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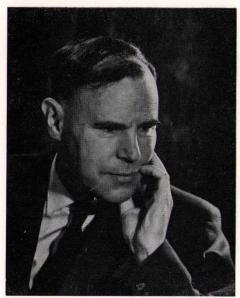


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## WINTER HARLEQUIN 1966

Leisure Magazine of the United Kingdom Atomic Energy Research Group

Vol. XXI

No. 4 (55)

#### from the Director

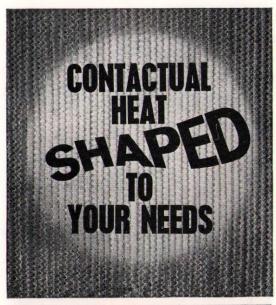
As the year 1945 drew to a close, people everywhere were preparing to celebrate the first Christmas for many years free from war or the threat of war; but the Second World War had finally been brought to an end by a new and terrible weapon, the atomic bomb. It was in this atmosphere of relief coupled with anxiety that the decision was taken to set up a British Establishment for research in all aspects of Atomic Energy. Although the first task would be to bring the British war-time effort to fruition in the form of a British nuclear weapon capability, the need to develop "peaceful uses" of atomic energy was deeply felt both by Parliament and by the public and, perhaps most strongly of all, by the scientists themselves. Already many proposals had been discussed and papers written on possible nuclear power systems and on applications of radioactivity and isotopes, and it was clear that the path to these must follow roughly the same route as that to nuclear weapons.

When the Harwell site was taken over for the Atomic Energy Research Establishment on 1st January, 1946, a tremendous task lay ahead but the broad outlines, at least of the early stages, could be seen fairly clearly. Under the leadership of Sir John Cockcroft, the Establishment broke new ground in every direction in which it directed its efforts, and to-day we can look back on 21 years of unparalleled achievement.

We look forward on our 21st Anniversary to a new era, with new purposes and new challenges, and I am sure we shall bring to bear all the initiative, flexibility and Harwell spirit which have animated our activities in the past.

A Merry Christmas and a Happy New Year!

R. SPENCE.



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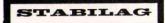
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#### **EDITORIAL**

Scrooge was probably the first recorded critic of Christmas; and he will not be the last.

Christmasses have changed and they are certainly merrier—merrier, that is, for the manufacturer and shopkeeper. Grocers and butchers sell about 20 per cent more in December, and off-licences no less than two and a half times as much as in any other month. Over 620 million cards are bought to wish a Merry Christmas, and to bring a Merry Christmas to, at least, the manufacturers, while the postmen groan. We could continue in like vein . . .

For the rest of the country Christmas means a lean time. Imports rise in the month or two before the rush on stocks, and exports fall as the home market becomes temporarily more receptive. A general setback for our aspiration to a balance of payment follows, and this year will come the question: Would we not be better off without the whole thing?

Free of the often unsuitable impedimenta collected in a lifetime of Christmasses? Richer by the amount hitherto spent at Christmas on impedimenta for other people? Only manufacturers, retailers and the "For Sale" column of the "A.E.R.E. News" would suffer. We would be free of stomach upsets, hang-overs and overdrafts, and of the damaging mistakes that are the fruit—and the nuts—of every Christmas.

But shall we say "good-bye" to Christmas? Or only to the type of Christmas we have had since revelry drew ahead of goodwill in the winter stakes? It's too easy to rush into a shop and buy inexpensive gifts dolled up in glamorous packing just for the Christmas trade—and which no one else wants. Buying Christmas presents that people will really like is a challenge. The re-kindling that breathes a refreshing scent over the more materialistic aspects of human nature—this we shall retain. So instead, let the sentiment of Tiny Tim be expressed:

May our gatherings of family and friends be heart-warming. And may this Christmas bring new zest, so that we go forward with renewed hope and vigour because our experiences, and all that Christmas really means, have helped us to see life in truer perspective.



in our suggestion scheme.

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By the River Bank — A.E.R.E. Angling Club Waters

V. J. Horgan, M.R.C.

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Sir John Cockcroft has told (1) of his talk in Washington with Akers. Chadwick, Peierls and Oliphant in November 1944, when "an Establishment on a modest scale, with a pile and a Van de Graaff machine, and a few other tools of nuclear physics" was conceived. In 1945 policy discussions were held in England, followed by a search for an R.A.F. airfield "not too far from London, with easy access to a major University, some degree of isolation, and a pleasant country-side to live in". Finally, on 29th October, 1945, the Prime Minister announced the setting-up of an Atomic Energy Research Establishment at Harwell, (1) Christmas "Harlequin", 1965.

Local reaction to the above announcement is summed up in these reports of the "Reading Mercury":

#### ATOM BOMB **EXPERIMENTS**

#### Harwell Airfield To Be Used

OF considerable local interest is the announcement made by the Prime Minister in the House of Commons on Monday that the Government had de-cided to set up a research and experimental establishment covering all aspects of the use of atomic energy, and that accommodation was being pro-vided at Harwell airfield, near Didcot.

Mr. Attlee, who was replying to Mr. W. S. Morrison (Cons.), added: "I am advised that dangers to surrounding areas from the experimental station are negligible."

It had further been decided that, in view of the importance of this work to the Service departments, the responsibility for research, which had hitherto rested with the Department of Scientific and In-dustrial Research, should be transferred to the Ministry of Supply. The Tube Alloys Directorate,

the name by which the technical organisation dealing with this subject had hitherto been known, would accordingly become part of the Ministry.

STATE TO MEET COST

The Department of Scientific and Industrial Research would, however, be represented on the Advisory Committee and some of its technical sub-committees. The cost of the research would fall on the Government.

Sqdn.-Ldr. Donner (Cons., Basingstoke) asked whether there has been any contact with the scientists concerned in the work on the island of Bornholm, which was the centre of German research into the atomic bomb and, if not, whether their present whereabouts are known?

Mr. Attlee: The British Government are fully informed as to German research into the atomic bomb.

It may be mentioned that plans have been under consideration for some months, and the decision to use the airfield would have been made earlier but for the change of government.

It is a very large station, well equipped with buildings to be adapted to research. Its selection overcame the difficulties and delay that otherwise would have had to be faced in erecting special build-

LOCAL OPINIONS

Contrary to what might have been expected, Didcot people are not in the least worried at the prospect of having the atom research station a mile from their homes. Indeed, they are more ex-cited and surprised. The general feeling of the Chamber of Com-merce, as expressed by Mr. W. J. Street, a prominent member, is one of pleasure, since it will bring employment, and, therefore, more

people to the area.

Mr. R. G. Bradley, chairman of
Didcot Parish Council though
agreeing with the Chamber of
Commerce about the benefit of further employment, was a little dubious about the safety. Mr. B. Bosley, one of Didcot's most prominent men, however, is reported to have declared: "The develop-ment is in the experimental stages and may prove highly dangerous to the whole area." Mr. R. Nott, however, a local builder, was very optimistic about the danger, and declared Didcot needed further means of employment, owing to the uncertainty of the military depots.

At Harwell, Mr. S. Caudwell, chairman of the Parish Council, said there was sure to be a percentage of the residents who would be nervous and leave the district. The numbers of workers entering the village would intensify the housing problem, but whether the Government was prepared to supply accommodation or not, they must have no priori-ties in the Wantage rural district housing scheme.

Many people, however, think that the project will make Harwell more go-ahead, and as one of the residents told a "Mercury" repre-sentative, "It will either put Harsentative, "It will either put Har-well on the map or blow it off

#### SIR RALPH **GLYN'S NOTES**

#### No Danger To Didcot

SIR Ralph Glyn, Bart., M.P. for North Berks, writes from the House of Commons as follows:-

As a result of the Prime Minister's statement about Harwell Airfield being used for scientific research on atomic energy, I have been asked what will be the effect on those of us who live in North Berkshire. Perhaps if I mention a few facts it may help to allay anxiety.

In the first place the idea to use the R.A.F. Station at Harwell for this purpose dates back some time before the General Election. This site was selected because the airfield is too close under the Downs to make it a good permanent base for service use. On the other hand the accommodation is admirably suited for development work. It is an advantage to be near the University facilities of Oxford, the district is on the whole free from interference by other industries, and Didcot provides a first class railway centre. There are several

airfields that are admirably suited for providing air communication.

As to the work that will be undertaken, I have been assured that "the risk to the district is almost negligible", and it is obvious that a plant so costly and important will be safeguarded by the scientists with every possible precaution.

Some people have actually asked me if they should sell their homes and clear out! This is complete nonsense, and due I think to a misunderstanding of the work that will be done.

My immediate concern is on two very different aspects about which I have so far received no satisfactory assurances, but I hope to soon. A great deal of water may be needed, and its collection and dispersal may affect a wide area unless very special steps are taken. The contractors who will be engaged on the work of construction will employ considerable numbers, and in my opinion these persons must be specially housed on the site. We cannot afford in this "saturated area" to have more requisitioning or billeting.

What followed? How did A.E.R.E. start and grow? What was it like to work in, live at, eat at, or even play at before the present vast and complex organisation operated?

# Twenty Years Ago

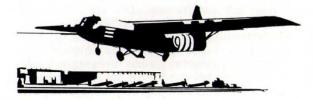
D. R. WILLSON

landed on a site still unaffected by nuclear forces. (For some time after that, despite signs painted on the runways to denote they were no longer "operational", desultory landings took place by pilots whose astonishment was only matched by their disgust at finding the place "gone to the boffins"). A. B. Jones installed himself in Building 77, having taken over C. K. Butcher, a skilled carpenter, a store-keeper, four M.T. drivers and four labourers from the R.A.F. (some of these are still with us). Apart from Betty Hillen, there was no officially allocated staff; transport and cash were also lacking. A. B. Jones set to work storming the Ministry's citadels, and before long the initials "A.E.R.E." began to be known as representing a lusty infant with

an insatiable appetite, and determined to grow

in its own fashion.

1946 On New Year's Day, the Harwell airfield was officially taken over from the R.A.F., whose aircraft had hitherto taken off and



Four thousand miles away, at Chalk River, the Harwell experimental pile (BEPO) was already being designed by the "Graphite Group", while other groups there were planning the physics and chemistry laboratories for A.E.R.E. The Ministry of Works special team to study "hot lab." design arrived at Chalk River within a few weeks, and in the heady atmosphere of Canadian hospitality, Building 220 was conceived.

Nearer home, in Shell-Mex House, London, other units of A.E.R.E. already existed and were growing fast. John Fisher and his group were almost submerged by drawings, plans and schedules which were periodically consigned to the W.P.B. in a fine flow of military oaths as the arrival of the next batch of instructions from Chalk River rendered them obsolete. With the first of the E.M.R. group, I was unravelling the tangle of research contracts we had inherited from "Tube Alloys", and planning the production of the graphite and uranium needed for the Harwell piles. A "recruiting" office led by Bill Williams struggled with a flood of letters, cables, calls and interviews. This rising tide often threatened to engulf all the groups, what with sorting out the future of many of the scientists already in the Canadian and American projects, fixing grades and salaries, searching for experts in every field from other parts of the Ministry and from industry, and coping with the offers of service from all kinds of people coming "on the market" in that restless post-war period. S. H. Bales from the Chemical Inspectorate came in for a time to help, and proved of great value.

On 1st February, a meeting was held at Harwell with Dobbie-Bateman in the chair, to review progress and make plans. Director was there, having flown from Chalk River, so were Skinner, Marley, Katherine Williams, Fisher, Peirson and A. B. Jones. Frank Jackson had come from Washington, and the Ministry departments were represented by Lindsell, Nevard, Miss Clinkard and Miss Ellis. Accommodation requirements were assessed in relation to the guessed intake of staff; more hostels were agreed on to supplement Staff Clubs "A" and "B", housing plans were expanded, transport and conditions of industrial service were reviewed. The preceding evening was memorable as the occasion of the first formal dinner in Ridgeway House under the auspices of A.E.R.E. The function was reported a complete success.

By April, a number of the houses taken over from the R.A.F. were occupied, the graphite workshop was in hand, and the contractors were ready to begin building alterations. The surgery was being put in shape, and a temporary security fence was being erected. Geary was installed as Stores Officer, and soon began to wonder where he could find room for the equipment and stores which were arriving—it was obvious that Building 30 would not suffice for long. Although no aluminium pre-fabs had yet arrived, plans for the Aldfield Farm estate were complete. About this time, and despite considerable difficulties in obtaining stocks, Carter's store began operation.

April is also significant since it was on the 23rd of that month that the first Steering Committee was held. It is recorded that the meeting began at 5.0 p.m., was adjourned at 7.15 p.m., resumed at 8.30 p.m. and continued until nearly 11.0 p.m. Even in those days there had to be some talking!

Meanwhile, the Director and the Chalk River groups had decided that a low-power test pile (GLEEP) should precede BEPO at Harwell, and that the New Zealanders who had helped design the ZEEP at Chalk River should be responsible for its design. So Watson-Munro and his compatriots, together with Fenning, arrived from Chalk River during the early summer; they were to influence the young Establishment in many ways during the next twelve months. One remembers the continuous air of hospitality surrounding their rooms in Ridgeway House, associated with a mixed aroma of coffee, beer and tobacco; their disarming but effective techniques in dealing with any obstructions to the GLEEP programme; the twin baby cars of Watso.1-Munro and Gordon Fergusson roaming the site; the Kodachrome shows.

By the autumn, the site had changed indeed. Building work was in full swing on conversion of R.A.F. blocks into laboratories, and the infernal trenches that were to dominate the site during the coming winter were already creeping out. Looking now at the neat rows of concrete slabs covering the bricked service ducts, it is difficult to realise what chaos was caused during their construction. The site roads were blocked, re-opened, and re-blocked until it was impossible to travel except in the spirit of an explorer. The ground was churned into mud; staff having to go out often were issued with rubber boots. A call for a shorthand-typist involved launching a miniature expedi-



Members of Culham who saw the start of Harwell twenty years ago; l. to r: K. V. Bloomfield, T. R. Pedley, Miss A. M. Croker, D. R. Willson and C. S. Wheelock.

tion. After dark, the hazards were greatly increased. Street lighting was practically nonexistent, and Stores did a brisk business in torches. Even so, a patch of ground clear one night might well contain a pile of debris, or a trench, on the next, and many a hasty exit from a building resulted in ignominious precipitation into the mud. Strange oaths in many accents were heard in the gloom; the hardier spirits adopted gumboots and old macs as standard wear, and squelched their way around with a fine disregard of these temporary hardships. A car was a doubtful asset during this period; when parked in the morning a spot of amateur bridge-building was often needed to get it out by evening. The Stores Officer once incautiously took his eyes off some newly-delivered equipment stacked in the open; before long the excavated earth from a marauding trench had

quietly covered the stores, which were not located for some time.

Accommodation for families was really urgent, and German P.O.W.'s were brought in to erect aluminium pre-fabs on the Aldfield Farm Site. The sections of these bungalows, on their special trailers, became a common sight on the main roads leading to A.E.R.E. The first pre-fabs were occupied within a few days of completion-it was even told that the wife of one engineer stood anxiously on the concrete platform while the house was assembled round her. The P.O.W.'s did not confine their useful labours to house-assembly, and a brisk trade developed in rope slippers, picture-frames and shopping baskets. The lastnamed could still be seen in use on excursions to Carters' Stores ten years later. O. Frisch occupied a prefab mainly furnished with three

large packing-cases, rugs for curtains, and a grand piano on which his excellent playing would delight the nocturnal stroller.

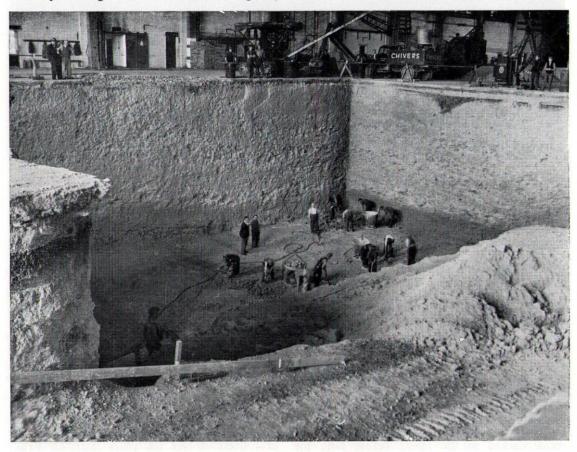
One week-end, when a number of pre-fabs had been completed though some were unoccupied, a rumour spread that an invasion of "squatters" from nearby was due that night. Arrangements were hastily made for each empty house to be occupied for the night by a volunteer, but the "invasion" did not materialise. Henry Arnold, who had just joined, was thus afforded an opportunity for his first security exercise.

Enough people were living on or around the site by the autumn to cause recreational and social activities to flourish. Sports teams were in action, music and drama were starting, and also a camera club launched by Busbridge. The first issue of A.E.R.E. News made its appearance in November. Although Divisional dances were as yet unknown, the regular Tuesday evening "record" dances in Ridgeway

House were lively affairs. The social life was graced by the presence of several attractive young ladies from Chalk River; although some departed within a year or so others suffered nuclear capture and remained here as wives.

Inside Hangars 7, 8 and 10, the Ministry of Works formed "underground movements", and the holes for the cyclotron and the two piles deepened and widened until they became of truly impressive size. The BEPO put in Hangar 10 seemed likely to engulf the entire hangar, and mechanical excavators manoeuvred in its vasty deeps taking out the spoil.

By the end of 1946, A.E.R.E. had become a flourishing and fast-growing community; more than half the British staff at Chalk River and Montreal had returned, and many laboratories and workshops were in full swing. Soon, all was to be gripped in the snow and ice of early 1947—but that is another story



A.E.R.E.—1946. EXCAVATIONS IN HANGAR 10 FOR FOUNDATIONS OF BEPO PILE



# The Third Game - At Harwell

The teeming crowds which throng the touchlines of the football club's home matches (there were at least a dozen last week) are occasionally aware of another, stranger game going on on the neighbouring pitch. This is the hockey club at home.

Actually the rules are very similar to football, although the goals are smaller, the ball is much smaller and the players are armed with sticks. The ball itself is similar to a cricket ball and is painted white—sometimes it is a cricket ball painted white—after all, if the cricket club are careless with their equipment . . .

Many people think hockey is a girls' game: occasionally they say so—though not if we're carrying our sticks. The way we play bears more resemblance to the version portrayed by Ronald Searle.

The last article on Hockey in "Harlequin" appeared in the Summer number of 1962 from the pen of John Doran, who has left us after playing throughout one of our most successful seasons—of which more anon. Since then the

A.E.R.E. Hockey Club in action. Bob Hopgood (centre) tackles the opposing inside left while John Penney and Angwin Marples await developments. Also watching anxiously were John Doran (formerly with Contracts) and John Austin—2nd and 3rd from the left—and John Forbes (SRC)—extreme right.

club has played over 200 matches, scored over 400 goals and fetched the ball from the Ridgeway car park over 2,000 times (to reassure Ridgeway residents, it usually runs along the ground).

The earlier article mentioned our annual Easter visits to Paignton disguised as the FAEREYS. There we play about six matches in the four days against the Devon Dumplings, the Busbars, the Midwives and various other motley crews from the South and the Midlands. Although an ability to play hockey is useful there (and Harwell have been top team out of the 30 or so at the festival on two of their five visits) it is not the only criterion for selection. Deft handling of a pint pot, skill with fruit (in a machine) and a wide fund of stories and ballads are also essential attributes. Nor is it an accident that the Harwell convenor for the festival-Mike Powell of Theoretical Physics—is also the Motor Club's champion rally navigator. The pitches are scattered throughout the Torquay and Paignton "complex", and although the town pitches are well signposted this never seems to apply to the one at an army camp a few miles inland, which is reached via some of Devon's fortunately unique lanes. One member was heard to remark that in four games on that pitch he had never used the same route (there or back). Actually this pitch at Denbury Army Camp and another at the Naval College at Dartmouth have hard surfaces which lead to some splendid fast hockey and some spectacular bruises. They



A.E.R.E. HOCKEY CLUB 1965

Back Row: Ken Shaw, S.R.C.; John Penney, Morris Motors (this year's Captain); Angwin Marples, Ceramics (Secretary); Gerry Burningham, M.G.-Riley; Nigel West, S.R.C.; Mike Powell, Theoretical Physics; Don Rowe, Ceramics (Club Chairman and Umpire).

Front Row: Brian O'Connor. Ceramics (From Perth. W. Australia, this year's Vice-Captain): Doug Davies.

Front Row: Brian O'Connor, Ceramics (From Perth, W. Australia, this year's Vice-Captain); Doug Davies, Chemistry (now retired and umpiring regularly); Jolyon Kay, formerly of Chem. Eng. and now with the Foreign Office; Bob Hopgood, Atlas Lab. (now in Pittsburgh on a year's Attachment); John Austin, S.R.C.

can be played on whatever the weather, and anyone who has visited the West Country in the spring can appreciate how essential this is. Many members take their families, for Paignton out-of-season has plenty to offer in the way of entertainment. If it's too cold on the beach, there are swings and slides for the children, and one doesn't have to queue to see what the butler saw.

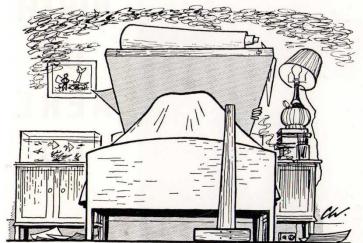
The other highlight of Harwell's hockey year is the mixed tournament held at the end of the season. Although we don't run a mixed team now, the tournament is well supported by 24 teams from all over Berkshire and Oxfordshire. Competition is keen and, however we frame the rules, a new argument seems to rear its head every year—to be dealt with firmly and fairly by Don Rowe who as chairman acts as organiser. The tournament also acts as a training event for the St. John's Ambulance Brigade—one year when the pitches were bone hard they had over 40 cases (mostly cuts) to deal with-and we are always most grateful to them for coming along. One piece of advice I would give to readers: on the day of our tournament don't arrange to go out-stop at home and watch television. Of the six times we

have run it, rain has caused its cancellation on three occasions and almost done so on a fourth.

Last year was our most successful season since 1954 (records of earlier seasons have been lost). Out of 30 matches 23 were won and 3 drawn, and 100 goals scored for the first time. Twice before (in 1957 and 1961) have we been into the 90s. Last season, with one match left, we had scored 97 and managed the third goal with about 5 minutes of the season left. The chief reason for this success was that we have been able to steal a march on our rivals by importing Brian O'Connor from Western Australia to bolster up the forward line, and he scored 39 of the goals. To avoid the charge of professionalism he has found a "part-time" job in Ceramics Division.

This season we aim to do even better. There was no summer lay-off, for mid-week evening matches continued right up until early August (these finish well before closing-time and leave one with a splendid thirst)—and we have started off in great style by scoring 38 goals in 6 games. If you want to join in, phone our "permanent" secretary Angwin Marples. If you're not very active, don't despair—the 2nd XI are short of a goalkeeper.

#### TWENTY YEARS AGO



#### I REMEMBER . .

The early Harwell draughtsmen had to wait for somewhere to work.

The Materials Shortage: finding that the angle iron I had brought back to the workshop, after a hunting expedition round the site, had been ear-marked for a new building. The Wall that was started in three different places from Hg. 10 via Hg. 9 and which was planned to join up. It finished as a 3-way wall and had to be re-started. More haste, less speed! Accommodation in huts, since demolished, west of 'A' Mess, and meals in 'B' Mess. To one of the waitresses I was "Texas Dan" due, I think, to a slight Canadian accent, picked up and not quite lost. The Carbon Boys who had a rise for getting black and had their own minstrel vocal group under the shower.

GEORGE SPINK, S.R.C.

The Arrival at Harwell meeting Misses Croker and Pope and Mrs. Alexander, then the closely printed forms of 2-3 thousand words which everyone signed without reading. First Contact with workshop staff: Messrs. Price, Hallis, Murray, Clegg and Barlow, the late Mr. Norwood joining soon afterwards as Workshop Manager. Hangar 9 consisted of three Duplex mills, a small workshop on the north side and nothing else besides puddles of oil. The First Workshop Stores were minute compared with those of today: six scaffold poles wired together, with a locked gate to preserve five or six racks of assorted rails, bolts and washers. If we needed material to make a job, we searched the site to see if the R.A.F. had left anything suitable behind. There was then no Planning Department to order the wrong material, no scrap bin to hide one's own mistake and no Finished Parts Store to see one's final job lost in! The Lighting on Site was such that one would walk out of Hangar 9 on what one believed was a snow-covered path, only to disappear down a hole. The First Sports Day when Mr. A. B. Jones and Wing Commander Arnold called all Harwell employees to Ridgeway Club card room.† We were instructed to take our beds from the hostel and each occupy a pre-fab against squatters . . . with orders not to try and eject anyone who should try to occupy it. The Water Tank to the east of the water tower, which was used as a swimming pool in the evenings, until word went round that it was also serving as the site drinking water supply! \* Sir John Cockcroft who, on returning from the Continent with the Nobel Prize, spoke at a 'B' Mess Dinner. Watson Munro who conducted members of Building 35 over the half-assembled pile in Hangar 8, stating that it was seventeen layers high and only .005in, out. Mutual Congratulations!

ERNIE BRITTON, Eng. 501 Workshop

† We receive information from BILL BARLOW, Bldg. 424, that the first sports day was not until 1947. He recalls that the squatters were turned back at Harwell village and that after a cold and miserable night the A.E.R.E. "task force" enjoyed a free dinner at Ridgeway.

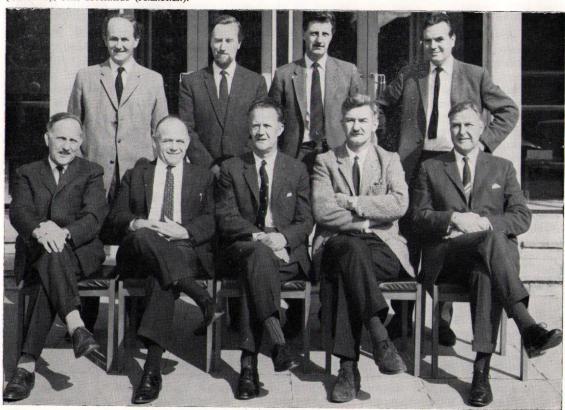
<sup>\*</sup> It is reported that the Labour Officer went "green round the gills", but "Harlequin's" enquiries of last month suggested that he needn't have worried because this was a static water tank for fire-fighting purposes. See page 24 of this issue.



## OF AERE DO

Members of 1946 Design Office — Back row, l. to r.: John Boon (S.R.C.); Gordon Chapman (A.E.R.E.); Ron Hoper (S.R.C.); George Fowler (A.E.R.E.).

Front row, l. to r.: John Marsh (S.R.C.); Ralph Walker (S.R.C.); Dennis Mettrick (A.E.R.E.); Tom Pedley (Culham); Jim Hollands (A.E.R.E.).





The top room of Bldg. 77, which saw the start of the Design and Drawing Office Services at Harwell, is now occupied by Claims Section — H. Manklelow and D. Ricketts.

In February 1946 a meeting was held in Building 77 to formulate plans for the Drawing Office and Manufacturing Services at Harwell. Col. Raby, then a consultant, was in the chair. Present:

Col. Fisher—Services and Buildings

(D. At. En.)

H. O. Norwood-Workshops

(ex-R.R.D.E. Malvern)

D. Mettrick—Drawing Offices

(ex-T.R.E. Malvern)

At this meeting it was decided to aim for 30-40 draughtsmen for the first year or so, together with the necessary accommodation and equipment.

Dennis Mettrick, now Head of Supply and Outside Manufacturing Section, was then given the job in 1946 of creating the basic D.O. organisation. He had previously been responsible at T.R.E. Malvern for the Drawing Office concerned with experimental radar equipment for the R.A.F.

Of the first 30 recruits, 25 were from T.R.E. While waiting for accommodation in the new Accelerator Scientific Group at Harwell, some

of them continued to work for Malvern on D. At. En. work.

During the summer of 1946 a small design team at Harwell, consisting of Dennis Mettrick, George Lockett and John Campbell, flew out to Chalk River, Canada, to carry out the engineering design of the low-power test pile GLEEP. One of the main items was the graphite core, and detail drawings of the machined graphite blocks were laid out in Canada and sent to the workshops at Harwell via diplomatic channels. Building 35 was taken over for the machining of the graphite blocks before the work was transferred to Hangar 7.

How GLEEP was to become active in 1947 is another story and tribute is paid elsewhere in this issue to the New Zealand scientists who came from Chalk River with their experience of ZEEP.

The fact that GLEEP, the first reactor to be built in this country, is still in operation today bears testimony also to the pioneering work by early members of the Drawing Office and Workshops at Harwell in what was then a relatively unknown branch of technology.

After some months in Building 77, and then Hangar 9, the early draughtsmen moved to the first floor of Building 161. With equipment that was for the first time adequate, this became the first real home of the D.O., while on the ground floor Miss Gosset was developing the library service. Building 161 remained within the security fence until 1952, when it became the Social Club.

Apart from these local draughtsmen who could be got together for this "Harlequin" photograph, there are others — Tom Dyke of Aldermaston, John Campbell of Risley, and George Lockett, Peter Gates and Ron Turner of Winfrith — who are still with the Authority. All have completed 20 years in atomic energy.



Photo: F. W. Broderick

Harwell under Construction 1935, showing the beginnings of the girder structure of Hangar 7. Note the cottage in the background.

These three photographs taken from the same vantage point, the top of the water tower, shows the changes which have taken place in the Hangar 7 area over the last thirty years. Other parts of the site have changed as much. Can we guess what changes another twenty years will bring?

# THE CHANGING FACE OF HARWELL



Changes since the last photograph? The laboratories between the two hangars were demolished this year to make way for a three-storey building to abut the west front of Hangar 8. This will be part of a new computer complex which, by the end of 1967, will put Harwell in the forefront of computer systems for scientific research.

Harwell in the days of the R.A.F. The hangar is in use and Building 30 can be seen in the right foreground. The cottage has disappeared.

Harwell twelve years ago. The new West front of Hangar 7 had risen, presenting an imposing appearance, and the garages on its right had become laboratories.



# ART

V. J. HORGAN, M.R.C.

Many artists who exhibit paintings must wonder why their work is not praised or even mentioned in subsequent reviews. After all, contributors consider their paintings good enough to exhibit so there must be some quality worthy of mention. Yet relatively few artists get into print, and these names quite often have a rather familiar ring about them.

The answer lies not so much with the reviewed as with the reviewer. Good art critics are rarely good artists—else they would be painting instead of writing. The number of names mentioned in the review is limited so how does the poor chap choose? Some of the possible considerations in his choice are as follows:—

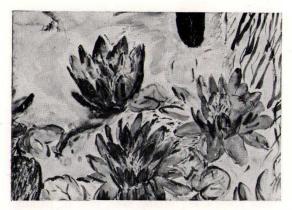
- 1. The artist's name is well-known as an artist (safety).
- 2. The artist is a friend of his (loyalty).
- 3. The artist is someone the reviewer would like to be a friend of his (flannel).
- 4. The artist is an important or influential person (expediency).
- 5. The artist paints the subjects or in the style that the reviewer likes (bias).
- 6. The artist's work is good by any accepted standards, the difficulty being in deciding what the standards are (honesty).

Add to this the need to appear erudite in artistic matters, the desire to make as few enemies as possible and a censorious editor. The result is a review such as the one for the 1966 exhibition.

This year more than one-third of the artists were ladies and the overall standard seemed to be no worse or better than in previous years. Which seems to suggest something.

Under "consideration" 1, one may group H. E. Crooks, E. Storey, Seton McConnell, Kathleen Abson, H. J. Crawley, Peter Mulford and Dr. N. G. Douglas. Crooks might well become known as the master of the wide landscape. His quiet, precise style is much in evidence in "Eilean Donan Castle". Storey's two "Sunlight and Shadows" show another facet of this versatile painter. Seton McConnell in her "Chilton Prefabs" seems to have deviated somewhat from her usual style in that this painting is almost Impressionistic and therefore a great hit with this reviewer (section 5—bias). Kathleen Abson paints in water-colours (or is it gouache?) the way many aspiring artists would like to paint in oils. "Old Houses, Holyhead" was a good example of her unique style. Crawley's "Corby Steel Works" with its dark, smoky tones had lots of atmosphere. This artist's ability in handling paint is evident even to the layman. Mulford, with his delightful nude drawings can do no wrong. Dr. Douglas's other half (Dr. Jekyll?) showed itself in three delightful flower studies of which "Water-lilies" seemed the best. The riotous, thick colour of his other style (Mr. Hyde?) was disappointingly absent this year.

Ron Freeborn is, to me, an infuriating painter. He is probably the most capable artist



Water Lilies

Dr. N. G. Douglas, Culham.



River by Moonlight

E. Storey, Eng.S.D.

exhibiting at these exhibitions and he contributes works which are first-class in this particular style of painting—a style which leaves this reviewer cold. "Mother and Child" was monumental and impressive.

Resorting to the patronising "elsewhere in the exhibition" there were very few paintings which did not have some quality, even if it was only honesty. Hasting's "The Team" was one of the many good water-colours. "Gortnadasha" by Rachel Houghton was another. My favourite in this section was Henry Arnold's "Deal", which had the lightness and freshness one associates with water-colours. Catherine Proudman seems to be another painter with versatility of style: her impasto-impressionistic "Serenity" was perhaps not so striking as her many semi-abstracts but it was very pleasant.

Abstracts and semi-abstracts have to be taken at their face value, and it is difficult to be objective about them. "Spartacus III", by W. R. Carmichael, from a distance looked like a Seurat. The wide pointillistic treatment was very effective. H. J. Paxton's "Massive Retaliation" was also very impressive although the title was not very helpful.

Portraits and figures are always sure of comment in this review for reason 5 (bias) and also because they are more exacting than other subjects. Half an inch askew on a tree will never be noticed but half an inch out on a nose can be disastrous. "Mrs. Purcell" by W. Millar was a good portrait although perhaps too detailed for the modern dilettante. K. Warrington's rather aggressive looking "Young Girl" showed a genuine attempt at expression. The bull in J. Ward's "Torero" had "life", but the mata-

dor was very wooden; this type of subject is probably best done quickly without too much labouring for effect. G. F. E. William's "Paddy and Moke" was a complete change from his usual landscapes and had a certain whimsical 'Irishness' about it.

Landscapes are so much the stock in trade of amateur artists that they have to be really good to stand out from the dozens one sees at exhibitions. Some painters like W. K. Curtis ("Ebb Tide"), P. B. Dunthorne ("Villeneuve les Avignons") and F. A. Foxon (with his delightful "Waterloo Bridge") have a natural aptitude for portraying scenes realistically. Cliff Fishenden, who does superb sea-coast scenes,

Ebb Tide W. K. Curtis, Eng.S.D.





Brasenose Lane

Elizabeth Tyler

did not seem up to his usual standard in "Wind and Sea". Elizabeth Tyler, a newcomer to this exhibition, scored a hit in the Press review with "View from Brasenose Lane" which could pass for a genuine Utrillo if it were bigger. B. Riley's Rousseau-like landscapes are escapes from the more obvious style of the others, and Susan Baker's "Seascape" was escape almost to the point of non-existence. C. Windsor, another newcomer, had a pleasantly painted scene in his "Bolton, Lancs.". Rosemary Steven's

"Winter Scene", Doris Angell's "Wells Cathedral" and the lyrical-sounding Coralie Bell's "Garden House" came under that hackneyed designation "showing promise", which really means that the critic cannot make up his mind.

In the "unclassified" section W. Mitchell's "Roses" studies were competently done. "Moonlight", a study in blue by Lorna Dolley had the required restful atmosphere of the subject. J. J. Dixon, who has not exhibited here for a few years, showed a marked advance in style with "Bait Diggers". P. E. Dolley's "Mediterranean Village" was a good example of what is sometimes known as "selling art", that is, painting intended to please rather than move. Elsie Paxton's "Easter Carnival" had a similar effect.

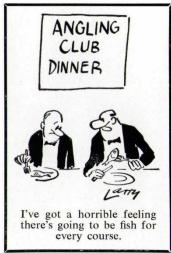
Still life, the bread and butter subject of the artist, was not very much in evidence this year. Mrs. D. Burrell's "Still Life" was good. E. S. F. King, who turns out some of the finest still lifes, did not exhibit any this year. His "Lilies" were a good substitute, the same fine line being evident.

The more modern idiom was well represented in Elizabeth Clark's rather cosy looking "Optic Art" and Anne Andrew's "Sunflowers".

Our gratitude is due yet again to Dr. Douglas for his work in organising these exhibitions and to those members of the Art Group who helped him. We are also grateful to the management and residents of Grimsdyke House for "the use of the hall".



"After being married so long, I suppose it's hard for you to adjust to the office routine"



"Oxford Mail"

#### THE INCOMPLETE **ANGLER**

It is estimated (how and by whom, nobody is certain) that there are over 3 million anglers in this country. About 5 per cent of the population go fishing—although, fortunately, not all at the same time.

What is the attraction of this unspectacular,

rather quiet sport?

First of all, it is a sport and not a game. Like most sports it has its origin in the hunting-fighting-fleeing instinct, not quite atrophied in man despite supermarkets, the welfare state and trade unions. There is still some atavistic satisfaction in hunting and catching something for oneself. Fishing, however, is the mildest manifestation of this basic urge. The dangers to the practitioner, apart from fish hooks in the finger and wet feet, are negligible.

Fishing has many attractions. It is a peaceful activity. Indeed, it is scarcely an activity at all. Anglers have been found asleep, head on chest, hand on rod, waiting for the bite that never came. There is about it a restful, almost contemplative aura found only in chess, yoga and some cricket Test Matches. The very nature of the sport precludes loudness. Jest and ribaldry, found in most other sports, are restrained—at least until the post mortem in

the pub after the fishing.

It is non-gregarious. Only one person is needed to fish (hence, perhaps, its unpopularity with women). Pity the poor bridge player who has to round up three other people before he can indulge in his pastime, or the footballer who has to find 21-and possibly a referee. But perhaps the greatest attraction of fishing is the accepted absence of any visible results.



All tastes are catered for



The big pit at Sutton Courtenay used by the A.E.R.E. Club.

You see, for practical as well as ethical reasons, most anglers return their fish to the water. The evidence offered to interested (and, alas, disinterested) friends is of necessity verbatim. Fortunately, anglers are peculiarly honest people. Nevertheless there is great scope for extemporisation if one is really hard pressed.

Critics of fishing, like the critics of anything, are mainly those who do not participate. Criticism however is light and even whimsical. One just cannot go blue in the face about angling in the same way as one might about bull fighting, fox hunting or boxing. Women in general, and wives in particular, cannot understand why a grown man should want to spend hours away from home trying to catch a relatively small and usually inedible creature. The answer might well be in the phrase "away from home", but that is another more controversial matter.

Fishing, like other sports, has its "mystique". This usually takes the form of strange, esoteric expressions which mean absolutely nothing to the layman and are calculated to impress or even frighten him. (Terms like "silly mid-on", "sell the dummy", "chukker" spring to mind.) Angling language is rather picturesque. We have things like "silver Devons", "Iron Blue Duns", "spinning" and the delightful "pater nostering". They all mean perfectly ordinary things or actions things or actions.

No one knows who started angling as a sport; but every fishing enthusiast knows who the "father" of angling is. In an age of literary satire, wit, vanity and virulence, Izaak Walton

wrote "The Compleat Angler", a complete guide to fishing as an art and also a simple, loving appreciation of the woods, rivers, hills and meadows of our country. Walton, an iron-monger, was born in 1593. He wrote many pleasant biographies of well-known characters (a rare thing in those days) but is known for his gentle treatise on the skills and delights of angling. He remains today the sort of idealised figure of the angler. One wonders what he would think of the gimmicks, gear and gabbling seen, alas too often, in the more commercial-competitive aspects of this quiet sport.

In Walton's days, if one felt like fishing one just went to the nearest river or lake and fished. Today it is surprisingly difficult to do this. Much of the fishing water in the country seems to be owned by companies, clubs, authorities and landowners, and for the keen, regular angler it is almost essential to belong to an

angling club.

At A.E.R.E. the Angling Club was started early in 1954. Its foundation was the outcome of that word much beloved by administrative officialdom-"No". This was the answer given to John North when he asked for permission to fish the establishment waters at Sutton Courtenay. With the angler's resourceful persistence, John North and a few other dedicated fishermen decided to form a club affiliated to the Recreational Association. Amongst those original members were J. Sheldon (the present chairman), F. Martin, B. Butcher, N. Keen and that amiable giant, J. Hammerton, of the

M.R.C. The first A.G.M. was on the 31st March, 1954, and there were not more than 20

people present.

Today there are about 230 members (and the plaintive voice of a committee member can be heard saying "And there are *still* not more than 20 people at A.G.M.'s). About 40 are juniors but only 10 are lady members, which rather bears out the appellation of "man's sport". However, a record 10 lb. barbel, unequalled in the past 5 years, was caught by *Mrs.* W. Marsh (presumably to the chagrin of Mr. Marsh). This suggests that if women really applied themselves to fishing, their natural cunning might well help to oust men's pre-eminence.

The facilities supplied by the Club satisfy most tastes in fish and fishing. A long stretch of Thames backwater and three pits at Sutton Courtenay hold most "popular brands" of coarse fish. In addition, the large pit has been stocked with trout, which brings the Club into the bourgeois class—but still at proletarian prices (10/- for newcomers, 5/- per year thereafter). Carp were introduced 10 years ago. Small ones have been caught periodically but so

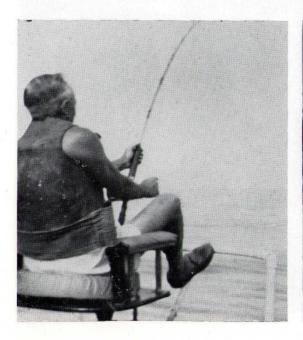
far the big ones have only been seen. Which makes a nice variation of the theme "You should have seen the one . . ."

Pike, those natural scavengers and administrators of the survival-of-the-fittest law, help to keep other fish healthy by the economical method of eating the undersized and unfit specimens. In 1958, 75 pike were put into the main pit. They came from Ireland and have apparently lived up to the proverbial fighting qualities of their country. Large, aggressive pike are caught each season, the record for the pits being a 15 lb. fish caught by J. Routledge in 1965.

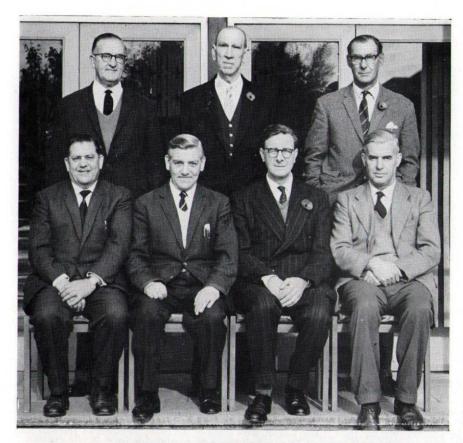
The Club offers good value for money. For 5/- a year members can fish any time they wish during the appropriate coarse or game fishing seasons; which means, in effect, that they can fish the whole year round. It is perhaps only fair that members be expected to take an interest in the facilities, as well as to use them. New members are always welcome; and those who are willing to help in keeping the waters and surrounds in a pleasing, serviceable condition are doubly welcome.

The pictures below were taken five miles off Sublime Point, N.S.W., Australia, where the sea is like blue glass with the bottom quite visible at ten fathoms. In big game fishing this is one that did not get away. The female shark, weighting 140 lbs., had taken the bait and was pulling on the 50 lb. line in a curving sweep under the boat. The engine was started and the boat turned away to keep the shark and line astern, and clear of the razor-sharp oyster shells growing under the waterline. It took fully half an hour before this one was gaffed and tied alongside to be another 'big un' for Charlie Logan, who some of the older members of Harwell may remember used to be here during the early days of Dido's building and commissioning.

Photos: T. J. M. Robertson (R.A.D.).







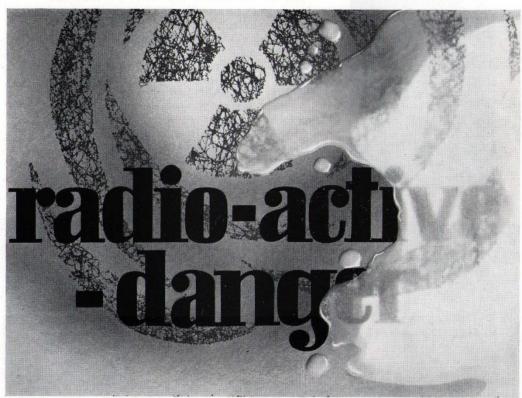
Back row, l. to r.: L. Appleton, G. G. Spinks, A. E. Nicholls.

Front, l. to r.: T. H. Wickson, J. W. Tennison, J. Sheldon, V. A. Hodgins.

#### Twenty Year's Service

Below, l. to r.: J. F. Hill, T. Cartwright, Dr. H. London, Dr. J. E. M. Johnston, T. L. Schofield.





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MERCANTOR HOUSE, 5 EAST STREET, SHOREHAM-BY-SEA, SUSSEX



Mr. R. Carruthers was born in 1921 and educated at Harrow County School. He served an apprenticeship with the G.P.O. Engineering Department, with part-time attendance at Northampton Polytechnic, and afterwards read electrical engineering at City and Guilds College. In 1941 he went to T.R.E. at Swanage and later to Malvern, working on transmitter equipment for radar systems and later investigations into infra-red techniques. After the war he went to Standard Telecommunication Laboratories as a research engineer, working on multi-wave radio links, but he returned to T.R.E. to work on synchrotron design in the accelerator group.



### CULHAM WHO'S WHO



Dr. J. B. Taylor was born in 1928 and educated at Oldbury Grammar School and Birmingham University. After getting a first in mathematical physics he worked with the R.A.F. on operational research in Bomber Command, and then in 1952 went to Birmingham University for research on electroluminescence in single crystals. In 1952 he joined A.W.R.E. Aldermaston to work on a number of theoretical problems of nuclear explosions, and in 1959 went to the University of California as a Commonwealth Fund Fellow to study plasma physics. After a further two years back at A.W.R.E. he joined the Culham Laboratory as a Group Leader in the Theory Division, becoming head of this Division in 1963, when W. B. Thompson left to take up the Chair at Oxford University.

Mr. D. L. Smart was born in 1917 at Leeds and educated at North Manchester School and Manchester College of Technology. After gaining a first-class B.Sc. in electrical engineering, he became a graduate apprentice with English Electric Co., and after a short period as Technical Salesman he moved into the rectifier development laboratory. In 1949 he became the Chief Rectifier Development Engineer, working on the design and development of high voltage mercury arc rectifiers for broadcasting transmitters and high power rectifiers for rolling mills, electrolytic processes and rail traction.

In 1958 Mr. Smart joined the C.T.R. group at Harwell and worked on electrical circuits and problems of new experiments. He headed a design study group on the I.C.S.E. project and was promoted to Group Leader in 1959. In 1961 he became the head of the Engineering Design Division of Culham Laboratory, which includes the manufacturing and installation group as well as the design engineers and drawing offices.



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Manchester Office Liverpool Office Tel. Blackfriars 0185 Tel. Central 9532-3 Spanish Exchange. It has been suggested by the Administrative Director of the Spanish Nuclear Energy Commission that it could be mutually advantageous, both financially and culturally, for U.K.A.E.A. members who wished to holiday in Spain to exchange houses with members of the Commission. Further details can be given by L. G. Hill, Culham Laboratory.

**A.E.R.E.** Motor Club. The club conveniently falls into two groups: the crowd who bend their white-hot cars most weekends in any one of fifty different ways, and those who watch. Both groups, however, seem to appreciate the visits and film shows organised for them: a club event will be featured in the next "Harlequin".

Contributions for "Harlequin" are welcome at all times, and should be sent to the address on page 46.

Boxes of Christmas Fare for those contributors whose efforts have been particularly appreciated are being sent to the following: C. J. Fishenden, A. L. Shepherd, V. J. Morgan, J. B. Honeysett, L. Turner, D. Knight, G. G. Spinks, E. Britton and W. Barlow.

**Place that Face Competition** — the 13 people in the photograph below have been around Harwell for 20 years, and it is probable you have seen the majority of them more than once. For the most complete list of names first opened on December 21st a prize of one guinea will be sent.



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### DIAL TWO-SEVEN SEVEN NINE

BY MARGARET ROWE



You have? Six times in the last hour and the line was engaged? Let us eavesdrop and find out why:—

"Have they got a gent for me on Monday?"

"Can you take a radio-telephone call from the S.S. Carmania in the English Channel?"

"Can I have a single room please, my roommate snores?"

"Excuse me 2779, I have another call holding."

ing."
"The United States is docking late, but we expect her in Southampton by eight p.m."

"Well, I'm getting married on Saturday, so what can you do about it?"

"My term-time students are very lively, dear, but two guitars in one room is a little too much don't you think?"

"Second turning after the duck pond past the war memorial. No, the name is not on the gate but it's a white house with a red roof she can't miss it."

"—and he's very faddy with his food, won't eat any fresh vegetables."

"—so I wondered if she would come and advise me what rent to charge."

"Excuse me, 2779, I have a coin-box call holding."

So now you know what they sound like—but perhaps you have seen them? That tiny room with two rolled-up rugs outside and a baby's high-chair inside the door: growing plants to rival Quatermass and a group of polyglot and poly-accented gentlemen waiting to be taken to their lodgings; the little lady in the white mini, dashing around with armfuls of crockery and blankets before the next family arrives at their prefab from London Airport; the big one with a basket of groceries driving up to switch-on heaters and lights to welcome

the family expected on the liner United States: both anxiously checking lists at the main gate while a bus, bursting with college students, suitcases and record players, revs up, impatient to be off to Oxford with its load.

No, not Universal Aunts, not Find-a-Home Incorporated, just the Accommodation Section, Building 77.

The Accommodation Section is part of the Housing and Hostels Branch, administered by Mr. R. S. Campbell in the General Services Department. The Housing Section deals with the provision of Authority houses for those in eligible grades. The Accommodation Section, staffed by a Senior Housing Manager who acts as Accommodation Officer, one Clerical Officer, and one Clerical Assistant, is available to help any employee with a housing problem, whether or not he is eligible for Authority housing or hostels. The main function of the section is to provide some form of accommodation for all new entrants and visitors, whether from the United Kingdom or overseas. It serves A.E.R.E., the Culham Laboratory, the S.R.C. and the M.R.C. and during the course of a year makes about 2,000 hotel bookings, 700 hostel bookings, arranges 350 lodgings and 150 furnished lettings.

The work of the section falls into a regular annual pattern as far as major intakes are concerned, and a regular weekly pattern for new recruitment which goes on throughout the year. The first Monday in September sees the arrival of about 50 school-leavers to begin training as Scientific Assistants. These are all eventually placed in Authority hostels, and special care is given to this project since these are the youngest of all our recruits. Then follow the first-year Student Apprentices, and in

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January, the "second-chance" S.A.'s who have had to re-sit an 'O' level or an 'A' level subject. Between February and April about 40-50 pre-University students arrive for six months training, and during February and again in August comes the main change-over of sandwich course students, all of whom stay in hostels. In early Spring, preliminary enquiries are made of Oxford University landladies to find out how many will be available to take the Authority's vacation students. By a gentle-man's agreement to keep out of Oxford during term-time, we are able to obtain the use of these lodgings during the long vacation. About this time also, the search begins for short-term lettings for Vacation Consultants and Associates from overseas. All these vacation visitors begin arriving about mid-June, and at the same time those Authority students who are on full-time University courses return to hostels for the summer vacation period. So we come full circle, preparing to receive the big September intake, with hostels filled by students who will not return to college until October. For this reason it is usually necessary to set up temporary dormitories to cope with the overlap.

Meanwhile, the regular weekly recruitment intake goes on throughout the year. On a typical Monday, we will receive about eight industrial and six non-industrial staff, and these are placed in lodging or hostels according to vacancies.

At the time of going to Press lodgings are provided locally for 100 staff at 60 different homes. Booking in advance with any degree of success depends largely on what is hoped is intelligent guesswork, but great value is placed on being able to interview most recruits when they come for pre-employment medical examination, so that their Housing and Accommodation needs can be assessed in advance. It is always stressed to newcomers that the original placing is not irrevocable and transfers can be arranged.

Thoughout the year there is also a constant supply of properties to be inspected, offered for rent by employees, private owners and estate agents. Priority is given to those which seem suitable for attached staff from overseas, because details of these have to be sent across the world. Other flats and cottages are listed for passing on to applicants on our register.

All this time Ext. 2779 is ringing with requests for short-term bookings in local hotels or Authority hostels, and bookings are coming

in from all over the world for accommodation at Ridgeway House for courses run by the Post Graduate Education Centre.

In addition to these routine activities there are the "specials"—not so numerous fortunately, but still too many—the real problems, usually referred by the Welfare Officers, caused by broken homes, bereavements and other domestic upheavals. These call for speedy, confidential, and very sympathetic attention.

There is so much that one could say about this work, and much, much more that cannot be said. It is often harrassing, by the sheer pressure of immediate demands; sometimes harrowing, when sympathy is stretched to breaking point yet little can be done to help; occasionally exasperating, when one has advertised for and obtained scores of extra lodgings only to find that the promised intake does not materialise; but most of the time mercifully it is entertaining, stimulating and rewarding. They pray for patience, understanding and a sense of humour, and since there is little opportunity for forward planning, a large serviceable crystal ball would not come amiss. Anyone know of a good one going? If so, dial 2779.

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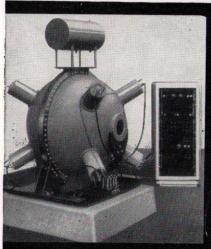


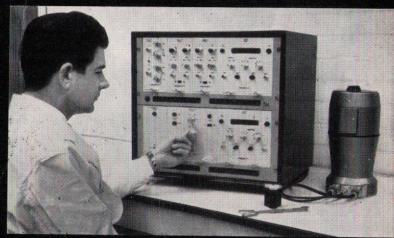


BUD FLANAGAN has spent his life in the theatre. His name is associated with the Crazy Gang Shows and such stalwart comics as Jimmy Nervo, Teddy Knox, Jimmy Gold, Charlie Naughton and "Monsewer" Eddie Gray, the last two of which will be appearing with him. All these Crazy Gang Shows, which covered a period of fifteen years, were presented by the late Jack Hylton, and each new edition was produced and initially presented at the New Theatre for two or three weeks prior to opening in London at the Victoria Palace. It is principally because of the happy memories Bud has of the successful New Theatre openings that he promptly showed interest in Tom Arnold's suggestion that he should come back once again to appear on the stage where he has had so many successes.

STEPHANIE VOSS has made a great impact both in musicals and as a straight actress. With an exceptional coloratura soprano voice, she can put over a "pop" or blues number with equal charm and polish, as well as an operatic aria. Her most successful stage role to date was the very difficult leading role of "Hilaret" in "Lock Up Your Daughters", at the new Mermaid Theatre in London, which ran for over nine months. She again played her original role in the recent revival of that well-loved musical comedy "Rose Marie" at the Victoria Palace, and starred in the West End production of "The Fantasticks" at The Apollo Theatre. Apart from her stage successes, she has appeared consistently on television and radio. This year's pantomime will remember her for her charming and vivacious personality.

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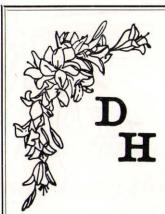
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