

An Exchange Visitor in the U.S.A.

During the summer of this year I spent  $3\frac{1}{2}$  months in the Central Radio Propagation Laboratory of the National Bureau of Standards in Boulder, Colorado as an exchange visitor. This was the first in a proposed series of exchange visits between RRS and CRPL. The second of these is now in progress, with Mr. Lane at Boulder and Drs. Davies and Jespersen at Slough. My own counterpart was Dr. Wait, whom many of you must have met during his stay here.

In the case of Dr. Wait and myself the exchange process was quite a far-reaching one; we took our wives with us and used each others' house and car. Although a few problems arose in dealing with unfamiliar surroundings I at least found the arrangement to be most successful and can certainly recommend it to anyone else who may have the opportunity to do the same.

It was the 7th June on which my family and I left London Airport in the 4 p.m. 'plane, landing in New York about 7-45 p.m. by local time. We spent the night in an hotel at Idlewild and proceeded by air to Denver the next morning. Before leaving New York we were alarmed to hear that the temperature was  $45^{\circ}$  in Denver, and we were clothed in the expectation of over  $80^{\circ}$ . On our arrival it was raining so heavily that the passengers had to wait for a supply of large umbrellas to be brought to the 'plane to enable us to walk to the airport buildings. Here we were met by John Hargreaves whom some of you will remember from his time in the Navigational Aids group at RRS. He is now a member of the staff of CRPL, and his wife (formerly of the Ionospheric Bureau) is working for the National Center of Atmospheric Research, which is also situated at Boulder. He had a car ready to take us to the Waits' house in Boulder. I might mention here that in the afternoon the rain stopped and the temperature rose rapidly. To do justice to the Boulder weather, in all the time I spent in Colorado there were only two days in which the weather was as bad as on my first day and indeed the almost continental sunshine was one feature we would have liked to bring back with us.

CRPL is, of course, the corresponding establishment to the RRS in the U.S.A., and is about three times its size as seems reasonable when one considers the ratio of the populations of the two countries. Like RRS it is organized into four divisions; I spent most of my time with the Upper Atmosphere and Space Physics Division, whose head was Dr. Little. (He has subsequently become Director of CRPL). There I studied the results of some experiments which had been carried out in Alaska to examine absorption values given by riometers and by measurements on a c.w. link. CRPL is of course very prominent in riometer work, which consists in studying radio wave absorption with cosmic sources as the transmitters. The technique is particularly valuable in giving the electron densities in the lower ionosphere which are produced during the large absorption events which are frequently found in the auroral regions. I was also able to study some solar flare effects on VLF propagation. At Boulder they have a fine series of measurements of amplitude and phase on a number of distant VLF transmitters extending over several years.

My wife and family left Boulder at the beginning of September, but I stayed on a little longer, and before leaving the country I paid a number of most interesting visits to various research establishments. When I returned to England in October I was glad to be back again, but I felt that I had had a most valuable and enjoyable experience.

W. C. Bain.

### THAIPUSAM

Thaipusam is an Indian festival celebrated yearly at about the end of January and Singapore is one of the few places, including India itself where the pilgrimage of the devotees is still permitted. The festival is in honour of the birthday of Lord Subramanium, a Hindu God, and on this day a procession of men wearing 'kavadis' takes place. A kavadi is an open frame-work of silver needles, supported by light metal struts, (nowadays aluminium) and surmounted by a religious image of some type. These silver needles are so arranged as to have one end inserted into the carrier's flesh, usually the chest and back, with further, shorter needles through the tongue and cheeks; the whole structure is also supported, to some extent, by shoulder pads and a strap around the waist.

Not all the Hindus in Singapore take an active part in the festival; only those who feel that God has granted them some wish or answered their prayers, say by restoring the health of one of their family, actually undertake to wear a kavadi. The devotee will have no food and be separated from his family for a period of 48 hours before the appointed time of the procession. He will then arrive early in the morning at the Hindu temple in Serangoon Rd., together with male members of his family and close friends and after the appropriate prayers and offerings, will begin to have his kavadi put on him. His skin is dressed with some form of powder which appears to prevent bleeding when the needles are inserted; this is done by pinching the flesh, when the needle is pushed rapidly thro' the fold of skin so formed. This part of the ceremony is carried out with prayers and chanting on the part of the men present, while the devotee's women folk merely stand close by in deep silence. The final step is the slow insertion of a silver needle through the man's tongue, accompanied by louder chanting which reaches a climax as the silver is seen to penetrate the flesh.

The devotee is now ready to take part in the procession itself, which consists of a three mile walk often under a hot tropical sun or in teeming rain, to the Chettiar Temple in Tank Rd. During the walk each kavadi is protected by a close circle of the devotee's friends, who also try to give him drinks of water (difficult with the tongue skewered about an inch out of the mouth!) or perhaps throw water over him to keep him cool. On arrival, after paying homage to Lord Subramanium, the needles are removed and the long suffering devotee is given a meal and a drink. He then packs his silver kavadi away, ready for next year perhaps, and next day would be back at work as if nothing had happened.

At the Chettiar Temple there are also many food stalls, fortune tellers, snake charmers and sellers of religious emblems and pictures, for the Festival is a holiday for all Hindus; the younger boys especially seem to be very interested, perhaps waiting for the day when they too can wear a kavadi.

J. Tyler.

### STAFF NEWS

#### Welcome to:

Mr. J. L. Jespersen of C.R.P.L., Boulder who will be working at R.R.S. for about a year.

#### New Appointments

Miss C. S. Jones	T/Clerical Asst.
Mr. M. Jeganathan	T/A.E.O.
Mr. C. M. Comer	T/A.E.O.
Mr. T. Roll	T/Unskilled Labourer
Mr. J. D. E. Beynon	T/S.O.
Mr. M. E. Farman	T/E.O.

/Temporary

Temporary Part-Time Appointments

Mrs. J. A. King	T/S.A.
Mrs. S. A. Croom	T/S.A.

Resignations

Mr. F. E. Kohler	T/Unskilled Labourer
Dr. H. Rishbeth	Sen. Research Fellow

Movements

Mr. G. Luscombe visited Washington from 30th October until 3rd November.

Dr. B. G. Pressey seconded to the Office of the Minister for Science, w.e.f. 20.10.62.

SOCIAL AND SPORTS CLUB

R.R.S. Fireworks Party

Guy Fawkes night was a resounding success, almost 200 people attended and even the weather was kind, so that the gentleman on top of the fire did not need the umbrella so thoughtfully provided. After hot dogs and coffee the more active adjourned to the old buildings. There was dancing in the table tennis room, well supported games of snooker in the billiards room, and refreshments available in the lounge.

Our thanks to all who helped - the intrepid wood gatherers, and the ladies who prepared the food.

Margaret Peart.

Bridge Club

The first meeting of the RRS Bridge Club is being held on Friday, 16th November. New players are badly needed, and will be very welcome. They should either sign the sheet on the notice board or come to see me in Room 49. A high standard of playing ability is not necessary.

A number of bridge evenings are usually held during the season at R.R.S. and a few matches against other clubs are played. This winter, of course, there will also be the games for the Smith-Rose Cup.

W. C. Bain.

R.R.S. Motor Rally

The final plans for the rally are now ready.

The map required is sheet 170 of the Ordnance survey.

It has been suggested by the organisers that people should take their own picnic lunches although some sandwiches and liquid refreshment will be available at the public house at the 'half way' stage.

The exact finishing time depends on the individual; but early evening is the approximate expected time.

Please support the rally to make the work of the organisers more rewarding than last time.

Camera Club

An exhibition of photographs of the ceremony of Thaipusam, taken by Mr. J. Tyler, will be held in the Dining Room during the month; also on display are Mr. Tyler's colour slides of Singapore and Malaya.

W. S. Newman.

WE ARE HOLDING A FORMAL DINNER-DANCE AT THE WATERSIDE INN, BRAY, ON FRIDAY, 15TH FEBRUARY, 1963. THE TICKETS WILL BE 25/- EACH. DANCING WILL BE TO THEIR RESIDENT BAND, WHO HAVE APPEARED ON B.B.C AND I.T.V.

THE HOTEL MUST HAVE SOME IDEA OF THE NUMBERS, SO COULD PEOPLE INTERESTED PLEASE CONTACT MARGARETS PEART OR WILLIAMS, AS SOON AS POSSIBLE.

#### LETTER TO THE OUTSTATIONS

Dear Colleagues,

You will see from page 3 of this issue that Dr. Pressey is leaving us for the Office of the Minister of Science at the end of this week. A presentation and official farewell have been arranged in the canteen for this afternoon, and the staff at Slough will be hearing about his work during his long service with D.S.I.R. Our overseas readers will certainly want to add their own good wishes to him for success in his new job. Dr. Pressey joined the staff in 1935, and has now been seconded to the Space Research Management Group of the Office of the Minister for Science. He expects to be dealing mainly with British contributions to E.S.R.O., the European Space Research Organisation.

The editor apologizes for the slimness of this issue. Dr. King, who was to have contributed an article on the topside sounder results, was prevented from doing so by more urgent commitments and, with the best will in the world, he just could'nt fit the article in. After all, a man has to sleep sometimes! However, he has very kindly agreed to complete the article in time for it to feature in our Christmas issue, and we look forward to reading it.

Best wishes to you all, and Christmas greetings to all our colleagues in the Falkland Islands.

Yours sincerely,

The Editor