could also join in the fun and games in the Eifel mountains. A lap time of 7min 58sec is a single second slower than the Group C Lancia LC2 of Piercarlo Ghinzani and Paulo Barilla managed in qualifying for the final 1000km race held on the old track, back in 1983.

LAFERRARI

Unforgettable. The only way to describe Maranello's astonishing automotive achievement | BY ANDREW FRANKEL



YOU ALWAYS CREST THE blind rise that leads onto the famous bridge at Ferrari's Fiorano test track flat out. There's no reason not to: there is a small bump there but the road is straight, you've just exited a tight second-gear corner and there's plenty of space to shed speed before the next turn. Indeed it was only in Ferrari's most recent and powerful cars, such as the 730bhp F12, that I'd even logged the bump's existence. If I recall correctly it made the car gently ease up and down on its springs.

Why mention this now? Because I've been trying to think of a way of describing how much faster than any of its other cars the new LaFerrari really is, because raw data just can't. And I think the bump might just provide it. For if you drive over it, foot down, all 950bhp unleashed, the car takes off.

Even if you know Fiorano well and have been blessed with experience of more than anyone's fair share of very rapid cars, the LaFerrari requires you to take a quiet moment to steel yourself before seeing how fast you can make it go. Put it another way, when being driven flat out, it has the ability to scare not simply those on board but people outside the car and a reasonable distance away. Put a third and final way, if you've been to a track day, you'll know road cars never look fast when being driven around a circuit. This one does. The way it visually accrues speed out of corners is more reminiscent of very serious racing machinery than anything entitled to wear a number plate. Inside, for sheer drama, it is a new level for road cars. And no, I've not forgotten the McLaren P1 reviewed in this slot two months ago. My job over the next 2000 words is to try to explain what that feels like and how it got that way.

FACTFILE

€1.2 million

ENGINE 6.3 litres, 12 cylinders, hybrid assisted

POWER 950bhp @ 9000 rpm

TORQUE 715lb ft @ 6750 rpm

TRANSMISSION Seven-speed double clutch, paddle shift, rear-wheel drive

0-62MPH 3.0sec

TOP SPEED 217mph

ECONOMY 19.9mpg

CO_2 330g/km





Frankel reckons a LaFerrari is the most exciting road car he's driven. The bad news? All are sold, despite the seven-figure price tag

You might be disappointed to know that I'm not going to achieve that by constant cross-reference to the McLaren, a car I drove on an entirely different kind of track in another country a significant time ago. Comparisons are difficult enough to make when you are dealing with normal cars and have them side by side on the same day; but I will say that nothing I discovered about the LaFerrari while driving it changed my view of the McLaren. If you were thinking one would render the other somewhat redundant, you have underestimated the calibre of people involved on both sides. When companies as dedicated to engineering excellence as Ferrari and McLaren apply themselves to the business of doing things cars have never been able to do, on road as on track, their endeavours tend to lead to a similar destination, even if by travelling along rather different routes. This is not as surprising as it sounds, given that position is defined by the limit of what is technically achievable within a given framework, be it race or road car rules.

What I will say, before leaving the wondrous McLaren to its own devices, is that despite all they share in their configuration, construction and target audience, their philosophies are entirely different. Being a McLaren, the P1 is not just spectacularly clever, it's not shy about saying so. It will run just on petrol, just on electricity or, most spectacularly, both. It provides a push-to-pass boost button and driver-deployable aerodynamics. This is not just F1-driver techno-geekery, it is monstrously effective. The LaFerrari could not be more different. Everything is integrated and automated. Its petrol and electric motors are both active all the time. Its wings and diffusers move continuously up and down in accordance to data acquired from a battery of sensors. Its hybrid system is forever active boosting or charging, but when you actually sit in the thing and drive it, there are no additional buttons to press, nor any decisions to make about what strategy to use. In this regard if no other, it is just like any other Ferrari.

Where it departs the script somewhat is in its carbon-fibre construction laid up by the same people who make the F1 tubs, cooked in the same autoclaves using many of the same fibres, carefully selected for their balance of strength and stiffness. The doors, for instance add nothing to the car's rigidity but do need to save your life in a side impact, so they're made from the same weave used in the nosecones of Messrs Räikkönen and Alonso's Sunday steers.

And then there's the powertrain. The 6.3-litre V12 is closely related to that in the F12 but is freed from the need to provide low-down torque, because that's now covered by the electric traction motor behind the rear wheels. So it can be tuned for power instead. Now and all by itself it develops 789bhp and revs to 9250rpm, a barely comprehensible velocity for such a large, fully homologated road car engine. You'd think that would be enough in a car weighing 1410kg (a proper, comparable with fluids kerb weight rather than sub 1300kg dry weight quoted in the official blurb) given it's almost a quarter of a tonne lighter than an F12, but no. To that you can add a further 161bhp of electric power and, because both the electric and petrol motors can develop maximum power simultaneously, it is fair to add the two outputs together to give a combined 950bhp.

Do the maths and it will show the LaFerrari provides 673bhp for every tonne of weight it must power. Think about that. One tonne is the target weight for budget versions of most small shopping cars – a Fiat Panda for example. So think of a Fiat Panda with about the same power as a Lamborghini Aventador and you'll be closer to understanding what Ferrari is putting under the right foot of 499 *clienti*.

❖

THE DOOR SCISSORS UP TO REVEAL a carbon-clad cabin superficially like those of other Ferraris. But it's low enough to make a 458 feel like an SUV. You sit in what looks like a seat, but is a padded, moulded extension of the tub. It doesn't move, but the pedal box and steering wheel slide to meet your hands and feet.

All-round visibility is poor, but not disastrous, and if you've driven any modern Ferrari there'll be no surprises in the way this one operates. The little manettino switch is there on the wheel. For now I'll leave it in 'Sport', the normal road setting. You'll also recognise the shock absorber button you press not to stiffen the suspension, but soften it for bumpy roads. The engine fires with a loud and not particularly attractive blare, you tug a paddle, squeeze the throttle and gingerly pull out into the gawping traffic.

I've always admired the carefully cultured indifference of Maranello locals to the products of the town's largest employer, but the veneer shatters the moment you rumble down Via Abetone in a LaFerrari. Shouting, staring and a lot of pointing are constant accompaniments. The car feels wide and the steering has that curiously Ferrari characteristic of being very aggressive in the initial turn, but even with its more limited visibility it is scarcely any more difficult to drive than a 458. It rides surprisingly well and, at a steady-state cruise, it's quieter than you'd think. But while the cabin is far more spacious than any previous special-series Ferrari from the 288GTO to the Enzo, carrying space is restrictive. If an owner wants to go on a decent holiday, he'll need to send the chauffeur and Range Rover ahead with the luggage.

How fast is it? At public road speed, as fast as the surface and contact patch will permit. Even with a 6.3-litre V12 and a 150kg hybrid system sitting on massive 345/30 bespoke Pirelli Corsas, the limit to your progress in a straight



line is defined not by power, but traction. When you are accelerating like an artillery shell it's easy to miss the little blinking light on the dash telling you that, far from giving its all, this powertrain is actually holding back.

You start to learn things. For instance, it's better in 'race' mode, because the safety nets are relaxed a little and allow a touch more freedom of expression without affecting the stability of the car. More importantly, always be two gears higher than seems natural. Mid-engined Ferraris have always been high-power, low-torque screamers and, because this one will fling itself past 9000rpm, you instinctively want to drop a couple of cogs before letting it loose. Even with effectively instant shifting this takes time and is entirely pointless. Leave it in fourth or even fifth and, from very few revs indeed, it will haul like most proper supercars will in second.

But the public road, or at least the hills above Maranello, are too restrictive an environment for this car. Releases of power are limited to impotent little squirts, your exploration of the chassis capabilities restricted by the safety margins you must leave, not for yourself but the unforeseen reactions of other road users upon seeing the LaFerrari fling itself into their field of vision at a speed they might not comprehend.

Fiorano is different. Here we can turn everything off and allow the LaFerrari to run unfettered.

I thought I knew this place reasonably well, but it turns out I don't. All those pauses for thought between its many curves and corners have been abbreviated almost to the point of oblivion. You can't even relax on the main straight because the hitherto insignificant kink before the hairpin is now a proper corner, just past the apex of which you must brake as hard as you can from 170mph while the suspension is still loaded. But the combination of its vast ceramic brakes and considerable downforce (the only data Ferrari provides is almost 400kg at 124mph, compared to the 600kg at 150mph offered by the P1), feel like someone's stamped on the car. It just stops.

But even this is not what the LaFerrari does best. Because I got a B in O-level maths and can therefore divide power by weight, I had an idea of what level of performance to expect. That it would grip in a way only aerodynamics can bestow and stop like it's crashed were givens, too. What I failed to anticipate was just how indulgent of its driver the LaFerrari would be. When you realise this is the fastest fully homologated road car ever created, intimidation is inevitable. I am confident no car has ever raced at Le Mans with more power than this – qualified maybe, but not raced. The prospect is terrifying.

But the reality is not. Enter too fast into a corner and it will gently push its nose away from the apex; ease off the accelerator and it will just as gently regain your intended trajectory. The throttle response is three times faster than an F12's and delivery so linear that not a single horsepower ever turns up uninvited or unexpected. So you can balance the car to the point where it is cornering with no lock applied in either direction, or you can drift it until you run out of rubber which, at this level, won't take long. As for the noise, it's not a classical Ferrari V12 sound, but it is epic in scale and scalp-itchingly exciting.

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I HAVE BEEN WAITING NOT A FEW months to drive the LaFerrari, but more than 20 years. That was when I first tried a Ferrari F40 and knew instantly it was the most exciting road car I'd driven. What I didn't know is it would take more than two decades to top it. Many have been faster than the F40, many have been more capable. But when I thought of the car I wanted most to drive again, it was the F40. Until now. That car is now the LaFerrari, and its speed has remarkably little to do with it. To me it is not about lap time with road cars. It is about what happens when you peel off the circuit or road, after driving as hard as you can, turn the engine off and sit for a few minutes. The feelings that come to you then are what matter.

Are you going to examine them, extract what you need and let them go? Or are they so special you're going to stow them away? That's what I did with the F40 and that's what I'm doing again now. I don't care that the LaFerrari is irrelevant, sold out and unusable on most journeys. I know I'll probably never drive one again and that's OK too, because the memories it provided in one short day are among just a few I'll be keeping forever.



LaFerrari seat is fixed, but wheels and pedals come to the driver. Despite the familiar badge, this is one horse that doesn't exactly prance: the power and torque figures look almost like phone numbers

www.motorsportmagazine.com/author/andrew-frankel



TESLA MODEL S P85

Powerhouse of the future now a practical reality

DESPITE THE FACT THAT battery-powered electric cars have existed for almost as long as the car itself, we are no closer to knowing what part of the motoring future they'll play. In the short term more and more are becoming available but, despite generous government grants, they still represent a microscopic proportion of total car sales. And in the very long term I have no doubt that the fuel cell is where we are heading – sustainably produced hydrogen reacting with oxygen to produce nothing more than energy and water. What I do know is that the case for the pure electric car, rather than a plug-in hybrid or range extender, has just received a massive boost courtesy of the car you see here.

Had Mercedes-Benz or Audi produced the Tesla Model S, it would be hailed as an astonishing achievement, in much the same way as the BMW i3 has been rightly received. It almost beggars belief that it was produced by a company that didn't even exist a dozen years ago.

The Model S is the brainchild of Tesla boss Elon Musk, whose electric architecture will be carried forward into the Model X SUV. It's available with three outputs equating to 302bhp, 362bhp and 416bhp, giving a claimed span of 0-60mph times from 5.9sec to 4.2sec, and top speeds from 120-130mph and charging times from 15 hours at a public station to about 7.5 hours if you install Tesla's home charging kit.

The car is a revolution for far more than the fact it does 250 miles on a charge; and that's not some fantastical claim unachievable in reality, it's what normal people can expect in normal driving. Just as startling is the most visually fresh interior a saloon car has received in years, dominated by a TV-sized centre screen. Here you can find functions to control almost the entire car's behaviour, or just leave it as the largest navigation display ever offered.

I drove both the mid- and high-output versions (£57,300 and £68,700 respectively, before any of a vast list of extras is added) and both offered performance that was as indecent as it was immediate. Off the line acceleration in either felt AMG Mercedes-quick but, of course, delivered with a muted hum providing refinement levels Rolls-Royce would genuinely struggle to match.



FACTFILE

£68,700

ENGINE
Three-phase AC induction motor, 85kWh lithium-ion battery pack

POWER
416bhp @ n/a rpm

TORQUE
443lb ft

TRANSMISSION
single-speed, rear-wheel drive

0-62MPH 6.2sec
TOP SPEED 130mph
ECONOMY n/a
CO_2 0

And yet this car doesn't quite feel finished. Its weakest point is its chassis, which delivers neither the comfort nor handling prowess to excel either as an executive express or a practical GT. The car is claimed to weigh 2100kg and it feels every gramme of it, while on broken B-roads the ride is unsettled at best, deteriorating to choppy at times. The rear seat package is also awkward, placing your feet too high thanks to the underfloor battery packs. And that beautiful centre screen is not as effective as it is attractive: many important functions are buried beneath too many menus, so at times you find yourself just wishing for a simple switch. The navigation might look enticing, but it won't work – at all – if there's no extensive 3G coverage on your route.

Even so I admired the Model S even more than I liked it, and I liked it a lot. It has its flaws but so has every genuinely revolutionary new car. When its time has passed it is the advances it has made that will be remembered, not the stumbles along the way.

www.motorsportmagazine.com/author/andrew-frankel

PORSCHE 911 CARRERA 4 TARGA

Raising the roof with no effort needed



IT'S BEEN 20 YEARS SINCE Porsche last sold a 911 Targa. I know there have been cars in that period that have used the name, but they've been no more than 911s with abnormally large sunroofs. The last true Targa, where the entire roof section of the car from the windscreen to the B-pillar is removable, was the 964-generation car whose life ended in 1994.

But now the Targa is back, and because no owner would these days countenance having to physically lift out the roof section, he or she instead now just presses a button and watches the rear of the car raise up to provide a convenient home for the roof to reverse into before closing like a clam around it. The whole process requires zero effort and less than 20 seconds at the side of the road (it can't be done on the move because the rear lights are momentarily obscured).

But why have one over the already available 911 convertible? The answer is before your eyes: to me at least, this is the best-looking 911 of the current generation, a brilliantly judged homage



to the original 1965 Targa that avoids looking like a pastiche but instead simply recalls its heritage through that silver band that loops over the centre of the car without in any way being enslaved to it.

The Targa originally came about because Porsche was naturally keen to sell a convertible 911, but was anxious about how it would be received by a public already concerned about the car's reputation for highly original handling. An open 911 with a massive central roll-bar was the answer and so the Targa was born. To this day Targas are still bought by the more risk-averse among 911 buyers, which is why this car is only being sold with four-wheel drive.

There are two versions, the £86,281 standard car powered by a 3.4-litre



FACTFILE

£86,281

ENGINE
3.4 litres, 6 cylinders, turbocharged

POWER
345bhp @ 7400 rpm

TORQUE
288lb ft @ 5600 rpm

TRANSMISSION
seven-speed manual, four-wheel drive

0-62MPH 5.2sec
TOP SPEED 175mph
ECONOMY 37.7mpg
CO_2 223g/km

engine with 345bhp, and a £96,319 3.8-litre 'S' model with 394bhp and a far thicker, flatter torque curve. And the hard truth is – the standard car is to be avoided. At 1540kg it weighs a massive 160kg more than a 911 coupé with the same engine, a penalty so great the car is slower than a Boxster S costing £40,000 less. And although the suspension has been carefully retuned to mitigate the worst effects of this additional weight, and the fact that most of it is just where you don't want it, the car doesn't so much bite into corners as nibble ineffectually around their outsides.

The S is a different matter. It has the power to provide decent performance and, with standard Porsche Active Suspension Management, to deliver the poise that its more affordable sister lacks. It is still not one of the great driving 911s, but what Targa or convertible ever was? What matters is that it delivers on the promise of its looks, and the base car does not. Indeed, if you want a 911 to satisfy your desire both as a petrolhead and an aesthete, right now this is the one to have.

LETTER OF THE MONTH

Trying to tackle the wrong problem

I read with interest of the idea to end the World Endurance Championship season at Le Mans. I fully understand the thinking, as the remainder of the season is something of an anti-climax. It didn't used to be this way in the heyday of Group C, however. After the 24 Hours we had classic races at the Nürburgring, Spa, Brands Hatch and Fuji – and they always drew large crowds. Today we have character-sapping Tilke-dromes in far-off countries with no history of sports car racing, and the closing rounds of the world championship are played out in front of empty grandstands.

The ACO and FIA need to reassess the countries and venues the WEC visits, rather than fiddle with the race dates. If there is one lesson we have learnt, it is the importance of tradition. Manufacturers should forget about car sales in these far-off markets and insist the series returns to the classic venues of the past. This will raise the status of the WEC and give them the greater media exposure they crave. The dozen or so people who populate the vast grandstands in Shanghai and Bahrain can always watch the races on TV or via the internet.

Nicholas Bird, Fareham, Hampshire

PEQUIGNET MANUFACTURE

The writer wins this Pequignet Gents Moorea Ranelagh model in stainless steel with an automatic movement, anthracite dial with date, worth £835.



Sipping forecast

Between 1934 and 1937, the 750kg formula led to rapid advances in the cars of the premier formula and in automotive engineering generally. When a 3-litre capacity formula was introduced in 1938, fuel consumption jumped dramatically for about the same performance. Thereafter came the strangled scream of competition engines being overstressed, which we all came to regard as normal. Great sounds though they may have been, these were the sounds of inefficiency. The most efficient internal combustion engine is not one of very small capacity running at huge revs.

Now in 2014 we have a fuel flow limit and a big jump in efficiency. Races are run with much less fuel than last year at about the same speed. This is an important step in increasing efficiency. The next is to get rid of the capacity limit once and for all.

Patrick Irwin, Port Melbourne, Australia

Silence far from golden

As humans we have the ability to sense sight, sound, smell, touch and taste.

Given that the TV restricts us at best to just two-fifths of sensory perception, is it any wonder that most of us have given up on an F1 experience that delivers just one-fifth?

Chris Bone, Swaffham, Norfolk, UK

Thunder enlightening

After reading about the way real motor sport should sound, I fear my fellow enthusiasts in the UK and Europe may have become a bit too accustomed to the vacuum cleaners running at Le Mans and the high-speed chainsaws one used to hear at F1 races.

I would like to make an offer to any *Motor Sport* correspondent: I will personally act as a tour guide for you at a World of Outlaws or 410 Sprint race at Williams Grove Raceway near Mechanicsburg, Pennsylvania, so that you may hear what real motor sport sounds like. The four-abreast pre-start line-up alone has better, more sonorous tonalities than a year of F1.

Norman Gaines, Hartsdale, New York, USA

A dietician writes

Formula 1's malady has a proxy in diabetes. In spite of warnings that such behaviour is life-threatening, the FIA persists in habitually consuming 'treats' that satisfy its transient cravings.

Furthermore it is constantly looking to take on board new, untried novelties. It has no care that its behaviour is widely recognised as anti-social and myopically self-centred.

We should not be surprised that F1 is unfit and grossly overweight.

John Preston, Brisbane, Australia

The best of days

Reading Simon Taylor's excellent piece on Paul Tracy was a bitter-sweet affair for me. It brought back many good memories of Paul and his role in the long-gone Champ Car World Series.

I was a freelance journalist covering the CART series at the beginning of this millennium and, knowing what I do now, it just didn't get any better. Paul and comrades such as Jimmy Vasser, Helio Castroneves and Dario Franchitti – to name but a few – were fantastic to be around, and the racing and competitive spirit led to a series that oozed personality, charisma, drama and inconsistency. It had everything that's great about motor racing.

In Long Beach Paul once invited me over to eat dinner with his team and sponsors, plus replacement driver Memo Gidley. A kart racer made good, Gidley and I watched in awe as models served drinks, chefs carved beef off the bone and giant ice sculptures melted before our eyes. It was so over the top that it was almost laughable, but it was part of what made CART so goddamn great. It's sad how it all played out, but while it lasted it was just majestic.

Eric Johnson, Laguna Niguel, California, USA

Rose-tinted spectacle?

I very much enjoyed Paul Fearnley's thoughtful and considered feature on Senna vs Schumacher (May 2014).

Yes, we might have been denied a fantastic spectacle between two greats. But it's also possible that we were denied one of the most bitter, acrimonious and nasty F1 rivalries, as two unflinching adversaries attempted to settle their differences on the same piece of track.

History will record Senna and Schumacher as drivers unafraid of resorting to violent tactics. If the Imola weekend had ended without tragedy, then perhaps – as the season wore on, against a backdrop of lingering suspicions of legality – an increasingly unhappy Senna and an overly confident Schumacher would have brought out the worst in each other.

Damon Greeney, London, England

More threads to unravel

While enjoyable, I think Paul Fearnley's Senna vs Schumacher article failed to answer the question of how the maestro would have handled a potential nemesis.

Elsewhere in the same issue you raised what I think are the really pertinent questions around the rivalry, ie what was really going on at Benetton that

year and whether or not Senna met his maker simply through wanting to be the best and taking a dog of a car beyond its limits to see off the pretender.

This is an oversimplified view, but as time lapses I wonder if some of this stuff will eventually come out. It's a period that needs further examination, but for obvious reasons I don't think it will happen any time soon.

For me, the real question is what Senna might have gone on to achieve outside the sport, in business, politics or whatever. Now that would have been a great 'Lunch with…'

Mark Abbott, Zurich, Switzerland

Top of the Lister

Thank you for Andrew Frankel's excellent article about the Lister-Jaguar raced with much success by Briggs Cunningham's team, often with the great Walt Hansgen at the wheel.

Anyone wanting to read more about this period would be well advised to seek out Michael Argetsinger's Hansgen biography.

I was born in 1946 and taken to my first race meeting at Goodwood in 1958. Already a big Jaguar fan, I was a great supporter of any driver doing well in a Jaguar-powered car. By that time the Lister had become the car to beat, driven by Archie Scott Brown. I knew little about his physical problems, but was aware he possessed amazing car control. He made a bad start but caught and passed Stirling in the Aston DBR2, and the two of them indulged in a fierce battle for several laps.

The sight and sound of the two cars drifting through Madgwick corner, with flames stabbing from the exhausts, held me spellbound. It was looking good for a Lister win until steering problems led Archie to retire. I was devastated when he was killed a couple of months later.

My interest in sports car racing peaked with Jaguar's Group C involvement. The 1988 Le Mans win was one of the most emotional days of my life. I tried to rekindle some interest during the Audi/Peugeot diesel battles, but seeing them in action made one realise that immense speed is not enough. They have to look and sound exciting, neither of which they were. I fear for the future of Le Mans and other once-great sports car races. The current crop of prototypes are just about the most hideous contraptions I have ever seen. I hate to think how they must sound from trackside.

Richard Bradbury, Sutton, Surrey

A call to arms

Having recently lamented the appearance of the current crop of Le Mans sports racers, I attended the British GT meeting at Oulton Park over the Easter weekend.

What a visual and aural treat, not least the Bentley GT3s growling around the superb Cheshire circuit.

One question: when are the Jags going to join in the fun?

John Clegg, Chadderton, Lancashire

Norwegian would...

Thank you very much for Steve Bennett's most entertaining article about how Ayrton Senna came to be driving rally cars.

I remember Russell Bulgin from my time in UK rallying in the 1970s and '80s. I am also very familiar with *Cars & Car Conversions*. In the '60s I had a subscription to this magazine at the same time as I was learning English as a teenager in Norway.

I picked up much of my English from reading *CCC*. When I started doing UK rallies in the '70s, people wondered about the way I spoke... but it was just some of the peculiar slang I'd read in *CCC*. I thought it was English!

John Haugland, Spydeberg, Norway

English heritage

I was delighted to read Doug Nye's piece on the Multi-Union in your May edition. I still recall the thrill I experienced on seeing the car re-emerge in Patrick Lindsay's custodianship, having been enthused by my late father's eye-witness accounts of its pre-war exploits. Paddock conversations assured me that the car was in safe hands.

Patrick was a man of impeccable standards and taste in things motoring and certainly understood the word 'provenance'. To hear subsequently that this unique piece of Brooklands history had been sacrificed to give the world yet another 'pretend' P3 was heartbreaking – an act of unquestionable vandalism.

In the way of these things, however, I'm sure someone will in the future gather together what remaining bits survive of this once unique machine and concoct them into a modern pastiche, hopefully when I am no longer around. The world will then have a P3 that isn't really a P3 and a Multi-Union that isn't really the Multi-Union.

What kind of motor racing heritage are we leaving behind?

Roger Quipp, Longsdon, Leek, Staffordshire

Webbed feat

In the 1960s and '70s, *Motor Sport* was my essential guide to understanding Formula 1.

I always felt a race wasn't really over until I had read DSJ's account. It was fun to picture him driving from circuit to circuit, first in his Porsche, then in the E-type. The only drawback was the long delay between race and publication, which sometimes diluted the impact since one or two more races might have occurred in the meantime.

I left England in 1980 and followed the sport as best I could, which was never easy. In recent years I've relied on David Hobbs' valiant attempts to explain races from a studio in Atlanta, and various inadequate websites.

So I was excited to come across *Motor Sport*'s website. I purchased the current edition at once and was relieved to find that the standard of independent thinking and eloquent observation had not declined. Now, though, it is available almost as soon as the race is run and the engines have cooled.

Thank you! It is good to renew the relationship. I think the ghosts of Boddy and Jenks must rest easy, knowing the magazine is in competent hands.

Michael Hunt, Prescott, Arizona, USA

Partly political broadcast

Having read your April issue, I wonder what F1 has become. The racing seems to have evolved into a distraction besides all the money-grubbing and politics that goes on.

The April issue had plenty on the politics, rules and commercial shenanigans, but not one story about a modern F1 driver or team. To me, that pretty much sums up where the focus lies. I haven't watched F1 with much interest since the mid-90s, the death of Senna rather ending its appeal.

Pieter Ryckaert, Belgium

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OR E-MAIL:
editorial@motorsportmagazine.co.uk

(Further letters may appear in our digital edition only. Please include your full name and address)



1



2



3

ROB MURPHY

It was DSJ who sparked Rob's F1 interest. Of the 1972 Canadian GP at Mosport he says "if you looked scruffy with a Fu Manchu moustache you could sneak round the paddock". **1** Jacky Ickx (Ferrari 312B2) **2 & 3** Derek Bell came to grief on the warm-up lap and helped to push his Tecno clear **4** After spinning his March 721G, Ronnie Peterson was disqualified for a push-start **5** Sound of music – Chris Amon's Matra MS120D



4



5

SEND US YOUR IMAGES

If you have any images that might be suitable for ***You Were There,*** please send them to:

Motor Sport, 38 Chelsea Wharf, 15 Lots Road, London SW10 0QJ

or e-mail them to: **editorial@motorsportmagazine.co.uk**

MOTOR SPORT SINCE 1924 HALL OF FAME

Back to school

Newey opens circuit college

In May, Hall of Fame member Adrian Newey conducted the opening of Silverstone's University Technical College.

Red Bull Racing's chief technical officer spoke in front of a crowd comprising sponsors, local figures and the UTC's future high-performance engineering and business and technical events management students.

"I'm honoured to have been invited to open Silverstone UTC," Newey said. "Formula 1 teams have the luxury of



being able to pick the very best employees and education is key to this. The students at Silverstone have fabulous facilities available and this gives them a great opportunity."

"It has meant a great deal to have Adrian here this morning, doing the official duties," added UTC principal Neil Patterson. "His achievements represent the aspirations of many of our students and other young people who have applied to study here."

The facility – built on land donated by the British Racing Drivers' Club – is taking applications for September.

Log on to:
www.motorsportmagazine.com/halloffame
to explore the career of Adrian Newey
PLUS videos and career photo galleries



'From Brooklands to Bernie, Blower Bentleys to blown diffusers' reads our cover tagline this month. *Motor Sport* really has seen it all.

When we commissioned the following nine stories documenting key themes of *Motor Sport's* life and times so far, the intention was to reflect the breadth of development in competitive motoring over the decades. The articles, written by a collection of the finest motor racing writers, achieve their aim. But they also remind us how so much has stayed the same.

In the new hybrid era, motor racing continues to be used by the wider automotive industry as the best and most direct promotional tool. National governments recognise its value, too – to the sport's loss and gain – just as they always have. Racing still attracts the brightest and most inventive minds, eager to push the boundaries of convention to find that indefinable edge.

At a glance, motor racing has changed beyond recognition since the first days of *The Brooklands Gazette* in 1924. But scratch the surface, and its essence – the desire to be better, faster, for longer, for less – hasn't changed a bit.

Within these pages, we also present the results of our recent website polls in which we asked our online community to vote for the greatest cars and drivers of each decade. Some results were predictable, but others, as you will see, might raise an eyebrow or two.

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1920s
Brooklands: a world of its own
by Gordon Cruickshank

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The might of the Silver Arrows
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Airfield tracks take flight
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Italy's golden age
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Lunch with *Motor Sport*
The story of our magazine

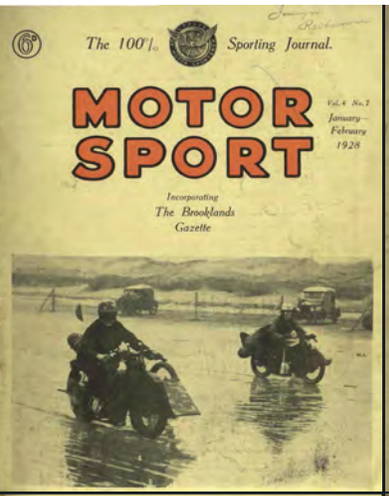
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Motor sport joins the Space Race
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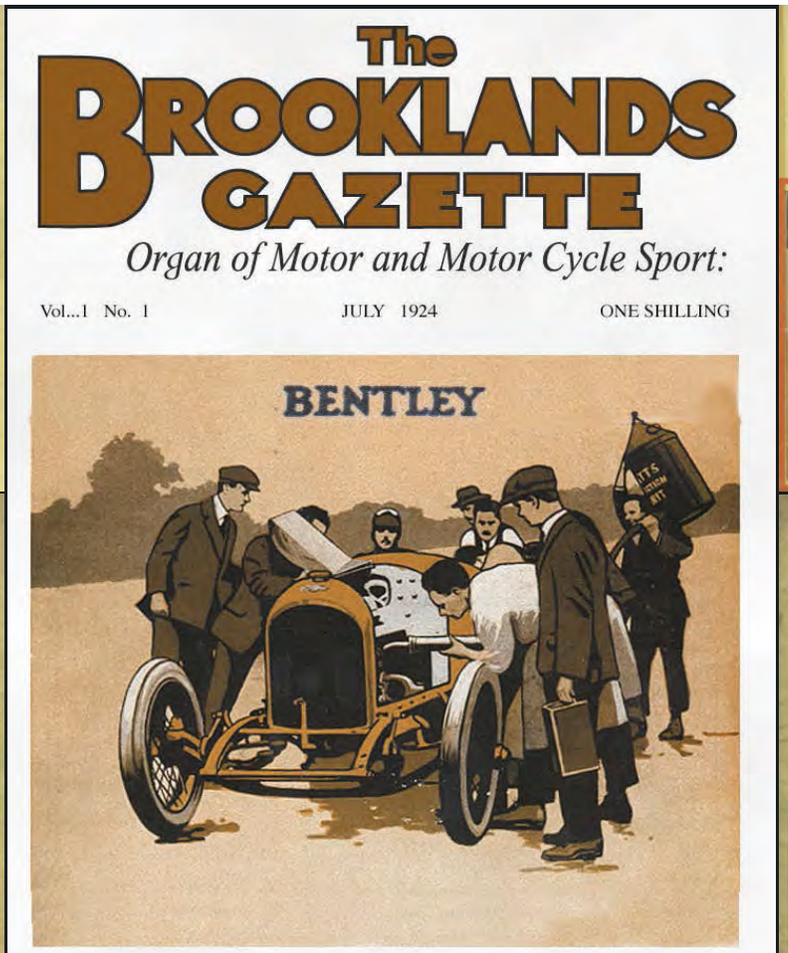
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When F1 cars had 1500bhp... for one lap
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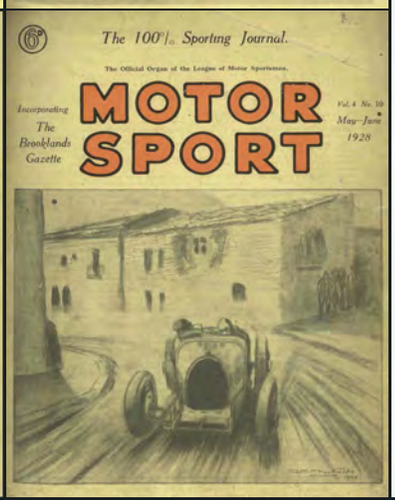

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January–February 1928
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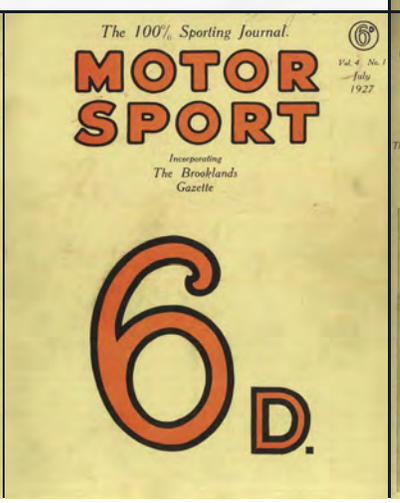

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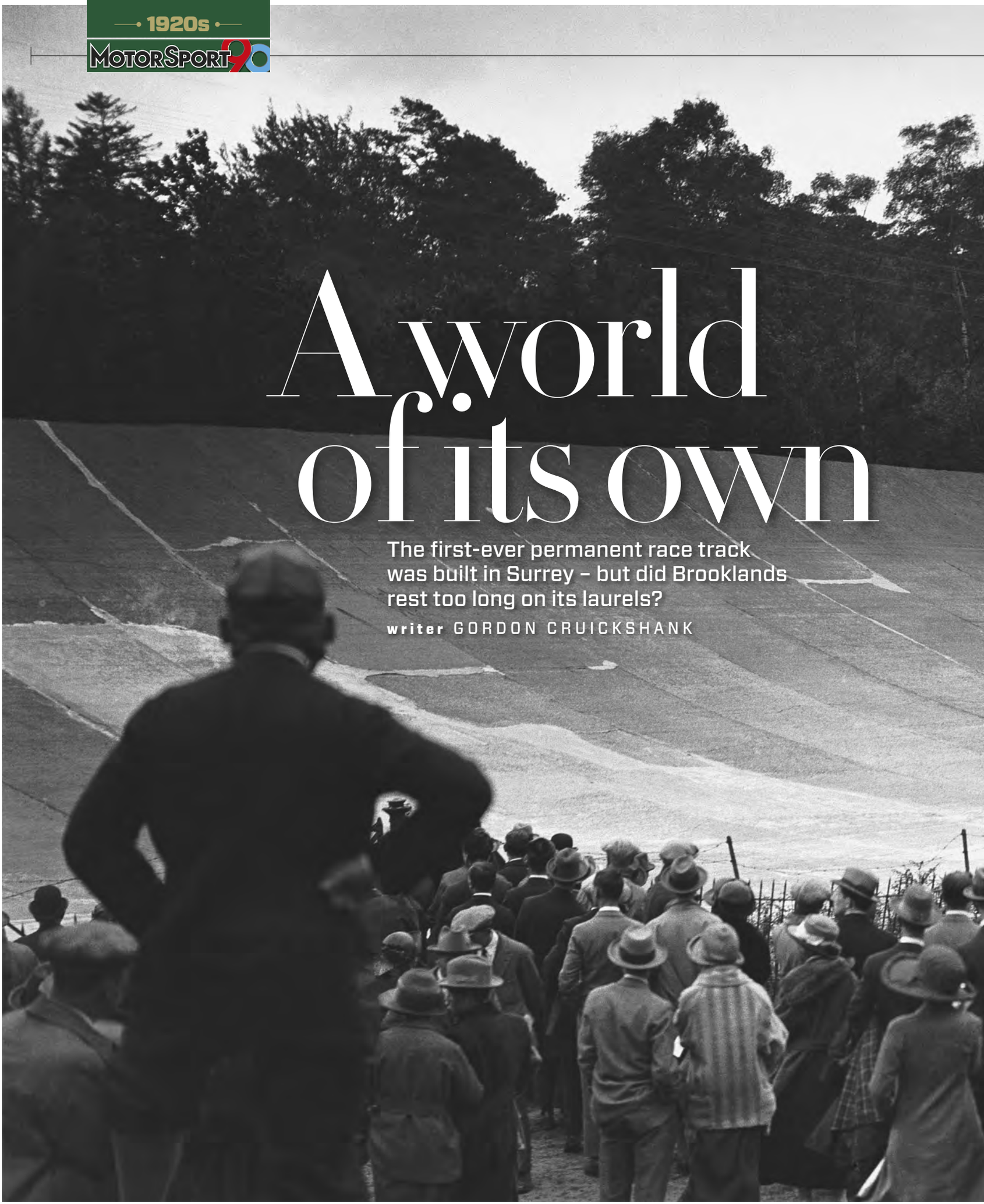

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1920s



A world of its own

The first-ever permanent race track was built in Surrey – but did Brooklands rest too long on its laurels?

writer GORDON CRUICKSHANK



ALL IMAGES LAT

THE *BROOKLANDS Gazette*. That's how our life started out, at a time when the world's first purpose-built race track was still, 17 years on from its construction, the only motor racing track in mainland Britain. After the sun set on the Surrey speedway at the outbreak of WWII it became bathed in the warm glow of nostalgia, and as the museum it has now become it continues, rightly, to play up its halcyon days of spectacular speeds and society glamour. Our own Bill Boddy was instrumental in preserving it, and made this magazine famous as a mouthpiece for the glory that was Brooklands. But it wasn't always like that.

Even when this magazine took its name the circuit was already deteriorating and, more significantly, becoming increasingly divorced from the motor racing development mainstream. From world leader in laying the foundation stone of this dedicated facility in 1907, Britain's position slipped backwards until by the close of the 1920s serious racing car development – that's to say Grand Prix racing car development – was happening in France, Italy and shortly Germany, while Brooklands devotees pushed ever more spectacular blind-alley specials higher and higher up the bumpy concrete banking.

As our inaugural editorial made clear, the magazine was so named not because it planned to report only on the Weybridge track but "because the name Brooklands is synonymous with motoring sport wherever it is held". But while this view is in tune with a nation that had ruled much of the globe for two centuries and imagined it always would, that wasn't how the rest of the world saw things. Britain might have got there two years before Indianapolis and ahead of the great continental speedways at AVUS, Monza and Montlhéry, but those speedbowls did not in the end turn out to be the way to the future. Instead serious car development, both road and race, would be pushed on by the one arena mainland Britain had forbidden by law – road racing.

In pioneer days, running at steady high speeds was a challenge, especially with a nationwide 20mph limit, and droning around a speed bowl or grinding up the Test Hill brought useful lessons – exactly the industry benefit that Hugh Locke King, who conceived, built and paid for Brooklands, had intended. From the Edwardian era on through the 1920s and 1930s, endless records in scads of classes were set, broken and broken again by determined men keen to prove their marque. Early milestones, such as S F Edge's 1907 24-hour run in his Napier and six years later Percy Lambert's Talbot packing 100 miles into the hour, made news and drew crowds, and three Land Speed Records were set here up to 1922, but ever smaller cars going further and faster all by themselves around a concrete Coliseum were hardly entertainment. It needed competition to draw a crowd.

In any case, by the 1920s the basic technologies – bearings, lubrication, ignition – were relatively reliable, and roads were becoming busy. Flexibility, braking and agility now mattered, things a banked speedbowl did not demand. Only by subjecting a car to the constantly varying stresses, slopes and accelerations of something reflecting the open road would the breed improve further; with no formula restrictions at Brooklands the constant high-speed foot-down commitment of the autodrome risked producing specialised monsters with feeble brakes, minimal damping and limited agility. Far from bringing automotive progress, many primitive Edwardian monsters found new life on the post-war banking. Count Zborowski's

1920s

GREATEST CARS

WEBSITE POLL RESULTS



40%

1 BUGATTI TYPE 35

Cornerstone of a legend. Beautifully engineered sports racer with rasping eight-cylinder motor. Prolific race winner and privateer favourite in almost any event from clubbie to Grands Prix.



22%

2 BENTLEY 4½-LITRE

Torque-fuelled British bulldog that made Le Mans its own, aided by flamboyant owner-drivers. The great all-rounder of the day, which even placed second in a Formule Libre GP.



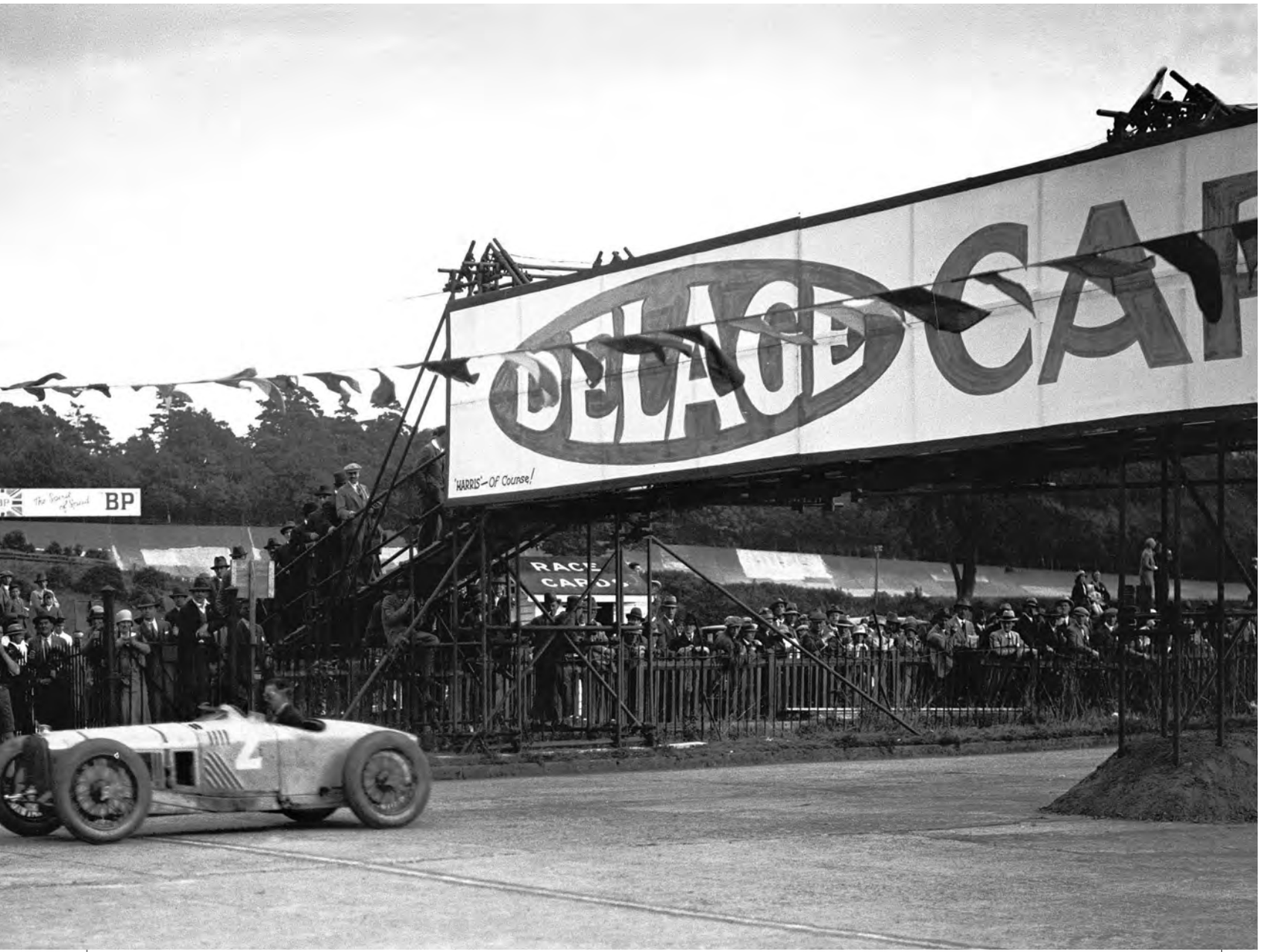
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3 ALFA ROMEO P2

Pivotal Jano racing car design with supercharged straight-eight engine. Won 14 Grands Prix and brought 1925 World Championship to Alfa – hence laurels on badge.



Brooklands twice hosted Grands Prix, using sand chicanes: in 1926 Benoist and Dubonnet (in lounge suit!) took Delage 15 S8 to third – and last



Chittys, the 200hp Benz, the ancient Lorraine-Dietrich 'Vieux Charles III' and John Cobb in the LSR V12 Delage delivered wall-of-death thrills to the crowd as they steamed round the Outer Circuit, but their thunderous noise drowned out the rasp of Bugatti, Delage and Alfa Romeo in paddocks abroad. Here we were engineering mastiffs while the continentals were breeding greyhounds.

As a base for many tuning and experimental shops, though, the Track did see innovation. Parry Thomas, Reid Railton, Freddie Dixon and Felix Scriven among others created advanced specials, while Frank Halford built what may well be the first turbocharged car. But none of these were international or even production contenders – though, minus turbo, that Halford Special would later be the sole British entrant in the 1927 French GP at Montlhéry.

Certainly the crowds who flocked to Weybridge every race day were more than content: events such as the JCC's 200-mile races were a big draw, and the air of exclusivity granted by the idea of the Members' Hill – shades of Ascot and Henley – kept Brooklands on the society pages as well as in the sporting papers. With no rival it was simply one of the places one went, and if you weren't exactly part of The Right Crowd in their corral it was nice to feel you were just across the paling fence from the actresses and aristos who made news. And passengers on the 2.15 to Woking got a side-by-side action close-up down the Railway Straight, a free mobile billboard that must have brought thousands extra through the gate.

❖

THE TRACK WAS ALWAYS BUSY, SEVEN days a week, and would remain so to the end in 1939. In between race days, tuners, testers, salesmen and manufacturers pounded around the concrete curves; the Track was providing a service and if those continentals were inconveniently closing public roads to race on, that was their affair. (Shutting the centre of Monaco? Mad idea…) Britain had offshore territories for that. The Isle of Man was perfect for the early Tourist Trophies and Mannin races while Ireland had hosted the 1903 Gordon Bennett Trophy, and the Ards circuit in Northern Ireland would be swamped with half a million spectators when the TT moved there from '28, where as a (mostly) sports car contest it attracted a healthy international field. Why did we need mainland road-racing? *Motor Sport* ran an article 'Concerning Brooklands' by H M Chubb in April 1928, with the line "In spite of continuous changes in our earth the sun remains ever constant. So let it be with Brooklands…"

The blinkers weren't universal. While some were happy to keep driving down Seven Sisters Road to see what 'the crowd' were up to, others were throwing out warnings. Dashing, profligate Tim Birkin, every schoolboy's hero and the very personification of Outer Circuit derring-do, would state in his 1933 autobiography *Full Throttle* that Brooklands was "the most out-of-date, inadequate and dangerous track in the world". Remarks for which the BARC sued, forcing him to insert an apology in later copies.

Even Brooklands' own Clerk of the Course Col Lindsay-Lloyd, writing in our first issue

extolling what the circuit had done for car development, conceded that "as a sporting venue I am quite ready to admit that the Track is not ideal. The very qualities of size and design that make it so valuable as a testing ground, themselves somewhat detract from its virtues from purely spectacular considerations".

He went on to remind readers that the gate income "provides the revenue for the maintenance of the Track as the trade's testing ground. Thus the spectators, as well as the motorists who do not go to Brooklands, benefit in the ultimate by far more than an occasional afternoon's sport".

Those who in the previous year had travelled to watch Alfa Romeo take victory among Sicily's mountains, or Henry Segrave in his (Fiat copy) Sunbeam win a first Grand Prix for Britain along the open roads at Tours, might feel they had a different view of sporting excitement from the Colonel, who in the same article suggested that three laps of any race was enough for the average spectator.

But he was right in one regard: the spin-off from all that testing was that in the 1920s Britain was building fine touring cars, and in racing for standard vehicles we had a proud record. While Ballot, Delage, Fiat, Bugatti and Alfa Romeo fought out Grands Prix in the mid-20s without a serious British rival as Sunbeam faded, Bentley's five Le Mans victories topped a pyramid of sports car and record achievements. A *Motor Sport* editorial in January 1928 said, "If the story of 1927 is not encouraging from a national point of view as far as the Grand Prix-type races are concerned, the performance of British cars in races for standard productions is distinctly meritorious."

Clearly when the Colonel wrote his piece there was no incentive among the BARC (B then standing for Brooklands) board to consider a major change of direction, especially as in the post-WWI resurgence other countries appeared to be following where it had led: speedways appeared at AVUS (1921 though begun





ARCHIVE // FROM *MOTOR SPORT* DECEMBER 1929

ANOTHER YEAR HAS COME to an end, another succession of epic battles has been fought out on road and track, and once more we may look back on the year that has passed and see how we stand for the future. There is no doubt that the 1929 season was eminently successful. We must see to it that the future is equally well filled with scope for the racing enthusiast.

In the first place the point which stands out is that the race for standard cars has swept everything before it. Starting as almost a local affair in 1923, the Le Mans race has now become the cardinal event of the year. We have got our own Tourist Trophy on an assured footing. Ireland has started her own race, and the Italians in typical fashion have set the seal on their own idea of reviving almost the town-to-town races of the young years of the century.

On the other hand, events for real racing cars have practically vanished from the calendar. The French Grand Prix has become an affair of very little importance, and the 200 Miles Race has faded.

There is no doubt that the new type of racing has provided excellent sport. Entry lists are very much better filled than they



Lunch on the Members' Hill – sylvan, uncrowded and boasting spectacular views, as it still does

pre-war), Monza (1922), Sitges (1923) and Montlhéry (1924), though Monza and Montlhéry had the foresight to include 'road circuit' elements that would ultimately prolong their lives. In America building a board track or speedway was for a while essential for any town's self-respect, and as late as 1929 Sir Malcolm Campbell, writing in these pages, was promoting a plan for a new 15-mile speedway along the Wash. "New speedways are most necessary today" he wrote. "Tracks such as Brooklands are out of date for some purposes and will be even more antiquated in a few years. It is impossible to do much more than 140 miles an hour on Brooklands and this speed is becoming tame to the blasé young men who want to think in terms of 200mph."

But when the RAC managed to attract the Grand Prix title to the UK for 1926 (seven entries) and '27, the Surrey bowl remained the only option and the resulting wiggles around sand chicanes on the runway-sized Finishing Straight were an embarrassing contrast to the sea-fringed undulations of San Sebastian, or the spectacular Nürburgring then nearing completion. A Grand Prix would not return to these shores until Donington Park, which opened to cars in 1933, finally offered proper road racing without craning cars onto a boat.

Meanwhile Brooklands soldiered on, the famous bump as the banking crossed the river getting worse ("it seems as if when they ironed out last year's bumps they ironed up fresh ones" said *Motor Sport*), the concrete flaking and racing split between wealthy individuals who could afford to build specialised Outer Circuit monsters to attack lap and endurance records, and those wanting to race more standard cars. The vast size of the Track – 100ft wide: imagine the M6 with no central reservation – dwarfed any small car buzzing down it, especially viewed from half a mile off, high up on the Members' Hill. In the memorable simile, the effect was "like watching flies crawling around a dinner plate". But at Brooklands handicap racing was the norm, brilliantly managed by the ever-present bowler-hatted 'Ebby' Ebblewhite, so while the big cars were the highlight, everyone had the chance of a cup.

Major endurance challenges such as the Double-12 hour (no sleep-spoiling 24-hour events allowed in suburban Surrey) and the BRDC 500-Mile races did provide spectacle from the late 1920s – the latter would be the fastest race in the world for years, outdoing Indianapolis. To spice up lesser racing, the various clubs employed every patch of concrete plus the Test Hill in increasingly eccentric ways, up, down and backwards, striving to inject interest with titles like Mountain Circuit (one loop of banking used in reverse), but it was

"TRACKS SUCH AS BROOKLANDS ARE OUT OF DATE. IT IS IMPOSSIBLE TO DO MUCH MORE THAN 140MPH AND THIS IS BECOMING TAME"

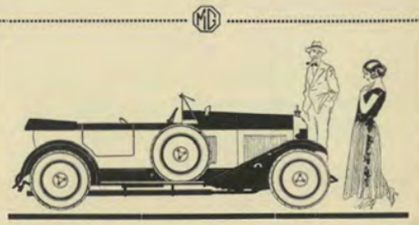
were in the latter days of the Grands Prix, while the public are definitely more interested in comparing the performances of various cars they can buy than they were in noting the success or failure of some novelty in design. The fact, however, remains that as a result of this situation, no special racing cars at all are now being built. In Italy alone have any successful races of the old type been run – the Targa Florio and the Grand Prix at Monza. Neither of these events, however, occasioned the building of new and special cars. The Targa Florio became a battle between the standard type Bugatti and the equally standard Alfa Romeo, while the Monza race united a collection of sports models and old racing cars. Finally the Brooklands 500 Mile Race organised by the British Racing Drivers' Club witnessed a battle between modern production models and special racing cars two or three years old. This race alone showed how quickly things still move in the automobile world, for it was the modern sports car and not the racing car of yesterday that carried off the prize in a straightaway track race of 500 miles.

This situation, however, is one that must give us pause. There is, without doubt, no better way of finding the weak points in a production model than in racing it against its rivals. No one can deny that the sports car race is an excellent idea, and ought never to be abandoned. On the other hand, one may ask how well we are going to get on without any races of the old type. What is going to be the effect of running no races for special cars?

Take the outstandingly successful cars of this year – the 4½-litre Bentley, the big Mercedes, and the Alfa Romeo. The last-named especially may be taken as a good example of how we are using the lessons of the post-war Grands Prix. Would Alfa Romeo now be building a car with a supercharged multi-cylinder double overhead-camshaft engine, had it not been for the firm's experience in the Grand Prix races of 1924 and 1925?

1920s AD BREAK

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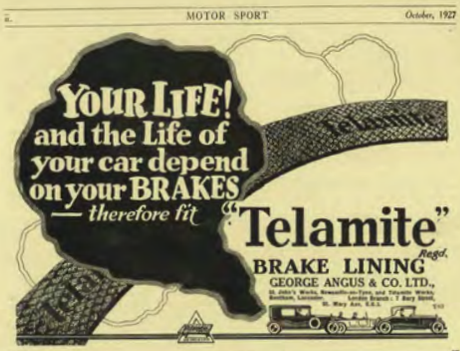


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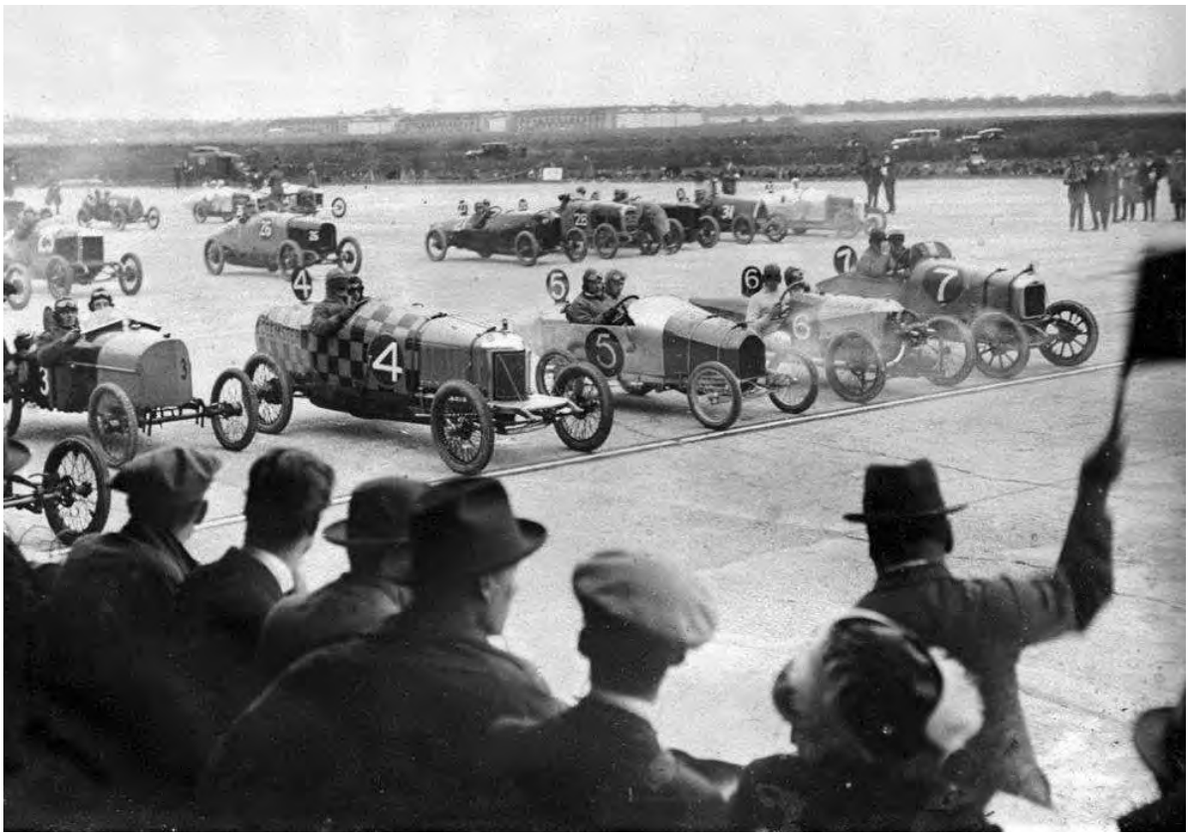


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Ebby starts 1921 Junior Car Club 200; these multi-class events drew a huge entry and big crowds

only in 1937, with Donington and Crystal Palace showing the way, that Brooklands would invest in a 'road race' track – the Campbell Circuit, which while still using the Members' Banking actually boasted a couple of right-hand bends.

❖

GRAND PRIX RACING, MEANWHILE, had its own problems. Running to a 2-litre formula from 1922 had speeded technical progress – twin cams, Fiat's supercharged six, Delage's delicate V12 – and the hope of a continuing world championship through cross-channel exchange with Indianapolis, the one pioneer speedway track still flourishing. But speeds rose and for 1926 the AIACR, precursor of the FIA, lowered the limit to 1500cc, resulting in ever more sophisticated straight eights from Delage, Talbot and Maserati and Fiat's supercharged H12. Indianapolis continued to follow GP rules, adopting the 1500 formula too, and Duesenbergs and Millers would both prove fast in Europe. The dedicated US speedway machines, however, grew less and less suitable for road racing and with their departure the idea of a true world series faded.

Which was just as well for Britain, on the Grand Prix sidelines following the abandoning of a home GP as France and Italy shared the laurels and Mercedes dominated sports car events on the 'Ring. Looking back on 1927, *Motor Sport* said, "It is not encouraging to look at the part that England has played in this year's events. Enthusiasts in this country are sufficiently aware of our unenviable position, but it cannot be too often repeated that somehow we must pull ourselves together. The truth of the matter is that, as a motor racing country, England has become insignificant."

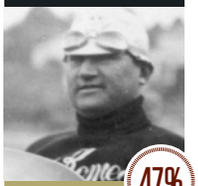
It wasn't a widespread worry. The Brooklands grandstands still filled every weekend, and our racing isolationism looked a positive plus when a recession hit Europe, seriously knocking back expensive Grand Prix development, causing the withdrawal of French and Italian factories and the cancellation of races. Indianapolis switched to a stock formula, ending the trans-Atlantic challenge.

We had this to say in March '28: "In England there seems to be a strong tendency to regard the eclipse of Grand Prix racing with equanimity. The reason seems to be the extremely insular one, that while this country has been reaping the honours in touring car races, we have not been making a very creditable showing in Grand Prix races. On a somewhat 'sour grapes' principle, therefore, one hears a great deal nowadays about 'freak' Grand Prix racing cars. Presumably this appellation means that these cars would not be suitable for the average unintelligent 'all-on-top-gear' driver ; but when one considers that Bugatti's 'freak' 2.3-litre supercharged car will move off on the starter with top gear engaged, this argument seems to fall rather flat." ▶

1920s

GREATEST DRIVERS

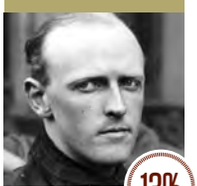
WEBSITE POLL RESULTS



47%

1 ANTONIO ASCARI

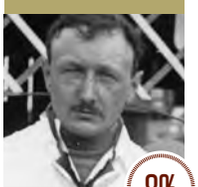
Cut down at the height of his brilliance in 1925 in the French GP, Ascari was Alfa Romeo's star through three seasons. At Spa he had such a lead he had time to stop for refreshments.



13%

2 SIR HENRY SEGRAVE

Relentless racer and patriotic record-breaker who achieved Britain's first Grand Prix victory, in a Sunbeam in 1923. Took LSR three times up to 231mph and held water record simultaneously.



8%

3 SIR HENRY 'TIM' BIRKIN

Dapper and dashing, Bentley Boy Birkin was England's hero, especially at Le Mans. Blew the family fortune on cars, created Blower 4½, died tragically early from a race injury.

The writer went on to propose a Tote betting system to re-energise the Grand Prix circus, something which was already a Brooklands speciality. Meanwhile international racing action centred on formule libre and sports cars, the latter playing well to Britain's, and Brooklands', position. By December 1929 *Motor Sport*'s respected columnist Kent Karslake commented on how road racing for sports or touring cars was flourishing, stating "the Le Mans race has now become the cardinal event of the year".

He went on to say, "On the other hand, events for real racing cars have practically vanished from the calendar. The French Grand Prix has become an affair of very little importance, and the 200 Miles Race has faded. As a result no special racing cars are now being built. The Targa Florio became a battle between the standard-type Bugatti and the equally standard Alfa Romeo, while the Monza Grand Prix united a collection of sports models and old racing cars."

"THE FRENCH GRAND PRIX HAS BECOME AN AFFAIR OF VERY LITTLE IMPORTANCE"

Another thing that had been vanishing was Brooklands patrons. Attendances dropped in 1928, perhaps due to the gathering recession, and the BARC took steps. By 1930 there were major improvements to facilities and a new more forward-looking Clerk of the Course. Under Percy Bradley's direction the Track would through the 1930s gain more industry, better access, tempting ticketing packages and, more important, an entertaining assortment of racing. It was also conveniently close to London, one of its greatest assets. The 30ft-high embankment continued to echo to massive mechanical bolides such as 'Tim' Birkin's single-seater Bentley, Barnato-Hassan and that ultimate Brooklands behemoth the Napier-Railton, taking the lap record to an eternal 143mph, but the British Empire and International Trophies produced something more like conventional racing, pitting MG, Riley and Aston Martin against Bugatti, Maserati and Alfa Romeo – even if much of the circuit was defined by straw bales.

But if Britain merely watched as new formulae and economic recovery brought an overseas Grand Prix resurgence that would lead to the ear-piercing shriek of supercharged Mercedes and Auto Union, she did at least have a reason to wave a Union Jack, and it was partly built and honed at Brooklands. Through the 1930s 1500cc voiturette racing was an unofficial Formula 2 to the Grand Prix arena, and from 1935 ERA would often dominate the category. The compact, simple machines offered a perfect privateer choice and in the hands of Mays, Howe, Seaman and Bira won many a race at the Track and around Europe; here at last was something with a claim to be a product of Brooklands that could hold its head up in international single-seater racing.

At least until the Germans came to Donington, where the gap between the Silver Arrows and the ERAs, the nearest thing to a Grand Prix car we could field, turned out to be even vaster than we thought. The dope-snorting high-tech missiles were stupendously quick, and obviously far too fast for a crumbling speedway. Brooklands was never going to see another Grand Prix.

Once the Campbell 'road' Circuit was opened Brooklands again became a rival, if less scenic, to Donington and Crystal Palace, but the ageing banked structure was a burden.



Brooklands usually drew good crowds, no matter what was on the bill

Without the war that closed and fatally punctured it, could it have continued? Monza, AVUS and Montlhéry served up banked racing post-war, so it's not impossible. But on the world's oldest race track maintenance was a constant struggle. The insularity of that concrete island, set in a Surrey sea, wasn't entirely self-imposed: it was to a broad extent imposed on it by laws forbidding racing on Britain's public roads and a lack of government interest that would have been needed to build a British Nürburgring.

Brooklands managed to ignore the outside world for many years thanks to a combination of novelty, snobbery and re-invention, but as our own motoring technology park it may have achieved more than we acknowledge. Ⓜ

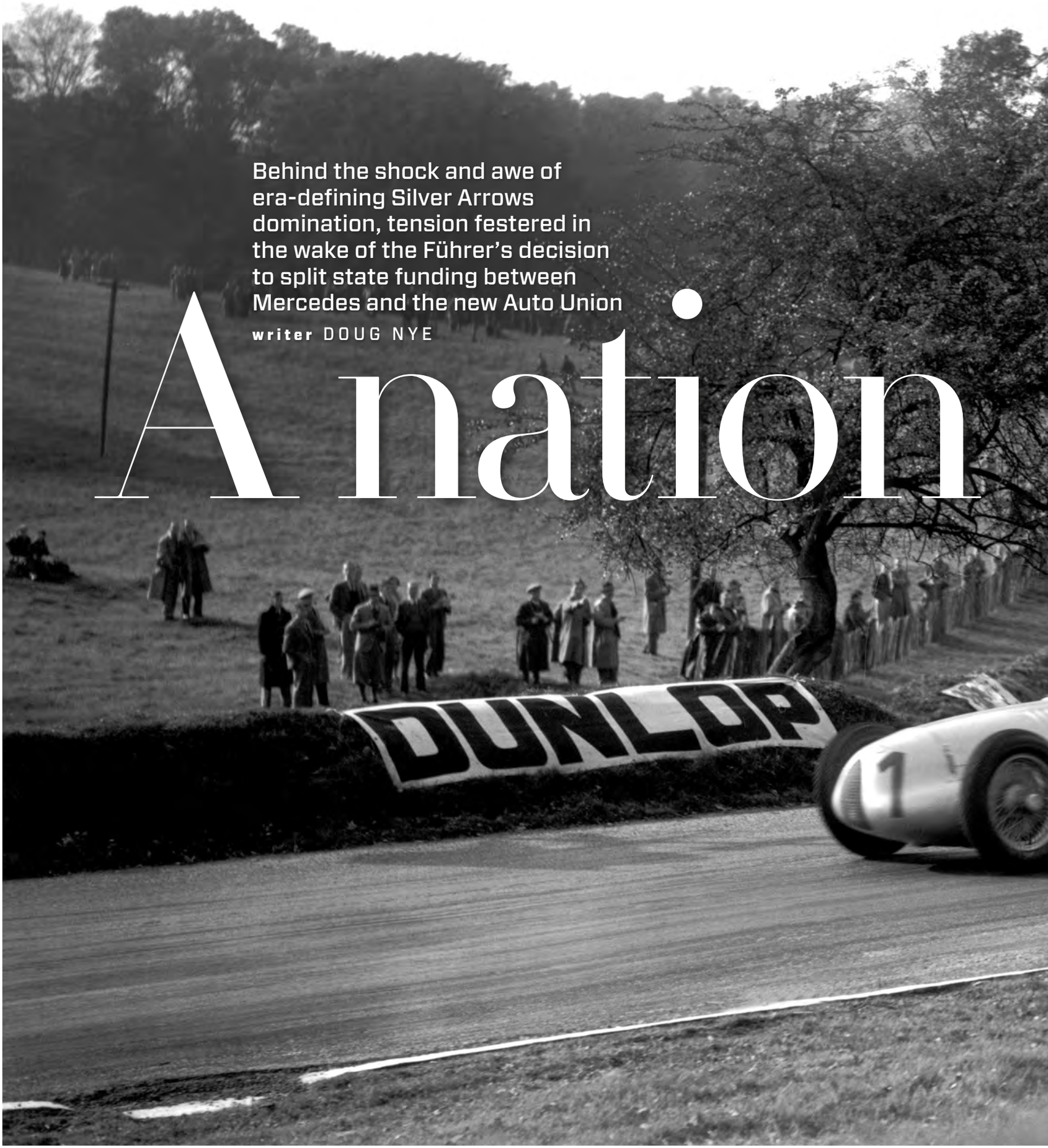
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Vol. XIII. No. 5 Brooklands Easter Meeting, R.A.C. Rally & the 5.4 litre Mercedes-Benz April, 1937
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The thrill of speed with the certainty of safety..
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BELGIAN

1930s



Behind the shock and awe of era-defining Silver Arrows domination, tension festered in the wake of the Führer's decision to split state funding between Mercedes and the new Auto Union

writer DOUG NYE

A nation

divided



ALL IMAGES LAT

PRE-WAR MOTOR racing was well reported by the British weeklies *The Motor* and *The Autocar*, with Tom Moore and friends in *Motor Sport* having more time to get it right. Time reveals so much more – but let's begin here with a potted history of Grand Prix racing into the early 1930s…"

The game had really suffered into 1928, deteriorating to a level previously experienced only in the crisis years of 1909-1911 and 1915-1920. The Delage, Fiat and Talbot factories had all withdrawn from racing. Bugatti effectively faced variable competition from Alfa Romeo and Maserati. *Formule Libre* rules were adopted by most race promoters, except in the 600km Italian GP at Monza. In 1929 only the French and Spanish races toed the AIACR governing body's regulatory line. Then into the 1930s only the Belgian GP really complied, Louis Chiron winning unchallenged for Bugatti. But its heyday was shuffling into evening.

In the 1930 French GP, 14 Bugatti Type 35s started on the old Pau country-road circuit, yet Sir Henry Birkin finished second in his 4½-litre Bentley with Le Mans four-seater body – despite it looking, he said "like a large Sealyham among greyhounds".

Bugatti won three major international races that year, while Italy's new Maserati marque won four and Alfa Romeo a couple (but concluded that its seven-year-old P2 model – designed for 120mph – was inadequate approaching 140). Bugatti's Type 35, with basically a 1922 engine, was simply underpowered. As Laurence Pomeroy of *The Motor* observed: "Despite the world financial crisis [of 1929-30], the logic of events forced constructors to produce new racing designs for the 1931 season... much influenced by the growing political importance of racing. Mussolini gave every encouragement to Italian constructors, who were told that motor racing victories were a big contribution to the home and world prestige of Fascist rule." State aid would become a defining feature of 1930s motor racing. Income from car sales alone was woefully insufficient, and the AIACR – forerunner of the modern FIA – had failed for three successive years to produce a GP formula acceptable to constructors or race promoters.

For 1931-33 the regulators floated a 5-litre, 790-odd Kg minimum weight formula before shrugging, accepting Formule Libre without riding mechanics and insisting top-level GP races last at least 10 hours. The 2.3-litre twin-cam Bugatti Type 51 emerged, as did

1930s

GREATEST CARS

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21%

1 AUTO UNION 'TYPE D'

The last of the great rear-engined Silver Arrows, powered by a V12 and sprung on de Dion suspension. Years ahead of its time.



19%

2= MERCEDES W125 & W154

The two cars that sealed the three-pointed star's Grand Prix superpower reputation. Even WWII wouldn't wipe the memories.



14%

3 AUTO UNION 'TYPE C'

The last of the glorious 16-cylinder AUs that completes a Silver Arrows clean sweep in our poll.



Breath-taking mechanical craftsmanship at the 'Ring in 1937, as Rosemeyer's Audi is fettled. Nazi officials feature among the watching group



the rival Alfa Romeo 8C-2300 Monza. The Milanese marque also fielded its remarkable Tipo A Monoposto cars with centreline driving position, and bodywork only just wide enough to accommodate two six-cylinder sports car engines side-by-side up front. Each had its own clutch and gearbox, aggregating 3½ litres and more than 200bhp. Fagioli's 2½-litre straight-eight Maserati led the French GP at Montlhéry, before a Bugatti T51 won from an Alfa Monza. Maserati occasionally fielded its fearsome coupled-crankshaft V16, then uprated its straight eights to 2.8 litres. Privately run 7-litre Mercedes-Benz SSs picked up some GP crumbs and Bugatti unleashed its barrel-chested 4.9-litre Type 54s, brawn baffling brains...

Bugatti, increasingly cash-strapped, and Maserati (content with its lot) continued racing proven designs through 1932. Alfa Romeo led the way with its super-slim 2.6-litre Tipo B Monoposto, the so-called P3. After Giuseppe Campari had driven the prototype around the Alfa factory yard at Portello he enthused it was "as nimble as a bicycle."

The Monza had been unable to beat Bugatti and Maserati, while the Tipo A twin had proved both obese and a clenching challenge for even Alfa's finest stars to drive. The AIACR recognised GP races of not less than five hours and not more than 10 – and while the fastest car in the 1932 Italian GP was Fagioli's Maserati V16, the winner was the svelte, slender new Tipo B with Nuvolari aboard. Three of these new Alfas dominated the French GP at Reims, and followed up with Rudi Caracciola – released from Mercedes-Benz as a cost-saving measure – winning the German GP. He then triumphed in the Italian GP at Monza, while Bugatti found consolation as the Tipo Bs broke in the Monza GP, won by Chiron's T51.

Alfa Romeo's great results through 1932 facilitated the State-backed – more or less bankrupt – company's shock decision to retire from racing for 1933. Its state-of-the-art Tipo Bs were consigned to storage, leaving the quasi-works Scuderia Ferrari to make the most of its dual-purpose Grand Prix/sports-racing Monza models.

"THE TIPO A TWIN PROVED BOTH OBESE AND A CLENCHING CHALLENGE FOR EVEN ALFA'S FINEST STARS TO DRIVE"

German economic austerity led to the national GP being cancelled, Nuvolari deserted Scuderia Ferrari in disgust at the inadequacy of its Alfas and, in a freshly purchased Maserati 8C Monoposto (reintroducing hydraulic brakes to the GP category), won the Belgian GP. At Livorno he beat Brivio's SF-entered Monza by eight minutes and shamed Alfa's board – nudged by Mussolini's unimpressed Ministry men – into releasing its Tipo Bs to the Scuderia.

Bugatti launched its Type 59, which looked outmoded and had little hope of combating state-assisted Italian programmes.

Simultaneously, the Alfa and Maserati men listened aghast to rumours that the Germans would be weighing in come 1934. Despite all its terrible times post-WWI, the German economy was resurgent and the nation's new Fascist regime had much more muscle than Mussolini's Italy could ever flex...

North of the Alps, Mercedes-Benz had been founded upon clinical engineering excellence. The marque had been promoted assiduously through many years of motor racing, and whenever Mercedes addressed its ambitions seriously in any class of competition, its will and capability had proved almost irresistible.

In 1931 the AIACR had canvassed expert advice to frame at last an acceptable, workable new Grand Prix formula. When finally announced in October 1932 – to apply during 1934-36 – they introduced a maximum weight limit of 750kg to be enforced less driver, fuel, oil and tyres, and a minimum body cross-section at the driving seat of 85x25cm, or 33.5x9.9in.

One expert advisor behind these new regulations had been Prof Dr Ferdinand Porsche, former chief engineer of Austro-Daimler, Mercedes-Benz and Steyr, who in 1930 had founded his own independent design firm in Stuttgart. In his mid-50s, Porsche was experienced, tough, shrewd – and legendarily foul-mouthed. It had been predicted that the latest rules would confine GP cars to engines of only three litres and 250bhp, but Porsche and collaborators Josef Kales and Karl Rabe began work on something superior – their shockingly daring, futuristically rear-engined V16 P-Wagen.

❖

THAT IS REALLY WHAT 1930s GP RACING all came to be about. It brimmed with fantastic engineering and was done against a background of massive social change and disturbance. It provided a microcosm of the tense and turbulent times in which it all unfolded, and through 1933-34 the elephant in the room was the spectre of Germany resurgent.

Here was a new Germany that had endured its defeat and punishment at the end of the First World War, when it emerged in hock to the American banks and others. Germany's Weimar Republic from 1919-1932 experienced the fantastic hyper-inflation of the early '20s. When Hitler's emergent NSDAP political movement bought him a 16/50hp Benz car in 1923, its price was 135 thousand billion marks...

But the economy stabilised, the Golden Twenties developed and Berlin bustled as Europe's most entertaining capital. Germany printed and borrowed money and indulged it. The Bauhaus architects emerged, but in 1929 America's Wall Street Crash destroyed the



ARCHIVE // FROM *MOTOR SPORT* FEBRUARY 1937

PROBABLY THE MOST remarkable feature of Richard Seaman's inclusion in the official Mercedes-Benz racing team has been the lack of publicity it has received. After all, here is a sporting achievement that is worthy of pride, and yet it has been almost universally ignored by the newspapers.

The apathy in regard to Seaman's appointment has only been equalled by that which greeted Eric Fernihough's wonderful motor-bike records. Truly we are the most extraordinary nation – or perhaps we must blame our newspaper editors who fill their columns with 'human' stories and refuse to regard real achievements as being of interest to the public. At any rate, no longer can the pessimists say that we haven't got any drivers capable of handling modern



The factory Mercedes W25s pass the Montlhéry pits during the 1934 French Grand Prix

feelgood factor.

Stricken US banks foreclosed on German loans. Mass redundancies reduced Mercedes-Benz's workforce from more than 18,000 in 1927 to under 5000 in March 1932. Mercedes boss Dr Wilhelm Kissel had been an ardent supporter of motor racing to promote the brand, but even he had to face financial fact and declare the Three-Pointed Star's withdrawal until the economy improved.

The shareholding Deutsche Bank's representative on the Daimler-Benz board was Dr Emil Georg von Stauss. From 1930 he had loudly used his influence in the Reichstag parliament to promote a policy of 'national motorisation', ranging from road building and tax relief on car sales to Government defence orders for vehicles and aircraft "in the national interest". This aped Mussolini's Italian policies and matched those of Hitler's ever more popular NSDA Party.

One of Prof Dr Porsche's partners was star driver Hans Stuck – close to Hitler's inner circle. Another was Adolf Rosenberger, who had competed in the rear-engined Tropfenwagen racing cars of 1923-24. Rosenberger was a member of Berlin's influential Herrenklub, and won financial backing from among its wealthy members for Porsche to found the Hochleistungs-Fahrzeugbau GmbH (High-Performance Vehicle Construction Co) to perfect the P-Wagen. The Prof Doc was well acquainted with Wanderer and tried to sell them the project, but Wanderer was in deep financial trouble, as were the other motor companies in Lower Saxony – Audi, DKW and Horch. In February 1932 the State of Saxony guaranteed six million Reichsmarks to support its local motor industry, and that June the four marques merged under the banner of Auto Union AG.

The new combine's board would prove aggressively promotion-minded. In January

GP cars. "We've got the men..."

Caracciola, Seaman and Lang – so reads the Mercedes team for 1937. Quite a formidable trio, for Caracciola is still capable of giving even the meteoric Rosemeyer a run, and Hermann Lang clung to the Auto Union driver's heels for many laps in last year's German GP. It will be interesting to see how Seaman shapes up.

Freddie Zehender will be the Mercedes-Benz reserve driver, and it will be remembered that he nearly got his chance at Nürburg last July. He was actually in the cockpit when Neubauer told Lang to take over the car. Von Brauchitsch may still sign up, but there appears to be some difficulty about terms. Then there is the cadet school, consisting of Walter Baumer, Brendel and Hartmann. These three are to undergo an intensive course of training as 1938 drivers, under the eagle eye of Neubauer. It is obvious that such astounding cars as the Mercedes-Benz must take a great deal of getting used to, and a full year's practice does not seem too much.

Mercedes-Benz is pinning great hopes on its new 12-cylinder cars. The engines have already shown their worth in record attempts, and the rest of the car has received attention. A completely new frame has been designed, which ought to eliminate the road-holding troubles experienced with last year's eight-cylinder cars. The design of the frame is at present a closely guarded secret, but no doubt full particulars will be available later.

1933 Hitler became German chancellor, his Nazi party rapidly all-powerful. An enabling act was passed allowing government by decree, even in breach of the nation's constitution. On February 11 that year, Hitler became the first German chancellor to attend the Berlin Motor Show. Here he announced his programme of national motorisation, watched by Jakob Werlin, Mercedes-Benz's Munich distributor and a long-time associate of the Führer. Daimler-Benz was in pole position for lucrative Government contacts, and when the new regime announced state backing for companies willing to build a 'national Grand Prix car', Kissel assumed his company alone would benefit.

The bounty was to total 450,000 Reichsmarks per year, plus success bonuses of 20,000, 10,000 and 5000RM for top-three finishes. Dr Kissel was outraged to learn that the new Auto Union combine had also applied, for on March 17 1933 it had agreed with Dr Porsche to back his P-Wagen programme until the end of 1936. This was contingent upon its prototypes testing successfully, developing 250bhp at 4500rpm, meeting the 750kg weight limit and initially completing 10 uninterrupted laps of Berlin's AVUS track, reaching 250kph (150mph) on the straights. AU's negotiators then dropped the ball, agreeing that any future state subsidies should accrue to the group "up to a total of 100,000RM". Any sum in excess would be split 50:50 with Porsche. By 1936 Porsche – not Auto Union – would have benefited by half a million extra RM.

At Mercedes, Dr Kissel had argued long and hard against any new Government backing for those Saxon upstarts. He wanted 100 per cent for Daimler-Benz alone, declaring that AU wanted state funds "to gain experience in an area completely new to it". He seethed at the injustice of funding going to AU instead of Daimler-Benz "who have already from our own resources successfully carried the German colours in motor sport at home and abroad".

But it was the Führer's way to split programmes, to set one faction against another in pursuit of the same goal. And from 1934-39 this approach would certainly keep both Daimler-Benz and Auto Union on tenterhooks – in many ways a bare-knuckle fight.

Back in 1932, Manfred von Brauchitsch had won the Avusrennen in a special, aerodynamically-bodied Mercedes-Benz SSKL. Amazingly, a crackly wire recording survives of that race's radio commentary by Germany's 'Murray Walker', Paul Laven. It's stunning to listen today to him describing Brauchitsch's leading car bursting into sight: "Here comes the silver arrow!" A style had been set.

The resultant Silver Arrows rapidly toppled Italian dominance at GP level. Their frontier technology became a development landmark. These cars were designed to overwhelm all foreign opposition – and did so.

1930s

GREATEST DRIVERS

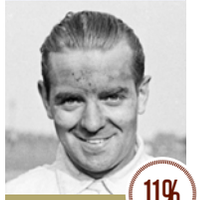
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The pre-war Prost to Rosemeyer's Senna. Three European championships were highlights of a stellar pre-war career.





The Germans suffered a rare defeat on home soil in 1935, courtesy of Nuvolari's Alfa. Hanns Geier finished seventh in this W25

Daimler-Benz and Auto Union threw money and men at the problem – and produced stunningly advanced racing cars whose sheer output and performance would survive unmatched in combination for almost 40 years.

Dr Hans Nibel supervised design of Mercedes' original *Typ* W25 for 1934, an orthodox 3.3-litre supercharged straight eight mounted conventionally ahead of the driver in an all-independently suspended chassis with hydraulic brakes. Porsche's P-Wagen fulfilled Auto Union's design criteria – and the German teams first met in public at the Avusrennen in May '34. But while AU's daring new programme had a gilded birth, Mercedes struggled with testing accidents and then the excruciating embarrassment of having to withdraw pre-race due to fuel filter blockages caused by their chosen brew dissolving the internal lining of their Aviotub fuel piping.

While this left Auto Union to represent Germany alone, it made new-boy errors – and Franco-Algerian Guy Moll won in the Ferrari-entered Alfa Romeo Tipo B with Pallavicino streamlined bodywork.

"DAIMLER-BENZ AND AUTO UNION THREW MONEY AND MEN AT THE PROBLEM"

Mercedes atoned with Manfred von Brauchitsch winning the following Eifelrennen at the Nürburgring, but the team lost narrowly to Alfa Romeo in France. Hans Stuck then won the German GP by more than two minutes for Auto Union, highlighting an excellent debut season and a ground-breaking new design.

Into 1935, with enlarged straight-eight engines, Mercedes-Benz got into full stride, winning five of the seven Grandes Epreuves and taking nine wins in all, including five 1-2 finishes and a 1-2-3 at San Sebastian. In 1936 Mercedes dropped the ball again, new short-chassis W25 models proving difficult to control – leaving motorcycle-bred new boy Bernd Rosemeyer, the Clark or Senna of the 1930s – to dominate the European Championship (the world title equivalent of the period) in the ever-developing V16 Auto Unions.

The AIACR announced a replacement GP formula but agreed it should commence in 1938, extending 750kg racing for one final season. Mercedes produced its ultimate Big Bazooka, the 5.66-litre 646bhp W125, with de Dion rear suspension, front-mounted engine, rear-mounted transaxle, which effectively defined pure-bred, front-engined GP car configuration into the late 1950s. Auto Union responded with its V16 in 6-litre form, generating such colossal mid-range torque its drivers lapped Monaco without changing gear.

The new formula for 1938-40 then matched 3-litre supercharged cars against 4.5 litres unsupercharged – and while Mercedes-Benz broadly dominated with its W154 3-litre V12s, Auto Union, free of Dr Porsche and his alarmingly obsessive over-complication and swing axle, produced the de Dion rear suspension, more centralised 3-litre V12 design that would ultimately, from the 1938 Italian GP, accrue more Grand Prix victories.

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AND THE REST SELDOM GOT A LOOK IN. Germany's near stranglehold upon Grand Prix racing led rival manufacturers and race promoters to look elsewhere to earn some revenue. Alfa Romeo, Maserati, Talbot-Lago, Delahaye and Bugatti were too often just outclassed makeweights. Beating nobodies on the race circuits of the world might be promotable to the unaware public, but, beyond providing a fantastic spectacle in silver, much pinnacle-level motor racing of the late 1930s was little contest – except between M-B and AU. As I grew up in the racing world, all I read – and was told by those who had witnessed it – made me appreciate that those white-overalled GP drivers (and that smaller man in the yellow shirt and red leather helmet, Nuvolari) might just as well have been Men from Mars, so unearthly was the ear-splitting sound and shimmering performance their cars created.

This is why I literally had to pinch myself when, at Donington Park in 1973, here beside me at lunch was Hermann Lang, the man upon whom the title of European champion had been bestowed in 1939, when he had won the lion's share of that year's great races for Mercedes.

In period in his native land, Lang had been a popular phenomenon – the former racing motorcyclist turned Mercedes works team engine fitter, racing mechanic, then driver. He had served and learned at the feet of the senior team stars, Caracciola and von Brauchitsch. He had maintained their early Italian team-mate Luigi Fagioli's W25s before being given his chance to drive.

In those days there was a perceived class distinction – and an earnings gulf – between racing drivers and motorcyclists, aka "the leather-suited oiks". As a works rider for Standard motorcycles in 1931, Lang had earned 8000 Reichsmarks. Once taken on by Mercedes-Benz as a team mechanic he earned 2600. But after being trusted to drive a team

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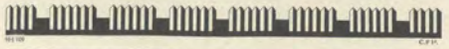
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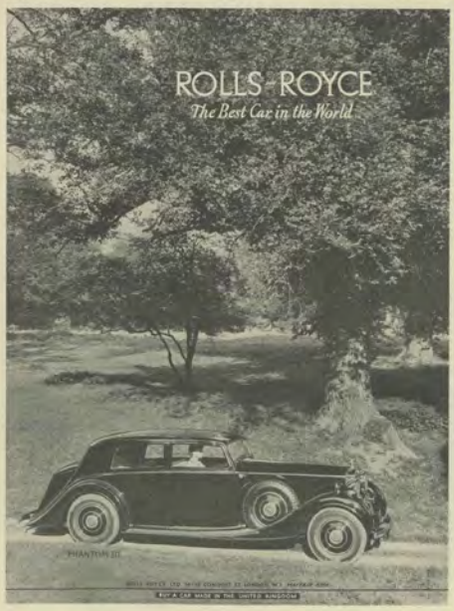
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W25 – then W125 – Grand Prix car and scoring his maiden win in the 1937 Tripoli GP, his earnings exploded to 60,000RM.

'Hermannle' was a stolid Swabian with huge, calloused, work-hardened hands. He spoke broadly accented local dialect. He was a decidedly blue-collar worker, and his mechanic mates all revered him for never losing sight of that, nor of them. He won more races in 1938 – his 70,000RM income matching that of his vastly senior and supposedly socially superior team-mate, Manfred von Brauchitsch.

Core of that 1930s' Mercedes team had been the Caracciola/von Brauchitsch axis – one profoundly aspiring middle class, the other an arrogant and capriciously talented minor aristo whose uncle, Field-Marshal Walther von Brauchitsch, became commander of the German Army. Contemporary motorcycle racer Georg 'Schorsch' Meier was also a professional soldier, but a grizzled Sergeant-Major. And he would recall how Caracciola and Brauchitsch could never resist taking cheap shots at "the mechanic".

When Meier began driving for Auto Union, he got a little of the same. But Lang's in-house persecution was increasingly fuelled by the senior duo's growing alarm at the sheer pace he demonstrated, more so by the prize and bonus money he was taking from under their noses...

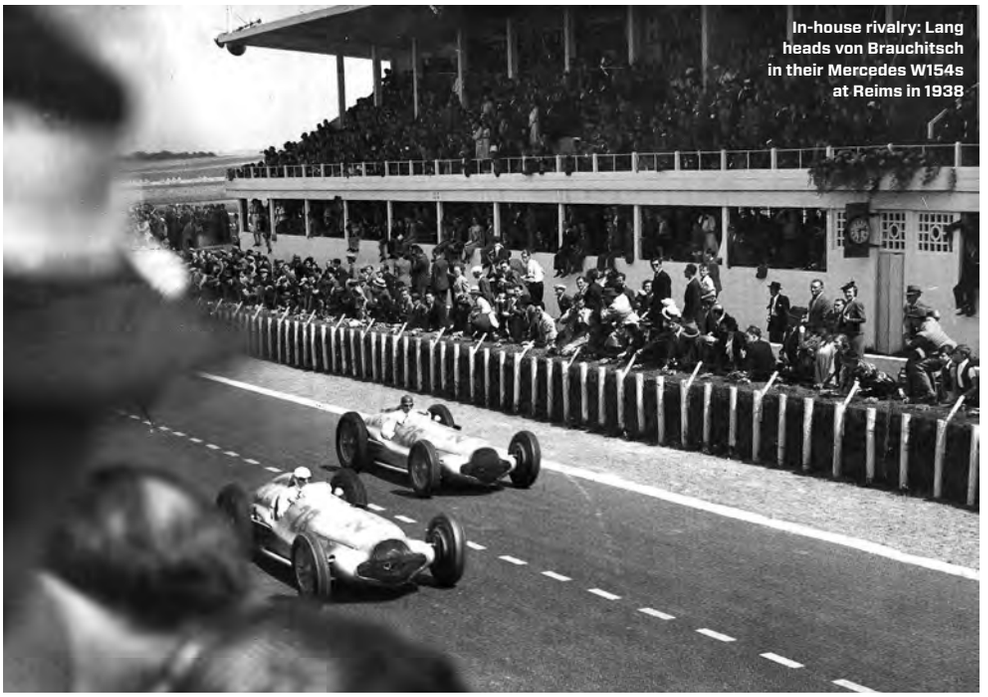
By 1939, when Lang won five of his eight GP formula races, "the mechanic" had far outgrown their jibes.

He had one great ally and supporter within the team through 1937-38, and that had been the unlikely figure of the upper-crusty (and supposedly snobbish) Englander Dick Seaman. In fact, Seaman proved just as comfy with both the threatened German stars and the fast-rising former mechanic. He demonstrated technical interest (and insight) exceeding even that of the vastly experienced Caracciola, and which – according to team development engineer Rudi Uhlenhaut – was beyond anything "Brauchitsch might even have imagined..."

❖

SO HERE BESIDE ME WAS THE GREAT Lang , the driver who had done so much, seen so much, and about whom I had read so much. But sadly in his old age – what should have been his greatest racing years long lost to World War II – when in truth perhaps too much wine had dulled his talent, he had also forgotten so much. But he told how, "In those cars you waited for it to come straight, and then hit the power. You hung on, and then you braked. You judged it through the corner – that's where you made your time – you came straight, you hit the power again. But this was never easy. And always you worried about the tyres. Always! Tyre bursts could kill you..."

And while Lang had won those races, and had passed into history as the 1939 European champion, there was a hidden sub-text. Had



In-house rivalry: Lang heads von Brauchitsch in their Mercedes W154s at Reims in 1938

"LANG'S IN-HOUSE PERSECUTION WAS FUELLED BY THE SENIOR DUO'S GROWING ALARM"

AIACR rules been properly applied, that season's true champion had not been Lang at all, but a different Hermann: HP Müller, another former racing motorcyclist and Auto Union's perennial number two or three.

So Lang and Mercedes-Benz had been declared *de facto* 1939 champions, despite Auto Union's Müller actually scoring more points. That decision was made not by the irrelevant and bypassed AIACR, but by Adolf Hühnlein, head of the Nazi state's motor sport programme, for reasons of political expediency. Lang had won most races, while Müller had accumulated his points mainly with minor placings. In the public eye Lang and Mercedes-Benz had demonstrated the best of the 'new' Germany – unmatchable, unbeatable. Be proud, our people, while you foreigners should both respect and fear us.

Right here, at the close of the 1930s, is evidence of what state-backed Grand Prix racing had in many ways become. But strip away the period, the politics and the gathering clouds of war. Just consider the quality of those cars, their construction and design. Every surviving Mercedes-Benz GP car shows evidence of some craftsmen with a drafting-pencil, grindstone or machine tool having lavished unmatched skill and care and love upon every square centimetre of every single component. More careful with their money – benefiting rather less from state defence contracts, yet sharing the GP racing bounty – Auto Union parts match M-B quality where it matters, yet are relatively unfettled, even agricultural, where it does not.

But in the late 1970s when I arranged a track test back at Donington for 1961 world champion Phil Hill in a 1938-39 V12 Auto Union, he approached the experience with trepidation, expecting it to be literally dreadful. In fact he found the handling eye-openingly impressive. He remarked: "It's a tragedy that after World War II all anybody remembered was the terrifying tail-happiness of the earlier Auto Union V16s. Six hundred horsepower with swing axles up-edging concrete tyres barely 5in wide. If we'd appreciated the balance of these V12 de Dion-axled cars instead, damn, we'd have raced rear-engined cars long before we did..." Ⓜ

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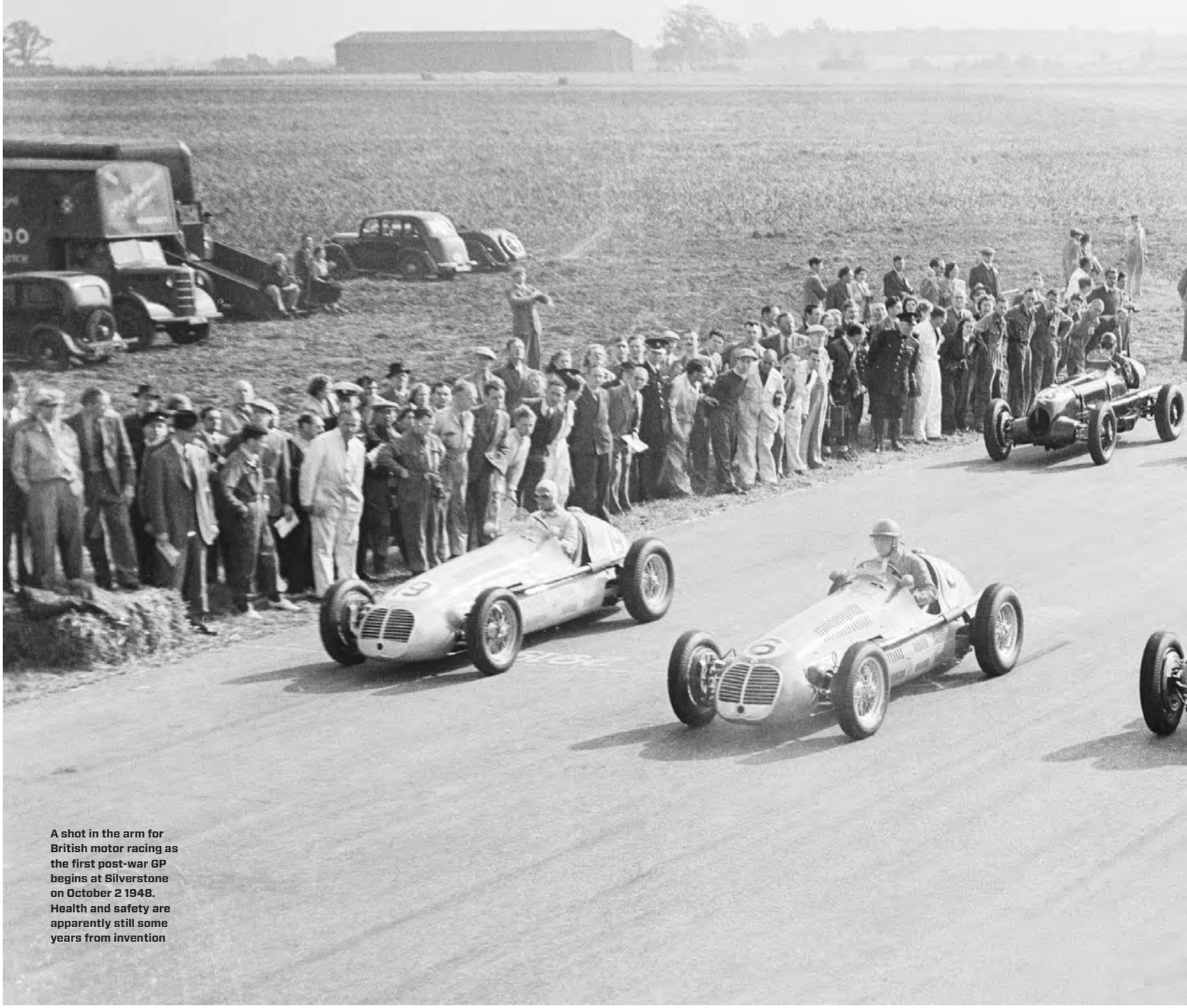
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1940s

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A shot in the arm for British motor racing as the first post-war GP begins at Silverstone on October 2 1948. Health and safety are apparently still some years from invention

take-off

Necessity rendered this one of the briefest ‘decades’ in the annals of motor sport, yet it would also be one of the most pivotal in Britain as the business found its future direction

writer SIMON ARRON



GETTY

THE WORLD HAD rather more pressing concerns than a monthly price rise, but that was one of the headlines when the January 1940 issue of *Motor Sport* reached the shelves of a nation at war. It is somehow appropriate, given the magazine's occasionally quixotic past, that it should continue to be published at a time when its core subject remained in a state of indefinite suspension – and that untimely hike (to one shilling per month, or 13s 6d for an annual subscription) can't have helped. That issue ran to just 20 pages and, in the absence of any competitive events close to home (save for the odd trial or speed event in Ireland, while farther afield the Indy 500 ran in both 1940 and '41), the editorial content focused on the finer points of tuning an Alvis, the extent to which motor racing had helped the aviation industry and snippets from around the UK's motor clubs, most of which continued to function on a social basis.

There was speculation in the March 1940 issue about the possibility of a short war-time sports car race, whose proponents sought anonymity for fear of a backlash at a time of fuel rationing. Contemplation of motor racing's future (or otherwise) was reprised many times and woven around racing retrospectives, while in 1944 the magazine published a treatise on the potential suitability of diesel as a sports car fuel.

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FOLLOWING THE CESSATION OF hostilities, racing didn't so much roar back into action as trickle: the August 1945 editorial championed the Cockfosters Rally, a demonstration event on an industrial site in the London suburb of the same name, organised by A F Rivers Fletcher.

Bill Boddy noted that, "Almost everyone of note was present, and Raymond Mays telegraphed his regrets for not attending."

The following month, *Motor Sport* reported the first RAC-sanctioned post-war speed event, the Naish hill climb at Clapton in Gordano, near Bristol. Bob Gerard set fastest four-wheeled time, in his ERA (slightly slower than the briskest motorcycle), and the event was said to be "primarily for competitors, though spectators were tolerated rather than encouraged". Given all the previous clamour about the nation's appetite for competition, the *Motor Sport* report ran to just half a page, tucked away towards the back (after the book reviews and a feature on '500 miles in the Scott-engined Morgan 4/4').

In October 1945, Gerard again beat rivals in a sprint at Filton, also in the West Country, but the event was closed to the public. This was for reasons of pragmatism, however, rather than anything more sinister: motor racing was re-emerging against the backdrop of a landslide Labour victory in that July's general election – and there was a political will to eradicate some of the social divisions that had previously existed in the UK.

Right crowd and no crowding? No thanks…

Momentum was certainly gathering. In July 1946 *Motor Sport* opened with a page packed with short reports of events all around Europe – including Raymond Sommer's victory in the Grand Prix du Forez and Jean-Pierre Wimille's success in the Bois de Boulogne GP, both men driving Maseratis – before presenting a report headlined 'Circuit racing at last' (opposite an advertisement for a forthcoming Prescott hillclimb, admission 2s 6d).

The Cambridge University Automobile Club was first to organise a full post-war race meeting, on June 15 at Gransden Lodge – one of many disused airfields that peppered the country. It didn't take much to convert such sites into usable circuits – straw bales and oil drums to mark out the course, some metal stakes and a bit of tape to keep the crowd at a suitable distance and you were pretty much in business.

"RAYMOND MAYS TELEGRAPHED HIS REGRETS FOR NOT ATTENDING"

"Since racing was resumed," began the *Motor Sport* report, published without author's initials, "some of the smaller clubs and newer organisations have certainly shown us the way. It was left to the CUAC to provide us with real circuit racing, incidentally proving wrong those pessimists – including the RAC – who thought aerodrome runways and perimeter tracks would be too rough. A bigger difficulty was to be found picking out the corners, with no hedges or trees bordering the course."

It would obviously have been much safer with adjacent sycamores…

Highlights included a 1500cc racing car event, in which Reg Parnell (Maserati 4CL)



Shape of things to come: Silverstone, when it had more runways than run-off areas. The outline of the much-lamented old 'triangular' club circuit is clearly visible





Pre-race Silverstone briefing in 1948, beneath the pit straight bridge (a feature the modern circuit lacks) LAT



LAT

tussled with Bob Gerard (ERA R4A) until the latter spun and left Parnell in the clear. *Motor Sport*'s notes from the meeting included the following about the other side of the Gerard household: "Mrs Gerard set a fashion note, with grey flannels and white helmet. And how lucky you found your umbrella, Mrs G."

Setting a tone that endures at British circuits to this day, it rained.

Notable competitors included future Mini designer Alec Issigonis, in his Lightweight Special, and *Motor Sport* contained a written request to "the person who rushed around the paddock in the morning, blowing his horn. Will you behave better next time, please?"

There would be only one more 'next time' for Gransden Lodge, a meeting in July 1947, although the airfield exists to this day as home of the Cambridge Gliding Centre.

In their conclusion to that first report, *Motor Sport*'s correspondent deviated from matters of Mrs Gerard's appearance to note, "Altogether it was a good meeting and proved that disused aerodromes can offer excellent motor racing facilities. The Government, having taken Brooklands and Donington, might heed this."

By late 1947, with the Grand Prix title restored to major events in mainland Europe, the RAC began casting around for suitable sites on which to host such a race of its own – and focused on decommissioned airfields. It had little real choice, given that Britain's major pre-war facilities were no longer considered suitable: significant slices had been cut from the banking at Brooklands to accommodate the aviation industry, Donington Park remained under the War Office's jurisdiction and Crystal Palace had become a little frayed.

In the end, the RAC whittled its short list down to just two. Had fate determined otherwise, "Welcome to Snitterfield, home of the British Grand Prix" might now be a familiar racing mantra. The Warwickshire village (a short hop from Stratford-upon-Avon) lost out, however, to another ordinarily sleepy community on the Northants/Bucks border.



ARCHIVE // FROM *MOTOR SPORT* NOVEMBER 1948

THERE IS NO DOUBT about it – our first post-war RAC International Grand Prix at the new Silverstone circuit on October 2 was an immense success, and must be repeated in 1949.

The three-mile course is a very good one, although rather better definition of the corners is called for. The record lap, set by Villoresi's Maserati at 76.82mph, we may assume by a car not really very hard-pressed, compares favourably with the lap record for Brooklands Campbell Circuit of 77.79mph held by Raymond Mays' ERA, although it does not quite approach the Donington lap record of 84.31mph, admittedly held by the larger German GP cars.

Criticism of Silverstone's first meeting would be unfair, in view of the very short space of time in which the RAC got everything ready. Indeed, the organisers deserve credit for achieving so much and, in case the magnitude of their task is incomprehensible, let us remind you that, from the purely physical angle, some 170 tons of straw bales had to be correctly positioned, 250 mark tubs put out, 10 miles of signal wiring laid and 620 marshals briefed for duty. Apart from these matters, there was the enormous amount of paper-work involved, even to



Villoresi and Ascari head for a Maserati one-two in 1948. Below, Silverstone Wellingtons primed for action



In some ways RAF Silverstone had a slightly unfair advantage, in that its suitability had previously been tested, albeit unofficially.

The airfield commenced operations in April 1943 and had served principally as a wartime training base. In September 1947, one month before it was officially declared surplus to military requirements, a dozen drivers, on their own initiative, took cars to Silverstone. They sought to establish its suitability for competition, but their unsanctioned efforts were apparently hampered by the wilfulness of local sheep, which kept wandering on to this new 'circuit'.

Ovine intervention was no impediment to adoption, however, and the site was duly selected. The RAC was granted a lease for its use in August 1948 – only two months before the first scheduled event. As at Gransden Lodge, however, there was no need to construct anything beyond the primitive and a 3.67-mile circuit was marked out with the finest technology of the day (more straw bales, then).

For that first year, the circuit featured a cocktail of perimeter roads and runways: drivers turning sharp right at Copse and Stowe corners… and hurtling towards each other from opposite ends of the same runway. In the middle, where both streams of cars were supposed to turn left down the next straight, only bales and oil drums separated them.

"That's one of the memories that most stands out," says Murray Walker, who attended as a paying punter just short of his 25th birthday. "Cars were charging towards each other at a closing speed of 250mph or more, with not very much between them. That caught my eye – and so did the high quality of the continental cars and drivers that had been attracted, particularly the Maserati 4CLTs of Luigi Villoresi and Alberto Ascari. It was awe-inspiring to have entries of that calibre.

"I can't remember how much it cost to get in, but there was an absolutely fantastic atmosphere, a feeling that racing's rebirth was real. I'd attended the 1937 and '38 Donington Grands Prix and was interested in cars, although bikes were my main love. My first post-war event would have been the Manx GP in September 1946, when Ernie Lyons won the Senior event on his Triumph, but there hadn't

obtaining insurance for the Scuderia Ambrosiana lorry and ensuring that RAC patrols met the Italians and conducted them from docks to circuit. It was certainly a mighty task and Col Barnes could be excused for getting somewhat harassed at times.

Practically everything worked well, although the uprights of the temporary bridge over the course only went in concrete on the Tuesday before the race, the grandstands were still being completed on the Friday and some of the official offices in the outbuildings of Luffield Abbey Farm were a little spartan. Some friction seemed to arise between rival posses of marshals, and although it must be assumed that each and every one of them was prepared to work hard in return for a free view, either they were unable to stem the crowd as it invaded the course at the end of the race, large as were their numbers, or they had been ineffectively placed for a rather obvious emergency. It seems, too, that some of the 60 policemen present might have been directed to this vital duty. However, doubtless all that will be put right by next year, when one hopes that better accommodation for drivers will be available at the course. Nobody seemed very bright when the Italian drivers sought facilities for removing the grime of practice and the stains of victory. Many people philosophically said that the race would be more open since the Alfa Romeos weren't coming. But we cannot agree with a contemporary that, "There is very little doubt that the reputation of Alfa Romeo and maybe Italian prestige in general has declined sharply in this country since it became certain that Alfa Romeo cars would not run." As Italian cars finished first and second in our race, it is hard to see how Italian prestige can have suffered. True, British drivers have raced in Europe since the war entirely at their own expense, whereas Alfa Romeo wanted some £2500 to fly their team to Silverstone and home again in time for the Monza race on October 17. But British independents race for sport, Alfa Romeo as a business proposition.

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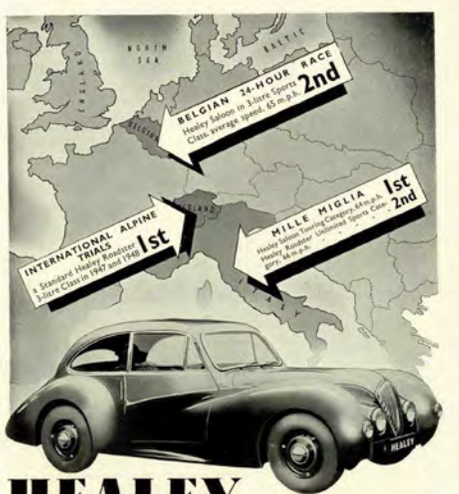
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1940s

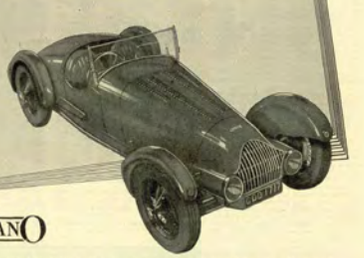
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Gransden Lodge hosted the UK's first post-war race meeting, in 1946. This one, a year later, would be the venue's second... and last

LAT

been a great deal of racing in the war's immediate aftermath. I went to Silverstone because it was a major event.

"There were no proper roads at all back then, of course, and I remember a bloody great traffic jam. It took ages to get in."

That motif would be repeated in future decades – as would another. Behind the Maseratis of Villoresi and Ascari, *Motor Sport* reported that, "Gerard finished third, a stupendous effort for which he was mobbed by the crowd, which surged uncontrolled on to the course in a most alarming manner as soon as the race was flagged."

In its editorial, though, the magazine took a wholly positive stance and insisted that the exercise be repeated one season hence.

As, indeed, it was, this time with the inner runways discarded and a new layout around the perimeter roads, the circuit's defining silhouette – barring a few tweaks – until the 1990s, when changes would be made to most of the lap.

"I was back there in 1949," Walker says, "this time as a radio commentator. Max Robertson was the lead broadcaster, but knew about as much about motor racing as I did about tennis, which was his sport. He didn't much care for it, either: he thought it a terribly dirty, scruffy business.

"I was in a small, single-tier cabin at Stowe and don't remember as much about Emmanuel de Graffenried winning for Maserati as I do about seeing John Bolster having a huge accident in front of me, in his ERA. I think I blurted out something along the lines of, 'And Bolster's gone off', but that was a new boy not knowing what to say, because in reality I assumed he was probably dead."

Bolster recovered to become a fulcrum of the automotive press, Walker went on to fame as the sport's defining voice and one year later, on May 13 1950, Silverstone made history as host of the first world championship Grand Prix.

❖

TODAY SILVERSTONE IS A SELF-contained community, a racetrack surrounded by industrial units and with the odd distinction of having separate paddocks in different counties. Since the new one was built, in time for the 2011 British GP, the place has had a slightly unfinished feel, with long-promised developments – including hotels and an international kart track – on hold pending further investment.

Look closely enough and you can still see faint traces of its airfield roots, but drivers relish its atmosphere and challenge. As David Coulthard said a few seasons back, "No other circuit has as fast a sequence of corners [from Copse to Becketts] as Silverstone. It's humbling to go through there because you have to have the bit between your teeth. It's incredibly impressive to watch and there aren't many circuits with corners like that. Everybody talks about Eau Rouge at Spa. It is a great corner – but Silverstone has four that match it in terms of speed and difficulty."

And Snitterfield? Lying just off what is now the A46, part of its airfield has become a golf course, but a section remains and is used by the Stratford-on-Avon Gliding Club. We went to take a peek, to see what might have been, or whether anybody knew of its bygone brush with sporting celebrity, but the gates were locked – and a 20mph speed limit would make it difficult to assess its true potential. School run apart, there wasn't a great deal going on.

As the 1940s drew to a close, and with a handsome selection of events to report, *Motor Sport* had expanded to 52 pages, but the cover price had increased commensurately.

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FROM THE MOTOR SPORT ARCHIVES

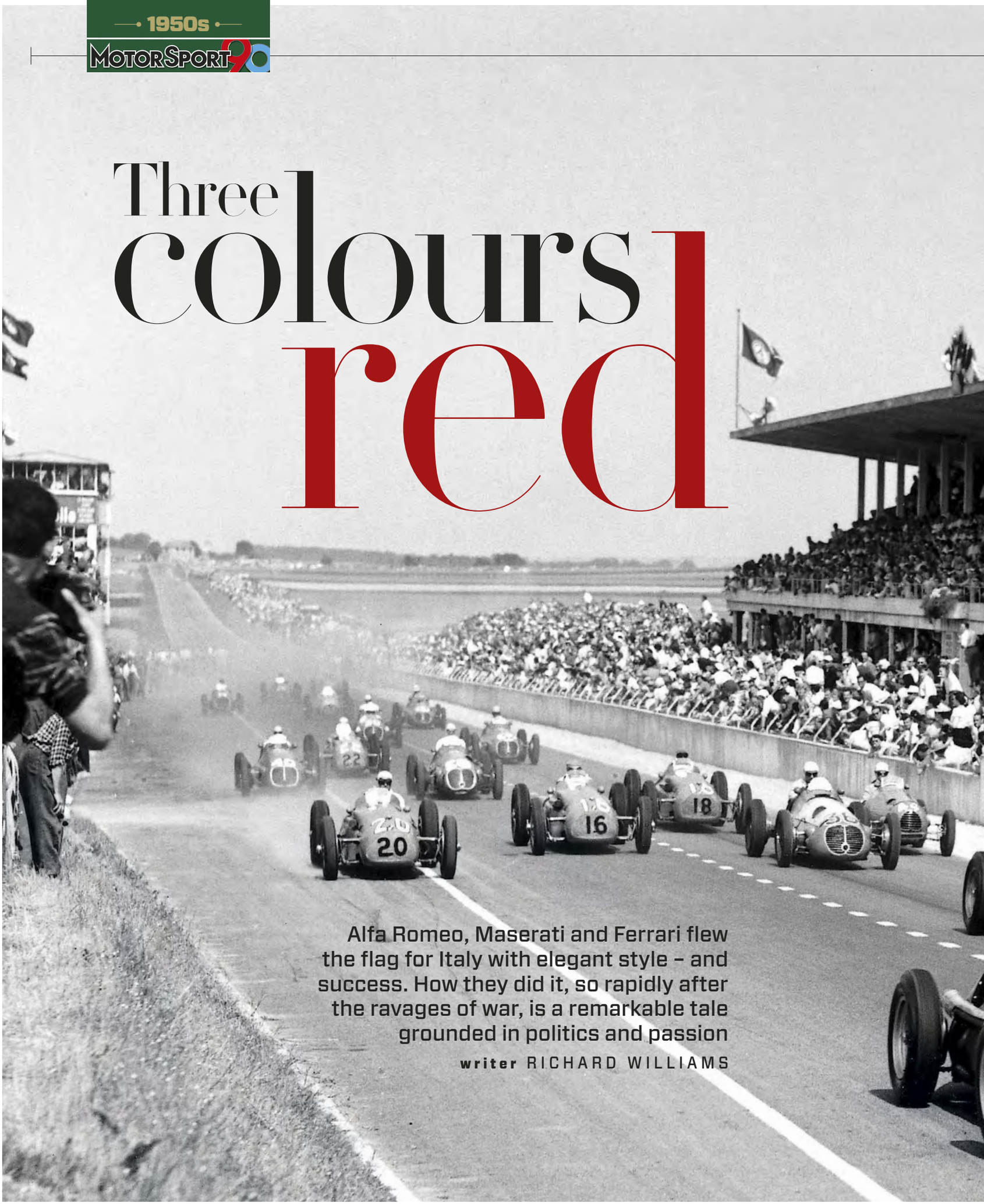
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1950s

Three colours red



Alfa Romeo, Maserati and Ferrari flew the flag for Italy with elegant style – and success. How they did it, so rapidly after the ravages of war, is a remarkable tale grounded in politics and passion

writer RICHARD WILLIAMS



ALFA ROMEO'S team of cherry-red Tipo 158s took the first three places in the inaugural round of the Formula 1 world championship at Silverstone on May 13, 1950, with Nino Farina and Luigi Fagioli finishing ahead of the guest driver, Reg Parnell, and only a broken con-rod on Juan Manuel Fangio's car preventing a one-two-three-four finish. Their success seemed like the definitive reassertion of Italian supremacy.

The crowds were impressed by the scale and thoroughness of the team's preparation: the big car transporters, the separate lorry for their special Pirelli tyres, the painted nosebands identifying the individual cars – yellow for Fangio, blue for Fagioli, white for Farina, green for Parnell – and the request for a roped-off area of the paddock, with the grass specially mowed. *Motor Sport*'s correspondent was reminded of the approach of the pre-war German outfits, the ones who had sent an earlier generation of Italian teams into eclipse.

Like England, Germany and France, Italy had recently been engaged in a long and attritional conflict. But its small army of enthusiasts and artisans had taken the ending of hostilities as a signal to leap back into action, swiftly laying the groundwork for an assault on the sport's highest level of competition. When Grand Prix racing finally organised itself into a pukka championship, the Italians were ready.

Five years earlier, the situation in Italy hardly looked promising. The end of the war was followed by a time of assassinations and sudden disappearances. Amid a ruined landscape, the great reconstruction began in an atmosphere that was confused and ambiguous. Old friendships could override conflicting political loyalties, but the shadows drawn over the past were sometimes violently dispelled by acts of revenge.

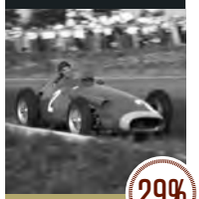
Ugo Gobbato, the administrative genius who had rescued Alfa Romeo from impending collapse in the early '30s, had never hidden his enthusiasm for the Fascist regime. Tried twice by people's tribunals, he had been acquitted on both occasions. He was cycling to the company's Milan factory on the morning of Saturday, April 28, 1945 to collect some papers when a car drew up, blocking his path, and men with guns emerged to shoot him dead before disappearing, never to be identified.

Three weeks later Edoardo Weber, the inventor of the twin-choke carburettor, met a more mysterious fate. Another prominent Fascist sympathiser, and allegedly a supporter

1940/50s

GREATEST CARS

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1 MASERATI 250F

Some designers are adamant that beautiful Grand Prix cars are quick. The 250F was indisputably both and Stirling Moss described it as the best front-engined car he ever drove.



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Another machine that was as beautiful as it was potent. Two wins on the trot at the Le Mans 24 Hours in 1955 and '56, and then a clean sweep of the top six places in 1957.



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3 MERCEDES-BENZ W196

Ex-Fangio chassis 00006/54 went for nearly £20m at Bonhams' 2013 Festival of Speed sale, which helps indicate how special these dominating machines were in 1954/55. They remain so.





Crimson field: the Silverstone paddock in 1956, when the Lancia-Ferraris would dominate the Grand Prix

of the paramilitary *Brigate Neri* who fought the partisans in the final months of the war, on May 17 he left his Bologna factory on foot, apparently intending to take his customary evening stroll down the tree-lined avenue. He was never seen again.

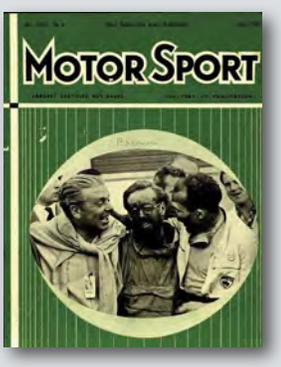
Both men were friends and former associates of Enzo Ferrari. Weber had been guided by Ferrari towards a collaboration with Shell, one of Scuderia Ferrari's early sponsors, resulting in the development of a carburettor that became standard equipment on high-performance engines. Gobbato had relished his firm's racing successes with works-sponsored cars entered under the banner of Scuderia Ferrari, although in November 1939 he had ended the relationship when it became clear that there was no other solution to the festering feud between Enzo Ferrari and the company's newly promoted design chief, Wifredo Ricart.

These men were Ferrari's friends, even though he might not have shared their political allegiance. He had joined the Fascist party in 1934, as every person of even the smallest consequence in Italy was required to do, and had welcomed Benito Mussolini when *Il Duce* inspected the Scuderia's cars. He had undertaken military work – whether manufacturing copies of German milling machines or fabricating parts for aero engines – throughout the conflict. But his factory had also repaired the partisan fighters' rifles and manufactured the little star-shaped steel devices that could be used to puncture tyres and bring a German convoy to a halt at a place of ambush. And among those closest to him was Sergio Scaglietti, the gifted young Modenese bodybuilder, who was also the local partisans' resident bomb-making expert.

Once hostilities had begun, motor sport was clearly no longer an option. Many former competitors kept their heads down, like Tazio Nuvolari, moving between his homes in Mantua and Rome, and Achille Varzi, living quietly on a salary of 6000 lire a month from Alfa Romeo, and the young star Alberto Ascari, working in his family's garage business in Milan. Others, like Piero Dusio, joined the war effort. Dusio had used the profits from his successful textile business in Turin to finance his entries in the Mille Miglia and other races throughout the 1930s; now he concentrated his company's efforts on the production of military uniforms. Less prosaically, the young Marchese Lotario Rangoni Machiavelli, who had commissioned Ferrari to build a car for the 1940 Mille Miglia, joined the air force and was killed while testing a warplane.



For Maserati, resurgence came in both F1 and sports cars, including victory in 1956 Paris 1000Kms



ARCHIVE // FROM *MOTOR SPORT* JUNE 1955

THE RECENT EXPERIENCE of being part of the fabulous Mercedes-Benz team for the Mille Miglia carried with it experiences almost beyond the wildest imagination, from the sound of Herr Neubauer's voice morning after morning telling us it was 5am and to be ready to leave on a practice lap of Italy, to being allowed into the very heart of the Daimler-Benz racing department.

When due to test the 300SLR at Hockenheim, we drove the car 100 miles or so, with engineer Kosteletzky showing us the way in the factory 300SL that won the Pan-American race in 1952, still fitted with Solex carburettors, and we ran in convoy along the German autobahns at a very steady 130mph. On another occasion, a short trip in Italy provided the opportunity of going with engineer Uhlenhaut in his personal 300SL. This car is styled on the same lines as the production models, but the body is of magnesium and the whole car has been narrowed and lightened. Most important, the gearbox is in link with the differential and the rear-axle layout is identical to the Grand Prix cars, with of course, fuel injection. This car was built in the winter of 1952/53 and was the prototype for the team Daimler-Benz was going to build before it decided to make sports car versions of its Grand Prix racer. Joining an Italian autostrada, Uhlenhaut accelerated up through the gears to 150mph without a break, and cruised steadily at 140mph on ordinary roads. He drove hard all the time, keeping the



For the companies behind the established racing teams, such as Alfa and Maserati, there were new priorities. Gobbato's company had prepared itself for the coming of a new grand prix formula with the Tipo 158, a machine with a 1.5-litre supercharged straight-eight engine designed by Gioacchino Colombo under Ferrari's supervision; the first examples were built in Modena in 1938. Ricart's rival design, the mid-engined V12 Tipo 512, got no further than the prototype stage. These and other projects were soon set aside in favour of the 6C 2500 Coloniale, a rugged all-terrain military staff car based on the company's standard saloon. Aero engines were also produced in the Portello works, but a series of air raids in 1943 prompted the move of the design department to an office on Lake Orta, 80km to the north. In October 1944 a much heavier raid resulted in the almost total destruction of the factory and a consequent halt in production.

As for Maserati, a controlling interest in the Bologna-based team had been bought in 1937 by Adolfo Orsi, a Modenese industrialist. Initially attracted by the Maserati brothers' ancillary businesses, including spark plugs and batteries, he recognised the publicity value of a successful racing team. Under their agreement with Orsi, the surviving brothers – Bindo, Ettore and Ernesto – agreed to remain as consultants for a 10-year period, moving with the company to a new factory in Modena, only a few hundred metres from the Scuderia Ferrari's headquarters. Omer Orsi, Adolfo's son, became the new managing director of a company whose last grand prix success was a fading memory but whose 6CM voiturettes and 4CL sports cars were enjoying success. Wilbur Shaw's back-to-back Indy 500 victories in an 8CTF in 1940 and '41 also brought satisfaction as war loomed.

At the Milan trade fair in 1941 the company displayed its grinders, lathes and milling machines. The following year it added a light electric van, produced in numbers throughout the war. Maserati's batteries were adapted for marine use, and military vehicles were overhauled in the new premises. A less successful project was an unbuilt V16 limousine for Mussolini, intended to match Ferry Porsche's design for Adolf Hitler.

❖

WHEN THE GERMAN FORCES IN ITALY surrendered in May 1945, the noise of explosions and gunshots was replaced by the sound of hammers on aluminium as the artisans of the north resumed their obsession with making cars go faster. And since most racing in Italy had taken place on public roads, there was little to hinder the return to competition.

The first new cars to appear were designed for the small-capacity Sport Nazionale categories, popular before the war, with chassis and engines borrowed from production cars and bodies shaped by local craftsmen. By 1946, many of them were ready to go. That year's Circuito di Modena, for example, featured a Fiat Topolino-based special built by the Avalle brothers of Turin, a Lancia Aprilia stripped down and rebodied by Giovanni Boneschi of Cambiago for Umberto Castiglioni, who raced under the name 'Ippocampo', and Franco Bertrani's Fiat 1100 special, built locally by Vittorio Stanguellini, whose father, the

"WEBER LEFT HIS FACTORY FOR AN EVENING STROLL. HE WAS NEVER SEEN AGAIN"

engine working in the 4500-6000rpm range, and with a boyish determination. It was fascinating to watch this boffin in his middle forties.

After I had commented on the way he used engine and gearbox, he demonstrated that he only did it for fun, showing that this particular SL would pull in top gear at 500rpm without the use of the clutch. Then he pushed the throttle to the floor and the car went straight up to 5000rpm, still in top gear, and to really convince me he kept in top gear around some very wiggly parts in a tiny Italian village we were visiting. On another occasion he left a hotel in Brescia in this same car, with spinning wheels leaving two snaky black lines for 20 yards up the road. When I remarked afterwards that this sort of SL motoring was my idea of "real motoring", Uhlenhaut grinned and replied, "Yes, it is fun, isn't it?" Of such stuff are the Daimler-Benz engineers made. Before leaving the subject of Daimler-Benz, I must write about a remarkable experimental vehicle that the racing department has built. It is called Uhlenhaut's High-Speed Transporter. The engine is a standard fuel injection 300SL, as are the brakes and the front suspension, while the rear axle is a similar swing-type to the Grand Prix cars, with the pivot point well below the centre line of the wheels. The engine is just behind the driving cab, while the radiator is at the rear, fed from air-scoops in front of the rear axle. It is as easy and light to drive as a 220A Mercedes-Benz and has a top speed of 105mph complete with Grand Prix car on the back, while the roar it emits would do justice to a really good sports car. In view of the performance of this 'lorry', it is fitted with a disc brake on the transmission and an exhaust brake on the engine, and can be driven on the autobahns at high speed using only the exhaust brake for slowing down for traffic conditions. Most beautifully finished in blue and chromium, it is an inspiring sight and was built mainly for fun, but with the excuse in the back of the mind that it could prove useful for getting a car to a race meeting quickly, if there had been a delay at the factory, or for rushing a car back to base for any serious modifications.

It is hoped to take this 'racing lorry' to Aintree for the British GP, so if a blue lorry overtakes you while on your way in your TR2 or Austin-Healey, don't be worried, and don't try to keep up. Its brakes are exceedingly good. *DSJ*

inventor of the pedal-tuned kettledrum, had owned Modena's first car.

Soon they would be joined by other men of skill and dedication, among them Giorgio Ambrosini, whose teenaged brother Renato had spied on the Germans for the OSS and who built his Siata cars in Turin, Pasquale Ermini of Florence, Sabatino Paganelli of Naples, Giovanni Minardi of Faenza, Piero Facetti of Milan and Mario Bernadini of Bologna. Some of them, like Stanguellini and Moretti, would survive and thrive for a decade or more, finding customers for their work (and Minardi's son Gian Carlo later made it all the way to F1).

There was also Piero Dusio, who was not a designer but had the bright idea of inviting Dante Giacosa, creator of the Topolino, to design a small, cheap single-seater that could be produced in numbers and sold to amateurs. Tazio Nuvolari was among his supporters, and in September 1946 the old champion, now 53, took the wheel of the little D46 on the Valentino Park circuit for the famous race in which he entered the pits with his arm out of the narrow cockpit, waving the car's broken steering wheel.

The bigger pre-war names were stirring, too, and Maseratis were soon to be seen on the circuits again, produced in a new red-brick factory that had survived the war unscathed by bombs. The business had teetered on the brink of survival before Orsi's appearance, but plenty of cars had been sold to amateur racers and squirrelled away during the war. Now Ernesto Maserati supervised the conversion of the pre-war 6CM into the A6 sports model, its prototype based on Luigi Villoresi's single-seater and tested by the owner in its converted form, minus bodywork, in 1945. The production models would be handsomely clothed by Medardo Fantuzzi, another great Modenese aluminium artist. But soon Ernesto and his brothers would be on their way back to Bologna, there to set up a new company for the production of their little OSCA sports-racing cars.

Maserati's racing activities recommenced in 1946 with the new 4CL, designed by Alberto Massimino, and a semi-works association with the Scuderia Milan, formed by a group of enthusiasts who included the two Ruggeri brothers of Gallarate. Arialdo Ruggeri was one of the team's drivers, along with Nuvolari, Franco Cortese, Raymond Sommer and Philippe Étancelin. Nuvolari made his first post-war appearance at the Marseille GP in May: a broken valve forced him out, but Sommer took the victory. That same month the team travelled to Indianapolis with a new 8CL for Villoresi, who was lying fourth before overheating dropped him to a seventh-place finish.

The game changed when Alfa Romeo returned to the fray that summer. Perhaps Gobbato's last gift to the world had been the decision to disperse the Tipo 158s away from

1940/50s

GREATEST DRIVERS

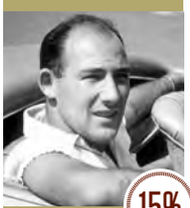
WEBSITE POLL RESULTS



73%

1 JUAN MANUEL FANGIO

Even second-place man Moss admits Fangio was the greatest ever. Supreme car control, the knack of being in the right car at the right time, and a gentleman to boot.



15%

2 STIRLING MOSS

Mr Motor Racing himself, even if he didn't win the F1 world title. No matter – a quick glance at his full racing results makes for astonishing reading: first, first, DNF, first, DNF...



6%

3 ALBERTO ASCARI

Utterly dominant in 1952 and 1953, Ascari won both his F1 world championships racing for Ferrari. Italy is still waiting for another F1 world champion.



"...THAT SEDUCTIVE MEDITERRANEAN WARMTH FOR WHICH THOSE IN COLDER CLIMATES YEARNED..."



1958 would be Hawthorn's title year for Ferrari, but a Cooper would win in Monaco. The British were about to steal Italy's thunder

the bombers' targets. On June 9, two of the cars re-emerged to contest the Coupe René le Begue in St Cloud. The cherry-red Alfettas of Jean-Pierre Wimille and Giuseppe Farina led the race around the streets of the Paris suburb but both suffered broken clutches, leaving Sommer's 4CL to take the win.

On the streets of Geneva six weeks later, in the absence of Scuderia Milan, the new reality would become apparent. Farina, Count Felice Trossi and Wimille had a trio of 158s, now with twin superchargers, at their disposal, and swept the board in the Grand Prix des Nations. In September, Varzi and Wimille lapped the third-placed Sommer's 4CL twice in Turin's Valentino Park in the first race to be held under the war-postponed new F1 regulations. A couple of weeks later the finishing order in Milan's Parco Sempione was Count Trossi, Varzi and Sanesi, and the team's complete dominance was emphasised by Farina's petulant decision to retire from the race after being ordered not to overtake Trossi for the lead.

While the Alfa renaissance took the headlines, Enzo Ferrari was planning his own return. Under wartime regulations that required industries to decentralise, he had moved his base from Modena to a piece of land he owned in Maranello, 18km away. Although the new factory was twice bombed in the closing weeks of 1944, it continued to manufacture milling machines badged with the Scuderia's familiar prancing horse. When he told his friend Franco Cortese that he was planning to go back to building racing cars, the response was blunt: "You'd have to be crazy to give up a business as profitable as this." But in March 1947, after more than a year of work, the first Ferrari made its appearance. Colombo, temporarily suspended from his job at Alfa Romeo pending investigation into his Fascist connections by a workers' committee, had designed its 1.5-litre V12 engine. Summoned by Ferrari, he had driven from Milan, queuing for hours to put his car on a barge that offered the only means of crossing the Po river, whose bridges had all been destroyed.

The little car made its competition debut in the Circuito di Piacenza that May. Soon Cortese was taking the 125 to the first victory for a car bearing the Ferrari name at the Terme di Caracalla, a Roman park, quickly followed by wins at Vercelli, Vigevano and Varese. In July, with the car undergoing continuous development, Nuvolari returned to the fold, winning in Forli and Parma, where he and Cortese secured history's first Ferrari one-two.

Responding to the appearance of Maserati's two-litre A6GCS, the capacity of the Ferrari engine was increased. The first showdown between the marques took place on the streets of Modena, a local derby settled when Ascari and Villoresi finished first and second for Maserati. Revenge came two weeks later when Sommer took the Ferrari 159 to a win in Turin after both Maseratis retired. The cars bearing Enzo Ferrari's name had entered the big league.

In 1948 the big events returned. The Targa Florio restarted that April, won by Clemente Biondetti and Prince Igor Troubetskoy in a Ferrari 166 barchetta. Troubetskoy, the first of Ferrari's playboy clients, had bought the car with money from his wife, the American heiress Barbara Hutton. In May the revived Mille Miglia was won by Biondetti, this time in a 166 berlinetta. And at Monza, repaired after damage caused by its use as a park for Allied military vehicles, the Alfettas swept the board at October's Autodrome Grand Prix, with Wimille, Trossi, Consalvo Sanesi and Piero Taruffi in the first four places, Ascari's Maserati 4CLT/48 – run by Scuderia Ambrosiana, founded by Count Giovanni Lurani, which had taken over from Scuderia Milan as the semi-works team – finishing fifth, five laps behind the winner. In 1949 the Ferrari of Luigi Chinetti, co-driven by Lord Selsdon, won the first post-war 24 Hours of Le Mans, giving the Scuderia a clean sweep of all the revived pre-war endurance classics.

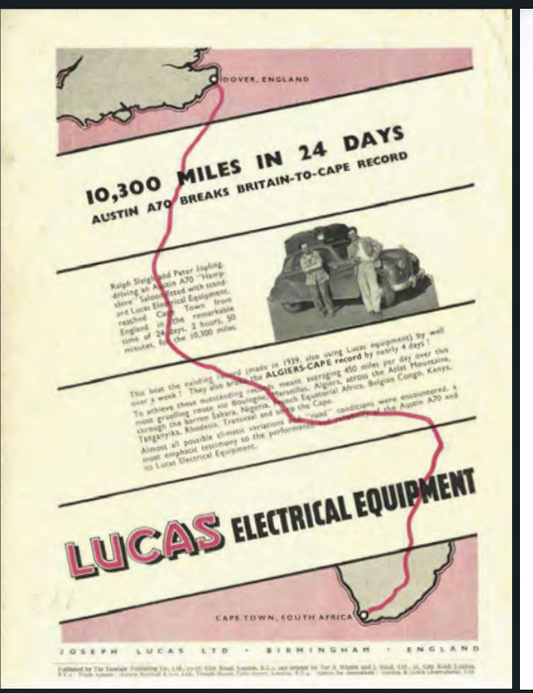
❖

BUT ALL WAS NOT SWEETNESS AND light in the world of Italian motor racing. At the end of the war Nuvolari had received news that the imprisoned Ferdinand Porsche, hoping to raise money to buy his freedom, wanted to sell the design of his rear-engined, four-wheel-drive grand prix car. He contacted Piero Dusio, who bought the blueprints, but the project proved ruinously expensive. In 1949 Dusio left for Argentina, where he started a new company with support from the president, Juan Peron. His son Carlo stayed in Italy, continuing the Cisitalia name and making small sports and GT cars which, although much admired, were commercial failures.

And the same year that Dusio left Italy, Adolfo Orsi was dealing with industrial unrest provoked by his refusal to hire communists in a strongly left-wing region. He closed the Maserati factory from February to June that year for 'restructuring', provoking the departure of Ascari and Villoresi to Ferrari, and a strike at his steel mill led to police firing on demonstrators, killing several. Orsi soon sold most of his companies, while maintaining his ownership of Maserati.

Alfa sat out the 1949 season, leaving the two Modenese teams to squabble among themselves. They were back the following year, for the first FIA-sanctioned world championship. Farina's tantrum in the Parco Sempione had no effect on his long-term relationship with the Alfa team. Four years later he would lead them in the first season of the new F1 drivers' championship, capturing the title ahead of his team-mates Juan Manuel Fangio and Luigi Fagioli. Between











1930s

AD BREAK

SELECTED ADVERTS FROM THE ARCHIVES













Fangio tries Maserati's V12 in practice at Monaco in 1957, but won an eventful race in the faithful straight-six

them, Farina and Fangio had won all six rounds of the series in the invincible Alfettas. A year later it would be the Argentine's turn to take the crown, at the wheel of the updated Tipo 159.

❖

WHEN ALFA ROMEO WITHDREW FROM Formula 1 at the end of 1951, Maserati hired Fangio for what was now a pukka works team. But an accident at Monza in 1952 kept the champion out for the better part of a year, forcing the Orsis to watch Ascari take the title two years in a row for Ferrari. In 1954 there would be further blows: the return of Mercedes, blighting the immediate prospects of Maserati's new 250F, and the souring of a deal to sell machine tools to Peron. The failure of the Argentinian government to pay the bill seriously undermined the company's stability, paving the way for the team's withdrawal from grand prix racing before the end of the decade.

"THE LEGACY LIVES ON IN THE CHARISMA OF THE GREAT SURVIVOR: SCUDERIA FERRARI"

The 250F was a good car, but no match for the new Mercedes W196. Ferrari, too, was in trouble with its Squalo and Super Squalo cars. The arrival of an Ascari-led team from Lancia, previously known mainly for its small family cars, held out hope for Italy, though the company's sudden bankruptcy proved instead to be a stroke of luck for Enzo Ferrari, who was given six of the radical D50 cars and all the spares, and invited to get on with it. Further luck for the leading Italian teams arrived at the end of 1955 when Mercedes, having trounced them everywhere, including Monza and the Mille Miglia, suddenly withdrew. Fangio won his fourth title with the hybrid Lancia-Ferrari in 1956, and his fifth with the 250F on his return to Maserati in 1957, before the English teams began their period of success.

What factors had allowed the Italians to dominate the immediate post-war scene?

Perhaps, having switched sides in 1943, they had been spared the guilt shared by the other Axis powers, who would take time to show their faces in any form of sport.

Nor, despite the bombing and shelling that had ravaged their towns and cities, were they as mentally and materially exhausted as the English or as spiritually depleted as the French, who had submitted to occupation. In the north, their craft traditions enabled cars to be built quickly and effectively with minimal resources.

Their best drivers, both the professionals and the gentlemen amateurs, had survived, and their cars, with their heritage of racing on pre-war roads, often made up in strength for a lack of technical sophistication.

And as the 1950s began, they were able to bask in the glow that surrounded Italian culture as a whole, that seductive Mediterranean warmth for which, at a time of continuing austerity, those living in colder climates yearned. With food rationing still imposed on post-war Britons, the effortless elegance of Italy's playboy drivers and their red-painted, high-revving machines seemed to be part of the same exotic and achingly desirable world as a flask of Chianti, the beach at Positano, Sophia Loren's curves or the slim-fitting suits worn by Marcello Mastroianni, the epitome of *la bella figura*.

They would be overtaken on the track, first by the Germans and then by the British. Proud names would disappear from the grid, and Ascari remains the last Italian driver to have been crowned champion. But the legacy of that time lives on in the undimmed charisma of the great survivor: Scuderia Ferrari, the sport's most potent name, still redolent of glamour and danger, the product of those years of reconstruction, when vision, skill and a touch of ruthless ambition dragged Italy out of the darkness and back into the light. Ⓜ

FROM THE MOTOR SPORT ARCHIVES

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September 1953 | *Hawthorn's Ferrari 212*
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Gathered in the Motor Sport local to exchange memories: left to right, Gordon Cruickshank, Michael Tee, Damien Smith, Simon Arron and Clive Richardson

{ LUNCH WITH }

MOTOR SPORT

In our 90th birthday issue we depart from routine to reminisce with some of the people who have kept the title alive

writer SIMON TAYLOR | **photographer** JAMES MITCHELL

THE REMARKABLE EVENT that we celebrate in this issue – the fact that *Motor Sport*, after 90 years of publication, has not only survived, but continues to flourish – is almost without equal in the world of car magazines. In the English language (and surely in any language, unless someone can correct me) only the weekly title *Autocar*, which concentrates on the modern road-car world, has been alive for longer. And our longevity has been despite, or maybe because of, an eccentric history that has rarely had much to do with the commercial realities of magazine publishing. In fact, eccentricity is the word that springs to mind when describing the three people to whom that survival is primarily owed.

The story of Bill Boddy editing the magazine for more than half a century, mainly by post from his rambling, leaky old house in North Wales, is well-known. So is that of Denis Jenkinson, the bearded, opinionated little Grand Prix reporter, whose fearless and highly detailed reports were for some 40 years the accepted authority in F1. Much less well-known, at least by those who never penetrated the dark, dingy *Motor Sport* offices in London EC2, was the third eccentric: the proprietor, Wesley Tee. This dictatorial, erratic individual took over the magazine in 1936 in lieu of unpaid print bills, and ruled it with a parsimonious rod of iron for 60 years, refusing to entertain ever-rising takeover offers from big publishing companies until his death, aged 91, in 1996.

Whenever people who have actually worked on *Motor Sport* down the years run into one another, the result is always a stream of hilarious do-you-remember anecdotes that serve only to underline how unlikely the whole operation was. And always the stories are centred around the same three people, known universally as the Bod, Jenks and the Old Man. So it seemed a good idea for my Lunch With… this month to gather together five key individuals who have played their own part in the magazine's history, and experienced many of those stories first-hand.

We meet for red pepper soup and haddock pie in The Ram, *Motor Sport*'s local just across the road from the converted riverside

warehouse in Chelsea that is its home today: Wesley Tee's eldest son Michael, for many years the magazine's photographer, as well as production manager and buffer between his father and the rest of the staff; Clive Richardson, assistant editor for 10 years in the 1970s; Gordon Cruickshank, who replaced Clive in 1982 and today, after a term longer than all except The Bod's and Jenks', is still here as deputy editor; Simon Arron, actually the first person to be called editor after Boddy in 1991 and now back on the magazine as features editor; and Damien Smith, in his second term as editor and the man ultimately responsible for the quality, variety and depth of today's *Motor Sport* as it enters its tenth decade.

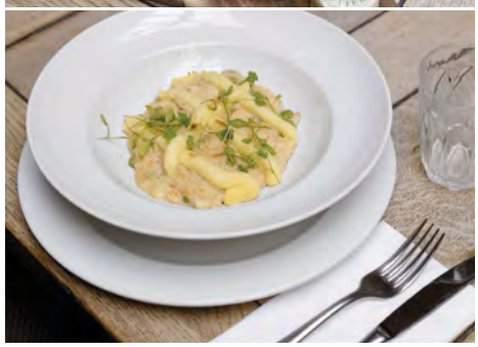
FOR THE LAST 20 YEARS OF HIS LIFE Bill Boddy was called founding editor of *Motor Sport*, but that was actually a courtesy title. It was a small-time publisher and advertising agent called Radclyffe who decided 90 years ago – for some reason lost in the mists of time – that what the world needed was a monthly magazine about motor racing. When it was launched from a little office in London's Victoria in July 1924 it was called *The Brooklands Gazette*; but, as it also covered the sport outside the confines of the Weybridge track, its title was changed a year later to *Motor Sport*. Radclyffe didn't persevere with it for long, and during its first five shaky years it had at least five editors and owner-editors, one of whom lasted only a month. In 1929 it nearly disappeared altogether, only to be rescued by a rich young amateur racing driver named Tom Moore, who kept it afloat for a while and even sometimes edited it himself. Then Moore's attention was diverted by a glamorous actress, whom he pursued to America and subsequently married.

While he was gone the print bills went unpaid, and in 1936 the managing director of the printer, one Wesley Tee, came after his money. What he found was a struggling little magazine with effectively no assets at all. But piled up in the cellar were the old photographic blocks of the pictures that had been used month by month in each issue. In those letterpress days the blocks were made of copper, which had considerable value. Michael Tee takes up the tale:

"The story was that my father took over the magazine to pay the debts he was owed. In fact he paid £20 for the publishing rights, and then sold off the copper blocks for many times that. So, typically, the Old Man did all right out of it." Now Wesley Tee was no longer just a printer: he was a publisher too – even though he had no interest whatever in motor racing or the car world.

In Tom Moore's absence the editor was a man called Mason, who found that the easiest way to get the job done was to delegate all the writing to an unemployed youngster called Bill Boddy. This lad had been bombarding the magazine with articles and letters since his early teens, drawing on his already voluminous knowledge to correct errors. Rodney Walkerley, assistant editor in those days, said: "Whenever that schoolboy appeared I used to hide in the lavatory." In 1930 Boddy, now all of 17, began contributing to *Motor Sport* regularly. Mason, who wanted an easy life, found that this young lad was happy to churn out copy for 10s 6d (52.5p) per 1000 words. It didn't take Wesley Tee long to get to the bottom of this, so he fired Mason – firing was always an activity he enjoyed – and, at a lesser salary, employed Boddy as the new editor.





MOTOR SPORT CAREER IN BRIEF

Born: July 1924, London, UK
1924: first issue appears as *The Brooklands Gazette* **1925:** name changes to *Motor Sport* **1930:** first Bill Boddy article **1936:** Wesley J Tee takes ownership, appoints WB editor **1939-45:** WB keeps MS afloat through war **1953:** Denis Jenkinson joins **1955:** Moss and Jenks win Mille Miglia **1997:** sold to Haymarket **2004-6:** red cover era **2008:** bought by Edward Atkin



Motor Sport's current offices enjoy views of the Thames – a far cry from the scruffy squalor of Teesdale days

But in 1939 came war, and the worlds of Brooklands, Donington, and wealthy young men enjoying themselves in motorcars came to an abrupt halt. Tee assumed it was the end of *Motor Sport*, too, but Boddy had other ideas. He persuaded the Old Man that he could keep it going in his spare time, even while he was doing wartime work at Farnborough, writing digests of aircraft manuals for service crew. He got his friends and acquaintances in the car world to write reminiscences and chat pieces for nothing, and somehow during the long years of war, with no news to report and despite paper shortages, fuel rationing and myriad other difficulties, the magazine continued to appear, surviving on sales of 5000 copies a month.

WHILE AT FARNBOROUGH THE BOD befriended a little bearded man who'd been posted there as an engineer. This was Jenks, and the two of them spent hours reliving their pre-war motor-racing memories, discovering in each a knowledge and love of detail that was to shape this magazine for the next half-century. When the war was over Jenks found he could race his 350cc Norton in European motorcycle races, using the meagre start money from one race to get him to the next. Soon the Norton expired, but top sidecar exponent Eric Oliver needed a new passenger. Jenks was fearless, and he was also very small. The minimum weight for the man in the chair was 60kg; in leathers, helmet and boots Jenks tipped the scales at 59.9kg, so with a couple of spanners in his pockets he was in. For 1949 the motorcycle world champions were Les Graham in the 500cc class, Freddie Frith in the 350cc class – and Oliver and Jenkinson in the sidecars. A major plus for Jenks was that the European bike races often shared the same weekend and venue with the car Grands Prix, so he could ramble around the paddock to his heart's content, and then report back to the Bod.

In October 1948 Britain's first big post-war race, grandiosely titled the International Grand Prix, was run on a figure-of-eight course over the old runways and perimeter roads of a wartime airfield near the Northamptonshire village of Silverstone. The Old Man went up to see what the fuss was about, and took his 16-year-old son Michael, who still remembers the galvanising effect it had on him. "I'd seen this dull little magazine that my father printed, acres of grey type and virtually no photographs, and at Silverstone I couldn't believe the colour and the drama: the red Maseratis, the green ERAs, the blue Lago-Talbots, the glamorous drivers in their linen helmets. I said to the

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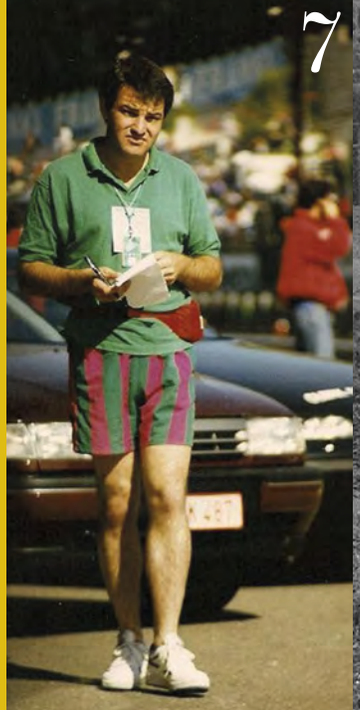




1 Gordon Cruickshank scares himself in a gripless '58 Corvette **2** Jenks was as bold on the track as he was in print – he passengered Eric Oliver to the world sidecar title in 1949 **3** Damien Smith retraces the Targa Florio in a Ferrari 458







4 Jenks chatting with a young Stirling Moss, whose winning drive he would famously share on the 1955 Mille Miglia **5** Printer-turned-publisher Wesley J Tee saved the magazine in the '30s and remained involved until his death in 1996 **6** Jenks and WB on active duty, with Tom Lush from Allard **7** Simon Arron displays traditional MS green stripes at Spa in the mid-1980s **8** Never one to offer praise where none was due, WB evaluates a Humber Super Snipe estate



Old Man, 'This is marvellous. Why haven't you got pictures of all this in your magazine?' He took his camera from around his neck, gave it to me and said, 'Here you are, boy, you'd better go and take some.' So I did, standing totally unprotected on the edge of the track.

"The Bod wasn't keen on pictures because it reduced the space for his words. And he would never allow any cuts to be made. If his copy didn't fit, he would have it reset in smaller and smaller type as it went down the page, and if necessary there'd be a continuation onto another page – sometimes an earlier page in the magazine." *Motor Sport*'s increasing band of faithful readers became used to these oddities, and treated them as the norm. "In fact the magazine wasn't written for the readers. It was just a kind of private dialogue between the Bod and Jenks, and if the readers happened to enjoy it too, well, that was a plus.

"THE OLD MAN RELISHED A GOOD FIGHT AND ALWAYS SUPPORTED HIS WRITERS"

"Jenks was permanently in Europe, going from race to race, and when I went out to do the photos I'd take some travellers' cheques to keep him going, because there were strict currency regulations then. Jenks always had a healthy disrespect for any sort of authority. When the United States Grand Prix became a round of the World Championship in 1959 we needed visas to go to America. Jenks went to the embassy for his, and when he was asked, 'Are you now, or have you ever been, a member of the Communist party?' he replied, as a joke, 'Only when we were on the winning side.' The embassy chap folded up his paperwork and said, 'I think you'd better have another think about that,' and, to Jenks' fury, his application was refused. So I had to write the race report as well as taking the pictures. In fact he always refused to go to a country he perceived as communist – so later on the Hungarian Grand Prix was always a no-no.

"During the 1950s the Bod was living in Hampshire, and he would come into the office for a few days towards the end of the month, when the magazine was going to press. At the start of the month he didn't come in at all. And we wouldn't see anything of Jenks from one month to the next. The Bod and Jenks were the only editorial staff members. There was an Irish lady called Molly Cronin who was The Old Man's secretary, and somebody selling advertising. He didn't have to work very hard, because as the magazine's circulation went on rising, bookings came in through the window."

But in those days journalists were expected to be kind about the products of advertisers, on the basis that it was the ads that, indirectly, paid their salaries. The Bod would have none of that, and his road tests always said precisely what he thought. When he lent his road-test Austin A90 Atlantic to Jenks, Jenks wrote a typically trenchant piece about what a dreadful car it was. Car manufacturers were used to universally flattering road tests in those days, with any criticism carefully concealed within a litany of compliments. So Austin's publicity director, a man called Bishop, cancelled all Austin's advertising – and the Bod gleefully told his readers all about the 'Bishop Ban'.

Other aggrieved advertisers would complain to the Old Man, who relished a good fight and always supported what his writers had said. Mintex, the brake lining manufacturer, was a large client, and when its directors were upset by something the Bod had written their representative was sent to speak to Mr Tee. The Old Man kept him waiting for an hour, and when he finally let him in he said, 'I can't quite understand why you're here. I gather you represent a firm that makes peppermints'."

IN THE EARLY DAYS MICHAEL persuaded the Old Man that the cheapest way to get to overseas events was to charter a small aircraft, and sell off the spare seats. "I remember flying to Le Mans in an Airspeed Oxford, all fabric, with a panel in the roof where if you crash-landed you could punch a hole and climb out. We went through a violent storm and that panel blew off. We were sitting in the back with an umbrella up to keep the rain off while the Bod, unperturbed, typed his report with two fingers as always. Later on I learned to fly at a school at Elstree: they said they'd give me free lessons if I wrote it up in *Motor Sport*. We used to fly to lots of the Grands Prix, not without some dramas, and there were a few times when we were lucky to get back onto *terra firma*."

As well as the writings of Boddy and Jenks, there was a third ingredient in each issue that made *Motor Sport* indispensable to the enthusiast: the small ads in the back, listing cars for sale. These were called classifieds, but in fact they were completely unclassified. The ads were simply run in the order in which they came in, making up a fascinating jumble of decrepit vintage machinery and battered old racing cars to plough through each month. Through the 1950s and the 1960s dealers with older, more oddball cars soon realised that *Motor Sport* had become the marketplace, and if they didn't run ads there they wouldn't get any punters. This growing profit line for the magazine wasn't as a result of any commercial decision or marketing effort: it just happened. Most of today's longer-established classic car dealers started out in business with an ad in *Motor Sport*, and most of them are still in our pages each month – although their asking prices have changed somewhat.

One of Mr Tee's many foibles was that he didn't allow any of his writers to use their full names, in case competitors approached them with more money to move to another magazine. Only initials were allowed, so the Bod was WB and Jenks was DSJ. In fact, they soon became so well known that everyone knew exactly who they were. The Bod, because he maintained that the Old Man paid him so little, would freelance for anybody and everybody, and Mr Tee turned a blind eye to this as long as it was not for a direct competitor. The by-line "By William Boddy" appeared in lots of unlikely places, including the soft-porn magazine *Mayfair*, in



Smith is in his second stint as editor. Cruickshank has been a staffer for 32 years and counting

which eulogies about Alvises and Lagondas rubbed up against the gatefolds of naked ladies.

The Old Man was always adamant that only his own presses should print *Motor Sport*, even when that became commercially damaging. As Michael Tee points out, "His old letterpress machines were fine when the circulation was around the 50,000 mark, but by the end of the 1950s it was climbing steadily, and by the mid-60s it was more than 150,000. We could have saved a fortune by sub-contracting the print to a firm with more modern litho machines, and tightened up the schedules massively, but the Old Man wouldn't have it."

As British motor racing proliferated there was no way *Motor Sport* could cover it all, so in 1957 Mr Tee bought *Motoring News*. This was a curious, ailing monthly newspaper for economy-minded motorists filled with features like "Helpful Hints from AA Patrolman Pat," but at one inventive stroke he relaunched it as a weekly covering the entire motor sporting scene, in which guise it survives to this day. In the gloomy rabbit-warren that was now called Teesdale Publishing it was joined by other titles, as Gordon Cruickshank remembers:

"*Motorcycle Sport* was run by Secret Cyril, who drifted in at noon and rarely spoke. *War Monthly* was about military history and edited by a married couple of hippy peaceniks. And there was *Guns Review*, which meant you might trip over an Uzi sub-machine gun being photographed in the studio. One morning the place was full of police because an escaped prisoner had broken in and stolen that month's featured guns."

MICHAEL TEE ALSO DEVELOPED THE growing archive of his own and others' photographs into a picture library called LAT, which generated extra profits by providing other publications and advertising agencies with a fine resource of motor racing shots. But he eventually grew tired of the endless arguments with his father and left to set up a motor sports promotion company, which became very successful. In 1972 Clive Richardson joined with the double role of assistant editor of *Motor Sport* and performance editor of *Motoring News*. "The pressure on me was pretty great, because as far as *Motor Sport* was concerned I was having to put the magazine together myself. The Bod had already moved to Wales by then and sent his copy in by post. He would only come in once a month for the editorial meeting, with a list of complaints. Jenks complained, too. His copy often arrived late, and was usually over-written. Sometimes whole sections had to be cut from the issue after it had been planned so that the Old Man's machines could cope. But as far as the Bod and Jenks were concerned, it was always my fault. I've lovingly kept this letter Jenks wrote to me:

"'Dear Clive, I am very pissed off with you for leaving out my *From the Archives* piece. It makes me look a twit to people whom I told it would be in the January issue. I have written to Mr Tee to lodge a formal protest. I am very tired by your continual whingeing about being unable to get things in the space. Before you appeared on the scene the Bod always seemed to manage. I am writing this moan to you as I could not stand listening to your feeble and half-arsed explanations. Take it as read that I am very pissed off with you, and that is all there is to it. Cheers, Jenks." Of course, when I next saw Jenks he was fine. Once he'd vented his spleen he was all right.

"Molly Cronin, who'd joined back in the 1930s, was still there when I arrived, but she'd begun to deteriorate. I'd draft out letters of reply to people who'd sent in photographs or comments, and the Bod, when he was in, would also write a few for her to type. When she stopped coming in I opened the drawers of her desk, and they were full of years of unsent and unanswered letters. In the bottom drawer were several empty gin bottles.

"I got several good job offers, tried to leave, and each time the Old Man persuaded me to stay. In among all that he sacked me as well, I've forgotten why, but he reappointed me the next day. I stayed because I loved it, but after 10 years I'd had enough."

Gordon Cruickshank came down from Scotland to apply for a job on *Motoring News* as a rally reporter. "I went all the way to London, only to be told the job was filled. When I got home there was a phone call saying they might be able to talk about another job, and I went back down again. Mr Tee didn't discuss anything with me: he just said, 'You'll be starting on Monday, boy, at this salary.' I found myself Assistant Editor of *Motor Sport*, running the whole magazine on my own.

"The Old Man called everybody Boy – even the Bod when he was in his 70s – because he couldn't remember anyone's name. In the monthly meetings, in a stuffy dungeon at the back, he relied on where you were sitting to identify you. So if you sat in the ad manager's usual place he'd ask you for the advertising figures. It was easier to invent something than to argue. Sometimes he would nod off, and we would talk on quietly until he rejoined us.

"His meanness was legendary. Letters had to be sent second class unless vitally urgent. You weren't allowed to make telephone calls out of London in the morning, only in the afternoon because the rate was a bit cheaper then. Kath Roberts, who had replaced Molly as the Old Man's secretary, checked everybody's expenses, and she knew to the nearest mile how far it was to Oulton Park or Castle Combe. You always had to share hotel rooms, and you'd only be allowed a few quid for that. Michael will tell you that even in the 1950s, finding a hotel room in Monaco for £5 a night was a problem.

"Of course salaries were ludicrously low. My first December I was astonished to discover in my pay packet a surprise £70 Christmas bonus. Then in January my pay chit said 'minus £70 Xmas advance.' But company cars were generous – Golf GTis, Lotus Cortinas, TVRs – because the Old Man realised that it was cheaper to give a staff member a nice car than to pay them more money.

"Planning the issues while dealing with The Bod and Jenks wasn't easy. I'd say to Jenks, 'How many pages do you want for the Dutch Grand Prix?' He'd say, 'If it's interesting, I'll do eight pages. If not, I'll do half a page.'"

In 1989 Gordon went to Germany to cover a new-car launch. He was a passenger in a Mercedes being driven by another journalist when the car crashed and turned over. The driver was unhurt, but Gordon's neck was broken. His convalescence took more than a year, and he had to come to terms with the fact that he was now paralysed from the chest down, and would never walk again. He taught himself to use a keyboard with his thumbs, and it is an immense tribute to his courage and his stoicism that he has continued to be a first-rate journalist and feature writer. He is now deputy editor, and in his spare time enjoys driving his restored Jaguar 3.4 Mk2, which he has had fitted with hand controls. His time on *Motor Sport* now totals 32 years.

Into the 1990s, although the actual work of editing the magazine continued to be done by somebody else, Bill Boddy was still called The Editor. The circulation had been falling steadily for more than 10 years, and was now below 40,000 copies a month. At this point Simon Arron entered the picture. "I came onto *Motoring News* straight from university, but after six years I left to join another title. But I stayed friendly with the *MN* gang, and on Tuesday evenings they used to have a light-hearted game of five-a-side football, and I'd go over to join in. When I walked in one Tuesday in 1991, I was told the Old Man wanted to see me. As I stood there in my football strip he showed me a letter from a reader complaining that the magazine's content no longer reflected its title, with too much vintage stuff and not enough about contemporary racing and F1. 'I'd like you to come back and address this,' he said. When I asked what my title would be, he said, 'You'll be editor.' The only drawback, of course, was that he didn't tell Bill Boddy.

"After I'd been there a couple of days the Bod came on the phone from Wales and said, 'I want this and this to go in the next issue.' I said, 'Well, what I've got planned is…' 'What do you mean, what you've got planned? Aren't you the new copy boy?' So I went to see the Old Man, and told him I'd just had Mr Boddy on the phone. He smiled mischievously, and said, 'What was that like, boy?' It all calmed down in the end, the Bod went on doing what he'd always done, I got the magazine out, and the Bod was called Founding Editor after that."

Bill Boddy continued to write for *Motor Sport*, in the same tone of voice and still concentrating on the subjects that interested him most, from vintage cyclecars to Brooklands, right up until he died, aged 98, in 2011. By then his work had been in these pages for over 80 years, thought to be a world record for continuous contribution to any one periodical. To the end his knowledge and his recall continued to be prodigious. The Vintage Sports Car Club, formed in 1934 largely at his suggestion, called him the single most important figure in the old car movement.

Jenks, of course, gathered greater fame when he reprised his fearless passenger role with Eric Oliver by going with Stirling Moss in the victorious Mercedes 300SLR on the 1955 Mille Miglia. Much later I got to know him well because I was a sort of associate member of the exclusive group – consisting primarily of Jenks, Nigel Roebuck and Alan Henry – that gathered in the press rooms of Grands Prix around the world to gossip, chortle and complain. Jenks liked the fact that I was BBC Radio's F1 commentator, because he regarded the BBC as a Good Thing. He didn't have a TV in his tumbledown cottage in Hampshire: indeed, he didn't have mains electricity. When power was required he would start up the Fiat Topolino engine bolted to the floor in the front passage which drove a generator that lit six-volt bulbs hanging from wires draped at Jenks-height from the floor. But he did have a battery radio, and if he didn't go to a Grand Prix, or if he wanted to keep up with progress from the Le Mans 24 Hours race, he would switch me on.

But in time, as Simon Arron found, Jenks became dismayed by what he saw as the galloping commercialism taking over Formula 1. "He would only ever go to the races that interested him, and the *Motoring News* F1 reporter – first Alan Henry, then David Tremayne – would be required to fill in for the ones he missed. The readers still loved him, of course, and I did all I could to keep him on side, but his interest was dwindling. I remember saying to him. 'Write about whatever you want, the world is your canvas. For example, nobody knows much about Castellotti, but you do.' He replied, 'I'm not interested in Castellotti.' In the end he had some sort of bust-up with the Old Man, and started freelancing for *Autosport* and other magazines. He never formally left *Motor Sport*: he just kind of disappeared."

Wesley Tee continued to run the business



"THE BY-LINE 'BY WILLIAM BODDY' APPEARED IN UNLIKELY PLACES: LIKE THE SOFT-PORN MAGAZINE MAYFAIR"

in his usual autocratic way, but things were no longer going well. By 1996 more and more magazines had entered the market to compete with *Motor Sport*, many with more pages, glossier layout, and a broader appeal to a younger generation. By 1996 the circulation, which had been falling steadily from its 1967 peak of 163,000, was less than 27,000 copies a month. In August of that year Wesley Tee died, after 60 years at the helm. One major magazine publisher which had been trying to buy Teesdale for many years hovered, ready for the kill, and its managing director even turned up at the Old Man's funeral. But the Tee family decided that a better purchaser would be Haymarket Magazines, which took over *Motor Sport*, *Motoring News* and the LAT photographic business at the end of 1996.

Haymarket's publishers added more pages, more colour and more good writing, and the circulation began to climb again. Andrew Frankel and then Paul Fearnley took over the editor's chair. Meanwhile *Motoring News* became *Motorsport News*, and LAT was greatly expanded to include the archives of the other Haymarket motoring and motor-racing titles. Then in 2004, in an effort to get more visibility on the bookstalls and in a marketing decision that in hindsight was ludicrously wrong, *Motor Sport* was relaunched with a new design that ditched the much-loved green cover for red. Many indignant readers thought it had always been green, although in fact the magazine was already 28 years old when the green cover, with its curious vertical white lines, was introduced in 1952. But the change sent the wrong signals to many loyal and long-standing readers.

THE FOLLOWING YEAR DAMIEN SMITH took over as editor for nine months before being promoted into another job within Haymarket, and it fell to him to defend *Motor Sport* against its anti-red critics. "In fact Haymarket deserves credit for breathing new life into the magazine, because it was at a very low ebb when they took it over. Because they had other titles dealing with modern racing they decided to move it much more into the areas of history and historic racing. Of course that red cover, which came in before my editorship, was quite wrong. It only lasted for 20 issues – out of 1067 so far! – and it was nearly 10 years ago. But we still get beaten up about it."

By June 2006 *Motor Sport* was green again and, after Haymarket had granted a licence to another publisher for a period, the title was purchased outright by business entrepreneur and long-time *Motor Sport* reader Edward Atkin. He had a perfectionist vision of how, with proper investment and direction, this magazine could expand its quality coverage of



"THE RED COVER ONLY LASTED 20 ISSUES BUT WE STILL GET BEATEN UP ABOUT IT"



the entire motor sporting scene, historic and contemporary, while maintaining the highest standards of stimulating writing and superb photography. Under his ownership it has developed into what you now hold in your hands.

Of course it is now a very different magazine from what it was 90, or even 20, years ago. Yet, in a remarkable way, it still follows the same precepts, the same principles, that it has always done. And in the place of the Bod, Jenks and the Old Man it still has three crucial players who may not think of themselves as eccentrics, but are nevertheless unshakeably true to their own beliefs.

Damien Smith, who returned as editor in 2008, could hardly be more different from Bill Boddy, and is certainly more aware of his editor's role in giving the readership the stimulus and creative variety it has a right to expect. Yet, just like the Bod, he is determined to produce a magazine that will always maintain high editorial standards and remain true to its principles. In Nigel Roebuck *Motor Sport* has the nearest thing to a modern-day Jenks, a writer who is able to bring an unrivalled historical perspective to modern-day motor racing, and enjoys great respect because of that, not only from his readers but also from people inside motor racing. And Edward Atkin won't thank me for comparing him to Wesley Tee, yet like the Old Man Edward is an uncompromising individual who will not be diverted from how he has always believed his businesses should be run. *Motor Sport* survived because Wesley Tee ensured that it did. *Motor Sport* now thrives because Edward Atkin ensures that it does.

I'll let Damien Smith have the last word. "One thing I have to mention is the camaraderie in the office. We're not just a magazine now, of course: we have a busy website and tablet editions which have expanded our reach enormously. And the editorial team has grown a fair bit, too: as well as me and Nigel and Gordon and Simon, we have F1 guru Mark Hughes, online editor Ed Foster and art editor Damon Cogman, who has to make the magazine look appetising and readable. And we're proud of our great roster of regular contributors too – including you and your Lunches! Binding us all together is the weight of 90 years of history, and the responsibility to keep *Motor Sport* what it has always been: genuinely, unyieldingly for the serious enthusiast."

In 10 years *Motor Sport* will celebrate its centenary. Motor racing, having changed beyond all recognition, will inevitably change a whole lot more in the next decade. So, no doubt, will the business of publishing monthly magazines. But after *Motor Sport*'s roller-coaster ride since 1924, I'm sure it'll still be here for you. The spirit of the Bod, Jenks and the Old Man will live on.


MOTOR SPORT
Vol. XLIII No. 9
TWO SHILLINGS
September 1967
MOTOR SPORT
FOUNDED IN THE YEAR
NINETEEN TWENTY-FOUR

1960s



The space race wasn't limited to matters extra-terrestrial. Some of the technology was having a significant impact on race tracks around the world

writer PAUL FEARNLEY

One giant leap



ALL IMAGES LAT

JACKIE STEWART, HIS luxuriant hair and sideburns bang on-trend, won a thrilling 1969 British Grand Prix in a car devised by rocket scientists.

The next day, buzz-cut Neil Armstrong – keeper of a Chevy Corvette leased from 1960 Indy 500-winner Jim Rathmann – settled Eagle onto the Sea of Tranquillity. The Space Race had been won with six seconds of propellant to spare.

The following weekend, three days after Apollo 11's Pacific splashdown, motor racing's answer to NASA launched a startling (some thought loony) vehicle. With secretive support from Chevrolet R&D, frustrated since March 1963 by GM's withdrawal from motor sport, Jim Hall's Chaparral had regularly readdressed the performance envelope: GRP semi-monocoque, hip radiators, torque converter and left-foot braking, plus – his Giant Leap and the final parameter – downforce.

An excellent driver/engineer with a restless, enquiring mind, the Texan possessed The Right Stuff, and Can-Am's can-do attitude – no maximum capacity, no minimum weight, yeeha! – suited his laconic test pilot air: "When nothing breaks I have nothing more to learn."

His latest, 2H, crouched in a forest of high wings – rivals had finally got a grip on aero – and bristled with new technology and ideology. Narrow and with a short wheelbase, it was intended, by taking up less of it, to make greater use of the road while its new twist on de Dion rear suspension made better use of ever-fatter tyres (20-inch rims).

Its low-drag, lozenge body – a true monocoque of composites cured in an oven – would have appeared even more alien had Hall had his way. The driver was meant to recline within and peer through a steeply angled windscreen that formed part of the nose. Hall, practising what he preached, had set a new lap record at his private Rattlesnake Raceway in this form; John Surtees, however, was not convinced.

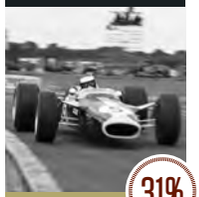
The 1964 world champion, drafted because Hall's racing career had been ended by leg injuries sustained at the end of 1968, insisted that a hole be cut in the roof. Though his jutting head would be detrimental to the carefully wrought aerodynamics, tough-minded Surtees was adamant.

Nor was he enamoured with the car's sluggish, unpredictable handling and low top speed. Even when its large rear flipper and nose duct received Chaparral's by-now customary automatic adjustment – shallow or raked, closed or open – 'White Whale' was no match for a simpler McLaren fitted with a fixed wing

1960s

GREATEST CARS

WEBSITE POLL RESULTS



31%

1 LOTUS 49

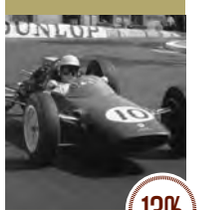
Brilliant union of blue-sky Cosworth engine thinking and Chapman at his best. With all-conquering DFV aboard, Jim Clark won on its debut at Zandvoort in '67 and Graham Hill claimed a world title a year later



16%

2 FORD GT40/MKIV

The sledge-hammer Ford brought to defeat Ferrari at Le Mans – four times in a row. Big, brawny and simple, with brutal V8 out back. Advanced MkIV still only all-US Le Mans victor.



13%

3 LOTUS 25

A crucial leap in racing design, Chapman's slim monocoque made rivals old hat overnight. With Climax V8 power, Clark claimed 14 Grands Prix in 25s over four seasons



Aero science: missile maker Matra built Stewart's title-grabbing MS10, but Hall's 2H, below, was a stretch too far for pilot Surtees







assessed on a Minivan, its downforce measured by means of a bathroom scale.

The same was true even when 2H 'benefited' from hydraulic self-levelling suspension (against the downforce) and a huge parasol wing mounted firmly amidships.

Bruce McLaren's enquiring mind was tempered by his nascent team's reliance on Can-Am's big-bucks prize fund – Chaparral won lots of admiration and just one victory in five seasons – but it didn't prevent him taking a punt on an Oxbridge whizz-kid who had worked on Concorde.

"I had no intention of getting involved in motor racing," says Robin Herd. "Only two weeks before my finals, with the dole looming, did I think about a job. I told the Appointments Bureau that I loved aircraft and sports and it recommended that I go to Farnborough."

Armed with a double first in physics and engineering from St Peter's College, Oxford, he rose swiftly through the ranks at the National Gas Turbine Establishment. At which point he took a punt, too.

"Bruce realised that he needed a designer with a modern take," continues Herd. "He paid £30 a week, which was fine, and asked me to build the first McLaren F1 car [initially a 4.5-litre Olds-engined test mule for Firestone] while he was away contesting the Tasman Series. You either grab it or chicken out. If he was prepared to take the risk, so was I."

Unafraid of methods and materials unfamiliar to motor racing, Herd constructed M2A from bonded Mallite, an aluminium-balsawood sandwich of exceptional torsional rigidity developed for aircraft panelling and floors. Finished by September 1965, the car was soon lapping the Zandvoort circuit impressively – thanks to its rear wing.

There the story goes, with apologies to Isaac Newton, pear-shaped. The wing was removed – after supplying a repeatable three-second improvement – and put aside for more than two years. Herd lays some of the blame for this oversight on the despondency caused by the noisy but gutless Quad Cam Ford V8 in M2B (the first F1 car) and some on the team's diverse and hectic schedule, but the rest, in earthy invective, he places at his own feet: "I concentrated on chassis rigidity. So stupid!

"And then, when finally we got a decent F1 engine [Cosworth's DFV in 1968] and won our first two races, we didn't make that car from Mallite. Argh! Bruce wanted a monocoque with complex curves and Mallite couldn't cope. I should have had more confidence."

By the time Denny Hulme arrived at the Mexico finale still with a mathematical tilt at the world title aboard M7A, Herd was established at Cosworth, busy filling gaps in his racing education, while fellow Farnborough convert Gordon Coppuck was quietly, capably, filling the gap at McLaren.

The latter's M8-series Can-Am cars, co-designed by Jo Marquart, built on the foundation Herd laid in 1967. Robin had proved he had The Right Stuff by sitting – or kneeling facing backwards! – in the so-called passenger seat during Bruce's tests of M6A, with or without bodywork and, ahem, a wing, at Goodwood.

Herd: "We contoured the shape beneath its nose – a convex surface, a wing upside down – and measured the pressure with a manometer on my lap. When it went negative at the first corner, Bruce shook my arm and shouted 'Yes!' He was so excited.

"But the forces were relatively low. We had got lucky with Concorde; it's simple to work out supersonic flow by solving simultaneous linear equations, plus we had a computer at Farnborough, for which we wrote our own programmes. Subsonic flow around a racing car requires solving simultaneous differential equations, a nightmare of massive work, for which the necessary computational power didn't then exist. Certainly there were no computers at McLaren – but I'm guessing there were at Matra."

❖

MÉCANIQUE-AVIATION-TRACTION WAS founded in 1941. An aeronautical contracting firm, it expanded rapidly after World War II as a supplier of conventional weapons and an early developer of guided missiles. The nature of its work, however, meant that its name was not well known.

To branch out, it bought René Bonnet's floundering sports car concern in 1964. Under the direction of ambitious and savvy newcomer Jean-Luc Lagadère, Matra presented a two-seat, mid-engined, Renault-powered Djet to visiting cosmonaut Yuri Gagarin in 1965 – and also went motor racing. Its single-seaters were immediately successful in the lower formulae, their structural fuel tanks – a complex construction beyond its rivals – reducing weight while adding stiffness.

"Matra flew a Formula 2 car over in one of its own planes and landed it at Goodwood," says Stewart of his late-1965 test. "This was going to be different. I had got confused over Ken [team boss Tyrrell's] 'travelling to France to find a racing car' and wasn't in the most receptive mood. That changed when I drove it: the most beautiful car. Every part exuded quality. A real eye-opener."

JYS might have been less surprised had he known that Matra would a few weeks later help France to become the third space power. Not only did it build the Astérix satellite but also it provided the control systems for its Diamant launch vehicle. Little wonder that it was by 1968 ready to tackle F1, with help from Tyrrell, Stewart, Cosworth and Dunlop, and that theirs was the combination to beat by 1969.

Stewart's win at Silverstone was his fifth from six GPs. At Monza in September, he made it six from eight to secure the first of his three world titles. Whereupon another Oxbridge whizz-kid – Peter Wright of Trinity College, Cambridge – wondered what might have been.

"I went to BRM as an engine designer," says Wright. "[Chief engineer] Tony Rudd knew that he needed graduates, and I was his first. But I realised the job wasn't for me when I discovered it was all about stresses and tolerances. It was only after I made comments about aerodynamics – my MA was in mechanical sciences, of which aerodynamics was a part – that Tony pushed it into my lap."

or six teams battling each other."

Wings were banned in the midst of the 1969 Monaco GP weekend, and reintroduced at Zandvoort four weeks later, their size reduced and position lowered and fixed and attached to the bodywork. Wright's intriguing scheme – a slender fuselage with inverted wings filling the area between the wheels and trimmed by nose tabs and a flap at its trailing edge (but no sealing skirts) – was looking increasingly hopeful. But P142 was canned when Rudd left the beleaguered team after that Dutch GP.

"John Surtees considered it a distraction," says Wright. "There'd been three of us in a secret base at Bourne. We started in February

"WING FAILURES WERE A CLASSIC EXAMPLE OF F1 RUSHING AHEAD. NOBODY STOPPED TO THINK IT THROUGH"

The brief was to generate competitive levels of downforce minus the skyscraper, driver-adjustable, hub-mounted – Hall's method of bypassing the sprung chassis to avoid the need for very stiff springs – rear wings that tended to collapse with dangerous effect.

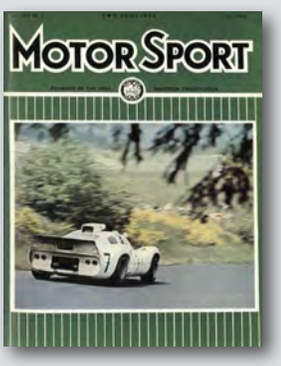
"Those failures were a classic example of F1 rushing ahead," says Wright. "Nobody stopped to think it through, test it, analyse the benefits and downsides. Chaparral and Chevrolet were much more thorough. A new technology like that takes time to mature. You can do that when you are the first, but in F1 there were five

1969 and the car was supposed to run at Monza. Imagine that! We used the quarter-scale wind tunnel [with moving ground plane] at Imperial College and it was all done with slide rules and logarithm tables. Suspension geometry back then was plotted on a board using fishing line.

"One of our F1 cars ran with stubby, aerofoil-section panniers at a Snetterton test and appeared to work compared with what we knew, but there was a lack of accurate measurement. We were all desperate for data to find out what was really going on."



BRM's Tony Rudd oversees tweaks to Jackie Oliver's Montjuic 1969 entry. Two weeks later the wings were banned



ARCHIVE // FROM *MOTOR SPORT* JULY 1966

AMONG THE MANY interesting happenings of last month was the first appearance in Europe of the Chaparral car from Texas. To those who follow American sports car racing the name will not be new. The performance of the cars driven by Jim Hall and Hap Sharp, against the many V8-engined, two-seater racing cars, thinly disguised as sports cars, will be known. In 1963 Hall spent the summer in Europe, as second driver in Ken Gregory's Grand Prix team, racing under the BRP banner. Although he did not make much of a mark as a Grand Prix driver, he obviously learnt an awful lot and gathered together knowledge about European racing and European standards. His sports cars, using Chevrolet V8 engines, were proving very successful in American racing, run to rather less strict constructional rules than European racing, but even so, those who saw the Chaparrals in action were very impressed. Built in a small factory near the town of Midland, Texas, with most of the design work done by Hall and Sharp, the car was named after a Texan desert bird, a scraggy creature that can run very fast but is unable to fly, due to a mistake somewhere in its wing design; this running bird is used as their emblem.

As would seem to be the case with most people in Texas, Hall is not short of dollars, but unlike some Americans he is shrewd as to how he uses his money. Certainly he didn't skimp anything in the design and construction of the cars, and he was prepared to spend a lot of money on experimenting for the Chaparrals were in the nature of his hobby (though a full-time hobby). Their greatest moment came in 1964 when the organisers of the Sebring 12 Hours permitted the entry of sports cars among the Prototypes, in



defiance of FIA rules, and the Chaparral not only entered but ran away with the race, despite prognostications that a 'one-off special' could not possibly last 12 hours. The Chaparral had certainly started life as a one-off special in 1961, when the Trautmann and Barnes speed shop in California built a front-engined car for Hall, but he doesn't consider the true Chaparral was born until he built the Mark 2 himself, in 1962/3. Or rather Sharp and two mechanics built it, while Hall was driving Formula 1 in Europe.

The Chaparral wheels are an interesting new development of an old idea, for they are on the split-rim principle, the wheel being in two parts, held together by a ring of eight bolts. The inner part of the rim is integral with the hub and joined by complex webbing, the whole thing being a magnesium-alloy casting. The tyre and tube are then slid over the wheel and the outer part is then pushed into place and the eight bolts fitted. The inner portion of the wheel is the same for front and rear but, depending on the tyre section used, alternative outer portions can be fitted giving varying rim widths. There is no 'well' in the rim, merely a slight taper inwards to let the tyre slide on easily.

The entourage that arrived at the Nürburgring was unlike anything previously seen from America, completely lacking in publicity and bally-hoo or any fanfare of trumpets. Any American will tell you a Texan joke in which Texas and Texans appear bigger and better than anything else and bragging is second nature, albeit backed up by action. The Chaparral people seem to be going out of their way to avoid this public image of Texas, and the 2D arrived in Germany in a closed trailer towed by an unostentatious pick-up truck, Chevrolet of course, and the only clue to the contents was the licence plate, which was issued in Midland, Texas. Hap Sharp was in charge of the team, with his wife looking after the stopwatches and lap-scoring, and they had three mechanics. They did not appear to have left much time for adjusting the car to the special circumstances of the Nürburgring, and their drivers Phil Hill and Jo Bonnier were a bit sceptical, feeling they should have spent a week testing prior to the race. Sharp merely told them that they had "figured things out, back home". Considering that Phil Hill did a practice lap only a few seconds slower than the works Ferrari, that there were no problems with tyres cutting into wheel-arches, suspension bottoming or sump grounding, problems that most people experience on their first visit to the Nürburgring, it would seem that the Chaparral chaps had "figured things out" pretty well. More importantly, nothing broke during the race like it did on the works Ferrari. *DSJ*

Chaparral and GM were ahead in this game, too, being able to measure, record and simulate performance on reel-to-reel tape as early as 1966. BRM's own system featured pen recorders, the accuracy of which was compromised by mechanical vibration. Firestone's, an adapted flight recorder, was more robust and used an infrared pen on light-sensitive paper.

Reliable data was fast becoming the Holy Grail. After 50 years of evolution, motor sport went exponential when the unseen hand of downforce and a three-ply tyre war boosted F1's 'Return to Power' of 1966.

❖

HAVING HAD ITS OWN WAY SINCE 1959, Dunlop was now faced by category newcomers Goodyear and Firestone. Though Dunlop hadn't stood still – a lighter, cooler-running casing made from nylon; a softer compound that was synthetic; and reduced aspect ratios – the days of winning consecutive GPs (for the sublimely smooth Jim Clark at least) on the same set of boots were gone.

Covers grew wider and softer and tread patterns faded without disappearing completely; braking distances were slashed and cornering speeds spiked. Tyre engineers were suddenly at the hub, as this black art morphed into a science.

"It was a fantastic time," says Nigel Bennett, future designer of successful (and lovely) Lola and Penske Indycars, who joined Firestone's fledgling European Racing Division directly from Chelsea College of Auto and Aero Engineering in 1966. "We had more effect on lap times than could the teams: 1.5 seconds per year. We were providing tailor-made tyres for each of our teams' cars. Nowadays, car designers work around stipulated rubber.

"I had a close relationship with Mauro Forghieri [Ferrari's chief engineer since 1962 and another whizz-kid whose first love was aircraft]. I'd ask why he'd made a change and he'd explain. He taught me a lot. He could see that the more I understood about the car, the better it would be for his team."

Bennett's flat-mate and Firestone colleague David Trevett, meanwhile, spent 1969 with the Scuderia, his converted Transit crammed with the acquisition and analytical equipment of his second telemetrics system. The first had been too bulky and insufficiently user-friendly.

"That was the trick of it: the paper tape could be read at the circuit," says this electrical engineering graduate. "Eight inches by four by four, we'd bolt it to the gearbox [at tests and during practice sessions]. It was French, with six channels that allowed me to map throttle position, steering angle and wheel movement – roll, pitch and yaw – via transducers, plus fore, aft and lateral loads via accelerometers, and speed, very accurately, using a Barlow's wheel."

Photoelectric cells would be placed ▶

1960s

GREATEST DRIVERS

WEBSITE POLL RESULTS



69%

1 JIM CLARK

Who else? Modest, shy, almost unaware of his innate talent, Clark eased his silken way to win after win, bolstered by close bond with design genius Chapman.



6%

2 MARIO ANDRETTI

The original Mr Tough but Fair – and versatile. Conquered Indy, Daytona 500 and Sebring; took pole for Lotus on '68 F1 debut. Stuck to US through '60s before stellar F1 years and '78 title.



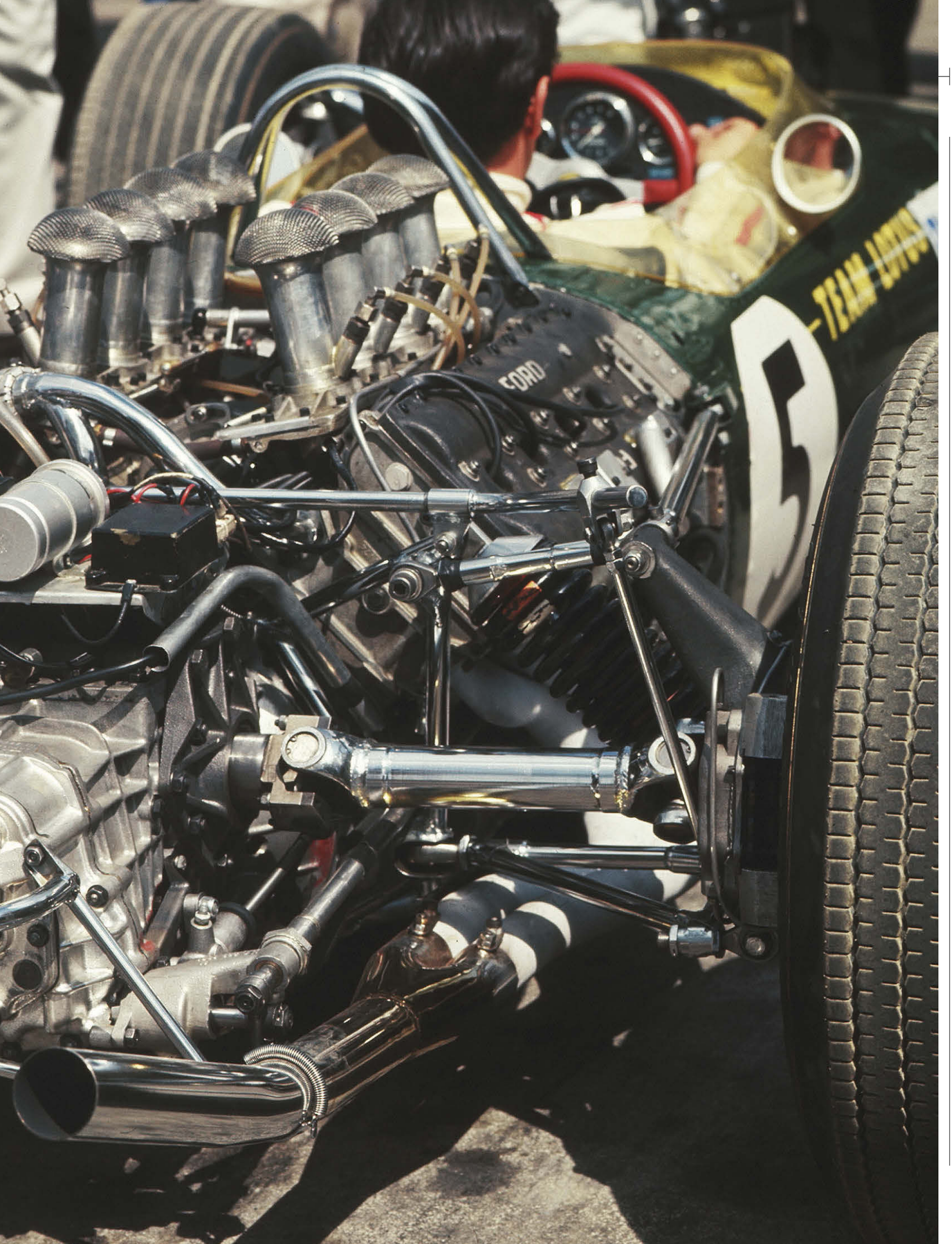
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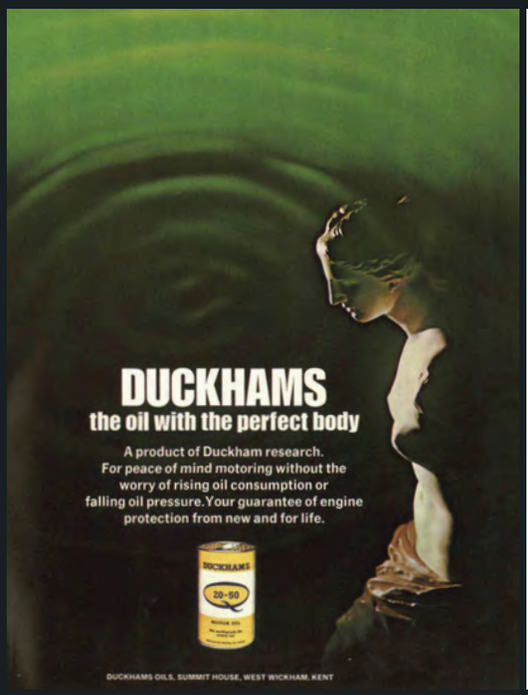
3 GRAHAM HILL

Suave, witty and urbane, Hill's grit brought two world titles, and pulled Lotus through post-Clark despair. Won Indy and Monaco – a record five times; later added Le Mans.



Integrated circuit racer: Cosworth's DFV and Lotus 49 – a marriage made in Hethel and blessed by many victories


FORD











1960s

AD BREAK

SELECTED ADVERTS FROM THE ARCHIVES











alongside a circuit to generate pulse blips on the tape for the purpose of orientation.

Trevett: "We could also mount three infrared detectors in a pod, usually aimed at the left-front wheel, to read temperatures across a tyre. Though that used up some of the channels, you could still combine it with other parameters and, that way, you could work out how a car was handling.

"Yes, it was analogue – one didn't have integrated circuits [NASA had cornered that market for its Apollo Guidance Computer: a 32kg 'pocket calculator'] – and it sounds simplistic, but it made tyre testing more efficient.

"I had no background in racing, but my boss [American] Bob Martin, who had a traditional background from Indy, was a bit of a dreamer like me and wanted to learn new things. Lotus and Lola showed a lot of interest, too, but some teams thought I was an idiot; BRM was a bit of a closed shop."

The doubters could have pointed to Ferrari's poor 1969 season – Trevett points out that he had to drive the team's transporter during a strike that silenced the factory – and certainly it was a technology in its infancy. But Firestone ended the decade with 17 GP wins compared to, over the same period from 1966, Goodyear's 15 and Dunlop's 11.

Trevett's approach also advanced the rise of the road-racing slick: "Tread was king; we all thought traction stemmed from its exposed edges. Moulding was expensive, so tyres arrived as slicks and we hand-cut them. But during a 1968 Brands Hatch test with John Surtees in a Lola T100 F2 car, the control tyre – a slick – proved fastest. When I told Bob, he fired me on the spot for being an idiot. I asked him to call Surtees, who told him to rehire me and double my salary!"

Tread, however, would not play dead.

Alfa's GTAs used slicks in the ETCC – out of unplanned necessity, according to Bennett; by partial design, says Trevett with a chuckle – but these were slower, heavier cars on narrower, harder tyres. The slick's application in F1 was not straightforward – Dunlop had tried in 1966, but available compounds were too hard and the tyre lacked progression – and Firestone would not complete the transition until April 1971.

Instead, it spent much of this period of F1 attempting to cure a severe vibration, verging on a rumble, caused by increased torque and slip angles that wound up and then released the treads of its lower-profile tyres under acceleration. The cure remained elusive despite using a 400 frames-per-second camera.

"Data technology didn't work back then," says Wright. Rather its 'noisy' data was not entirely trusted. "So it remained an era when instinct counted for a lot. That, plus his ability to be fascinated by new technology while remaining intensely competitive and successful, was Colin Chapman's genius. He could envisage



"BOB FIRED ME FOR BEING AN IDIOT. SURTEES TOLD HIM TO REHIRE ME AND DOUBLE MY SALARY"

the whole car and – another real skill, this – inspire good people to make it happen."

Shrewd and practical Cooper began the revolution by rummaging through a local scrapyard for high-grade WWII-surplus aluminium and aero fittings. Its alumnus Jack Brabham created a new template by utilising his reputation, contacts and suppliers, plus Britain's expanding band of niche subcontractors – Coventry Climax then Cosworth, Hewland, AP Racing and Specialised Mouldings – to create a team immediately competitive at the top level.

And Lotus applied the science.

With help from a talented and influential group of de Havilland-trained racing enthusiasts – including the Costin brothers, aerodynamicist Frank and engineer Mike, plus, later, designer Maurice Philippe – the mercurial Chapman put a rocket under Grand Prix racing and, thanks to the Jet Age's transatlantic hops, Indy. Some projects flamed out. Others – the first modern (bathtub) monocoque (1962) and first fully integrated design (1967) – were elegant solutions, simple, light and stiff, that set Formula 1 and the sport in general on a bolder, steeper flight path.

"Motor sport doesn't invent very much," says Wright. "What it is very good at is taking something from aerospace developed using government money and adapting it, if necessary, and implementing and exploiting it quickly as a key technology. You can't be as experimental in aerospace as you can in racing."

❖

AS BRITAIN'S AEROSPACE INDUSTRY awoke to the dawning reality of working for a fading world power – the cancellations of Blue Streak, TSR-2 and a proposed supersonic version of the Harrier – many of the country's brightest young minds were attracted to the freer, faster-paced environment of more entrepreneurial motor sport. For not only had Chapman altered its mindset and skill sets, but also he had increased its reach and scope by dipping, as from 1968, into the pockets of commercial promotion.

In the US, meanwhile, Hall put Chaparral on hold after 1970. All the fan (sic) had been sucked from his sport when 2J, a competition reworking of a Chevy R&D experimental vehicle, was banned. Albeit too late. The ground-effect genie was out of its bottle and sealed, by sliding Lexan skirts, beneath a car that shattered all remaining preconceptions by being stupendously fast and shaped like a brick.

Wright took note and ran the model of his cancelled project in the wind tunnel (without moving ground plane) that he built at Specialised Mouldings in 1971. With impetus provided by the irrepressible Chapman and Rudd, now at Lotus, the idea eventually took root – Wright initially had joined Lotus's boat division in 1974! – and flowered as the skirted Type 78 'wing car' of 1977-78.

Mario Andretti gleefully informed the press that the car was "painted to the road". No doubt Lotus's race and development engineer, one Nigel Bennett, pressed America's greatest driver for more detailed information.

And now Hall took note. His innovatory streak piqued once more, he commissioned John Barnard, one of Britain's brightest, to adapt the concept to oval racing. From a front room in Wembley to Indy's Victory Lane in 1980, 2K represented the last successful Giant Leap of faith in racing's Analogue Age. M

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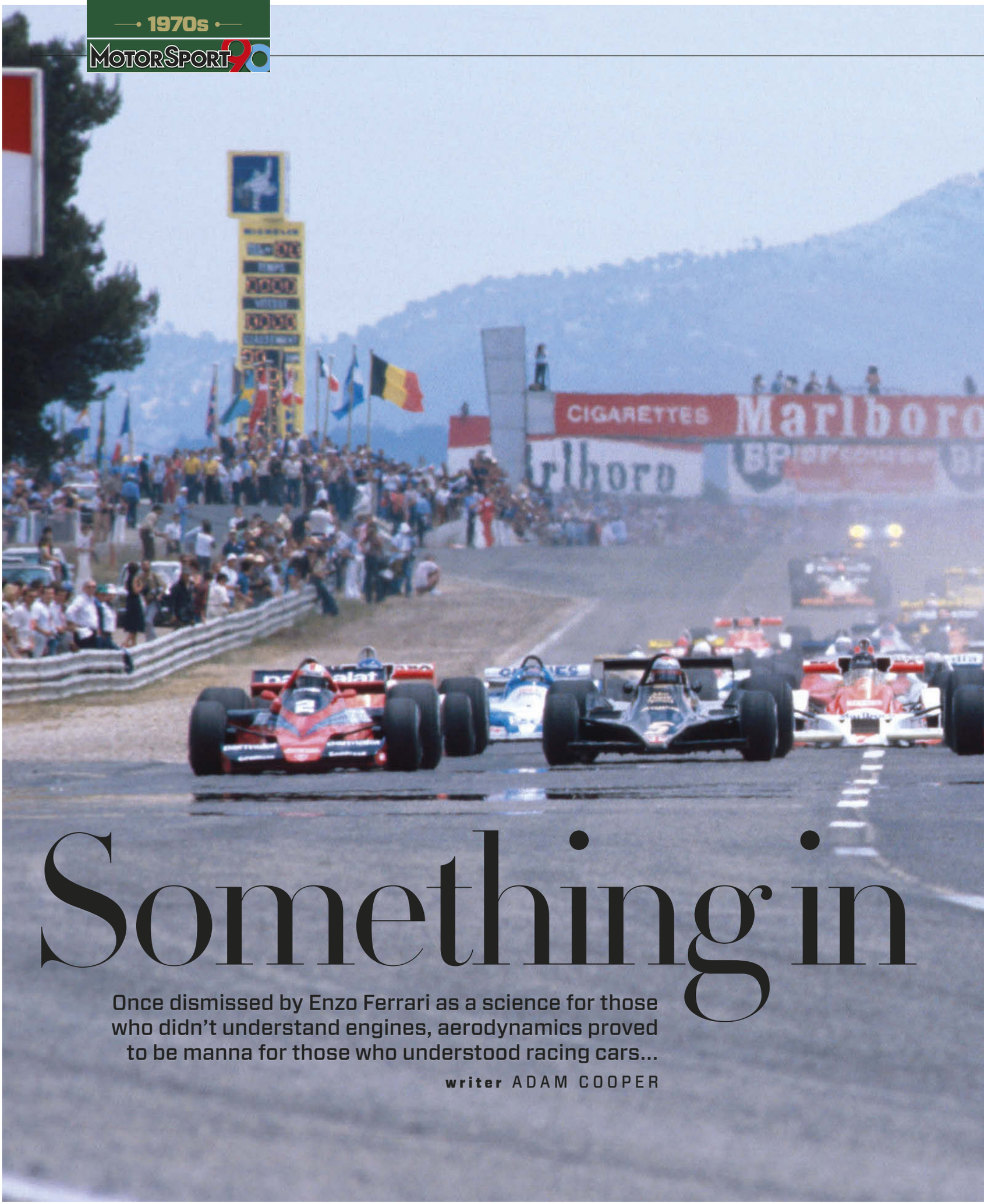
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1970s



Something in

Once dismissed by Enzo Ferrari as a science for those who didn't understand engines, aerodynamics proved to be manna for those who understood racing cars...

writer ADAM COOPER



the air

The start of the 1978 French Grand Prix at Paul Ricard, with Mario Andretti's Lotus 79 flanked by the Brabham BT46s of John Watson (left) and Niki Lauda

ALL IMAGES LAT

THIS WAS A PERIOD of tumultuous change for Formula 1– and the greatest developments came in the field of aerodynamics. Just consider the arc of evolution between the Lotus 49B, which Emerson Fittipaldi raced at Brands Hatch in 1970, and the Brabham BT49 that his countryman Nelson Piquet drove in the last two Grands Prix of the decade. The two machines shared similar designations and Cosworth engines, but otherwise had little in common.

Everything changed in 1977-78 when Peter Wright and his Team Lotus colleagues harnessed ground effect, first with the 78 and later the 79. Those cars moved the goalposts for ever, helping to forge an emphasis on aerodynamics and the pursuit of downforce that would intensify during the following years.

For decades, if car designers paid any attention to aerodynamics as opposed to styling their goal was purely to minimise drag. It wasn't all guesswork – prior to WWII Mercedes used a wind tunnel when developing its record-breaking cars. In the 1950s Jaguar designer Malcolm Sayer was a pioneer of efficient streamlining, while former de Havilland man Frank Costin was perhaps the first aerodynamic specialist to make an impact on Grand Prix racing with his work for Vanwall, although he wasn't formally qualified in the field.

As for downforce, there was a famous false start when Swiss engineer Michael May entered his bewinged Porsche 550 Spyder for the 1956 Nürburgring 1000Kms, only to have it outlawed after rivals objected. May gave up on his concept, but the genie was out of the bottle...

Nobody successfully followed up, however, until Jim Hall – backed by the might of the Chevrolet R&D department – added an adjustable spoiler to his Chaparral sports car in 1965. That led to the pukka high rear wing seen on the 2E Can-Am car in 1966.

"They were the first people who really got it," says Peter Wright. "The reason they got it is because they measured things on the car, like suspension deflections, and they had a very, very crude lap time simulator. It could tell them the car was lifting and then compute how much time was lost. Very quickly they realised what they needed was downforce.

"They went straight to the right solution for wings, which was to mount them on the uprights. They then played around a little bit with the underneath shape of the car – having realised it was generating lift, they went towards trying to get rid of that. So they got

1970s

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1 PORSCHE 917

Either in closed or open Can-Am form, short-tail or *Langheck* spec, this beloved monster is a true sporting icon. Scored first two of Porsche's record 16 Le Mans wins.



16%

2 LOTUS 79

The 78 was the ground-effects gamechanger, but this delivered on the promise, giving Mario and Ronnie a dominant edge in 1978.



13%

3 LOTUS 72D

Memorable in Gold Leaf colours, unforgettable in JPS black. Carried Emerson Fittipaldi to his first title. A design so good Lotus made it last six seasons.



Vic Elford's skirted Chaparral 2J Can-Am 'sucker' car at Riverside in 1970. The company first began to experiment with aerodynamics in the mid-1960s



the use of downforce. It was a combination of science, plus Jim Hall's innovation. And it worked partly because the tracks in America didn't have long straights, they were twiddly."

"I thought the Chaparrals were extremely interesting cars," says Tony Southgate, who worked for rival Lola. "But Europe was very slow in picking it up."

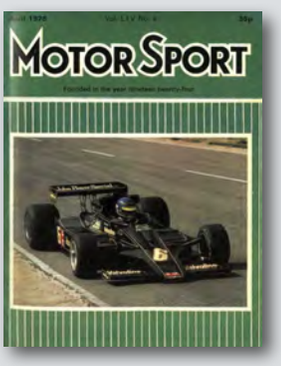
In 1967 the Chaparral 2F ran with a high-mounted rear wing in the World Sportscar Championship, famously winning at Brands Hatch. The F1 world could hardly fail to take note. BRM's Tony Rudd was one of the first to fully appreciate the gains to be had from aerodynamics. He'd learned a lot about the 2F from Mike Spence and, even before F1 cars began to sprout wings in 1968, BRM had engaged Dr John Harvey, head of the aeronautics department of Imperial College, for some consultancy work. Although some teams made use of scale and full-size tunnels at MIRA, or other facilities such as that at Kingston Technical College, Imperial was key to what followed.

Rudd also hired Cambridge graduate Wright, the first formally qualified aerodynamicist to work full time for an F1 team – a distinction he would retain for some years. Rudd and Wright understood the principles of ground effect long before the phrase became common parlance in motor racing circles. Wright was particularly influenced by John Stollery, another Imperial man who had consulted on Donald Campbell's car and boat projects.

"In the '60s we had Jim Hall and Chaparral," Wright says. "And there was a guy called Buckley in the States, who had a modified Citroën DS in which he was sucking the boundary layer from underneath of the car and



"THE MARCH 701 RACED IN A CONFIGURATION ONE STEP AWAY FROM SPARKING A REVOLUTION"



ARCHIVE // FROM *MOTOR SPORT* APRIL 1978

THE SOUTH AFRICAN Grand Prix certainly was a remarkable race, with five different drivers leading in turn and the winner leading for the last half a lap. Even more remarkable was the fact that Peterson won the race from the sixth row of the starting grid; the whole affair was a classic example of how unpredictable Formula 1 racing can be and a good indication that a driver should never give up hope. Too many drivers in Formula 1 over the years have settled for not winning even before the race has started, yet everyone knows the age-old rules about racing, such as "never give up trying", or "the race isn't won until the chequered flag falls". Peterson's performance throughout the race was exemplary and a wonderful example to all budding racing drivers. He lost most of the first day of practice doing development driving with the Lotus-Getrag gearbox, which is showing signs of being very good when the bugs are ironed out, and on the second day when everything went right for him, the wind and track were against fast times. Although he made a good time for the conditions, it did not compare with the first day's good times. This was why he was back in row six on the starting grid.

In the race he found his Lotus was lacking in top speed compared with cars around him, like the Williams, Ligier, Ferrari and Renault, but it was handling beautifully. What he made up on the bends the others pulled back on the straight, which is why he took so long to break away from the midfield bunch. On that final exciting lap he was able to use the Lotus's handling to the full in his chase of Depailler's Tyrrell and was happy to take corners on the wrong line and 'sit it out'. As the two cars went into the right-hand Sunset bend side by side, Hector Rebaque's Lotus 78 was ahead of them and it seemed he was going to be in

measuring pressures. Lotus and Colin Chapman funded him. I think one day Fred Bushell said, 'This is a waste of money, we have to stop it!' The other key guy was John Stollery, who did the seminal work on a bluff body, like a car, and what happens when you bring it near the ground. And in that paper is ground effect."

Rudd gave Wright the task of developing a BRM that didn't generate its downforce from high wings, which were banned amid much controversy during the weekend of the 1969 Monaco GP. "Tony Rudd said, 'I hate these wings, go and figure out how to make the body produce the downforce'. That was the clear objective he set. I started ferreting about and I designed a 'wing car'."

The project was carried out amid some secrecy within the politically charged BRM camp. However, everything changed in the organisation when John Surtees arrived, followed by new chief designer Tony Southgate. Rudd soon left for Lotus.

"They had a car in the system that was referred to as a wing-car," says Southgate. "They'd made a wind tunnel model and were going to Imperial College. I looked at the project and thought it was so way out compared to anything else. The sidepods were like a great big aerofoil, and had the radiators in them. It had quite a high centre of gravity, which was a bit worrying. I was too scared of this project and thought I'd be dead if it didn't work. So I decided to make a more conventional car."

Wright did at least get as far as testing his wing-shaped sidepods on a standard P139.

"We ran a car with pannier sidepods, which were empty," he says. "We measured some pressures and figured out that they didn't do any harm, but they didn't achieve very much."

"The car didn't go any quicker," Southgate adds. "Nobody had realised at that stage that if you sealed the shape to the floor, so the air didn't spill in from the side, you generated low pressure and you wouldn't lose it. It would then react on the rest of the car and pull it into the ground. Later Peter said to me, 'It's lucky we didn't make that car, because it wouldn't have worked!"

With his project canned, Wright left BRM to join Specialised Mouldings. When the company was engaged to supply the fledgling March Engineering with bodywork, his BRM sidepod design was recycled for the new 701.

"I showed a picture of the BRM to Robin Herd," he recalls. "Robin said, 'We need more fuel tank capacity, make some like that'."

The 701 thus raced in 1970 in a configuration that was one step away from sparking a revolution, although nobody knew it at the time. Wright also built a wind tunnel at Specialised Mouldings – years later it would be acquired by Williams – and continued to conduct experiments.

"I did a lot of work underneath sports cars, for Lola and Eric Broadley. I also did a very interesting project on a racing hydroplane boat, which was a ground-effect lifting device."

❖

IN 1970 CHAPARRAL UNVEILED THE 2J 'sucker' Can-Am machine, the first racing car to successfully harness ground effect, albeit somewhat artificially. The concept, developed by Chevy in Detroit, was quickly outlawed.

Southgate continued to use Imperial through his BRM days and, after he joined Shadow, worked closely with the university's leading lights, John Harvey and Peter Bearman.

"We used to call a lift force towards the ground 'negative lift'," recalls Bearman, now a professor at Imperial. "But Tony wondered how many non-aerodynamicists would know what that meant. John and I had a brief discussion about it and we said to Tony, 'OK, in future we will call 'negative lift' downforce.' He liked the term and we never looked back. Whether this was the first use of the term 'downforce' in connection with racing car aerodynamics, we shall never know."

A major breakthrough came in 1974, when they decided to utilise an ex-Farnborough rolling road that had been in place since Stollery used it for his pioneering ground-effect research. However, it had never been used for racing car development because nobody had appreciated its potential. Wind tunnel testing suddenly had far greater relevance and Southgate was first to take advantage.

"The DN5 was the first F1 car developed on a rolling road," he says. "You realised that all the figures you'd been working with were wrong, they were 10-20 per cent out. Aerodynamically, of its time, it was the best car. It had a very efficient aerodynamic split. Nobody knew about that – you could have a lot of downforce, but if it was all at the back, it was no use. You had to have it roughly in the same split as the centre of gravity, 40/60 or something of that nature."

Despite the efforts of Southgate and his contemporaries, F1 aero development had stalled – it spoke volumes that cars like the Lotus 72 and McLaren M23 could be competitive for season after season. But that was about to change.

Rudd had recruited Wright to Lotus, and

the way, but in fact Peterson never caught the private Lotus in that last half a lap. This was not because the little Mexican pulled out a phenomenally fast time, his best lap was 1min 19.53sec on lap 53, but because Peterson and Depailler were going relatively slowly in their wheel-to-wheel dice. When you are on the wrong line through a corner, sliding about and banging wheels with another car, you cannot be near the limit. It was exciting to watch, but was being done at the pace of the slowest cars in the race. This does not detract from Peterson's performance, it was heroic stuff and I wouldn't have missed it for anything. Afterwards, Depailler said: "Ronnie was very determined..."

Of course, the big question was why Andretti had run out of petrol at the crucial moment, and this time the answer was simple and uncomplicated; he did not start with full tanks, and the decision on that one was made by Mr Lotus himself. Yes, Colin Chapman can make mistakes like the rest of us. A miscalculation, an error of judgement, an obsession to save 30lb of weight, desperation to win, it could be any or all of these things. One thing about Chapman is that he gets it right more times than he gets it wrong, unlike some people who seem to be wrong all the time. If he had taken as long as Watson or Reutemann to get past the "yellow chicane", he would never have been in the right position at the right time to take over the lead on lap 27.

A lot of people wondered why Reutemann, Ferrari and Michelin did not shine like they had done in Brazil, but they probably overlooked the fact that in South Africa there were a whole new set of circumstances. The T3 was in its first race and is a completely new design. Having little or nothing in common with the established T2s, it wasn't that bad.

A disturbing trend that has spread this year is that of allowing 'graphic artists' to influence the racing numbers. Numbers on a racing car are principally for the benefit of the time-keepers and spectators and should be simple and clear to read. Too many of the cars at Kyalami had numbers painted on by the team's 'graphics man' who viewed the number as part of the overall design, so they were anything but clear to read. Those on the Brabhams were poor, those on the Lotuses looked identical when glimpsed at 175mph. The Ferrari numbers were placed on a sharply curving surface so that only one digit could be seen from some angles and many more had funny-shaped numbers that could be confused at speed. A number looked all right in the paddock, but in a 150mph corner or on a 175mph straight it did look different. If the time-keepers miss a lap the teams get very excited; if spectators cannot read the numbers the teams couldn't care less. Illegible numbers are irresponsible. Let's hope the CSI takes its foot out of its velvet boot and gives Mr Ecclestone and his lot a kick up the backside. *DSJ*

in 1975 had given him the task of creating what would become the 78. Working closely with Ralph Bellamy, he set to work at Imperial, taking full advantage of the rolling road.

"We started the Lotus programme by asking what we wanted to put in front of the front wheels," says Wright. "We played around a lot with noses and wings, and played around a lot with the position of the wings relative to the wheels and the ground. All that correlated with the Stollery data. The key to a ground-effect car is getting control of how much air goes over the car and how much goes under. And then you've got to shape the underneath."

What Wright and Bellamy ended up with was something akin to the BRM/March 701 wing sidepod shape, but now enclosed in a box-like section. One day downforce caused the model's sidepods to sag downwards, a result of high temperatures compromising the clay and sticky tape construction. The gap to the rolling road was inadvertently sealed, and downforce numbers jumped up.

"We noticed that the readings were changing during a run," Wright says, "and then we saw the things moving. Then we wire-braced the sidepods, and put some cardboard skirts on, with a tiny clearance underneath so they didn't rub on the belt. And the forces just went berserk. And we said, 'Of course!'"

The principle of skirts sealing the edges of the sidepods had been discovered – although there was still much to be learned. F1 teams had been playing around with various forms of skirt for a while, although little was really understood of what they achieved. They also tended to wear out, which had been a problem with the Chaparral 2J, the first skirted car.

"The next few years were about how to seal them effectively. I spent a long time developing skirt systems, mounted on the back of a Renault 4 van, running around Hethel airfield. I was hanging out of the rear door, watching..."

After early experiments with brush skirts, Lotus eventually found a solution. A key breakthrough was the use of a ceramic material as a rubbing strip, as recommended by a helpful academic from Imperial's Royal School of Mines.

"Nobody else knew what the hell was going on," says Southgate, who joined Lotus as the 78 was being developed. "Lotus was the only team that could understand it. People thought the car went quickly for other reasons."

The 78 proved successful in 1977, winning five races. It was just the starting point for the following year's 79, which would prove so dominant in the hands of Mario Andretti and Ronnie Peterson.

"The 78 was the car in which we sorted it all out," Wright says. "Then Colin went off to Ibiza on holiday and came back with some sketches. He said, 'Forget the 78, this is what we're going to do next'. He did the tub, the central fuel tank and all that, and basically

1970s

GREATEST DRIVERS

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27%

1 NIKI LAUDA

'The Rat' was astute, cunning – and fast. Would have scored a title hat trick for Ferrari, were it not for 'that' accident.



26%

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Defined the parameters of the modern professional, on and off the track. For all the safety crusading, we must never forget how quick and brave he was.



15%

3 GILLES VILLENEUVE

A whirlwind of talent, who blew James Hunt's socks off in Formula Atlantic. McLaren let him slip away to Ferrari and a legend was born. Outscored Mario Andretti and Ronnie Peterson in our poll...



Mario Andretti and Ronnie Peterson (foreground) cement a Lotus 1-2 in the 1978 Dutch GP, as Colin Chapman performs his cap-throwing victory routine in the distance

defined the layout of the current Grand Prix car. But I've got better memories of the 78. It was a time when we were making real strides every time we went out.

"With the 79 the rest of the car was quite compromised, so there was a lot of time spent sorting it out. It had magnesium callipers, which used to 'gas' when they got hot, and it had exhaust pipes that fell off because they got too hot. In some ways the underneath of that car was too extreme, and it took quite a lot of sorting out. We started to learn where the limits were."

Rivals scrambled to find out how the Lotus worked. One avenue for development was represented by the Brabham BT46B fan car, partly inspired by the Chaparral 2J, and so brilliantly executed by Gordon Murray. Wright and Chapman had begun to explore a similar route before peer pressure forced Bernie Ecclestone to withdraw the car after its 1978 Swedish GP victory.

"We developed a model where we put a fan



"I SPENT A LONG TIME DEVELOPING SKIRT SYSTEMS, MOUNTED ON THE BACK OF A RENAULT 4 VAN. I WAS HANGING OUT OF THE REAR DOOR..."

in the exit of each tunnel," Wright says. "We didn't get very far proving it, but the concept was that the fans would work at low speed and the airflow through the tunnels would work at high speed. Mario had reported back that the Brabham was better at low speed, he was better at high speed. We wanted both!"

In 1979 Chapman and Lotus overstepped the aforementioned limits with the 80, which was launched with no wings and full-length skirts. It didn't work: "That was typical Colin," Wright says. "He just wanted more, more, more! It started to porpoise. We couldn't control the skirts properly."

The fact that pioneer Lotus could lose the plot indicated just how complicated the pursuit of ground effect had become.

"It was such a new art that every time you went near a tunnel you came out with something different," says Southgate, who had moved on to Arrows. "It was inevitable because nobody knew what you were looking for, or what was the best."

❖

THE TEAM THAT TOOK THE GROUND-effect car to the next level in 1979 was Williams. Patrick Head knew that Lotus used Imperial, so in the summer of '78 he simply rang up and asked for the Department of Aeronautics. A receptive John Harvey said there was indeed some spare tunnel capacity, alongside regular customers Lotus and Arrows. A young engineer called Ross Brawn oversaw the programme for what was to become the FW07.

"It was myself and Nigel Buckingham, who was actually the pattern maker for all of the bodywork," Brawn says. "He became the model maker, because there was no one else to do it. Then Frank Dernie came along, and that was about it, just two or three of us cobbling these models together and going off to Imperial College.

"The key was that it had a moving floor, and that opened up a better understanding of ground effect and how influential it was. The tunnel had a fairly crude balance system for measuring the loads. It was like a set of scales you stand on and then slide a brass weight across until it's balanced. The first time we ran a ground-effect model we moved the scales and ran out of range. We were convinced there was something wrong with the system, because the numbers were far too big. And then it slowly dawned on us that this was the reality, and we understood why the Lotus was so quick..."

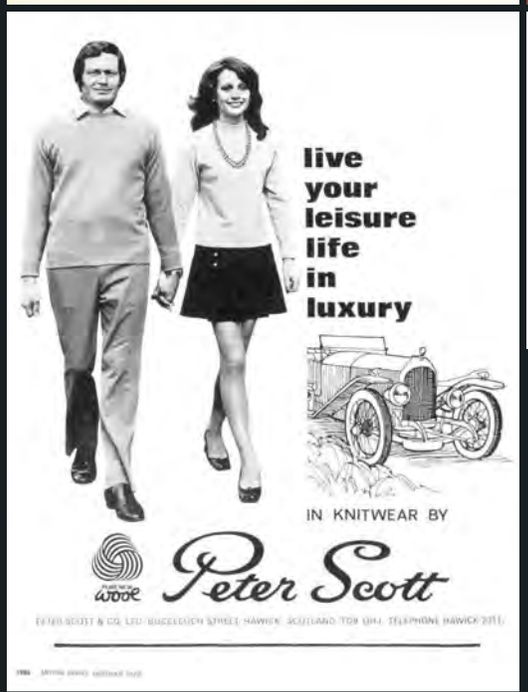
Dernie was an Imperial graduate, but like most people coming into F1, he was a mechanical engineer. Brawn himself had no specialist aero qualification. "I'd taken a personal interest in aerodynamics, and I'd bought all the classic books, which I've still got somewhere. John Harvey and Peter Bearman were two prominent characters and I formed quite a strong friendship with them.

"In the early days, when I was there by myself before Frank arrived, they used to spend a reasonable amount of time with me in the tunnel, discussing principles."











1970s

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"Ross was responsible for model changes which involved climbing in and out of our relatively small Donald Campbell Tunnel," says Bearman today. "He never once complained!"

"It was pretty empirical for everyone in that period," adds Brawn. "In those days, an understanding of a racing car and a rudimentary understanding of aerodynamics were quite a powerful combination. I don't think teams had any great inclination to employ [qualified] aerodynamicists, because people didn't think they understood racing cars well enough. They knew the theory, but unless they knew how to apply it they'd sit there and tell you the minutiae of some aerodynamic aspect, but they couldn't translate that into reality."



Clay Regazzoni scored the Williams FW07's maiden win – a first for the team, too – at Silverstone in '79

That was about to change, and one man would spearhead a revolution. As the Williams FW07 emerged as the sport's dominant force in the latter half of 1979, taking over from where Lotus had left off, an ambitious aeronautics student was in the final year of his course at Southampton University – home of the UK's second moving ground wind tunnel, after Imperial.

"Typically Brabham used it one week a month, and March one week a month for their F2 and Indycars," Adrian Newey says. "They were reasonably open, so I was able to talk my way in to watching the tests. Towards the end of the autumn of 1979 McLaren started using the tunnel, and that was definitely a case of no students allowed!

"The models were very basic metal and wood, no ride-height adjustment systems or anything like that. I did my final year project on ground effect applied to sports cars, and I managed to wheedle about four days and then a further two days in the tunnel with my model."

Keen to find a job, Newey wrote to all the British F1 teams, but the only reply came from Fittipaldi's Harvey Postlethwaite. When Adrian showed up for an interview wearing bike leathers, Postlethwaite recognised a kindred spirit. If he'd harboured any doubts hiring a nerdy aero graduate they were forgotten. Newey started work in July 1980.

"My project helped me get that first job at Fittipaldi." says Newey. "I was hired as junior aerodynamicist, but when I started it turned out to also be senior aerodynamicist! The aerodynamics team was me, as a graduate, straight out of university, and a model maker.

"We were using Imperial one week a month. The wind tunnel was underneath a lecture hall and, of course, the strut was suspended from above the tunnel. When lectures changed the ride height of the model changed. There was a period around 2pm when you had to stop, wait for the lecture hall to fill, reset the ride height and carry on...

"It was a period of huge change, using very few people. Now if we find something that's one per cent better, it's a huge step, whereas then you could find 10 per cent at a time. There was a lot of detail about skirts that I don't think all the teams got right, which I think probably singled out the Brabham and Williams as being the best cars of that era, simply because they had the best skirt systems."

Newey later took a sideways career step when he left Fittipaldi to join March. Overseeing sports car and later Indycar projects, and engineering cars in the field, he acquired knowledge in all areas – but at heart, he was an aero man. At March/Leyton House and later Williams Newey would emerge as master of the art, the man every team wanted, and who every student aspired to be.

F1 teams acquired their own wind tunnels and, later on, super-computer facilities. As aero departments grew they became increasingly populated with graduates from Imperial and Southampton.

"I think when CFD came along and aerodynamics became ultra theoretical, it went beyond the range of someone like me," Brawn says. "Now you have young aerodynamicists being brought into organisations that are big enough and robust enough to give them the right knowledge and training they need to apply their theory.

"The aero side actually peaked when I was at Ferrari. We had almost 200 people involved. Ferrari was really the first team to go 24/7, before there were FIA restrictions. We had three or even four teams all working with their own models, all under the control of the chief aerodynamicist. We just took it to a different level, because we realised that it was the most important performance factor. Ground effect had first woken everyone up as to how important and critical it was."

It can all be traced back to the work of a handful of pioneers. "I met Jim Hall once, at the Festival of Speed," Wright says. "He was this wonderful tall Texan and you couldn't miss his Stetson. I went up to him and said, 'You're Jim Hall, I'm Peter Wright. I think between us we wrecked motor sport!'"

> "NEWEY WROTE TO ALL THE TEAMS, BUT THE ONLY REPLY CAME FROM FITTIPALDI"

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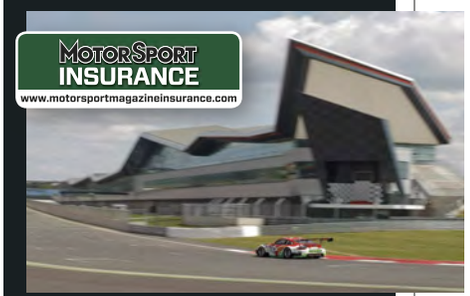
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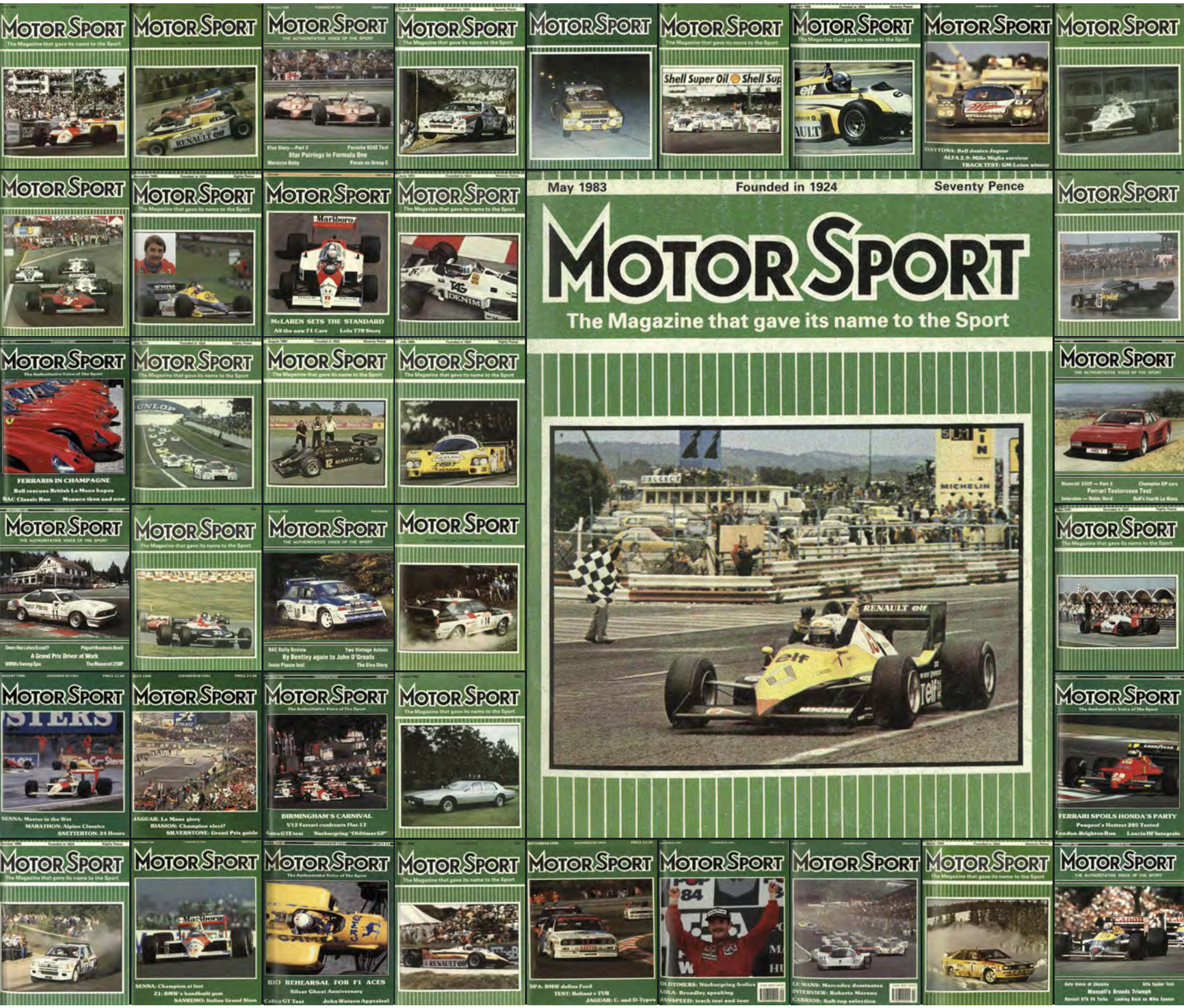
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MOTOR SPORT
The Magazine that gave its name to the Sport
May 1983
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MOTOR SPORT
The Magazine that gave its name to the Sport

1980s



Holding on for the ride

Power was king, but its generation was often more subtle than the wider world appreciated. Irrespective of methodology, the spectacle was absolute

writer SIMON ARRON



MICKEEN

PORTUGAL, 1984. It is early evening and teams are taking part in the recce for round three of the World Rally Championship. For the first time, Juha Kankkunen is being co-driven by Fred Gallagher in one of Toyota Team Europe's Celicas, hardly the last word in flame-spitting Group B cars but still capable of pumping 400bhp through its rear wheels. "As we set off," Gallagher recalls, "Juha said to me, 'Just wait until you see this'. As we started a stage he gave it full throttle, turned off the headlights… and there was the turbo, glowing white-hot beneath the glass-fibre bonnet."

Fast-forward four years to Silverstone, where Roberto Moreno is testing the Bromley Motorsport Reynard that will carry him to that season's FIA Formula 3000 title. Heading into Becketts the Brazilian slices past a Ford Sierra RS500, staple of the period's front-running touring car teams, but is a touch bemused as the turbocharged tin-top hauls him back in along the Hangar Straight. By the late 1980s, there were 15 or more RS500s on British Touring Car Championship grids: the quickest had about 520bhp… and rising.

Motor sport and conspicuous excess have always gone hand in hand, but brute force has rarely been more nakedly apparent than it was during the 1980s, when Formula 1's first turbo era peaked before being legislated into oblivion. In rallying, meanwhile, Lancia used both supercharger and turbocharger to improve driveability and extract the best part of 500bhp (and some say more) from the 1.8-litre four-pot in its Group B Delta S4, although the FIA enforced tamer regulations from 1987. The trigger? An accident during the 1986 Tour de Corse, when superstar Henri Toivonen's S4 tumbled into a ravine and exploded, the Finn and co-driver Sergio Cresto being consumed within.

❖

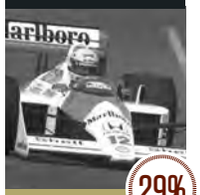
THE ROOTS OF THIS POWER QUEST CAN be traced back to the late 1970s, when Renault pioneered use of turbocharging in F1. The rules permitted engines of 3 litres with natural aspiration or 1.5 with forced induction, an avenue that remained unexplored until the French stepped in.

"The 1.5-litre turbo was the best option available to us," says Bernard Dudot, one of the engineers pivotal to its development. "We didn't have the budget to develop a completely new engine, so had to take an existing 2-litre V6, from our sports car and F2 programmes, and modify it one way or another."

1980s

GREATEST CARS

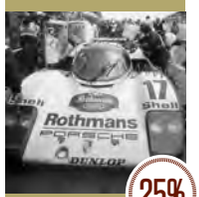
WEBSITE POLL RESULTS



29%

1 McLAREN MP4/4

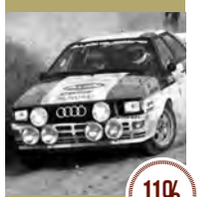
Abetted by Honda power, Prost's brain and Senna's commitment, has there ever been a more potent F1 cocktail? One Jean-Louis Schlesser trip away from a GP clean sweep in '88.



25%

2 PORSCHE 956/962

Among the most familiar silhouettes in sports car racing history: won seven straight Le Mans 24 Hours (1981-87) and countless other races. Dominant is too weak a word.



11%

3 AUDI QUATTRO

All-wheel-drive pioneer with wonderfully distinctive five-cylinder soundtrack and great reputation, but won only four world titles (two apiece for drivers and manufacturers).



Health and safety conspicuously absent at Le Mans in 1982, as the works Porsche 956 of Jacky Ickx and Derek Bell leads away en route to victory

“THE 956 WAS THE FIRST THING
I RACED AFTER LEAVING McLAREN.
IT WAS TORQUEY, WITH LOTS
OF DOWNFORCE”



LAT



The most straightforward solution was to reduce its capacity and bolt on a turbo. Dudot says, "We were helped a lot by François Guiter, from Elf, who backed the careers of so many promising young French drivers at that time. He paid for two experimental engines.

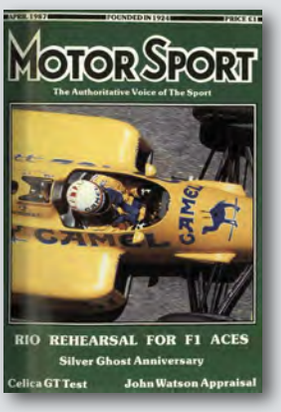
"Our first priority was reliability. It was a major undertaking, but we had a small, young team – headed by François Castaing, Jean-Pierre Boudy and myself – and what we lacked in experience we made up with enthusiasm. We didn't really know what kind of loads we'd be putting through pistons, cranks and so on – and none of our suppliers had dealt with this kind of power in the past.

"We started out with very simple mechanical injection and very little turbo response, having to guess at the air/fuel mixture and so on, but gradually we fine-tuned things. Jean-Pierre Jabouille was excellent at engine development and knew the 2.0 V6 well, but the signs weren't always encouraging. Once, we were testing at Jarama and Jean-Pierre said the engine reminded him of a Renault 4 along the straights… but then all its power kicked in just as he reached what should have been the braking zone. He wasn't sure he'd ever be able to race it."

The Renault RS01 performed modestly on its race debut at Silverstone in 1977, coming to a smoky halt when the turbo failed after 16 laps, but it took only two years for the technology to prove its winning potential – Jabouille taking his RS10 to victory at Dijon in '79, a race remembered less for that than the battle between his team-mate René Arnoux and Gilles Villeneuve for second place – and within two more almost everybody else was fighting to catch up. "The big breakthrough," Dudot says, "was switching to Renix electronic injection and twin turbos."

Over in the World Rally Championship, they had both turbocharging and four-wheel drive. Or at least, Audi did.

"Björn Waldegård turned down an Audi deal for 1981," Fred Gallagher says, "because he wasn't convinced the Quattro was going to be all that good! I'm not sure Hannu Mikkola believed in it either, but he signed because they were paying so well. On the first stage of that year's Monte, though, Hannu was fastest by minutes rather than seconds over 45 kilometres.



ARCHIVE // FROM *MOTOR SPORT* APRIL 1987

WITH THE FIRST GRAND Prix of 1987 only a few days off, the line-up has been announced officially by FISA. There are two cars each from McLaren, Lotus, Williams, Ferrari, Ligier, Benetton, Arrows, Brabham, Zakspeed and Minardi, plus one Osella: all have turbocharged 1.5-litre engines. The remaining five places will be filled by cars complying with the new category of 3.5 litres without turbochargers or superchargers.

These will represent the beginnings of the new formula due to come into effect in 1989, in which turbochargers will be banned and engines limited to 3.5 litres. They will comprise two Tyrrells, one March, one Larrousse and one AGS, all using versions of the long-in-the-tooth Cosworth V8, known as the DFZ. They will compete among themselves for their own championships (the Jim Clark Cup for drivers and the Colin Chapman Cup for constructors), and will race concurrently with the turbocharged cars. Most front-running turbocharged 1.5-litre engines have 800-900bhp in race trim, and with the best will in the world a DFZ will not have more than 580bhp, so we must keep our fingers crossed that nobody gets hit...

The turbocharged engines will be fitted with a boost-control valve supplied by FISA and set at a maximum 4 bar, this limit being enforced in qualifying and the race. It is all a bit academic as few teams have exceeded 4 bar, and certainly not in race trim. The media erroneously refer to these control units as 'pop-off valves', which is precisely what they are not, as they do not suddenly pop off at 4 bar and release all the pressure. They fade the pressure progressively, in the same way that a rev-limiter fades the ignition, rather than cutting it off. These units are manufactured in the USA and will be issued to the teams at random; they must not be tampered with, it says!

Having banned two-stage turbocharger layouts, and now having put a limit on boost pressure, FISA feels it has controlled the power outputs of F1 engines. With Goodyear imposing a one-specification tyre, and fuel tanks being left at 195 litres, it looks as though F1 is going to be slowly strangled during 1987. I hope the engineering concerns



Brute force: Walter Röhrl won the 1985 Sanremo Rally in his Audi Quattro S1

MCKLEIN

That rather opened everybody's eyes.

"Ahead of the event, Henri Toivonen and I were making pace-notes in our works Sunbeam Lotus when Michèle Mouton pulled up alongside in her Quattro and challenged us to a drag race. We looked at each other, thinking, 'Right, we'll show her', but then she was gone. The writing was on the wall…"

Three years later, Gallagher won in Cyprus alongside Quattro driver John Buffum – the first time an American had won a major FIA rally outside his homeland (when *Road and Track* profiled Buffum in November 2012, it pointed out that America had put more men on the moon than it had produced points-scorers in the WRC). "One of the stages was so twisty that we averaged only 47kph," Gallagher says, "but we had so much traction that we still beat everybody else by a minute."

Back on track, Formula 1's long-standing Cosworth customers were gradually finding new partners to help them embrace the technology introduced by Renault and embraced by Ferrari and Toleman (with Hart) in 1981. Brabham was first to make the move, with a four-cylinder BMW during 1982, while Lotus struck a customer Renault deal for '83 and McLaren phased in a Porsche-designed 1.5 V6 financed by team partner TAG.

"Niki Lauda was supposed to test the car first," says his 1983 team-mate John Watson, "but he was in Ron Dennis's bad books after saying something out of turn, so I was dispatched to Porsche's test track at Weissach.

"My first recollection is of the horrendous throttle lag – you had to anticipate the power coming in by a whole second or so. Porsche said it hadn't noticed any such problems and pointed me towards a fairly scruffy 956 Group C car, to which they'd also fitted one of the new F1 engines for test driver Roland Kussmaul to evaluate. I tried it and found far less throttle lag, but there was a Vesuvius-style eruption when Ron and [designer] John Barnard turned up. TAG was paying and Porsche was simply a service provider, so apparently had no business sticking the motor in a 956! I suspect someone got a severe bollocking for that.

"The F1 car made its debut at Zandvoort, with Niki, but I had one by Monza. The lag was still there, although it had improved, but it was a pig to fire up because of the sequential injection. You needed the engine to spin at high speed to get fuel into the cylinders and the starter didn't always turn it quickly enough.

"The conventional balancing act with a DFV car – brake, turn, apex, exit – was all about rhythm, but at that stage it was difficult to achieve with the turbo. There were momentary flat spots in the power curve and you had to completely rethink the driving process. It had about 750bhp in its infancy – and that was quite a step from the 510-515 I'd been used to with the DFV."

Watson wouldn't enjoy the TAG-Porsche's best years – he lost his seat to Alain Prost for 1984, the first of three straight title-winning seasons for McLaren – but found refuge in sports car racing's Group C era, in which Porsche *was* allowed to mate cars and engines.

"Those things were pretty powerful," Watson says. "The 956 was the first thing I raced after leaving McLaren. It was a quick, torquey car with lots of downforce, although extra weight counted against its nimbleness – relatively speaking. In the mid-80s, though, I remember testing a Jaguar XJR-6 at Paul Ricard and Jonathan Palmer was there in his Formula 1 Zakspeed. He was obviously quicker than us

behind the sport do not get bored and leave. Although it looks a bit gloomy on the face of it, I suspect the engineers will find ways of improving things so that their drivers can lap the circuits faster than last year. If you cannot go faster than you did last year, it might seem a bit pointless to go at all.

With Goodyear reducing its F1 involvement, the extravagant winter testing sessions have been drastically reduced, though teams like Lotus and Williams have been pretty active.

For what it is worth, for you never know exactly what teams are up to in private testing, the Williams team looks like carrying on where it left off in 1986 and has the big advantage of not having been forced to make any major changes. The FW11B is a logical development of last year's successful cars, in the same way that McLaren is continuing with a further development of John Barnard's brilliant MP4. Barnard is now at Ferrari, trying to sort out an interim car with a new 90-degree V6 engine in place of the 120-degree unit used previously, and an in-line gearbox rather than the transverse gearbox used for so long.

The new Lotus 99T will have Honda power of equal potential to Williams, and Benetton is starting an exciting new phase as it begins racing with the Cosworth-designed Ford V6 turbocharged engine, which showed good promise in the Carl Haas Lolas last year. While the tail of the Grand Prix field might be a little dull, there will certainly be no shortage of excitement up at the front. Nelson Piquet and Nigel Mansell will continue the Williams-Honda attack, Ayrton Senna will spearhead Lotus-Honda, Alain Prost and Stefan Johansson will have Porsche power in their McLarens, Michele Alboreto and Gerhard Berger will have the best of Ferrari, and Teo Fabi and Thierry Boutsen will have the Ford-powered Benettons. Any one of them could be on pole position for the Brazilian GP on April 12. We might be in for some stifling of technical progress in the immediate future, but there is no stifling of driver talent. "If you can't beat them, join them" is an old saying and it looks as if Bernie Ecclestone has applied it. A few years ago he thought that he and his Formula One Constructors Association could go it alone and break away from FISA and the FIA. Ecclestone and Mosley actually drew up and printed rules for their own championship, but it fell flat on its face. Ecclestone ran the FOCA part of the FIA World Championship entry, and FISA looked after the manufacturers' teams. By a mutual trust/distrust situation, FISA and FOCA buried the hatchet (in each other's heads, some would say) and worked together to everyone's benefit, with the result that the F1 World Championship has maintained its position as the top branch of motor racing, regardless of what some US enthusiasts like to believe.

Now the FIA has invited little Bernie to join it in an official capacity, that of vice-president ofpromotional affairs, and he has accepted. His job is to push the various championships. Some are in the game for business, not sport. I suppose we can view Ecclestone's new position as FIA marketing managing.

Bernie marketed F1 to the world, in spite of the FIA. Now he has joined it, the sky will be the limit. A Grand Prix on the moon next? After all, we now have a Grand Prix behind the Iron Curtain, and who thought that was possible? Our Mr Ecclestone, bless his little heart. *DSJ*

through the corners, but couldn't keep up along the straights.

"My favourite memory from that period is probably the 1984 Fuji 1000Kms. Derek Bell and Stefan Bellof usually drove together, but Derek had a chance to win the IMSA title and was competing in the States, so I was asked to fill in. It wasn't an easy race, absolutely flat out from start to finish, but Stefan was unbelievably quick in those things and everybody in the team absolutely adored him. He was a lovely guy, devoid of bullshit and politics. It was nice to share one of his wins as he headed for the title."

❖

WILLIAMS WAS AMONG THE LAST OF Formula 1's traditionalists to abandon its Cosworth roots, introducing the Honda-powered FW09 at the end of the 1983 campaign prior to its full-time adoption.

"Most of the pathways to extend the life of a DFV-powered car had by that stage been closed off," says Patrick Head, then the team's technical chief. "I've no wish to sound bitter about it, but most of the political power seemed to be with the manufacturer teams, Ferrari and Renault with their turbos, and I think they were a bit irritated that we'd been able to hang on to them for as long as we had with our DFVs.

"When our first Honda engine arrived, it was basically just a block, with the heads attached and then two turbos in a box. It didn't come with any technical information. We were still communicating by telex at the time, so I sent a message to Japan, asking what they wanted us to do about thermal balance and so on. I still have the response, which read 'Please make what you think'…

"We had to do rather a lot of research to find out what might be required. We had all sorts of installation problems initially, but were getting on top of things by about mid-1984. Before that it had been all about understanding how to keep the engine cool and building a gearbox that was strong enough to take the torque.

"We'd also moved to flat-bottom rules, which made it more difficult to create downforce. There was a small rear diffuser, but its effectiveness was very limited. We did have big wings on the cars, but they weren't as crude a solution as they might have appeared. It took a lot of work to get a good aerodynamic flow and they did their job very well. It was quite a refreshing time in many ways and very interesting, with lots of practical engineering solutions required."

Last of the F1 converts was Tyrrell, which began using a Renault turbo during the summer of '85 and for a while let drivers Martin Brundle and Bellof alternate between that and the sport's final DFV.

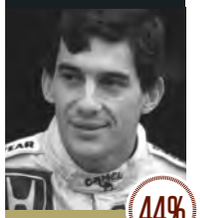
Just how powerful were the turbos? Precise figures are tricky to define.

"We started with about 520bhp," Dudot

1980s

GREATEST DRIVERS

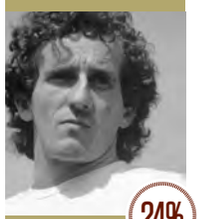
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44%

1 AYRTON SENNA

There have been many fast drivers over time, but few quite this brisk – and far fewer with even a fraction of his charisma. Sometimes brutal, but always engaging.



24%

2 ALAIN PROST

Managed to conjure almost Senna-like speed, despite usually looking as though he was taking a Sunday drive. Didn't stop him taking four world titles, mind.



8%

3 GILLES VILLENEUVE

Huge natural talent all too often masked by cars that didn't do him justice. And he was also very good at looking after tyres – a sign of great finesse, frequently overlooked.



"PEOPLE TALK ABOUT COST CONTROLS. BACK THEN WE USED DIFFERENT ENGINES FOR QUALIFYING AND THE RACE"



says, “and hoped to improve by 30bhp or more per year. By our final season, 1986, we had 900bhp in race trim. We reckoned that went up to perhaps 1500bhp with qualifying boost, but had to extrapolate that figure because our dyno couldn’t register more than 1200!

“During the whole of that time, we did very little work on the engine itself – all the development was focused on the turbocharging, fuel injection systems and so on. In 1977 we were revving to 10,500rpm and that had risen only to 11,000rpm by 1986.”

Head feels 1500bhp is about right. “Honda couldn’t tell us how much power the V6 had in qualifying trim,” he says. “Its dyno measured up to 1000bhp, which the engine passed at 9500rpm, and we were using 13,500.”

Brabham was the first team to win a title with a turbocharged car, with BMW in 1983, and McLaren the era’s last, with Honda in ’88. Is it possible to describe the sheer physicality of a full-boost qualifying lap?

Brundle is prepared to try.

“I recently drove an ex-Senna Lotus 98T-Renault that’s very representative of what we had at the time,” he says. “The boost was set at 3.6 bar, which was what we used in races, and it gave you a big kick in the back, exactly as I remember.

“The brutality always got me. At the start of a qualifying run you’d pretty much creep out of the pits, because you didn’t want to bring the tyres in too quickly. As soon as you did that, you’d be taking life out of them. That meant being gentle for the first half lap or so, but at the same time you had to be very careful to keep an eye on your mirrors, because while you were pootling around you knew others would be hard on it in the middle of a 1400bhp, 5.5-bar qualifying lap. I’m fairly sure you lost a bit of power during the run, though, simply because everything got so hot. People talk about cost controls now, but back then we used different engines for qualifying and the race – in fact we fitted a fresh floor and engine every day.

“Towards the end of a warm-up lap almost everything would be up to temperature and, when you got to the pit straight, you could just let go. I remember that in Adelaide and Monte Carlo, for some reason, it felt as though the scenery was coming towards me at warp speed rather than me driving towards it. You went into the lap in this ridiculous car, with front tyres not quite fully optimised, and understeered your way through the first turn before getting back on the throttle as early as you could. By halfway through the lap, everything would be just right and you had massive amounts of both power and grip. Almost always, though, the rears would begin to struggle before the lap’s end. With the wastegate and everything blanked off, there was very little lag and in that state it was very pleasurable to drive. Some tracks were

LAT











1980s

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absolute heaven – Spa, for instance, with all that power and space.

"All your reference points went out of the window, because you'd gone from about 850bhp in the morning to whatever we had in qualifying, but it was exactly the same car and didn't have any extra downforce. The level of mental recalibration required was immense. You'd do your lap, cool off and then chuck the tyres away. It's hard to conceive now, isn't it? A set of tyres designed to last five or six miles…"

Extreme times, then, in every sense. "It probably was a profligate period," Head says, "but we tended to be so buried in the competition that we didn't really notice. With Honda we never had a bespoke qualifying engine as such, although I think others did. We cranked up the boost, which would take out a bit of its life, and then always fitted a fresh V6 for the race."

Williams also dipped its toes into rallying during the decade, responding to Austin Rover's request to create a Group B car. "They wanted us to stick a Rover V8 in the front of a Metro shell," Head says, "but when works driver Tony Pond came to look at progress he decided he wouldn't be able to drive such a car. He'd have been sitting more or less in the back. That's when we decided to lop off a couple of cylinders and swap things around." The mid-engined Metro 6R4 was born – and remains a popular club rally staple to this day.

Traditional engineering wasn't the only solution, though.

"Keeping our intake air cool was very important for both performance and for responsiveness," Dudot says, "so at Austria in 1980 Renault team manager Jean Sage bought bags of ice from a local fishmonger as a cooling aid. It must have worked, because Jean-Pierre Jabouille won, but the Renault pit smelt of fish all weekend…"

❖

MODERN F1 TURBOS MIGHT SOUND very different, with much of their waste energy captured and recycled and fuel-flow limits, but there are similarities between events now and 30-odd years ago. "With regard to fuel consumption, it's nonsense to say things are completely different in 2014," Brundle says. "Back then I drove with an eye on the gauge absolutely all the time. It was incredibly accurate, too. Coming out of the final corner at Adelaide in 1986, I remember seeing the reading drop to 0.0 and thought, 'There'll be a bit left, like there usually is in a road car', but it cut out instantly and Stefan Johansson nicked what should have been my podium position as I coasted to the line."

His recollections are a little clearer than those of Alain Prost, who won the first two of his four F1 titles in McLaren-TAG turbos.

"In a way I almost cannot tell you what those cars were like," he says. "When I was reunited with my 1983 Renault at Goodwood a couple of years ago, I could not remember how I was able to drive it in period – especially at circuits such as Monaco. I've tested recent cars from Lotus and Red Bull and they reminded me very much of my last F1 car, the Williams FW15C of 1993, with a Renault V10. Everything felt similar and it wasn't a problem. But I really don't understand how we coped in the mid-1980s with all that power: it was just so different. When modern drivers try a car from this period, with their feet right at the front of the chassis and heads 20cm above the cockpit, the reaction is always the same: 'Shit, how could you drive one of those?'" Ⓜ

FROM THE MOTOR SPORT ARCHIVES

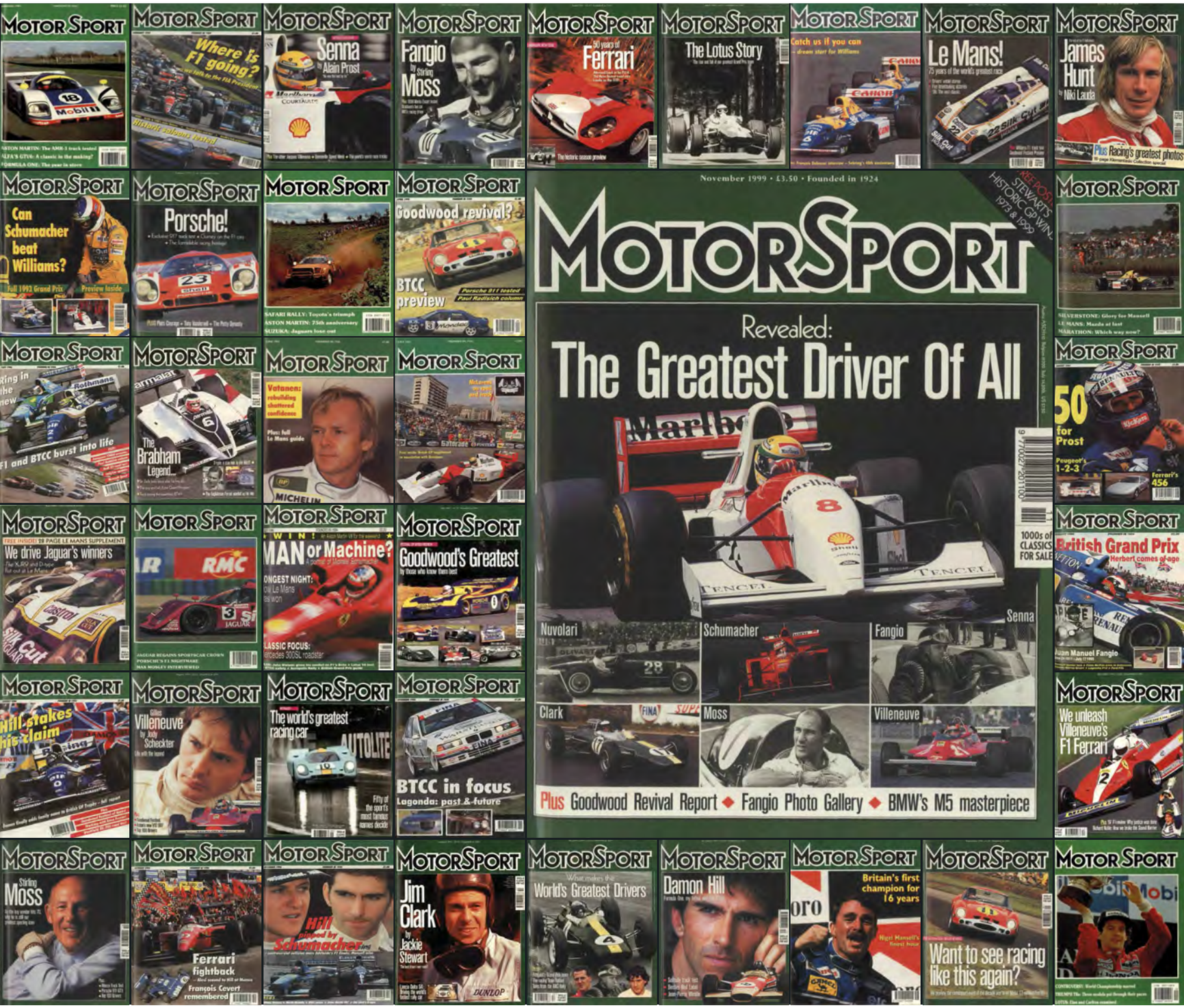
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Nigel Mansell's winning Williams FW11-Honda makes sparks fly during the 1986 Belgian Grand Prix at Spa

LAT


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Jim Clark by Jackie Stewart
World's Greatest Drivers
Damon Hill
Britain's first champion for 16 years
Want to see racing like this again?

1990s



The end of innocence

Huge advances in safety corresponded with real-world political and financial machinations that would change motor racing forever. And it can all be traced back to one terrible Sunday afternoon

writer ANDREW BENSON

GETTY

EVERYTHING changed on the afternoon of May 1, 1994. When Ayrton Senna's Williams hit the wall at Imola's Tamburello corner, and the great Brazilian was killed by a suspension arm piercing his helmet, it set in chain a series of events that shifted Formula 1 on its axis and turned the sport into what it is today.

Grand Prix drivers had been killed before, although it had been 12 years since one lost his life during a race weekend. But Senna's unique appeal – that intoxicating mix of charisma, talent, ruthlessness, bravery and mysticism, beamed to the world through ever-expanding television coverage – meant his loss impacted in ways that caught everyone involved by surprise. This was unfamiliar territory, even for those who could recall deaths in previous eras.

"The death of Ayrton Senna was really a dividing line," says Patrick Head, who as co-owner and technical director of the Williams team was at the very centre of events during the tumultuous decade in which Imola '94 was a fulcrum. "It's always terrible that it takes an event like that – or a weekend like that, because we have to remember that Ayrton was not the only driver killed. But, whichever way you look at it, that was the most significant event for F1, within F1."

Senna's accident – a day after Austrian Roland Ratzenberger was killed a few hundred metres farther along the track, two days after Rubens Barrichello was lucky to survive a horrendous-looking crash a few hundred metres before – caused shock waves around the world.

And when another Austrian, Karl Wendlinger, crashed his Sauber at the Monaco chicane on the very next day of track action, and lapsed into a coma that lasted 19 days, the world had seen enough.

"Stop this," the headline on France's famous sports newspaper *L'Équipe* said the next morning, over a picture of the broken car, Wendlinger slumped in the cockpit. And such was the nervousness in F1 that it was not clear exactly what people were demanding be stopped.

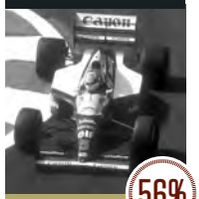
At the time, very senior F1 insiders believe the President of Brazil called the President of Italy, who called Max Mosley, the president of governing body the FIA, and told him in no uncertain terms to sort things out.

When F1 turned up in Imola's cramped but rather attractive paddock on the Thursday before the accidents, there was no sense of it being a sport that put its competitors at unacceptable risk.

1990s

GREATEST CARS

WEBSITE POLL RESULTS



56%

1 WILLIAMS FW14B

Semi-auto 'box, active suspension, ABS, traction control, Newey and Mansell. Technically the most advanced F1 car we'd yet seen, and by some margin, the FW14B was pretty, too.



13%

2 McLAREN F1 GTR

F1 designer Gordon Murray's proudest racing achievement is winning Le Mans in 1995. The F1 GTR was devastatingly quick on road or track. Murray says that, were he to do it all again, he'd change nothing.



5%

3 SUBARU IMPREZA 555

Colin McRae's steed for his 1995 World Rally Championship and one of the most replicated liveries in the world. Best appreciated sideways, 5ft off the ground.



Monaco 1994: drivers gather on the grid to pay tribute to fallen colleague Ayrton Senna, who had been killed earlier that same month at Imola

Looking back now, the drivers appear terribly exposed in the cars of the time, their heads high above the cockpit sides, necks vulnerable, shoulders often visible. But Damon Hill, Senna's Williams team-mate, says the thought never crossed their minds.

"No, because of carbon-fibre. It was a massive safety improvement on how it had been," Hill says. "Before that, the cars were basically Kit-Kat wrappers. I mean, you just would not get people in those things now.

"I have seen some shunts when there was just nothing left of the car. Made of aluminium. Honeycomb was stronger, but the speeds and forces involved…

"You took a view that it was a lot safer than it was not long ago. You knew the team wanted to keep you safe, but you also wanted to win. So you were united in that. You're the person



taking the risk. You would accept the level of risk, because you wanted to do it.

"You knew the team would not put you in a car that was in any way unsafe, but there was always going to be a fine line between performance and safety.

"I was shocked after Imola at the reaction around me. I had always assumed there was no blame culture in racing. I had been in cars when things failed. You don't go back and say: 'You're trying to kill me'. There are obviously cases of extreme negligence but most drivers don't go into this with their eyes shut. They go in knowing they're vulnerable."

Senna was as aware of this vulnerability as anyone; in fact he talked publicly many times about his acceptance of the mortal risk to which he was exposed. "You are doing something nobody else is able to do," he once said. "[But] the same moment that you are seen as the best, the fastest and somebody that cannot be touched, you are enormously fragile. Because in a split second, it's gone.

"These two extremes are feelings that you don't get every day. These are all things that contribute to – how can I say? – knowing yourself deeper and deeper. These are the things that keep me going."

But this and the fact that, as Hill puts it, "what actually killed Ayrton was a kind of freaky intrusion of a piece of suspension," made no difference now.

"It was such a threat to the sport as a whole," Hill says. "My sense is that Bernie [Ecclestone] and Max felt very vulnerable after Imola, and a lot happened in a short time after that. There was genuine concern."

There is some debate now about whether Mosley already had it in mind to overhaul safety in F1. Most believe he was simply doing the responsible thing as head of a sport, and safeguarding its future.

As one senior figure puts it: "I'm sure Max had a genuine interest in the health of F1, but I think he probably had a number of major political people on his back saying, you know, this sort of event can't be part of F1 motor racing. I'm sure being rung up by the president of a country and being told to get your act together makes an impression."

Mosley himself says, no, he had always planned to do it, and that Senna's death was "the catalyst".

Whatever, Mosley demanded immediate changes to the cars to slow them, and more as the season progressed. This caused a bit of unrest among the teams, but, as Head puts it, "Everybody realised after a week that they had to buckle down and comply. It's emotive to call the cars dangerous. All racing cars were dangerous. But the levels of downforce and performance had got out of hand.

"There were an awful lot of accidents in which necks were being broken and the driver was actually undamaged but dead because of the lack of any kind of head restraint. It was the first time anyone started looking at it seriously."

Over the next months and years, Mosley fundamentally overhauled the process of establishing – and improving – levels of safety in F1. From a process that was largely driven by the teams, central standards were defined, for both cars and circuits.

❖

IT IS NOT EXAGGERATING TO SAY THAT this has led to a revolution in safety across the whole of motor sport. The now-ubiquitous HANS (Head and Neck Support) device was imported from the US, but impact tests, raised cockpit sides, better crash barriers, the replacement of gravel traps with asphalt and so on all resulted from a shift towards a scientific approach to establishing what improved safety and what did not.

Mosley set this in motion, but the men who made it happen were the late Professor Sid Watkins and Charlie Whiting, still F1's race director today, and a man Head describes as "a bit of an unsung hero in racing". Under Whiting, it continues.

While Mosley was putting F1's house in order in terms of the way it conducted its business at the race track, his long-time ally Ecclestone was making his own revolutionary impact away from it.

The fear was that Senna's death would badly impact on F1's TV audience, which had begun to grow thanks to Ecclestone's moves through the 1980s to sell the sport as one package, all or nothing. This guaranteed exposure for every race, rather than piecemeal through the year

with broadcasters picking and choosing the races they fancied.

Senna was box office, and the intensity of his battles with Alain Prost had vastly increased interest in the sport. Prost had already retired, and with Senna's death Ecclestone feared the worst. In a matter of months, its two big-name stars were gone.

Ecclestone's immediate response was to broker a deal to get Nigel Mansell back from IndyCars and into Senna's car. The 1992 world champion's return created a hullabaloo, but it is questionable whether it had any real impact. The fact is that rather than damaging F1's appeal, Senna's death enhanced its profile, and TV audiences continued to grow. Which made Ecclestone's other, much wider-reaching machinations all the more explosive.

Since the 1970s, Ecclestone had been increasing his influence on the commercial side of F1, first as head of the Formula One Constructors' Association (FOCA) while team boss of Brabham, and then through his own companies, which FOCA engaged to administer its commercial rights to F1.

❖

THE CONCORDE AGREEMENT WAS FIRST created in 1981 to end a destructive political war over management of the sport. The latest version was running out in 1997, and in 1995 a new one was drafted: it transferred the FIA's permission to exploit F1's commercial rights from FOCA to Ecclestone's own companies.

This caused outrage among some of the leading teams. It emerged in last year's High Court trial over the selling of F1 in 2006 that Ecclestone bought off some of the smaller teams, with payments of $10m into the personal bank accounts of Eddie Jordan, Tom Walkinshaw and Alain Prost. But McLaren, Williams and Tyrrell refused to sign the 1997 Concorde Agreement.

"Bernie effectively stole Formula 1 from us," says McLaren chairman Ron Dennis, in the biography of Ecclestone by Sid Watkins' widow Susan. "He stole it by concealing from the teams the significant increases that were coming to them as a result of TV contracts. He used this commercial benefit to persuade teams to accept a contract that eliminated them from the passing of rights that previously existed.

"Not having a team put him in that position. The way he swerved the situation; I mean some would say it was brilliant, but in essence it was pretty deceitful because the teams were trying to say, 'Hold on, we own these rights'."

Mosley describes this view as "complete rubbish", saying that Ecclestone "sort of built up the rights". But the fact is that he did so while acting as the teams' agent. As one long-time associate says now: "I often say to him: 'Do you remember when we had a company called FOCA?' He says: 'Shut up. Your memory's too good'."

Williams, McLaren and Tyrrell engaged lawyers and considered suing. They believed they had a strong case. And for a while it all got very messy. The three at one stage threatened to take the issue to the European Union, which was making Ecclestone and Mosley's lives very difficult with an investigation into whether their perceived stranglehold on motor sport TV rights was breaking competition law. In the end, though, as one senior figure put it, "Bernie in effect bought us off by saying: 'I will make sure I look after you financially, don't you worry'."

The plan at the time was to float F1. Ecclestone offered the 'rebel' teams 10 per cent equity in trust in his F1 holding company once the float happened. The three accepted, the 1997 Concorde Agreement was rewritten and signed the following year, everyone afterwards presenting a united front in a group photo in Monaco. Sixteen years later, the flotation is still on the agenda, still has not happened and the teams have not got their 10 per cent.

In the 1998 Concorde Agreement, the FIA's commercial rights to F1 were leased to Ecclestone's companies, rather than the teams, for 15 years. And from that apparently subtle change there is a direct line to the bribery case being heard in Munich this summer. That has the potential to end Ecclestone's long F1 reign.

Within a year of the new Concorde Agreement being signed, and on the strength of the commercial certainty inherent in that new contract, Ecclestone capitalised on his investment by launching a Eurobond issue, with the future revenues from sale of the sport's TV rights as its security.

To many of the sport's fans – and indeed its participants – this was one of the deals that take place in the world of high finance: they are vaguely aware of it, but have little real interest.

In fact, it marked a seismic change in F1's relationship with the wider world every bit as big, in its way, as Senna's death. Other events to do with F1's growing international status would also have an impact.

Ecclestone and Mosley had been dealing with a number of distractions. The EU competitions inquiry was joined by a political scandal in the UK over Ecclestone's £1m donation to Labour – which was followed by a U-turn in the government's stance on tobacco advertising.

The ramifications of the donation and the



ARCHIVE // FROM *MOTOR SPORT* FEBRUARY 1997

FERRARI'S BOOK OF excuses has reached the last full stop on the final page – it's now or never if the Scuderia is going to win another World Championship.

The overwhelming majority of motor racing fans understand the magic that has always surrounded Ferrari. Granted, there are several of today's Formula 1 team owners who believe that the mystique of the Prancing Horse is nothing more than a lot of sentimental hot air, but the strand of continuity, tradition and presence that links Michael Schumacher's most recent victory at Monza, five months ago, with Froilán González winning at Silverstone in 1951 is, in my view, the key to the whole affair. Yet, all that said, there is a powerful case to be argued that Ferrari has with a few notable exceptions done a pretty rotten job with its Formula 1 team since the late 1970s.

It is 18 years since Jody Scheckter won the last world championship for drivers in one of the cars from Maranello. Since then, the team has bagged a single championship for constructors, almost unnoticed, in 1983.

This is why Ferrari just has to win the 1997 world championship. I simply do not subscribe to the view that well, er, we can wait until 1998. Or perhaps 1999. Although even Michael Schumacher privately believes it could take this long to get the job done, I think the entire team's credibility now hangs on the possibility of winning the title this coming season. It has always struck me that one of the problems with the Ferrari F1 team is that it is the corporate equivalent of a spoilt child. It never seems to know what it wants next. One minute it agrees that its design office should be based in the UK, the next you hear rumblings that it should be back at Maranello. Drivers fall in and out of favour with corresponding frequency.

subsequent meeting in 10 Downing Street, in which F1's two bosses and Mosley's aide David Ward lobbied Tony Blair for a delay in an EU ban on tobacco advertising, were bigger in Westminster than they were in F1.

Mosley eventually won from the EU a delay in the ban after offering to unilaterally outlaw tobacco advertising in motor sport by 2006, to give the sport time to wean itself off the cigarette cash without harming the industry.

The EU problem eventually subsided when its antagonistic competition commissioner Karel van Miert resigned in the wake of a corruption scandal and was replaced by the more conciliatory Mario Monti.

Then, on June 28 2000, the FIA general assembly unanimously approved a deal recommended by its senate – on which Mosley sat – to extend by a further 100 years the lease Ecclestone's companies had on the commercial rights, for the sum of $313.7m.

Monti gave the deal his blessing, even though van Miert had been against long-term arrangements such as this. The teams had no say in it, but the surprise at what was perceived to be a paltry sum for such valuable rights was widespread. "Five years for $300m would have been about right," Hill says now. "It's just classic the way they did whatever the hell they liked. It's not a democracy. It's not a publicly owned company. It's a sport. All that influences the show, the ability to shape the sport. It's a complicated institution, F1."

Mosley defends the deal. "The point is that it was a question of what we owned. Bernie always said we sold him his own business. And we could only sell him what we had. Or what we thought we had."

And what was that?

"Well, that's an interesting question. Television rights all belonged to the promoters, except when Bernie got them. The right to make contracts belonged to the teams. The right to do the timing and safety car and all those sorts of things, all belonged to the promoters. The rights in a race belonged to its promoter. They never belonged to the FIA."

So why did Ecclestone pay the FIA all that money then? "For a quiet life. That's what he would say if you asked him," Mosley replies. "What we did have was the right to make the calendar and the right to the name, the F1 world championship.

"Well, the calendar actually was always made by the promoters, because they sat in the FIA. And that had already been given to the teams under the Concorde Agreement. So they effectively had the right to make the calendar. Which just reflected the reality, which was you couldn't have a calendar without the teams. So the calendar had more or less gone.

"The name, well, you then get into a complicated area. We had a lot of talks with lawyers about who owns the goodwill. And you see the goodwill was all Bernie's because he was running a business. And the FIA never ran a business. It just sanctioned the events, took a calendar fee and sent a couple of officials.

"It's completely different from when you actually start something. That's why the FIA should have grabbed the whole thing in the '70s, but that's another story."

The money paid by Ecclestone went to the FIA Foundation – still controlled by Mosley and Ward – and Mosley says it generates about €10m (£8.1m) a year. The fact it did not go directly to the FIA impacted on the negotiations over the most recent Concorde Agreement, because the FIA was short of cash and had to barter power for money with Ecclestone. But that's outside the remit of this article.

Whatever the rights and wrongs of it, the 100-year deal vastly increased Ecclestone's ability to make money out of Formula 1. And thus began a series of transactions that led eventually to the sport being bought by its current owners, CVC Capital Partners, a deal that in turn led Ecclestone to stand in a Munich courtroom.

The fundamental essence of the 1990s, then, was that of Ecclestone and Mosley's increasing control over every aspect of F1.

Often using safety as an excuse, Mosley tweaked the rules to allow him to make changes more easily and unilaterally, even if they were

"BERNIE SAID WE SOLD HIM HIS OWN BUSINESS. WE COULD ONLY SELL HIM WHAT WE HAD."

"The real problem with Ferrari is that it claims to be a single team of 450 people," said one rival F1 designer recently, "whereas, in truth, it's 450 teams of single people. Think what they might achieve if they were all working together."

Since 1992, Ferrari's fortunes have been steered by the charismatic Luca di Montezemolo. He is a man who attracts much respect, having originally made his name when he helped mastermind Maranello's F1 renaissance in 1974, leading to Niki Lauda winning the championship in 1975 and 1977. Di Montezemolo broadly knows what is required to achieve success in F1. He is sufficiently well versed in the motor racing business to appreciate that the access to specialist technology in the UK's 'silicon valley' fully justifies having the team's R&D base here. In that respect, he took a leaf out of the late Enzo Ferrari's book. From 1986 to 1990, GTO at Shalford was John Barnard's design base. It was then sold off to become a manufacturing out-station for McLaren Cars. That meant they had to start again in 1993, when Barnard came back into the Ferrari fold, establishing Ferrari Design & Development. In the building next door!

So what happens if Ferrari doesn't finally deliver the goods? Do we watch as di Montezemolo is led away in chains if Schumacher hasn't secured the championship for the Prancing Horse by the end of the year? Will Maranello end its days being relegated to the role of some half-baked Italian version of Cosworth Engineering, shelling out V10 F1 engines on a customer basis for Minardi and Sauber?

There are even those who believe that the Maranello racing department should have been locked and barred the day Old Man Ferrari died in August 1988, left to gather dust as some sort of museum, preserved in a state of suspended animation, as a fly in amber.

It won't happen like that, of course. But Ferrari is backed firmly into a corner now that it has every available resource to be competitive. The Maranello Book Of Excuses is now dog-eared, tatty and ready to be tossed into the rubbish bin.

Di Montezemolo remains resolute in his belief in the future. He certainly does not believe that there is an ominous Sword of Damocles, wielded by Fiat, hanging over the company. "Ferrari has been in F1 for more than 40 years and I want the team to be competitive again," he says with a passion. "Do you think I would have invested money in building a new wind tunnel and recruiting young technicians with the intention of training them for the future, if it was our intention not to continue in F1?"

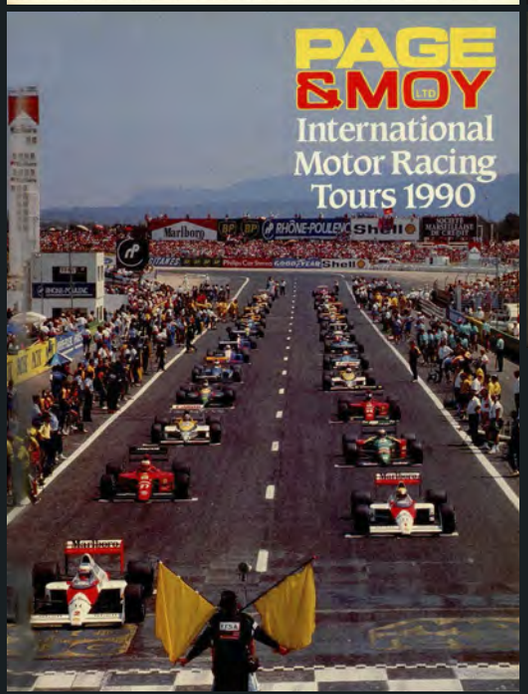
If I had to put money on it, I would bank on Michael Schumacher getting the job done for Ferrari in 1997. But, at best, I expect it to be a damn close-run thing.

And I might end up losing. *AH*











1990s

AD BREAK

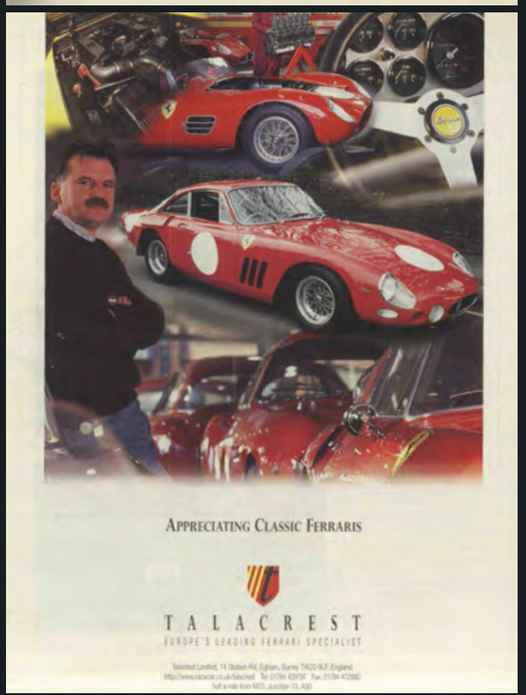
SELECTED ADVERTS
FROM THE ARCHIVES











1990s

GREATEST DRIVERS

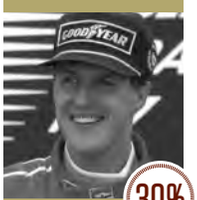
WEBSITE POLL RESULTS



37%

1 AYRTON SENNA

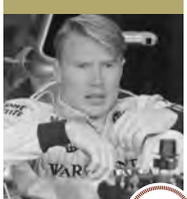
The greatest? Or too flawed? His talent was undisputed, though. Almost three million people lined the São Paulo streets for his funeral. He still fascinates 20 years later.



30%

2 MICHAEL SCHUMACHER

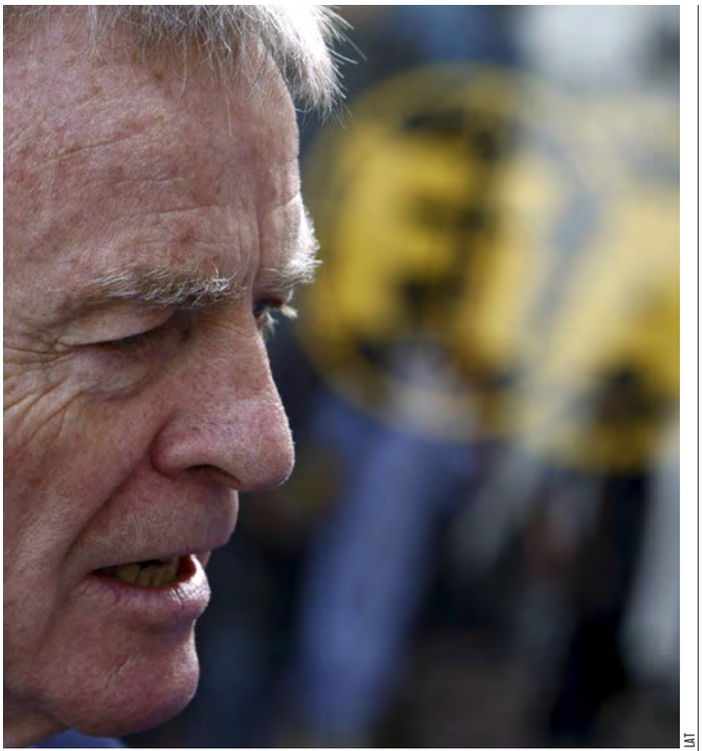
Like Senna, he was talented but flawed. Schuey broke all the big records and it began with Benetton. The first title in '94 was controversial, the second a year later just brilliant.



6%

3 MIKA HÄKKINEN

Acknowledged by Schumacher as his toughest rival. The icy Finn with speed aplenty won the 1998 and '99 world championships in Adrian Newey McLarens.



LAT

FIA president from 1991-2009, Max Mosley imposed a raft of new safety measures on F1 following the deaths of Roland Ratzenberger and Ayrton Senna

unpopular and of questionable benefit (the introduction of grooved tyres and narrower cars in 1998 springs to mind), and Ecclestone began to impose his vision ever more tightly on the sport.

Differences in facilities at tracks were common in the early 1990s.

Silverstone's popular 'village green' paddock, in which the motorhomes were all situated around a patch of grass, was an example. But these gradually disappeared.

"We stopped going to circuits that were different," Head says, "and all the circuits we were going to were steadily being made the same, with the same sort of layout and design.

"Within no time the motorhomes were behind chicken wire and you would walk out from your garage across 30m of Tarmac to your motorhome area. And with a limit of three metres on the width of your awning, you couldn't entertain your sponsors and they had to go to the Paddock Club.

"Ultimately, new tracks and countries came along. New countries were prepared to fund it and somebody had to design them. And Bernie had a guy who could do that. It was all part of Bernie's growing control."

Huge sums of money began flooding into F1. TV figures continued to rise, so companies were persuaded to buy the rights for increasingly large figures; ITV paid £30m to take the rights from the BBC from 1997.

With the sport's increasing popularity, more governments were willing to spend vast sums of money to use F1 as a shop window for their country.

And a growing international exposure meant the sport became an increasingly popular forum for car manufacturers to promote their brand. As BMW, Honda, Renault, Toyota and Mercedes-Benz poured in cash in pursuit of the ultimate advertising – winning races – budgets skyrocketed.

This sped up the end of tobacco advertising – the money was now coming from elsewhere – but an increasing engagement with the wider business and political worlds meant a growing need to play by their rules.

❖

IN 1990, SENNA WON THE WORLD TITLE by driving into the back of Prost at 160mph, an act that went essentially unpunished. By 2000, such an eventuality would have been unthinkable, so much had the mindset inside the sport changed. It no longer operated in isolation, running itself pretty much the way it liked. It literally could not afford to.

"F1 had become more self-conscious about its place," Hill says. "Before that time, it used to be an event that went around the world doing its thing without too much hassle from anything. Then, with Ayrton's accident, it became aware that it had a place in the world and it became concerned as to how it was going to fit into that new global consciousness.

"What kind of thing was it? Was it an outlaw sport, which is really what it was before, or was it going to be part of the establishment? And I think it wanted to be part of the establishment, to become part of the system of responsible government.

"There has been an attempt to tidy things up going on, polishing the car before you sell it. It has new windscreen wipers and maybe they've cleaned the upholstery, but is it still a Ford Capri underneath all that? I don't know.

"Take a restaurant chain. It starts off a bit of fun, you define the culture and everything, and then it becomes a franchise and it becomes packaged and sold and multiplied, and that's really where we're at with F1.

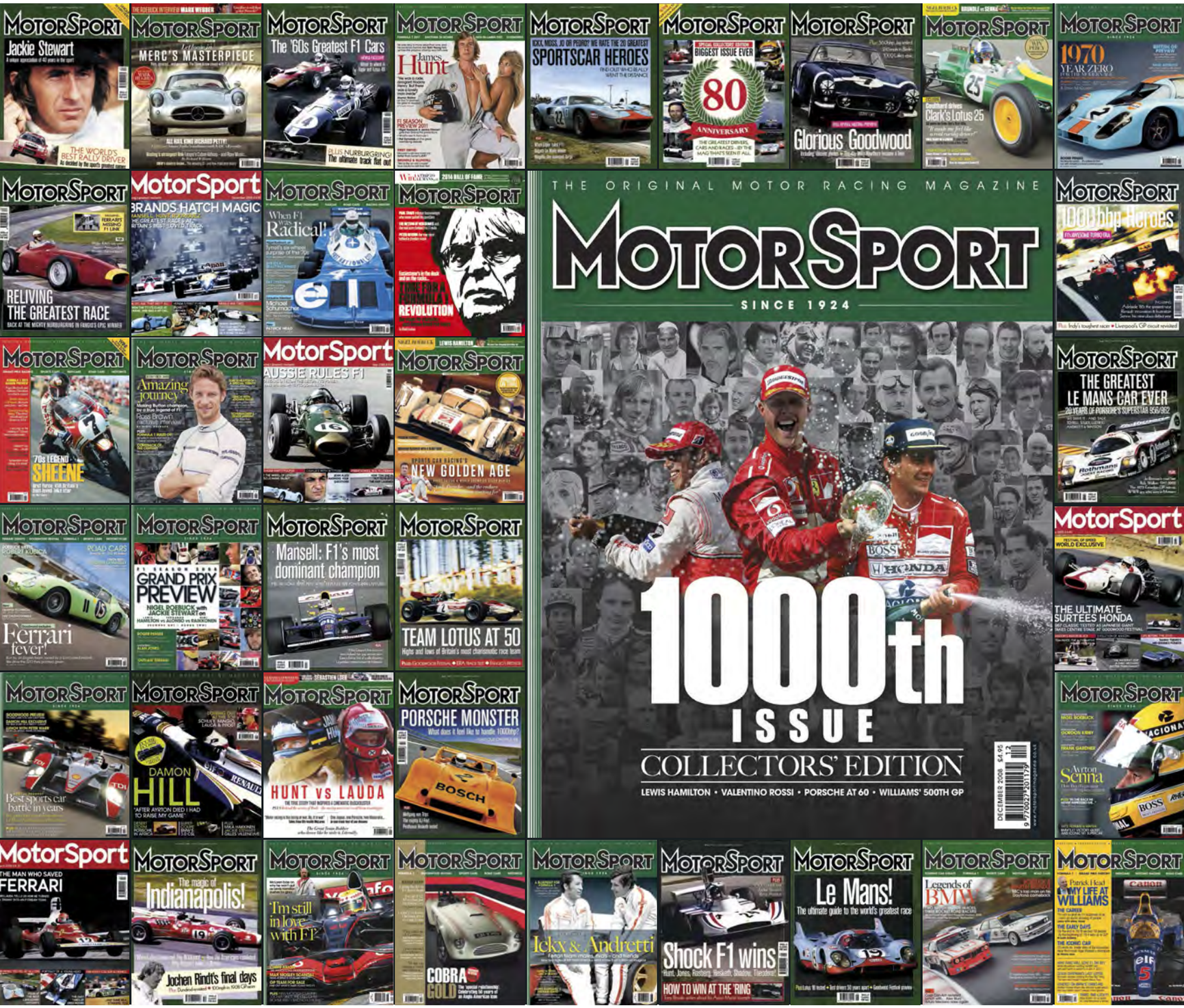
"And the question is whether people want to buy that or do they want to buy freedom from control? F1 used to represent freedom from conformity and it appealed to people who did not want to conform. And one of those people, one of the best examples of that, is Bernie." M

Andrew Benson is chief F1 writer for the BBC.

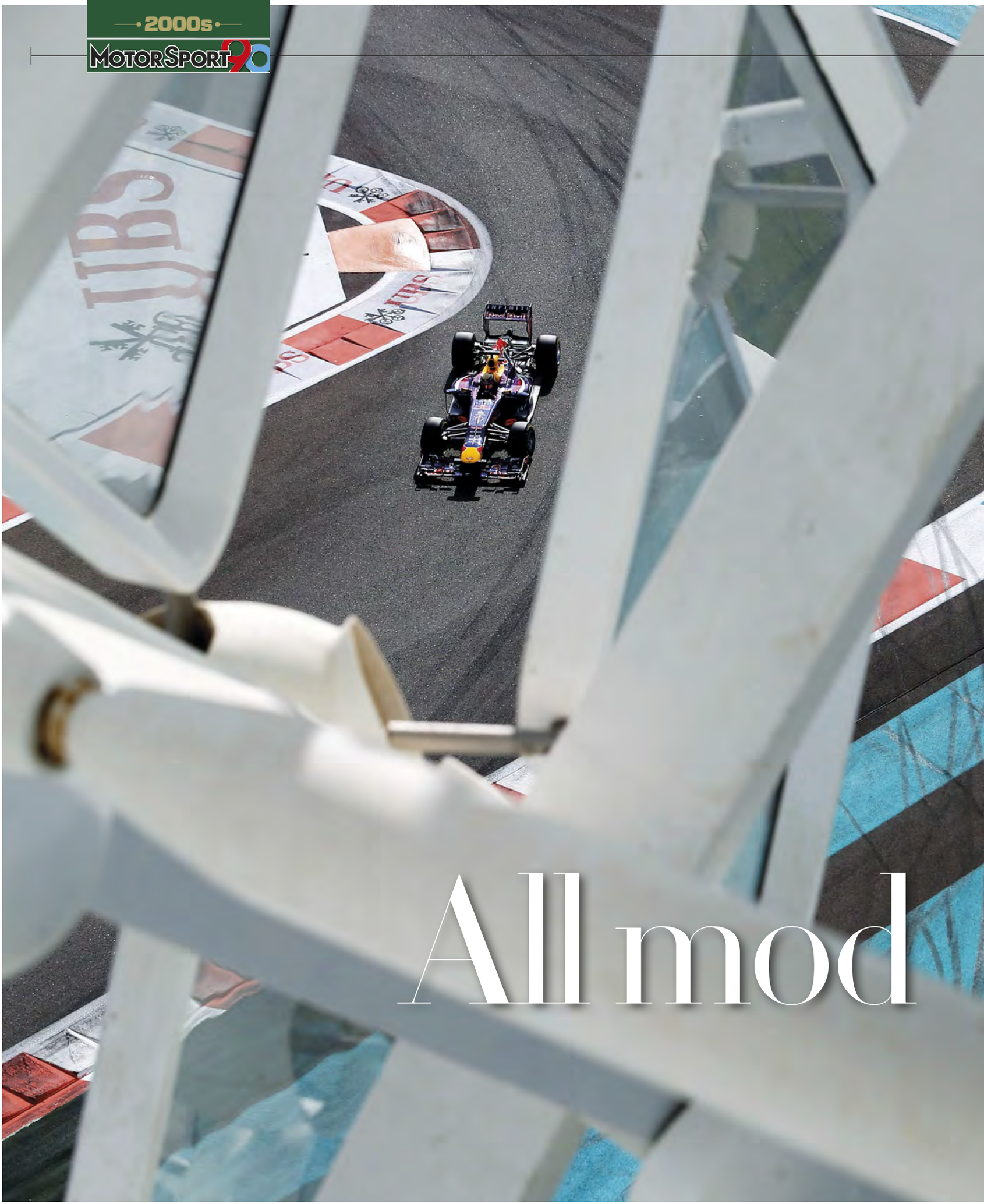
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2000s



All mod



Rose-tinted spectacles are a wonderful invention, but they don't always focus accurately. Modern life, then, is not necessarily rubbish...

writer ANDREW FRANKEL

pros and cons

ALTHOUGH IT probably didn't seem so at the time, as the grid assembled in Melbourne for the first Grand Prix of the new millennium, the world of Formula 1 was a somewhat simple place to be, at least relative to where it is today.

The cars were powered by conventional 3-litre, V10 engines allowed to rev as high as they liked (even newbie Jaguar had already seen 20,000rpm on the bench from its Cosworth motor), and if that caused one or more components to leap out of said engine and into the Albert Park lake, you just fitted another. And the same applied to the gearbox.

There were no driver-activated aerodynamic devices to enable overtaking, nor any designed to harvest and recycle energy that would otherwise have been lost.

Before the race you could test as much and as often as you liked and could continue to do so throughout the season. In qualifying there was a one-hour session on Saturday, in which everyone took part, and the car with the fastest lap took pole. In the race you could throw as many tyres at the car as you liked, and as much fuel too. You could start with a car groaning under the weight of all the petrol in its tank and plan to stop just once, or even not at all, or you could send it out on vapour in the hope of making an early break. And the same points were awarded wherever and whenever any given race happened to be.

Yes, it was simple. Very simple. There were problems, of course, but I think few would argue that the races weren't more 'real' than those of today's increasingly contrived F1.

❖

ALEX HITZINGER USED TO BE IN charge of advanced technology for Red Bull, but jumped ship in 2011 to mastermind Porsche's return to Le Mans. And one reason he left was the technical freedom allowed by sports car regulations. "We have real choice," he says. "I can build an engine with as many cylinders as I like, power it by petrol or diesel and put it in a car that can drive two wheels or four. And our hybrid systems can store their power in a flywheel, super-capacitors or batteries."

The question is how racing's premier formula managed to get itself into such an artificially-induced state? Did it arrive there of its own free will, always aware of the consequences of its actions, has it sleep-walked its way into the current situation or was it prodded from behind? And does it actually matter?

2000s

GREATEST CARS

WEBSITE POLL RESULTS



29%

1 FERRARI F2004

Remarkably, the only Ferrari to top our decade polls. It won 15 of 18 Grands Prix in 2004, 13 with Michael Schumacher and two with Rubens Barrichello.



22%

2 AUDI R8

The car that put Audi on the map at Le Mans. Won the 24 Hours five times in six years. Also managed six out of six at the Sebring 12 Hours.



21%

3 AUDI R10 TDI

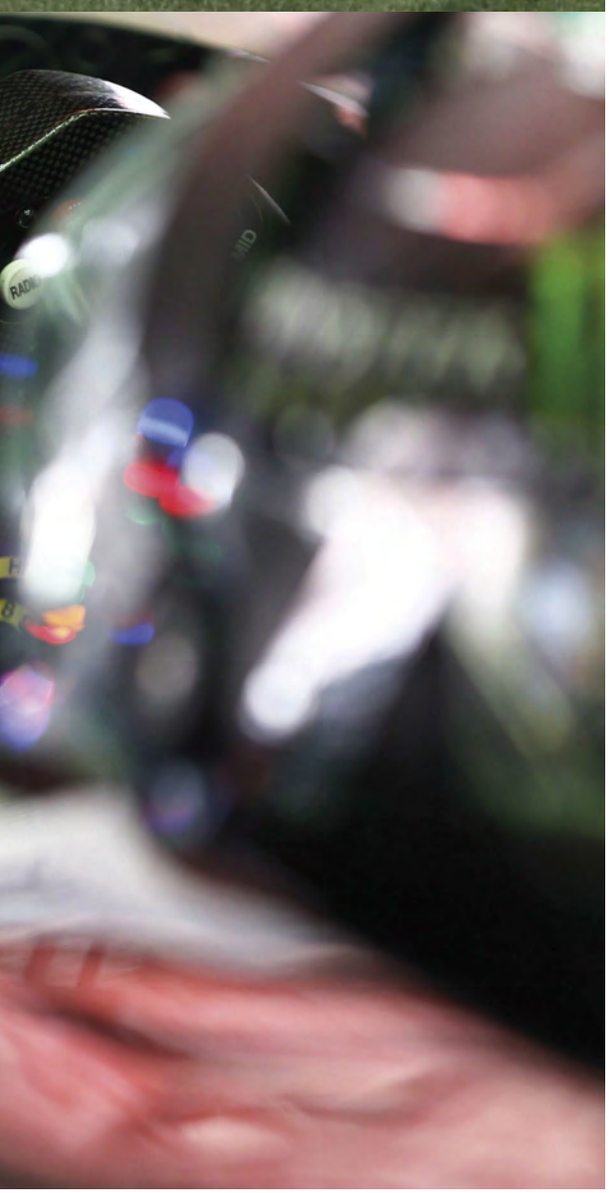
Pipped by the R8 in our poll, but historically was it more significant? The first diesel to win Le Mans, where it scored a hat trick between 2006-08.







At the time it felt bewilderingly sophisticated, but F1 was less complex in 2000 than it has since become. Below, this year's Mercedes F1 dash



Few complex questions have straightforward answers and this isn't one of them; but behind it all lies a driving force that historically never had a role to play in Formula 1, but is now probably the single most important factor considered by the rule-makers. It is a conviction bordering on compulsion that top-line motor sport in general, and F1 in particular, should be relevant. You can see it in F1, in sports car racing and now even in rallying. Hitzinger might be relishing his new-found freedom, but the very fact he gets to choose between petrol and diesel, and which hybrid system to run, speaks volumes about how the choices facing those making competition cars now mirror those buying road cars.

Before things got interesting in Bahrain this year, people were queuing up to call F1 'boring' in 2014. Bernie Ecclestone hated the noise (or lack thereof) and Ferrari's Luca di Montezemolo likened it to "taxi-cab driving". Perhaps a little perspective is needed.

It is too easy to look back to a time where cars looked gorgeous, sounded even better, raced on pure circuits unfettered by safety considerations and conclude things ain't what they used to be. And as no one has been killed in a modern Formula 1 car for 20 years, thank God for that.

But how interesting was it really?

Spool back to the very first round of the F1 world championship, also known as the 1950 British Grand Prix, at Silverstone. The riveting spectacle was that of Alfa Romeos cruising to a 1-2-3 victory, lapping the entire field twice.

Was it any more interesting when the combination of Alberto Ascari and Ferrari ensured an entire year passed without a single other car or driver winning a round of the championship? Or when Mercedes-Benz's Silver Arrows needed to do little more than turn up to win? Throughout the history of the sport there have been periods where the racing has been genuinely close and thrilling, but too often these have been mere moments, punctuation marks in an otherwise fairly consistent narrative of one team or driver's dominance over the rest.

Even within a season, things are often not as we choose to remember them as Patrick Head, co-founder of Williams Grand Prix Engineering, points out: "For as long as I was in Formula 1," he says, "you'd have a season of, say, 15 to 18 races and, of them all, you'd probably only have three or four humdingers."

It is a phenomenon not restricted to F1, either. We recall Group C as a halcyon era for sports car racing, but was it really? Until Jaguar finally got its act together, I remember years where the only question at any given race was which dull-sounding Porsche 956 or 962 was going to win. Likewise in the modern era Audi, a company criticised for apparently doing its job too well.

And did Sébastien Loeb, without doubt the greatest single talent ever to sit in a rally car, actually do his sport more harm than good? Throughout the history of all forms of the sport at the top level, it seems 'twas ever thus.

Remember, too, the next time you're feeling misty-eyed, that when you turn on the television to watch a race, you actually get to watch the race: every corner, every lap, every incident replayed in glorious slow motion, and analysed during and after the event in forensic detail. There are cameras in the cars and on the cars, graphics that will even tell you how every single driver on the grid is managing their fuel load. We might sit and look at YouTube, see and hear V12 Ferraris, Matras and BRMs and lament we were unable to watch them in their pomp, being driven in anger at Zandvoort, the old Spa or Nürburgring, but even if you could turn the clock back you'd rarely have seen or heard them unless you travelled to the races.

And while we might complain of the bland corporate speak of the drivers when they talk to the media, at least they do talk. Read old race reports in *Motor Sport* and you'll see astonishing amounts of opinion from the likes of DSJ and startlingly few quotes. And without wishing to diminish in any way the achievements of our intrepid Continental Correspondent, just occasionally I'd like to have heard it from the horse's mouth. But back then drivers were not obliged to talk to the press, so many simply chose not to.

They do today because they are part of a machine, and I don't mean the one with four wheels and an engine. The machine is the car industry, and it is powered by the desire of those within it to use Formula 1 to sell cars to you and me. One of the key movers is Ola Kallenius, who has seen the sport and what it has to offer his company from every direction. He is currently head of sales and marketing for Mercedes-Benz, but he's also been chairman

"SPOOL BACK TO 1950. THE RIVETING SPECTACLE WAS THAT OF ALFAS LAPPING THE FIELD TWICE"

of its AMG subsidiary, run its F1 engine facility in Brixworth and worked at McLaren. And he has no doubts as to why Mercedes-Benz is competing in F1.

"Tens of millions watch F1 on a Sunday, but by Monday evening 100s of millions are talking about it, many interested in a brand like ours. The only other sports that'll get you close to that many people are the World Cup and the Olympic Games, but this is also directly relevant to our business and unlike them doesn't happen only once every four years, but every other weekend for nine months of the year. We also use F1 as a spearhead for growth in emerging markets."

For this strategy to work, what Mercedes does on the track has to be seen to be relevant to what it does on the road and the same can be said of Renault, Honda (who'll join the ranks of engine suppliers next year) and, yes, even Ferrari. Although the Scuderia was unable to make anyone available for interview, it is no secret that, like almost every other car manufacturer on earth, it is looking to use downsized engines boosted by both conventional turbochargers and hybrid energy recovery systems to power its future road cars. Renault threatened to leave F1 if the new regulations were not introduced and recently Daimler's R&D boss Dr Thomas Weber has said Mercedes would "probably have quit" if the new rules had not been introduced.

As for Honda, its position could not be clearer. Yasuhisa Arai is its chief officer for motor sports. He told me, "The new regulations were our biggest motivation for coming back to Formula 1 as an engine supplier. It means that environmental technologies and the pinnacle of racing are coming together."

Others more closely linked to the teams take a different view. Adrian Newey has been openly critical of the direction F1 has taken, saying "It should be about man and machine performing at their maximum every single lap." He has challenged the environmental friendliness of the energy cost of producing battery packs and the extra weight they've added to the cars, and suggested that weight reduction and sharp aerodynamics are more appropriate ways for F1 to increase its efficiency.

So how important is F1 today for developing technologies that will improve our lot by making the cars we drive better to own and use? How much of what car manufacturers say about the technical benefits of an F1 programme is offered as a genuine explanation,

"ADRIAN NEWEY HAS CHALLENGED THE ENVIRONMENTAL FRIENDLINESS OF PRODUCING BATTERY PACKS"



Porsche leads its rivals at the start of this year's Spa 6 Hours, second round of the technically diverse WEC



ARCHIVE // FROM *MOTOR SPORT* SEPTEMBER 2008

MAX MOSLEY IS introducing energy recovery systems into Formula 1 from 2009, in an attempt to protect the sport from the inevitable criticisms that will come its way as climate change worsens and pressure inexorably increases on the world's oil supplies. It is a responsible approach, yet the history of energy recovery and storage in F1 is not quite as straightforward as that. In fact, F1 cars would have been using energy recovery systems for the past decade, had the FIA, with Mosley as the governing body's president, not prevented it.

In 1998, McLaren-Mercedes was developing a system designed to perform the same function as KERS. But after initially approving it, the FIA changed its mind and banned it. The system was the brainchild of McLaren technical director Adrian Newey and his long-time friend Mario Illien, his counterpart at Mercedes engine builder Ilmor.

"Mario's a very good all-round engineer," Newey says. "He has a broad interest in engineering matters, not simply motor racing, and has always been keen on energy conservation, which he demonstrated in the Ilmor factory, (with) little things like using the heat from the dynamometer water to heat the factory in winter. He doesn't like wastage. He likes to be efficient. We discussed the fact that energy storage is used commercially in various areas, and we started to think this was something that could apply to F1."

They explored various possibilities: a system based on batteries, which will probably be most commonly used in 2009, a flywheel or hydraulics, then settled on hydraulics, even though Newey admits it is "technically least favourable".

"We already had what's known as a squish-plate pump, which is borrowed from aircraft hydraulic pumps," Newey says. "So Mario had the idea, why don't we go for a much higher output



and how much as just an excuse for a marketing exercise?

The answer is almost impossible to provide. Head maintains that nothing found on a modern F1 will ever have "any kind of direct spin-off into the cars we drive". But he adds that increasing thermal efficiency of F1 powertrains from 30 to 40 per cent will in time inevitably contribute to increased efficiencies in the road arena. Kallenius goes much further: "The new rules mean there are effectively two turbos, one big one for power and a smaller one for response. This goes hand in hand with our road car development and will be seen on cars we sell in as little as five to seven years."

Of course this is all well and good. But what of the fan, the man, woman or child stood in the grandstand or sat at home? Where do they fit into the grand schemes of the car manufacturers whose money propels this sport, other than as targets for their marketing people?

❖

I EXPECT MOST OF US HAVE DESIGNED our ideal F1 car, even if only in our heads. Mine would look like a Lotus 79, sound like a Ferrari 312B and slide like a MkII Escort. It would provide a magnificent spectacle, but you can get all that at the Goodwood Revival. When in 1999 I asked Gordon Murray to turn his ever-fertile mind to the same task the result was driven by a 1200 shaft horsepower gas turbine with technological tricks including surface cooling, steering by wire, fan-assisted downforce, fully active suspension and an ejector seat programmed to throw the driver clear of the car in a crash. But what kind of spectacle would they have made? They'd have sounded like Boeings, would generate so

squish-plate pump and use that as a way of absorbing power from the rear axle under braking and being the motor for putting it back in under acceleration?"

The system, they calculated, would have given them a lap time gain in the region of 0.2sec, about half that being talked about with KERS for next year. "But we had a slightly different set of criteria," Newey says, "in that we didn't have any rules to work to, but we did have a tight budget and timescale. So we felt a guaranteed 0.2sec reasonably quickly was a much better route than a theoretical 0.4sec two years away."

The problem was the wording of the regulations, which said that propulsion had to come solely from a 3-litre, four-stroke internal combustion engine. "Of course," Newey says, "the propulsion is initially being made by that, you're simply harnessing it, then reapplying it. But clearly there was going to be a debate on its legality, so we approached the FIA and they came back and said, 'It's good, it's exactly what we want.'

"So, as far as we were concerned, we had the green light, regulation-wise, and then as we started to progress, suddenly we got a clarification saying, 'No, we've reconsidered and it's not legal!'"

Even now, Newey finds it difficult to hide his frustration. It was not the first nor the last time a team he was working for had a new technology outlawed in this way. In this case, though, that feeling is heightened by what he feels was a missed opportunity for F1 as a whole. Japanese manufacturers had just started putting hybrid systems on their road cars, and this, Newey feels, would have accelerated their adoption.

"Not as a direct piece of technology," he says, "in as much as you wouldn't choose hydraulics as the route for energy storage in road cars. But philosophically, yes. I've had a feeling for a long time that very rarely now, if ever, does a piece of Formula 1 technology directly transfer on to a road car. But F1 does popularise general technologies.

"When F1 was using turbocharged engines there were more turbocharged sports cars around. Nowadays, every self-respecting boy racer wants flipper gear changes on his steering wheel. He also wants fake carbon-fibre trim. There is no doubt F1 technology in general does create showroom demand. Equally, once energy storage had been adopted in F1 by one team, there would have been a rush by the others to catch up. And inevitably that would have led to more efficient systems such as battery-based technology."

Despite his frustration, Newey welcomes the introduction of energy storage into F1. "Quite rightly, Max Mosley feels that potentially F1 could easily be criticised in this green age as being a wasteful and extravagant arena. So trying to show an awareness of that with a regulation designed to encourage the development of fuel-efficient cars is good for F1. By doing so it protects itself from that allegation."

much downforce the driver would need a G-suit and be no more likely to oversteer than perform a convincing samba.

I'd suggest that somewhere between my antediluvian vision and Gordon's post-modern solution is what's required and, flawed and open to criticism though it is, I think that's roughly where the sport is today. F1 has to be at the cutting edge of technology: it has to be doing things cars have until that very moment not been able to do. That is its USP, that is what makes a round of the Formula 1 World Championship the best-attended annual sporting event in this and, I am sure, many other countries. I have whinged about F1 and the direction it has taken for years, but come Sunday afternoon you'll know where to find me.

❖

"I THINK THE ARGUMENT THAT SAYS modern F1 has to be relevant is very strong," says Max Mosley, the former race driver, team owner and the man who was at the helm of the FIA when the current rules were negotiated with the teams. "Formula 1 is like war," he adds. "It makes people do things very quickly and progress far faster than they otherwise might. And it is right that it should be that way. But for that to happen you need huge amounts of money to be poured into R&D, so ensuring that investment has some relevance to road cars just makes sense."

What Mosley is doing here is tacitly acknowledging the role of car manufacturers as opposed to race teams in the sport. Manufacturers have been integrally involved in the sport since its inception, as Kallenius is keen to point out: "We've been involved since both declared winners of the 1894 Paris-Rouen race were powered by Daimler-designed engines." And while some areas of the sport – F1 in particular – came to be dominated by what Enzo Ferrari referred to as '*garagistas*', sports car racing and rallying have always been the domain of the big brands. And if you think the world of racing is competitive, it's a Buckingham Palace garden party compared to the cut-throat world of selling road cars. Whether it is right for their voices to become increasingly heard by rule is perhaps not the point. It is simply inevitable.

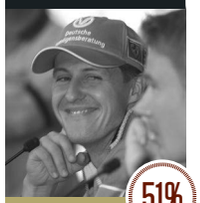
Some still rail against it and understandably so: of all car manufacturers ever to get involved in F1, few have hung around for long, choosing moments when it suits current strategy and exhibiting little long-term loyalty. Indeed only Ferrari has been there from the start and he never raced to sell cars but the reverse, viewing his customers, according to his very unofficial biographer Brock Yates, as "slathering nouveaus and empty aristocrats".

The clout manufacturers now wield still clearly rankles with Head. "The regulations as they stand today have come about through

2000s

GREATEST DRIVERS

WEBSITE POLL RESULTS



51%

1 MICHAEL SCHUMACHER

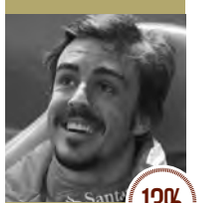
Took five straight F1 titles for Ferrari, following two for Benetton in the 1990s. Didn't add to record 91 GP wins with Mercedes, but comeback was admirably brave.



18%

2 SÉBASTIEN LOEB

Those nine world rally titles didn't do much for the popularity of his sport. But that's not his fault. All-rounder credentials are high following Le Mans podium. Now in the WTCC.



13%

3 FERNANDO ALONSO

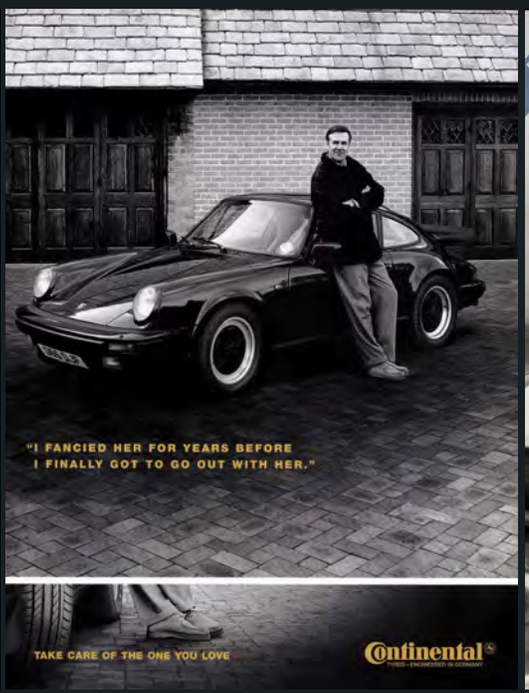
Ended the Schumacher era with back-to-back F1 titles for Renault. We're still waiting for the third with Ferrari, but peers regard Alonso as top dog in cars that are mostly inferior.

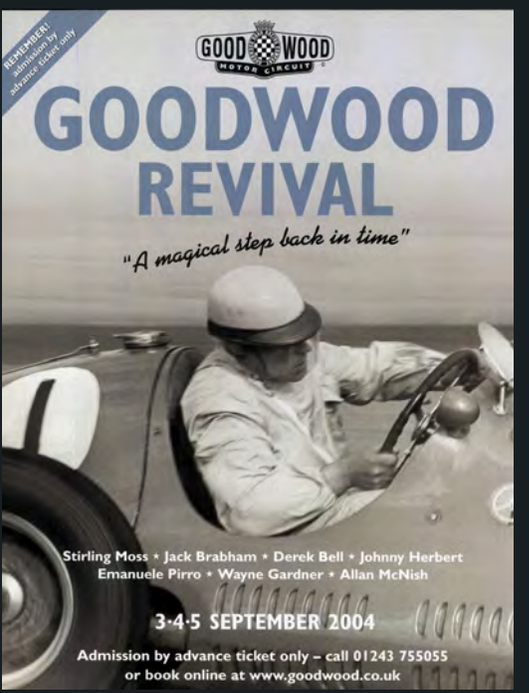




"DID SÉBASTIEN LOEB ACTUALLY DO HIS SPORT MORE HARM THAN GOOD?"









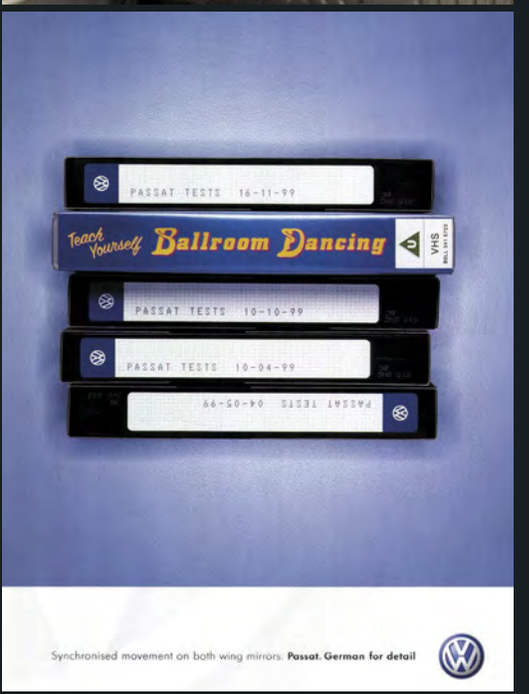


2000s

AD BREAK

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the FIA. First Max and then Jean Todt talked to car manufacturers, who told them that unless the rules allowed them to pursue technical challenges that were of relevance to the cars they sold the public, they'd have no interest in being involved. It's not that those of us in the sport wanted to go in that direction. We had it imposed on us by the FIA."

Even so, Head finds himself torn. "As an enthusiast you could say you don't give a damn about improving efficiency. F1 is in the entertainment business and all the cars should sound incredible, have at least 1000bhp and smoke their tyres coming out of every corner. You could then leave developing technical solutions for road cars to a perhaps more appropriate Le Mans-type arena. As a position I find that entirely defensible, but the engineer in me still finds it fascinating that you can cover the same distance on 100kg of fuel this year as you did on 145-150kg last year, and do it to within a minute of the same time…"

❖

TIME WILL TELL WHETHER THE DRIVE to make sports racing cars more relevant will find favour with the public, but if car manufacturers like the rules enough to take part, that increases competition and therefore the likelihood of close racing. With Audi, Porsche and Toyota already signed up as WEC works teams and with Nissan on the brink, sports car racing has rarely looked so enticing.

As for rallying, it is too early to know whether changes wrought to make the WRC more relevant – and the retirement from full-time competition of Sébastien Loeb – will rekindle interest. To an extent the domination of Loeb has been replaced by that of Volkswagen. "Last year Wales Rally GB was the most successful there has been," says Ben Taylor, communications director for the Motor Sports Association, "but I'd put that down to relocating the event to North Wales and not at all to Loeb no longer being there, nor to changes in the technical regulations."

It is certain there will be no stopping the trend towards making competition cars more closely related to their distantly related road-going relatives. And you can view that in two distinct ways. You can see our sport providing perfect breeding conditions for new technologies, which will improve the quality of our lives on the road while reducing our impact on the environment; or you can see it as a cynical marketing exercise with the sport providing the excuse rather than the explanation for the manufacturers' involvement.

I incline to parts of each argument. I believe that, more now than ever, what is learned on the track will affect what we drive on the road, however indirectly that might be and however much time that will take. It really is inconceivable that in a generation's time the energy currently lost in heat from braking and turbocharging won't be recycled in road cars, and this is ground being pioneered in F1 today. But in the same way I never really bought the hunt's argument that the best way to control red fox numbers was for hounds to tear foxes to pieces, so too I find it just a little too convenient that, with all the resources at the manufacturers' disposal, the one that just happens to be best for developing new technologies is to scream around and around in circles as cars have done since the century before last.



Dawn of a new era: the all-electric Formula E is due to begin later this year. A key goal is to streamline battery technology

"A GOOD ENGINEER COULD DO FOR £1 WHAT ANY IDIOT COULD DO FOR £100"

As for the future, there are already developments such as the all-electric Formula E and further new solutions will be found. I would not bet against a new generation of fuel cell-powered competition cars with hydrogen fed in one end and nothing more polluting than water coming out of the other.

But Max Mosley, the man who has done more than any other to shape the regulatory direction of Formula 1 in recent years, sees a more immediate problem. "If one team has three times more money than another, effectively that equates to having a bigger engine, and no one would say that was fair. Right now there could be a gifted young engineer at Caterham or Marussia, but what chance do they have of making a difference against the might of the top teams?" His answer is a budget cap. "Take all of what I call the Bernie money, put it into a pot and then divide it equally between the teams and that's what they can spend. Any additional money they can raise through sponsorship would then just be profit. It would make no difference to the spectacle other than to provide closer racing. And it would hand the power back to the engineers. Keith Duckworth defined a good engineer as someone who could do for £1 what any idiot could do for £100. And he was right."

In theory the idea has merit, but in reality can you see Red Bull, McLaren and Ferrari agreeing to invest the same amount in their cars as Marussia and Caterham? Me neither. The one seam running uninterrupted through all motor sport, from F1 to historics, is that by and large over time the greatest success will come to those that spend the most. It always has and, I very strongly suspect, always will. M

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Jack Hawksworth

The Bradford lad who took an early decision to target a career in America – a move that has served him well. By Gordon Kirby

JACK HAWKSWORTH HAS ENJOYED A rapid rise in America, winning the Star Mazda championship in 2012 and scoring three Indy Lights victories last year. The promising Briton's speed and composure earned him a full-time IndyCar ride this year with Bryan Herta's small but very capable team, and the 23-year-old from Bradford turned heads by qualifying in the top 10 for IndyCar's season-opening street races in St Petersburg and Long Beach, then led impressively at the Indy road course race in May.

"With a rookie driver you're looking for those flashes, those sparks, and we're already starting to see that," Herta said at Long Beach. "Jack has put in really good performances in practice, qualifying and the races and it's been really encouraging so far."

Hawksworth started racing karts when he was 13 and immediately made his mark in British and European karting. He made his car debut in the Formula Renault UK 2010 Winter Series, qualifying on pole for his first race and finishing fourth in the following year's Formula Renault UK series with a win at Croft. Hawksworth and his family then took the decision to switch his career to America.

"We saw there was a scholarship system in America," Hawksworth says. "If you won a championship you could move on to the next level. We thought that was really good and we also thought it was something we could sell as an investment, because there was a promise that if you delivered the results there was a reward.

"That had a lot of appeal to people who were interested in investing in my career. We thought it was the best option and I think it was the best decision we made. I couldn't be happier with the results and where it's got me to today with Bryan and his team."



CAREER IN BRIEF

Born: 28/02/1991, Bradford, UK
2004-2010: karting, honours including Junior Max European title in 2006 **2010:** Formula Renault UK Winter Series, 3rd **2011:** Formula Renault UK, 4th **2012:** Star Mazda, champion **2013:** Indy Lights, 4th **2014:** IndyCar

Herta was sold on Hawksworth when the young Brit first tested Herta's Indycar at Sebring last winter. "Frankly, Jack's manager was very good at selling him to me," Herta says with a grin. "But several people I really respect called me and said this kid is worth investigating. I had a very open mind, not knowing what to expect, and he got in the car and did the business right away.

"I was really impressed, not just with his pace, but he stepped up right away to accepting a lot more data, a lot more information. None of that put him off and [team co-owner] Steve [Newey] and I were impressed. We talked about it and decided to take a chance on a rookie."

Hawksworth appears to have a big future in IndyCar. "I think this is the biggest step I've made in my career," he admits. "Like Bryan says, there's a lot more information you've got to assess compared with the junior formula, so there's a lot more to think about. It's more complex and the cars are more physical to drive.

"What's been good is that Bryan and everybody in the team have made it very easy for me to take the jump. They've not put me in a situation where I've felt under pressure at any point or felt that I don't belong here. They've made it very easy for me and I think that's made a big difference.

"The team has a nice, relaxed approach and everything feels like it's working well together. Bryan was a successful driver and he understands what's going on. He and the team have been invaluable. I'm still learning and there's a lot to take on board. I need more time in the car and more time getting used to the format of the weekend, but Bryan and Steve have so much experience that it makes it easy for me to get up to speed."

Keep an eye on Hawksworth, a talented, intelligent young man whose career is quickly taking shape in the US.



{ STEVE McQUEEN • LE MANS, 1970 }

EXTREME CLOSE-UP

For Steve McQueen, making a film of the Le Mans race was a passion. And passion can tempt you into taking risks

writer GORDON CRUICKSHANK **illustrator** GUY ALLEN

LE MANS. IT'S 1970. You're Derek Bell, caning a Ferrari 512 into Maison Blanche with Jo Siffert's Porsche 917 nudging your gearbox; foot down, touching 160mph, you feed the scarlet car through the long left-hand curve, let it run wide to the right on the exit – and something lying in the middle of the road flashes past your left wheels. A body. A body with a camera…

Bell is used to cameras by now. This most famous race of all is being immortalised on celluloid by Steve McQueen. That means a squad of Ferraris, Porsches and Lolas re-enacting scenes from the real race a month or two before, handled by serious drivers – Bell, Siffert and McQueen himself, who as well as starring is no mean racer. They have the track to themselves, there are no spectators, the camera is meant to be on the grassy left-hand verge – what the hell's going on?

The shooting over, Bell climbs out of his car. Director John Sturges (later replaced by Lee Katzin) is delighted with the scene, but Bell is seething. "There's some !*@*^%*@ nutcase lying in the track!" Sturges radios to McQueen, who roars up on his motorbike, helmetless, hair flying. The angry director grills him about why he's placed a cameraman in such a dangerous place.

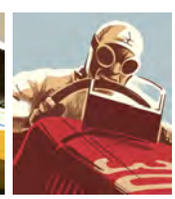
McQueen shrugs, grins that sardonic grin. "Oh, that was me."

He's a racer, this Hollywood star, and he knows racers. He knows they'll follow a precise line, that the cars will drift right on that exit. He trusts their inch-perfect skills to keep him safe as he lies prone, unprotected, unexpected, inches inside the racing line. He has to go there, it's where the good shot is. For mavericks the rules don't count.

It's a memorable scene in a unique film, one that many enthusiasts count as the greatest racing movie. And there's one moment of filming Derek Bell will never forget…

Guy Allen
guyallen.co.uk






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EVENTS
OF THE MONTH

GRAND PRIX HISTORIQUE MONACO ❖ DONINGTON HISTORICS ❖ BLANCPAIN SPRINT SERIES



"AS AT EVERY HISTORIC FESTIVAL, SOME CARS WERE DRIVEN BEAUTIFULLY – AND SOME WEREN'T"

Katsuaki Kubota and Michael Lyons lead away the 1966-72 F1 field

ALL IMAGES CREDIT SUISSE

Grand Prix Historique Monaco

WHAT IS IT ABOUT MONACO? The high-rise apartments have trashed the old Victorian elegance, the streets and traffic are brain-fryingly chaotic and the almost palpable smell of money leaves a vulgar aftertaste. And yet no matter how many times you go back, each visit lures you in. You become transfixed.

Perhaps it's the glimpse of lives most of us can barely imagine. Mostly, at least in the month of May, it's about the kerbing, safety barriers, pit buildings and other racing paraphernalia that sprouts up around the harbour. The bling is the backdrop, but what sticks is the circuit. This bizarre place is at the heart of why we love motor racing.

EVENTS
OF THE MONTH



The ever-spirited John Ure minimises front right tyre wear in his Cooper-Bristol

The ninth Grand Prix Historique Monaco, two weeks before the contemporary Formula 1 race, featured all the gaudy, opulent ingredients that are so familiar, but with a dose of old Monaco charm and character. The simple twin-row paddock contributed much, but it was the cars sheltered within that really made the difference. The quality of entry for the seven races was simply astounding.

From pre-war Grand Prix machinery to F1 chassis covering three decades, plus a welcome dose of 1950s sports cars and colourful '70s Formula 3s, there was familiar fare from the Goodwoods and Silverstone Classics, but with added rarities for extra spice. Out on track, they all looked wonderful against such a backdrop and, as at every historic festival, some were driven beautifully – and some weren't. The intimidating narrow streets increase the gulf between the haves and have-nots (talent in this case, not wealth) more than anywhere else.

F3 used to be the traditional Grand Prix support in Monaco, but on this occasion the 1970s 2-litre brigade upstaged the main acts with the best race of the day. David Shaw's Nelson Piquet Ralt RT1, rebuilt after a qualifying shunt, got off to a flier from pole position, but that start was patently too good. A drive-through penalty cost him any hope of victory.



Guy Peeters (Lotus) leads a group through the hairpin and, right, Tom Price (250F) does likewise at Casino



The race developed into a fantastic scrap between Paolo Barilla, Valerio Leone and Ollie Hancock. Former Minardi F1 racer Barilla pulled the decisive move on Leone at the second part of the swimming pool complex – hardly a regular passing spot in Monaco. Hancock took advantage of traffic congestion at the final corner to snatch second, only for Leone to squeeze back past at Tabac. It's usually strictly single-file through there, too.

The pair of bewinged F1 races that sandwiched the F3 encounter offered spectacular sights and ear-piercing sounds. Katsuaki Kubota offered nostalgic overload by winning the 1966 to 1972 F1 race in his glorious JPS Lotus 72. Michael Lyons' Surtees TS9 kept him on his toes until a misfire set in, which allowed Rob Hall's growling Matra MS120B into second. But determined Duncan Dayton had designs on the place in his Brabham BT33 and, having already clattered the barrier at Tabac, chose the needle-and-thread left-hander to slice past Hall.

The race ended early under red flags when the March of Richard Smeeton attempted to pass American John Goodman's lovely Ferrari 312B2 at the start/finish. A catastrophic coming together left the Ferrari looking a lot less lovely – a great pity – and the drivers were lucky to escape injury.

Lyons made up for his Surtees

disappointment by proving predictably dominant in the race for non-ground-effect F1 cars of 1973 to '78. His day was made easier by Nathan Kinch eliminating himself in qualifying when he sideswiped the barrier at Ste Devote in his Williams FW06. Sam Hancock's Fittipaldi might have challenged Lyons, but clutch problems at the start of the formation lap forced him to line up at the back. His recovery to seventh at the flag was admirable. That flag was red, by the way, after Kubota blotted his day by rattling his March 761 into the Massenet barrier.

Andy Middlehurst was another dominant winner – as usual – in his Lotus 25, beating Sid Hoole's Cooper T66 by nearly 40 seconds in the 1961-65 F1 race. Joe Colasacco's Ferrari 1512 had crackled away behind him until second gear disintegrated. It had been a joy while it lasted.

Roger Wills claimed Pre-61 F1 and F2 honours, while second place was only decided on a drag to the line between Frank Stippler's Maserati 250F 'Piccolo' and Tony Wood's Tec-Mec. The former just got there first.

Alex Buncombe was an easy winner in his JD Classics Jaguar C-type in the 1952-55 sports car race, but it was John Ure who provided the entertainment in his beautifully driven Cooper Bristol. Down the road, *Motor Sport*'s Andrew Frankel made his Monaco debut driving brother Richard's highly original C-type, which had competed in Monaco's only sports car Grand Prix back in 1952 in the hands of Tommy Wisdom. Our man acquitted himself immaculately all weekend and the result – 24th out of 37 starters – was more than respectable in a car he had to bring home in one piece. It was due on the Mille Miglia four days later in Richard's hands.

As was the case for many in Monaco, the result was immaterial. The emotion of racing on these famous streets was reward enough, the sense of achievement making the sight of grown men hugging each other quite common back in the paddock.

For once in motor racing, it really was the taking part that counted.

We'll have to wait until 2016 for the 10th Grand Prix Historique Monaco. If you haven't been, start saving now. You'll love it. *Damien Smith*



Our man Frankel (Jaguar C-type) tussles with David Franklin (Ferrari 225S)

DAMIEN SMITH



Ferrari never raced the 312 B3 'Spazzaneve' in period, but Franco Meiners does...



STREETS, CARS, NAMES, DESIRE

The racing might be good, but Monaco's historic weekend has other strengths

HARD RESULTS ARE NOT WHAT THE GRAND PRIX Historique Monaco is all about. It is a celebration of great cars, and close racing is frankly a bonus.

Set pieces this year included demonstrations from Renault Classic and Audi Tradition in partnership with Chopard. F1 old boys and Sky F1 presenters Damon Hill and Johnny Herbert were present on the Friday, the latter having a run in an ex-Ronnie Peterson March 701. Hill relished his drive in the original turbo F1 car, the 1977 RS01. "It was amazing," he grinned in the pitlane. "It just goes to show driving is obviously hard-wired into me. You could certainly feel the turbo kicking in and there was plenty of lag. I don't know how fast I was going through the tunnel, which was very dusty. But it felt fast!"

Hill was reunited with ex-Williams team-mate Alain Prost on a memorable afternoon. Prost had a run in his 1983 RE40 on Saturday, before Jean-Pierre Jabouille took over.



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In the next pit sat a pair of glorious pre-war Auto Unions, a Type C V16 and a Type D V12. Chopard ambassador Jacky Ickx was on hand to drive, the Belgian legend looking quite at home on a track where he famously served as clerk of the course in the sopping 1984 Grand Prix.

Coys and RM Auctions both hosted sales over the weekend, RM's high-profile Saturday event setting a new European benchmark for the company. The Hesketh 308 featured in *Motor Sport* last month was bought by DJ Chris Evans for €250,000, while the Lister Knobby prototype (also included in June) went for €1,176,000.

The Credit Suisse Drivers Club was again the place to relax between races. On Friday morning, the bank hosted its popular media forum, featuring Sir Stirling Moss, Jochen Mass, Derek Bell and, for a modern perspective, Porsche racer Romain Dumas. They held court for an entertaining hour and the whole thing can be heard, at your convenience, via our website.



JEFF BLOXHAM

Donington Historic Festival

THE FOURTH DONINGTON HISTORIC Festival featured a weekend of stand-out races, topped by Simon Hadfield's Gentleman Drivers' victory over Olly Bryant in a mesmerising AC Cobra shoot-out.

Feature races included the *Motor Sport* 90th Anniversary Trophy for pre-war sports cars running over a brace of half-hour races. After some spirited battling, Frazer Nash saw off Bentley in convincing style. In between were gems such as the 1914 Sunbeam Tourist Trophy of Nick Pellett and the short-chassis Squire of Jonathan Turner, which raced in the 500-mile race at Donington in 1936.

Fred Wakeman and Patrick Blakeney-Edwards won both parts in their Frazer Nash Supersports, with American Wakeman doing the opening stint and then handing over to the historic race car preparer. "I enjoyed getting into the car after someone else had done all the hard work," said Blakeney-Edwards.

On Sunday Ewen Getley ran second in his Bentley, but could do nothing to stop Sam Stretton (Alta) taking the runner-up slot from the back of the grid on Monday.

Of course, the race programme was only part of the story of this ever-growing event. Notable was the guest appearance of John Surtees, who jumped into a Lola T70 Spyder for some rapid demonstration laps. "I've not been in one of these since 1968, but all things come back a bit and it felt very nice," said the 1964 world champion.

A mighty battle raged in the HRDC's celebration of the British Saloon Car Championship as the race boiled down to a straight fight between Sean McInerney's BMW 1800 and Martin Stretton in David Tomlin's Ford Lotus Cortina. To his eternal credit, McInerney withstood everything that Stretton could throw at him to hold onto the lead.

However, McInerney's winning margin of just over a second was positively comfortable compared to the tenth that split Hadfield and Bryant after a sensational 90-minute Gentleman Drivers contest. Hadfield took over from Leo Voyazides and emerged from the stops with a 10-second lead over Bryant, who had taken over from his father Graeme.

For the final 40 minutes of the race, Bryant mounted a relentless chase of Hadfield, clawing back fractions of a second as both cars scythed through traffic. Into Redgate for the final time they were side-by-side as Bryant tried to go around the outside. However, a backmarker just cost him momentum and Hadfield held on to win by a tenth of a second after a battle of the very highest order.

"It's great to race with you," said Hadfield as he shook hands with Bryant after an outstanding race. "Simon did a great job defensively," said Bryant, while Hadfield had the last word: "That's proper racing."

The day before, a rare retirement for the Lola T70 Mk3B of Voyazides and Hadfield left the way open for victory for the similar car of Olly Bryant in the FIA Masters Historic Sports Car Championship. Recompense for Voyazides and Hadfield came with a resounding Ford Falcon success (Masters Pre-66 Touring Cars).

Other notable winners included Michael O'Shea (Cooper Monaco) and Jason Minshaw (Birdcage) who shared the wins in the Maserati Centenary Trophy races. For O'Shea's Maserati-powered ex-Salvadori sports-racer, it was a first win since the original driver won the 1964 Whitsun Trophy at Goodwood.

Gary Pearson and Jackie Oliver took Pre-63 GT spoils once more in their Ferrari 250GT, but Oliver and Richard Shaw (BMW 1800) were edged back to second in the U2TC thrash by the Alfa Romeo Giulia of brothers Andrew and Max Banks. *Paul Lawrence*



JEFF BLOXHAM

The Getley and Morley Bentleys to the fore early in the first *Motor Sport* Trophy race, top. Sean McInerney (BMW) vs Martin Stretton (Cortina), above

Below, John Surtees reunited with Lola T70 Spyder. Below left, the end of an epic AC Cobra battle between Simon Hadfield and Olly Bryant. Hadfield won by a sliver



CHARLIE WOODING





The winning Lamborghini leads the field towards Graham Hill Bend at the start of race two pursuit. Below, the sweet taste of victory

FORTHCOMING EVENTS

JUNE 2014

1 **MotoGP** Italy
1 **British GT** Silverstone
5-8 **WRC** Italy
7 **IndyCar** Texas
7 **TUSC** Kansas
8 **F1** Canada
8 **WSBK** Sepang
8 **WTCC** Moscow
8 **BTCC** Oulton Park
13-14 **Le Mans Legends**
13-15 **Cholmondeley Pageant of Power**
14-15 **WEC** Le Mans
14-15 **World RX** Norway
14-15 **Brooklands Double 12**
15 **MotoGP** Catalunya
15 **BSB** Snetterton
19-21 **ERC** Ypres
21-22 **WTCC/Euro F3** Spa
21-22 **British GT/F3** Snetterton
22 **F1** Austria
22 **WSBK** Misano
22 **WTCC** Spa
26-29 **Goodwood Festival of Speed**
27-28 **BRC** Scotland
27-29 **WRC** Poland
28 **MotoGP** Assen
28-29 **IndyCar** Houston
28-29 **DTM/Euro F3** Norisring
28-29 **World RX** Finland
29 **TUSC** Watkins Glen
29 **Blancpain** Paul Ricard
29 **BTCC** Croft
29 **BSB** Knockhill

JULY 2014

4-6 **Le Mans Classic**
5-6 **World RX** Sweden
6 **F1** Great Britain
6 **IndyCar** Pocono
6 **Blancpain** Zandvoort
6 **VSCC** Shelsley Walsh
11-12 **British GT** Spa
12 **IndyCar** Iowa
12-13 **TUSC** Mosport
12-13 **DTM/Euro F3** Moscow
12-13 **World RX** Belgium
12-13 **Brands Hatch Superprix**
13 **MotoGP** Germany
17-19 **ERC** Estonia
19-20 **IndyCar** Toronto
20 **F1** Germany
20 **BSB** Brands Hatch
24-25 **TUSC** Indianapolis
25-26 **F3** Spa
25-26 **Eifel Rally Festival**
26-27 **Blancpain** Spa
27 **F1** Hungary
31-3 **WRC** Finland

AUGUST 2014

2-3 **DTM/Euro F3** Spielberg
2-3 **VSCC** Prescott
3 **IndyCar** Mid-Ohio
3 **WTCC** Rio Hondo
3 **BTCC** Snetterton
3 **BSB** Thruxton
7-8 **World RX** Canada
08-10 **Nürburgring Oldtimer**
10 **MotoGP** Indianapolis
10 **TUSC** Road America
10 **BSB** Oulton Park
13-17 **Pebble Beach**
15-16 **BRC** Ulster Rally
16-17 **DTM/Euro F3** Nürburgring
16-17 **British F3** Thruxton
17 **IndyCar** Milwaukee
17 **MotoGP** Czech
22-24 **WRC** Germany
24 **F1** Belgium
24 **IndyCar** Sonoma
24 **TUSC** Virginia
24 **Blancpain** Slovakia Ring
24 **BTCC** Knockhill
24-25 **Oulton Park Gold Cup**
25 **BSB** Cadwell Park
29-31 **ERC** Czech
30 **IndyCar** Fontana
30-31 **British GT/F3** Brands Hatch
30-31 **Zandvoort Historic GP**
31 **MotoGP** Great Britain



Below, the Brazilian BMWs were a factor all weekend and took a brace of third places. Bottom, Alex Zanardi endured a few scrapes en route to fifth place

Blancpain Sprint Series Brands Hatch

THE SPECTATOR banks were bustling rather than brimming, but the sense of occasion was tangible as Brands Hatch played host to the Blancpain Sprint Series, its first major sports car international for 18 years.

The fall-out from recent races restricted the field to just 20 cars – and that was reduced by one when Philipp Frommenwiler crashed Farnbacher's Porsche 911 at Stirlings during the first free practice session. The chassis was too badly damaged to be repaired on site and that meant no further action for the Swiss's co-driver Nick Tandy, the factory Porsche racer who would have added local interest.

There were no such problems for Grasser Racing, whose Lamborghini Gallardo won both qualifying and feature races in the hands of Hari Proczyk and Jeroen Bleekemolen.

The Austro-Dutch pair initially followed the pole-sitting Audi R8 of Laurens Vanthoor/Cesar Ramos in race one, but jumped ahead after the pit stops. The R8 faded in Ramos's hands and Maximilians Buhk and Götz (HTP Mercedes) became the Lambo's closest challenger, but there was no way through and Proczyk won by half a second. The Team Brazil BMW Z4 of Sergio Jimenez/Caca Bueno took an increasingly distant third.

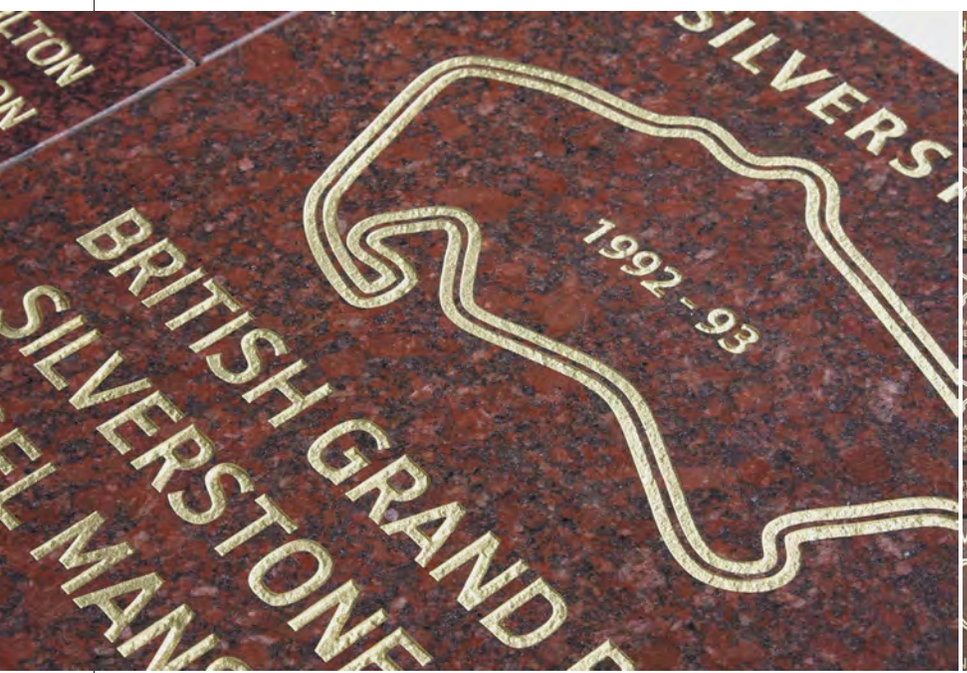
The field had been compressed during the second half of the race, following a safety car period to permit retrieval of Alex Zanardi's BMW from the Clearways gravel. "I was close behind a Lamborghini and thought the corner was over," the Italian said, "but I understeered on the marbles and all hell broke loose."

The Lamborghini led from the start in the main race – but both drivers paid tribute to Grasser's pit work. They lined up on pole position only after squeaking out of the pits with seconds to spare, following last-minute hub repairs. A swift mid-race stop enabled them to increase their lead over the field and they finished 4.042sec clear of Buhk/Götz, with Jimenez/Bueno again completing the top three after team-mates Matheus Stumpf/Valdeno Brito served a drive-through for a pit infraction. Vanthoor/Ramos took fourth ahead of Zanardi, who recovered wonderfully from the back of the field despite baking in the wake of a cool-suit failure.

Vincent Abril/Mateusz Lisowski (WRT Audi) won the Silver Cup class, in sixth overall, while Marc Basseng and Anglo-Italian Alessandro Latif (Phoenix Audi) finished 11th to win the Pro-Am division. *Simon Arron*









Silverstone Wall of Fame

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Champ Andrew Jordan leads winner Gordon Shedden during BTCC race two at Thruxton

ALL IMAGES SIMON ARRON

THE TASTE OF GOOD HEIGHTS

Oulton Park, April 21 & Thruxton, May 4: British motor sport's twin peaks... but could they be made better yet?

BOTH PADDOCKS WERE rammed, ditto many of the spectator banks, but there was a subtle difference. There were plenty of motorhomes and hospitality units in Hampshire, but not quite so many racing cars.

It was the first time in a while that I'd attended a round of the British Touring Car Championship and my inner cynic was primed. When first I covered the series (more than 30 years ago, admittedly, when it was still the British Saloon Car Championship), teams relied on converted coaches, vans and trailers to flit between venues, races often shared headline billing with British F3 (when we had a series worthy of the name) and the wider world was unaware of either's existence. All a far cry from today's carefully managed show, with its significant TV profile and legions of fans, many wearing team apparel and all creating a decent atmosphere by cheering (or gasping at) every pass or defensive chop.

By reputation the BTCC has become too boisterous, with drivers getting away with more aggression than might be tolerated in other series, but there was little evidence of that at

Thruxton. The meeting featured a few instances of minor contact – and a couple of headline incidents in which cars went off at Church and finished up closer to the A303 than the circuit – but precious little to offend the purist.

For the most part, the competition was clean – and one lead battle, between the Hondas of Gordon Shedden and defending champion Andrew Jordan, was a perfect illustration of how things should be done: Shedden earned victory through sharp racecraft rather than sharp practice.

The area that needs most work is the one about which fans probably care least: Ginetta Juniors apart, the support package is horribly weak in terms of numbers (for instance 13 Formula Fords, 14 Ginetta GT4s and 10 Porsche Carrera Cup cars). The latest Renault Clios are a hoot to behold, but 11 cars do not a full grid make.

The second Clio race was put back, to allow upper suspension mounts to be modified after the drivers' appetite for kerbs highlighted a potential weakness, and plastic marker posts were installed at the chicane as a supposed deterrent. These were shattered and replaced several times before marshals gave up the unequal struggle, but comedic interludes could not mask a brittle truth.

A fortnight earlier, the British GT season commenced with a 32-car field rich in quality and diversity, plus a decent supporting card (although a 1hr 40min race for 10 Aston Martin GT4s benefits drivers rather more than fans).

Attempts to run two Volkswagen Racing Cup events proved a touch chaotic, the first being nixed by a start-line pile-up and the second red-flagged after Kieran Gallagher suffered a brake pipe failure on the approach to Shell. In the ensuing accident, his Golf cleared the tyre barrier and landed in a woodland clearing beyond, where it remained until being craned out the following day. Nobody was seriously hurt, but drivers got only four laps of racing rather than the two x 20 minutes scheduled.

With Bentley, Aston Martin, Ferrari, Porsche, McLaren, BMW, Audi, Lotus, Nissan and Ginetta represented in the main event, the British GT Championship began the year with bigger fields than the pan-European Blancpain Endurance Series – and an equal spread of manufacturers. Similarly, the BTCC compares favourably in both respects with its global counterpart, the WTCC.

Feathers, both, in the cap of UK motor sport, but a little remedial work is required below the surface.





Clio antics led to plastic marker posts being erected as a kerb-hopping deterrent. This didn't work...





Leading Al Harthy/Caine Aston won the British GT opener. Above, rare shot of VWs actually racing



NARROW MINDED

Prescott, April 27: sunshine, rain, fried breakfast, motorbikes, cars and bluebells – a blissful recipe

THE GROUND IS MOIST, THE AIR largely silent save for the chatter of goldfinches in blossom-rich trees and the sound of tarpaulins being peeled from dew-drenched metal. The occasional burble of a tickled carburettor completes a pleasing vista. You could make a case for Prescott having the world's best paddock – a bluebell-cum-turf carpet is an asset in this regard – and it is certainly one of the most picturesque.

This was practice day for the opening round of the British Hill Climb Championship, ditto its Midland cousin, while bikes and sidecars were in competitive conflict. First, though, there was an essential call at the paddock café for a cooked breakfast and a pint of black coffee – so rewarding an experience that the action began without my noticing.

Initially the conditions were treacherous and, hillclimb technology being what it is, a



From the top, Kelvin Broad's Pilbeam, bluebells, Scott Moran's Gould... and the inevitable breakfast





4.5-litre Triumph TR7 (with twin turbos, obviously) was one of several cars that seemed reluctant to track a true course. Given the slippery surface, it was no surprise that the red flag should be brandished from time to time to allow cars to be extricated from the gravel. You'd hear occasionally dramatic messages over the radio network – "Emergency at Pardon!" – but your ears told you this was no more than a car slithering gently towards the tyres.

The bigger guns got to run in the dry, their cars' breadth amplified by the compact stage. Precision and commitment are a given in this business, but they are rarely showcased with quite such eloquence.

REGULAR VISITORS TO THE *MOTOR Sport* website might be aware that I received a written lashing in the wake of my reaction to a first live glimpse of the latest Formula 1 cars, mostly because I rather liked them. The noise debate seems to have aggravated the watching public more than almost anything I can recall.



Having heard positive and negative feedback from colleagues present at the opening four races, I travelled to Spain with an open mind. Certain aspects of the performance graph are flawed – GP2 pole-sitter Stéphane Richelmi would have lined up 18th for the Grand Prix, while slowest F1 qualifier Kamui Kobayashi's best time would have put him only 14th on the GP2 grid – but similar things have happened before (with F3000 in the mid-1990s) and should change as F1 teams climb the development curve.

The relative lack of noise didn't concern me – a slight surprise, if I'm honest, but wholly explicable. The first contemporary F1 car I saw live was Hans Stuck's Brabham BT45B, at Silverstone in 1977, and its wailing Alfa flat-12 sounded fabulous on the approach to Woodcote. It is some years, however, since the sport had a meaningful sonic tapestry. To my mind, F1's last truly soulful engine was probably Lamborghini's 3.5-litre V12, more than 20 years ago. The recent V8s have been loud but indistinguishable and the same applied to the previous V10s: all scored high marks for volume rather than character.

The V6 turbo cars might be an acquired taste (for some, at least), but I found them engaging to watch because the accent is on lashings of torque rather than grip.

Turning back the clock (a habit, I concede), there were certain bits of music that used to make the hairs stand on the back of my teenage neck – the instrumental break in Deep Purple's *Highway Star*, for instance, or that after 2min 24sec of Genesis's *Dancing with the Moonlit Knight*. A pack of passing Formula 5000 cars had exactly the same effect, but then so too did the sight of a Hawke DL15 or Royale RP24 being pitched into a corner and balanced on the throttle from entry to apex and beyond.

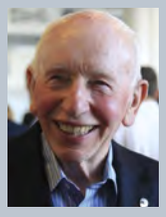
And they had the same engine as my dad's Ford Cortina. Ⓜ

WHISPERED IN THE SOUND OF SILENCE

Circuit de Barcelona-Catalunya, May 9-11: a first encounter with Grand Prix racing's new generation



JOIN US FOR A SPECIAL DAY TO REMEMBER



On July 1 2014 I would be delighted if you would join me and my friends at Mercedes-Benz World, on the historic Brooklands site in Weybridge, Surrey, for a memorable experience, both on and off-track!

Please help me celebrate my double anniversary year, and support HSF by entering a team of four to compete in the HSF Team Karting Challenge, alongside fellow corporates and stars of motor sport, past and present.

And for those of you not competing, you are welcome to join my friends and I for the post-race G. H. Mumm Champagne evening reception, prize-giving and auction.

In the first 12 months of the new HSF-supported service, Kent, Surrey and Sussex Air Ambulance have performed 69 emergency blood transfusions. Please help HSF to save more lives, improve quality of life for people with injuries and inspire young people to fulfil their potential.

It will be a super event and I would be thrilled if you could join us.

With very best wishes,
John Surtees OBE

What is the HSF Team Karting Challenge and Champagne Reception?

Now in its third year, this special event is established as a firm favourite on both the corporate and motor sport calendar, bringing together many motor sport celebrities in British Grand Prix week.

The karting itself is a challenging two-hour endurance race in which you will be driving Daytona's high-performance DMax karts. Some experience would be useful, but is not essential as the detailed brief and practice on the day will teach you all you need to know.

It is 50 years since John Surtees OBE secured his Formula 1 World Championship. The Barber Museum and race track in Birmingham, Alabama, is home to a collection of cars and motorcycles associated with John's life, including his title-winning Ferrari 158. The owner, George Barber, has made this car available to John for the season, with the challenge to raise £50,000 for HSF – a sum he has promised to match.

In celebration of John's remarkable racing career on two wheels and four, the Ferrari 158 will lead a spectacular on-track car display during the racing programme.

As the sun sets over the track, you will step out of your race suit and into the superb, state-of-the-art venue, where you will be able to explore fascinating exhibitions, get up close to legendary Mercedes-Benz vehicles and enjoy a champagne and canapé reception.

Steve Rider and Henry Hope-Frost will host the evening, interview John's special guests and the day's track stars, award the prestigious 'H' trophies and present a glittering auction, hosted by Bonhams.

G. H. Mumm Champagne will, once again, be poured by generous arrangement with the House and Bernie Ecclestone.



HOW TO GET INVOLVED

- *Enter a team or teams to compete in the 2014 HSF Team Karting Challenge*
- *For non-competitors, purchase individual tickets for the evening G. H. Mumm Champagne and canapé reception*
- *Share this invitation with your family, friends and business contacts.*

To enter a team of four costs £1000 (including four tickets to the G.H. Mumm Champagne and canapé reception). In addition, we ask you to confirm that your team will secure a minimum of £500 in sponsorship or make a minimum donation of £500. For non-karters, to attend the evening G. H. Mumm Champagne and canapé reception costs £65 per person. Please email ***info@henrysurteesfoundation.com*** *to secure your place on the grid, or to reserve individual tickets for non-karters to attend the evening G. H. Mumm Champagne and canapé reception. Numbers are strictly limited, and will be allocated on a first-come, first-served basis.*

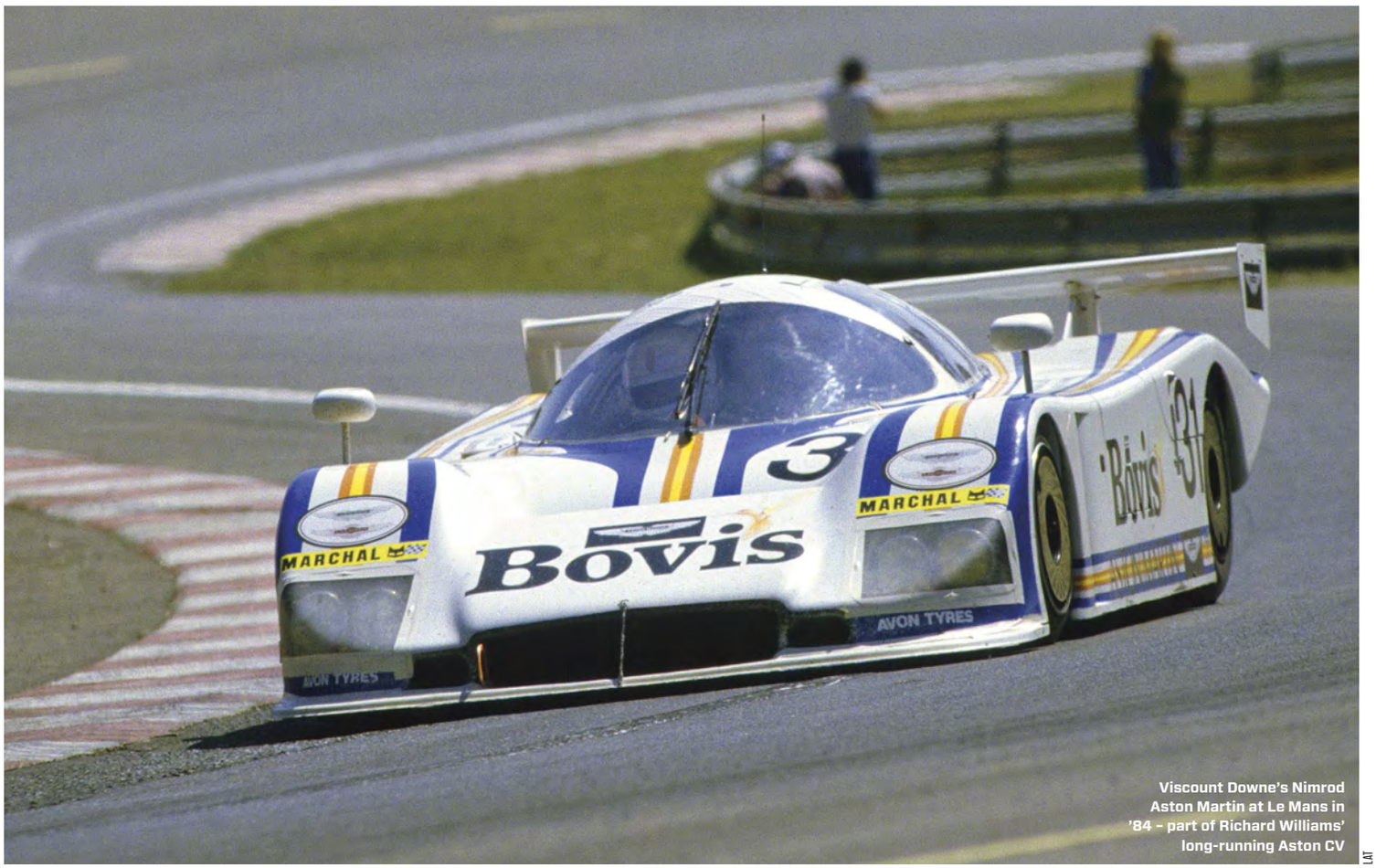


Henry Surtees Foundation
Registered Charity Number: 1137388
www.henrysurteesfoundation.com

GORDON CRUICKSHANK



One wheel in the past: searching out what's new in the old car world



Viscount Downe's Nimrod Aston Martin at Le Mans in '84 – part of Richard Williams' long-running Aston CV

LAT

ASTONS IN THE BLOOD

A trip to Surrey uncovers a cache of Britain's finest, and a man with a fund of knowledge

I'VE READ ABOUT ASTON expert Richard Williams over the years but hadn't met him until a motoring friend took me along to the eponymous firm he runs in Cobham, tactfully camouflaged behind suburban bungalows. R S Williams has been tuning, restoring and improving Astons since the 1960s, but came to prominence in our world with the Nimrod and Proteus sports-racing projects, when the Aston wings appeared on the Group C circuit. Brave attempts both, but ultimately there just wasn't enough in the kitty to defeat the likes of Porsche.

Williams was team manager for both, having gained race experience running Aston enthusiast Viscount Downe's DBR1 and Project 212, and though there are no GpC machines in the workshop now, there is a 32-valve AMR-1 motor on a stand and plenty of pictures on the walls of those glorious times. Racing continues, though; the firm recently ran a GT4 AM V8 for Michael Mallock ("We'd love to run a GT3 programme", says Richard) and regularly takes famous racing Astons to the big historic meets like Goodwood, while club and historic racing and even rally prep are a steady diet. RSW has

prepared the same DB5 for two Peking-Paris rallies, and there's a lovely model of it in the workshop. This elegant grand tourer may look out of place in the Mongolian desert, but it got to Paris without trouble. And it's for sale here in the showroom.

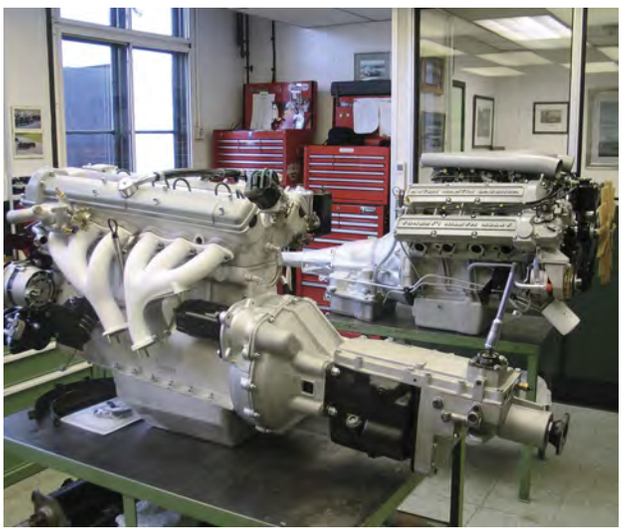
With so many years fettling these cars the firm is proud of its upgrades: they do head modifications with their own flow tester and offer big-valve conversions. Capacity uplifts too: pistons for the 5.3-litre V8 aren't made any more says Matt Farrant as he shows me a block on the bench, "so why wouldn't you have the 5.7 upgrade? More power *and* mpg."

Three people oversee each engine build, and owners get a dyno printout from the firm's own test cell. Two Vantages are here for the 7-litre workover, which requires a lot of block reinforcing. "Ten welding rods go into each block," Matt says. They've had Prince Charles's V8 here too, changing its diet to green fuel, and there's been a run of LPG conversions. "But it's all bolt-on, so it can be removed. We try to do that with all our work." The aim is that upgrades should not be apparent. Originality matters too, and the firm's staff will rebuild rather than replace where they can. Mind you, they can build from scratch too – as well as being able to machine up unobtainable parts, RSW built the Sanction II DB4 Zagatos on behalf of Aston itself.

Passing a lovely DB3S coupé and a 4GT that has had a full restoration plus a 4.7 engine job (there's a road/race car you could really enjoy), there's a change of gear – a maroon Austin 12/4 tourer. Known as 'Old Min', it was Peter Sellers' favourite vehicle, and Williams maintains it for the estate. After his



Among the Astons sits Peter Sellers' favourite car – 'Old Min', an Austin 12/4. Below, rebuilt V8 and six in engine shop



apprenticeship with Aston – "I'm so glad my other application to AC didn't come up!" – Richard worked for car-loving Sellers, living above the garage as he fettled the actor's fast-churning fleet of Ferraris, Minis, Bristols and other exotica, and every year holds a Sellers lunch for employees and family. In 1968 the actor helped him found his business, originally in Brixton, so he has been dealing with these models – and often the same cars – since they were new. It was at Brixton that the racing kicked in, leading to the Nimrod and later the ambitious AMR project, through Hugh McCaig whose Ecurie Ecosse team was Aston's partner.

"A great era," says Williams, praising arch-enthusiasts Peter Livanos and

DREAM GARAGE

What we'd blow the budget on this month



Fiskens
Bentley 3/4½

Almost as old as our magazine, this 1926 car unusually retains its original VdP body. A 4½ engine was fitted in 1953; recent rewire and paint, now has overdrive and hydraulic brakes

£POA, www.fiskens.com



Duncan Hamilton
Austin Mini Cooper S

A no-expense-spared inside-out restoration to original road spec with all correct parts. Big-valve engine, 98bhp at wheels. Invisible upgrades means it feels better than new

£22,995, www.duncanhamilton.com



Legends
Ford Cosworth RS500

Now that touring cars are part of the historic racing scene, this is what you need to enter. Recommissioned in 2012 and refreshed last year, this ex-DTM example is ready to go

£POA, www.legendsracing.co.uk



Richard Williams oversees adjustments on AMR-1 during roller-coaster 1989 season

LAT

Victor Gauntlett who kept Aston afloat, in racing and in the news. "Victor is sadly missed, an admirable man." While Team Nimrod finished third in the '82 WSC standings, a fourth place at Brands was the high point in AMR's single fraught year, but links continued with RML and Ecosse – on the wall there's a shot of a C2 Ecosse winning at Brands while Williams was team manager. A quiet man who needs to be drawn on any subject, he was known for his unflappability in the pit lane.

Away from the engine departments there's a DBS with its insides hanging out as an up-to-date sound system goes in (and will still look period). Electronics don't scare the team – they even make new ECUs for Eighties models. Most of this, though, is out of sight behind a showroom that always has some prime Astons to tempt buyers. Having grown up with Bond I still see a DB5 or late cowled-lamp 4 (there's a beauty here, ex-Gauntlett) as the 'proper' Aston, but as values soar even my fantasies must readjust. Looking inside a DB6 I realised how much more useable this longer four-seater is. And as the man said, why wouldn't you have the bigger engine, the handling upgrades, the heftier brakes…

ECONOMIC DISCOVERY

Never do the sums about your classic's running costs – it's rarely going to be cheerful news

SHOCK DISCOVERY: MY Mk2 JAGUAR costs 36.24p per mile to run. That's fuel alone! I learn this from the results of Cirencester CC's Corinium Run, part of the HRCR Scenic Tour series which keeps me occupied while I try to figure out how to calibrate my new tripmeter ready to tackle something a bit more challenging.

On top of the normal tulip route, the Corinium includes a sealed-tank consumption test and sends all entrants over a weighbridge to calculate a mysterious Efficiency Number, though in the end it hardly matters as there is no real competition element. (Grossly unfair, as I correctly estimated my terrible mpg to within 0.1 per cent – surely that's worth a large gold cup…)



On another event I do, the Cotswold Economy Run organised by Lin Hon and Peter Baker (the indefatigable pair behind the Retro-speed.co.uk historic motor sport website – they seem to get to every event around Europe) the challenge, apart from staying on route over some fantastic hidden back roads, is to correctly predict your thirst. There are no prizes for actual frugality, otherwise a BlueMotion Polo would stomp all over even a modest Moggie 1000 driven with an eggshell throttle foot.

Both events are a long way from the Mobil Economy Runs which got a lot of press in the 1950s and '60s, yet with oil reserves foremost in our thoughts it's surprising we haven't seen a high-profile equivalent. Astonishing mpg figures are racked up by slippery specials in the Shell Eco-Marathon, and there is a 'hypermiling' community who try for best road mileage, but I don't know of any major road-car competitions.

Those Mobil events were big news in the US, where makers vied for a win, and were a popular challenge over here too. We reported them a lot, as they were often planned by WB's friend Holly Birkett, and there were even drivers who specialised in this field. WB himself managed 83mpg in 1954, though that was in a 375cc Citroën 2CV with tyres pumped hard, carb leaned off and lots of coasting. But such competitions died away in the '70s with repeatable laboratory mpg figures, which though far from realistic were at least standardised.

A couple of years ago, on a previous Corinium Run, I bumped into Stuart Turner, erstwhile head of BMC and Ford motor sport. Piloting a Zephyr from the Ford fleet, he was full of enthusiasm for resurrecting the economy run. In the '60s he was often involved with them, and believes there's room for a modern version – it might help improve the car's moral standing.

But in the early Mobil runs top-gear crawling and engine-off coasting were winning techniques, with averages often way below 30mph, on the era's less crowded roads. Later events banned these tricks, requiring on-board observers and routing cars over climbs like Shap and Wrynose Pass, which made things more life-like. Now, hybrids and eco-specials are so far removed from petrol cars, and roads so packed, that it's hard to see how you could realistically compare current production vehicles – let alone greedy old Jaguars.

FAVES IN THE WOOD

Traffic stops for classic cars in North London

IF YOU'D LIKE TO MIX SHOPPING WITH CARS, YOU COULD ROLL OVER TO LONDON'S St John's Wood on June 22, when the High Street will be closed for the second Classic and Supercar pageant. You'll be able to see some spectacular cars, including Moss's 1961 TT-winning 250SWB Ferrari, a rare ex-Mille Miglia alloy 300SL, a Muira SV that once belonged to Rod Stewart and many other classics, while a funfair and Birds of Prey display should entertain the children. The event raises funds for two children's charities.

On the subject of SWBs, Ross Brawn has recently purchased a famous Rob Walker example for a reported £7m-plus. Contrary to some reports, his is the 1960 TT winner no2119, not Clive Beecham's '61 victor no2735. Which I'm glad about, as having taken it up to Ullapool for a story and later had a blood-stirring passenger ride, I have proprietorial feelings towards 2735.

FROM THE ARCHIVES WITH

DOUG NYE



Our eminent historian dips into the past to uncover the fascinating, quirky and curious



The Circuit des Ardennes, 1906: Louis Wagner's Darracq enters Bastogne. Distinctive building second right still survives

GPL LIBRARY

IN JARROTT'S SLIPSTREAM

Retracing the route of the Circuit des Ardennes, where British pioneers made their names

LONDON'S FIRST CHINESE restaurant, it appears, was opened in 1907. Now park that thought for a while. During the same year, Belgium's last Circuit des Ardennes race took place on a 53½-mile-long public road course based upon the market town of Bastogne. The Circuit des Ardennes was the first great international motor race in which competitors not only covered the same ground (in the same direction) more than once, i.e. by covering more than one lap of a prescribed road circuit, but which was also run without the interruption of any stage controls or neutralised sections allowing the competitors to pass through a town or village untimed. In point-to-point racing from city to city, these neutralisations had often caused great controversy, enabling the unscrupulous to make up lost time hard-won by faster rivals.

Six of these great Circuit des Ardennes road races were organised between 1902 and 1907. They were the brainchild of the Belgian sporting aristocrat Baron Pierre de Crawhez, not only an enthusiastic owner-driver in his own right but also contemporary president of the infant RACB's

sporting commission. Back in 1900, what was really the first European multi-lap road circuit race had been organised by the publishers of a fortnightly motoring magazine, *La France Automobile*, around Melun. Their two-lap event was run on February 18, 1900, as the Course du Catalogue. Among the six classes run, only two racers were entered in the big-car category – Degrais' Mors and Louis Girardot's Panhard, which set fastest time of the day. The following weekend, the more important Circuit de Sud-Ouest ran over 209 miles from Pau to Dax, Bayonne and back. But these were pioneering times and, although the event was significant within the tiny motor sporting world, only nine cars and 10 motorcycles were entered – so it was hardly a jam-packed attraction…

That race was won by another Belgian-born luminary of early motoring, the Chevalier René de Knyff, averaging 43.8mph in his 16hp Panhard – an average hard to match today over the same course. What's the point of properly surfaced roads if the public packs them solid?

Scroll forward to the Circuit des Ardennes. Baron de Crawhez's chosen course ran anti-clockwise, heading south-west from Bastogne down to Longlier, then east through Habay-la-Neuve and back via Martelange into the central square in Bastogne, but then into another lap – six in all.

De Crawhez's race was essentially for the amateur and private owner – and his idea was rewarded by entries for 26 heavy cars, 38 light cars and 11 voiturettes. 'Tourists' were to run concurrently, keen motorists carrying passengers – plus booze and snacks – for the buzz of watching the racers blasting past – that would jazz up modern F1.

By 4am on July 31, 1902, the cars had formed up in a column around the Bastogne square, with de Crawhez's 70hp Panhard at its head. He set off at 5am and came rumbling back into the square, around the hairpin junction and away into his second lap at 5.54am – so 53½-miles completed in 54 minutes, 102 years ago...

Fernand Gabriel's 60hp Mors lay second and British driver Charles Jarrott's 70hp Panhard third – having just started without any practice. De Crawhez then clipped Coppée's Germain while trying to pass it, collapsing his Panhard's front wheels and bringing himself to a halt on its front axle beam.

Gabriel and Jarrott battled for the lead, always within 90 seconds of one another, but at the last gasp the Mors broke a chain, and Jarrott dodged by to score his first big win. Since his friend and rival Selwyn Edge had just won the Gordon Bennett Cup for Napier, that was British motor sport's first heady high summer of international success.

The Circuit des Ardennes remained a relatively happy hunting ground for English-speaking gentleman drivers, because American George Heath took top honours in 1904. The last Circuit in 1907 then presented separate races, one for Grand Prix-style cars and the other for Kaiserpreis machines, medium-powered nominally touring types, with engines limited to eight litres.

While Baron de Caters' 120hp Mercedes won the poorly-supported GP car race from Kenelm Lee Guinness' Darracq 120, the Kaiserpreis event's 23-strong field was led home by JTC Moore-Brabazon, the British pioneer aviator-cum-racing driver heading a factory 1-2-3 for Minerva.

Driving around Belgium recently, we explored Bastogne to see if much had survived of the small town that our collection of Maurice-Louis Branger glass-plate negatives had recorded and in which Jarrott, Heath and Moore-Brabazon had so enjoyed their international race wins.

Quite apart from tracing the old circuit the wrong way around – doh! – we found the old railway station preserved almost unchanged from Le Circuit days, when cars were unloaded there from rail wagons and the goods yard doubled as the race paddock. Many of Branger's photos showed the cars entering the town hairpin, with a distinctive three-faced building to the right. We found a similar building on what we thought was the return straight into the town, but its window pediments and details just didn't match. Time was pressing, so we motored on. But back home the invaluable Google Earth street view revealed the answer. What we had misread as the return leg into the town was in fact the outward leg. Swing back onto the correct leg and there on the screen I found the distinctive old building from the Branger negs.

Having survived bombardment during Bastogne's Battle of the Bulge siege in 1944, it has been revamped and survives beside that historic roadside today. And, 100 years after the Circuit des Ardennes heroes hammered past its front entrance, it is Bastogne's New Shanghai Chinese restaurant…



ARE YOU SITTING COMFORTABLY?

Our man had a privileged view as Mercedes celebrated a famous victory's centenary


MERCEDES-BENZ

AMONG THE LONG LIST OF GRAND Prix winners, Mercedes-Benz obviously rides high. And among the long list of Mercedes Grand Prix winners, so does the name Christian Lautenschlager. After all, the luxuriously moustachioed Swabian factory tester (left) won both the 1908 and 1914 Grands Prix in the days when there was only one such great motor race per year and winning it was the greatest road-racing achievement to which any factory brand could aspire.

But if one remembers that complicated name – Lautenschlager effectively means 'lute player' – hands up if any of you recall Grand Prix winner Hans Rieger. He was one of the unsung band of fellow travellers who contributed so much to the early-age successes of the great names and brands. He had been Lautenschlager's riding mechanic in the 1914 Grand Prix at Lyon.

This April, to help mark the centenary of what proved to be a 1-2-3 Mercedes triumph, the modern company took the three surviving 4.5-litre 16-valve sohc four-cylinder Grand



The Lautenschlager-Rieger Mercedes-Benz spearheaded a team 1-2-3 at Lyon in 1914

MERCEDES-BENZ

Prix cars back to the historic old Lyon-Givors public road course, just south of the sprawling French city.

The cars were American collector George Wingard's ex-Phillip Mann machine (which is almost certainly Lautenschlager and Rieger's winning mount), the Daimler-Benz Museum's 1919-built from parts car (driven in the 1922 Targa Florio by Lautenschlager) and the Collier Collection's ex-Louis Vischer team spare and reconnaissance car.

Modern-day traffic demands have led to the most distinctive part of the old 23-mile 1914 Grand Prix circuit being made one-way only around the old hairpin at Les Sept Chemins. There, the triangular café building on the hairpin apex survives with little change beyond some garish decoration and signage, while a mile to the south the old Piège de la Mort – 'Deathtrap' – esses snake down from the high plateau where the seven-mile return straight was known as Les Montagnes Russes, a contemporary reference to the Russian Steppes but also period slang for a roller-coaster.

We ran the cars on that stretch, and I must confess to allowing Merc's finest to dress me in a (too-tight) pair of white overalls, a linen flying helmet and Dick Dastardly goggles to play Hans Rieger in the Collier Mercedes to specialist restorer Eddie Berrisford's equally bewhiskered Lautenschlager.

While Eddie expertly clacked the sharp-barking Mercedes up through its four-speed gearbox, two things became clear. The first is that this muscular machine has immense mid-range torque, and accelerates most impressively. The second is that on a modern road surface it rides most comfortably, like a well-damped magic carpet. It also, evidently, is light and agile, very responsive to its steering – which in period it would have needed to be



Century duty: the Mercs line up in Brignais, with Jochen Mass (no helmet) in the company's car. Below, a tutorial for riding mechanic Nye



MANFRED DEGHELE

along the winding bottom circuit leg through the valley of the sinuous river Gier.

So you might think the riding mechanic was just there for the seven-hour ride, plus pit stop duties or the unwonted on-circuit emergency? No way. He had to work for his living. You're jammed there in the bayonet-fit seat, shoulder-to-shoulder with the arm-flailing driver. The most comfortable place to put your right arm is across the ledge behind him. And that's where your primary duty lies. Glance right and there's an angled pressure gauge fronting a village pump. To maintain fuel flow it's your job to watch it carefully. Should its needle flick left below 1kg/sq cm, you tug at the pump handle like an exasperated Dutchman at a slot machine. Once the needle reads above 1kg, relax, crane right around and act as the driver's rear-view mirror (he has none) to warn of Georges Boillot's advancing Peugeot – or in this case Jochen Mass's evil grin in the chasing Merc Museum car.

Then Eddie – sorry, Lautenschlager – elbows you in the ribs and nods towards the floor. There's a round button between your feet. As pre-arranged you give it two firm strokes, not more. That squirts extra oil to the camshaft and engine top end.

We bound on for another mile or two, over blind brow – long straight road stretching ahead – another blind brow, then the top of the esses and the distant view over the Sept Chemins plain to Lyon beyond. Check the pressure gauge, tug the pump, glance back for any challenge, two dabs with the right foot, enjoy the view, check the gauge, tug the pump... Let's hear it for the riding mechanics of old – unsung heroes, indeed.

We parked the cars in the little-changed Place de la Poste at Brignais village, just minutes north of Sept Chemins, where scrutineering and pre-race photographs were taken of the competing cars 100 years ago. Amazingly to my mind, Mercedes had brought with them many artefacts from the original event, including engineer Sailer's course-recce notes – very reminiscent of Jenks's Mille Miglia '55 notebook – and engineer Vischer's January 26, 1914, hand-written original assessment of circuit and race requirements. In part his spidery hand reads: "Each superfluous kilogram on the car obviously has to be reduced, we have to factor in air escape" – aerodynamics – "considering the relatively small performance of the engine and the high speeds. In the descents the engine can reach 2800-3000rpm and has to withstand these engine speeds for shorter time spans, thereby increasing the speed up to 170-180kph. If this is achieved, the prospect of victory is there, given a skilled handling of the car."

That was indeed given – Mercedes-Benz 1-2 wins today, Mercedes 1-2-3 one hundred years ago come July 4. *Plus ça change*.


Shell
SUPER MULTIGRADE
TEXACO
24
30

PARTING SHOT



JULY 19
1975

SILVERSTONE, UK

Rain curtailed the 1975 British GP, after cars began sliding off all around the circuit. The Club Corner wreckage includes Jody Scheckter's Tyrrell, James Hunt's Hesketh, Brian Henton's Lotus, David Morgan's Surtees and Wilson Fittipaldi's eponymous car. The latter's brother Emerson pitted for wets... and won for McLaren.

To buy this photo or other classic racing shots, visit photos.motorsportmagazine.co.uk