

# HISTELEC NEWS

NEWSLETTER OF THE WESTERN POWER ELECTRICITY HISTORICAL SOCIETY

Web Site: [www.wpehs.org.uk](http://www.wpehs.org.uk)

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## SEASON'S GREETINGS

You should get this before Christmas, so we hope you have an enjoyable time indulging with good food and drink. This will be the 24<sup>th</sup> Christmas for the Society, which means that we will be celebrating 25 years of existence in 2019 with some celebration to come. How time has flown by, but if you come to our Bristol premises at Cairns Road you will see an achievement by at least a dozen members over the years, some of whom are no longer with us. The Society is thriving socially, so hope to see you at the Winter Luncheon!

## VOLCANIC EMISSIONS

Some recent statements by John Morton, a highly qualified expert on Climate change has cast doubts on our efforts to reduce carbon emissions, by suggesting the volcanoes around the world negate all our endeavours. John is an American who was once the White House Director of Energy and Climate Change, but is now living in Germany as Fellow of HHL Business School in Leipzig. He has said that the recent volcanic eruption in Iceland spewed enough volcanic ash in four days to negate everyone's efforts to control CO2 emissions in five years! When Mount Pinatubo in the Philippines erupted in 1991, it spewed out more greenhouse gases into the atmosphere than the entire human race had emitted in all its time on Earth!!

## BRITISH ENGINEERING

An article in the IET Journal this month was written by the Head of Innovation at the Smiths Group, a British Engineering multinational, Kier Boxshall. He said "There's a decidedly fresh approach to the issue of innovation at the moment at Smiths." For a big, established company - Smiths Group has been in engineering for over 160 years and has operations in more than 50 countries - innovation has traditionally been a far cry from today's fleet-footed incubators, speedboats and tech start-ups. Yet, says the 40-year-old engineer, the old days of reactive problem-solving are over, as "we've adopted a pro-active innovation strategy, which means having a strong research focus and an acceptance that some things you are going to do will be risky. In the past, Smiths Group has been relatively risk-averse, which limits innovation. If you're going to innovate you need to be cognisant of the risks involved, because if you're not taking any risks, you can't really be doing anything new". *Peter Lamb*

## SELLAFIELD RECYCLING TO CLOSE

End in sight for reprocessing nuclear fuel!

## ROBERT SYMONS

The Chief Executive of WPD has died in November, he was a great friend of the Society. See obit page 5.

## DYSON BOMBSHELL!

James Dyson has caused a political storm by announcing that although developing his new electric car here, he is going to manufacture it in Singapore, since he has other manufacturing units there already and says there are established supply chains. It is surprising since Singapore is an expensive place with many British outfits established over the border in Malaysia, which is not surprisingly much cheaper. It is also irritating since he is an outspoken Brexiteer telling everyone how well we will do outside the EU. It compares with Geely's building a hybrid taxi in Coventry, Nissan an electric car, the Leaf in Sunderland and BMW have announced an electric version of the Mini to be produced at Cowley. What have we done to upset him?

## ELECTRIC FLYING TAXI

A Bristol engineer is setting up a firm called Vertical Aerospace to build an electric flying taxi. A prototype has been built and has had a test flight in June at the Cotswold Airport, Gloucestershire. In the air it looks like a UFO. This is the bold vision of Stephen Fitzpatrick, who is not only is Chairman of Ovo Energy, but also an expert in vertical take-off technology.



The flying Taxi demonstrated in Gloucestershire

## MORE UK WIND POWER

Government plans to encourage more off-shore wind power schemes in order to double the existing capacity by 2030. The Government Energy Minister Claire Perry has announced that it will be holding competitions to award subsidy contracts for new off-shore wind projects. This, all in order, to meet climate change targets by cutting carbon emissions.

## **BLETCHLEY WEEKEND REVIEW**

We must thank Peter Lamb and David Cousins for our most enjoyable, recent weekend away at the beginning of October; Peter for arranging it, particularly for the choice of our excellent hotel and David for producing a superb brochure for the event. I can definitely recommend the "Woughton House Hotel", where 39 members and partners met at the start. It stands amidst quiet open countryside in Milton Keynes with the Grand Union Canal nearby. It was therefore appropriate that Katherine, a "Grand Union Canal Volunteer", gave us an entertaining, brief history of the canal and its boat people after dinner that night, getting us off to a good start.

It is not so long ago that I would not have been permitted to say where we went on Saturday, or what was done there during the war. Neither could I have revealed what we saw. However, nowadays, most of the secrets of "Bletchley Park" have been revealed and, with so much to see, we had an absorbing and fascinating day there. The achievements of so many clever people, when faced with the "seemingly impossible" are staggering. The methods they used and the machines they employed to shorten the war were almost beyond comprehension, even when presented in plain English rather than code. Interpretation and theories with regard to our day continued to occupy us over dinner that night, and at breakfast the next day!

So, I wonder, was it a coincidence that John Ferrier amused us after dinner with a quiz in which we had to recognize famous "catch phrases"?

On Sunday we visited the 22,000 acre estate and home of the Duke and Duchess of Bedford, Woburn Abbey. The estate is vast; the number of deer incredible, and the house, with its contents of "Canalettos", "Rembrandts", fine china, gold and silver etc. is unbelievable. The superb weather that we enjoyed around the gardens, made this a perfect day. After inner our speaker, Robert Dowell, (an interesting chap and science fiction author) gave us a very lively introduction to a "Different Aspect of Computing" covering the very early history, which led us nicely onto our final visit the next day.

On the Monday, 27 of us arrived back to Bletchley where we enjoyed a 2 hour guided tour of the largest collection of vintage computers in Europe at the "National Museum of Computing". There are no adequate adjectives to describe what we saw but "mind blowing" will do. The speed of the journey from "Colossus" to "Smartphone" was the most amazing thing that was demonstrated. The increase in the capability of computers taking place at the same time as their reduction in size, when seen all at once in a museum, is breathtaking. Following our tour it was time to leave "Bletchley Park" and head for home after a most enjoyable weekend. *David Hole*

## **WOBURN**

In arranging the Bletchley Weekend, I contacted Woburn in 2017 speaking to the Group Organiser, Lisa

Weaver requesting the 7<sup>th</sup> October 2018. She said that we close at the end of September. Then she said "I'll have to ask the Duke". Ten days later she came back to me to say the Duke had agreed to extend into October for our benefit!! *Peter Lamb*

## **BLETCHLEY PARK WARTIME SUPPLIES**

The pre-war electricity supplies were eventually reinforced to make them less vulnerable and to keep the supplies on. Originally the supply to BP when the house was owned by the Leon family was only LV. The nearest generation facility was Hardingstone Junction Power Station owned by the Northampton Light & Power Company. The main 'Bletchley' substation was in Victoria Street, Fenny Stratford. The initial 11 kV supply to Bletchley was by O/H line from Wolverton, itself supplied at 33 kV from Northampton. By 1930 a similar supply came via Buckingham to Bletchley. Initially the supply to BP was a Tee from the Town circuit going up Church Green Road; it wasn't until later on in the war in the early 1940s that the demand increased. This meant an incoming 11kV supply to BP from Bletchley via an intake substation at Wilton Hall, on the Park estate, which then ran BP's own system. During the war there was only this one mains supply. On 14 September 1942, the BP Communications Committee identified the need for three diesel houses, or stand-by generating sets - a 100KW set to supply Blocks A, B and C; a 38KW set for Block D, and a 50KW set for Block E. They were located close to Blocks C, D and E. As the site grew it was upgraded with a ring at the latter end of the war. The Hardingstone Junction Power Station closed in 1975, but pre-war there were already CEB 132kV grid connections to adjacent 'selected' stations at Warwick and Bedford.

Grateful thanks to Mark Baxter (WPD Midlands) for his unstinting help and to Guy Revell (Museum Archivist, Bletchley) for comprehensive details of the installations. *Andrew Smith*

## **FRACKING LATEST**

Cuadrilla have actually produced some shale gas from their latest controversial exercise in Lancashire near Preston. It is only small at the moment, but after years of debate and many hold-ups due to opposition, fracking started again in October. It provided an early encouragement that the Bowland Shale can provide a significant source of natural gas to reduce our reliance on expensive foreign imports. Let's hope they can prevent any earth tremors this time.

## **DRAX POWER**

The company that owns the huge power station at Selby, Yorkshire, which is a base station for the UK and has converted six of its eight boilers from coal burning to biomass fuel, has just spent £702 million in buying hydro and gas-fired plants from Scottish Power. One major scheme bought is Cruachan, a pumped storage system in Argyle.

### “EXETER FIRE” TALK REVIEW

Two years ago, on 28th October 2016, Exeter suffered its worst fire since the Blitz. Pictures of the fire and loss of the Royal Clarence, reputed to be England’s oldest hotel, became international headlines. It was therefore with interest, that 56 of our members, a superb turnout, enjoyed lunch at the Nutwell followed by a talk from Social Historian, Dr Todd Gray, who was asked to cover the story for local media. Dr Todd Gray revealed many fascinating secrets about the hotel and the adjacent buildings, collectively situated on what is known as ‘St Martin’s Island’, some dating back to the 1200’s and even Roman times! The fire, believed to have started in the Mansion House, was at one time occupied by squatters who were so in awe of its former boardroom featuring floor to ceiling mirrors, marble plaster work and chandeliers they didn’t let anyone in it! The Clarence did not make a profit until the Duchess of Clarence, later Queen Adelaide, visited in 1827, when it became known as the Royal Clarence Hotel. Thankfully, literally ‘rising from the ashes’ plans to rebuild the Hotel are already underway, with completion scheduled for 2019. Our thanks go to Dr Todd Gray for a fascinating talk, and also to Dave Hole for arranging such a topical event, enjoyed by everyone.

*Sue Hole*

### ELECTRIC PLANES?

Are they “pie-in-the-sky”? Well the Government doesn’t think so, since it is offering incentives to airlines. The idea is to waive landing fees for the new planes at airports, particularly Heathrow, but also Bristol hopes to get in on the act, flying internal flights from Bristol to Edinburgh by 2020. Airlines are competing to adopt electric planes, which will be cleaner and quieter than jet fuelled aircraft. A US company Wright Electric hopes to be first and are developing a design which is likely to be a hybrid with unusual wing shape. Easyjet have already signed a contract with the American company. Also Loganair which operates flights to and from the Orkneys is hoping to buy one by 2021. Who will be first?



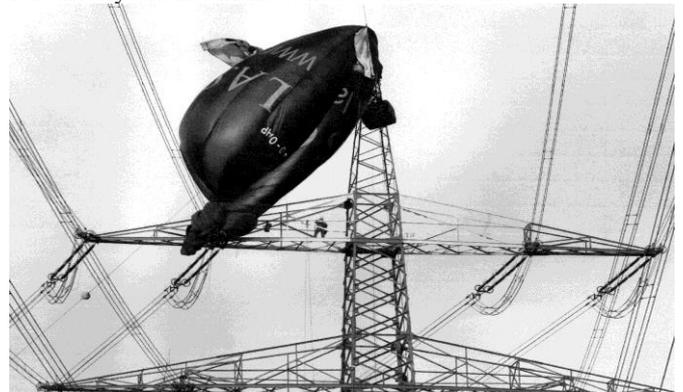
**The Wright Electric Plane**

### TESLA MODEL 3

Elon Musk aims to have his cheaper model 3 available in the UK by the middle of next year. This year the electric car has become the fifth most popular saloon car in the USA, the first time an electric vehicle has made it into the top ten.

### AIR BALLOON HITS PYLON

The newspapers have reported that a hot air balloon collided with a power line tower in western Germany and became snared 230 feet above the ground. Fire crews rescued 6 people and had great difficulty to untangle the balloon from the pylon following the pylon being switched off. Reports state that the balloon hit the metal tower Sunday evening and deflated, leaving the basket hanging precariously near the top of the structure near the city of Bottrop, northwest of Essen. Rescue workers climbed up and secured the basket, then brought down the passengers in a five-hour operation. They were uninjured but brought to a hospital for observation. The balloon itself came into contact with a 380,000-volt power line but the basket fortunately did not make contact with the wires.



### PYLONS

Owing to the repro-gremlin that fuzzed the last (No.69) Histelec News, the Website details regarding pylon/transmission towers descriptions seems to have been lost. Herewith:-

The website [www.gorge.org](http://www.gorge.org) offers a detailed taxonomy regarding the large range of pylon designs in the UK. The ‘Pylon of the Month’ site is [www.pylonofthemoth.org](http://www.pylonofthemoth.org), rich in an abundance of striking photographs, with commentary. Another site, quite possibly known to members, is [euanmearns.com](http://euanmearns.com) a Scottish source on contemporary electrical developments with many useful links and a general tendency to harp on the emerging controversies surrounding renewables, nuclear power, carbon capture, etc. Two of the links will reveal to the surfer, in real time, the relative proportions of electricity generation in the U.K. at any given moment. If that is not enough, one can also find out the precise frequency of the National Grid at any given moment, hovering closely, of course, around 50 Hz. *Roger Hennessey*

### WILLIAMS FORMULA ONE

Williams Grand Prix Holdings have decided to produce an electric vehicle. Good competition for Dyson? A production line is to be set up in Coventry in union with Unipart and will be called the Hyperbat. The joint venture is intended to manufacture 10,000 battery and power systems a year, which initially will supply the Aston Martin RapidE, an electric version of the Rapide. The first batteries for the RapidE will be twice as powerful as those in the Tesla 3.

## MELBOURNE TRAMS.

Graham Warburton has been “down-under”, he writes :- With a lifelong interest in trams, it was interesting to find Ballaclava Junction on the extensive Melbourne system.



Such a junction on a tramway is quite rare being a crossroad with four junctions, one to each street. Apart from the interesting rails, just take a look at the overhead system required to achieve this. What a headache for the designer, not least to the linesman erecting it all. The tram picture portrays a Class B tram on route 96 to St. Kilda.



Should any member visit Melbourne a trip on the restaurant car tram is well worth doing having been on it twice. It runs from Flinders Street Station to St. Kilda, taking the best part of four hours, starting with a trip round the city centre. On a historical note the first cable hauled tram was introduced on 11/11/1885 with electric cars coming into use on 14/10/1889. It is the largest urban system in the world requiring some 500 trams on 160 miles of track with about 500 cars. There was a time when the transfer to buses was considered but this was dropped. It was sad to see our own tramways disappear with cities such as Birmingham, Sheffield, Liverpool, London and Glasgow etc. having such fine systems all shut down in favour of buses. As a loco-spotter I was familiar with all these systems. The last Birmingham route 70 tram from Rednal to Selly Oak depot ran in 1952 and I was on it removing mementoes on the way. Our downstairs toilet room has a handrail for the towel removed from that tram - Ah well, happy days! *Graham Warburton*

## HONG KONG TO ZHAHUI & MACAU BRIDGE

The longest bridge (including a tunnel) in the world has been opened in China connecting three cities Hong Kong with Zhahui and Macau, which is mainland China, across the Pearl River Delta. It is 34 miles long and consists of three cable stayed bridges and one undersea tunnel and has taken ten years to build. It takes an hour to cross – truly an amazing achievement.

## NUCLEAR SCENE

The British Nuclear situation has changed rapidly since Toshiba decided to pull out of building a new nuclear station at Moorside, Cumbria recently. The UK has eight nuclear plants at present, Hinkey B, Dungeness B, Hunterston B, Heysham 1 & 2, Hartlepool, Torness and Sizewell B, all, bar one, are due to close before 2030. There is an urgent need to build some replacements with the nuclear stations becoming the base load provision with the closure of the coal stations. Because of this the Government had earmarked six sites for new stations with potential operators, which are Hinkley C (EDF/CGN), Sizewell C (EDF/CGN), Wylfa (Hitachi), Oldbury (Hitachi), Bradwell (CGN/EDF) and Moorside (None). Note : CGN = China Government Nuclear. Toshiba has pulled out due to crippling cost overruns in the United States.

## FUSION AT DIDCOT

Two firms are getting involved in Nuclear Fusion near Didcot without any Government subsidy, they are Tokamac Energy and First Light Fusion (FLF). During the Summer at the FLF laboratories, they managed to create a ball of plasma hotter than the centre of the Sun. The project is part of a group of companies experimenting where Government projects have failed. Tokamac is financed by Legal & General and a British hedge-fund billionaire, David Harding. The boss of FLF said he was trying to create a different form of fusion, firing projectiles at a target to create an instance of huge pressure and heat. Both firms say they will have suitable devices by 2025 and will be able to feed electricity into the Grid by 2030!! We will watch these developments with considerable interest.

## EDF NUCLEAR HURDLES

EDF seem to be continually up against it, having problems to sort out. Welsh campaigners have been trying to stop mud from the Hinkley site being dumped in the Severn Estuary, but now have abandoned the case. The French “watchdog” overseeing nuclear activity at Flamanville in France has complained about faulty welding of the new reactors. Let’s hope they can sort this out before commencing the Hinkley reactors. The French Government is causing them a few headaches by not ordering any new reactors, since they need a production stream to keep ahead of the field, particularly China.

## LONGEST GRID CONNECTION

A 760km subsea power cable has been approved by the National Grid, which will be the longest under water connection in the World from Britain to Denmark at a cost of £1.7 billion.

It will carry 1.4 gigawatts of surplus energy from Denmark’s Wind Farms. The coastal connecting points will be in Lincolnshire and at Revsing at Jutland. It is a joint venture between NG and its counterpart in Denmark. Interestingly, called the Viking Link, it compares with the interconnector to Norway which is only 720km and under construction.

## MEMBERS NEWS

**Bill Nicholls** – Bill, from Silverton in Devon, has been researching regularly at our archives at Cairns Road. He is compiling a talk for the Devon Association (Industrial Archaeological Section) on “The Rural Electrification of Devon”.

**Paul Hulbert** – He is a very busy person, not only is he our Webmaster and Membership Secretary but is developing talks these days, but also has been heavily involved in local politics. He is a Parish Councillor and has been Chairman of the Parish Council near Yate.

**Brian Denham** – Brian, who lives at Colyton in Devon and has served on the committee, is researching the electricity history of Sidmouth for the Devon Association. He has had two operations recently and is recovering ok, which is amazing since his hip op occurred due to him falling into his son’s garden pond and having to be extricated by the Fire Brigade!! He has certainly been in the wars and we send him our best wishes!!

**Kayt Button** – Kayt has spent some many days at Cairns Road researching electricity history for a thesis on the subject and has now obtained a degree. She is now working at Ofgem and says she enjoyed the research more than writing the script and is very thankful for all the help we gave her!!

## HAROLD HARVEY

Harold has died aged 89 at Torquay, but was born in Cornwall. He did his national service in the RAF and was a keen church-goer. He did his electrical engineering training at Camborne Technical College joining SWEB there, but promotion led him to Torquay in the 1960’s, where he rose to the position of District Engineer and retired in 1986 getting involved in many things in his long retirement.

## ELECTRIC MONOPOLY?

A game, picture below, called “Light up the Town” produced by SWEB has been handed to us. Would anyone tell us for what purpose was it devised?



## ROBERT SYMONS

We are extremely sorry to report that Robert Symons, Chief Executive of Western Power Distribution has died in harness at the age of 64. He was a great friend of the Society enabling many of the improvements to the premises at the Cairns Road substation to take place to house both the SWEB Archives and historical electrical appliances.

Robert has served as chief executive of Western Power Distribution since March 2000 and led its expansion over the last 18 years, including PPL's purchase of Hyder in 2000 (South Wales), a utility holding company, and PPL's acquisition of Central Networks (Midlands and East Midlands) in April 2011. Among his accomplishments, in 2014 he led WPD through a regulatory price review process that resulted in WPD's four distribution network operators becoming the only four electricity or gas distribution companies to have their business plan fast-tracked for approval by U.K. regulator Ofgem. Robert had also served as the chair of the Energy Networks Association since late 2016, which represents electricity and gas transmission and distribution network operators in the U.K. and Ireland. He lived in Cornwall near Padstow.

**Note** : PPL is the American holding company with headquartered in Allentown, Pa. PPL Corporation is one of the largest companies in the U.S. utility sector. PPL's seven high-performing, award-winning utilities serve 10 million customers in the U.S. and United Kingdom. To learn more, visit [www.pplweb.com](http://www.pplweb.com).

## WPD RESEARCH PROJECTS

Western Power Distribution are carrying out a number of research projects associated with how the networks perform with the new green initiatives such as solar panels, wind farms and car charging. Two of these were highlighted in their latest journal, the first is a joint project with National Grid to monitor how the transmission and distribution networks interact with the new pressures and the second project is to monitor harmonics on the distribution networks. The latter project will be based at two 33kV substation networks in Stoke-on-Trent and Stroud to draw a comparison.

## PARISIAN POLLUTION

The Mayor of Paris claims that air pollution in Paris killing thousands of Parisians a year and has banned diesel vehicles from next Spring. A British based Chinese company London Electric Vehicle Company (LEVC), which makes the new hybrid taxis for the London streets has stepped into the breach and plans to launch its TX eCity model in the new year.

## ELECTRIC FLYING CAR

A Derby based company VRCO is working on plans for an electric flying car, a two-seater design, called NeoXcraft, with a prototype intended to be flying by next year. The company hopes to be selling them for £1.5 million by 2020.

## SUMMER HEATWAVE – Solar Panels

Histelec News No. 69 suggests those of us with Solar Panels must be rubbing our hands with glee! It is true to say few of us will not be disappointed. However to add a word of caution to that suggestion, solar panel outputs fall off with high temperatures despite many hours of sunshine – a good cool wind blowing helps! Here in Brixham, my annual average Performance Ratio is 82% and nationally the average is 76%. There is a fall off during the hottest period however the days are longer so kWhrs generated were up slightly.

Since early 2012 I have contributed my monthly generation figures to the Sheffield University ‘micro-gen database’, this site is well worth looking at and joining if you have solar panels. <https://microgen-database.sheffield.ac.uk> – this is absolutely free to join. That information joins the Met Office stats for luminosity, wind directions and air temperatures to give an ‘Irradiance Received by Panels (kWh/m<sup>2</sup>)’ and is geographically specific returning to me, on a quarterly basis, my monthly performance stats and indicates that all is well or otherwise. For July 2018 there were 1443 installations that have provided twelve-monthly generation figures to Sheffield.

As a passing note my original installation had a fault which the installer would not recognise until the comparable evidence from the Micro-Gen database was put before them. For the last couple of years, Sheffield Uni have been working with National Control providing real time estimates for Solar Generation and you can view these on the <http://gridwatch.co.uk/> site.

On a twelve-monthly basis since our system was installed the annual generation total is remarkably consistent – swings and roundabouts you could say – using the standard unit (kWhr/kwp) my average annual generation has been 1356 kWhrs. Spread the word regarding Sheffield University Micro-Gen Database.

*David E Ham*

## ELECTRIC SCOOTERS

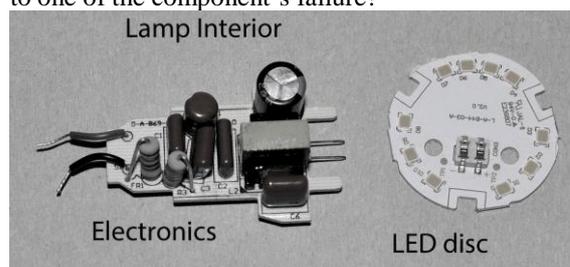
Everybody is at it, designing electric motivated vehicles expecting to make a fortune in the future!! An American company has set up an electric scooter sharing scheme in East London in the Olympic Park as a trial. The only problem is that the scooters are not able to be licenced on our roads. They launched similar schemes in 76 cities and towns mostly in the US.



## LED LAMPS COMPLEX



Peter Ireland has taken apart an LED lamp bulb (plastic), which showed a complex miniature electronics circuit board inside, obviously converting AC to DC, see pictures. The lamp, a 9 watt with 10 LED's, claiming that it is equivalent to a 60watt filament bulb and would last 20,000 hours. This one had failed after only a short use and was probably due to one of the component's failure!



## ILLUMINATING?

Why did the lights go out?  
*Because they liked each other!*



## FOR YOUR DIARIES 2019

**Sat. 9<sup>th</sup> February – WINTER LUNCH** at Batch Country Hotel, Weston-super-Mare, speaker Pat Hase on “A Weston-super-Mare/Bristol Holiday in 1836”.

**Sat. 23<sup>rd</sup> March -AGM AT TAUNTON + TALK** – At the WPD Training Centre at 11.00am followed by lunch at 12.15pm at the Merry Monk Inn. After there will be a presentation at 2.00pm by John Dike.

## Sat. 18<sup>th</sup> May – TALK AT CAIRNS ROAD

Buffet Lunch at the Eastfield Inn, then a talk at 2.00pm on “The History of Birnbeck Pier” by Peter Lander

## NEXT EDITION –

This newsletter is produced every four months. Please send articles, photographs etc to: - Peter Lamb at 1 Fairfield Way, Backwell, Bristol BS48 3RQ Telephone 01275 463160 or e-mail him on [lambpandv@btinternet.com](mailto:lambpandv@btinternet.com).