



In foreground l to r: Mrs Margaret Thatcher, Sir Richard Woolley, FRS, and Mr B J Vorster at the opening of the new Observatory.

In March eminent astronomers from all over the world came to a Symposium at Cape Town, held to mark the opening of the new South African Astronomical Observatory (SAAO).

On March 15 the observing station, at Sutherland, was officially opened by the Prime Minister of South Africa, Mr B J Vorster. The SRC was represented

In a clear space we can see space

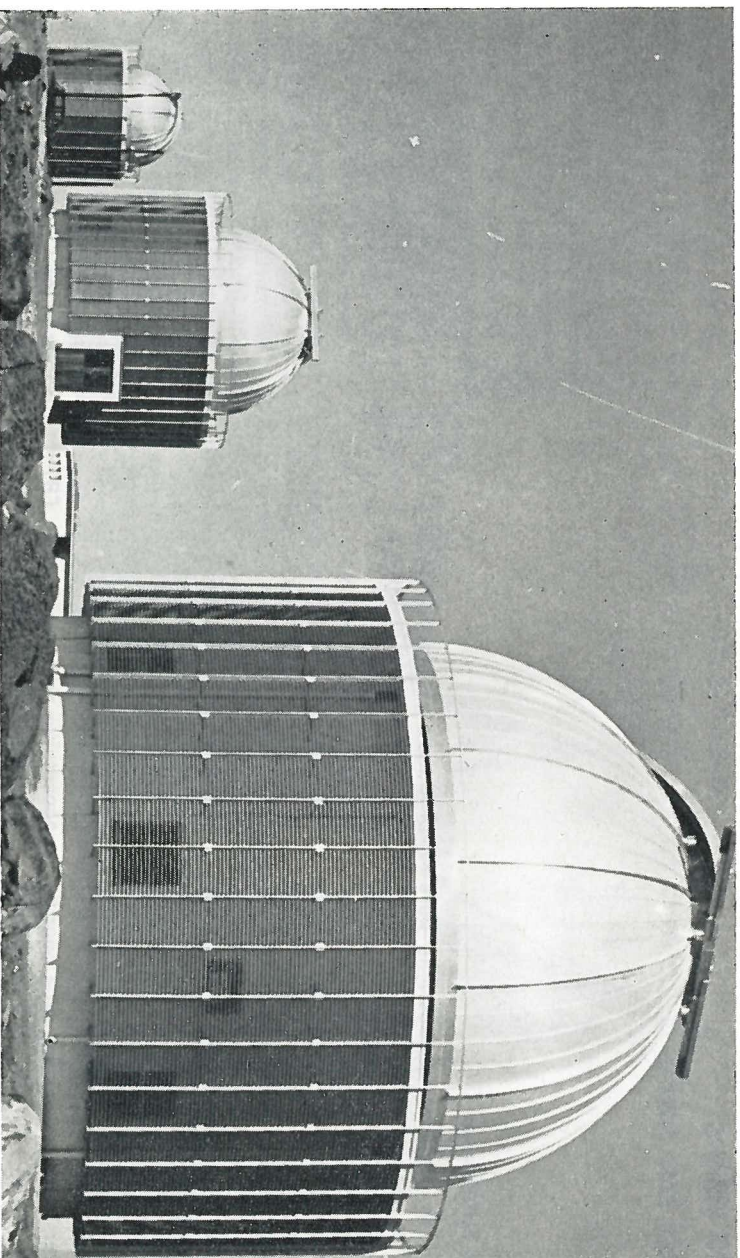
The opening of the South African astronomical observatory on March 15 1973 opens a new chapter in observations from South Africa

A L T Powell

Both occasions were a great success, and thanks are due to Mr George Harding, Deputy Director of the SAAO, the rest of the observatory staff and to the Press Office, led by Mr B G Pautz, of the South African Council for Scientific and Industrial Research (CSIR) and its Director, Mr D G Kingswell and Miss Maura de Havilland who planned the function.

Industrial cities with their associated pollution and background illumination. Although living near a big city presents few problems in the domestic lives of the astronomers and it is easier to recruit local staff and obtain the strong technical support so necessary for modern telescopes, nevertheless the telescopes cannot be used to their full potential.

Work on the brighter stars is possible in these city sites but spectroscopy of faint celestial objects and photoelectric photometry are difficult, if not impossible. Pretoria in particular has its greatest percentage of night cloud in the summer months when some



Above: the three aluminium-clad domes of the new Observatory. The 40-inch telescope from the Royal Observatory Cape Town and the 20-inch from the Republic Observatory Johannesburg, are in the two nearest domes. Living quarters for staff and astronomers are further down the mountain.

driving Observatory transport, return to Cape Town to make reductions of their week's work.

The sunshine is bright and nights are dark

I was fortunate enough to observe there in February of this year. Out of seven nights' observing, six nights was photoelectric of a high standard, while all seven were spectroscopic. I was luckier than average although the site is nearly always incredibly dark at night. The observers can rest in the daytime in cool, sunproof and quiet quarters, protected from the heat, light and the noise of traffic, children and household activities which are usually associated with one's recovery from observing.

The maintenance and domestic running of the site are directed, respectively, by Henrie and Hettie Barnard. The SAAO are extremely

The author, Dr Alan Powell, is a Senior Scientific Officer at the Radcliffe Observatory (from RGO).

fortunate to have such an ideal couple, who live on the site with their children.

On this remote site even the population of sheep are very sparse as the flora consists of arid scrub bush. Apparently they lose their herd instinct in these conditions where it's every sheep for himself.

Sutherland is a small town, or dorp, that mainly caters for the outlying farms. Without television or cinemas people rely on the open air, sunshine and surrounding countryside for their enjoyment.

It will be well equipped . . . for British astronomers

The CSIR (the South African equivalent of SRC) and the SRC are collaborating in the formation and running of the new observatory. The Director is Sir Richard Woolley, formerly Astronomer Royal. While he was at the Royal Greenwich Observatory he was in close touch with South African

observing mainly through the Royal Observatory, Cape, and the Radcliffe Observatory administration (RGO supplied staff and funds) and as a visiting astronomer.

The Director is on the staff of the CSIR who are responsible for the day-to-day running of the SAAO. The observatory is an amalgamation of the Cape Observatory and the Republic Observatory at Johannesburg.

The 100cm Elizabeth telescope from the Cape and the 50cm reflecting telescope from Johannesburg have already been moved to the SAAO. In April 1974 the SRC's seven-year contract for the running of the 74 inch telescope at the Radcliffe Observatory, Pretoria, (that belongs to the Radcliffe Trustees) will end. It is strongly rumoured that the telescope will then be moved to the SAAO. If it is, the combination of this, the other two telescopes and a new 30 inch now being made, will make the SAAO a very well-equipped site of great interest to British astronomers.

Why we must leave town

The opening of the South African Astronomical Observatory heralds a new era for optical astronomy in South Africa. Until now most observing has been done from sites in Cape Town, Bloemfontein, Johannesburg and Pretoria, none of them ideal. With the possible exception of Bloemfontein, they are close to the centres of large

It pays to be safe

B H Crabtree

In an organisation such as ours that has a number of laboratories and workshops — and the hazards that go with them — it is not surprising that most of the suggestions we receive under the Suggestions Award Scheme are concerned with safety. In fact to read the suggestions is to realise what a dangerous world we live in!

Since the scheme became Council-wide in January 1971, ideas have ranged from putting a 'push' or 'pull' notice on a door to a design for a self-correcting automatic guidance system for an astronomical telescope. This last came from a Clerical Assistant in the London Office whose hobby is astronomy. The idea was followed up at our own observatories and the NRDC but regrettably the replies were 'A good try but not novel enough to change from existing systems'.

The very first suggestion received by the Daresbury Committee resulted in an award of £20 and a saving of nearly £900. This one was from Mr K Evans, Foreman of the Electronics Workshop. Early in 1972 much time and effort was expended trying to

produce a satisfactory scale which could be read to fine limits. It was decided to use Vernier height gauges suitably modified; but as each gauge costs in the region of £20 and fifty such gauges would be needed the expense of the exercise was a problem. Mr Evans' suggestion was to use an engraving machine to copy an existing scale and produce further scales. It was found that scales could be produced to an accuracy of 0.0008" which was more than acceptable and, even better, £875 was saved on fifty sets.

Mr D Parkinson a skilled craftsman at the Rutherford Laboratory earned himself £90 when he looked at a difficult problem and found a simple solution. The problem lay in the flexible tubes used to refill containers holding liquid nitrogen. The liquid nitrogen was making the tubing brittle and easy to damage, leading to frequent repairs or replacements.

Mr Parkinson's solution was to use two cryogenic stainless steel tubes, one fixed to the feed line and the other as a sliding sleeve that could be dropped a certain way into the container and held clear, after filling, with clips. It is

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estimated that this should save 80 man hours plus £100 a year on repairs and replacements. It also increases safety since the risk of the flexible feed tube blowing out of the vessel has been eliminated.

One matter that should be mentioned although it was not strictly a suggestion — unless it implied that more visits should be made to universities — was that Mr Eric Sampson of LO should put his collection of maps of the environs of Universities and SRC Laboratories in the LO Library for general reference. He did not wish to be considered for an award but the LO Committee has asked *Quest* to thank him publicly.

Statistics to date show:
204 suggestions received,
54 awards made
£720 paid out in total

(in awards from £5 to £90).

I think we can say that the scheme is well and truly launched and that ideas will continue to come in.

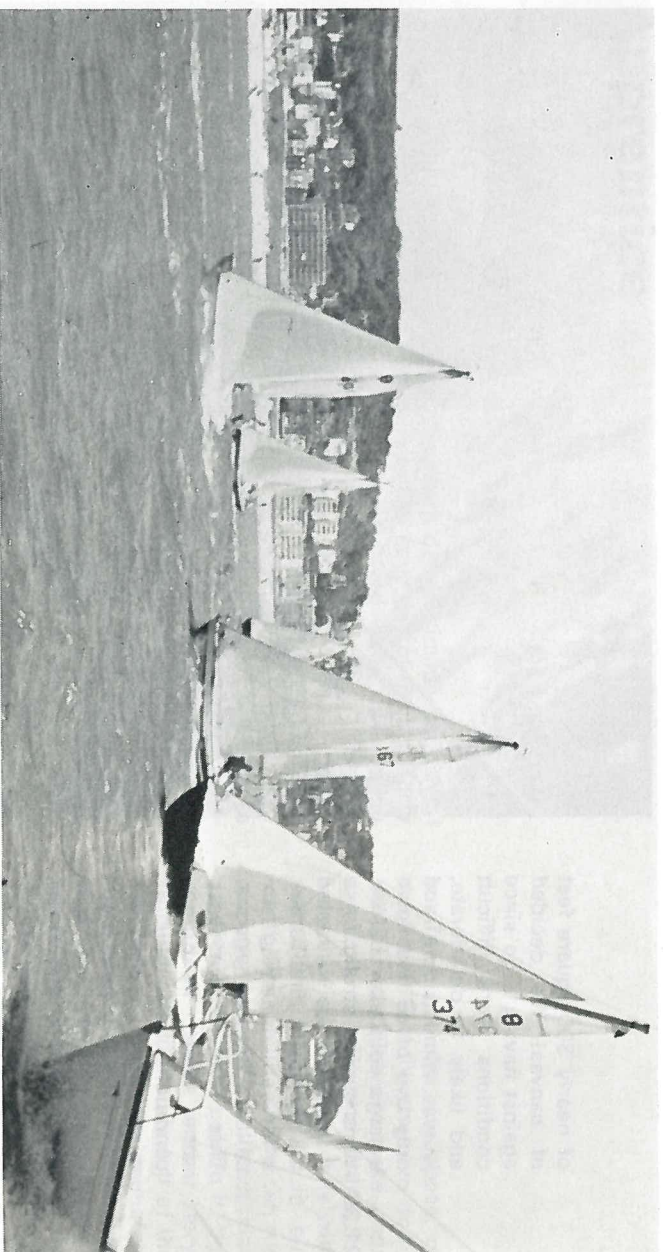
One idea we could do with now is for an eye-catching poster for the scheme. Any offers? If you have please put your written or illustrated suggestions in the scheme's boxes or send them to me.

devious plot on the part of our colleagues at Slough and points west to withhold supplies?

Talking of spending pennies, has it occurred to you that if the SRC's budget of £71,429 M for 1973/4 were converted into pennies (the post-Halsbury sort) they would, if laid end-to-end, reach a third of the way to the moon? The old-fashioned sort would have reached all the way there with enough left over to pay the

whole annual cost of both Rutherford and Daresbury, or the cost of the Royal Observatories for the next decade. Perhaps that's why the Council pays most of its bills by cheque or payable order.

The financial information related above is taken from the Council's Estimates, published by HMSO and by common consent one of the most entertaining pieces of light fiction on their list.



The start of the race — see story below

How we got into Europe

Martin Hall
Eight days before the start of the Civil Service Sailing Association's annual offshore race I received an urgent 'phone message: "We have a boat reserved for you for the race next week. Can you let me know within two hours if you can raise a crew". After several 'phone calls to all but DNPL and ROE (sorry!) we were still without a full crew, but had enough to say 'yes'. So for the second year running we had an entry to represent SRC and by the day of the race we had a full crew.

Friday 13 October
Three from Rutherford: Alan Bishop, Eric Groves and Philip Seeger; myself from RSRS; and Harold Arnold and Bob Davis borrowed from Ministry of Defence (without them kindly stepping in we would not have got an RNSA charter) all reported

to HMS Dolphin, Gosport, and took over RNSA yacht 'Electron of Portsea' (— an apt name!). 'Electron' was a twelve year old, 35 foot, seven berth boat, and looked as if she was built and fitted out for speed.

It always seems to take a long time to prepare a boat for racing, and we had none to spare for sail practice. So the boat and crew were still new to each other when we reached the start line with only a few minutes to spare. By the code flags flying at the starting point we saw that the finish would be at Cherbourg harbour entrance.

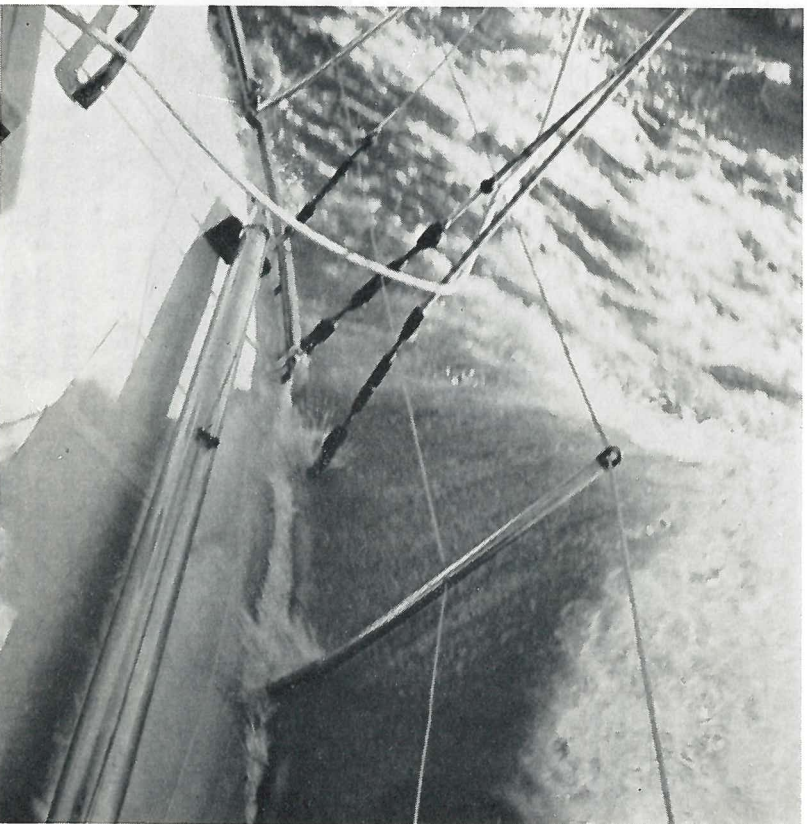
17.30 Start of race off Southsea, one of nine entries. Course 175°; wind NE force 4, a good blow, but at this time of evening we could expect it to double or to die completely.

17.55 Forecast gave warnings of possible NE gales (force 8) in Dover, Wight, Portland and many other shipping areas. So we were to expect an exciting race; and we got it!

18.27 Bembridge Ledge buoy abeam, altered course to 210°; the 'thumb line' (and we hoped, the rum run) for Cherbourg, bringing wind on port quarter. Watched others putting up spinners and taking them down in a variety of ways exciting to spectators but potentially expensive and highly dangerous for the crews concerned. The most alarming was the one that resulted in a heavy 15-foot long boom lashing about under the 'control'

... drunk in London

Our allusion to Rutherford Lab's water bill (last year) led a reader with a taste for the bizarre to draw our attention to the almost incredible fact, quoted by our own Fiona Steele in an article in 'The Ecologist', that water drunk in London has already passed through ten people on its way down river. Is it possible that the intermittent nature of the flow of drinking water on the top floors of State House could be due to a



... some had it wet and rough both ways

in her time, and being the largest boat in the race helped too.

In Cherbourg we enjoyed cold water washing in the clubhouse (which was officially 'closed' for refit) and the duty-free shop of Henri Ryst — soon to disappear as a privilege of our entry to EEC? At midday we had an (alcoholic) get together with the other crews, exchanging hairy stories of adventure and misadventure in the night, and enjoyed the cuisine (especially the moulles) and the promptu cabaret of the rather tired looking Café de la Grande Surf.

The beat back home into a still strong NE wind was less damp than expected, though there was sufficient sea running to keep three members of the crew busily gathered round a bucket for much of the night. What a waste of a good meal! Also we needed eight reefs in the mainsail to make things tolerable. However, a drop in the wind and the sight of sunshine on the Isle of Wight next

morning did much for morale. Then all too soon we were clearing Customs and cleaning up the boat.

Speaking to the Racing Secretary back at Gosport, I mentioned how we had expected things to be a lot worse on the way back. "It depends what sort of boat you were on", he replied without much enthusiasm. It seems the smaller boats had a hard and wet crossing both ways. The winner, who spent almost an hour of the race planing over the waves at 10 knots before he decided it was too dangerous, completely ruined his boat on the way home by cracking the hull as he buffeted the waves.

So we came back pleased to have represented SRC and to have gained third place. Next time perhaps we can do even better, with two crews to give us a team entry. That will be on October 12-15. We shall need crews and boats in order to enter. Anyone interested please phone me at Slough 24411 ext. 328.

Apprentice

A G Wilson

"Well, I'm sorry son, but I told you and your dad when I agreed to teach you the plumbing that it wouldn't be small-bore central heating all the time.

"Closets, as you might say, are our bread and butter along with the burst pipes in the winter, only we get 'em all the time if you see what I mean. I know they hum a bit, son, but you get used to that. We're craftsmen and we serve the community. Same as undertakers like, someone's got to do it.

"Now give me the plunger and I'll see if that'll shift it. But before I do I'll just put my hand down and see if I can feel the obstruction. That's where the craftsman-ship comes in. A bodger would get cracking right away. Well, the idea is that if it is there we don't want to force it further down. That would mean having to get a ladder and cut the soil pipe open outside. Soil pipe? why that's what the closet runs into before it reaches the drain. I can see it is time you started the night classes! No, we don't call them drains until they run along in the ground.

"Well, that seems clear, must be at the junction. Give me that cloth to dry my arm. Don't be silly, son, it's nothing to worry about. When you get out with the tools you'll think nothing of it. Rats down there? Don't be ridiculous.

"Right, now where's that plunger. Here we go. Ah! — right, she's going. Bit of luck that, these old valve-closets are beggars sometimes. All crusted up inside.

"Of course it's different from your one at home. This must be at least seventy years old. Don't see many of 'em now, but when I started all the big houses in Chelsea and Kensington had 'em. Kept nice they were too. All polished mahogany, and willow

pattern designs inside the pans. I used to have one of the lids for a drawing board when I was going to night school. Of course I cleaned it up first.

"The Water Board don't like 'em though. See, as long as you hold up the handle water rushes down, and this one's got a one-inch supply. Empty a hundred gallon tank in no time. No son, they don't have ball-cocks in these. As a matter of fact the modern flushing cisterns were designed not to use too much water and in the profession we call them Water Waste Preventers. They will only use what's in the tank, see, and that's about two gallons.

"You'll find when you're doing your City and Guilds that they'll ask you about these. All this wood's supposed to be insanitary, but I don't know. They used to keep 'em nice, these old housemaids. At it from morning till night, they were. The girls don't go in for the domestic work now though. Can't blame 'em, I suppose. They used to get looked down on rather by the girls in the shops and offices. It's a funny thing, though, my son says they have the same trouble in the Civil Service with the typists. I suppose we all have our pride. Remember, son, what I said just now — we're craftsmen and that means a lot to a man.

"And another thing, look at the lead tray on the floor here. Lead safes they used to call 'em. Had 'em everywhere; under the tanks in the roof, the sinks in the housemaids' cupboards — look, inside that cupboard, the sink's been pulled out but the safe's still there. Got waste pipes they have to drain away water that gets spilled or leaks. Must have saved pounds, but you don't see 'em now. Progress, Hmml!

"And you don't see sheet lead work now on roofs like you used to. Too expensive, I suppose, or they can't find the chaps to do it. I expect you'll have to make a box or two for the City and Guilds, but I doubt if you'll ever do any with me. That's the real art in our craft. Why, any mechanic can run a copper pipe about, an electrician or even a gas fitter can do it, but sheet lead — that's another story. Our old cathedrals are full of the stuff and it's lasted for centuries. They thought a lot of the plumbers who worked in them too. I saw a tombstone of one recently in the cloisters at Westminster Abbey, or was it Canterbury?

"OK, get these tools packed up. The lady wants us to have a look at the drains before we go. Nothing wrong really, but these old dears like to think they're 'looked at' occasionally.

"Well, that's the back manhole down. We'll just go and have the front one up and then we're off. The cook'll give us a nice piece of cake with our tea here, she's one of the old school. Yes, that channel takes the soil pipe. There it is coming down in that corner over there — a nice bit of four inch lead. You don't see much of that now, either. No son, that water is supposed to be there. That's what we call the interceptor. It is a trap between the house drain and the sewer. It's the same as you get under any sanitary fitting — what the lady in the adverts calls the bend in the pipe!

"There's always water in the trap, see, and that stops the sewer gases escaping into the house. Yes, it also traps things that drop in, but that's not the real purpose. I'll tell you this, though, there are two or three old gentlemen here and old gents aren't as steady as they used to be. It's surprising what they drop down things. While we're here I'll just feel round inside the interceptor. A mate of mine swears he once found a gold watch!

of nearly 300 square feet of canvas! We decided against having a go since conditions were difficult and likely to deteriorate, it was almost dark and only two of us had flown a large spinnaker before.

Wind now a strong force 6, gusting 7, so we reefed the mainsail to first batten, while still carrying so-called "racing" genoa. This would have been rather small in normal conditions but ample as things were. Reefing did not noticeably reduce our speed, which was now about 8 knots (almost our theoretical maximum), but it did make steering easier: at times this had become a two-man fight.

(Saturday 14). Lights on land came up in rapid succession; soon able to get a good optical fix on Pointe de Barfleur, Cap Lévi, Tête Septentrionale with radio bearing confirmation on Fort de l'Ouest (Cherbourg), showing our position to be nine miles from finishing line. Eased course to 230° and homed fast with wind dead aft.

03.30 Quite exceptional to be able to see so much so clearly. Now able to see the lights of other competitors — all heading for the western entrance. The wind had eased to force 5 or 6, and seemed less as we were running before it. Glad and surprised not to have that dead chill in the air of early morning. We had been lucky for mid-October.

04.20 Finished third, being beaten by two new racing machines that had been consistently successful in races throughout the season. However, 'Electron' herself must have been quite an impressive racer

Letter from Fiji

Graham Tidmarsh

When I mentioned to my friends in London Office that I was off to Fiji, they had nearly as much difficulty as I did in trying to work out which ocean it was in. Well, for those of you who have been too busy gazing into the sky or watching tiny particles chase themselves frantically around race tracks until they meet a nasty end, Fiji is a group of islands in the South Pacific which straddle the 180° meridian and lie about 20° south of the Equator. For geographical experts, the International Date Line takes a detour around us so we cannot step to and fro in order to repeat the days we like or miss out those dreadful Monday mornings. We are twelve hours ahead of you in London (give or take an hour of British Summer Time) so, roughly speaking, while you sleep I work and vice versa.

... talking of the weather

Before you try to picture me lazing on a fine, sandy beach, shaded by coconut palms and being served exotic drinks by voluptuous maidens let me point out that you are thinking of the wrong film! We live in Suva, the capital of Fiji, which is situated on the wet side of Viti Levu, the largest island of the group. By wet, I am referring to a rainfall of the order of 140" per annum (or, since we are going metric, 3500 mm) which is four or five times as much as we suffer in London. So this part of the island is as green

as the Emerald Isle and the only decent beaches in easy reach are on tiny islands inside the reef or thirty miles away down the sort of road that if you found one like it in Britain you would go a different way.

'the hub of the Pacific'

Fiji became an independent Dominion within the Commonwealth on 10 October 1970, 96 years after it was ceded to Britain. The population of just over half a million is mainly concentrated in the large islands of the group — Viti Levu and Vanua Levu ("Levu" is Fijian for "big"). Two races predominate, native Fijians and Indians. The Indians were brought over at the end of the 19th Century as indentured labourers to work on the sugar cane plantations and are now the largest racial group. Europeans and Chinese are well represented on the islands, and there are some members of all the South Pacific races.

Fiji's Government is modelled on the British system with an elected House of Representatives and a nominated Senate as the "Upper House". The main source of export revenue is sugar and tourism is growing fast. Fiji is a duty-free country for the luxury articles most sought after by tourists, such as cameras, radios, tape recorders and hi-fi equipment, mainly imported from Japan, but spirits and tobacco, though much cheaper than in the UK, are taxed. Much of the food-



stuffs and manufactured products are imported and Customs duty makes up a large proportion of Government revenue. (The Fiji High Commission in London publishes information on this).

The purpose of my being in Fiji is to work in the Organisation and Methods Division (O & M) of the Public Service Department. I am serving here on secondment from SRC London Office where I was previously employed on O & M work. The Fiji Government is the largest employer in the country and covers a wider range of activities than the UK Civil Service. For example, schooling, hospitals, roads and water supplies are Central Government responsibilities so the work I am doing is quite varied. Over the past few years the Civil Service has been almost entirely localised, apart from some specialised and technical posts. This has given the Fiji citizens early responsibility for running their own country and the changeover is proving to be both interesting and a challenge. Fiji is described as the hub of the Pacific due to its geographical location and is therefore a transit point for many sea and air services. It is also becoming a focal



Picture opposite: Graham Tidmarsh in Fiji. Above: Graham's wife Madeleine with Siteri and her family.

point for Pacific co-operative activities such as the University of the South Pacific which is here in Suva and has just produced its first graduates. The University runs a four year degree course as well as Diploma and extra-mural courses and seminars.

from cannibals to computers

Thus Fiji is a country of wide contrasts: although the total land mass is small, the islands are spread over a large area. Suva, the capital, is similar to many urban centres, a mixture of old and new buildings. Multi-storey office blocks are replacing the old wooden, colonial style buildings — reminiscent of "Western" films. There is a Scandinavian designed Civic Centre and plans for a new Civic complex are gradually being implemented. The Government has a computer to calculate salaries and some of the many statistics used to forecast the further development of Fiji, and to satisfy the various international agencies to which Fiji, like any self-respecting country, has to belong. The shops stock a wide

variety of goods mainly from Australia and New Zealand. British goods are available but the supply is more spasmodic, relying on the monthly arrival of the boat from "home" when we carefully check the shelves of the stores for new acquisitions.

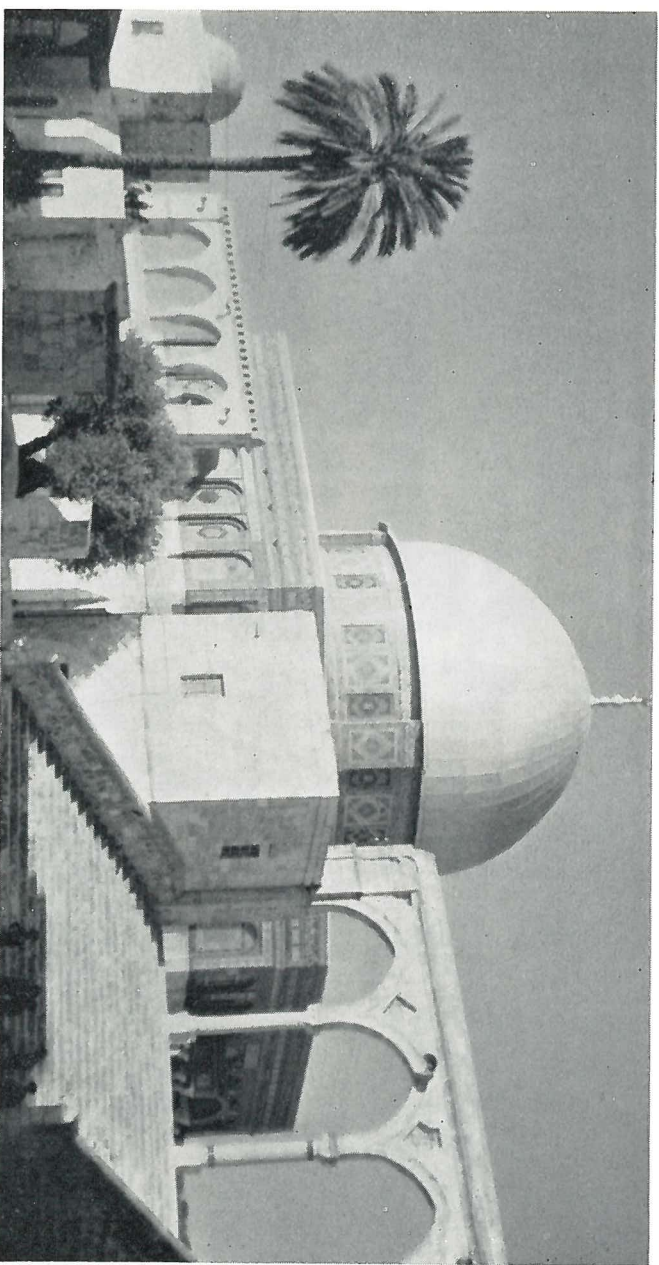
Outside Suva however it is easily possible to see village life as it has been for many years, except for cannibalism of course — that was abolished a century ago! Corrugated-iron, breeze blocks and concrete are used partly in place of the pandanus thatch and walls of the traditional bure (or house) but village women still sit all day in the shallows of the river doing the washing. Light at night is provided by benzene lamps as the men sit around the yagona bowl — yagonga is a muddy looking liquid made from a variety of pepper plant, slightly narcotic but most refreshing and reputed to be good for the kidneys. Main drainage in the islands is by the river or sea, but drink-

ing water may be fetched or piped (in bamboo pipes) from a fresher source!

These are of course extremes and some villages, even in the small islands, have spent the profits from copra (when the price was much higher than at present) in building a reservoir or even buying a power generator. Copra is the smoke-dried flesh from the coconut, crushed to produce oil which has been the main source of income for many Fijians. They are now seriously affected by the drop in world prices for the product. Dried copra has a sweet, slightly sticky smell which wafts over Suva when the mill is crushing.

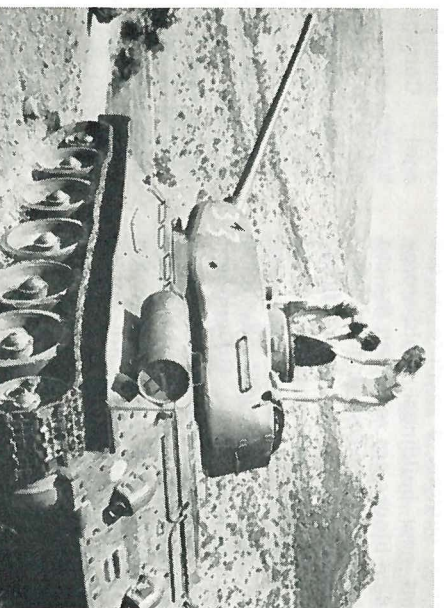
Books have been written about Fiji and this short article can do no more than give some impressions of the country. However I hope you have been able to get a glimpse of our life on a Pacific Island.

Graham expects to be back in England by the end of the year.



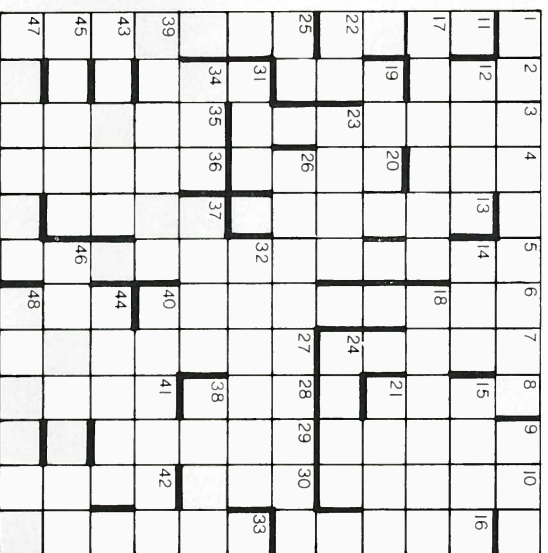
You can relax in Israel

Some pictures from Dennis Fogerty's car 'safari' to Israel via Greece and Turkey in 1972 (*Quest* 5, 2 p. 20).
Above: the Dome of the Rock, the most holy Moslem site in Jerusalem. In Jordan until 1967, it was restored to its present magnificent condition by King Hussein.
Below left: Dennis's wife Rose and daughter Susan visit a Turkish caravanserai.



Below right: on the Golan Heights, Susan and his son Daniel look at a relic of the '6-day War' (1967). Behind them is Baniyos Castle built by the Crusaders on a hill that was once a centre for worship of the God Pan.
 Twelve people went on the holiday, including Dr Roger Burdett (RSRS) and his wife Wendy, Barry Silcock (RHEL) and Ken Somerville (ROE).
 Dennis (from LO) was last in Israel 25 years ago during the final

2 years of the British mandate. He says the atmosphere now is placid and relaxed by comparison.
 His favourite place was Masada, but it was very hot - over 110°F. The social highlight of the holiday was an invitation to a Jewish wedding with 600 guests - including local Arabs - at a farm near Haifa.
 This year he will go to Southern Turkey again (as described in *Quest* Vol 4, 2 p. 16) and has room for 1 or 2 more passengers on August 3 to September 2 (30 days).



CROSSWORD

maxim 3

The first correct answer opened gains a £1 book token. Send entries to *Quest* at London Office not later than August 31 marked 'CROSSWORD'.

The winner of maxim 2 was Mr R Swifte of the Meridian Department, RGO.

Not only LO, but all SRC establishments are to be "dispersed". They will be moved from the locations asterisked to a new, though oddly-shaped, site.

Across

- Possibly is proof against wakefulness (9).
- Word that's a mean Spaniard's exclamation (6).
- The introduction of slander and the end of your reputation (4).
- Free from iridescence (3).
- Could be "hello" with this in it (4).
- Tree, an organisation found tidler (6).
- The easiest afternoon's occupation (6).
- (Part of new site).
- Earnings see returns on fixed capital (4).
- (Part of new site).
- A lout was thus finally reformed (4).
- Small hill to take small pressure (4).
- Only a temporary gift, by the sound of it (4).
- To clarify a situation that is muddled, Euclid had a meal (9).
- (Part of new site).
- Type of eclipse that can be seen from Honolulu and Narvik (5).
- (Part of new site).
- Bolted and barred - with iron from Durban? (4).
- Manner that sounds averagely reluctant (4).
- Knock the bloody drink back! It might kill you (6).
- Fakers can produce unlikely results (6).
- A calm spot where electrical activity occurs (5).

Down

- Listens in to the genuine dry-run (9).
- At no time lost nerve (5).
- Measure the strength of bird-speed (7).
- Timid, about to get led astray in drink (6).
- Set up house in a street in poverty (6).
- Our sea is choppy to start the adrenalin circulating (6).
- Polymer claps it out (7).
- It's not in the South. Oh yes it is! (3).
- One unusual event, holding gun the wrong way round - it's against the rules (12).
- Singular kind of boxing: self between puncher and punch (9).
- Foolish fellow 1, to inner self returning (5).
- Head with a distinctive hat (4).
- Model problem (5).
- Change? Change later! (5).
- (Part of new site).
- Outcome of Ulster disturbance (6).
- What a comforter does about 7 - sure mistaken (9).
- (Part of new site).
- (Part of new site).
- Average short answer - they won away at Hastings (7).
- Meal's infrastructure is insecurely pinned R and L; what one did off it, nevertheless (6, 5).
- Mum, holding water (3).
- Tune up, as about to give operatic numbers
- Change direction - the French footballer's action (6).
- (Part of new site).
- Followed a girl in extremity (6).
- What keeps us here, to wander in woodland (5).
- Outside diameter the German finds less concentric (5).
- His prognostications' eerie content (4).
- Queen visits half our site at Slough, and gets lost (4).
- Starts kissing a tired executive? She was asked to (4).
- Area of stellar (eg) ionisation (6).
- Nineteen
- Overload
- Erred
- Elgar
- Nag
- Wed
- Reset
- Yards
- Foams
- Boil
- Idea
- Due
- Sad
- Air

Crossword solution - maxim 2

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- | | |
|-----------------|------------------|
| Across | 29. Brio |
| 1. Metamorphose | 31. Daddy |
| 9. Eau | 33. Staid |
| 10. Whelp | 35. Emu |
| 12. Snaps | 36. Leaseholders |
| 15. Peel | Down |
| 17. Seventy | 2. Eye |
| 18. Lent | 3. Amp |
| 21. Wry | 4. Pea |
| 22. Laser | 5. Happy |
| 23. Three | 6. Ouse |
| 25. Egg | 7. Evil |
| 26. Eddy | 8. Awful |
| 28. Flowers | 11. Lasts |



newsfront

'Lets see what I can do with this magnet ...'

Seen left: A visitor to the Rutherford Laboratory stand at the Physics Exhibition in London, looking at a magnet design produced on-line to the IBM 370/195 computer at the Rutherford Laboratory. The design can be seen in 3-D through special spectacles.

That such a complex job can be done from so far away is due to GEC Computers' Remote Job Entry System 2050. Connected over telephone lines, the work station has a 300 lines a minute lineprinter, a card reader capable of reading 400 cards a minute and a teletype console. It can also communicate with various interactive programmes in the computer.

GEC also provided the photograph.



Seen on opposite page

Top: Mr G Joe Matthews (centre of picture) and his wife say 'au revoir' to the Director of the Royal Observatory, Edinburgh, Professor H A Bruck, CBE, (left) and Mrs Bruck. Mr Matthews was Professor Bruck's first member of staff when ROE had a complement of one, 15 years ago. He is now off to work at the 150 inch Anglo-Australian Telescope. Professor Bruck will receive an honorary Doctor of Science degree

from the University of St Andrews on June 28 (his second Hon. D.Sc.).

Centre: Seen on the Council visit to the Rutherford and Atlas Laboratories in May, l to r: Professor S F Edwards FRS, Chairman designate of SRC, Dr G H Stafford, Director RHEL, Sir Brian Flowers FRS, SRC Chairman, and Dr J Howlett, CBE, Director, ACL.

Below: House Journal Editors discuss their worries and troubles. Quest Ed is on right.

Nutcracker 12: answer (see page 15)

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Seen right: Mr Arthur L Jeffries, of the Royal Greenwich Observatory, receiving the British Empire Medal that was presented to him by Mrs Margaret Thatcher, Secretary of State for Education and Science.

Birthday Honours

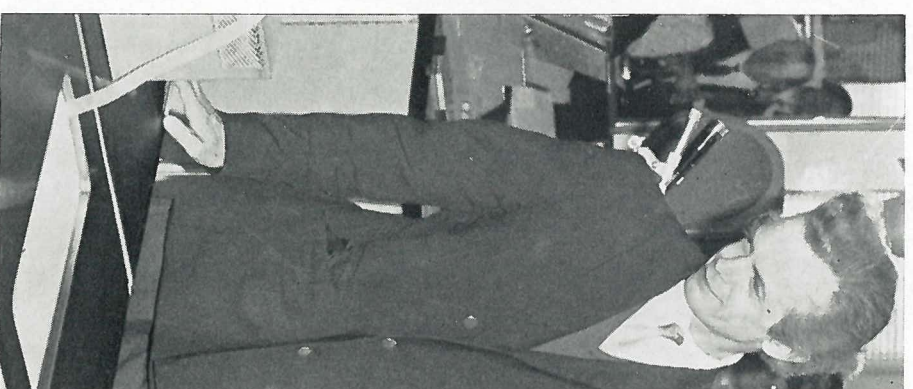
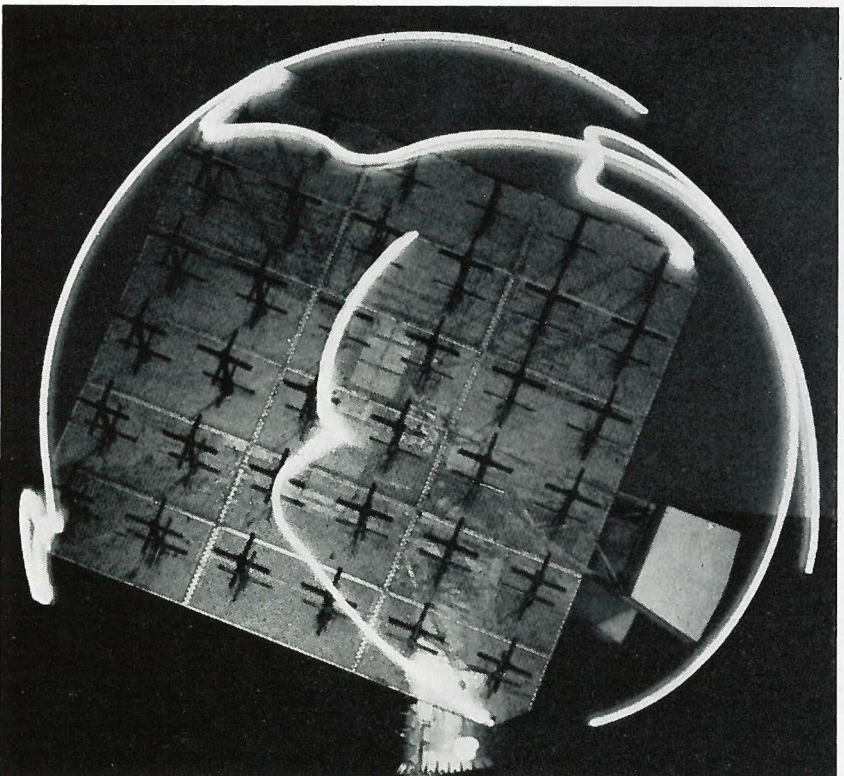
Quest offers congratulations to Dr J A Saxton, Director of the Radio and Space Research Station, who receives a CBE, and to Mr R H Elston, a Craftsman, also of RSRS, who receives a BEM.



Strange things seen at ESRO

Seen right: an impression of antenna movement during satellite tracking, as seen through the camera lens of Erich Hartmann of Magnum Photo.

ESRO commissioned Mr Hartmann to take several hundred photographs to illustrate ESRO activities. Some were on exhibition at the Photographers' Gallery, London, earlier this year and some have been published in an album 'Space—focus earth' (£4.20, pub. Arcade, Brussels). Of his assignment, Mr Hartmann said 'I had the singular opportunity of seeing through the camera scientific and technological enterprise of imagination and boldness.'



'It worked . . . but now it's had its time too'

'It works and about time too'. Historic words in the world of computers, for they were the first program run by Professor David Howarth and his team as a simple test routine on the line printer of the original Atlas computer.

Appropriately it was David Howarth, now Head of the Institute of Computer Science at London University who used those words again to run the final program in the computer when it was shut-down after eight years of service by SRC Chairman, Sir Brian Flowers, on Friday, March 30. An invited 'family gathering' of many of those who had been associated with the machine since its inception, watched the ceremony.

Introducing the speakers, Director

Jack Howlett referred to the presence of Lady Cockcroft, to Dr Pickavance 'father of the Chilton site' and to Basil de Ferranti, who represented the original Atlas manufacturers and later amused the audience with anecdotes of early Atlas days.

Before pressing the close down button, Sir Brian pointed out that he was closing down a computer and not a Laboratory! In future the Laboratory would provide a more specialised service for specific projects rather than continuing its earlier role of topping-up the computing power of the universities.

Now parts of the machine will depart — some, no doubt to the breakers yard but others to immortality in the Science Museum.

Seen above (l to r) at the closing ceremony:

Sir Brian Flowers, FRS, Chairman of SRC, who joined the Computer Board in 1965.

Mr Basil de Ferranti, Director of International Computers Ltd and of Ferranti Ltd, the firm who built the original Atlas computer.

Dr Jack Howlett, CBE, Director of the Atlas Computer Laboratory; Head of the Institute of Computer Science at London University, who ran the first and the last programs on the first Atlas computer, 1965-1973.