



NEWSLETTER

**RETIRED CHARTERED
ENGINEERS ASSOCIATION
WORTHING**

Hon. Secretary: S. Oliver, Elphinstone, North Drive, Angmering, BN16 4JJ ☎ 01903 787116

FORTHCOMING EVENTS

- 4th Jan Wednesday Coffee - at Albion Inn, 110 Church Road, Hove
- 11th Jan Wednesday **Talk** - "CERN - back to the Big Bang" by S. Oliver
2.30 p.m. Durrington C.C.
- 18th Jan Wednesday Committee meeting, 2.15 p.m. Durrington C.C.
- 19th Jan Thursday Coffee - at Seahorse Cafe, 110 Sea Road, East Preston
- 26th Jan Thursday Coffee - with Ladies at Beach Hotel, Worthing
- 1st Feb Wednesday Coffee - at Albion Inn, 110 Church Road, Hove
- 8th Feb Wednesday **Discussion** - "Revolutions; past, present and future"
led by S.R. Renew, 2.30 p.m. Durrington C.C.
- 15th Feb Wednesday **Visit** to Smith Kline Beecham, Worthing at 1.45 p.m.
see pages 7&11 for signing up
- 16th Feb Thursday Coffee - at Seahorse Cafe, 110 Sea Road, East Preston
- 23rd Feb Thursday Coffee - with Ladies at Beach Hotel, Worthing
- 1st Mar Wednesday Coffee - at Albion Inn, 110 Church Road, Hove
- 8th Mar Wednesday **Talk with Demonstration:** Model T Ford by E. Everard
2.30 p.m. Durrington C.C.
- 15th Mar Wednesday **Outing with Ladies:** Chichester Theatre backstage at
2.00p.m. see pages 7&11 for signing up
- 16th Mar Thursday Coffee - at Seahorse Cafe, 110 Sea Road, East Preston
- 30th Mar Thursday Coffee - with Ladies at Beach Hotel, Worthing
Publication of next Newsletter

Every Monday Coffee at Laing's Arcade Cafe, Montague Street, Worthing

Coffee mornings commence at 10.30 a.m., except at The Beach, which is from 10.45 a.m.

Corrections to last Newsletter

Please note that **A.C. Randle** was Director of Engineering for the London borough of **Hounslow** (and not Wandsworth).

Handbook

The 1994/95 handbook (with a green cover) was posted with the October Newsletter. Unfortunately, it appears that several envelopes disgorged their contents in transit and the Postal services repacked them such that some members received more than one handbook. Therefore some members did not receive their handbook or even the Newsletter. Will any member who has not received the new Handbook please contact the Hon. Sec., so that the matter can be rectified.

Please note that the phone number for **D.H. Lear** should read **(01903 201262)**

Stan and Joyce Morgan have moved to Worthing:

**S.J. Morley, 17 Regis Court, West Parade, Worthing, BN11 3RA
(01903 213636)**

E.L.Higgins, who is an ex president and life member now, resides at the Larkspur House Nursing Home, 17 Newling Way, High Salvington and would welcome visitors.

A.G. Standbridge, M.I.Mech.E., M.I.Prod.E., F.I.E.D. should have had **R.E.M.A.P.** included with his interests.

Membership

Due to the fine efforts of our membership secretary Ernest Ayling obtaining an excellent advertisement for our association in the Engineering Council Newsletter, we have attracted an additional 10 new members (details on pages 8&9), giving a total of 114 members. **Mrs E.A. Gardner**, has moved back into the area and has joined our activities for the Ladies.

East Preston Coffee mornings

The "Three Crowns" public house has closed down therefore the next three coffee mornings will be held at the Seahorse Cafe, 110 Sea Road, East Preston. The dates are given on the front cover of this Newsletter.

Visit to Gatwick Airport

This visit took place on the afternoon of the 1st November for 20 members, this being the maximum that our hosts could accommodate. The afternoon lived up to all the expectations that had led to the visit being well oversubscribed.

We were met in the arrivals hall by Mr. Martin Ong, the Engineering Director and his P.A., Heather Fuller, who conducted us to a conference room in The Winston Churchill Suite. Having been served refreshments, Mr. Ong outlined the history of Gatwick which had seen the completion of the South Terminal in 1958 and the North Terminal in 1988, each serving the single runway. Currently about 21 million passengers per year are accommodated with 12.5 million and 8.5 million using the S. and N. Terminals respectively. The maximum capacity is about 25 million which should not be exceeded within the next 10 years. Other statistics that emerged were the peak level of 100,000 passengers per day, 180,000 planes per year from 161 Airlines, of which 78% were leisure flights, but between 55 and 61% of flights were scheduled rather than charter.

We divided into two groups for an inspection of the workshop area that serves the Transit System which connects the N and S Terminals. The system is by Westinghouse using a 600 V 3 phase supply to 30 kW units on the cars which travel in sets of three on each of two tracks. This two track system ensured a reliability approaching 100% for passengers who take 2 minutes to complete the journey. The system is completely un-manned, each car costing about 1 million pounds and using twin bogeys with computer controlled steering and braking. The pneumatic tyres on the wheels ensure relative silence for passengers but not for the maintenance technicians, working directly underneath. A future development will be a points system that would allow cars to be directed off the tracks into a separate workshop rather than the underground area presently used.

Next followed a short trip in the Transit cars to the North Terminal where we split into three groups to be shown round the baggage handling system. This again is computer controlled with an operator initially reading a bar code on the luggage label to ensure the correct routing to the aircraft. In spite of the sophistication and a control room bristling with VDUs we were told that it had been known for a plane to leave with only 30% of its luggage on board!

Our guides for the afternoon, besides Martin Ong, included several Senior Engineers, namely Paul Jenkins, Graham Buss and Barry Addy, the latter being the Maintenance Manager for the North Terminal. They all accompanied us on the final phase of our visit, which was a coach trip round the apron perimeter which included the aircraft bays (jetties) and involved at times dodging planes taxiing to or from the runway. The coach simulated a plane at two bays, approaching to demonstrate two separate devices, both simple yet effective optical devices which enable the pilot to steer accurately the plane into its precise parking position. We saw much construction work going on which included the enhancement of South Terminal, the departure lounge extension at North Terminal and some re-laying of deep concrete at the loading area to withstand the greater pressures from more recent aircraft. All 20 of us thoroughly enjoyed this visit for which Martin Ong and his staff had put in considerable time and effort. A visit worth repeating for another 20 members to enjoy.

The Cooch Memorial Lecture

The Wey and Arun Canal, presented by P. Beresford and J. Woods, on 25th November, 1994 at the Lecture Theatre, Worthing Library.

The President introduced the speakers, Mr. Peter Beresford, who is the Chairman of the Wey and Arun Canal Trust, and Mr. John Woods, the Vice-Chairman and Honorary Secretary of the Trust.

Mr. Woods began the presentation by referring to the Trust, which was formed some twenty-five years ago, with the aim of restoring the canal between the navigable sections of the rivers Wey and Arun, this being part of the national waterway system.

The canal age proper started in about 1760 and had been developed by making navigable firstly main rivers, such as the Thames or Trent, and secondly the tributaries and minor rivers, such as the Wey and Arun. Navigable man-made canals were then built to complete the network, which eventually amounted to some 4,500 miles of waterways.

The Wey and Arun canal is some twenty-three miles long and formed part of the London-Portsmouth Barge route, which was in operation for twenty-four years, being authorised by Parliament in 1813. This route enabled Portsmouth to be connected to London and, more particularly, to Woolwich and Chatham - vital in times of war. It also enabled sailing vessels to use an inland route to London, rather than the long sail along the coast. This reason became less important as steam in lieu of sail was developed. The route was 116 miles long with 56 locks, involving payment of many tolls to the various authorities. It took about four days to complete the journey. The railway between Portsmouth and London opened in 1847 and this, together with the opening of other lines, spelt the end of the canal which, in the absence of any industry in the area, only transported such commodities as coal and timber.

The speaker then reviewed the reasons for undertaking such a tremendous task as restoring this section of the waterway system. Firstly of course it was to enable boats to be used, not for commercial reasons (the gauge was never broad enough for this), but for pleasure. Secondly, it enables walkers to enjoy the countryside. It is surprising that walkers are the biggest users of the canal. It also provided scope for fishermen and it was felt generally by the various conservationist bodies that the whole water environment required attention badly, due to the collapse of whole sections of the waterway.

The speaker then described with illustrations the waterway from the coast to the Wey, which included the length of canal which is the subject of the Trust's activities. The route begins at Littlehampton harbour, which deals with a trade of sea-borne aggregates, grain and exports. It is the start of a navigable section of the river Arun to Arundel and beyond - this

section being used mainly by pleasure craft. It also contains the junction with the old Portsmouth Arundel canal. The possibility of restoring part of this length is being considered by the Chichester Society. It is of interest that the Arun is the second fastest flowing river in England and can make some eight knots and requires great care in its use.

The next section takes the river through the South Downs Cut to Houghton Bridge. This bridge dates from the 14th/15th century, the present structure from 1880. It has been rebuilt some six times, due to savage flooding. The river to this point, still tidal, has a minimum depth of eight feet, but upstream it becomes much shallower. After the collapse of the main route, this part of the river remained operational for minor items such as coal, the last barge ceasing operation in 1931.

Another length of river of some interest up-stream of Houghton is a man-made cut at Coldwaltham, which shortened the distance to be travelled on the river by some three miles. This cut contains the only tunnel on the route, some 350 yards long, 13 foot bore, but now blocked by strengthening work to the Brighton and South Coast railway.

The river is tidal to a point above Stopham Bridge, this point being the limit of the right to navigate from the coast. The canal then joins the river, this section being restored by the Trust. The canal structures were in a very bad state in the 1970's, when the Trust was formed due, amongst other factors, to the use of poor materials such as the lime and mortar mix. Of the thirty-six bridges in the section, only ten remained standing. Nineteen bridges have now been restored, together with six locks. Work on clearing and resealing the water course continues. The work has been carried out in a piece-meal fashion, the programme being determined by the availability of labour and materials. The whole scheme has been subject to an independent report which has confirmed its feasibility, including such items as water supply. For instance, it is calculated that sufficient water is available for thirty-six locks per week, although a scheme for impounding water is being considered.

The work is very labour-intensive and relies on volunteers organised into various working parties, although contractors have been employed on the heavy work of regaining the canal profile and sealing.

At the end of the canal, access to the existing waterway system is available via the navigable section of the Wey.

Mr. Beresford gave a very interesting, although rather brief talk on the arrangements for the setting-up of the Trust and the means of financing and of the overall organisation. He hoped that, armed with the independent report, the remaining work could be funded properly and that this most interesting project be completed.

A vote of thanks was proposed by Ken Lambert conveying the appreciation of the audience for a most excellent presentation. He made the point that the Trust relies on voluntary help to a very great degree and hoped that anyone at the meeting who might be able to help would volunteer.

The Association Prize

The Cooch Lecture is the occasion when we make this award. It is most encouraging that, for a second year running, it went to a member of the fair sex.

This year the prize-winning student from Brighton University was Miss Samantha Lewis. My wife was with this charming young lady for much of the afternoon and was most impressed with her enormous enthusiasm for the world of science and engineering. After obtaining her first degree at Brighton University, she went to France for a year to perfect her French and, at the same time, she obtained a French degree. She would like to go on to study for a Ph.D but said that because the government has now cut back on student grants, she may find such a plan financially difficult.

Although a very enthusiastic student, she said she is very much aware that academic qualifications are not sufficient for success. It is most important also to obtain experience in a working capacity and, for this reason, she is investigating the possibility of obtaining a research post combining study for a Ph.D. In addition, she is particularly keen on design and this has apparently formed an essential part of her present M. Eng. course at Brighton University.

Miss Lewis said she was surprised and very proud to have won the prize. She expressed great interest in the 1994 Cooch Lecture on the Wey and Arun Canal Trust and was delighted to have been asked to attend the whole meeting.

The Faculty of Engineering and Environmental Studies at Brighton University have, for the last three years, proposed excellent candidates for our award. It is most unfortunate that our award got off to such a bad start at the original educational establishment chosen by the association. After that experience, it is understandable that many members felt that we should drop the idea of making an award at all. The final outcome has proved otherwise and I am of the opinion that we should give proper consideration to increasing the amount from £50 (which is not a lot when considering the current price of books) to at least £75.

Stan Renew

Help Wanted

The Wey and Arun Canal Trust have asked me to advertise the fact that they need a volunteer to check calculations which in the main will be on simple bridge structures.

Stan Renew

"CERN - back to the Big Bang"

This talk by S. Oliver, member, will be given at the Durrington C.C on Wednesday 11th January, 1995. CERN, the European Laboratory for Particle Physics, straddles the French-Swiss border just west of the city of Geneva. Here the Worlds' largest particle accelerators are housed in tunnels up to 27 km in circumference and 100m below the surface. In the LEP accelerator, particles are accelerated up to very high energy and collide head-on with other particles. The energy that is produced in these collisions is so high that conditions equivalent to those existing 1000th of a millionth of a second after the creation of the Universe, 15,000,000,000 years ago, are produced.

This talk will briefly explain the experimental evidence for the Big Bang theory, the fundamental forces and particles of which the Universe is made up, and describe the giant accelerating machines at CERN.

Visit to Chichester Festival Theatre - Wednesday, 15th March, 1995

Firstly, please note the change of date, as requested by the theatre. However, this will in fact make for a more interesting visit for us. The original date was during a dead period, but the revised date is for an afternoon during a performance week.

The visit is planned to last one and a half hours approximately, but they do stress that there will be quite a lot of stairs to negotiate, and plenty of standing around, listening to the guide. On completion of the tour, a cream tea will be provided in the very pleasant atmosphere of the Minerva Club Room. Parking is available in the car park immediately adjacent to the theatre but, be warned, despite its enormous capacity, it may well take quite a time to secure a place.

Our party will rendezvous in the foyer of the main theatre and the tour will commence at 2 p.m. sharp. The total cost of the afternoon will be £5.30 per person. Since the party is limited to twenty-four, bookings will be accepted in order of receipt of the reservation form on page 11, together with cheque, which should be made out to S.R. Renew.

Stan Renew

Visit to New Power Plant at Smithkline Beecham, Worthing

Wednesday, 15th February, 1995 - 1.45/2 p.m.

The building of an in-house power plant was well under way during our last visit to this company. It has now been operational long enough to make this a very interesting visit, not just for what is to be seen, but also for the presentation that we will be given on both installation and operation.

Since part of the tour will involve visiting the chemical production operation, visitors must wear shoes with rubber/composite soles and heels. Furthermore, matches, lighters and cameras are strictly forbidden.

Our group, which will assemble in the Main Reception in Clarendon Road, will be limited to 25. As a consequence, those members applying in excess of this number will be contacted by telephone; otherwise you can assume that your application has been accepted. Closing date for applications is Friday, 10th February, 1995.

Stan Renew

Spring Break to Jersey 28th May - 1st June, 1995

We have been notified by Beta Travel that the flights to Jersey will now be from Gatwick. It seems that flights out of Eastleigh will not accept large group bookings because, if the group does not take up all their seats, then they have difficulty in selling any spare seats. It does not matter to the airline that we have assured them that we will take all our seats and that we are not "lager louts" or football hooligans, they are adamant - "It's the rules, you know". However, Gatwick is no problem; in fact it is nearer to us than Eastleigh and better flights - hopefully, 12.40 out and 14.40 return flight from Jersey. We were given the option of splitting the group, in order to travel from Eastleigh by two separate flights but, like a good manager, an instant decision to decline the option and agree flights from Gatwick was taken.

John Fowler

<p>1994 AUSTIN, A.A., F.I.C.E., F.I.E.E. <i>25 Ifoldhurst, Ifold, Loxwood, Billingshurst, RH14 0TX (01403 752912)</i> 1948-50 South Western Electricity Board. 1950-86 BICC/Balfour Beatty Consultant-Transmission Lines <i>Interests:</i>D.I.Y., Gardening, Dinghy Sailing</p>	<p>1994 BOND, W.T.F., F.I.Mech.E., F.I.E.E., R.DES.Eng., F.I.E.D. <i>21 Alfriston Close, Felpham, Bognor Regis, PO22 6BQ (01243 586488)</i> Design of special purpose machines. Principal Lecturer - Polytechnic of the South Bank (Southbank University). Founder & Director - Research Unit - Queen Mary's Hospital for Children (Cashalton, Surrey). <i>Interests:</i>Music (pianist), Oil painting, Writing, Gardening</p>
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<p>1994 BRAKELL, J.D., M.I.Mech.E., P.ENG. F.I.Q.A. <i>16 Norbury Drive, Lancing, BN15 0QN</i> (01903 233426)</p> <p>Quality Manager Canadian General Electric Montreal. Principal Engineer Ewbank Preece Ltd Brighton.</p> <p><i>Interests:</i>Gardening, Swimming, Golf, Country walks.</p>	<p>1994 CLEAVELY, A.A., M.I.Stuct.E. <i>129 Chesswood Rd, Worthing, BN11 2AE</i> (01903 233426)</p> <p>10 yrs R.A.F. including R.A.F. apprenticeship. 3 yrs Civil Engineering Contractors. 8 yrs Ministry of Works. 2 yrs Crown Agents. 30 yrs Worthing Borough Engineer's Dept.</p> <p><i>Interests:</i>Maintaining and running Vintage Sports Car Motor Cruiser on Inland waterways.</p>
<p>1994 LEWIS, D.M., B.Sc.(Eng.), F.I.E.E., F.I.Mgt., M.B.C.S. <i>8 Arlington Avenue, Goring-by-Sea, Worthing,</i> <i>BN12 4TA</i> (01903 249726)</p> <p>1955-71 South Western Electricity Board. 1971-79 Seeboard. 1979-93 Worthing District Engineer, Engineering and Information Services Manager.</p> <p><i>Interests:</i>D.I.Y., Gardening, Motoring, Badminton, Reading, Travel, Computing.</p>	<p>1994 MARSON, L., F.I.Mech.E. <i>12, Richmond Court, Sea Lane, Rustington,</i> <i>Littlehampton. BN16 2TJ</i> (01903 233426)</p> <p>1944-46 Lt.Col. Dir. of Mechanisation G.H.Q. India. 1947-48 Executive Engineer P.W.D. India. 1949-76 Crown Agents for Overseas Developments London H.Q.</p> <p><i>Interests:</i> Reading</p>
<p>1994 PICKEN, G.H., B.Sc.Tech., M.I.Mech.E., F.I.E.E. <i>2 Faircox Cottages, Faircox Lane, Henfield</i> <i>BN5 9PD</i> (01273 493600)</p> <p>C.E.B., Malaya 1954-64. From 1965 Preece, Cardew & Rider / Ewbank Preece. Power Stations/Transmission System construction & design, Power System studies, Cables & Earthing.</p> <p><i>Interests:</i>Model Engineering, Bluebell, Music, Theatre, Opera</p>	<p>1994 WHEELER, Eur.Ing.K.J., M.I.Mech.E., F.I.Mgt., C.Dip A.F. <i>14 Musgrave Avenue, East Grinstead, RH19 4BS</i> (01342 321291)</p> <p>Redifon Flight Simulators. Norcon (Norris) Ltd. Visiting Fellow to Engineering Faculty at Brighton University.</p> <p><i>Interests:</i>Golf, Probus, Reading, Foreign Travel.</p>
<p>1994 WIGLEY, J.L., B.Sc., M.I.EE. <i>"Spindrifft" South Strand, East Preston,</i> <i>Littlehampton. BN16 1PN</i> (01903 783486)</p> <p>B.T.H. Co., Rugby. Victor Products, Wallsend-on-Tyne. Colt International, Havent. Reckitt & Colman plc, High Wycombe.</p> <p><i>Interests:</i> Electronics, D.I.Y. Rugby</p>	<p>1994 BESLEY, E.T., B.A, M.I.EE., M.I.E.D., Hon.F.R.S.O. <i>28 The Parkway, Rustington,</i> <i>Littlehampton. BN16 2BU</i> (01903 782019)</p> <p>Draughtsman-Designer: A. Johnson & Co (London) Ltd, Stainless Steel Vessels Ltd, Sant Sturgess Ltd. Hendon College/Middlesex University Senior Lecturer in Production Engineering</p> <p><i>Interests:</i> Gardening, D.I.Y., Reading, Short mat bowls</p>

To: S.R. Renew, 11 Chartfield, Hove, BN3 6DS

I wish to participate in the visit to **Smithkline Beecham** on Wednesday 15th February 1995 at 1.45 / 2.00 p.m.

Full Name(Block capitals)

Address

I have noted and will comply with the restrictions appertaining to footwear, incendiary materials and cameras.

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Phone No.....

To: S.R. Renew, 11 Chartfield, Hove, BN3 6DS

I wish to participate in the outing to **Chichester Festival Theatre** on Wednesday 15th March, 1995 at 2.00 p.m.

Name(Block capitals)

I shall be accompanied by.....

Address

.....

Phone No.....

.....

I enclose a cheque for £5.30 per person, made payable to S.R. Renew

