

RRS Newsletter

(For the Use of R.R.S. Staff Only)

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RRS and the IQSY

To those of us who were at the Station in 1957 and 1958 memories of the International Geophysical Year will still be vivid. None of us will need reminding that during that Year of eighteen months international scientific collaboration on an unprecedented scale was achieved and that, as a result, a mass of most important geophysical data was accumulated and made available to all interested scientists through the World Data Centres.

The IGY was designed to cover a period of maximum solar activity and the planners were lucky in selecting one in which sunspot activity was the highest since recording began about two hundred years ago.

Soon after the end of the IGY it was felt that the full benefit of the work which had been done would not be achieved unless complementary data were obtained at a period of minimum solar activity. International support for a sunspot minimum programme of observations in 1964 and 1965 was forthcoming and, at a full-scale planning meeting held in Paris in March 1962 under the auspices of the Comité International de Géophysique, such a programme for each of several disciplines was discussed in detail.

It had previously been suggested that the International Year of the Quiet Sun should start on 1st July 1964 but, at this Paris meeting, the experts on solar activity reported that there was doubt as to when the minimum activity would occur. After some deliberation it was decided that if the IQSY began on 1st January 1964 and ended on 31st December 1965 it would be likely to include the minimum. This period was agreed and the meaning of the letter 'Y' in IQSY became 'Years'.

It was at this same meeting that it was agreed to set up an organising committee and this was subsequently formed with Professor Beynon as chairman, Dr. Minnis seconded from RRS as secretary.

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The plans for the IQSY were finalised at a second plenary gathering in Rome last March. The proceedings of this meeting, especially the reports of the various Working Groups, will be found in "IQSY Notes", No. 3, in the Library.

What part will RRS play in the IQSY? All our work will, of course, be in the discipline 'Ionosphere' except for the operation of Dr. Page's neutron monitor at Lerwick which item comes under 'Cosmic Rays'.

Our main effort will be at Singapore as was the case during the IGY, but Slough, Port Stanley and Lerwick will all be involved.

In vertical incidence ionospheric (bottom-side) sounding Slough, Singapore and Port Stanley will continue their normal hourly recordings but will operate their ionosondes every quarter hour on Regular World Days and during ionospheric disturbances.

The ionospheric absorption apparatus at Singapore which has been unemployed since the IGY is now being overhauled by Mr Kift and his colleagues and will be back in operation in improved form on 1st January next.

Ionospheric drifts will be studied at Singapore with the IGY apparatus at present being modified for automatic operation and being arranged for data recording using the apparatus developed recently under Mr Luscombe's direction. At Slough Dr Fooks hopes to continue drift observations using Mr Kelleher's installation.

The top-side ionospheric sounding work now in progress at Winkfield, Singapore and Port Stanley and the analysis of the records at Slough is scheduled for continuation as an IQSY experiment. For its prosecution we shall be dependent on the continued operation of satellite Alouette or the successful launch of the National Bureau of Standards satellite S-48.

In addition to operating the neutron monitor at Lerwick Mr Flavell will also be recording the field strength of certain L.F. stations as part of the investigation into the behaviour of the lowest ionosphere which Mr Christie has been doing for some time.

At the Rome meeting mentioned earlier there was much heated discussion on the arrangements for World Data Centres during the IQSY. The U.S. and particularly the U.S.S.R. delegates spoke eloquently in favour of operating centres for all disciplines only in their own countries. This proposal was defeated and our own Centre will therefore continue at any rate for the duration of the IQSY.

Finally, we are responsible at RRS for organising the distribution in this country of warnings of abnormal geophysical conditions. These warnings, which originate in the U.S.A. are sent out all over the world so that optical observations may be made simultaneously by all observers. They are received in this country at the Meteorological Office at Bracknell and passed to the Post Office who, at our request, send them to interested groups of workers.

/Miss

Miss Cottenham is now making arrangements to display these warnings in a prominent place.

In a few weeks time Mr Bellchambers and his colleagues from Aberystwyth will be leaving for Halley Bay to resume the experiments made so successfully during the IGY by Messrs. Bellchambers, Barclay and Cansfield. We admire the spirit of men who are prepared to sacrifice the comforts of home for a spartan life in the intense cold of Antarctica and wish them a most successful IQSY. It is likely that they will do some of the analysis of their results at RRS on their return in 1966 and we shall look forward with pleasure to having them with us again.

At the time of writing all apparatus is in an advanced state of preparation and all appears to be set fair for us to make a really significant contribution to the important project.

A. F. Wilkins

RECOLLECTIONS OF INDIA

We landed at Bombay on August 3rd 1961 about the hottest time of the year. The heat and humidity were almost unbearable, especially after having spent about two hours in the customs shed filling in about eight forms. This involved a liquor import permit (for my quarter bottle of Vodka) a camera permit, tape recorder permit etc. etc.

We then made our way to the railway station where we caught the air conditioned Frontier Mail that evening for the eight hundred mile haul to Delhi. The journey, lasting twenty-four hours was pleasant but monotonous - over the plains of Bombay, Maharashtra, Rajasthan.

At last we reached Delhi. I think all Indian railway stations are the same - chaotic. Immediately you are surrounded by a crowd of red turbaned, red-jacketed, porters who almost snatch your bags from you. With an 'I take bags Sahib' they then nonchalantly place about three valises on their heads, trot to the exit at high speed and become almost lost in the milling throng. When paying a porter most newcomers give too much. The porter then starts to argue that if you can give him two rupees you are quite able to give him ten! Conversely, if you underpay him he also argues, understandably though this time. Still, it is well known that most financial transactions in India involve a good deal of bargaining. I found the best plan, after learning the hard way, was to push eight annas into his hand and retreat at high speed.

Outside the station one sees people from all parts of India. South Indians from Madras, Kashmiris from the north all wearing their particular dress, for India is a land of many cultures. Brahmins, priests sadhus and untouchables all squat on their heels the length of the platform waiting for

the next train or nothing in particular. Whether it comes today or tomorrow they don't mind much.

We were met at Delhi by a car from the British High Commission and were driven through the streaming crowds of Old Delhi, thence into New Delhi to our hotel where I was shown to my room and assigned one bearer, Sita Ram, and one sweeper called Natu. Sita Ram managed to keep his family of five on about £8 a month and Natu received even less. The average middle class wage in Delhi is £7 10s. where most men, about 2 million of them, are employed by the Central Government. They pay about fifteen shillings a month for rented accommodation and seem to manage on what is left.

Mainly, the North Indian eats wheat flour as a staple food which he makes into chapatis - a sort of flour pancake baked on a flat iron sheet. They eat some vegetables, but very little meat, for this is expensive. Consequently one sees many children who are thin and suffer from rickets, distended stomachs and other deficiency diseases. In fact I had to visit India before realising the meaning of hunger. The occasion was when I went on a picnic with some Indian friends. We had eaten a good spread when a cow herd came over to us and asked for some food. My friends gave him some chapatis - his eyes lit up as he took the food and finished all that was left. This made me realise that he must be permanently hungry. Such is the plight of most people in India.

The trailer containing the HF transmitter was towed to a transmitting station of the Overseas Communication Service of the Government of India, where it was duly installed in a field near our transmitting aerial. We were soon operational and carrying out regular transmissions to Slough. The experiment was to study path propagation with an HF stepped frequency transmitter which advanced its frequency in 20 kc/s steps from $5\frac{1}{2}$ to 45Mc/s. We also operated a synchronised receiver in order to record backscatter on film.

The transmitting aerial, a large rhombic, was erected in a field within a perimeter fence. Inside this fence the field was like an oasis and outside was barren land over which bony cows would try to find sustenance in the dry earth. On our side of the fence was luxurious tall grass. I had to walk through this sometimes at night in order to connect the transmitter feeder to the rhombic, and always went cautiously for fear of treading on some reclining snake. I walked along beating the undergrowth with a stick in order to scare them away (so I hoped). However, I only saw one live snake the whole time I was there although I found several cast skins. Other creatures to be seen were the occasional jackal, rabbit or mongoose and plenty of lizards, some of which were about 3 feet long. These latter had an amazing turn of speed. Numerous vultures flew to roost in the evenings in a large peepul tree near a cremation ghat nearby.

My stay in India was quite enjoyable but the climate was the main bugbear. Sometimes the trailer temperature rose to 120°F and at other times,

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if there was field work to be done we could only stay outside about 20 minutes before becoming dizzy and parched. Conversely in the winter it could be near freezing.

India is a most interesting country of colossal interest to a Westerner, but ~~eighteen~~ months there was plenty for me and I was glad to return home - even though England was by now covered in snow.

R. Aria

WHAT IT REALLY MEANS

Nowadays so many scientific papers are published that even specialists who try to follow all the detail in their own field are liable to become frustrated. It is easy to see how this great flood of papers arises when one realises that there is at least one individual in the world, in the United States in fact, who has published one hundred and forty papers in the last eight and a half years, that is one paper every twenty-two days approximately.

One sometimes speculates whether all the papers published can be full of reliable and useful information. The glossary given below gives an amusing interpretation of several well known phrases which occur repeatedly in the literature. There are probably only a few authors who would disagree violently with the interpretations given of many of the phrases. The glossary came originally from the journal "Metal Progress" in 1957.

Extract from published paper

Real meaning

Introduction

It has long been known that ...

I haven't bothered to look up the original reference.

... of great theoretical and practical importance

... of interest to me

While it has not proved possible to obtain definite answers to these questions ...

The experiments didn't work out, but I figured that I could at least get a publication out of it.

Experimental Procedure

The system chosen was one which was especially suitable to investigate the predicted behavior.

The fellow in the next lab had the system already working.

very high-purity ... extremely high-purity ... spectroscopically pure.

The composition was unknown except for the exaggerated claims of the supplier.

A fiducial reference line ...

A scratch

... accidentally strained during mounting
 ... handled with extreme care throughout the experiments.

dropped on the floor.

not dropped on the floor.

Results

Three of the samples were chosen for detailed study ...
 Typical results are shown ...
 Although some detail has been lost in reproduction, ...

The results on all the others didn't make sense and were ignored.
 The best results are shown.
 It is impossible to tell from the photograph ...

The agreement with the predicted curve is excellent ...

fair.

good ...

poor.

satisfactory ...

doubtful.

fair ...

imaginary.

... as good as could be expected considering the approximations made in the analysis ...

nonexistent.

The results will be reported in more detail at a later date ...

I might possibly get around to this.

The most reliable values are those of Jones ...

Jones was a student of mine.

Discussion

It is believed that ...

I think.

It is generally believed that ...

A couple of other guys think so too.

It is clear that much additional work will be required before a complete understanding ...

I don't understand it

Correct within an order of magnitude ...

Wrong

It is to be hoped that these results will stimulate further work in the field ...

This paper isn't very good, but neither are any of the others currently available.

Acknowledgements

Thanks are due to G. G. Smith for assistance with the experimental work and to A. N. Other for valuable discussions.

Smith did the work and Other explained what it meant.

J. W. King.

DR. BAIN

Members of staff will be pleased to know that Dr. Bain has been selected to fill the post of S.P.S.O. which will become vacant in January. We offer him our best wishes for the future in a post for which his wide experience will undoubtedly stand him in good stead.

Mr. and Mrs. Alan Johnstone wish to thank all their colleagues who generously contributed to a wedding present. The money will be spent on a small item of furniture.

STAFF NEWSCongratulations to:-

Mr. R. Weston and Miss E. Lyndon who were married at Iver, Bucks, on 2nd. November.

Mr. W. Hayes and Miss A. Vanden who were married at Upper Holloway, London, on 26th October.

Dr. P. H. G. Dickinson on his appointment as T/S.S.O.

Miss A. D. Arman on her promotion to T/Shortand Typist Grade I.

Welcome to:New Staff

Mr. D. P. Morgan	T/A.E.O.
Miss K. C. Rice	T/A.E.O.
Mr. W. I. Dick	T/A.E.O.
Mr. R. J. Powell	T/A.E.O.
Mr. H. M. C. Fielding	T/A.E.O.
Dr. D. A. Bryant	S.S.O.
Mr. D. R. E. Milton	T/Instrument Maker
Mr. N. E. Meer	T/Specialist Teleprinter Operator.
Mr. D. A. Murphy	T/A.E.O.

Resignations

Mr. A. H. Peperell	T/A.E.O.
Mr. H. A. A. Simmons	Laboratory Mechanic (retired).
Miss B. A. Turner	T/A.E.O.
Mr. B. V. Summers	T/S.A.
Mr. E. F. Hockaday	T/C.O.

Overseas Transfer

Mr. C. Clarke has returned from Singapore.

EXAMINATION RESULTS

Unfortunately, a further success came too late for inclusion in last months Newsletter.

Congratulations to:

Mr. R. J. Cathrew on gaining Grad. Brit. I.R.E.

SPORTS AND SOCIAL CLUBChristmas Dance

The Christmas Dance is to be held on

Saturday December 14th, in the canteen,
from 8.00 p.m. - 1.00 a.m.

The band will be Derrick Dawson's Quartet, which proved very popular at our last two dances.

Watch the Notice Board for further details and in the meantime keep the date free.

Record Evenings

These are to be held every Friday, in the old building from 7.30 - 11.00 p.m., commencing on November 15th.

Alternate 'evenings' are to be devoted to Classical Music and Jazz, and members are urged to bring along their favourite records.

Table Tennis or dancing, billiards and darts will be available, and the bar will be open until 10.30 p.m. Admission - 6d.

Bonfire Night

Despite the doubtful weather about 130 adults and 50 children turned up to see the bonfire and fireworks.

After these ancient rites were over, a large number of people found their way to the old building where the table tennis and billiards table were in constant demand, and the man in charge of the bar was reported to be looking particularly pleased with himself.

The committee wish to thank all the volunteers (?) who helped to collect wood, and to the ladies who helped the committee with the supper.

Club Bar

On Friday, October 18th, the Social and Sports Club bar was officially opened by the club chairman Mr. Meadows who, with Mr. Horner, showed extreme generosity in providing free drinks to the assembled company. On this memorable occasion few words were wasted for fear of loss of valuable drinking time.

The reactions of the majority of the members present was favourable towards the new venture which has since shown signs of being a great asset to

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