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Data		Model 501	Model 502	Model 503	Model 504
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	Number of Ranges	2	2	4	4
	Voltage Stabilization	$\pm 0.02\%$	$\pm 0.002\%$	$\pm 0.1\%$	$\pm 0.002\%$
	Effective Output Resistance (max.)	0.2 ohms	0.02 ohms	0.5 ohms	0.02 ohms
	Output Ripple (rms. max.)	2mV	1mV	3mV	1mV
-VE Supply Stabilizer	Outputs	—	—	250V 25mA 0-250V 1mA	250V 25mA 0-250V 1mA
	Voltage Stabilization	—	—	$\pm 0.05\%$	$\pm 0.002\%$
	Output Resistance (max.)	—	—	1 ohm	0.01 ohms
	Output Ripple (rms. max.)	—	—	2mV	1mV
Unstabilized +VE H.T. Supply 250mA max.		470V 630V	470V 630V	320V 470V 630V	320V 470V 630V
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Data		Model 506	Model 507	Model 508	Model 509
Main + VE Stabilizer	Output	200-500 V 350mA	200-500V 350mA	0-500V 350mA	0-500V 350mA
	Number of Ranges	2	2	4	4
	Voltage Stabilization	$\pm 0.02\%$	$\pm 0.002\%$	$\pm 0.1\%$	$\pm 0.002\%$
	Effective Output Resistance (max.)	0.2 ohms	0.02 ohms	0.5 ohms	0.02 ohms
	Output Ripple (rms. max.)	2mV	1mV	3mV	1mV
-VE Supply Stabilizer	Outputs	—	—	250V 25mA 0-250V 1mA	250V 25mA 0-250V 1mA
	Voltage Stabilization	—	—	$\pm 0.05\%$	$\pm 0.002\%$
	Output Resistance (max.)	—	—	1 ohm	0.01 ohms
	Output Ripple (rms. max.)	—	—	2mV	1mV
Unstabilized +EV H.T. Supply 350mA max.		470V 630V	470V 630V	320V 470V 630V	320V 470V 630V
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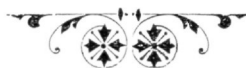
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FOREWORD



You have asked me to write a brief foreword for your next publication because...“the views of a comparative newcomer are just what we want”.

Firstly, I am not exactly a newcomer; in fact I am told records exist of meetings I held early in 1946 to consider ways and means of starting the main Workshop, Graphite Shop, Drawing Office, and other engineering requirements. Secondly, as I have been abroad since 1946, I cannot be particularly well informed on matters of interest to your readers.

Nevertheless, perhaps I may be permitted to make a few observations with particular reference to the growth of this Establishment in size, in prestige, and in tangible achievements.

My reaction on being shown round after an absence from the Site of nearly nine years, was firstly of amazement and secondly of national pride. Amazement because of the speedy collection and concentration of first-class brains and equipment, and secondly of pride because of the ability of this old country to finance and produce, in such a short time, a national asset of immense value to the human race.

I found it impressive and significant that in almost all Divisions entirely new techniques which would have been dismissed as impracticable a few years ago, have been devised and developed. New approaches to old problems have produced results which are of immediate interest and value to British industries. And

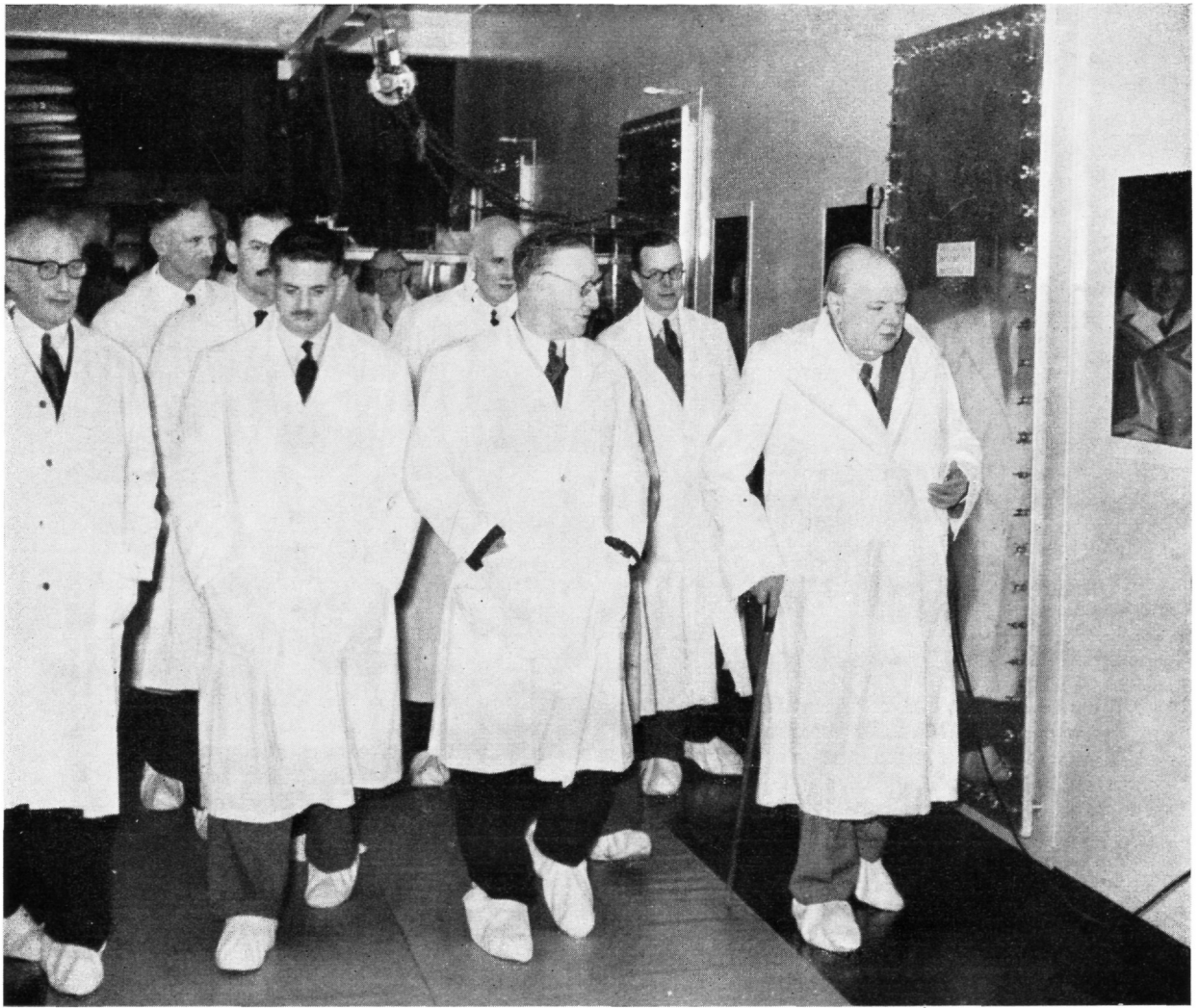
we have recently witnessed, with satisfaction, the pleasant spectacle of an American Company Executive negotiating a closer relationship with a small British firm solely on account of the special work being done by that firm for Harwell. All this, and much more, is surely the hall-mark of solid and practical achievement.

Harwell appears to me therefore, to be a monument of Scientific and Engineering creation. It is a monument to the vision, devotion and courage of an eminent and distinguished Scientist of our day. Above all, Harwell is a monument to the brilliance, endeavour and achievement of the younger generation.

Nevertheless, with all this great wealth of talent and abundance of unique plant and equipment, Harwell's effort is small indeed compared with the prodigious effort and expenditure of other nations in the nuclear field. Therefore we must see to it, by all the means in our power, that Harwell not only remains in the forefront of scientific achievement, but also remains a guiding star in the rapidly expanding international scientific firmament.

I pay a profound tribute to all those persons—whatever their calling—who, by their labour and personal endeavour, have contributed to the greatness, success and magnificence of Harwell.

G. W. RABY
DEPUTY DIRECTOR - ENGINEERING



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EDITORIAL

Editor D. A. TYLER

Chairman T. D. CONDON Treasurer L. P. THOMPSON

DR. R. B. JACOBI M. D. CREW DR. B. A. LOVERIDGE

We start by conveying best wishes to the newly-founded magazine of our sister establishment, Windscale.

In the Foreword the General Manager describes the Works as essentially a community that, like all communities, has a diversity of interests. "It is beneficial, if not essential", he adds, "for these activities to be publicised and for interests to be exchanged and shared. A Works magazine, if properly conceived, can be the equivalent of a local newspaper or periodical".

To those who would sit back and say that 'Harlequin' itself falls far short of this ideal, we would quote what follows as being equally applicable here: "To make the magazine a success the Editor and his Committee will need considerable help. Many people will have to have the interests of the magazine at heart and must be prepared to devote their time to the writing and submitting of items for publication".

Since being elected editor in 1951, the present writer has seen the Editorial Board continually changing, with new members coming and going as lives and other commitments achieved greater claim upon them. Publication has often been delayed through lack of sufficient leisure time, but, like a London theatre, we can at least claim *never to have closed*.

"Properly run and well supported," continues Sir Christopher, "a factory magazine serves a very useful purpose and links together, not merely people who work in the establishment, but also their family. It can tell of the activities and interests of individuals and of the opportunities for communal development of hobbies and pastimes. It can within limits, tell what is happening in the factory and it can give news of the wider activities and achievements of the organisation as a whole".

'Harlequin', now eight years old, is by far the longest established magazine of the Authority. It views with envy, however, those Works' magazines that with illustrated news features are able to appear bi-monthly or even monthly. With more frequent publication its price could be effectively cut, but it is hoped that the present small increase will be tolerated. Amidst rising costs 'Harlequin' will aim to maintain—if not in the frequency of its appearance, at least in its quality—something worthy of Harwell.

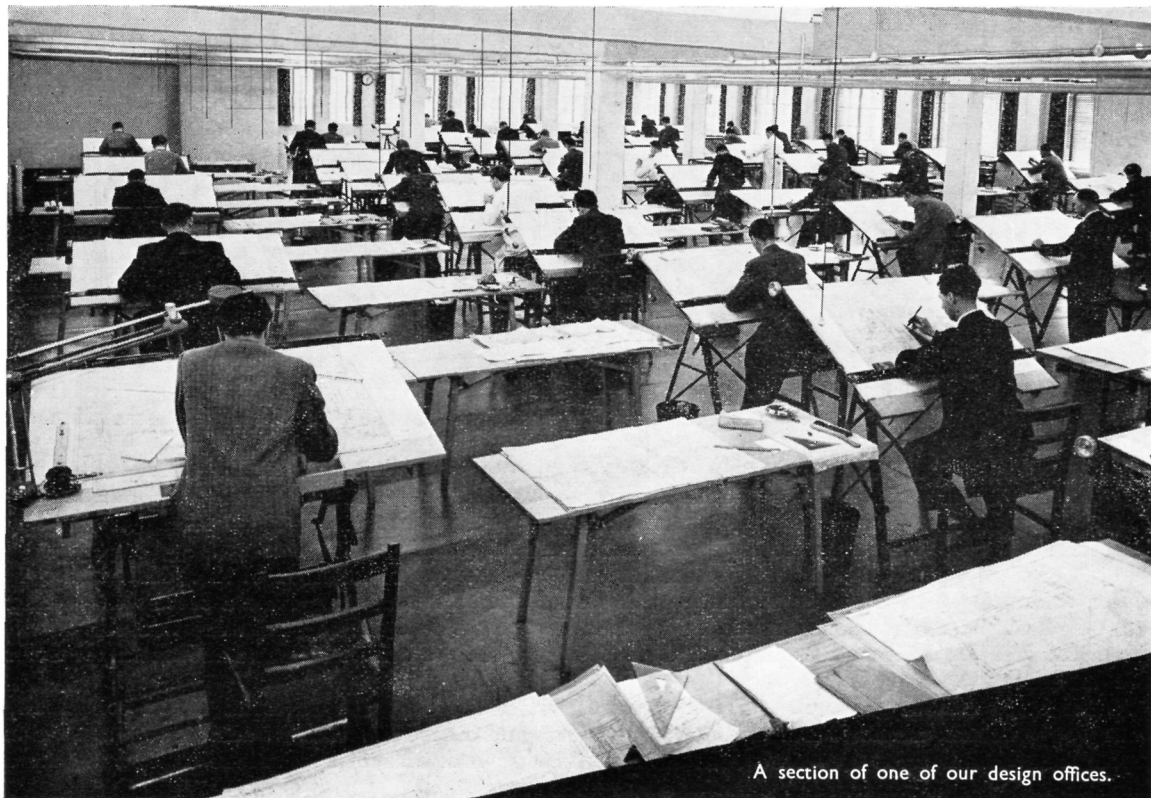
There is space in this particular issue to review but a few of the highlights of an eventful year. Apart from the welcome visits of Sir Winston Churchill, the Prime Minister and others including the delegates from Geneva, there will be remembered further achievements in the harnessing of nuclear power for peace, culminating in the triumph of Calder Hall.

Enthusiasm is needed in all things if anything is to be achieved. It is to our efforts at Harwell that we owe the material means by which to enjoy our leisure, but we have learnt that leisure is only to be really appreciated if good work has been done and if, moreover, all effort has seemed worthwhile.

The atomic project has spectacular achievements already to its credit, and promise of much to come. Knowledge—as far as possible—of what has been accomplished and breadth of vision of what is to come are both needed if our work is to be regarded not just as a job, but as a contribution to human knowledge and resources.

We look forward to peace and prosperity in 1956; let us hope also for the enthusiasm that makes all effort seem worthwhile.

D.A.T.



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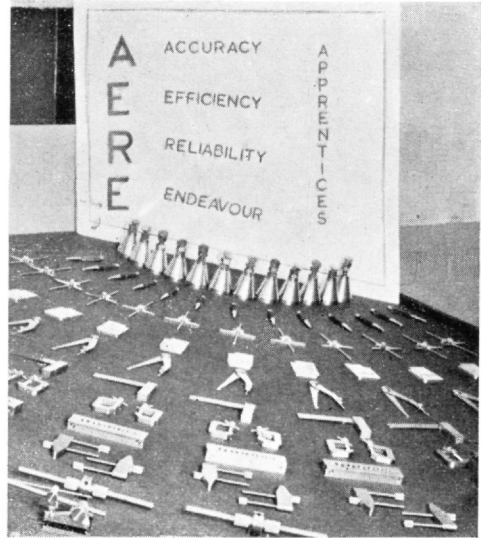
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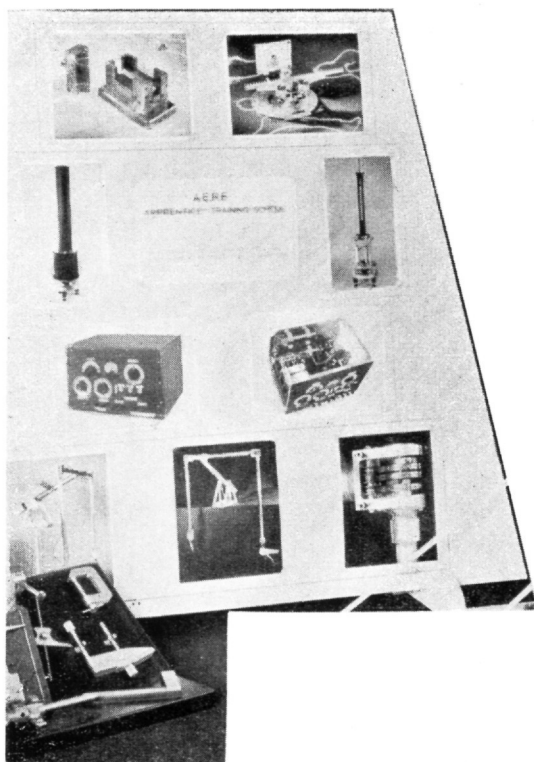
J. Wallace



On Friday 18th April, 1947, a committee was called together by Mr. Tongue under the chairmanship of Mr. J. Diamond. Now in view of the number of committees which were in existence about that time, this was not a rare event. The fact that they reached agreement is probably more rare, but the main reason for recalling that particular meeting is because the decision taken then is now beginning to bear fruit. It was agreed that A.E.R.E. would undertake the training of apprentices on the lines laid down by a Headquarters Committee which had published its recommendations the previous year. A number of us can recall the mud, the snow and the holes of Harwell during that winter and a select few can still remember holding ice-cold tools in numb fingers in temporary workshops which had been made a few degrees warmer than the open air by means of paraffin stoves. For any group of people to decide at that time that A.E.R.E. would be suitable for the training of apprentices was indeed a supreme act of faith.

Some changes were made in the membership of the committee, which was now called the Apprenticeship Board, and a start was made on the necessary arrangements to enable the first group of apprentices to commence in

September, 1948. After serving for nearly a year as chairman, Mr. Diamond had to relinquish the post owing to growing pressure of other work and was succeeded by Mr. Marchbanks, who has held the position since then. In June 1948 the first selection board was held and groups of very quiet and very angelic-looking lads turned up, hoping to be the first apprentices at Harwell. From those groups seven were chosen for Craft Apprenticeships and a further six Student Apprentices were appointed by the Civil Service Commissioners who conducted the selection examinations for all Ministry of Supply Establishments. Early in the September of that year I found myself in charge of a small training shop and thirteen budding engineers. My first impression was that they had quickly discarded the wings and halos which they had displayed on interview and by the end of the first week, when one lathe had been rendered unserviceable and one boy had gone home never to return, my spirits were at a very low ebb. Fortunately, however, the unbounded enthusiasm of the lads was the perfect antidote for this fit of depression and a few months later we were able to exhibit some excellent examples of work which the lads had made. By the end of the first year the scheme



was firmly established and it was already apparent that A.E.R.E. would be able to train apprentices to a very high standard indeed.

By the time the first group finished in the training shop, programmes of advanced training had been prepared and these made provision for periods to be spent in various groups and sections throughout the Establishment. Some of the groups initially registered dismay at this addition to their responsibilities, but the apprentices quickly proved their worth and the sections were soon asking for more; groups which had been overlooked were seeking to participate in the scheme. This healthy state of affairs quickly brought about changes; additional teaching staff was obtained and the membership of the Apprenticeship Board was increased to enable the best advice to be available on the wider range of training which was now envisaged. It was soon apparent that an intake of twelve apprentices each year was insufficient, so plans were made to open another first year training shop and recruit

twenty-four apprentices each year. It was agreed that the majority of the additional places should be allocated to Craft Apprentices, partly to offset the shortage of skilled mechanics and partly to provide facilities in this area for the many local boys who wished to train for engineering. The first of the additional apprentices came in during September 1951 and as the total number of apprentices on the Establishment crept up towards the one hundred mark there was the inevitable growth of reports, records and files so a clerical officer joined the group to introduce some order on that side and the group assumed its present structure.

That, in brief, is the history of apprentice training at Harwell, but the success of a project of this nature can never be judged by mere physical growth. At one of the early prize-givings, Mr. Tongue said that in spite of the importance of the work being done at Harwell, we must always remember that people are more important than things. It is this attitude to training which has brought the scheme here to a standard which can be compared favourably with any other in the country.

Most members of the Establishment now have some knowledge of how our apprentices are selected and the type of training they are given, and more detailed information is always readily available from the Labour Office or myself; but it would probably be of more general interest to say something here of the aims of the scheme and the degree of success we have attained in achieving them. At the inception of the scheme Mr. Tongue insisted that while it was important to reach a high standard of practical and technical training, it was equally important to develop character and produce the type of employee that any employer would be proud to have on his staff. It is gratifying to be able to say that already we have had comments from outsiders to the effect that some of our ex-apprentices have proved to be not only excellent workers but excellent types of men. That the standard of practical and technical training has not been lowered to achieve this result is proved by the fact that four ex-apprentices who had to take practical trade tests during their period of National Service all finished at the top of their groups. The scheme has grown to such an extent that there are now about forty



Some of the apprentices who completed their apprenticeship last year, putting to use specially engraved tankards presented by their friends in the Apprentices Association

sections, in seven Divisions, which are used for advanced training and it says much for the spirit which exists at A.E.R.E. that some fifty supervisors and well over a hundred mechanics, engineers and scientists have all co-operated so willingly in developing the skill and character of those engineers of the future.

On a number of occasions I have been asked whether all this is worth while and what we get out of it. Well, the rather selfish answer to this is that during the past year alone, apprentices other than those in the Training Shop did 160,000 hours of useful work for the Establishment. While this is quite a significant contribution to the work here, it is only part of the answer, because during the past few years a large number of engineers have been drawn into Atomic Energy and it is only fitting that we should play our part in replacing them for the country as a whole. A number of people seem to be under the impression that the training given at Harwell must be very narrow and specialised, but, apart from a few special processes, our work is similar to that of many engineering firms and the training given to our apprentices equips them for work wherever they may wish to go.

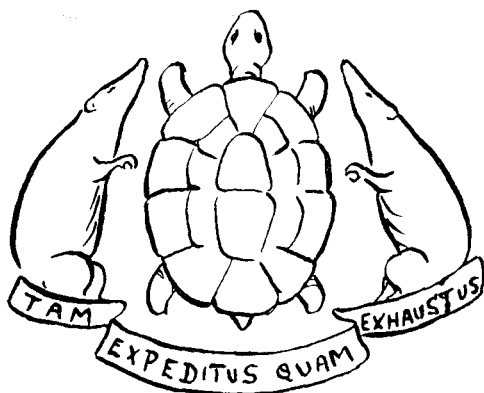
It is of special interest to note here that among our apprentices can be found a number of lads who have made their mark both locally

and nationally in a wide range of activities ranging through athletics, cricket, football, cycling, snooker, dinghy sailing, boxing and campanology. Apprentices have also taken part in a number of less orthodox activities at Harwell and residents will recall some unofficial sign-writing on the roof of Portway House, and others will be reminded of an attempt to beat some obscure 'long drop' record carried out without the aid of a parachute, also from the roof of Portway House. I am afraid, however, that little can be said yet of some of those exploits and you must wait until they become sufficiently part of history to enable their publication to be made without giving cause for offence—or retribution.

On one occasion when I was asked to speak on apprentice training I likened it to planting acorns. It is a long time before you can see the oak table produced from the acorn and at the moment even the first fruits of our training at Harwell are delayed by the inevitable period of National Service, but we are all quite confident that in twenty years' time the names of a number of Harwell apprentices will be well known throughout the engineering world. Then in truth we will be able to say that from little acorns mighty oak trees grow.

♦ ♦ ♦

Two years ago we published a letter from Canada to Harwell. Now, in contrast, a visiting Canadian engineer writes home of the experiences and impressions gained in two years of training on an Earl of Athlone Fellowship, ten months of which have been spent at Harwell.



A Canadian Writes Home

HARWELL,
ENGLAND.

Dear-----,

You were correct: I correspond so infrequently that I should have for a coat of arms two sloths on either side surmounting a tortoise.

A brisk Autumn complete with frost is upon us and has stirred my pen into action. With regret we bid the famous English summer of 1955 adieu. How refreshing it is to walk out on an early Autumn morning in England; the sun squints yellow just over the chimney pots, the thick frost lies crisp and glistening everywhere and all is bathed in pink. But, as you know, there is no pleasure without pain. Drivers will move as snails through the fog with one leg extended out the car door feeling deftly for the kerb. Conductors will grope like moles "leading their buses behind them" through the smog of London.

How I wish I were there in Canada to see those majestic maples dying in their multi-coloured robes and to stride quickly through the crisp leaves.

Once again please accept my heartfelt thanks for the food parcel but, once again, I implore you—please do not send any more; the natives are no longer in need. The bedsocks were much appreciated, but the tea bags were not greatly favoured. Imagine facing the same solitary tea bag on four consecutive mornings; my landlady had evidently not heard of the law of diminishing returns. Should I meet that tea bag again whether suspended from a

clothes line or elsewhere I fear it might send me screaming to my room. The painted tie? Well, I confess I have not as yet mustered sufficient courage to reveal it to the sombre English daylight. You were jesting I hope in promising to send de-hydrated potatoes; we must not make too much of a good thing.

The two-dollar bill was a sight indeed; I hope this pleases Mr. Butler; it will also be good for 112 cups of tea in the A.E.R.E. cafeteria.

Incidentally, I no longer ask for a glass of milk: in England it is only for children and decrepit invalids, and to ask for it produces a questioning look. It is not that I am in need, understand, but the Americans have set such a high rate of spending for we Canadians. Last week while enrolling at the local "Tech" I even stooped with a twinge of conscience to ask for a reduction in the fee: "I do not expect to be here for the New Year". "It's only 30 bob; going back to America eh?" With that my frugality was gone: I must maintain the high reputation of the Americans you know and so I casually flipped him a pound note and dropped the four half-crowns from a good height for all to hear. Two years on a fellowship had reduced me to a semi-pauper with Ford income and Rolls Royce tastes.

It is fortunate that I have changed my lodgings. The landlady was always on about wear and tear on the carpet, and the too frequent illumination of my twenty-five watt

bulb, the rising cost of potatoes, and "We just can't get the coal, you know". Winter was coming and that house was the biggest ice box for human refrigeration in England. You cannot imagine what a torture chamber is the English bedroom in winter. How well our weakened constitutions remember the fearful winter of '53-'54. (Oh for the comforts of Canada's central heating!) Now that our manly pride is lowered we Canadians are wise to clutch hot water bottle to bosom and cling to the cheery fireplace as Britons have done since the late Stone Age, and "the heat goes up the chimney just the same". We fell in love somehow, the fireplace and I. Shall I ever sit contentedly in front of our black iron radiators anymore? Here in England we Canadians are warmly accepted by the people and coldly rejected by the weather. As you know all four seasons can occur on the same day, and you will never be at a loss for words if you say "It is most unusual weather for the time of year".

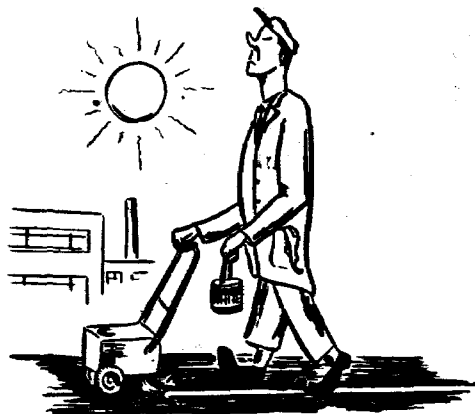
You ask what do the English do for recreation? This is a land of great sportsmen who cheer equally strongly for winner or loser. There are five main sports here: cricket, "queueing", the pools, T.V.-ing and of course the pub. Imagine if you can a rainless day; a deathly silence prevails, the white figures stationary on the relaxing green. It's the sixth consecutive hit, the dreams of one and all of winning the football pools are interrupted momentarily, and there is a noiseless clapping of palms like a gentle flapping of butterfly wings: that's cricket. Pay no attention when the headlines say "England

collapses" or "Disaster", it means only that England has lost the Test match. One of the favourite topics of conversation is the artistic "feats" of Stanley Mathews on the fabulous football field. The "pubulation" is high in Abingdon, about 40 for 10,000 people. In a typical pub like the "Nag's Head" or the "Ox Inn" the gigantic metamorphosis of the working man occurs. Here he is transformed into a polished speaker always ready to ascend the imaginary soap-box to extemporize economically, politically and philosophically.

Now where is the ardent pub frequenter of yester-year? There he is beneath his monument, the T.V. aerial, while in the parlour he gazes at the hypnotic commercial silver screen. No longer does he sight with deep circumspection the local world scene through the bottom of the pint beer mug. I say "Awake ye Yeomen of England, you are, I fear, in danger of Americanisation".

Hete at Harwell they have also gone American in numbering the streets. This may be less confusing to some bewildered newcomer wandering in the spreading maze of hangars, huts and red-brick buildings.

Harwell stands in the salubrious country air, bordered by golden wheat fields and fruit orchards, and just outside the fence is the famous Reactor School where the Industrial magnates (symbolised by Rolls transportation) "hob-nob" with the physicist (symbolised by the Oxford-undergrad-type bicycle. The course is world popular for more than one reason; where else can one find lively cocktail party in lieu of sombre exam or acquire the



letters "D.O.P.E. (Diploma of Pile Engineering)".

Now leave behind the outer world and come "inside the fence": two giant stacks and a flashing tower, mark the spot. Above is a minute, harmless, trace of radioactivity; below an air of learning and a search for knowledge. Here the chemist, metallurgist, physicist, engineer, draughtsman and technician "talk it over, over again", wrack brains and try patience in the search (sometimes successfully) for that "elusive pimpernel", the brilliant idea.

This is the A.E.R.E. where Royalty, Prime Ministers, and Generals drop in regularly, and where one finds 57 varieties of committees.

There are two types of individuals on the "site": the 6-week holidayers and the industrialists; the latter return reluctantly to the smoke and the frenzied pace when the "Harwell Look" has been acquired. One and all dread the fearful day when they too may be banished to the "huts". One and all, as myself, are proud to be at the A.E.R.E. where all combine efforts in an attempt to show the world how to make the atom slave to man.

Yes, it's great to be in England! Here are conservative, easy-going people who change slowly, thus avoiding premature pitfalls. They are rightly proud of their country and their National Health Service. How well I remember the Devon shepherd who, with toothsome smile, proudly displayed his full set of National Health teeth. One cannot

refrain from becoming attached to the catching way of life, or from admiring the quaint scenery, and villages, the ruins or Norman castles, ancient churches and cathedrals like Canterbury, and other architectural splendours like Westminster Abbey.

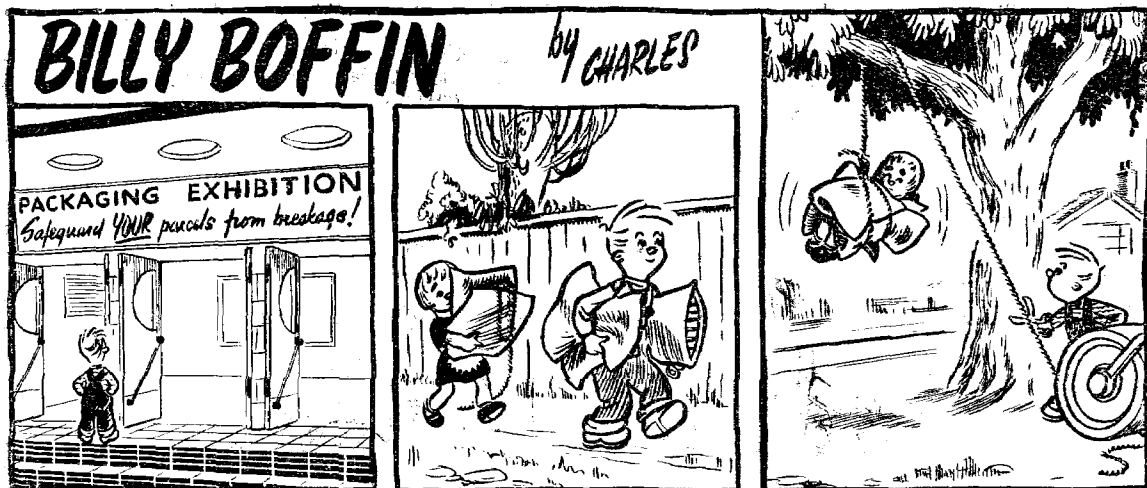
In England the old and the new blend well together, like the thatched cottage on the south coast, which proudly displayed two gleaming T.V. aerials. It is indeed a tight little island compared with our great lakes of Canada, rolling prairies and spreading forests which accommodate nearly four people per square mile as compared with about 400 in the British Isles. Its small size is exemplified by the countryside in miniature, with its fervent green fields neatly lined with clean-cut hedges. The crowning glory is majestic London, with its life or loneliness, the theatre or pub, the crowds, the two-decker buses and the "tubes", with bowler and umbrella and countless foreigners in native dress. Here in an air of anticipation and grandeur is the heart of the democratic world beating soundly.

At present, we Canadians, including myself, are busily cultivating and nurturing the right kind of English accent which commands high value at home!

Ah well, I think I'll go out to the "Ox". The boys will be there and we can together curse Mr. Butler, exorbitant taxes, and the shocking weather, over a pint of bitter.

So long for now,

E.W.F.



Delegates from Geneva

For today's visit, we have arranged eighteen separate exhibitions, and each visitor will be conducted on a set tour of six. We wish to show the representatives from a given country as much as possible so that it has been necessary to divide them into three different groups of parties. Would you please find your name on the enclosed list and make a note of your party number. On arrival at the marquee at Harwell, your party leader will be waiting to receive you at a table with your party number on it. He will issue you with a badge and will be your escort for the day.

We wish to remind you that cameras must not be taken into the establishment. They can be left in safe custody with the police at the marquee.

We hope that you enjoy your visit.



Crown Copyright Reserved

ICI ON PARLE . . .

The news that a large party of delegates to the Geneva Conference was to visit A.E.R.E. on Wednesday, 24th August, 1955 caused quite a stir in many circles, not the least problem being that of supplying interpreters for the occasion. Further cause for excitement was found in the fact that quite a few of the visitors would be from Eastern Europe, and of course Russian-speaking members of the staff were automatically "borrowed" from

their usual work by Scientific Admin., but there were also some other languages to consider. Had I only admitted to a working knowledge of Italian, I should probably have been kissed on both cheeks, in true continental style, by an anxious, but normally unemonstrative, administrator, but I stuck to my guns; and so when I appeared at the airfield, on the morning of the above-named day, to await the arrival of the aircraft, I was duly

wearing a little label bearing the words: "je parle Francais".

As each batch of arrivals passed through a reception office at the airfield, an officer gave out certain instructions, concerning passports and the like, in English, and these were translated into Russian and French. Then it was that what had long been a strong suspicion in my mind was amply confirmed: though many educated people from non-English speaking countries have a working knowledge of English, even more, it would seem, speak French, and often very good French too! Being detailed to accompany a bus-load of delegates to A.E.R.E., I found that, while my French, Belgian and Swiss passengers knew enough English for any reasonable use, yet all of the thirty-odd people aboard knew French at least as well as English, if not better—all but two, that is, and they were Japanese! They were fluent in English, as it happened, but for the benefit of a Cuban, a representative of Dominica, a Hungarian, two Bulgarians and several Russians, among others, a translation was delivered of the Director's message of welcome, copies of which had been distributed earlier in the day.

That done, we all settled down to polygot conversation, in which your correspondent played the role of guide, counsellor and purveyor of general information to all and sundry in the only two languages in which he was fluent. Crossing Wallingford Bridge led to a discussion of the geography of Southern England; it being made clear that the bunting which decorated Wallingford at the time was *not* in our honour. We talked about Royal Charters, the 800th anniversary celebration of Wallingford's Charter, and the position of

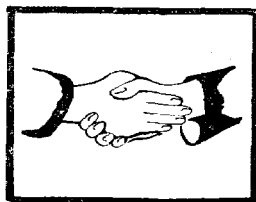
am happy to say that the East Europe representatives seemed quite impressed. As we passed Harwell village, the visitors were told with modesty that Harwell's real claim to fame lay in her cherry cultivation, though as the season was already over, they would be unable to sample the fruit for themselves.

On that day everyone was determined to enjoy himself, to be happy and to share his happiness with everyone else. Conversation sometimes touched on subjects that might have been controversial, but they were simply not allowed to become so, and we were able to talk without difficulty or embarrassment.



The tours of the exhibits on view (all, of course, were "unclassified" subjects) formed the main item of the day's programme, naturally enough; and even these had their amusing and interesting moments for the onlooker. I liked the tact with which people were sorted out into parties which were well mixed as regards nationalities, but not indiscriminately so. It was a delight to see—and hear—a Russian Professor, a special press representative and one of our interpreters in a close huddle, seeking the translation of an almost untranslatable technical phrase. If it comes to that, what is the French for "scattering cross-section"? A Portuguese scholar and I duly sorted that one out to our mutual satisfaction, and even if our answer was not quite the accepted scientific term, its meaning was perfectly accurate.

And what were they like, these representatives from so many different countries? Well, they were not so different, after all, and most of them were almost disappointingly uncharacteristic. All too many were quite unlike our preconceptions of what they ought to look like. Their clothes were far more "English" than those of many of our colleagues, for example, though of course the army representative of the Dominican Republic could be distinguished by the mere fact that he wore uniform. Their features gave no clue to their nationalities. One representative from South West Europe could have passed for an Englishman any day, and though his colleague



broughs in the scheme of local government in this country; we even touched on a comparison of our respective housing rents, and I

VIVA L'ATOMO PER LA PACE

might have been thought more typical yet another Iberian I met had green eyes and sandy hair; and visitors from the Middle East (or is it Near East, these days?) were no more Oriental-looking than, say, mid-Europeans. A professor from the Balkans, with whom I had a most enjoyable chat for a quarter of an hour, might well have stepped straight out of the Academie in Paris, so scholarly was his French. On the other hand, another Balkan gentleman (who, becoming confused over a page of typescript in English, gratefully reassured himself in French) was in appearance more like what you might have expected, and in a different way so was the mid-European gentleman who almost convinced me that a glass of cold water was more refreshing than a cup of hot tea on a sweltering afternoon.

Lunchtime gave people a chance to mix again. We sat at tables placed in a large marquee, on the sports field in front of Ridgeway House, neatly placed if not with much room to spare, and the din of many voices was terrific. Between mouthfuls of cold meats or ice pudding and draughts of fruit squash and/or pale ale, conversation evidently did not flag. At the same table with me were delegates from France, Switzerland, Japan, Czechoslovakia and Germany, and in the course of a mutual exchange of cigarettes I found that "Fuji" brand is as good a smoke as any standard British kind, if a little milder. Incidentally, did you know that the, reputedly, most perfectly printed postage stamp of modern times (comparison with the famous Penny Black hereby deftly avoided!) was a Japanese one depicting Mount Fujiyama? Luckily, I did, and that formed a conversational link with the cigarettes which greatly pleased my friends across the table.

But it was when the tours of the site were over, and we gathered in and around the big marquee for a much-needed tea ("with milk, sir, or with lemon?") that everyone intermingled more freely even than before. People wandered around offering each other sandwiches and "cuppers", various interpreters were paid graceful compliments by the nationals whom they had helped (?), and we of A.E.R.E. heard how some of our visitors had been impressed by their view of the

LONG LIVE THE ATOM FOR PEACE

Establishment. On this last point, comments from widely different sources were unanimous in their praise. One which caught me unprepared came from a gentleman whose French



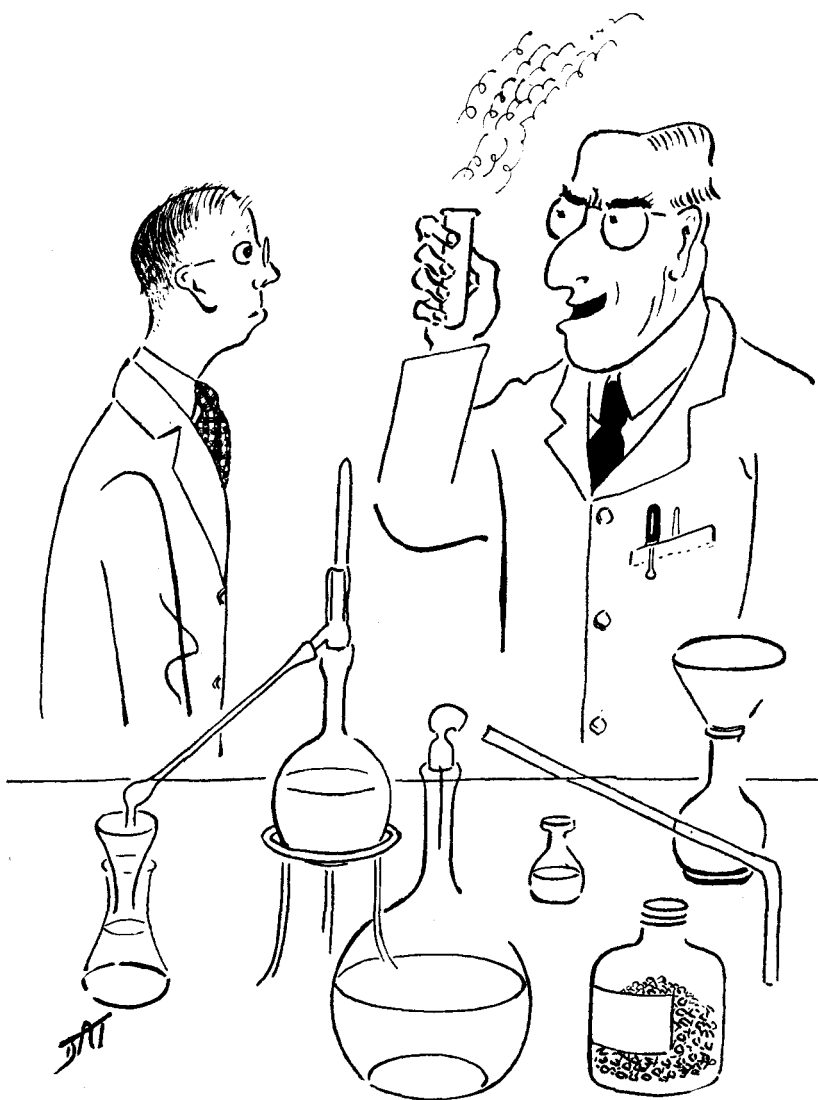
was not much better than his English; "C'est tres joli". I softly demurred, on the grounds that, whatever its virtues, A.E.R.E. could hardly be called *pretty*, but he insisted. Ah, well, "chacun a son gout", you know!

Like all good things, our experiment in international hospitality came to an end in due course; there were many hearty handshakes and other expressions of friendship, and as the three laden buses stood in front of Ridgeway House, ready to move off towards the airfield of our guests' departure, one could not help thinking of a bunch of youngsters out on a Sunday-school treat: they'd had lots of fun in one crowded, tiring day, they were almost dead-beat, but they were quite, quite happy. We waved to them as they left, and they waved back, amid beaming smiles.

Thus on 'United Nations Day' at Harwell, there was fostered the friendly atmosphere so encouraging to atomic scientists of all countries...

"Vive l'atom . . . pour la paix".





*"ABURTHNOTT,
IT'S CHEAPER
TO BUY
ANDREWS!"*

CARTOON FISSION

"Well actually", said the patient lying on the psychologist's couch, "I'm a cartoonist striving to scrape another joke out of this situation!"

There is little new under the sun, but humour has many variations...

When it appeared in 'Harlequin' for the first time in 1951, the present Editor's cartoon (top

left) had a different caption: "So, Mr. Bowie, you thought nitrates were cheap telephone calls!"

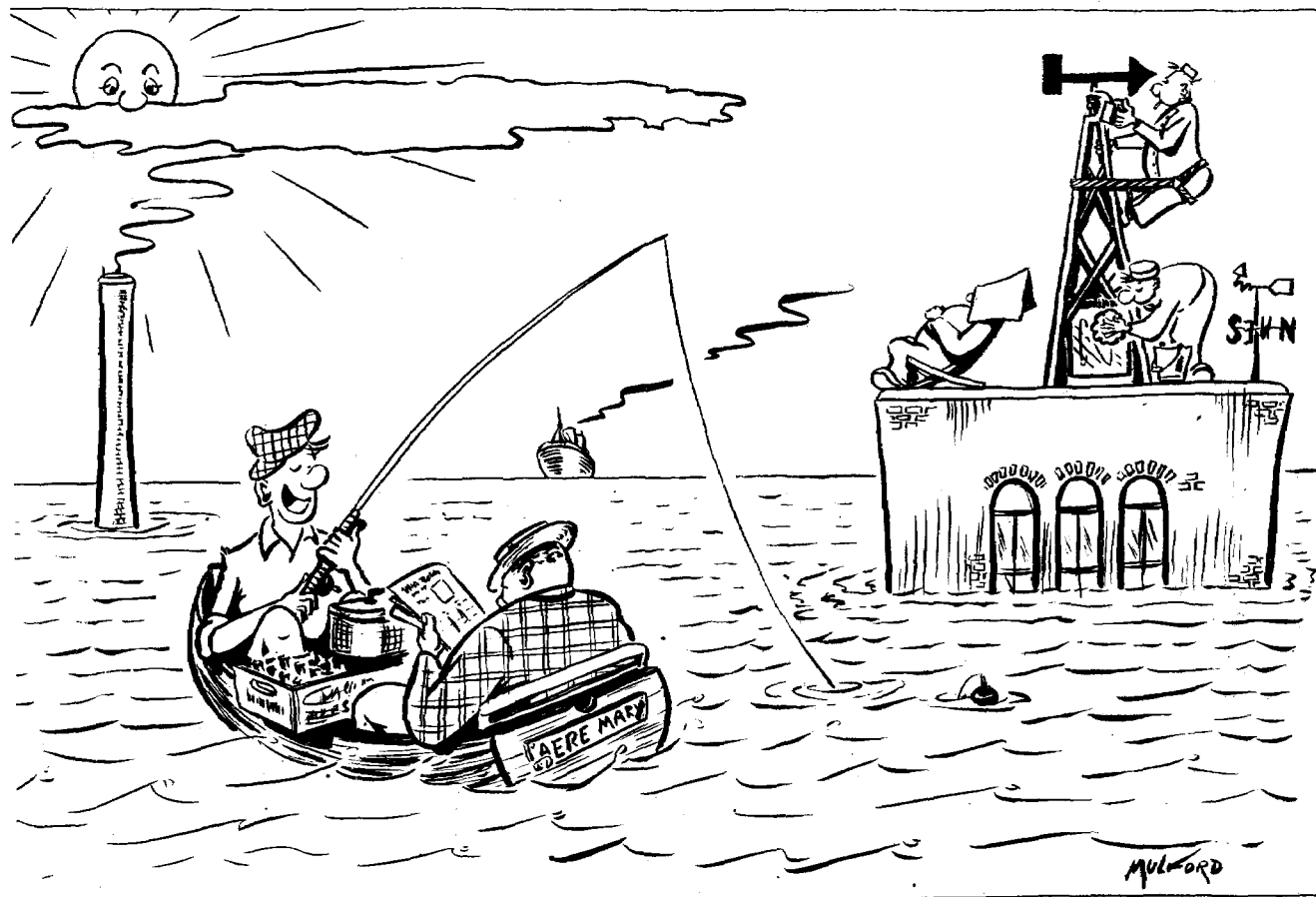
In a new drawing (bottom right) 'Aldermaston News' succeeded recently in combining a similar idea with artistic appeal, while in another issue they were able to use the original line block we had lent them with the new caption (top left).

In applauding this ingenuity, we now propose to fulfill two

purposes with our new cartoon above (top right):

(1) Young readers are invited to colour it for our Art Competition: turn to page 39 for further details.

(2) Other readers are invited to think out ideas for a caption. Send it to 'Cartoon Fission', 'Harlequin', c/o Central Registry. Half-a-guinea will be awarded for the best one received on or before January 31st.



NO-SON

"SO, DIZZY,
YOU THOUGHT
NITRATES
WERE
OVERTIME
RATES"



Harwell Reactor School

The first positive step towards the creation of the Harwell Reactor School was taken in June 1951, when Sir John Cockcroft sounded several large industrial concerns and the

British Electricity Authority, on their reactions to the idea of a training scheme for engineers in the Nuclear Power project. This article tells the story of what followed. On receipt of favourable replies from these bodies, the Harwell Technical Steering Committee discussed the matter, coming to the

HARWELL REACTOR SCHOOL



This is to certify that

having attended a course of
lectures at the Harwell Reactor
School, is hereby awarded the

Diploma of Pile Engineering
and is authorised to style himself

D.O.P.E

REACTOR SCHOOL MANAGER

CHIEF LECTURER

APRIL 1ST 1955

Facsimile of the 'diploma' awarded to Reactor School students attending the second sessions. The student attending the first course was styled 'Bachelor of Reactor Engineering - B.O.R.E.' After this the school ran out of printable ideas for titles!

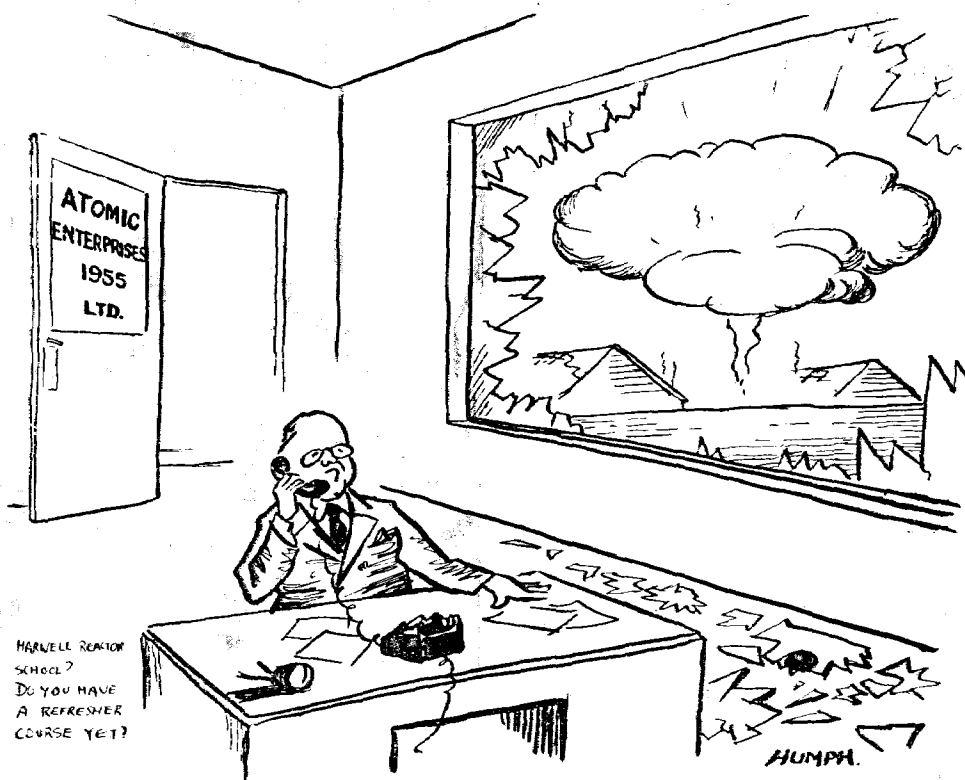
conclusion that, while such a scheme was very desirable, it should not be commenced until the then urgent reconsideration of the Nuclear Power programme had been completed. It was suggested that early in 1952 would be opportune. A course of about four weeks duration was visualised, and a provisional syllabus drawn up.

At about this time, however, the Imperial College of Science and Technology, London, became interested in running a post-graduate course of this type, and it was eventually agreed that a course would be run at Imperial College instead of at Harwell, although all the lecturers would be produced by Harwell, as also would the experimental facilities. The course commenced on 10th October, 1952, the lectures being given on Friday afternoons, and taking thirty weeks to complete. About seventy students attended the course, including many from the heavy electrical industry.

By the time this course was completed, quite sizeable numbers of engineers had been seconded to Harwell for periods of two years

by K. J. Bobin

or more, and it was felt that the next such course of lectures should be conducted at Harwell, primarily for their benefit, and should include much technological information which in those days was highly classified. Accordingly, the Atomic Energy Board decided, on 7th May, 1953, that a School should be set up at Harwell, on the lines of the Isotope School, which had been a very great success. The



Technical Steering Committee at Harwell considered the details of the scheme, and formulated the syllabus. This was agreed by the Atomic Energy Executive in March, 1954 and the opening date was fixed as 26th April, 1954.

The only available buildings were the old Estate Office and the nearby ancient wooden hut, formerly the groundsman's hut at Blenheim Palace, which had been converted and renovated for the inauguration of the Isotopes School some years earlier, and which had since been used as a stationery stores.

Unfortunately, the many and various moves, modifications and alterations which the hut had suffered during its history had so weakened the fabric that when an internal partition was removed to form the Lecture Room, the entire roof collapsed. This set-back meant that the target date could not be realised, and arrangements were made for the first few lectures to be delivered in the Lecture Hall in Building 220.

The present site was used for the first lec-

ture on 29th April, the total accommodation comprising a lecture room for thirty-five people, a counting room with four racks of equipment, an office, and the adjoining hut used for a few experiments. Most students had office accommodation inside the establishment, but many were required to spend all their time at the School. This led to the development of a very pleasantly informal relationship between staff and students, and I have vivid memories of a metallurgist who shall be nameless, offering to make tea for about eight of us, when only two spoonsful of tea were available. By using a method which I believe to be called the "concentrated extraction technique" he produced a brew so strong that it had to be considerably diluted before becoming "potable"!

As the end of the course approached, it was realised that the constant influx of seconded staff from industry, and the imminence of the conclusion of agreements between the A.E.A. and the four groups of firms working on the "Pippa" type reactor, would necessitate more

staff and larger buildings. During the 1954 summer recess, therefore, a new 1200 sq. ft. hut was erected and this linked to the other two, thus providing much more space.

The first full course was started on 27th September, 1954, when thirty-three full time students attended, together with eight Harwell Staff. Sir John Cockcroft performed the opening ceremony, which was attended by many reporters, photographers and casual onlookers.

By Harwell standards, some students were quite affluent, and this was epitomised in "Harlequin" a year ago, by the famous "I must not park my Rolls Royce in teacher's bicycle rack" cartoon.

The second session, which started in January 1955, was marked by the presentation by the students, at a party to celebrate the end of this course, of a ship's bell from the trawler "Solon" named after the Athenian philosopher. It was accompanied by an Instruction Manual which specified "Tea Served, 4 bells" and "Up-Spirits, 6 Bells".

This presentation explained many occurrences which had puzzled me that afternoon—a peculiar clanking noise in the Students Common Room, the abduction of my Secretary and her typewriter for half an hour, and the sudden disappearance of the School photograph album.

The curriculum of the School is designed to give to qualified engineers and scientists, sufficient fundamental Nuclear Physics, Reactor Physics and Reactor Engineering, to enable them to undergo the conversion to Reactor Engineers or Reactor Physicists, and also to offer up-to-date technological information. They visit almost all the Harwell Reactors, and thus see many stages of reactor design and construction. They also visit the Calder Hall site to see the first British Nuclear Power Station, now under construction there. Various experiments are now undertaken by the students on the school premises and we are about to embark on a programme of experimental work inside the Establishment, so that students may have not only first hand experience of such things as shielding experiments and heat transfer equipment, but also experience in the actual control and operation of reactors. We also possess in the School an advanced type of reactor simulator which duplicates all the effects experienced in start-



ing up a reactor, and which is available at all times for practice.

After the Geneva Conference in August of this year, it was apparent that all future courses at the School could be unclassified, and it was publicly announced that foreign students would henceforward be admitted to all courses. This had been foreshadowed by Sir Pierson Dixon's announcement in the U.N. in October 1954 that foreign students would be accepted towards the end of 1955.

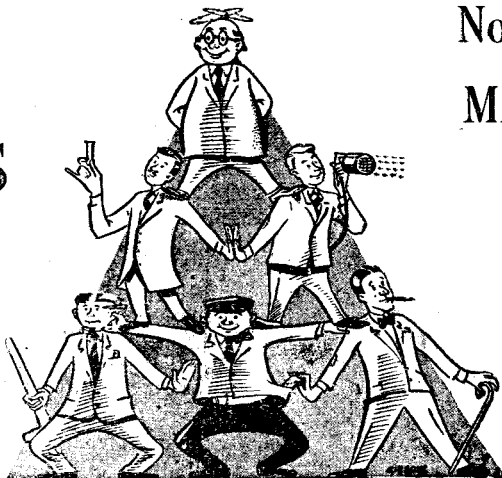
The present student list includes fifteen foreign students, representing nine countries ranging from Argentina across to Pakistan, and from Sweden down to Spain. There are also representatives from Canada and Australia, and of course, many British students. The Director opened the School on Monday, 26th September in the presence of press reporters, photographers, radio commentators and B.B.C. and I.T.A. Television newsreel. The following day the students were honoured by meeting the Prime Minister during his tour of the Establishment, and had the opportunity of talking informally with him for some time.

❖ ❖ ❖

Other People's Jobs

No. 2. OUTSIDE
MANUFACTURING
GROUP

by D. A. TYLER



Similes are dangerous, but in a sense A.E.R.E. staff may perhaps be likened to a troupe of acrobats, not because in the eyes of the outsider there is the potentiality for reaching great heights, but because there is required the same degree of organisation and teamwork.

At the top of our pyramid is to be seen the fundamental scientist, his head not immersed in the clouds, but with feet firmly placed on the shoulders of the experimental scientists and technologists beneath. They in turn are supported by the auxiliary services of Harwell—Design Office, Workshops, Stores, Transport and others—who, although their knees sometimes sag strive at all times to support those dependent upon them.

It is the purpose of this series on other people's jobs to spotlight those whose position in the pyramid is less spectacular and to show that their part is nevertheless not without its importance.

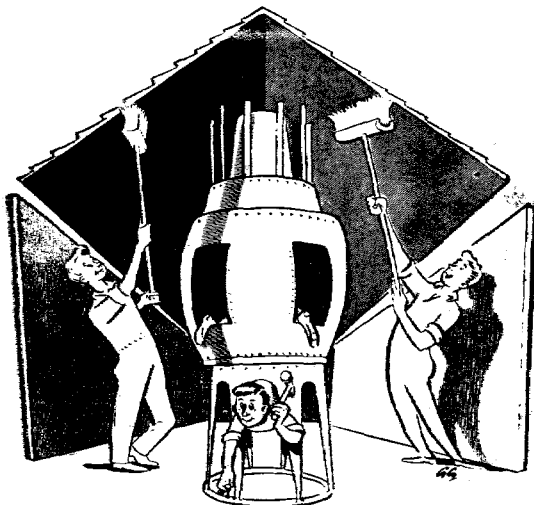
Before the time when the even heavier load on the Workshops brought about the Bracknell plan, described in 'Spring Harlequin', another service supplementary to A.E.R.E. Workshops was conceived. The scheme was to create an alternative supply line via British Industry along which some scientific requests could be diverted as an alternative to passing through the overloaded workshop. It will be appreciated that experimental equipment to be manufactured *inside* A.E.R.E. requires considerable organising: A co-ordination of planning and progress of operations involving special materials and techniques, is called for with constant liaison between the Design Office and Scientific groups.

The scheme for outside manufacture was therefore to entail *much more* than the flowing

out of manufacturing instructions via Registry and a flowing back of completed equipment via Stores Receipts.

The first step was a new appointment for D. Mettrick as head of the new group. In selecting suitable firms from among British Industry, adaptability and the determination to see a job through were considered the important qualifications and, after trial periods of liaison with some firms, the quick delivery requirements of Harwell began to be met.

Within the last year the number of jobs put into operation has increased four-fold and has ranged over the whole field of engineering. From small precision tools to large fabricated tanks, from isotope transport containers to electrical control racks and from high-pressure work to dry box manufacture, a



Rising above difficulties in the small workshop

complete list would run into three figures with an expenditure running into six.

Both the enterprise and the individual service of small and medium sized firms have proved particularly inspiring. Some are tackling problems that have always been difficult at A.E.R.E. and success has been achieved by the discovery of new methods. One firm provided high class work, while at the same time the men and their boss, at nights and at weekends, were extending their premises. Another firm proves so adaptable that it lifts the roof off its workshop when a Harwell fabrication becomes too large for its normal space.

Today outside manufacturing grouping is establishing new supply lines and keeping old ones open; present lines converge on Harwell

from such points as Bristol, Horsham, Portsmouth, Manchester and Shrewsbury and each of the hundred-odd jobs on the move at a particular time must be individually watched. According to size and complexity and dependent on Harwell consultations and supply of special materials, some take days, others months; each must be prevented from becoming bogged down by unforeseen difficulties or delayed by lack of vision.

With new jobs to handle each day O/M is always on the lookout for new firms who can co-operate with Harwell. Those doing so must comply, of course, with requirements of security as well as with A.E.R.E. standards of engineering.

The Group is expanding fast, but its function—like that of Bracknell Workshops—remains one of augmenting the service of the Harwell workshops and good relations exist at all stages between these services which remain complementary to one another.

Outside Manufacturing Group is more than ready to acknowledge the credit due to other A.E.R.E. groups with whom it co-operates till journey's end: Design Office, Inspection, Stores, Transport and other auxiliary services all play their part in this making of equipment many miles away...before final delivery to the Harwell Laboratory where it is awaited.

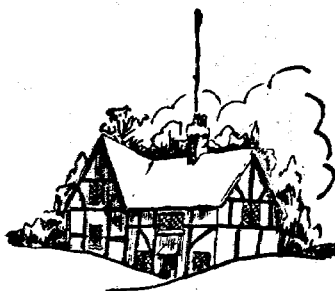
♦ ♦ ♦

† Harlequin (Vol. 4, No. 1, 1951) had two years earlier posed this question:

*Co-ordination Engineer
Do tell me in your wisdom:
Would it improve your target dates
If we changed to the Metric system?*



My Garden



*A few dead stalks, a leaf or two,
A piebald lawn, mould peeping through.
Perchance a bird in search of seeds,
And quite a healthy crop of weeds.
All an outlook not too pleasant—
But that's my garden just at present!*

W.G.F.

Waters at Sutton

*'Neath the watery plain,
The tyrant of the scaly brood...*

The tyrant of the scaly brood, the pike, many toothed and evil eyed, is not to be found in our waters at Sutton Courtenay. This is probably a pity since this strong bodied fish—some specimens may attain forty or fifty pounds weight—is a worthy opponent of the sporting angler. The gravel pits at Sutton have not been worked for many years, and it is a fascinating characteristic of gravel pits that, when once worked out and forsaken, they rapidly attain a peculiar charm of their own. It is as though nature is more than anxious to repair the damage of the hulking dredgers and sends alders, willows, sedges and rushes thrusting towards the sky, and in doing so hides the scars beneath. Invariably the pits fill with water, and just as invariably fish appear. Shall we agree with the delightful surmise that this is so because fish spawn is transported thence attached stickily to the

the fish are left there when, in flood time, neighbouring streams overflow their banks? Who knows? But I, for one, plump for the fowls with the sticky feet; it is such a Walton-esque idea.

We, as anglers, are not alone in our awareness of the fishy life in these waters. That not too common bird, the great crested grebe, is to be found there, complete this year with family of chicks. And that flashing streak of azure and chestnut, the kingfisher, knows well where he may dine. The early riser—and who among anglers has never risen early to smell the mystic delights of the mist on the lake?—will see old Nog the heron, up to his knees in water, and hear his disgusted *kraak* at being disturbed as he heavily flaps away.

Beneath the surface grow weeds in almost tropical luxuriance, and in and out of their fronds swim myriads of darting shrimps and minute daphnis, the nice name for the water flea. With such superabundance of food, who can wonder at fish thriving? And thrive they do; the loggerheaded chub—in Walton's words the fearfulest of fishes; that handsome brute of a fish, the perch, with his hackles rising, goggle-eyed and striped just like a sergeant; the ladylike roach with her delicately pink fins but unladylike red eyes, and the little gudgeon whose flesh is sweet and who had the doubtful honour of providing the excuse for King Charles to take Nell Gwyn fishing (in a boat of course). They all thrive, but anglers being human (except to non-anglers) are not satisfied. Why no pike? Why no tench? Why no carp? And from the flanks, why no trout?

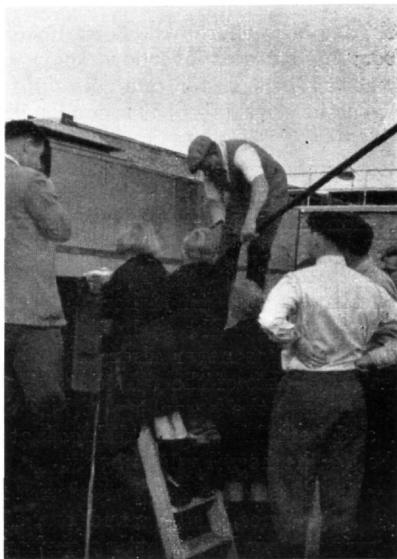
Anglers are a solitary breed, but to answer questions like these, will readily commune and speculate. In such a way the A.E.R.E. Angling Club was born and steadfastly set about remedying the lack of these desirable species. Like the monks of bygone times, we first stocked with carp, and like theirs also, our



S. Martin helps the Fisheries Delivery man to uncrew the specially cooled and oxygenated tanks in which the trout travel.

webbed feet of the bald coot, or of the coquetish moorhen who somewhat improperly bobs her white fringed tail as she floats across the water? Or shall we more mundanely say that

fish were of continental origin. The carp is a portly fish, but withal possesses a strength and speed and cunning that belies his appearance. The portliest yet to be caught by rod and line in Britain is a 44lb. fish (still growing), now spending a life of ease and luxury in the London Zoo Aquarium. Her name, incidentally, is Clarissa.



The trout are melted from the travelling tank and placed in a bath in order to carry them to the water's edge.

There is as yet no equal to Clarissa at Sutton, but there may well be in a few years' time. The little carplings which were introduced a year ago measured a bare handspan in length and weighed probably not more than three ounces apiece. Such is their rate of growth and so favourable is their environment that already some have been caught (and returned) weighing five times this weight, fine handsome fish as fat as a barrel. If they can do this in one year, what will the future produce?

Equally fantastic is the rate of growth of our tench, also introduced a year ago. A large tench is a glorious picture, with fine greenish olive scales topped off by flashes of gold, and gleaming ruby eyes. These too thrive, and although their kind does not attain the like of Clarissa, their spoon shaped

pectoral fins enable them to carve through the water a powerful enough lane to tax the nerve of the most hardened angler.

But what of our tyrant of the watery plain? Is he not a cruel brute who would instantaneously devour our portly carp, our pretty tench and the indigenous perch and roach? He would indeed, but let us not decry him for his nature—it's not his fault, and in point of fact he serves a very useful purpose. We have nearly all, at some time in our youth, fished ponds and waters where tiny fish may be caught by the dozen, nay—the hundred. Undersized starving fish, hounded by their own fecundity, so numerous that the available larder will simply not feed them enough to grow. This would happen at Sutton. That calm placid water, ideal for breeding, would in a few years' time be teeming with small



The delivery man tests the water temperature before liberating the trout. The trout may be seen twirling around in the bath.

fish, all competing for a food supply that does not multiply. While the water would support fifty Clarissas, five hundred would be out of the question. Nature's answer to this is esox lucius, the pike, our old friend the tyrant. He is nature's pruning hook. He is the deci-

mator of the teeming, starving millions; he enables fifty large fish to grow in comfort where five hundred would starve and be stunted. That selected fifty would be the best, too. Pike, like us, display no more energy than

of the carp and tench pool, we shall place two hundred trout—one hundred beautiful red-speckled golden brown trout, and one hundred even more beautiful iridescent rainbow trout. In the optimistic manner of our kind, we are confident that these will grow enormously, and that next year the yearning to wield the gracefully curving fly rod will be satisfied at Sutton.

Why should these speckled beauties thrive in solitude? Alas, game as they are, they cannot compete with the coarse fish for available food. Their gameness is an attribute of an earlier evolutionary stage; coarse fish simply out-eat them with a cunning born of later development. Trout too, are lovers of the clear sparkling brook, the only environment that provides a satisfactory nursery for their spawn. Hence their numbers, in a lake (or pit) with no inlet, brook or stream will diminish as age takes its toll. We need no esox here, and in fact should be most sad if one found his way in.



The fish about to swim out of the bath into the lake.

is necessary to fit the occasion, and so their diet consists of the weakest, the slowest, and the most dim-witted of the five hundred, leaving the better fish to prosper. Esox, of course, grows apace, and that's where the angler comes in again! Now you see why we must put the muscular, olive-green pike among our coveted carp and tench.

These fish have their artistic merits, and yet for some unknown reason, they are grouped together and known collectively as coarse fish. Certainly the perch is as handsome as the trout, but so esteemed is the latter that it and the salmon family in general are known as game fish. There is no doubt why this is so—they are truly game in every sense of the word. They are the acme of the sporting fisherman's world and principally so because the most delightful way of fishing for them is with the artificial fly. Fly casting is an art demanding co-ordination of mind and muscle similar to that of the golfer or cricketer, and withal there is the shy unpredictable fish to compete with.

There is one pit at Sutton, from which by secret and devious means, we have persuaded all the coarse fish to depart, preventing their ingress by sealing off all outlets. In here, with its bountiful food supply equal to that



Angling club members (left to right) J. North, R. Clark, F. S. Martin, J. Hammerton, (rear view) and N. Keen watch trout being liberated.

Photographs by G. R. HALL

A leaping trout is a thrilling sight; such intangible assets as this more than satisfy and repay the anglers of A.E.R.E. who have communed, and speculated, and worked to bring this about.

ANON.



BRIEF GUIDE TO HARWELL TYPES



The study of types is always a fascinating business and the inmates of the Establishment probably present the biggest collection of

"cateplus" in any one place at any one time. Although largely taken for granted by Harwellians, classification of the various



types must present a difficult problem to the proletariat outside the fence. We, the elite of the atomic world, can usually recognise a Nuclear Physicist or a Chemical Plumber when we see one. (If there is any doubt, we merely follow him and see what he does.) But to newcomers or complete outsiders, especially those with a special interest in Harwell, e.g. newspaper reporters, M.P.s, visitors, etc., this identification must be extremely frustrating. How nice for a newspaper to be able to report on its front page, "Harwell X-ray Crystallographer elopes with young lady assistant Biophysicist", instead of the vague "Atom Scientist runs off with girl".



This little guide is intended to help these

worthy people to a greater appreciation of these apparently complex categories.

For a start we shall consider only the main

—rather loose—general classification and leave a more detailed sub-division until a later issue.

BY HOMOLKA

Dress and habit are generally the most important features in the recognition of a type and we shall attempt to identify our "cateplus" with respect to these two aspects.

Broadly speaking there are six main types:

(1) Engineers (more broadly speaking than the others), (2) Chemists, (3) Physicists, (4) Office or Administration, (5) Very Rare and (6) Others.

It is always rather a surprise to outsiders that all Harwell people do not wear uniforms. Actually, this is one of the few ways in which the Establishment differs from other police-guarded establishments. So, bearing in mind

that there are exceptions to most rules and that, in even the most conservative of professions, there are always the odd rebels, the dress and habits of these six types can be taken as a reasonably significant guide.

TYPE (1)—ENGINEERS—are invariably well-dressed, usually in lounge suits. This is because, (a) being Engineers they do not have to do any dirty work (except just before promotion) like messing about with engines, etc., and (b) they can afford lounge suits. The tidy appearance, however, is somewhat marred by a small slide-rule sticking out of the top jacket pocket. In higher ranking En-

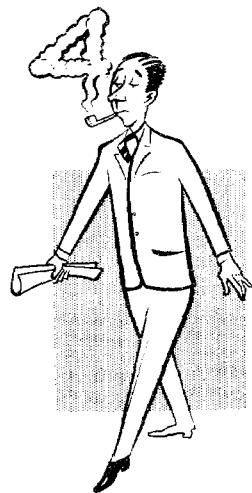
gineers this is often expertly hidden by a clean white handkerchief.

TYPE (2) —CHEMISTS— as a rule wear old flannel trousers or corduroys. This is a permanent and integral part of their covering. They wear them in summer and winter, at marriages and funerals and all civic functions. Some sleep in them. A rather faded jacket, inconspicuous shirt and undecided tie complete the summer wardrobe. In winter this is usually supplemented by a sort of woollen pullover, having large holes and interesting brown-green stains down the front. These holes correspond exactly with similar holes in the multi-coloured laboratory coat worn when visitors are around. They rarely wear overcoats or gloves but the finger nails are warmly packed with samples of most scheduled poisons.

TYPE (3) —PHYSICISTS— are a trifle more difficult to identify sartorially. The dress here is a sort of compromise, as it were. They also wear flannels or corduroys, but of the non-utility sort. Theirs is a studied untidiness rather than the instinctive raggedness of the Chemist. A few higher ranking Physicists even have lounge suits which they unearth for christenings, silver anniversaries, appearances in police-court, etc., but these are rarely worn inside the Establishment.

TYPE (4) —OFFICE OR ADMINISTRATION— are clearly distinguishable from (1), (2) and (3). Suits or carefully pressed flannels are worn but the salient feature is the polish on the shoes. (If female, it is on the nails.) They wear rather bright ties and clean shirts and nearly always have papers clutched in their hand. This, together with the carefully combed hair, gives them a much more important look than any of the other types. They very often smoke pipes. The females wear woollen jackets, rarely smoke pipes and look even more important than the males.

TYPE (5) —VERY RARE— includes such people as Mathematicians, Theoretical Physicists, etc. They are rather difficult to identify by dress alone as they seem to wear almost anything. However, if you should come across a rather abstract, happy looking chap who, outside the protecting wire, might well be locked up, there is no cause for alarm. He is probably one of this class. For this type however, habits are more important than dress and they will be considered in the appropriate chapter.



TYPE (6) —THE FINAL BROAD CATEGORY

—OTHERS— is rather an interesting one and guidance is needed here more so than with other types. It includes, amongst sundry subdivisions, the rebels or dissenters from the previous types, non-types masquerading as types and types masquerading as non-types. The dress here can be very confusing, even to an inmate, but with some practice the disguise can often be penetrated quite easily. For example, a chap wearing a fur hat, mole-skin trousers and an Eton tie is obviously an under-paid Computator wishing to be taken for a Nuclear Physicist with definite leftish tendencies whilst fellows wearing velvet caps, rather short trousers and yellow gloves are almost certainly Birmingham Draughtsmen posing as Oxford statisticians. Young chaps wearing college scarves and dirty shoes are usually young chaps just out of college. Old chaps wearing college scarves and clean shoes are usually old chaps who have never seen college. If you see a man wearing a duffle coat, fur lined boots and a dirty hat he is either a Chemist who really wanted to be a Maintenance Engineer or an Electrician studying to be an Architect. Admittedly, identification of this type can be rather tricky at first, but a little applied psychology should make the dress interpretation quite clear. The most important thing is to forget preconceived, popular notions about Harwell scientists being chaps in hairy suits and sandals, carrying briefcases and smoking curly pipes. Close investigation will show that hairy suits are worn almost exclusively by Firemen off duty, sandals worn mostly by metallurgists who have bad feet and briefcases carried mainly by Pile Engineers who dislike canteen food. ❖ ❖ ❖

LETTERS to the Editor . . .

UNITED KINGDOM ATOMIC ENERGY AUTHORITY,
WINDSCALE,
CUMBERLAND.

TO THE EDITOR,
HARLEQUIN MAGAZINE.

Dear Sir,

I am delighted with your enthusiastic approval of "Nucleus".

On looking through your magazine, I am grass-green with envy at the number of pages and wealth of blocks. At present we cannot make ends meet even with our slender page-quota and strictly rationed blocks.

At present I am ploughing ahead with a bumper number for Christmas, and wish you every success with yours.

Yours etc.,

F. BARNET, (*Editor*).

Dear Sir,

We have been very pleased with our advertising and also with the business which we are happy to do with Harwellians. 'Harlequin' is an excellent production and one of the most valuable advertising media in the area.

I shall be very pleased to increase our space to a half page.

My best wishes for the success of 'Harlequin'.

Yours etc.,

E. R. BAILEY, (*Managing Director*).

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ABINGDON.

Dear Sir,

Working in Haifa as a medical technician in a hospital, I decided to specialize in medical and biochemical application of isotopes, which brought me here to the training course at Harwell.

I should like in this way to express my deep admiration for the close co-operation, not only between the staff, but also extended to members of the course which resulted in an atmosphere of friendship, peace and helpfulness.

Allow me to thank you all who enabled us to step forward and stood at our side in this very important month. Typical was Miss Millett, our "mother" who saw to accommodation and comfort with a never ending patience. I really wondered that some of the boys (all ages between 25-40) did not ask her to sew on buttons or darn socks.

They gave us their very best and succeeded to fulfill the difficult task in providing us with the principal problems in rather a short time.

I do hope so very much that by those means of understanding and close co-operation we shall all be able to give our personal small share to a real peace between the different nations.

Three cheers to Harwell may it become the "Nucleus" of peace!

Yours etc.,

HELEN BLASBALG.

HARWELL,
27TH OCTOBER, 1955

1955 has been, we hope, a good year for you. It has for us, and not the least of its rewards has been the number of new friends we have made in A.E.R.E.

1956 is therefore a year we can look forward to with confidence. Past, present, and future pupils can be equally confident of our continued interest and attention.

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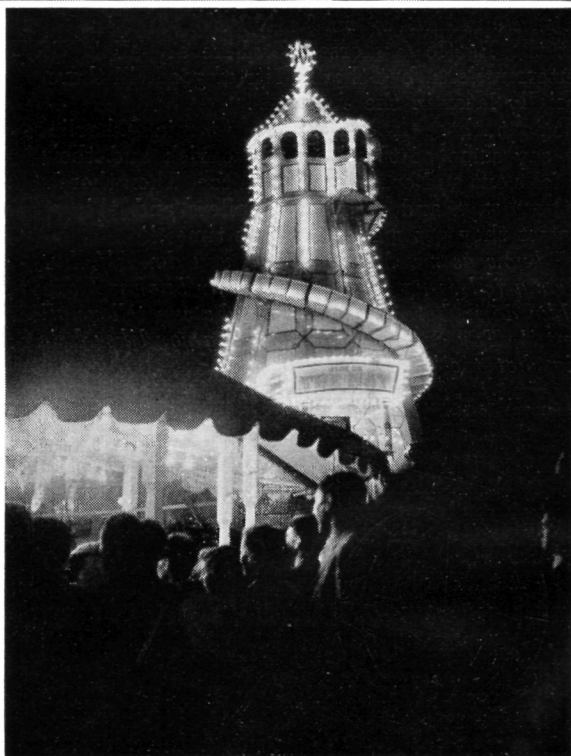
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"What d'you think happens to those chaps up at the Atomic, Charlie?"

"Mine's a punt of mild, Alf".

At the Beetle & Horseshoe there are all kinds of interruptions, but there's lots of goodwill there, especially later in the evenings!

"About those chaps at the Atomic, Charlie, they say some of them are quite rich and their hair falls out and even their teeth too. Then there's all them rays and machines, boilers and things, I expect they get mangled up at times."

"I know as much about it as you do, Alf, but there's a fellow up there my brother knows, I can get him down here tomorrow and he can tell us all about it. You can ask him anything you like; he's a big shot too".

The next evening a man walked into the bar of the Beetle & Horseshoe who looked like any other chap except that he had rather long hair and carried a briefcase. Alf was disappointed. He had expected to see someone quite unusual, probably bald.

"You've got a lot of hair on your head." (Alf believed in the direct approach).

As a matter of fact, I've been rather hard-up lately. This changed two of Alf's ideas—about the money and the hair falling out; Alf could always afford a haircut himself.

"And that briefcase; do only the important people up there carry them?"

As a matter of fact, old boy, I call it my promotion bag. If you go about with one of these, something is bound to happen. People might even think you've got the plans of a new reactor in it. ...Charlie now chipped in. He ordered a large rum as soon as he heard about the reactor.

"What about them getting hurt up at the Atomic, you know, rays and things and getting mangled up?"

by **SIDNEY GRAMMAR**

The pundit with the long hair and the briefcase warmed up to this (mind you, he had also warmed up with a few rums). *"Believe it or not, you fellows"*—he would call them Alf and Charlie before the end of the evening—"most accidents in the last year or two up there have been caused by dropping things on their ruddy toes or by just falling down".

Alf and Charlie thought this was much too easy but they believed the pundit because he had the air of Authority.



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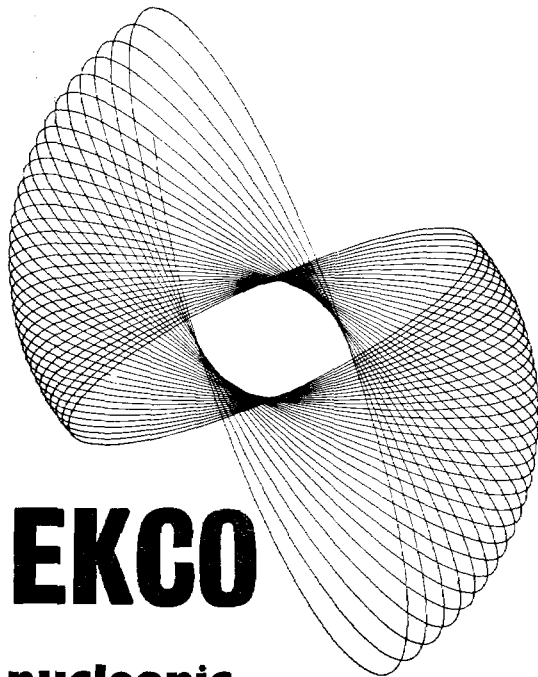
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FESTIVAL

Above you see an example of an up-to-date type-face; Its name-- FESTIVAL -- designed for the Festival of Britain. Festival is used for the title appearing on the front cover and title-page and elsewhere in this magazine.

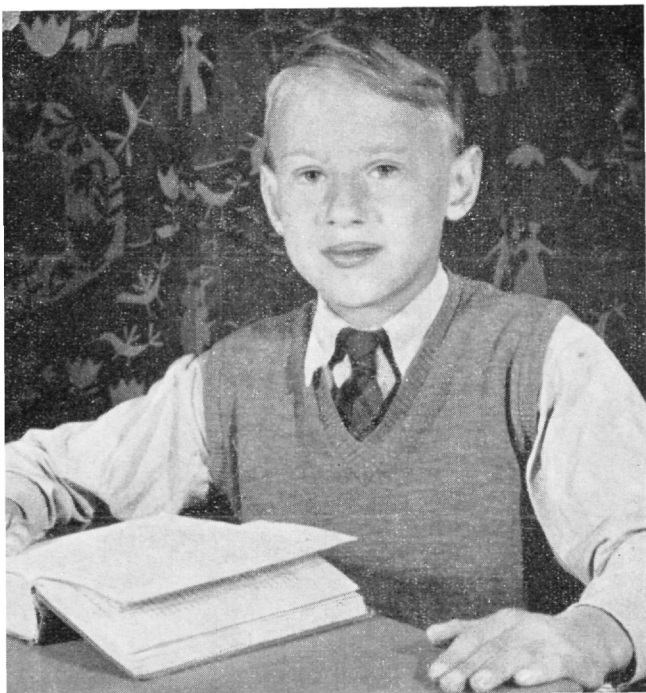
Phillip Boydell and his associates in the London Press Exchange advertising agency are the designers. Their aim was to create a distinctive letter for immediate use in Festival publicity matter, and for more general application later. The basis of the design is a condensed sans serif. Upon it has been built a letter to express the spirit which will for long be identified with this era: a spirit of urgency in industrial achievement, coupled with a nation's expanding appreciation of aesthetic and functional design.

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John Roberts —Young Harwellian



For the Younger Reader



Can you beat this with your own original short story illustrated by yourself? The best story received will be printed in the next issue and a book token awarded, if better than the one here.



Remember the Colouring competition, pages 22-23. Stick it on a card and use any means you like for the job. You can enter the Proof Readers' Competition too; page 3, and Cartoon Fission, page 23.



In all cases state your age and send by Jan. 31st to —“Harlequin” c/o Central Registry.

The Tramp's Tale

One night a tramp was walking along a road looking for somewhere to sleep. He walked round a bend and beheld the sea, it was a wonderful sight. Every breaker a small white streak and the moon shining on the sea like a silver stripe and best of all, a light house far out to sea with its monotonous flash. He decided to walk along the beach and found a boat. Now this was ideal to sleep in, so he hopped in and fell asleep.

But unknown to him the boat was not moored to a stake or anything, as it had been washed there by the tide. So as the tide came in the boat rose, and soon the waters floated it and sent it rocking out to sea.

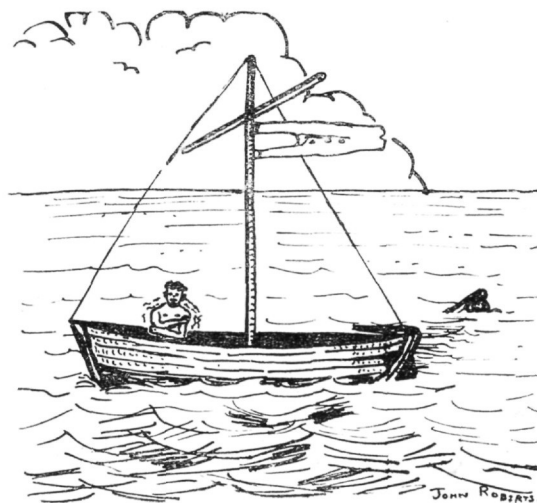
Later on the tramp awoke and put his foot over the side of the boat. And I am not quite sure how it happened but the tramp found himself up to his neck in water, with his belongings floating away. He grabbed the stern of the boat, clambered aboard and sat down, wet through, and very scared

He put his jacket at the mast head but soon took it down because he was so cold! He then sat in the boat and waited.

But he did not have long to wait because a trawler came and picked him up and took him back to shore.

And now when he goes round begging he says he was a sailor and lost all his belongings when his ship was sunk.

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'Have you ever heard of Atomic Energy, Ron?'

Who's he, Eth?

Who's Who, beloved?

Tommy Kennedy; I've never heard of him, Eth.

No Ron, Atomic Energy. You know, the power of the atom and all that nonsense. I've been thinking: there ought to be an opening for my Ron at Harwell.

There was Eth, but they closed it when they saw me coming.

I wonder why Ron. You had to take Physics at school didn't you?

Yes Eth, every Friday: castor oil, senna pods, liquorice powder...

Not that sort of physics, Ron. Didn't you spend any time in the lab?

Yes Eth, most of Saturday and Sunday.

If you could get into this atomic research, Ron, there's no telling how far you might go.

That's what I'm afraid of, Eth.

Just imagine, dearest, you might become a Captain of Industry, and I could be your Mate helping you to steer our ship of happiness across Life's Stormy Ocean. What's the matter Ron?

I feel sick, Eth.

Oh what's the use! I want to help you to get somewhere in this world, but I can't do everything, you'll have to help yourself.

Right-ho Eth, here I come.

Oh Ron...!

R. O. T.



With apologies to the B.B.C., "Take it from Here", Frank Muir, Dennis Norden, Norman Mansbridge, The Co-operative Permanent Building Society and all right-minded people.



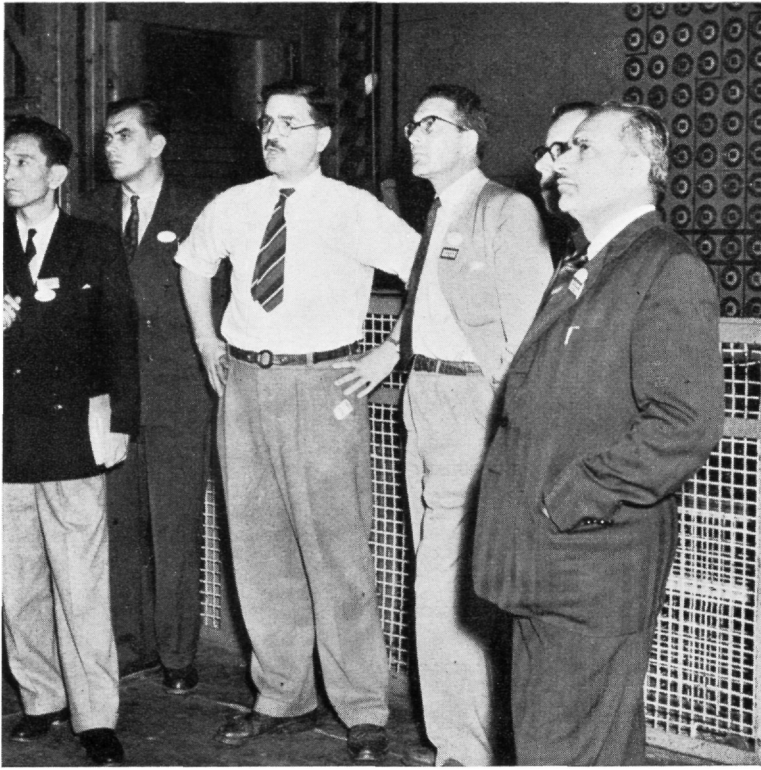
"Harlequin" c/o Central Registry, A.E.R.E., Berks.

This is the address for all correspondence, brickbats and bouquets.

January 31st.

This is the closing date for all competition entries and contributions of all kinds needed for—

The next issue of Spring 1956.



DELEGATES FROM GENEVA

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THE ATOMS SPEAK[†]

*Do you wish to make the mountains bare their heads,
And lay their new-cut forests at your feet?
Do you want to turn a river in its bed,
Or plant a barren wilderness with wheat?
Shall we pipe aloft and bring you water down
From the never-failing cistern of the snows,
To work the mills and tramways in your town
And irrigate your orchards as it flows?*

(FROM "THE SECRET OF THE MACHINES")

*But remember, please, the Law by which we live:
We are not built to comprehend a lie;
We can neither love nor pity nor forgive
If you make a slip in handling us, you die!
We are greater than the Peoples or the Kings—
Be humble as you crawl beneath our rods!
Our touch can alter all created things,
We are everything on earth—except The Gods.*

[†] A new title to an old poem by Nobel Prize winner Rudyard Kipling (1865-1936)

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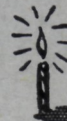
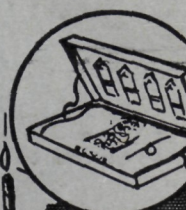
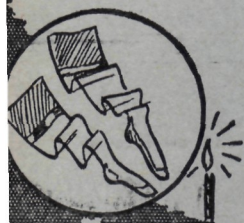
DRESSING TABLE

SETS

BOOKS

JUMPERS

TWIN SETS



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