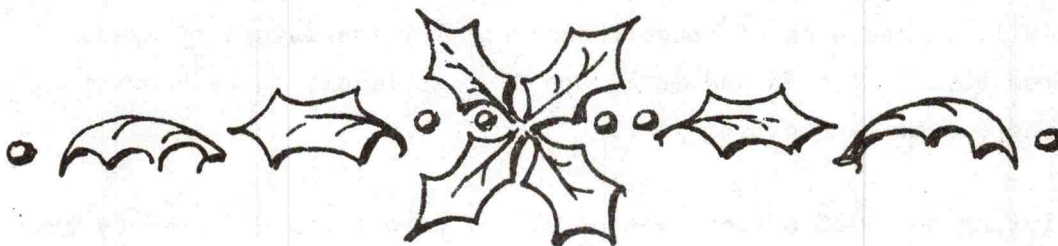




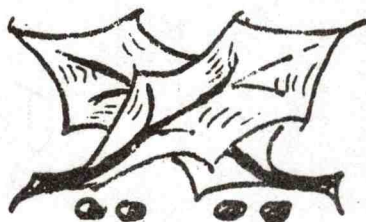
APPLETON LABORATORY NEWSLETTER

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One of the tasks laid upon Monarchs, Heads of State and it seems Directors of laboratories is to provide a Christmas statement regarding the health of their particular territory during the past year coupled with a prognosis for the future! The past year at Appleton has seen Ariel 6 successfully launched, Ariel 5's fifth birthday, the IRAS project getting underway at Chilton together with balloons and rockets launched and much valuable research carried out over the whole very wide range of the Laboratory's interests. All this has been done despite the uncertainty over just when the Laboratory's move is to be and just what will it be like when the merger has occurred. I have found it most impressive, during my very brief period as Director, to see the professional and dedicated way in which the post-launch problems of Ariel 6 have been tackled - the same professionalism and dedication are showing through as members of the Laboratory face the problems, upheaval and challenge of the move.



What of the prospects for 1980? The SRC, like everyone else, is being hit by inflation and Government cuts. So far Science has not been hit as severely as many other areas of Government spending - although, of course, we do not yet know what further cuts may be on their way. Whatever these may be, we must continue to carry out new, innovative, front-line projects. I am planning that the Laboratory should play an expanding role in deciding what these projects shall be, especially in the area of space research. For the future of space research both in the UK and in Europe 1980 is likely to be a critical but I hope a not unexciting year.

During the 1980's the lives of all of us will be affected by the tremendous expansion which is occurring in communications. A current communications satellite can transmit information at the rate of about one Encyclopaedia Britannica every few seconds. Much more powerful systems are on their way, in the realisation of which the Appleton-Rutherford will play its part. It is an exciting prospect with great possibilities. But a searching question one might well ask is what information will be transmitted by these powerful new systems and who will use it. We appear to be very good at developing new systems and techniques but do not always know what to do with them. One point which needs continued emphasis as these new systems develop is that automatic means of communication are no replacement for personal communication. The success of the scientific enterprise itself, being a corporate activity, requires a lot of personal contact between scientists. Indeed, the well-being and the happiness of all aspects of human society are fundamentally dependent on such personal communication. Christmas itself reminds us of these rather basic facts as we get together with family and friends - and the Christmas stories are, of course, about God communicating with man in a personal way. In the future I believe scientists will need to think not only about their science and technology but will have to concern themselves much more with these wider issues.

But enough of sermonising! I hope you all have a very happy Christmas - and all the best for 1980.

John Houghton

STARLINK

SRC's Astronomical Image and Data Processing System

SRC is to set up a network called 'Starlink' of six 'supermini' computers for astronomical image and data processing at a capital cost of £1.8M.

UK telescopes are producing vast amounts of data of the highest quality. Even more data will be produced by the SRC telescopes being erected on La Palma in the Canary Islands, and by use of the Space Telescope but there have hitherto been very limited facilities for performing scientific analysis of these observations. Astronomers have either to reduce the data manually or devise their own image and data processing facilities on an ad-hoc basis. Even those modest facilities which exist can only be used by a few astronomers and they are heavily over-subscribed. In the 1980s the vast majority of astronomy will be done using data in digital form and adequate image processing facilities will be required.

Starlink is SRC's response to these problems and in line with its policy to maintain the UK in the forefront of astronomy.

The computers - VAX 11/780s - will be located at Cambridge, University College London, Manchester, the Royal Greenwich Observatory, the Royal Observatory Edinburgh, and the site of the combined Rutherford and Appleton Laboratories at Chilton near Oxford. Each computer will support two sophisticated image display systems in addition to graphics and alphanumeric Visual Display Units. They will be connected by communications links to Chilton where the networks will be managed and systems software developed. The system will provide a user facility for all. Sixty per cent of our astronomers will have access to a terminal on the spot and a further 20 per cent will be within three quarters of an hour's travel of one. The Council has also agreed in principle to add an ICL Distributed Array Processor (DAP) to Starlink later subject to availability of funds and the outcome of trials with the Queen Mary College DAP installation.

Starlink was first proposed by an SRC Panel on Astronomical Image and Data Processing under the Chairmanship of Professor M. J. Disney (Cardiff). The Panel analysed the types and volumes of image data to be expected by astronomers, the needs and distribution of working astronomers, the problems of software sharing, and several models for computer provision

(S.R.C. Press Notice)

AGELESS TRADITIONS

Craftsmanship means more than technical virtuosity, it involves a genuine pride in the process of production itself. A pride which drives one to make things, whatever skill they demand, as well as they can be made; even beyond what is required by the purpose they are designed to serve, and beyond economic consideration of reward.

Craftsmanship as such is ingrained from birth; indentures are but proof only of a Contract of Apprenticeship. A driving licence, for example, does not necessarily make the holder a good driver. It proves only the capability of persons to serve a Provisional Apprenticeship and pass its concluding tests, who yet may lack the drive and imagination to go further beyond that which is taught.

The landscape artist John Constable is reputed to have said, "It is one thing having the ability to paint a tree that explodes with life, yet a great loss to be unable to include the natural perfume after rain and the sound of wind rustling the very leaves", thus, a craftsman dreamed of unreachable perfection. Such is the Ageless Tradition of Craftsmanship.

R. L. Halton

LIBRARY NOTICE

In the coming weeks the library is to arrange shelving so that current numbers and bound volumes of journals run in sequence for each periodical.

We apologise for any inconvenience caused while this is being carried out.

Staff News

Welcome to :

F. W. Taylor	P.S.O.
L. C. Hammond	S.O.
B. G. Purser	P.T.O. III
C. S. Harrold	S.O.
N. S. Iqbal	C.O.
D. Bance	P.T.O. III
J. A. Smith	P.T.O. III
G. M. Parker	A.S.O.
Z. Mojabi	S.C.S.
Miss G. M. Howes	S.O.
Mrs. L. V. Third	Ex.O.
Miss S. Bridger	C.O.
K. E. Mount	H.S.O.
X. Xenophontos	S.C.S.
P. Poynter	Craft. I

Resignations etc.

A. J. Ruddell	H.S.O.
J. N. Urquhart	H.S.O.
Miss C. J. McFadden	C.A.
B. Bienkowski	S/S Lab.

Other Changes

D. Sandcraft	H.E.O.	transferred to R.G.O.
K. G. Maris	Cfn.I	transferred to R.G.O.
C. J. Gibbins	S.S.O.	1 yrs.' sabbatical in U.S.A.

Letter to the Outstations

Dear Colleagues

The Season's Greetings. A harmless, indeed affable, way to start. Beginning thus, with the end, is you may think, a sure sign that there's not much to put in the middle. One more worldly-wise and able than your correspondent could dismiss you such base notions and, as it were, write you into remorse for having harboured them, correct though they are.

Not so in this piece; we but report the predictable signs of the times. The decorated dining hall. Lunch-time patrols returning furtively with holly and mud. A trade in tickets admitting the buyer to sundry celebrations or to the hope of winning fowls, puddings, liquor and the prospect of Hogarthian feasting.

So then, as I said, Season's Greetings, or to be more explicit (and fill another line) A Merry Christmas and a Happy New Year

from

Yours sincerely,

The Editor.