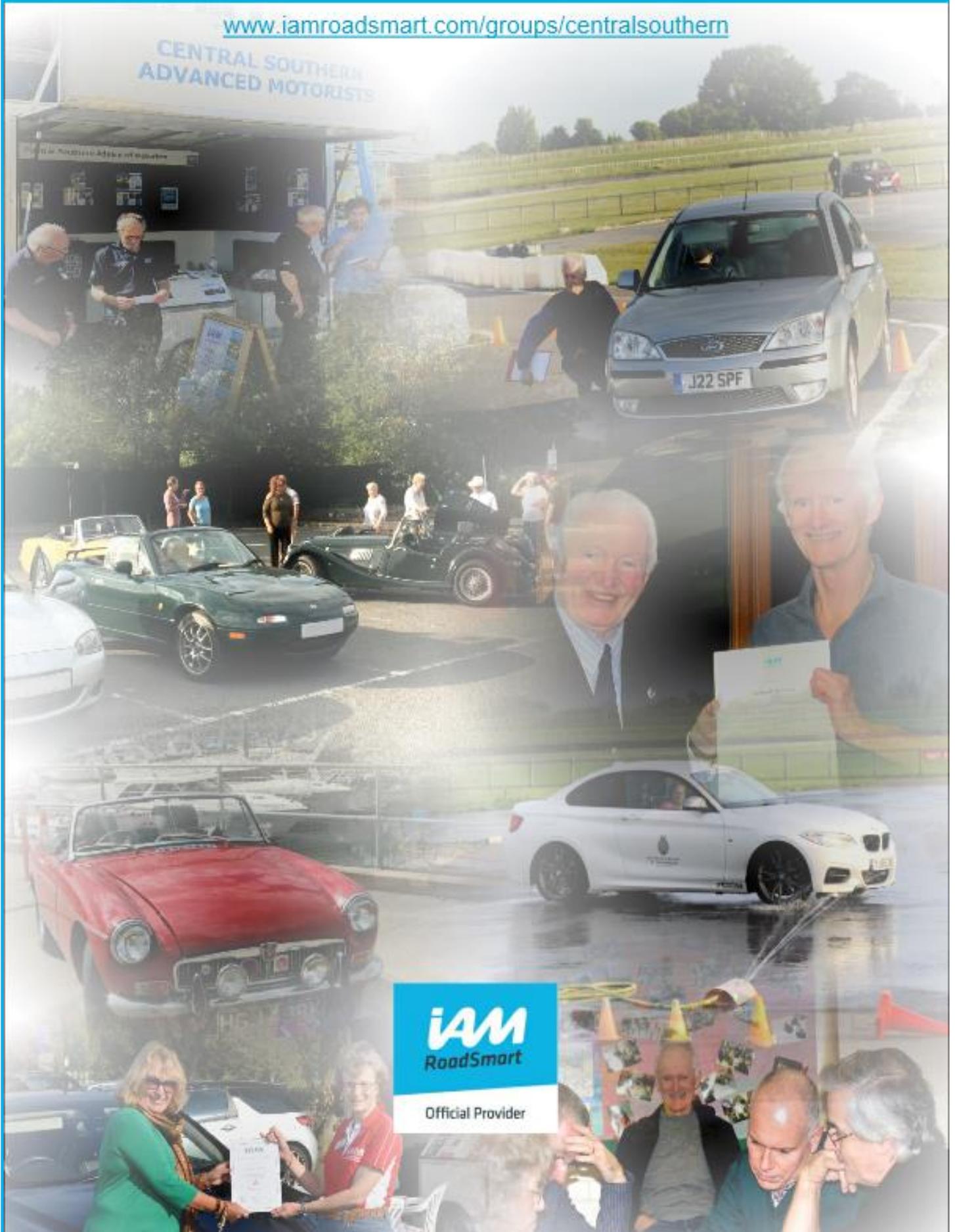


Winter Newsletter 2022

CENTRAL SOUTHERN ADVANCED MOTORISTS

www.iamroadsmart.com/groups/centralsouthern



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CENTRAL SOUTHERN ADVANCED MOTORISTS

Registered Charity No. 1079142

From the Editor



Welcome to our Winter Newsletter for 2021.

A few members and guests attended the pre-Christmas skittles evening at The Spur Hotel which organised by Sally Holmes. Those who were there had a good evening but it was a pity that the numbers were only just enough to make the event viable. This was previously an annual event for Worthing Group which, following their merger into CSAM this year, was opened up to all members.



This was Alan picking up the skittles and trying to avoid the next ball bowled.



Whilst this was the action end.

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The image shows two handwritten score sheets. The left sheet lists individual scores for Ferrari and Lotus groups. The right sheet shows a round-by-round breakdown of scores for both groups, with totals at the bottom.

Ferrari		Lotus	
Andy	7	Margorie	5
Brian	8	Margaret	7
Judie	4	Tim	7
Sarah	7	David	8
Ann	6	Alan	7
<hr/>		<hr/>	
32		34	

	Ferrari	Lotus	
1	34	30	
2	32	38	
3	36	30	
4	36	33	
5	32	34	
<hr/>		<hr/>	
	170	165	
	<hr/>	<hr/>	

The final score after three rounds was very close.

I have recently been suggesting to some people that you can practice your "Spoken Thoughts" by doing your own commentary to the YouTube videos by Reg Local or Chris Gilbert, links on final page of this newsletter, run once with the sound off and your own Spoken Thoughts and then running them again with sound and comparing your Spoken Thoughts to those on the video. Go on give it a try.

Recently, whilst playing with a five year old grandson, I had one of the lenses of my half frame glasses knocked out of the frame. I was able to drive home safely because I keep my previous prescription glasses in my car, something I would recommend for all drivers who wear prescription glasses. In parts of Europe, France, Switzerland and Spain, it is a legal requirement that, if you normally wear glasses, you carry spare glasses when driving.

Here is a link to a [Blue Light Aware Video](#) on YouTube which was recommended to me and I think is worth a watch and a recommendation to others.

I am always looking for articles for this newsletter, if you have anything to say which you think our members would appreciate please forward a copy to me. Contributors, both old and new, would you please forward your work to my newsletter email address, editor@csam.org.uk.

Andy Wilson,

Newsletter and Website Editor

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Forthcoming CSAM Events

Members are advised to check the Events page of the CSAM website before setting out in case of last minute changes. Please click on the links on the website to find maps showing approximate location of venues.

Unless otherwise indicated, events and activities are open to all Members; everyone is encouraged to come along and, if they wish, to bring a guest or family member(s).

[CSAM Events Page Link](#)

Date	Event	Location
Thursday 17 th February 7:30pm	A talk by Katy Bourne, Police & Crime Commissioner	AFH
Sunday 13 th March From 9:30am	Free Observed Runs for Associates and members of the public with one of our highly qualified Observers. Full Members are also encouraged to book a refresher drive. See website for other dates, then please contact our Chief Observer Paul Davies to book. Contact details on page one.	NCP
Sunday 10 th April From 9:30am	Free Observed Runs for Associates and members of the public with one of our highly qualified Observers. Full Members are also encouraged to book a refresher drive. See website for other dates, then please contact our Chief Observer Paul Davies to book. Contact details on page one.	NCP
Thursday 21 st April 7:30pm	A talk by Magistrates in the Community	AFH
Sunday 8 th May From 9:30am	Free Observed Runs for Associates and members of the public with one of our highly qualified Observers. Full Members are also encouraged to book a refresher drive. See website for other dates, then please contact our Chief Observer Paul Davies to book. Contact details on page one.	NCP

BC: Billingshurst Centre, Roman Way, Billingshurst, RH14 9EW

NCP: Northgate Car Park, Chichester (entrance on eastern side of large roundabout)

AFH: Allan Fletcher Hall, Offington Park Methodist Church, South Farm Road, Worthing, BN14 7TN (entrance to the car park is in Broomfield Avenue)



The Senior Driver

As a senior citizen was driving down the motorway, his phone rang. Answering, hands free, he heard his wife's voice urgently warning him, "Herman, I just heard on the news that there's a car going the wrong way on M27. Please be careful!"

"Hell," said Herman, "It's not just one car. It's hundreds of them!"

From Our Chairman



Thank you!

First and foremost, I a huge “thank you” goes out to Phil Coleman and Matt Pitt for completing four years as Chief Observer and three years as Membership Secretary respectively. Their commitment to CSAM has been very much appreciated. They have served the group under the most difficult of times, helping keep our charity on an even keel during the pandemic. None of us could have foreseen what we were in for when taking on our respective roles; that the group comes out in an even stronger position is a testament to not only Phil and Matt’s efforts, but the great work that goes on behind the scenes by all committee members.

I am delighted to introduce Paul Davies as a worthy successor to Phil as Chief Observer; there’ll be more from him further down this newsletter. Paul joined us as part of the merger between CSAM and WAM. He is a National Observer and recently passed his Masters and is already very active in the group. I look forward to working with him while we overlap on the committee.

I’d also like to congratulate Matt on the new arrival and wish you and the newly expanded family health and happiness.

I hope to be able to bring you news regarding our next Membership Secretary very soon. In the meantime, please contact me with any questions regarding membership.

As I mentioned in my AGM reports, we are an incredibly healthy group, with committee roles changing hands every three to five years. But this is only possible with a willing pipeline of volunteers, without whom local IAM RoadSmart groups falter and inevitably fall by the wayside. So again, I urge you to come forward and volunteer if you wish to see CSAM continue to thrive into the future; it’s only a very modest commitment of time. We currently have vacancies in the Vice Chair and Social Media coordinator roles and more as we approach the next AGM.

It’s the most wonderful time of the year!

With the festive season comes the cold weather and the joys that that brings to the road. We’ve survived the autumnal leaf fall, but now as we now transition to winter, we have low sun dazzling us and the potential for frost, snow, and ice. As Advanced Drivers we are of course well equipped to deal with these adverse conditions; the core rationale for driving to *the system* is brought into sharper focus. The core purpose of *the system* is to make sure we complete our braking, have changed gear, and restored positive drive, all prior to turning the steering wheel. Under most conditions, this is all rather academic, but as grip reduces due to winter weather it becomes increasingly relevant.

To help with the low sun, we must think of the *limit point of vision*, being able to *stop in the distance we can see to be clear on our side of the road*. One additional tip is to ensure that the inside of the windows a kept nice and clean.

Finally, this year I am pledging to have *none for the road*. While I love a glass of wine or two, I abstain completely if driving. I suspect this will mean sober Christmas visits to my mother

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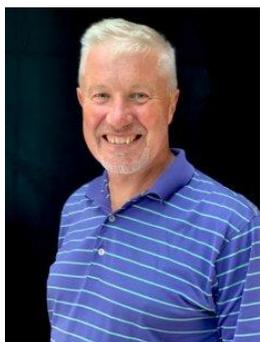
and in-laws. It's something that I started earlier in the year and can honestly say I don't feel like I have missed out at all.

Wishing you all a very happy and safe Christmas and New Year,

David.

Chairman, Central Southern Advanced Motorists

Chief Observer's Corner



The first couple of months as chief observer have been quite busy for me.

I would like to extend my thanks to Phil Coleman for all his support and time during the handover. There is a lot going on and we are a big group covering a wide area!

One of my first tasks has been getting to know the observer community across CSAM. I apologise if I haven't been able to talk to or meet you yet, but I think it is important to meet everyone and get to know what's going on for everyone. As we enter into another uncertain phase of Covid-19, the current policy requires us to wear masks when in vehicles with our associates when under instruction. The IAM is following the legislation and guidance set out for professional driving instruction and helps keep all of us as safe as possible. I will continue to liaise with Observers about their current preferences and decisions regarding observing to help John France manage our associates and waiting list.



As I write this update, we are looking forward to the last public assessment session of 2021 to be held at Chichester Northgate on Sunday 12th Dec. Support for these events is so important and I thank everyone who has attended and helps at one of these sessions throughout the year. Without your support these sessions could not take place and I am conscious that it has been harder to find enough volunteers to cover the number of driving requests that we are

receiving. We also rely heavily on members and friends who have towed our Mobile Display Unit (MDU) to these events (and others) and I know that the number of people with towing capabilities who are willing to help with this is reducing. If you can help with this activity occasionally, or know someone who can, please contact me. The more options we have the less we have to regularly rely on the same people.

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I have also been undertaking a number of Pre Test Drives with our associates – which has been really enjoyable to do. Getting to experience the outputs of your hard work with your associates helps me to understand and see the standards we are setting across the region. As the numbers of associates ready for test increases, I will be looking to delegate this to Team Leaders in the New Year.

Lastly, I am aware that a number of National Observers are due or overdue their reassessments in 2022. It goes without saying that supporting you in preparation for these important assessments is a priority for me and the group, and I will make myself available for check drives or pre assessment runs if required. In line with this I will also be looking at the Local Observer Assessment process to ensure LO's receive the support and check drives required to maintain the standards required of observers, and in line with our bi-annual training days we will continue to support and maintain the development of all observers. Our next Observer Training day will be in March 2022 and more details will follow after Christmas.

Paul Davies

Chief Observer

Membership Mumbblings!



Matt stood down as Membership Secretary at the AGM so there will be no mumbblings until his successor is in post.

Associates' News



Observed Runs have now restarted in earnest.

Four Associates have completed their courses. Others have been able to take their Pre-Test Drives, moved to Test Ready and are currently awaiting confirmation of their Test Date.

Lead times from Examiners are becoming extended, adding to the time Observers remain involved with their Associate making sure that they remain Test Ready.

I am very grateful to all the Observers who have juggled their diaries and driven to unfamiliar areas to assist Associates in completing their courses.

Since my last report 12 Associates have joined CSAM, up from 9 in the previous reporting period. Unfortunately, our Waiting List is increasing in areas where we are short of active Observers. Additionally, Associates who have been "On Hold" or were reluctant to start during the height of the pandemic have also begun to come forward to enquire if Observers are

available. The most recent Worthing Better Driving Course is also likely to introduce more applicants.

The average waiting time for a new Associate is now 3 Months before an Observer is available. Again, I would like to ask every Observer to look closely at their current workload to see if they have space for another Associate and if so, please let me know. I will be sure to find you someone.

I have been approached by several Associates who have been informed by IAM that their membership is due for renewal. I would like to take this opportunity to remind ALL Associates that extensions to membership must be applied for in person to IAM in accordance with the criteria set out in our September Newsletter and repeated for your assistance.

IMPORTANT

A 3-month extension to Associate membership is being offered by IAM to Associates who fit the following criteria:

- **Purchased their course after 30 June 2019**
- **Receive their renewal invitation on or before 30 September 2021**
- **Have been unable to complete their coaching and test within their first 12 months of membership.**

If an Associate wishes to extend, they must contact the Customer Care Team to request an extension. The Customer Care Team can be contacted on 0300 303 1134 between 8.30am and 6pm Monday to Friday.

Finally, I would like to thank every member for their support, understanding and most importantly retaining their sense of humour through these unprecedented times.

John France

Associate Liaison



Five surgeons are taking a coffee break...

1st surgeon: "Accountants are the best to operate on because when you open them up, everything inside is numbered."

2nd surgeon: "Nah, librarians are the best. Everything inside them is in alphabetical order."

3rd surgeon: "Try electricians! Everything inside THEM is colour coded."

4th surgeon: "I prefer lawyers. They're heartless, spineless, gutless and their heads and their butts are interchangeable."

5th surgeon who has been quietly listening to the conversation: "I like British car restorers... they always understand when you have a few parts left over at the end."



Derek Williams cutting his Birthday cake during a break in our October Observer training day, despite John France hovering for his slice there was still some for Derek to take home to his wife at the end of the day.



Two old married couples are driving to dinner. The two old wives are sitting in the back seat, the two old husbands sitting in the front seat.

Two old married couples are driving to dinner. The two old wives are sitting in the back seat, the two old husbands sitting in the front seat.

"Where are we going for dinner?" Frank asks Harry.

"I forget," Harry says. "It's, uh... it's... what's the name of the flower, the red one?"

"Uh, a carnation?" Frank guesses.

"No, no," Harry says, "the one with thorns."

"Oh, a rose!" Frank says.

"Yes! That's it," Harry says. Then he looks over his shoulder at his wife in the back seat. "Rose, what's the name of the place we're going for dinner?"



John France receiving The Observer of the Year Trophy from our Chairman David Mesquita-Morris on the occasion of our 2021 AGM whilst IAM Roadsmart Chief Executive Officer Tony Greenidge looks on.



Phil Coleman receiving The Presidents Trophy from our Chairman David Mesquita-Morris (in fact that was not the Presidents Trophy but a stand in because, due to an administrative error, the actual trophy was not available on the night). Phil was standing down after four years as Chief Observer, Phil has been replaced in this role by Paul Davies.



KNOWN UNKNOWNNS + UNKNOWN UNKNOWNNS + UNKNOWN KNOWNNS

An American politician coined a version of the above phrase, and it remains a puzzle till today. There might however be some half sense in it and now and again this crosses our mind while observing.

To begin at the beginning.....

The Three Colour Problem

"Start with amber" advised Phil Coleman. So, I regularly have, and the results are usually depressing. Very few associates can accurately describe the sequence of traffic light colours, starting from amber, and even fewer can tell us precisely what they mean.

The average driver travels about 10,000 miles a year. Just for the sake of illustration imagine that there is one traffic light for every 5 miles travelled. That makes 2,000 traffic lights passed in a year and takes us back to the 10,000 number in five years. So, what's wrong with the human mind that we don't remember the sequence correctly?

I was put in mind of this odd phenomenon in Luxor. We had sailed up the Nile in a long barge and stopped at innumerable pyramids. The interior painted scenes were tediously repetitive, and our guide had extolled their virtues countless times. Yet here at the journey's end when he asked us to tell him which god was which, hawk or dog headed, we were all stumped. Exactly like the associates and the traffic lights, we could recognise the symbols and, in a way, react to them but nevertheless be dumbfounded in trying to explain them.

Watch others at traffic lights and it's all too obvious that many don't know what each light means exactly. Moving off on red and amber is jumping the lights as page 102 of the Highway Code explicitly states that "Red and Amber also means stop"

And how many think green gives them right of way?

Permission to go is conditional, that is conditional on the way being clear and no one crossing at a junction we want to turn into.

For most of our associates, a quick visit to page 102 is advisable.

4(3,2,1,) and a half.

For one of our promotional days with the refurbished Mobile Display Unit we devised a quiz for prospective associates. Ten simple questions had multiple answers and should have troubled nobody. Yet some of us had to check the second one, which was: What colour background are primary route signs?

A moment's reflection brought up the right answer of green but prompted another question, how many types of countdown markers are there, and what does their colour mean?

The most familiar of course is the motorway ones, with the white diagonals on the blue background. One marker for each 100 yards to the exit with the caveat that the 100 yards is an approximation. So, three hundred yards to go, then two then one.

The next variation on the theme is also white markers, this time on a green background, green indicating a primary route.

The third one is usually well known, this one with a white background and black diagonals.

Nearly everyone has forgotten the fourth: again, a white background, now with red diagonals to warn of a level crossing.

The very term 'level crossing' makes me pensive. Earlier this month I revisited Barns Green for a private function and came by the notorious level crossing there. It achieved unwanted publicity when a grandfather taking his grandchild to football practice decided foolishly to zig zag through the half barrier which was down, ignoring the flashing red lights, and probably unable to hear the Bognor Regis train which was almost upon him at 60 mph. The force of the impact left wreckage for half a mile along the track and the vehicle itself exploded.

I ponder just what was in that driver's mind on a pleasant Saturday morning, with no particular hurry and the crossing working as normal. A dare? A silly gesture? Stupidity? A complete loss of concentration?

Too late now.

Van v. Cayman

A pioneer of Modern architecture, Louis Sullivan, coined the phrase 'form ever follows function'. Even if his name is not a household word the skyscrapers, he designed for the Chicago skyline are familiar to all. He was a leading light in the movement which brought us some of the most famous architects of the 20th century. Another was Mies van der Rohe who said 'less is more' and 'God is in the details'. Mies designed the Farnsworth House in Plano Illinois and it's a house I would love to have. All the external walls are glass and it rests on a platform as if it had descended from on high. There's absolutely no privacy about it and you would be well advised to come in a camper van to hold all your household needs for your stay!

Which brings us to design and purpose, vans and Porsches. (My current associates drive one of each.)

A good place to start when considering design is nature itself. Consider the anatomy of leopards or greyhounds and you can read their speedy purpose in their structure. I once spent an instructive twenty minutes examining the skull of an alligator from a Florida swamp. The weight of bone and the dagger teeth told volumes of how alligators seize their prey, usually while the victim is bending down to drink, and drag them underwater to drown. The prey is stashed in the mud bank to rot, and when decayed enough, is rendered by those same dagger dentures.

No doubt here about form following function.

Now, how about that van we need to stay at Farnsworth?

Vans do follow function because their use determines an efficient shape. Reduced to the essentials, they are a box on wheels, equipped with an efficient engine. Lots of torque low down in the rev range to give load pulling power, and adequate five-gears for motorway travel.

Then there's the Cayman.

The caiman is the second of the two primary lineages of the Alligatoridae, usually seen as a smaller South American cousin of the Dagger Dentured Floridean above. It's also the name of a very fast and powerful sports car, whose purpose is nothing like as clear as that of the van. What is the point of all this performance and excess capacity? Nature never builds to excess, the energy wastefully consumed in doing so would give an evolutionary advantage to a more economic rival. So why do we do so?

This is leading us to uncomfortable territory.

Do men regard cars as part symbol, part statement in much the same way as many women regard clothing?

Are our cars fashion statements? Is their wasteful power the equivalent of the peacock's trailing tail, all flashy colours and showy display?

Consider the natural environment for driving, just like the Florida swamp for the alligator. Most of our driving is at modest speeds, constrained by the presence of multiple others, and even on the rare occasions we have an open road it's likely to be in a remote part of the country, hilly and twisty in Wales, or flat and narrow in East Anglia. If our cars were the evolved product of natural processes no one would drive a Cayman.

Is the car then telling us something else? Is it a boastful statement done to impress and imply superiority and profligate wealth?

Before we get too carried away, let's look at the issue from a different perspective.

We coach associates to use their cars expertly, driving within safe limits but exploiting the capacity of the vehicle. Even the most modest of family cars nowadays has safety build in, is capable of far more than most of us will ever ask of it, and a great many of us owe our life and limbs to the engineers who planned it.

In The approach we could take to the super car driver is how do we get the most out of the machine, safely within the constraints of normal driving. other words, can we adapt the undoubted power to the limitations of use imposed upon us by externalities?

Can we tame the beast?

We can indeed, and sometimes in surprising ways. Just two examples: put the gearbox into sport mode and use the greater engine revs not for acceleration but the opposite, more engine braking in crowded places. Aim to keep the revs in a planned range, say between 2,000 and 4,500 to make better use of engine warmth for better fuel consumption and more enjoyable motoring.

Ironically, the same technique gave better mileage in the van.....

Donald Rumsfeld's phrase about unknowns almost came home to hit me on the very afternoon I wrote the above.

We were cruising home through the wasteland of suburbia on a dull November day and we approached a roundabout on our familiar route. It was shortly past mid-day and there was light traffic about, everyone behaving themselves apart from the Peugeot behind which maneuvered to underpass us on the roundabout.

Suddenly all bets were off as three roe deer – all does - ran across the carriageway in a straight line, heading at a fast trot for the reeds and bushes along the Arun. We were as much surprised as our Peugeot contestant and were chastened by the near miss.

Yes, we knew there are deer about, but certainly didn't expect them in broad daylight close to a school.

10,000mph?

Can new(ish) all-electric beat the 10,000mph target achieved by my run of the mill twelve-year-old? The simple answer is no, and by such a huge margin that they are not even in the same competition (yet).

So, what is this all about?

I have experience of four, all-electric cars. A Nissan Leaf (getting long in the tooth), a Tesla, a Jaguar iPace and a Polestar. I have borrowed the iPace and am trying it out for a few weeks, in the Autumn of 2021. (And no, this was arranged before the fuel shortages, pure coincidence.)

This isn't a car review as such, though I will make a few comments. This is all about living with all-electric. None of these cars are mine and apart from the iPace, my experience is very limited. There are other all electric cars around, I have no experience with them.

The Leaf. The car is a blast to drive. Around town it is really great. Its range is very limited, around an official 120 miles when new that was always a stretch, 80 was more realistic. In cold weather it drops alarmingly (true for all electric vehicles – as much as half the range in cold weather). Range anxiety hits, quickly followed by severe range anxiety. As a town car with a reliable range of 40 miles, it is great. It nips around and comes back onto the charger, where it sits most of the time. It is a 100% stay at home car, with occasional outings not too far away. Used this way it is very good. Possibly its best feature it has is a clock. That is, you set the time you want to go in the morning and there it is, all warmed up and de-misted in time to go.

The Tesla (an early one, exact model not known). Well described by others as a hundred thousand pound car with a forty thousand pound interior. In insane mode it gives you an experience of gut-wrenching that has to be experienced to be understood. It is very, very quick, possibly dangerously so. The owner assured me that the self-driving mode was capable of taking him to any address Google can find, it sorted its way round heavy M25 traffic with aplomb. In the UK, full self-driving isn't possible. I didn't ever drive it.

The Polestar. Easily the nicest of the three I have driven. Again, capable of accelerating very quickly. Not a car I would wish to own, it has too many faults in the way it delivers. The built-in Google maps is excellent.

The Jaguar iPace. I am living with this one for a short while (a few weeks), it is a 2019 (69 plate). Much like the Polestar, it is badly let down by the software and user experience. I

certainly wouldn't want to own one myself. Like the Tesla and Polestar, it has phenomenal acceleration. It is a big car. Moving it at low speed is very, very tricky, eg trying to nudge up to a wall, with the wheels in a drainage gully, so it needs a 'shove' but be careful, it could just charge straight through the wall. The car won't just roll (or 'waft') along, I find the deceleration when off the accelerator too aggressive (it is using the motors to brake). Ok, so I have had to adapt my driving style, which is fair enough, it is electric after all, but I don't like the decisions Jaguar have made. I would prefer braking to be controlled by the brake pedal. In fairness it holds on steep downhill runs, but even here it over does it and slows down more and more and more. The Satnav is easily the worst I have ever used. I describe the whole user experience as not one a long distance, high mileage driver will want, it is constantly annoying and awkward, it likes to mislead too, with utterly incorrect information, in my opinion dangerous if you believed it; I prefer to look out of the windscreen. The adaptive cruise control is brilliant in stop-start traffic on the M25, terrifyingly bad when the radar fails to see the slow vehicle ahead (I have used adaptive cruise control that is much better at handling this scenario). The surprise emergency braking when it makes a mistake is bad too, so far nothing has run into the back of me, but it has been close. The lane depart is very poor.

Living with these cars. I can only discuss the iPace in detail, however let's start with the Polestar. I sometimes have access to three phase chargers, ie chargers capable of delivering a lot of current. When at home, I am on the domestic 13a supply only. On the fastest chargers I have access to (which are reserved for the car, ie I have guaranteed access), the Polestar charges at 22mph, there or thereabouts. Ie, for every hour on the charger, it gains around 22 miles in range. In an eight-hour day, that is $8 \times 22 = 176$ miles. Not bad, but it makes going to a meeting 100 miles away about the limit. Especially after driving 50-60 miles first.

The iPace charges more slowly. I gather Jaguar have since improved, however I can only report as I find. On the fastest chargers I have reserved access to, it charges at about 15mph. This makes an eight-hour day decidedly limited, $8 \times 15 = 120$ miles. Yes, ok I can take a longer lunch break, but I also have to visit multiple sites (within about five miles), so that eight hours on the fast charger might be optimistic. Thus, when I set out, I need to be using a near fully charged iPace, in order to get back again. Its range, in Autumn, comes up on the screen as 247 miles. I immediately take that with a pinch of salt and knock 20% off, not least to allow for diversions. I'm not using air-conditioning or much heating in the current weather, I'm finding that there is a typical 10-15% difference of opinion between what the iPace predicts it will need and what it actually uses, and not in the favour of the iPace. I plan its best possible range as 200 miles. I have to think carefully about my plans days in advance, to make sure it will be charged suitably for the journey and charging options I will have. When at home, I'm charging on 13a, the iPace charges at a steady 6mph (and for those interested, it is pulling around 2.1KW). As an advanced driver, I am driving steadily and smoothly in eco mode, I am not using the available acceleration, I am prioritising economy, even though it is electric, keeping up with the traffic. Regenerative braking is better than not having it, but don't kid ourselves you get back anything close to what you put in.

Lets go somewhere. I live in Hampshire and have friends near Penzance, a journey of over 250 miles. I'm not going to even bother to plan. Somewhere around Exeter, the iPace will need recharging, and probably for several hours. On arrival, it will need charging for several (or many) more hours. Even allowing my reduction to a 200 mile range, I have doubts I have

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knocked off enough, certainly not for winter driving. There are a lot of steep hills on the way. Whatever, I'm not going to even attempt it. If I had use of the Polestar, it might, just, be a viable journey. The Polestar has a better range (around 350 miles on a good day). On arrival the iPace will be on the charger for hours (days) as my destination doesn't have public fast chargers (it is a small village), so plan to use the 13a of my friends (and reimburse them). At least they have a drive and a garage I can run a 13a cable out of, if it will reach. Using extension leads is firmly not recommended in the charging guide. This isn't going to work, so even with the Polestar, that could get there, it can't get back for days, certainly not if I visit anywhere local. These friends do have a fast charger, their car sits on it. There are only so many miles available to be put into any one of the electric vehicles there.

OK. Lets go somewhere else. This is where having a medium range (~240 mile) battery starts to work. Let's go 40 miles (80 all round). I need a range of at least 100 miles before I start. Yes, that's OK, keeping the iPace on that 13a charger all the time it is at home, it might be slow, but over-night (call it 15 hours) is plus 90 miles. So, yes, with careful planning, provided I arrived home in the early evening (no later than six pm), the iPace reliably will be in a position to go to somewhere 40 miles away the next day. Then, if I can keep my journeys short, I can gradually increase the range day by day. Of course, what happened was a 'phone call en-route home, to a family event. Distance, not a big deal, perhaps five miles further (a whole hour of charging!), but the bad news, I arrived home later than planned, so the iPace went on the charger at nine o'clock, not six o'clock. On this occasion, it didn't matter because it stayed home all the next day (and reached 100% full). If I had been planning on going out the next day, that loss of three hours charging (i.e. 18 miles) plus five miles further might have been the difference between going or not going. Or, to put it another way, I might have been obliged to decline the invite.

Here is some data. The range is as indicated by the iPace, I reduce it by 20-25% for journey planning purposes (the iPace is routinely 10% out, even over a short journey).

	Time	Range	Charge % remaining	Distance travelled since previous row	Comments
Day 1	17:00	210			On fast charger, still not full at depart
	19:40	83		110	M25, M3, local roads
Day 2	07:30	158	67%		
	10:20	175	75%		
	17:00	105	45%	66	A3(M), M27
	19:30	75	30%	30	Local roads
Day 3	07:30	150	64%		
	10:30	171	74%		
	11:00	158	67%	10	Local
	13:00	175	74%		
	18:45	107	43%	65	A3, mostly
Day 4	07:30	180	76%		
	11:30	201	83%		

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	13:30	212	89%		
	21:00	123	51%	83	Local A roads mostly
Day 5	08:30	197	81%		
	11:00	210	87%		
	13:00	220	90%		
	16:00	238	97%		
	18:00	247	100%		Full!

Superfast. Superfast charging is typically a charger that can deliver between 50KW and 150KW. A 150KW superfast charger is capable of charging the iPace from empty to about 80% charged in around 40 minutes, i.e. 300mph (though it slows down as the battery nears full). There are three main downsides:

- a) Availability of sites
- b) Access (i.e. no queues to use it)
- c) Being in working order.

If those three are met, then superfast does have merit. The problem is that those three are rarely met today, unless you have a Tesla, Tesla have been investing heavily in charging infrastructure. There are lots of apps to help find charging points, Zap-Map is one such, www.zap-map.com/app. Expect to pay double the home rate for electricity, i.e. around 30p per unit. (Tesla have announced that they are going to allow other brands to use their charging network, I haven't investigated the details.)

There is a problem though, several in fact. First you need a vehicle that accepts super-fast charging, this can add easily £1,000 to the cost. The second is the detail of what is gained. As superfast will only charge to 80% full, and it is most unlikely you would be able to guarantee the availability of a superfast charger at the minimum charge you can get to, it is likely that you would recharge at between 50 and 80 miles range. 80% of 245 is around 200 miles, take 50 off that and superfast is only putting in 150 miles of range. Ok, it takes about 20 minutes, but plus 150 miles is a lot less than you might suppose the range of the vehicle is advertised as being. Without some kind of national scheme for booking your exact arrival slot onto a superfast charger (using your route and gps position, traffic conditions etc.) it starts to look very iffy as a useful means of providing power for long distance driving. A back-of-the-envelope calculation suggests that to match the energy consumption of cars and light vans on the motorway network, it will be necessary to have at least 200 superfast charging points at every major service area, with perhaps 500 points at busy sites, in addition to standard fast chargers in quantity too. The total power demand is huge, requiring the equivalent of at least one and possibly two full size nuclear power station's output, just for this part of an electric vehicle charging infrastructure.

Installing chargers. The going rate for installing a home fast charging point is typically between £700 and £1,500, after Government grants. Installing a superfast charger involved an estimate of £30,000, a huge sum (and the proposed site already had the necessary power infrastructure). If an electric charging infrastructure is going to be in-place by the start of the 2030s, then things are going to have to change, starting with costs. To be eligible for the Government grant, you have to have an all-electric vehicle registered to your address, which

seems to put that cart before the horse. If the goal is an electric charging infrastructure, then surely the goal is to have charging points. Public, private, does it matter? Don't even think of trying to get domestic three-phase charging installed, even if three-phase power is readily available. The electricity suppliers do not appear to be engaged in joined-up thinking.

Odds and ends. While most journeys might be under 50 miles, some are not. There hasn't been a satisfactory discussion on why people would buy a car that can only manage a short journey, if they have plans that expect them to travel much further on rarer occasions, such as off to visit Granny. Is the expectation that they always go by public transport, or hire a long range vehicle or what?

It might seem silly, but handling the charging cable isn't a simple matter. If it wet and cold, the thing becomes a long, wet, dirty mass that is determined to wrap itself round your clothes. Arriving and departing is no longer a 'get in the car and go' event, but is accompanied by unplugging cables, wrapping them up and storing them somewhere, I generally put the cable in the back.

I arrived for a meeting that was curtailed very early. I was unable to depart early because I had to wait for several hours of charging.

As a near silent vehicle, it becomes very apparent that some pedestrians and cyclists really do not look around themselves when using the roads and pavements. It is routine for pedestrians to step out without looking and are astonished to find a car next to them. Cyclists the same.

A while back, Top Gear reviewed a hydrogen powered Honda (using a fuel cell), they reported adding ~250 miles range in under two minutes of refuelling.

In terms of energy density, (excluding the fuel tank/pressure vessel), in MJ/l, compressed hydrogen is ~8, ethanol ~25, LPG ~28, petrol ~35 and diesel ~38, all somewhat approximate (source Wikipedia). The iPace battery contains around 300MJ of energy, which compares to the around 2,500MJ in a tank of diesel, however, efficiencies of combustion mean that much less than that can be converted into useful work, perhaps 1,000MJ.

So, where does that 10,000mph come from? My diesel is capable of over 1,000 miles on a tank (I have taken it over 850, with several gallons still in the tank when I refilled it), I drive keeping up with the traffic mostly on motorways and dual-carriageways (I know the A34, M4, M3, M27, A3 and M25 far too well), usually driving 50-150 miles one way, I aim to use cruise and repeat the same journey over and over, so can compare. I usually try to travel outside peak hours, though not always (M25 on Friday evenings, M40 to A3 Guildford – avoid). If I allow 6 minutes to re-fill, that is 10 of those in an hour, $10 \times 1,000 = 10,000\text{mph}$. You can argue it other ways of course. Electric motoring is all about the recharging rate, those miles gained per hour of charging (mph), big batteries help, but have to be considered in conjunction with the recharging rate. Careful planning of journeys for days and even weeks ahead is an absolute necessity.

Costs. The iPace is costing about 6p per mile in domestic rate electricity, i.e. better than half my diesel (or closer to equivalent if I pay superfast rates.) (If I was doing this permanently, it is possible to buy cheaper electricity at certain times of the day and use that for charging, smart meter required.)

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Owner comments. The Leaf has been 100% reliable and is tax free, excellent. The iPace is unpleasant to drive and has a very hard suspension. The Polestar is much better all-round. The Tesla caught fire and was destroyed.

Talking to the owner of a Renault Zoe, here is a car that does have a lot of coherent thinking. The range is around 240 miles (like the iPace), the consumption is about 40% better than the iPace, so ~4p a mile and a sensible range for the class of car make it a well-thought-out package.

Conclusion, all-electric as it currently stands is a mode of transport that is totally dependent on not going anywhere. Perhaps this is the price to be paid for zero tail-pipe emissions.

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Letters to the Editor

Acting in another role, and accompanied by my wife, I have recently (November) been on scene to offer support at a devastating house fire cause by a spontaneous combustion of a luxury range saloon car; attached pictures tell their own tale. According to the owner the vehicle was parked overnight *not* on charge and at mid-morning the following day a sudden explosion enveloped the vehicle and swiftly transferred the resultant fire to the adjacent house; just as well that the householder was present to summon assistance and nearly three hours later the car was still being damped down. Fire Investigation Officers expressed concern that to their knowledge this was not the first incident involving a faulty lithium battery. Given current encouragement for the purchase of E V's doubtless the manufacturers of the vehicle in question will wish to undertake relevant investigations.

Derek Williams



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PLEASE NOTE

The deadline for contributions to the next Newsletter is 28th of February 2022

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