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APPLETON LABORATORY
NEWSLETTER

No. 186 January 1977

Feliz Navidad in Arecibo

Christmas at Arecibo Observatory is preceded by an event which roughly corresponds to Appleton's Christmas dinner, children's party and dance rolled into one. It is big. It is free. It starts around noon and proceeds to exhaustion in the late evening.

On the appointed day I went downstairs to the Purchasing Office, just before noon, to send a telex. A warming-up party was well under way and, in the festive atmosphere engendered by John Pappas, the hospitable Purchasing Officer-cum-Telex-master, the supposed urgency of my message tended to evaporate. Eventually, however, and with the aid of an excellent Puerto Rican brew, my telex was on its way to ..... Dallas, or was it Boulder? ..... and we wended our way up and down the steep inclines leading to a hangar-like building, reminiscent of the Elephant Shed. Here was a seemingly limitless supply of rum, beer, coke, etc. etc., and conviviality built up as the families of the Observatory's 170-or-so employees arrived in droves. Maybe there were others from nearby villages; the Arecibo local radio habitually announces the party on the air, on the pretext of warning other drivers on the already hazardous mountain roads.

With the party suitably under way Hal Craft, the Director, presented engraved pins to employees completing five, ten or fifteen years' service. Then a variety of goodies (ranging from an island weekend for two to a car tune-up), donated by local firms for the benefit of Observatory employees, were drawn for. Then roast pig with trimmings was served to all. A four piece band from Arecibo town struck up, and dancing got going on a wooden floor laid for the purpose. We crept away around five, on the excuse that the children had had enough.

Christmas is just one part of the Puerto Rican festive season. Three days later, "el dia de Mascaras" is celebrated in a nearby town : everyone turns out in the plaza to watch a procession of floats carrying groups of masked figures, all in somewhat similar garb (raincoats, sou'westers?) but in many different colours, and all emitting weird noises. Among the floats were a sailing ship, a huge donkey, a Nativity scene with live sheep, and a full-sized grass hut surrounded by vegetation-including a real banana tree. So far, we have not received a visit from the Puerto

Rican equivalent of carol singers, who arrive in the small hours equipped with guitars, tambourines and amplifiers, and bang on doors till admitted. Apparently they don't want money, only drinks. Finally there's "Three Kings" (Epiphany, sixth of January) when children leave grass and hay under their beds for the camel of the Three Wise Men, who come with lots of sweets.

After that the island returns more or less to normal. The sugar harvest starts and the overloaded cane trucks add to the peril of the island's roads. If anyone notices .....

Henry Rishbeth

NEW YEAR'S HONOURS

Mr. D. Prince B.E.M.

We are pleased to report that a member of Staff has been named in Her Majesty's New Year's Honours List.

Our warmest congratulations go to Mr. D. Prince whose services to this Laboratory have been recognised by the award of the British Empire Medal.

STAFF NEWS

Congratulations to :-

Joe Bains on his marriage to Jasbir Kour at Slough on 5th December.

Kim and Sue Ward on the birth of their son, Malcolm, on 30th December.

Alberto Foppiano on his gaining the degree of Ph.D. at London University.

Doug. Pennell now Shift Leader.

Valerie Williams now Deputy Shift Leader.

Lynette Kennedy now Leading Operator.

Retirements

G. W. Luscombe	P.S.O.	Premature Retirement
C. Nicolson	"	" "
H. F. Lovesey	P.T.O. II	Retired
Mrs. I. M. Titford	C.O.	Premature Retirement
Mrs. J. E. Dawson	C.O.	Retired (End of secondment from UKAEA)

Retirements

Mrs. I. Titford

Mrs. Irene Titford began her career in the dignified surroundings of Harrods. However, during the second World War, she joined the Staff of the Admiralty Compass Observatory, from which, after a short break, she became a member of our Staff in 1949.

Since that time she has undertaken a variety of duties with an administrative staff which she has seen change from a tiny, rather informal, unit, sufficient to cope with matters at what was an outstation of the N.P.L. Radio Division, to the larger, more ordered structure we possess today, which has to cope with all the problems of a laboratory having both national and international responsibilities.

In recent years she has provided valuable support in helping to organise the vast accumulation of ionospheric records in the World Data Centre - a task which must, at times, have drawn heavily on her inner reserves of optimism and cheerfulness.

There is, however, no outward evidence of these assets having diminished and we all hope that she will enjoy her retirement for a long time to come.

Mr. G. W. Luscombe

The retirement last December of Graham Luscombe marks the completion of more than thirty years' work in this Laboratory and its predecessors. After graduating with First Class Honours in Telecommunications in 1943 he initially joined the research staff of the M.O. Valve Company, leaving them for the National Physical Laboratory in 1945. In the years which followed much of his effort was devoted to tropospheric radio propagation studies both from a theoretical and practical viewpoint.

With the coming of Space Science techniques and the involvement of the Laboratory in the British 'Ariel' series of satellites, the direction of his career changed and he became responsible for the Satellite Data Processing Group which operated here until the advent of Ariel V. When Space Science Management became part of our tasks he turned his talents to problems which arose in this sphere of activity - problems which occurred at sites as diverse as Scandinavia and the Mediterranean. There, he was in the not always enviable position of the man on the spot, who had to hold the ring between conflicting interests and personalities. The effective running of these campaigns is testimony to his ability in this field.

We all wish him the long and happy retirement which his work deserves and his abilities should enhance.

Mr. C. Nicolson, M.B.E.

Charles Nicolson has been a member of our Staff since late 1947. He joined the R.A.F. after obtaining his degree in 1942, becoming a Flight Lieutenant with technical responsibilities in the field of radar. Together with a number of other skilled Officers he was seconded to work on experimental problems connected with radiocommunication, a task which occupied him until shortly before coming to the Radio Research Station, as our establishment was then called.

It was not very long before he was posted to Stanley, Falkland Islands to take charge of the Ionospheric Observatory, which we had recently developed there from a wartime Naval installation. This was a time when the Dependencies Survey, forerunners of B.A.S., asked our aid in the installation of ionospheric equipment at one of the Antarctic bases. 'Nick' in the role of technical adviser, visited the bases at a time when territorial disputes between Britain, Argentina and Chile had resulted in a certain amount of hard-line tactics - even shooting - on the part of the South Americans.

On return to Ditton Park he became involved in various radio propagation studies at the laboratory mainly in the field of Atmospheric Radio Noise where he was particularly concerned with a statistical study of noise levels generated by lightning discharges.

After the launching of the first artificial satellite he carried out some of the early measurements in this area and with the establishment of the Minitrack, now STADN station at Winkfield his career entered a new and important phase.

He was appointed Officer-in-Charge from the outset and coped with all the problems of NASA-DSIR joint staffing, the mastering of a completely new field of operations for all concerned, and the essential transition to our present

system of contract manning for all the station's operating needs. Official appreciation was manifested in promotion to P.S.O. and marked by the award of the M.B.E. in 1964.

His has been an exacting job. The success in overcoming its many challenges surely augurs well for the happiness of the long retirement we all wish him.

Mr. H. F. Lovesey M.B.E.

Harold Lovesey has been our workshops manager since only 1971 but his engineering skills have been in the service of Government Science for nearly forty years.

It was in 1938 that he first joined the staff of the National Physical Laboratory. Prior to that date his apprenticeship and later employment at the old Great Western Railway Workshops at Swindon meant that he had the chance to develop his abilities at an establishment with a long and famous record for producing skille engineers and craftsmen.

He did not waste his opportunities and when the time came, found that the N.P.L. could provide many challenges for his growing talents. On his eventual transfer to Ditton Park matters did not change. We too were adept at providing situations worthy of his steel. That he would succeed in his tasks was never in any doubt. Everyone was glad to be able to congratulate him on the award of the M.B.E. in the New Year's Honours of 1976 and, when the time came, wish him well at the end of his long service.

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As many Staff will know, Harold and Mrs. Lovesey suffered a severe blow, at the very outset of his retirement, by the sudden and untimely death of their daughter on 26th December.

We offer our sincere sympathy and hope that, in the fullness of time, the future will indeed become as happy as was our earnest wish on the occasion of his leaving the laboratory.

Obituaries

Mr. W. M. Curtis

Members of Staff learnt with much regret of the death on the 16th January of Mr. William Curtis at the age of 69.

'Dump' Curtis was a Devonian and as such was proud to be known by his nickname. He joined the Laboratory at the start of 1936 after some years in industry.

This was an exciting time in the history of the Radio Research Station. Watson-Watt and Wilkins had recently demonstrated the capability of radar, though this was shrouded in strict security. Appleton, after his pioneer work of a decade before, was developing the theory and techniques of ionospheric physics, much of it with the aid of a small group of the Slough staff.

This group included Mr. Curtis, who with the late Robert Naismith was able to make valuable contributions. He lent his electrical engineering and photographic gifts to the duties of the Ionospheric Observatory and to development of an ionosonde which, some thirty years later, is still in use on B.A.S. bases and forms the standby instrument at Slough. Later work included assisting E. D. R. Shearman in research on ionospheric backscatter sounding techniques and, finally, with instrumentation for space science projects.

A senior German scientist once said 'No matter if we miss a few ionograms - we can be sure Slough will have theirs'. A compliment to the worth of Dump's attention to detail. His work was well done.

The funeral was attended by many of his old companions. By their presence and by this more formal means we offer our sincerest sympathy to Mrs. Curtis.

Mr. P. P. Reader

It is with much regret we report the death of Mr. P. P. Reader on 18th January at the age of 43. Peter Reader was a local man, educated at Windsor Grammar School. From there he undertook military service, as did most of his generation, becoming a member of the R.A.F. engaged on radar duties. Shortly after leaving the Air Force in 1956 he joined the Staff at Ditton Park, where he was a member of a group making measurements of atmospheric radio noise.

By mid 1958 he elected to go to our Singapore outstation. There the extra activities brought about by the International Geophysical Year and the successful launch of Sputnik I were then in full swing and, though a comparative newcomer, his contribution was considerable.

In July 1961 Peter and his wife Betty had completed a three year tour of duty in the Far East and returned to the U.K. Here his now well-developed skills as an electronics engineer were put to good use in the highly specialised needs of rocket-borne experiments. This work and the associated campaigns involved him in a variety of interesting situations which he tackled with his characteristic good humour, relating them later in light-hearted articles in the Newsletter.

In 1973, during a total eclipse expedition, he was one of the team who went to assist the airborne observations from Concorde. He was also instrumental in producing microwave apparatus which has made useful radiometric measurements, while waiting to play its intended part as ground equipment for the long-delayed 'Sirio' satellite. At the time of his final illness he was at work on the International Ultraviolet Explorer satellite (I.U.E.).

A Rugger enthusiast of many years standing, he was a leading member of his club, devoting considerable time not only to playing but to refereeing and to administrative matters. He will be much missed by many friends and we can ill afford his loss both as a professional colleague and a good companion.

At the funeral, which was attended by many members of staff, the Laboratory was represented by the Deputy Director. All of us here offer our deepest sympathy to his wife and family.

Mrs. Queenie Stenning

Staff were very sorry to learn of the recent death of Queenie, wife of John Stenning. He wishes to say that he much appreciates the sympathy shown by his colleagues.

LETTER TO THE OUTSTATIONS

Dear Colleagues

The fact that the subject of my letter may not have much to do with Outstations has, as you know, not troubled me greatly these many years. Presumably those readers who were troubled have long since ceased to follow this piece and by a reflex action, catapult it straightway into some convenient oubliette. So then I can mention the man, on the wall, by the stairs.

The man, well, his sketch portrait to be more exact, is dressed in antique clothes and is alert and agreeable in appearance. It is a pleasant picture. It is a portrait of Michael Faraday.

Faraday, a good man, was a genius who developed his gifts by diligent self-education. He prepared his mind for the chance which came when Davy offered him a very minor post at the Royal Institution. For this virtually bottle-washing appointment he abandoned his career as a new-fledged (and highly skilful) bookbinder, to become in the following half-century a name fit to rank among the most illustrious contributors to science.

His was strange ability. Though having experimental gifts of the highest order, he seemed unable to delegate work to students, so formed no school. Ignorant of any but the simplest mathematics, he yet formulated revolutionary and fundamental concepts of electromagnetic field theory and the nature of light. These were extended by Maxwell, who always acknowledged his debt, in his Dynamical Theory of the Electromagnetic Field in which he predicted the existence of radio waves.

Did I say my subject had little to do with outstations - that was more than usually obtuse. Were it not for the man on the wall by the stairs we might, at best, be half a century behind our present understanding and, at worst, be ignorant of many of the principles which give satisfaction - and employment - to us all, including,

Yours sincerely,

THE EDITOR

APPLETON LABORATORY WELFARE FUND

This Fund is derived from voluntary contributions from Staff which are deducted weekly or monthly from wages or salaries.

During the last twelve months the Fund has been able to assist members of Staff to a total of some £400.

As with all similar arrangements, however, inflation has reduced the value of any help given and, to try to offset this, we would ask subscribers to consider increasing their contributions if at all possible.

Staff who do not as yet contribute are asked most earnestly to consider doing so; 5p a week or 20p a month being a suggested amount.

If you wish to aid the Fund by a regular contribution, or to increase your present amount, please complete the form below and send it to Personnel Office (Mrs. Carroll).

To Personnel Office

Please deduct the sum of p. per month/week from my salary/wages for contributions to the Appleton Laboratory Welfare Fund commencing

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Date ..... Signed .....

January 1977 Reprint List

A 1163 T. Edwards, D. A. Bryant, M. J. Smith, U. Fahleson, C. G. Fälthammar, A. Pedersen,
'Electric fields and energetic particle precipitation in an auroral arc',
Magnetospheric Particles and Fields, 1976, 285-289.

A 1165 D. R. Lepine, D. S. Hall, D. A. Bryant,
'The role of fluctuating acceleration in multiple auroral arc',
Magnetospheric Particles and Fields, 1976, 279-283.

A 1086 Z. Warhaft,
'Heat and moisture flux in the stratified boundary layer',
Q.J.R. Met. Soc., 1976, Vol. 102, 703-707.

A 1205 L. Thomas,
'Some outstanding problems in the neutral and ionized atmosphere between 60 and 150 km altitude',
Atmospheric Physics from Spacelab, January 1976, 3-18.

A 1223 P. F. Shutie, J. E. Allnutt, E. G. Mackenzie,
'Satellite-Earth signal depolarisation at 30 GHz in the absence of significant fading',
Electronics Letters, 1977, Vol. 13, No. 1, 1-2.

Internal Memorandum

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