

R. S. R. S.

Newsletter

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THE DIRECTOR'S APPOINTMENT

Staff are glad to learn that the Director has been made a Visiting Professor at University College, London. Dr. Saxton is no stranger to the senior academic world; some years ago he held a similar position at the University of Texas. We offer our congratulations to him on this appointment, marking, as it does, a further link between the Station's work and that of the Universities.

THE CHILBOLTON AERIAL

Most of us at R.S.R.S. will know of the unfortunate failure of the azimuth bearing on the 25-metre steerable aerial at Chilbolton. This bearing is a single unit of the ball-race type, about 13 feet in diameter and containing nearly 200 balls. Readers of Electronics Weekly, at least, will have inferred that our programme of experimental work has been set back by about a year as a result of this occurrence: whilst this is an exaggeration, since we have been able to re-arrange our programme somewhat, the effect is nevertheless serious enough.

After the opening ceremony by the Secretary of State everything seemed set to start work. We got as far as measuring the polar diagram using a distant transmitter on the ground when a shrill squeak began to be heard, apparently coming from the azimuth bearing. There was no operational evidence of failure - no more power was required to drive the aerial around and it could still be set in position to about 8 seconds of arc. However, micrometer measurements showed that it was gradually dropping, apparently at the rate of some 10 thousands of an inch per week: this, in a ball-bearing of diameter 13 feet, may not seem much at first sight but it was serious enough to frighten us into ceasing to use the azimuth motion, off-load the bearing using the hydraulic jacks provided, and concentrate on experiments requiring motion of the aerial in elevation only. Normal operation might have been possible for months - even years, but we were not prepared to take the chance of doing great damage if the bearing failed completely. Construction of a new bearing was immediately begun, and has now been finished.

The biggest job remaining, however, is to remove the old bearing and to replace it with the new one. Why should this be so difficult? Is not the basic design of the aerial at fault? Those who are familiar with the aerial will know that its principle is that of an inclinable reflecting bowl rotating at the top of a concrete tower - rotating, in fact, on the azimuth bearing which has failed. Such a design must of necessity lead to difficulties in replacing the bearing since the rotating structure at least partially envelops it, and the structure must be capable of being jacked up or otherwise lifted above the tower so that the bearing can be withdrawn as a unit. This kind of design leads, however, to a stiffer, more accurate, and more readily manoeuvrable mount than other kinds and was therefore chosen in preference to others even though the bearing could not readily be replaced. We would choose a similar design again in spite of what has happened. We took a calculated risk, justified only, perhaps, since bearings of this kind normally run satisfactorily for very many years in conditions far worse than those at Chilbolton. Other more fortunate users fit them and forget them. As things have turned out we must admit to some

/fault

fault in not ensuring that the bearing could be more readily and rapidly replaced: however, such precautions cost much money, and had the bearing not failed within the lifetime of the aerial (as was confidently expected) we might have considered the money ill-spent.

A jacking system is at present being constructed which will raise the rotating structure above the concrete tower. Four 120-ton jacks will be used, placed around the top of the tower in such a way that the bearing can be slipped out between them on a railway and lowered to the ground on a specially-constructed hoist, and we then hope to find out why it has failed. The new bearing will go in by the reverse process. The difficulties are formidable and expensive to overcome, but are not insuperable, otherwise this design of aerial would never have been chosen. When the job is completed - it is hoped by August if we have no unforeseen snags - one substantial crumb of comfort which will remain is the rig for replacing the bearing, should it, by some unbelievable calamity, fail again.

As far as our programme of work at Chilbolton is concerned, we shall carry on, not where we left off, but further along the line: we are at least making a virtue of necessity during the hiatus by accelerating the development of the better receivers and improved techniques for profile-measuring and data-handling which we had planned to commence a little later on. We expect, therefore, to be in a good position to make a rapid start when we take possession of our aerial again this autumn after the re-commissioning tests have been completed.

R. W. MEADOWS

STAFF NEWS

Congratulations to :

John and Carol Cathrew on the birth of their daughter Rachel Anne on 21st January at Singapore.

Richard Buckley on his being granted the degree of Ph.D.

Graham Thomas on his being granted the degree of Ph.D.

Mr. W. Bellchambers, now Signals Officer.

Welcome to :

J. D. Stroud	Perm. A.E.O.
C. D. Smith	Perm. A.E.O.
Mrs. J. Taylor	Non-Perm. Part-time Duplicator Operator
P. H. McPherson	Perm. A.E.O.
A. C. Roberts	Perm. E.O.
J. E. Freeman	Non-Perm. Labourer

Resignations :

J. N. Tyler	Estab. E.O.
G. W. Hodder	Estab. Ex.O. On detached duty at London Office
R. Flatt	Non-Perm. Labourer

LETTERS TO THE EDITOR

Dear Editor,

I gather that I am thought responsible for the letter in the January edition of the newsletter. In fact I am not.

At the same time it would be idle to pretend that there is nothing in it, although I believe that the writer has committed the common journalistic sin of projecting the minority and vociferous view onto the many, in a rather unfortunate manner. One cannot deny that the meeting to which he refers was a failure, unless it could be taken to confirm the feelings of frustration and dissatisfaction to which he refers. Most of the complaints indicated symptoms, rather than causes, of the disease.

It has always been my view that a common cause of dissatisfaction on the station (aside from the low salaries paid to young members of the staff) is that many members of the staff have no feeling of responsibility for their work; in many cases they have not been permitted to have any real say, either in what should be done, or in how it should be done. The point (in my view valid, and raised at the meeting) that doubts on one's judgement in buying, etc. can be raised by people with no technical knowledge, either here or at headquarters, is only one facet of the general case. This in turn seems to me to be an extension of the national tendency in the same direction. Finally it is widely felt that there is little sense of purpose.

E. V. BALE

Dear Editor,

Your correspondent in the January newsletter is obviously a civil servant rather than a scientist. It is difficult to be both. The world of the scientist requires an acceptance of change where this is for the better. Your correspondent, from his letter, appears to be opposed to change in any direction, a typical civil service attitude, and one which this country could well do without at the present time.

No progress can be made to improve the efficiency of work on the station, which must surely be one of our aims, without dissatisfaction being a primary requirement. Unless we are dissatisfied with our lot we will not attempt to improve it. Surely it is better, in doing this, to question everything rather than nothing, until we have discovered where the real inefficiency lies.

Nevertheless, I would agree most whole heartedly with your correspondent in condemning these miserable people who can find nothing more to do than to spend the whole day grouching. If the situation is that bad, there is always either emigration, or, ultimately, suicide.

Yours sincerely,
Chris. R. Boulton

/Sports and Social

SPORTS AND SOCIAL CLUB NEWS

The local magistrates have recently granted us a club registration certificate, so that any member of the club can now purchase intoxicating liquor at the bar. Those of us who rejoice at the termination of the period of enforced sobriety will also be cheered by the fact that draught beer is now available.

MAD-HATTERS' HOP

Well, you see, we thought we would have a dance - or something - in the old building, before the A.G.M.

We thought of 1st March; we thought of the March Hare; we thought of the Mad Hatter; we thought of a Mad Hatters' Hop. So design, make and wear your hat; come to the Mad Hatters' Hop. It will only cost you half-a-dollar (at the door) to dance to half-a-group (organ and drums), have the privilege of buying drinks at the bar (draught beer available now), and enjoy the FREE(!!) refreshments provided.

See you there about 8.00 p.m., then.

BOB SLATER

CAMERA CLUB

A number of prints, displaying a wide variety of interests, made up the Club's Annual Exhibition in the Dining Hall. Paul Dickinson and Vic Harrison have demonstrated some of the scenic delights of Ireland and the U.S.A. at recent slide shows. Two more shows are planned for this winter.

HENRY RISHBETH

DINNER DANCE

Tables have been reserved at Monkey Island Hotel, Bray on Wednesday 20th March 1968, for a Dinner Dance. Sign up at once on the notice board if you would like to join the party of Sports and Social Club members. Dine and Dance by Candlelight in the Riverside Dining Hall for only 25/- per person. (Drinks and service charge extra)

C. SEABROOK

LETTER TO THE OUTSTATIONS

Dear Colleagues,

It is seldom given to us, collectively, to have more than the general elements in common with the great, but, just for once, all at Ditton Park may be said to be undergoing an experience conjointly with Lord Nelson. Before you sink the boats in panic rush from the four (well, two) corners of the Earth, let it be added that this does not mean that all male staff have been officially provided with compliant Emma Hamiltons. No, it means that the Station's edifice is being cleaned - and so is Nelson's column.

I am not sure if either he or we have ever been cleaned before, and since some century and a quarter's grime has to be shifted from the monument, it may seem to make an odious comparison with our mere decade or so. Nevertheless, as cleaners progress through lab. and office, with little metal scaffolding and merry oath, they produce effects ranging from re-sounding indifference to rapid planning to preserve at least one environment's arrangements, where order rooted in disorder lies. So they come; they clean; they pass on; then chaos is come again, reassuring and familiar. We pick up the threads of our subtle design, momentarily eclipsed by brutish over-simplification, and weave our complex tapestry of truth. At least that's our story and we're stuck with it, including,

Yours sincerely,

THE EDITOR