For the use of R.R.S. Staff only

R.R.S. Newsletter No.21 — 15th January 1963

THE EDITOR

With this number Mr. Gardiner takes over the editorship of the Newsletter. The Letter was started, with Mr. Kift as editor, in May 1961: he was responsible for the form it took, and for the production of a copy on the 15th of each month. I think all members of the Station will agree that what he has given us has been of considerable interest and value. It has kept us all informed about many of the important happenings on the Station, both in relation to our work and our social activities Mr. Kift has shown skill in selecting suitable topics to include, and in persuading the proper people to write about them, and considerable business ability in getting the Letter out so nearly on time on all occasions.

Both readers and contributors will, I am sure, wish to join me in thanking him for the hard work he has done and the good start he has given to our periodical.

We all wish Mr. Gardiner every success in his task of following Mr. Kift, and I hope he will have many offers of articles from members of the Station who wish to see the Newsletter appearing regularly and at the high standard proper to our Station.

J. A. Ratcliffe.

THE NEW YEAR'S HONOURS LIST

The Station was proud, on January 1, to see two of its members' names in the New Year's Honours List.

Dr. Hopkins was made an Officer of the Order of the British Empire. His work on the Station has been varied and has included the development of direction finders, of balloon radio sondes for the Meteorological Office, a period as liaison officer in Washington, and a period when he was seconded to the Ministry of Transport to help them with radio navigational devices. In recent years he has been in charge of the setting up of the Space Science Services of the Station, including the installation and operation of the Minitrack Station, the starting and the running of the satellite prediction service, and the planning of the data reduction service. These services are of the greatest importance to the space scientists working in this country and they constitute one of the most important activities of the Station. Dr. Hopkins' work on these alone, would have justified the Honour he has been awarded.

Mr. Oakman was awarded the British Empire Medal. He has been in charge of our workshops since 1955. The research workers on the Station know how valuable it is to have a workshops manager with whom they can discuss in detail what they want made, who can arrange to take on a piece of work without the need for detailed drawings, and who is always ready, with his staff, to put in extra time to complete an urgent piece of work.

On behalf of all I wish to congratulate Dr. Hopkins and Mr. Oakman for the Honour they have brought not only to themselves, but to our Station.

J. A. Ratcliffe.

Shetland Revisited

In a few months from now, the Radio Research Station will commence a series of experiments based on Lerwick Observatory, Shetland. These include the setting-up and operation of a cosmic-radiation neutron intensity monitor under Dr. Page's supervision, low-frequency signal recording and projects connected with the ionosphere;- oblique-incidence and occasional vertical-incidence measurements, and another method of investigation using pulses from Loran transmitters in Iceland and the Faroes.

This will not be the first time that DSIR have had connections with Shetland. In the early twenties the Department set up direction-finding apparatus at the Air Ministry wireless station in Lerwick in order to measure variations in the apparent bearings of a number of transmitters operating on wavelengths of between 1800 and 4500 metres. Between 30th July 1923 and 19th April 1924, the two operators L. W. Scoggins and L. G. Johnson, under the supervision of Dr. Smith-Rose, recorded 3985 measurements which were combined with results from ten other sites (the one at Teddington being manned by our Mr. Haxton) to form the subject matter of Special Reports 1 to 5 of the Radio Research Board.

Soon after the termination of this experiment, Lerwick became the second site in what was to become a network of atmospherics locators using R. A. Watson Watt's literally revolutionary directional recorder. Routine work at Lerwick began at 10.a.m. on 12th July 1924, and the operators had scarcely finished their lunch when atmospherics appeared on their record. Intersections obtained using similar apparatus at Aldershot, later transferred to Ditton Park, showed that the centre of activity was just off the Hebrides, and all that exciting afternoon and evening the storms were followed as they crossed Scotland until accurate fixes became impossible during the hours of darkness.

The instruments at Ditton Park and Lerwick were the first links in an "Empire Chain of atmospheric recorders, and were soon followed by others at Aboukir, Egypt, and Bangalore, India. They continued in operation until the end of 1928 when the Lerwick site, and indeed the Chain itself, were discontinued in favour of the more accurate cathode-ray direction finders installed at Ditton Park and Cupar, Fife

Between 1942 and 1946 the Meteorological Office operated three direction-finding sites in Shetland, at Ness of Sound, Walls and Brough. These were used to determine upper winds by tracking the movements of free balloons, released three (subsequently four) times a day from Lerwick Observatory carrying radiosonde transmitters into the stratosphere Dr. Hopkins and Mr. Horner came to know the characteristics of these sites very well indeed since they formed part of a study they made into the nature of D/F site errors, published after the War.

So the Radio Research Station is already known to the people of Shetland. What do we know in return about them? To begin with, there are about 18,000 of them, of whom roughly 6000 live in Lerwick, the chief town. Their industries include fishing, cattle, sheep, knitted goods and, of course, ponies. They live on the same latitude as the southern tip of Greenland - though in somewhat warmer surroundings, thanks to the Gulf Stream - and they have easy access to the Scottish mainland with a daily BEA flight and regular steamer services to Aberdeen and Leith.

The islands are well-known for their ancient monuments, the large variety of bird life and good opportunities for trout and sea fishing. A brochure on the district says "One great feature about a holiday in Shetland is the long hours of daylight. During the "holiday" months it is never really dark." Notice that it carefully avoids any mention of the situation at mid-winter when the day is only $5\frac{1}{2}$ hours long and the sun reaches a maximum altitude of $6\frac{3}{4}$ degrees above the horizon! For all that, the climate is mild for the latitude, but the heavy rainfall and high winds are a feature of the place and gales may continue for several days without let-up.

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The Observatory is situated about a mile and a half from Lerwick, the main building being a new one constructed 1960-61. Married quarters and a hostel for single staff are available nearby and the site also contains a collection of huts housing magnetic instruments. The main recording magnetographs are a La Cour standard set originally used by the British Polar Year expedition at Fort Rae in 1932-33. H,D, and V are recorded on 30 cm wide photographic paper at 15 mm/hr., while in the same concrete hut a La Cour quick-run set with a time scale 12 times as open as the standard traces is used for accurate timing of sudden disturbances. Absolute magnetic observations are made three times weekly using a Kew unifilar magnetometer for D, a Schuster-Smith coil magnetometer for H, and a Copenhagen balance magnetometer for V. A proton precession magnetometer was installed in 1960.

Other work at the Observatory includes full hourly synoptic observations of the weather, solar radiation, potential gradient and atmospheric pollution measurements together with routine radiosonde and radar upper-wind ascents. Visual and occasional photographic observations are made of aurora which is normally visible between 40 and 80 nights in the year.

One way and another it is an interesting place. How would you like to come up for a holiday?

R. G. Flavell.

STAFF NEWS

Congratulations to:

Dr. D. L. Croom on his appointment as an established S.S.O.
Mr. L. T. J. Martin on his promotion from E.O. to S.E.O.
Mr. F. V. Bale on his promotion from E.O to S.E.O.
Mr. I. M. Greenan on his promotion from A.E.O. to E.O.

Mr. A. J. Rogers on his being awarded the A.S.M. Symons Prize for 1962 at the Northern Polytechnic.

Welcome to:

Visitor

Mr. H. Helm, Senior Lecturer, Rhodes University, S. Africa
who will be with us for about six months.

New Staff

Dr. R. F W. Beamish	T/S S.O.	appointed	3.12.62
Mrs. J. V. A. Willis	Part-time Cleaner	"	3.12.62
Mr. J. J. Denton	Storeman B	"	6.12 62
Mrs. W. S. Harris	Part-time Clerical Assistant	"	10.12.62
Mrs. K. J. Driscoll	" " Duplicator Operator	"	13.12.62
Miss S. Naylor	T/C.O. (Library duties)	"	1 1.63

Resignations

Miss C. S. Jones	T/Clerical Assistant	w.e.f.	3.12.62
Mrs. C. Penfold	Clerk Gen./Typist (Singapore)	"	4.12.62
Mr. E.A. O'Brien	T/S.O.	"	19.12.62
Mr. B. M. Turner	T/S.A.	"	28.12.62
Mrs. I.M. Moorat	T/S.A. (part time appt.)	"	18.12.62

Other Changes

Miss A.J. Jones	S.A. established	w.e.f.	26.11.62
Mrs. H.E. Hawkett	T/C.A. commenced part-time duties	"	12.12.62
Mrs. K.A. Atkinson	regraded to part-time T/Typist (I)	"	10.12.62
Mr. N.J. Kay	E.O. transferred to Warren Spring Laboratory	"	1. 1.63.

/Visits

Visits Abroad

Deputy Director and Mr. Horner will be attending a C.C.I.R. meeting at Geneva during January.

Mr. Dalziell and Mr. Horner will be attending a symposium organised by C.O.P.E.R.S. in Paris from 23rd to 25th January.

Dr. King will be visiting D.R.T.E. and C.R.P.L. during the next few weeks, for Topside Sounder group meetings.

Dr. Bain is to attend the Third International Symposium on Quantum Electronics in Paris from February 10th-15th.

Sports and Social Club

Amateur Radio Society Notes, January 1963

Because of the inclement weather very little has been done to improve conditions in the Society's Room in the Old Building. It is hoped that when things improve assistance will be forthcoming occasionally in the lunch-times.

G3RRS

Word has been received from the G.P.O. that the time has come for us to complete the arrangements for the issue of our Club licence under the call-sign of G3RRS. It is hoped that licenced amateurs on the station who are not already members of the society will assist us in this venture, to establish a transmitting station and maintain it when the present secretary leaves for Lerwick later in the year.

Morse classes

We propose to commence classes this month and request that Members who wish to participate arrange a convenient time with the Secretary.

R.S.G.B. Frequency Measuring test

Our co-operation in determining a standard value of the V.H.F. Beacon transmitter, GB3VHF, on Sunday, 13th January, was not required owing to a failure in the equipment at Wrotham.

R.S.G.B. Social Evening

Now that we are an affiliated Society, arrangements can be made for any of our members, who so desire, to attend this function, which will include the installation of the new President of the R.S.G.B., Mr. Norman Caws, F.C.A. It will be held at the Kingsley Hotel, Bloomsbury Way, London, at 7.p.m. on Friday, 25th January.

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Badminton

The Smith-Rose Badminton Matches will be played on Monday 21st January and Monday 28th January at the Baldwin Institute, Eton, starting at 7.p.m.

Teams will consist of 3 couples, and a match will be 3 games to 15 points.