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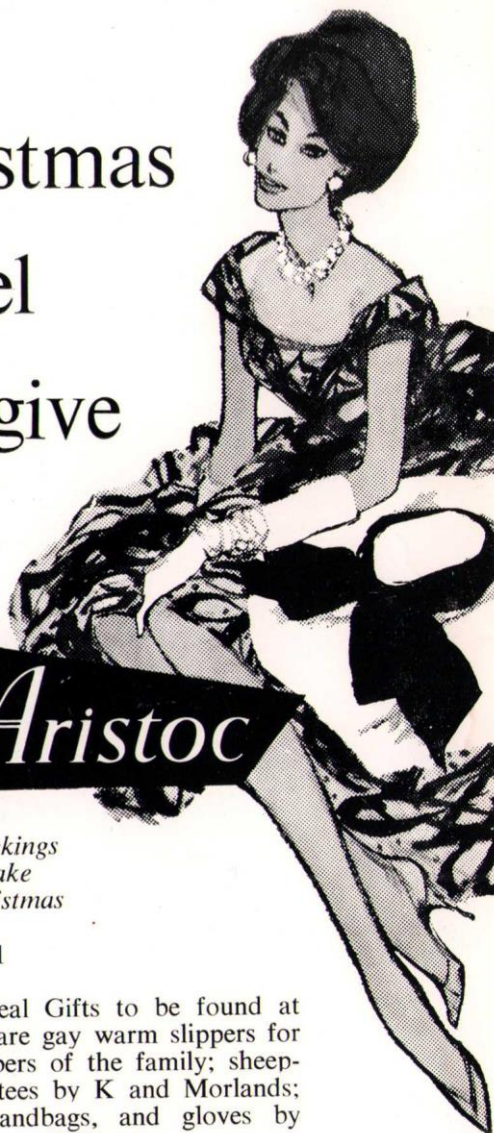
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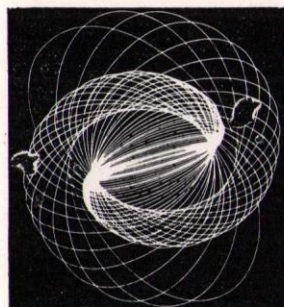




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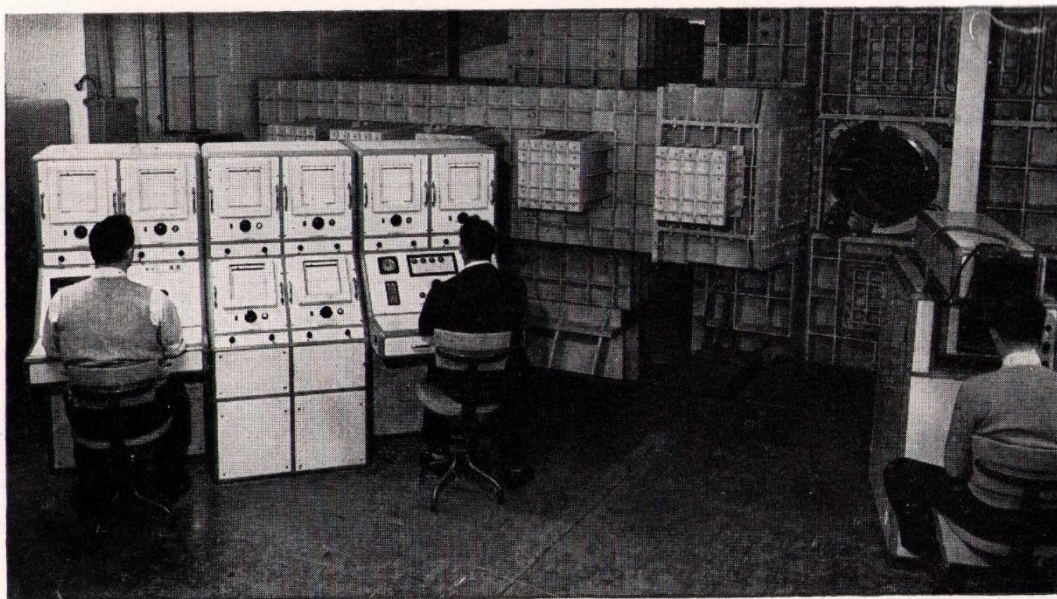


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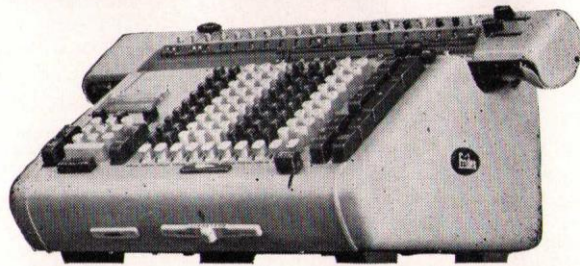
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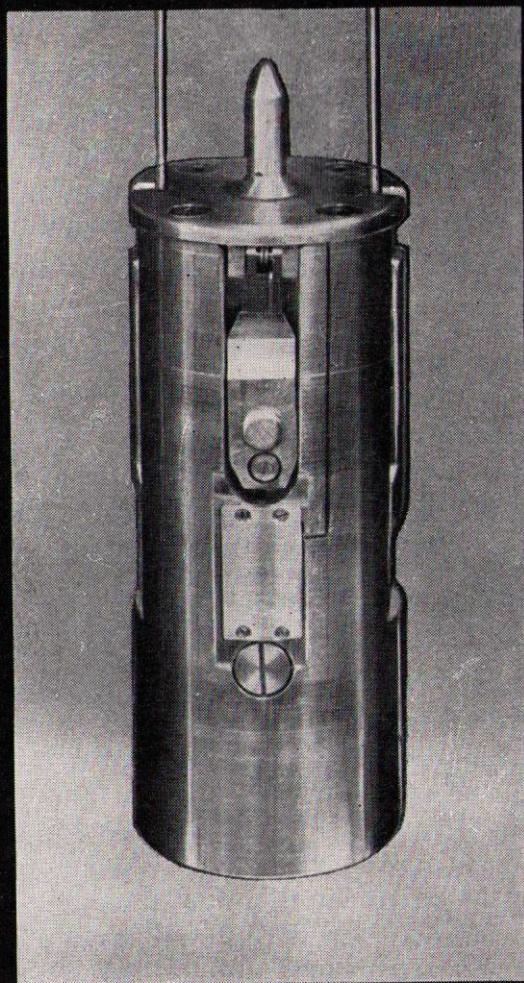
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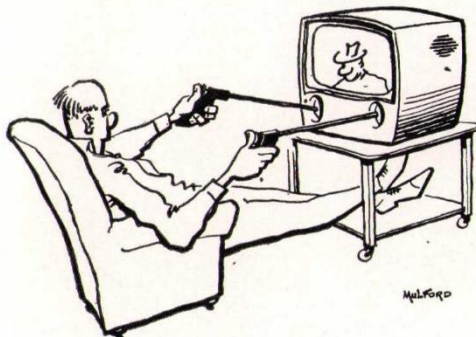
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HARLEQUIN

Leisure Magazine of the United Kingdom Atomic Energy Authority Research Group
Harwell · Bracknell · Amersham · Wantage · Oxford · Winfrith

in this issue

WINTER 1960

NUMBER 31

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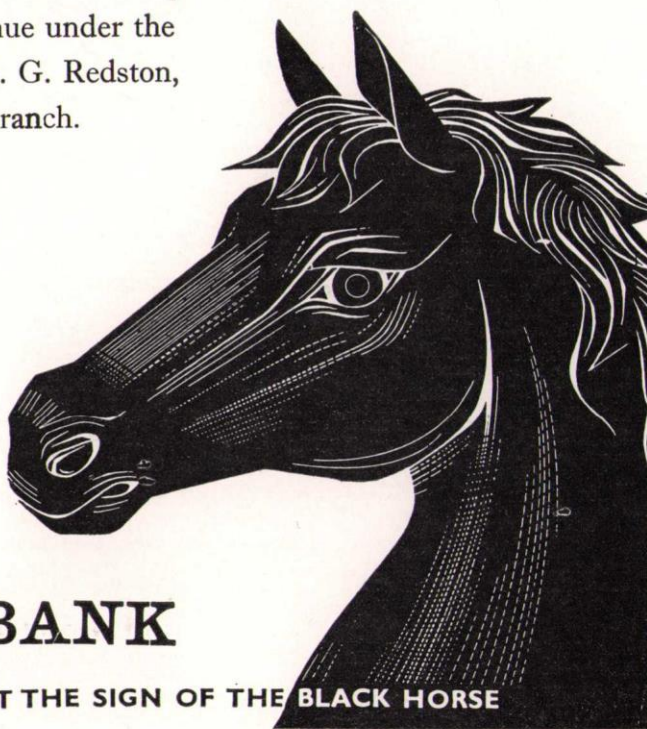
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AT THE SIGN OF THE BLACK HORSE



FOREWORD

BY SIR WILLIAM PENNEY, K.B.E., F.R.S.

IT SEEMS only a matter of weeks since I had the pleasant duty of writing a foreword to 1959 Christmas "Harlequin" and yet here is your editor asking me for another.

Last Christmas I had only just joined the Research Group and was still living in Aldermaston. Now we are living in South Drive and have many new friends. We enjoy being here although I do find the garden heavy work and the sports field draughty!

The past year has been one of steady progress. New parts of the Research Group are rapidly developing and some of the older parts have been given a new look. Building work has started at the Culham Research Establishment, Winfrith has been formally opened by Lord Chandos, and the Wantage Research Laboratory by Lord Hailsham. Amersham's latest laboratories were opened by Sir Cyril Hinshelwood on one of the few fine days in a poor summer, and at Harwell the new Library was opened by Sir Lindor Brown.

In the near future we shall see the application to industrial use of some of Harwell's early work. It was during 1950-52 that a design study was undertaken which led to the construction of the Calder Hall reactors, and from the design followed the magnox stations for the C.E.G.B. The first of these nuclear power stations at Berkeley and Bradwell are due to come into operation before long and everyone at Harwell can take pride in the contribution which the establishment has made to these projects.

Continued development towards economic nuclear power presents many problems. The Research Group has a major part to play in the solution of these problems, and in laying the foundation for developments even further ahead. A period of consolidation must be expected, but there will be no lack of stimulating problems for the scientist, the engineer and the administrator.

My wife joins me in sending to all members of the Group our best wishes for Christmas and the New Year.

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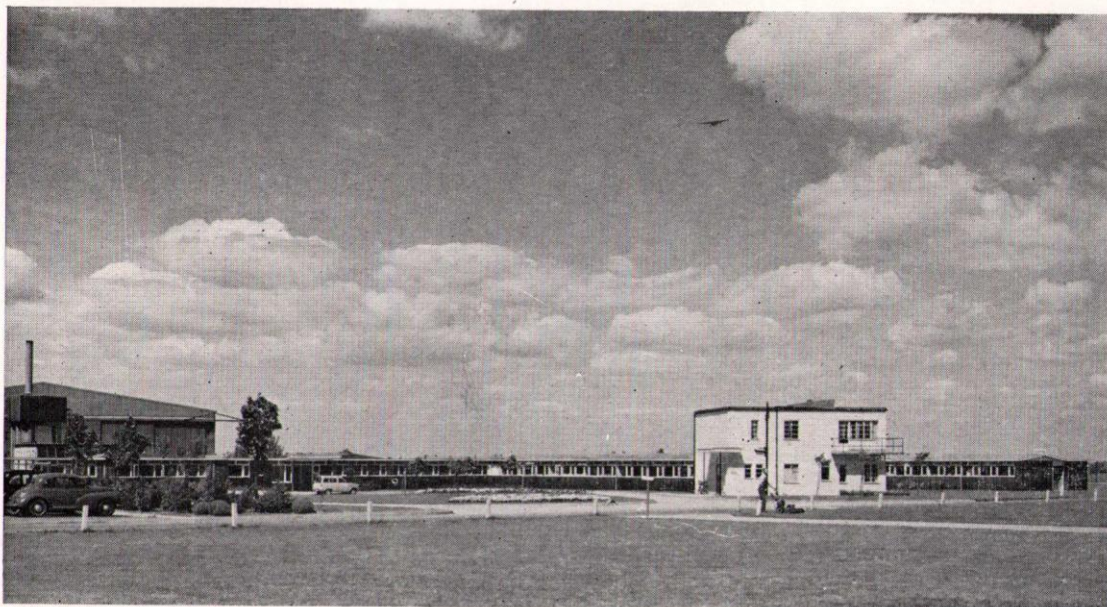
THIS is not a time for talking glibly about Santa Claus or "Peace on Earth . . ." No thinking person can fail to be disturbed by the state of the world today. Wars between countries, riots between races, strife between nations: these startle us in the newspapers and on radio and television. As individuals we feel powerless to do much about it, yet the world is made up of ordinary people like ourselves, delighting in the same pleasures, suffering from the same worries, vexed by the same suspicions.

Thousands of men and women from the Western world go abroad, yet are almost completely unprepared for the task of living in a strange environment, and are quite unconscious of the responsibility which, as the Prime Minister has pointed out, they carry as representatives of their country. The result can be disastrous: some find new conditions uncongenial, new attitudes inexplicable or hostile; some quite unintentionally arouse antagonism by their own reactions — and all because they have had no warning of the different traditions and customs they would meet, in some cases in primitive society, in others in civilisations older than our own.

A similar problem exists in this country, where there are nearly two and a half million people from other lands. Most of them are here for a short holiday; others, such as students and research workers, stay longer; a third group, refugees, immigrants and exiles, have decided for various reasons to make Britain their home. Whether they are here permanently or for a short time only they are an opportunity and a challenge. Those who return to their own countries can do so as good friends of Britain; many of them may be leaders of tomorrow's rapidly developing world. Those who remain can become valuable citizens assisting our economy, enriching our culture and adding variety to our local life. On the other hand, if their experiences are unfavourable, if they meet with prejudice because of the colour of their skins or the accent of their voices, they will take away with them bitterness and suspicion, or remain as a source of discontent that can grow to violence.

Human need in the material sense is a tangible thing which can be assessed, classified, and (if those who *have* care enough for the conditions of those who *have not*) relieved. But we have only to look at the prosperous Western world to know that material well-being is not enough, that it does not blunt the edge of anxiety and despair in those who lack faith and purpose. Hunger and nakedness — among non-refugees no less than among refugees — stir us to action; but so, too, should the spiritual hunger and vulnerability of those who, seeking, find "no room at the inn".

The longest journey in Britain is from an Englishman's gate to his front door — a sad reflection on our insularity. With the world in its present state, we cannot afford to let pass this opportunity for goodwill that lies on our own doorstep.



The Wantage Research Laboratory

About fourteen years ago GLEEP, the first reactor at Harwell, became operational and was able to produce small quantities of isotopes. To take advantage of the increasing availability of isotopes for research an Isotope Group was formed in the Nuclear Physics Division, and various investigations using isotopes were initiated in the Chemistry Division.

In April, 1948, BEPO, the larger graphite-moderated reactor at Harwell, became available for the production of bigger quantities of isotopes, and a separate Isotope Division was formed. It is interesting to note that even now, twelve years later, BEPO is still an important source of isotopes, though it is used at the same time for a great variety of researches and has contributed to the solution of many problems arising during the development of the power programme.

For some years the Isotope Division was responsible for the production and sale of all isotopes produced in the reactors, for the processing of separated isotopes (for example, for medical use) and for the exploration of applications of isotopes in industry and in research generally. All these activities grew rapidly, especially when large sources of radiation, like

Cobalt-60, became available. At the same time another organisation was growing, the Radiochemical Centre at Amersham. Formerly Thorium Ltd., this Centre was responsible for the processing and sale of natural radioelements (such as radium and thorium) and of certain "labelled" compounds, particularly those containing Carbon-14. In 1954, R.C.C. Amersham was placed under the control of A.E.R.E., and so there were two sections within A.E.R.E. (though separated geographically) concerned with the production and sale of isotopes.

It is a tribute to the work of the Isotopes Division that the sales it stimulated made desirable a special organisation to handle them. So, in March 1959, Amersham became a separate Establishment of the Research Group and is now responsible for all production and sales of isotopes for the Authority. Part of the Isotope Division transferred there, and the remainder was renamed the Isotope Research Division.

Before the re-organisation took place, it had been decided to move the Isotope Division away from the main site at Harwell, partly owing to pressure on space at Harwell, but mainly to make easier full co-operation with

industry and with other users of isotopes by moving outside the security fence. The airfield at Grove, near Wantage, was chosen because it is conveniently located and because its hangars could be converted comparatively easily for work with the large radiation sources (cobalt-60) used by the Technological Irradiation Group (T.I.G.) of the Division.

Early in 1956, work was begun to convert the buildings at Grove, into a laboratory site for the Isotope Division. The immediate programme was research into the uses of large radiation sources which could be expected to become available in increasing quantities as fission products from spent reactor fuel elements. The site was then known as Wantage Radiation Laboratory.

The longer term plan was to move from Harwell other groups of the Division engaged on radioisotope research and to concentrate all such research at Wantage. Though one advantage of the site was its existing buildings, these offered only limited possibilities, and a building construction programme was prepared which is now nearing completion.

The first comers to Wantage were members of Technological Irradiation Group, who made use of such buildings as the Control Tower until their own building was ready. In its four years at Wantage the Group has grown to almost a hundred strong, and now operates a number of irradiation sources including Cobalt-60 cells, a linear accelerator, a fuel element "pond" at Harwell which makes use of the radiations available from spent reactor fuel, and the recently commissioned Package Irradiation Plant which is designed as versatile pilot plant to give experience in commercial irradiations on a continuous basis.

The Technological Irradiation Group is concerned with radiation effects in three main fields: the initiation of chemical reactions, sterilisation and plant genetics, and within these terms of reference the Group is sub-divided into five Sections:

Biology: concerned with the effects of radiation on plants, especially with mutation and the crossing of otherwise incompatible strains, hence leading to improved breeding strains;

Chemistry: working mainly in the fields of polymerisation, halogenation and oxidation, which give possibilities of improvements in plastics and various industrial chemical processes;

Entomology: investigating the possibility of using radiation in exterminating pests in stored products (e.g. weevils in grain and flour) and the control of other insects;

Food and Medical: studying the possibilities of sterilisation by radiation as applied especially to the sterilisation of surgical appliances and medical products, and long term investigations into the preservation of food.

Physics and Engineering: responsible for the operation of the Group's irradiation facilities and for the design and development of industrial irradiation units.

More recent comers to Wantage have been the Isotope School, the Physics Group, and latterly, the Chemistry Group whose arrival completes the transfer of Isotope Research Division staff from Harwell. Still remaining at Harwell is the Reactors and Measurements Group, concerned with experimental reactor irradiations and measurements of radioactivity. Its standards section is, however, located at Wantage, where it works closely with the Physics Group.

The Isotope School moved to Wantage in 1959 after eight years at Harwell, and has continued to give basic training in the uses of radioisotopes in research, industry and medicine. Students come from all parts of the world. Besides the basic 4-weeks course, specialised courses are held on such subjects as medical applications, radiological protection and autoradiography, and there have also been courses for the non-technical directors of commercial organisations designed to show the potentialities of radioisotopes in industry. A two-day course for members of the Press was held in April, and a course is being planned for Trade Union representatives. This school has played an important part in spreading the safe use of radioactive isotopes throughout the world. Since its inception at Harwell some ten years ago, well over 2,000 students from 58 nations have attended courses at the School. These students have helped to reduce the widespread fear of the use of radioisotopes that springs from ignorance of how to handle them.

The Physics Group, which also moved to Wantage in 1959, carries the main load of the Isotope Division Experimental and Advisory Service which endeavours to solve, by adaptations of radioisotope techniques, practical problems posed by industry, hospitals and other bodies. The main activities of the Group are in the industrial uses of radioactive tracers for gas

and liquid flow investigations and such problems as the efficiencies of mixing processes; the development of instruments for the detection and measurement of radiation; the application of radio-tracers to geological and allied problems such as measurement of coastal erosion, underground water movement and mineral prospecting, and, with Chemistry Group, investigations of metallurgical processes.

Chemistry Group is concerned with the chemical aspects of using radioisotopes in industry and medicine, including improvements in methods of preparing radioactive compounds. In analytical chemistry, the technique of radio-activation analysis enables minute constituent quantities to be detected and measured. In physical chemistry, metallurgical processes such as electroplating and casting have been studied to learn what happens at the various stages. The Group collaborates with hospitals in investigating the effects and distribution of radioisotopes in animals, and a small section conducts tracer research in bacteriology.

The Isotope Research Division includes a newly formed Industrial Liaison Group which demonstrates by visits to industrial areas the potentialities of radioisotope applications in commercial processes, and by a well stocked Library. Ministering to the needs of the Division are a small engineering unit, a store and a canteen.

The Division is helped by a small unit of the Department of Scientific and Industrial Research which maintains close contact with other Research Stations of its Department and with some fifty research associations around the Country. Other sections of the Isotope Research Division carry out essential educational work by sending missionaries to inform those engaged in a great variety of occupations — from agriculture to steel making, from oil refining to cigarette manufacture — of the ways in which isotopes may improve their efficiency and help to solve their problems.

★ ★ ★ ★ ★

FOOD IRRADIATION

Bacteria, yeasts, moulds and insect pests which are largely responsible for the deterioration of stored foods are susceptible to the lethal action of atomic radiation. Gamma rays as emitted by such isotopes as Cobalt-60 and Cesium 137 are extremely penetrating, so that the food can be packed before treatment in materials such as polythene or nylon which will guarantee against re-contamination. There is also the marked advantage that no rise in temperature occurs during the process, so that

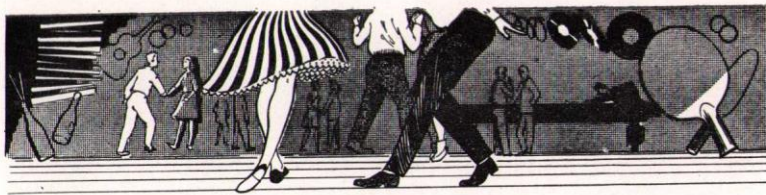
food remains fresh.

In the investigation of the use of radiation in food preservation it was soon apparent that many problems had to be solved before commercial application could be realised. Doses of radiation sufficient to sterilise completely such items as meat, fish and milk cause a small amount of chemical change in the foods themselves, and these changes have a detrimental effect on flavour and odour. Sterilising doses of radiation do not inhibit the damage to stored fresh food caused by natural enzyme action which results in loss of natural flavour and texture. It is possible, however, to use low doses of radiation to pasteurise the foods in order to extend refrigerated storage; the normal refrigeration life of chicken can be extended about five times. Mould can be readily prevented from forming on soft fruits, such as strawberries, which when adequately wrapped will keep at room temperature for about a week.

Radiation might also be used to solve some food problems related to public health. Certain foods imported into this country, such as frozen whole egg, coconut and animal feeding stuffs, are partly responsible for the spread of food poisoning organisms. Some organisms have been found to be especially susceptible to radiation, and this application is being closely studied. Quite a different application of radiation concerns its use in the prevention of sprouting in stored root crops such as potatoes, carrots and onions. This low dose process is very successful and its commercial feasibility is being examined. Another low-dose process successful in the laboratory is that concerned with the elimination of insect pests from grain and dried fruits.

Before any such process can find practical application, the treated food must be adequately tested to ensure that no nutritional loss has occurred and no toxic compounds formed. Certainly there is no danger of induced radioactivity using the type of radiation envisaged. Many irradiated foods have already been fed experimentally to thousands of animals, including rats, dogs, pigs and monkeys. In the U.S. human volunteers have already participated in some tests. So far irradiated foods have been proved safe to eat, and it is confidently expected that they will eventually be passed for human consumption.

Much more work remains to be done, and costs will have to be carefully considered; but the possibilities of radiation in food preservation are high, and certainly warrant a close and careful examination. ★



Youth Club

by R. T. Fenn
(Oxford Office)

The recent publication of "The Needs of Youth in Stevenage", the report of a Committee set up by the Gulbenkian Foundation, has focussed attention once more upon the problem of catering for the needs and aspirations of teenagers, not only in new areas but in older ones also — towns and villages alike — and on the efforts made, usually on "shoe-string" budgets, in trying to cope with the immense task. Not the least part of the problem is the provision of an adequate number of Club Leaders.

Some two-and-a-half years ago I was asked to take over the part-time leadership of a Senior Youth Mixed Club. After some rearrangement of my leisure time activities I accepted, and found myself on two evenings each week travelling from my home in Oxford to a neighbouring estate, to run the club. I was no stranger to Youth Club work, although the greater part of my experience had been in helping to found and run a Boys' Club for lads I knew in another part of the country.

Most Boys' Clubs are linked through local organisations with the National Association of Boys' Clubs or run through the Youth Service of the Local Authority or by individual churches. These two latter organisations also provide Girls' and Mixed Clubs. The Club to which I was appointed is part of the activities of that district's Community Association.

The district has, unfortunately, a notoriety for "toughness" and crime, rowdy neighbours, etc., and, judged by hearsay alone, is the only estate in Oxford where Teddy Boys live. This is not entirely true, of course, and I have found things to be not so black as they were painted.

Before commencing my leadership I had been told it was a common practice for some members to play darts with flick-knives; but, although I have seen these weapons at the club, the most dangerous use to which they have been put has been the sharpening of pencils! Without resorting to confiscation, even the carrying of these knives was discouraged long before the law relating to them was amended.

The club is open three nights a week, from

7.30—10.00 p.m., with age limits of 15 to 20 years of age. There are not many members over the age of 18, as by that time the girls are courting a "steady" or already married, and the lads have acquired motor-cycles or started "pubbing". The highest recorded membership was 120 when the average attendance was approximately 60, but a more recent figure is between 20 and 30, due in large measure to the prolonged fine weather last summer and autumn.

Going among absolute strangers was in some ways a disadvantage, and I was treated at first with a mixture of suspicion, indifference and scorn; but from a few came a genuine welcome. The advantage was that I had no favourites, and it was necessary to move among the members to learn their names, if nothing else. It is important that rules should be as few and simple as possible.

The girls respected authority, some lads resented it, but the majority were content to "try-on" various harmless dodges to bring about my discomforture. Their minds usually worked in set patterns and it became possible to spot early on when "ganging-up" on me was part of a larger plan, although I cannot claim anything like 100% success.

Turning a blind eye to any blatant attempt at evading responsibility or breaking rules is fatal to a leader, and only genuine reasons for not adopting a certain recognised course of action should be accepted. For example, members paid 6d. per night of attendance, and when collecting this cash I have been told "I don't get paid until Friday," or "I've come out without any money," or asked "Can you change a £5 note?". After pointing out the rule of "No subscriptions — no admittance", I have been paid, and also observed later, when the canteen was open, that these members had plenty of cash and were certainly in no need of change.

The members demanded nothing more than "jiving", table tennis, billiards and darts, with an occasional film show, although, had it been permitted, they would have gambled at cards. The presence of a speaker, strictly enjoined to

limit his talk to not more than 15/20 minutes, has led to the absence of members, or a noisy and restless audience.

On one occasion the Oxford City Librarian was the speaker, and he glanced at his watch when he had been talking for just over 10 minutes. At once, someone at the back bawled out (no other word can adequately describe it) "You've 'ad yer lot!" At times, these interruptions show a ready wit, as when one speaker on civic affairs posed the question, "Who do you think gives orders to the police?" and like a flash came the reply, "The Teddy Boys!"

The experiences recounted so far may have painted too gloomy a picture of the Club, but the brighter side has more often been evident in my experience; greater space would be required to relate them than is possible within the

compass of this article. Many members are bright, cheerful, helpful and intelligent, and among their number are Magdalen College boys and Milham Ford girls.

In conclusion, there is a great need in this area for Club Leaders. The Youth Services of both Oxford City and Oxfordshire County run courses for leaders, offer help and encouragement in planning programmes, etc., and there is also some payment for doing the job. I am sure the same conditions apply in Berkshire. Anyone thinking of helping in this sphere of social service will find plenty of scope.

(Since the above article was written "The Albemarle Report on the Youth Service" has been presented to Parliament, and all its main recommendations accepted in principle by the Government).

★ ★ ★ ★ ★

Presentation of Staff Suggestion Awards

A cheque for twenty-eight guineas was presented on 26th October by the Director, Dr. F. A. Vick, to Mr. H. Waller of Electrical Services. Mr. Waller had developed on his own initiative a device for the precise overload protection of small electric motors in remote handling equipment. The total award of thirty guineas was based on the savings expected over one year.

The brief ceremony in Building 394 was witnessed by Mr. Waller's colleagues and by senior members of the Engineering and Personnel Departments. The Director, making the presentation, said that Harwell employed bright people who were certain to have good ideas. The Suggestion Schemes existed to ensure that good ideas from any quarter could be brought to the attention of the management and become effective as quickly and as widely as possible. As a token of appreciation, and as an encouragement, awards were recommended where the suggestion was not part of the author's normal duties.

Dr. Vick said that he was pleased to present this award, particularly as this was a unique occasion; it was the largest award so far ap-



proved by the Staff Suggestions Committee and the first time that an award had been presented personally at Harwell.

Harry Waller, who lives at Blewbury, joined the Establishment as a Maintenance Mechanic in September, 1947 and for six years was a member of the Authority Whitley Council. Now a Tech. II, he is the Chairman of the Branch Council of the Authority I.P.C.S. Com-



The Director chats with members of Electrical Services, Bld. 394.

mittee. Over the past five years his successful suggestions, which are shown below, have won a total of forty-five and a half guineas — tax free :—

July, 1955, $\frac{1}{2}$ guinea — Combined spray and squeegee.

January, 1958, 12 guineas — Design of Electric Furnace.

October, 1958, 3 guineas — High Temperature Furnaces.

October, 1960, 30 guineas— Overload protection device for small electric motors.

An award of £10 was presented to Mr. R. T. E. Fenn on 6th October, by Mr. K. P. Varney, Head of Contracts Department. Mr. Fenn's suggestion had obviated a fire risk in the Oxford Office.

The members of the A.E.R.E. Staff Suggestions Committee are nominated by the Official Side and the Staff Side of the Whitley Council. The Committee meets on the third Monday of each month to consider all suggestions, including safety and productivity suggestions, submitted by non-industrial staff. Awards may be made up to a limit of £50 for any suggestion which concerns a matter outside the normal range of duties of the author. The personal file of every officer whose suggestion received a monetary award or a commendation is annotated accordingly.

Suggestions from Non-Industrial Staff — on any subject — should be sent to Mr. F. K. Pyne, Recruitment Branch, Building 77. ★



МОСКОВСКИЙ ВИЗИТ

by J. R. Williams (W.R.L.)

It is now comparatively easy and cheap to travel to Moscow. It is most inexpensive if one does not stay in hotels while in Russia but at the few, though excellent camping sites. My wife and I did this recently and spent eight days in Russia, five of which were in Moscow, and we had an excellent holiday. All of us on the tour flew to Rotterdam where we picked up a coach to take us, with hotel stops at Hanover, Berlin and Warsaw, to the Russian frontier at Brest. Although the crossing of frontiers between Communist countries resulted in delays of up to a few hours, the officials on the Russian side of the border with Poland were efficient. Aside from currency, jewellery, watches, etc., we were requested to declare what books we carried. None of our baggage was ever searched on the continent.

Because of our very late arrival in Brest we had to stay the remainder of the night in the Intourist offices in the railway station. Some of us slept under the watchful eye of a painting of Stalin. Later we found that in Russia the statues, busts and paintings of Stalin were only outdone in number by those of Lenin. Possibly we missed viewing a small number of statues of other characters because we mistook them from afar for unimaginative poses of those noble men. The railway station was a new, expensive, ornate structure built to last at least a thousand years longer than will railways. Like most post-revolutionary architecture in Russia, it was not displeasing to the eye — especially, I presume, to the eye of a Victorian Englishman.

Next day we drove along the fine but monotonously straight road across the Russian plain towards Moscow. Collective farms on either side were composed mostly of fields of wheat waiting for the combine harvesters. However, there were many peasants (both men and women) working together cutting the corn by hand. Likewise peat cutting, road building and maintenance were shared by men and women. Though the road was in excellent condition, the traffic was light and consisted mostly of lorries.

This obvious preponderance of goods vehicles over cars was an example of the fundamental basis of the Soviet economy. Alongside the road, for most of the 600 miles to Moscow, an oil pipeline was being laid. In addition, there were clover-leaf flyovers at some intersections.

Although police in Russia, like English bobbies, do not carry guns, some bridges on the Moscow road had armed soldiers in sentry boxes. Red army soldiers on leave were much in evidence everywhere we went.

The camping site 12 miles to the south of Minsk had all mod. con., including hot showers, post office, shop, restaurant, kitchens with gas and electric stoves for use by the campers, and pits in hard-standing to enable people to work under their cars — probably very necessary in view of the paucity of garages. Each hedged compound had a macadam stand for a car with a grass patch for a tent.

That evening we hitch-hiked into Minsk and took a look around this newly built town. It is quite grandly laid out with wide, clean boulevards, ornate brick and stone buildings and a fine sports stadium. Large, poorly kept barrack-like flats contrasted with log one- and two-room shacks along the country roads. Nearer Moscow these shabby wooden houses were observed to have sprouted up to six TV aerials. If garden utensils are included in the next seven year plan, maybe people with some house pride will be able to keep their gardens tidy.

The long three-lane "autobahn" made us realise the immense size of Russia, its low population density and its comparatively primitive peasant agriculture economy. Presumably, there must be some symbolism in the fact that our first sight of Moscow was of the huge University on Lenin Hills dominating the city. Vast blocks of brick flats interspersed with decrepit log cabins characterised the suburbs of Moscow. Extraordinarily wide streets and a few hotel skyscrapers looking like ornate iced cakes, to my mind, characterised the inner regions of Moscow. However, passing across Red Square at night, the floodlit Kremlin, with its red walls and its buildings of yellow and white with green

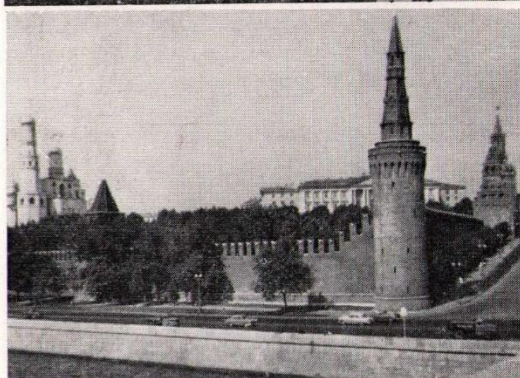


roofs, with churches raising gold cupolas and red stars above the towers along the walls, was a most memorable sight. Brilliantly coloured St. Basil's Cathedral and the sombre tomb of Lenin and Stalin added to the beautiful scene.

We camped at Bootova, 20 miles south of Moscow, at a site as good as the site at Minsk. It was very conveniently located for travel each day to Moscow on the wide electric trains. These are clean, new, cheap, frequent and punctual within ± 30 seconds. Gross slackness in issuing and collecting tickets, however, must enable a sizeable percentage of passengers to travel gratis. We do not know whether it is the Communist government policy to continue reduction in rail fares (as well as the cost of food and clothes) until they are free by 1975. If it were so, the lack of concern about fare collection on all public transport might be explained.

Our daily trips to Moscow were in order to visit all the places tourists visit and were freely undertaken without a guide. We saw the Kremlin, University, Lenin Museum, Tretyakov Gallery of Russian Art, the planetarium, a technical exhibition and the enormous exhibition of National Economic Achievements. In addition, our object was to meet English-speaking Russians; and this we did without difficulty because they were anxious to meet and talk freely with us. We particularly wanted to know if there was any movement comparable with the British Campaign for Nuclear Disarmament, but found that people believed their government to be anxious to disarm and did not agree that the refusal to allow inspection was a hindrance.

Our impressions of the Russian scene at an economic level were that, because of a carefully planned economy, absence of unemployment, a very low crime rate and the widespread employment of women in most types of jobs, the economy is continuing its "great leap forward," the immediate object being to overtake the U.S.A. at the end of the seven year plan in 1965. Progress has been very rapid, and with the immense increase and emphasis on education will be even more rapid. The idea of



progress towards a communist state in which there is equality of opportunity, a high living and intellectual standard and in which money has little importance is, we think, what makes the Russians tick.

At everyday level, life is hard — very hard for the peasants, though not so bad as it was in Stalin's era. The quality of most of their consumer goods is poor, and they are expensive. Likewise with food; yet, even if it is monotonous, it does not prevent the people from seeming very healthy. Town folk dress fairly well by English standards but do not take much pride in their appearance. There are as yet very few advertisements to educate taste. Moscow streets are comfortably full of new cars — Yankas, Volgas, Moskvass — and in a few years will be crowded. The traffic is fast and dangerous to pedestrians. Buses and trolley-buses are new and, as on the Metro, a flat rate is charged for travel anywhere. The Metro is the pride of Moscow: it is truly magnificent and makes the New York subway and the London underground at rush hour appear unspeakable slums. There are approximately 50 stations, all large, deep (except for one which is in the middle of a bridge over the Moskva River) and lined in marble and with statues.

Books are very cheap in Russia and people read a lot, so that it is common to see people reading while waiting for a meal, or at other odd moments. The literature available to them is strictly controlled, of course. This means that, against the grave disadvantage of not being able to read much recent Western literature, they have the advantage of not being exposed to pornographic literature and cheap advertising! Like the Victorians of yesteryear, the Russians of today are a very puritanical people. The Communists believe something which is still not fully accepted in the Western world, namely that adults need educating; and in addition that they must not be exposed to certain so-called decadent Western influences.



They know about (and some possibly accept) jamming of some Western radio programmes and they cannot purchase any English paper other than the Daily Worker.

The most gruelling feature to a hedonist visiting Moscow is the inane inefficiency in shops and cafeterias. Apart from there being far too few shops and restaurants, it is necessary to join a queue to purchase a ticket before going to join another queue to procure some article. If you then decide it should be wrapped, or you want another article, more queueing may be necessary. Possibly because of the lack of competition or because they are overworked, shop assistants have no incentive to be pleasant. Likewise, the choice and display of goods are rather poor.

The contrast between public and private wealth is most striking. One instance of public lavishness: as scientists, we were impressed by the physics equipment in the Exhibition of National Achievements. We saw modern nuclear magnetic resonance apparatus, an X-ray spectrograph, a bubble chamber and the complete equipment of an experiment to ascertain whether the neutrino and antineutrino were equivalent by a double beta decay experiment. The equipment was so new that positive results to the experiments had not yet been obtained with similar equipment in a research laboratory.

Not the least enjoyable feature of our visit there was that we were able to see and talk freely with Russian people who had similar interests to our own. This, together with the many topics of interest and the strong contrasts of viewpoint, made this a memorable holiday.

★ ★ ★ ★ ★





Klonowski
Lucia

g 14.7. 1948



Klonowski Johanna
geb 15.1.51



Klonowski Bendrik
geb. 28.11 52



Klonowski Witold
geb. 16.5. 54

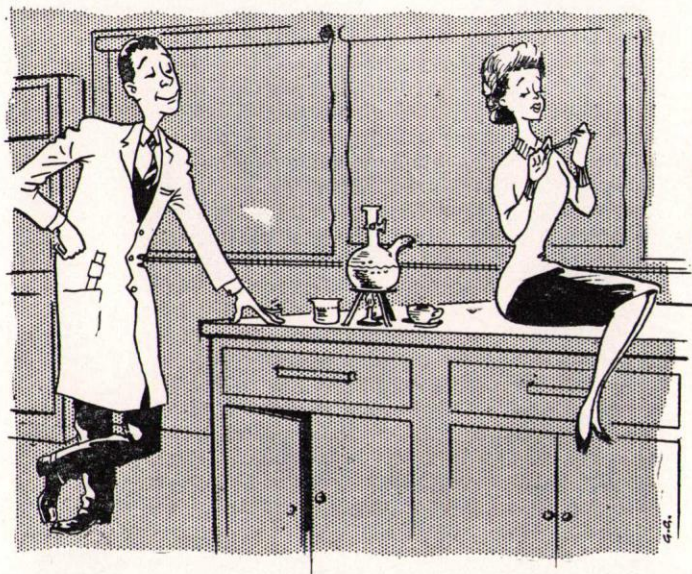


Klonowski Jolanta
geb. 1.9.57



Klonowski
Andreas
g.15.5. 1959

On 28th September we welcomed the Klonowski family to a new life in Didcot. Mr. Klonowski works on the Grounds Staff at Harwell and the four eldest children go to school in Didcot. Further news of the family will be published with photographs in a later issue of 'Harlequin'. We are glad that this Christmas, unlike so many previous ones spent in refugee camps, will be enjoyed in their new home. We wish them all happiness at this time.



Getting the most out of your Office

"Henry Butler"

So many people anxious to increase their standing among their colleagues have asked my advice on office-keeping that the Editor has kindly allowed me to write on the subject. I feel strongly about offices; in a world so much concerned with paper problems, effective use of an office can greatly enhance the value of research and make an astonishing difference to a man's status within an organisation.

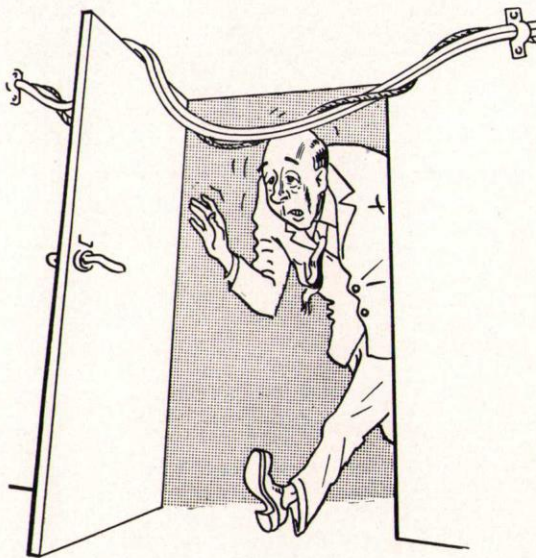
"Give Me The Office" (old naval saying).

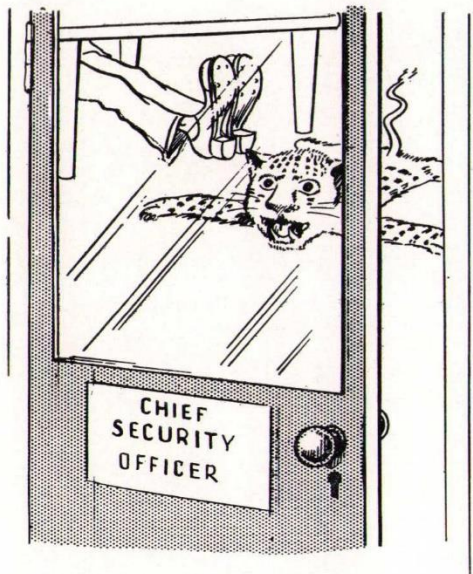
To begin at the beginning: is an office necessarily an advantage to you? Take the case of C—— who was doing quite well investigating the crystal structure of sodium monoglyceride lauryl sulphate — well enough, in fact, to entitle him to an office, minimum standard. To everyone's surprise C—— refused it — "I do my best work on the corner of the bench," he said. The Rutherfordian overtones of this remark at a promotion review had their effect, and C—— was also able to take over from a colleague enough lab. space for a desk, three chairs and a bookcase.

P——'s ploy was the reverse of this. He noticed that in order to get offices accepted as part of a new Research Group building they were scheduled for water, power and compressed air supplies and labelled "laboratories" on the plan. So P—— had some services laid on, moved in a bench and a few defunct counters, making sure that his carpet was obscured, and draped an old lab. coat over an upright chair. He sat in the only armchair, which was covered in an old but regularly

cleaned piece of black-out material. The touch of genius was undoubtedly the festoon of cables running across the room just inside the door: they were 6 feet above the floor; P—— is 5' 6".

For the administrator, of course, the "no office, I'll work at the bench" ploy does not convey the same feeling of devotion to essentials, and might even be taken as an attempt to escape from the telephone. On the other hand, an office larger than the standard laid down for one's grade gives an aura of imminent promotion which is definitely "one-up".





Credit Furnishing

The carpet sizes appropriate to ranks are now so well known that they offer splendid opportunities to impress. A seamed carpet square divided down the middle and formed into an L shape round the desk gives a 50% increase in display area, and small felt pads on the legs of the occupant's chair disguise the fact that it is resting on the bare floor. S——'s ploy also has its merit: he exchanged a small, new rug for a tiger skin, complete with snarling head, thus combining an impression of long service in a high rank with indifference to material surroundings — "a man's merits will always outshine his trappings". He also acquired old, well-made pieces of dark oak furniture when everyone else was scrambling for light oak, counteracting the out-of-dateness by a subtle use of modern desk accessories.

No scientific office is complete without a blackboard, but this item needs careful handling. The casually worked out calculation is now all too obvious, especially if it finishes up

$$\therefore E=Mc^2.$$

The "insignificant details" approach is also outmoded — "Dentist 11 a.m." or "Kellogg's" can no longer be relied on to suggest the pre-occupied scientist, and in any case needs daily or weekly renewal. Roughly-drawn staff charts can be effective if you control enough staff to make a show: ringing or striking out one or two names can help, and a small, neat question mark in colour against a name is very effective.

In administrators' offices opinion is divided about blackboards; they are suspect because of their scientific origins and also, I think because of Freudian reminders of the class room. A column of *almost* entirely rubbed-out calculations can suggest that the board was inherited from a previous scientific tenant of the office, but correct usage still remains a problem. I like the B—— technique of listing a number of inanimate matters and interposing, about halfway down and slightly offset, the Director's name. The blackboard can also be used to get across a good idea to your boss. Arrange for him to see, without comment, enough clues to a new idea on your board; it will then strike him as his own and he will suggest it to you, whereas if you had written him a minute about it he would have rejected it. Reclaiming credit for yourself is difficult, but notable work has been done with a previously prepared minute making the suggestion but sent to the wrong person "by mistake".

The best piece of credit furnishing is, of course, the conference table. If you can acquire space, the table itself is less of a problem, and the rest follows. One man's exploitation of a mistake about the number of clerks in his section gave him room for an additional table. He then wrote a minute to Stores pointing out that "the conference table supplied was not large enough for the purpose" and was given a bigger one. Adding six chairs followed easily. The table was made to look used by instructing the cleaners that the carefully filled ashtrays and the sheets of paper covered with doodles were never to be removed.



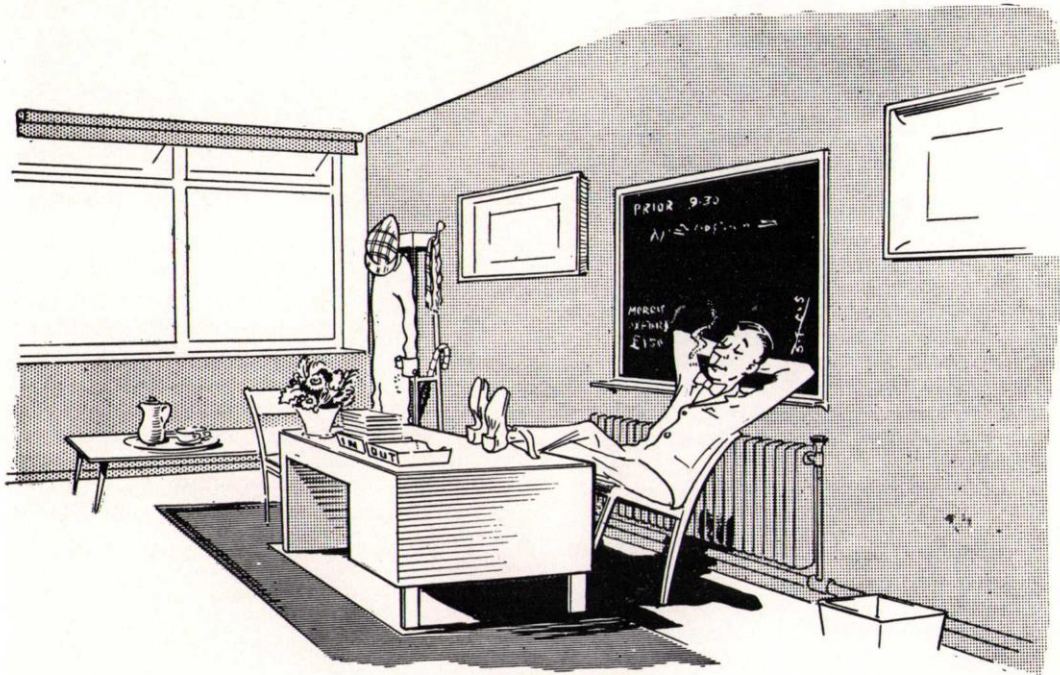
The Personal Touch

Excellent effects can be obtained relatively cheaply by planned use of personal possessions in an office; and yet I am sure that beginners make more mistakes over this than over anything else.

Let us take pictures, as an example. One soon learns not to hang officially supplied pictures, but it is no improvement to substitute French Impressionist prints or Dutch interiors. At the moment tachisme is unusual enough to put you "one-up". A competent do-it-yourselfer will find most of the materials in his

Desk accessories need careful handling. So few people run to more than two trays — "IN" and "OUT" — now that there is a temptation to make do with one. This seems to me to be wrongly thought out; three trays — "IN", "OUT" and "THINKING" — are a possible line. Some people can get away with a desk clear of all but a blotter and a silver cigarette box (this contains paper clips, of course); the desk drawer can be fitted with compartments to serve in place of the trays.

On the scientist's desk a slide rule is unremarkable, but in the administrator's room it



workshop, and little skill is required; if in doubt, enlist the help of your five-year-old or one of our medical officers.

T——'s alternative has merits, though it would be debased by imitation. He sprayed dirt round the edges of a picture frame and took the picture down. He could then say either "Of course I won't stand for inferior pictures, and a good one distracts me from the job in hand," or, "Well, Sotheby's have been pressing me for some time to let them handle it." A variation on the latter could be that the Leeds Arts Gallery is holding a pre-Raphaelite exhibition "and I really couldn't refuse them".

still retains an aura. A slide rule box is all you need; if your visitor sees the box is empty, say "Oh, I must have pushed it away in a drawer last time I used it" or "Yes, the cursor spring wore out."

There is much I must leave unsaid. For example, gardening reputations are still being made inexpensively by the subtle use of flowers in the office; the correct handling of foreign souvenirs is an absorbing topic, and it would be hopeless to begin now to discuss the proper use of secretaries. I trust that what I have said will prove of value to some readers in their fight for recognition.

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Trafalgar Day Dinner

20th October

1960

Once more the call "England expects . . ." brought together those who commemorate the victory of the Battle of Trafalgar with an annual dinner. This was served in the Social Club on Friday, 20th October, the 155th anniversary of the event. Rear Admiral Post, O.B.E., R.N., the guest of honour, was introduced by Mr. R. F. Jackson who presided.

After a most agreeable dinner of turkey with white wine, the Chairman, Mr. S. J. J. Waldron, proposed the customary toasts. Rear Admiral Post then proposed a toast to A.E.R.E. and referred to the first atomic powered submarine that had been launched only that morning. Now it seemed that the wheel had turned full circle, for once more, as in Nelson's day, the warrior set forth on an extended voyage to seek out the enemy. Nelson, himself an innovator, would have approved of this co-operation of scientists with the navy, but had Nelson been alive today there would have been by now not one but twenty Dreadnoughts afloat!

Mr. S. J. J. Waldron, who served in the navy a number of years, said that he could tell nothing of the navy in five minutes, but reminded us that that Institution was over 400 years old and would, he sincerely believed, be as important 400 years hence.

Mr. R. F. Jackson recalled how the numbers attending the Trafalgar Day dinner had grown from just a handful in recent years.

It was anticipated, as the company rose from dinner, that the more serious part of the evening was yet to come.





Troopship by Mary Stewart

*"... the endless waves
Ride on into the sun"—*

Laurence Binyon

Every year, towards the end of March, I look for the few brief lines of newspaper type which never fail to appear, and I remember the events of that tropical day as if it were yesterday.

It was half past seven in the morning. I lay in the upper bunk, propped up on one elbow, drinking the sweet tarry liquid that passed for tea. Alone, the ship ploughed south through the Atlantic in long, swelling rolls, and against the rhythmic beat of the engines the usual morning sounds filtered in from the alleyway — the flip-flap of sandals, a sentence in Goanese, a man calling for his bath. My cabin mate, silent and rather pale, was already up and dressing. I looked down across her shoulder with complacent admiration at my dressing case. The lid was open, displaying the silver and green enamel fittings neatly embedded in moiré silk and fine black morocco leather. I shall never have another like it.

My thoughts turned idly to the day ahead — a day like yesterday or tomorrow when we confidently hoped to cross the Equator —

There was barely a split second between the shriek of the alarm bells and the deafening burst of gunfire. Fear hammering in my throat, I leapt to the floor, the cup spinning across the cabin, and clad in slacks and a jersey and carrying my lifebelt I went into the alleyway.

People were spilling from their cabins and, as instructed, we moved up to the main stairway and out on to the deck. There had been a lull in the firing which then restarted, and again under orders we crowded into the lounge where, for protection, we stacked the furniture against the bulkheads. The firing came in bursts of horrifying regularity as the ship creaked and strained to outdistance her attacker. As we lay on the floor, a young rating and I grasped each other's hands, seeking courage in human contact.

"I'm scared, are you?"

"Terrified! It's my birthday."

"Many happier returns."

Amazingly, we both laughed; as we did, a prolonged blast of the ship's siren gave the signal to abandon ship, and the firing ceased. I had lost all conception of time. It might have been an hour, or even two, since the first alarm.

The lieutenant in charge of our lifeboat came in to tell us to proceed to boat stations. Outside, a man lay dead, his face turned into his arm and his life blood flowing away across the deck in a broad, tomato-coloured stream. I paused stupidly, feeling nothing; and then, obediently with the others, I swung precipitately over the side and down the rope ladder into the boat. In no time it was full.

The difficulty of getting away from the doomed vessel was indescribable. The lifeboat lay against the hull as if glued to it. Several people were sitting on the oars, and shouts were

drowned in the blasting of the siren and the hiss of escaping steam. Another boat would have crashed down on us had we not seized its keel and with desperate strength thrust it away. At last, agonisingly, the oars were manned and we pushed off, rowing with painful slowness in a wide arc to the port side of the ship.

Around us the havoc was appalling—floating wreckage, papers blowing crazily in the wind, a lifeboat dangling by one rope, another sinking with more than twice its complement of human lives. From half a mile away the raider moved in for the kill, and now we could no longer see her. The horror on the faces of those near me was reflected on my own in the realisation that we lay directly in the line of fire.

Noise splintered the bright morning with destruction. The shells tore viciously into the ship's hull and superstructure. Shuddering, she dipped into the trough of the waves, but the boisterous swell uplifted her and again she shook convulsively, wallowing, but still on an even keel. Smoke, fringed with flame, billowed along the promenade deck and rose lazily across the spurious gaiety of the signal on the rigging. The guns barked again, and once again. Fragments of wood and metal flew from the bridge, scattering wildly in all directions over the water. The raider now edged out on the ship's starboard bow, and the jagged flash and roar came almost at the same time. The ship was settling down, the voracious waters rapidly engulfing her hull. With lowered bow she trembled a last time, and gradually her stern upended, lifting the rudder and motionless blades against the azure sky. Fantastically poised, she braced herself for death and then, with a mighty plunge, she was gone, the ocean surging and boiling over her. A large expanse of oil on the surface of the water burst into flames, obscuring the sun in a pall of dense black smoke. When it had cleared, there was no sign of the raider or of the other boats. No one spoke. I was suddenly violently sick.

Later we were to agree that our greatest hardship during the time afloat had not been hunger — for after the first day we did not feel it — nor even thirst, which by the third day was severe — but the acute discomfort of the overcrowded boat. There were fifty seven of us in a space barely sufficient for twenty, and the boat lay so low in the water that movement was dangerous.

After a few hours, the lieutenant made a matter-of-fact speech which began, "No doubt you are all wondering what we intend to

do . . ." We were to sail due north until Saturday (it was then Tuesday) in an attempt to reach the Cape Verde Islands.* If by then there was no sign of land, we would turn due east in the hope of reaching the West African coast.

At five o'clock in the afternoon, a young sub-lieutenant began the handout of rations — a tablespoonful of water and a ship's biscuit. Subsequently, a case containing forty eight tins of condensed milk was found on board, and after the initial meal this was spread on the biscuits, the ration of which was reduced to one half twice a day. When we had all eaten and drunk, the lieutenant read from a small prayer book, "Behold I am with thee and will keep thee in all places whither thou goest . . ." and we repeated the Lord's Prayer. The lamp was filled with oil, lighted and slung up to the mast head. The sun flamed over the horizon in a blaze of green and gold, and, suddenly, it was dark.

At six next morning, the brassy sun was already climbing into the sky. It was a long time till ten o'clock and breakfast. I sat with a flat cigarette tin on my knees spreading the milk on the biscuits with a small penknife. I thought, "If my brothers could see me at this moment they would go mad."***

The tiller had been shot away in the bombardment, and steering had been done the previous day and night by a rope. Two of the men were improvising a tiller from the packing case wood. Bailing out had continued throughout the night, but the dry wood had now swelled. The sub was directing the fastening of a canvas awning (thought at first to be a spare sail; the one hoisted already showed signs of cracking). A reassessment of our rations indicated that with care we had enough for eight days.

At five o'clock we ate and drank. The long blinding day ended and the cold, clammy tropical night closed around us. In the darkness the breakers whipped against the boat, and the heavy salt spray, adding to our misery, dried on our skin in chafing sores. Wednesday passed — Thursday —

During Thursday night, someone shouted that he saw a light. Hope soared. Land must surely be ahead, and so an hourly watch was set on the bow. A flare was sent up into the blackness and we waited with uplifted hearts for the morning. When day broke on Friday we were still alone.

Unbidden, the treacherous thought edged into my mind that it would be easier and even pleasant to close my eyes and give up the will to live. I was desperately tired. Sleep was impossible, and like many of the others my face and hands were blistered with exposure. Our cramped state was almost unbearable, but even in our small isolated world order was maintained, and when ten o'clock came the sub and I started on the rations. The biscuits were broken and now tasted rancid, but it was essential to see that each got exactly one half, and the concentration for this trifling task was exhausting. We had almost finished, keeping our own portion to the last, when there was another shout, "Ship on the starboard beam!" and there she was, so small, far on the horizon. The awning was quickly rolled back; our efforts to attract attention were so vigorous as to draw a sharp warning from the lieutenant. A jacket was soaked in lamp oil and set alight. We waved, even tried to shout. A flare went up, and some signalled with empty cigarette tins. The ship sailed on as we watched in an agony of hope and fear, and then, miraculously, her

smoke seemed to hover in the air; her outline slowly changed shape as she turned and steamed towards us.

Awkwardly and stiffly, we put on our lifebelts and waited. The lieutenant, book in hand, said, "You will continue to act with dignity and restraint." He opened the book and began to read, "Through Thee will we push down our enemies. Through Thy name will we tread under them that rise up against us." The ship drew cautiously nearer, fearful of running us down. She was old and weather-beaten, and painted a dingy grey — she looked beautiful.

*This plan was frustrated by the inability to hold a course directly north, and at night it was obvious that we were in fact sailing several points west of north.

**A preliminary list of survivors picked up on the following day and taken to Tenerife was published, and my name did not, of course, appear on it. One of my brothers, the less demonstrative of the two, fainted when he read it.

★ ★ ★ ★ ★

Snapshot Competition

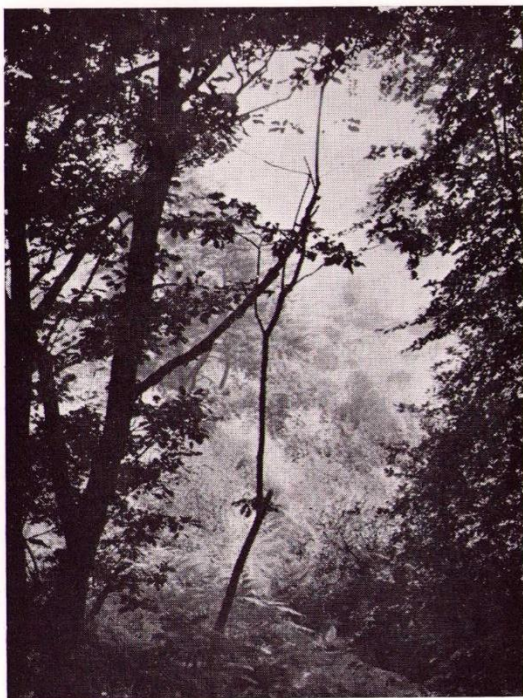
Where, oh where have all those snapshots got to? One cannot but help notice those cameras which adorn the Harwellian in his leisure moments — and yet where are the products? The response to a snapshot competition with prizes offered and no strings attached should have been a hundred prints or more. Yet on the day of judging the score had only topped the thirty mark!

Camera Club members judged the prints, using a system rather similar to that used on the club's print nights, but bearing in mind that the print should have potential merit rather than quality of presentation. The system worked quite well, and the choice of those authors present showed a surprisingly good agreement with that of the judges.

We reproduce the best three prints. First was undoubtedly the beach scene of Peter Whitehouse (Chemical Engineering) with a shot taken against the light. Silhouetted figures made the

centre of interest while two boats in the foreground (not ideally placed, perhaps) led the eye into the picture. It is rare to find the novice pointing his camera into the sun, and on this account the result was to be especially commended. Second place was taken by R. J. Cook (Bracknell) with his picture "At Rest". This was an exceptionally well composed picture of fishing boats in harbour, and it had a placidness particularly suited to the subject matter, while depth was achieved by the dark masses correctly placed in the foreground. Third came the Cuban Dancing Girls by E. Sharpe. This picture was taken at the recent fair in Abingdon. Pictorial merit was not so much in evidence as the ability to record simply and well.

The Camera Club and 'Harlequin' are grateful to those who supported the competition. Perhaps in the future, if a similar competition is arranged, there will be many more entries.



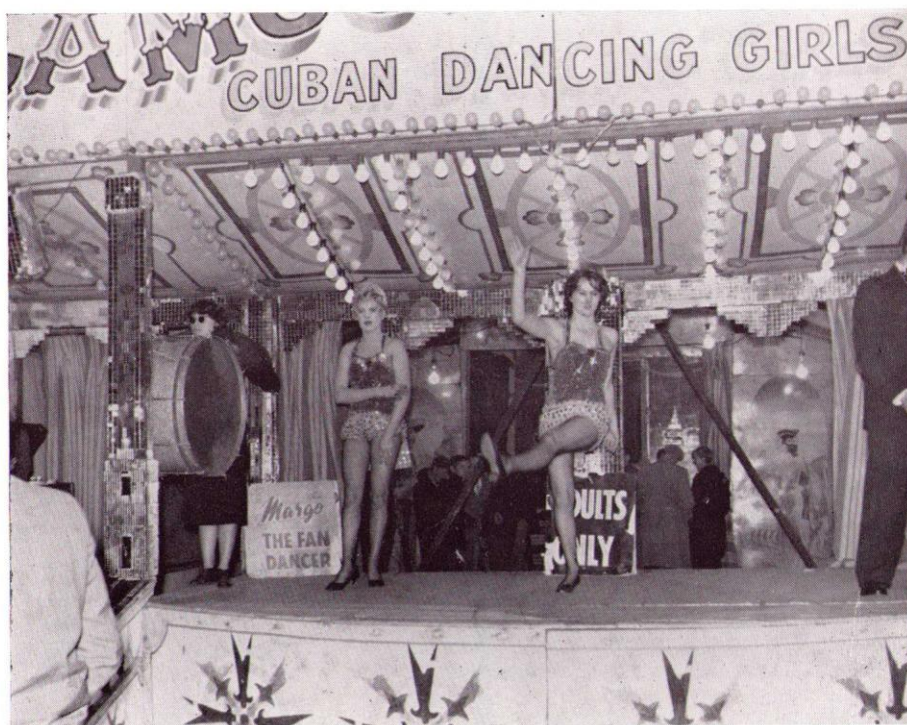
WOODLAND SCENE

R. Fuller
(Metallurgy)

FIRST PLACE
P. Whitehouse
(Chem. Eng.)



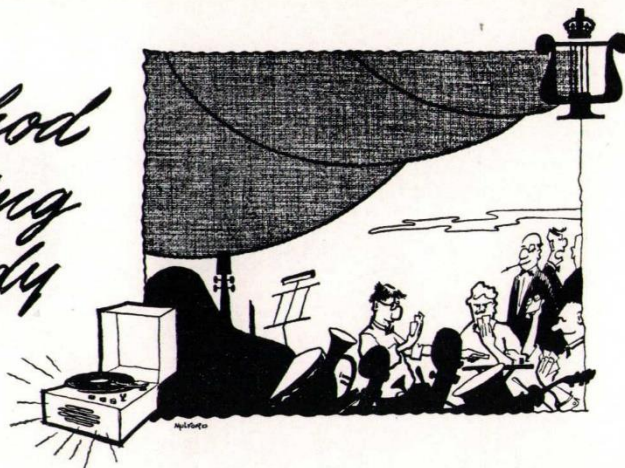
THIRD PLACE
 "CUBAN DANCING GIRLS"
*B. Sharpe
 (Ind. Chem.)*



SECOND PLACE
 "AT REST"
*R. J. Cook
 (Bracknell)*



Method Engineering and Work Study



The following is the report of a Work Study Engineer after a visit to a symphony concert at the Royal Festival Hall in London:—

For considerable periods the four oboe players had nothing to do. The number should be reduced and the work spread more evenly over the whole of the concert, thus eliminating peaks of activity.

All twelve violins were playing identical notes; that seems unnecessary duplication. The staff of this section should be drastically cut. If a large volume of sound is required, it could be obtained by means of electronic apparatus.

Much effort was absorbed in the playing of demi-semi-quavers; this seems to be an unnecessary refinement. It is recommended that all notes should be rounded up to the nearest semi-quaver. If this was done, it would be possible to use trainees and lower-grade operatives more extensively.

There seems to be too much repetition of some musical passages. Scores should be drastically pruned. No useful purpose is served by repeating on the horns a passage which has already been handled by the strings. It is estimated that if all redundant passages were eliminated the whole concert time of two hours could be reduced to twenty minutes and there would be no need for an interval.

The conductor agrees generally with these recommendations, but expresses the opinion that there might be some falling off in box-office receipts. In that unlikely event it should be possible to close sections of the auditorium entirely, with a consequential saving of overhead expenses, lighting, attendance, etc. If the worst came to the worst, the whole thing could be abandoned and the public could go to the Albert Hall instead.

★ ★ ★ ★ ★

Following the principle that "There is always a BETTER METHOD" it is felt that further review might still yield additional benefits. For example it is considered that there is still wide scope for application of the "Questioning Attitude" to many of the methods of operation, as they are in many cases traditional and have not been changed for several centuries. In the circumstances it is remarkable that Method Engineering principles have been adhered to as well as they have. For example, it was noted that the pianist was not only carrying out most of his work by two-handed operation, but was also using both feet for pedal operations. Nevertheless, there were excessive reaches for some notes on the piano and it's probable that re-design of the keyboard to bring all notes within the normal working area would be of advantage to this operator. In many

cases the operators were using one hand for holding the instrument, whereas the use of a fixture would have rendered the idle hand available for other work.

It was noted that excessive effort was being used occasionally by the players of wind instruments, whereas one air compressor could supply adequate air for all instruments under more accurately controlled conditions.

Obsolescence of equipment is another matter into which it is suggested further investigation could be made, as it was reputed in the programme that the leading violinist's instrument was already several hundred years old. If normal depreciation schedules had been applied the value of this instrument should have been reduced to zero and it is probable that purchase of more modern equipment could have been considered.

Scenes from

"All for Mary"

*The Autumn Production
of the A.E.R.E.
Dramatic Society*

PHOTOS BY RAY KENYON
AND GEOFF. WEBB.



"I see you care nothing for me."
Colin Stewart, Eleanor Stewart,
Mike Bedwell.



*"Mary, we could be in
Chamonix tonight."*
Eleanor Stewart,
Colin Stewart.



"I'm only being cruel to be kind."
Mike Bedwell, Ann Jeffrey,
Colin Stewart, Ken Carley-Macaulay.



"I don't trust Mary with that frog."
Colin Stewart, Ken Carley-Macaulay.



"Jezebel!"
Colin Stewart, Ken Carley-Macaulay,
Eleanor Stewart.

"Now then, into bed with you!"
Ann Jeffery, Colin Stewart.



★ *Despite rumours in the local Press, the Society is very much alive.*

The next play, "Sailor Beware!" is in production, and will be performed on the 12th and 13th of January, 1961.

Picture Review

by Ray Kenyon



DAHLIAS — Dorothy Williams



*"— Now that's one we like!"
— Messrs. Turnbull and Ritchie in agreement*



General view and viewers



*George Williams, one of the organisers, and
himself an exhibitor, in pensive mood*



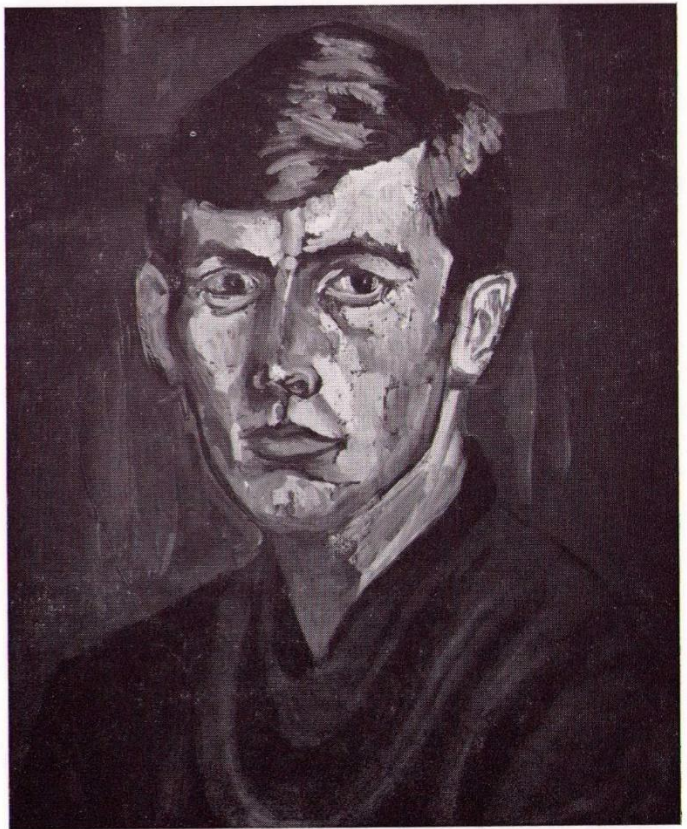
*Seton McConnel, one of the artists exhibiting,
views the work of others*



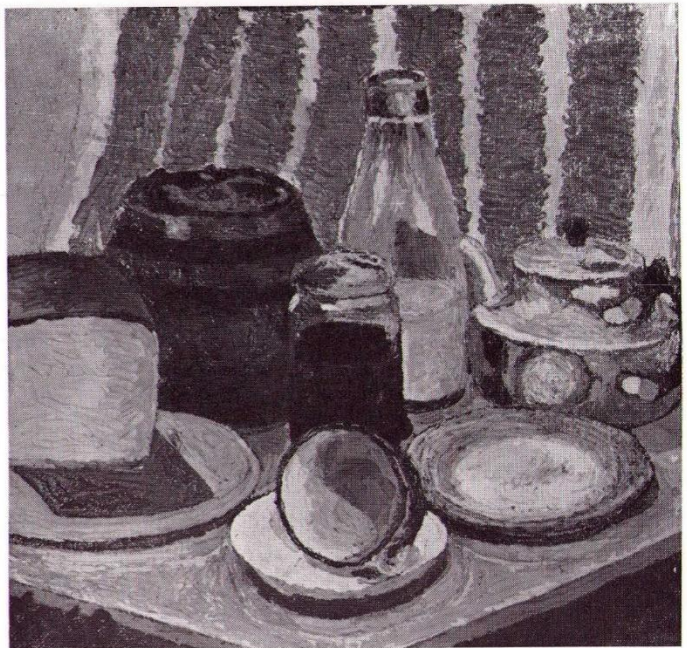
*Dr. Douglas explains —
but Dr. Orr is unconvinced!*

*A. E. R. E.
Art
Exhibition*

SELF-PORTRAIT
Kevan Clare (Eng.)

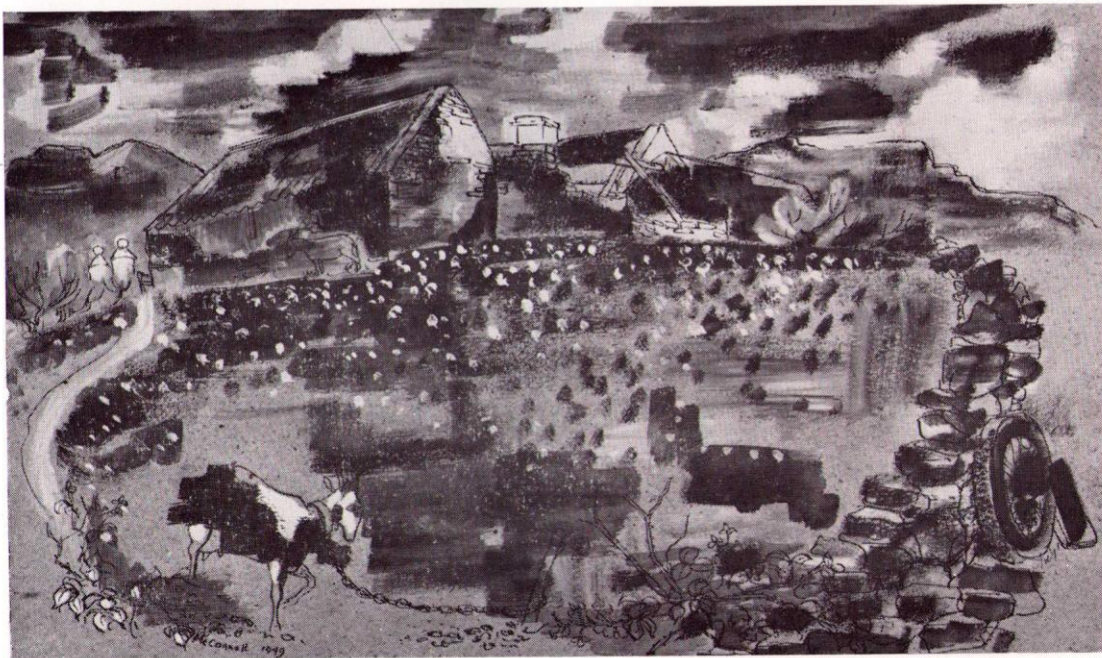


STILL LIFE
C. J. M. Scott (Eng.)

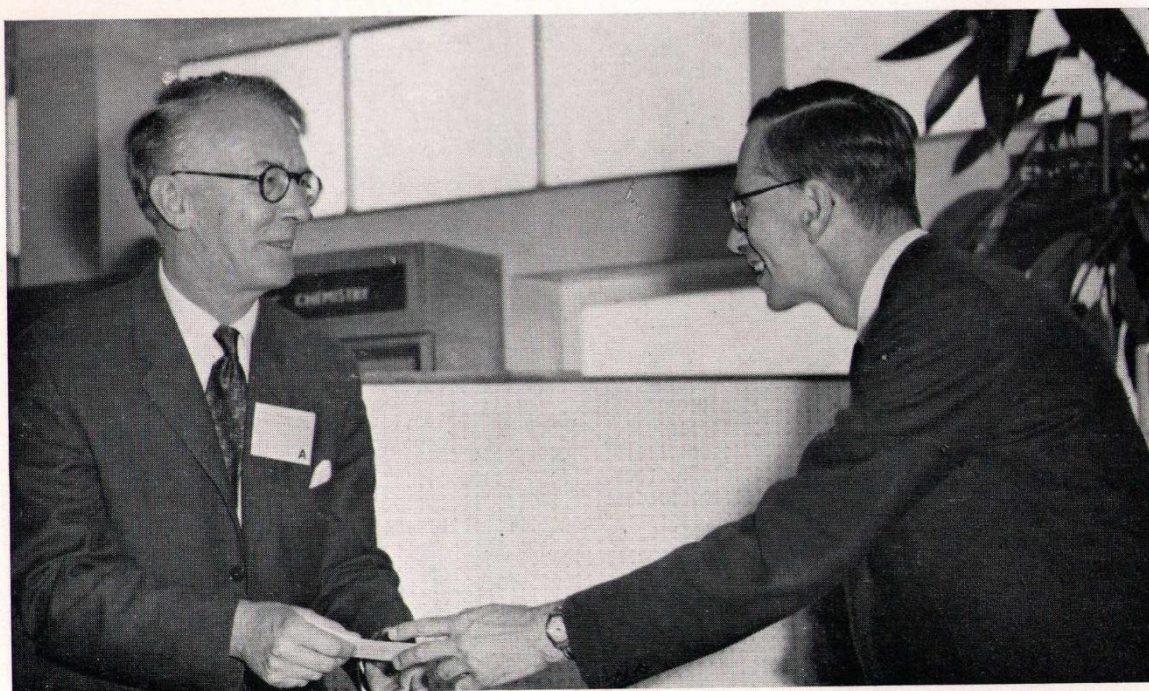




PORTRAIT
Dr. L. M. Haddow (C.T.R.)



DONEGAL FARM *Seton McConnell*



Opening of A.E.R.E. Library Harwell, Sept. 7th

Thoughts expressed by Sir Lindor Brown, C.B.E., F.R.C.P., Sec. R.S., Chairman of the Consultative Committee of the National Lending Library for Science and Technology of the Department of Scientific and Industrial Research.

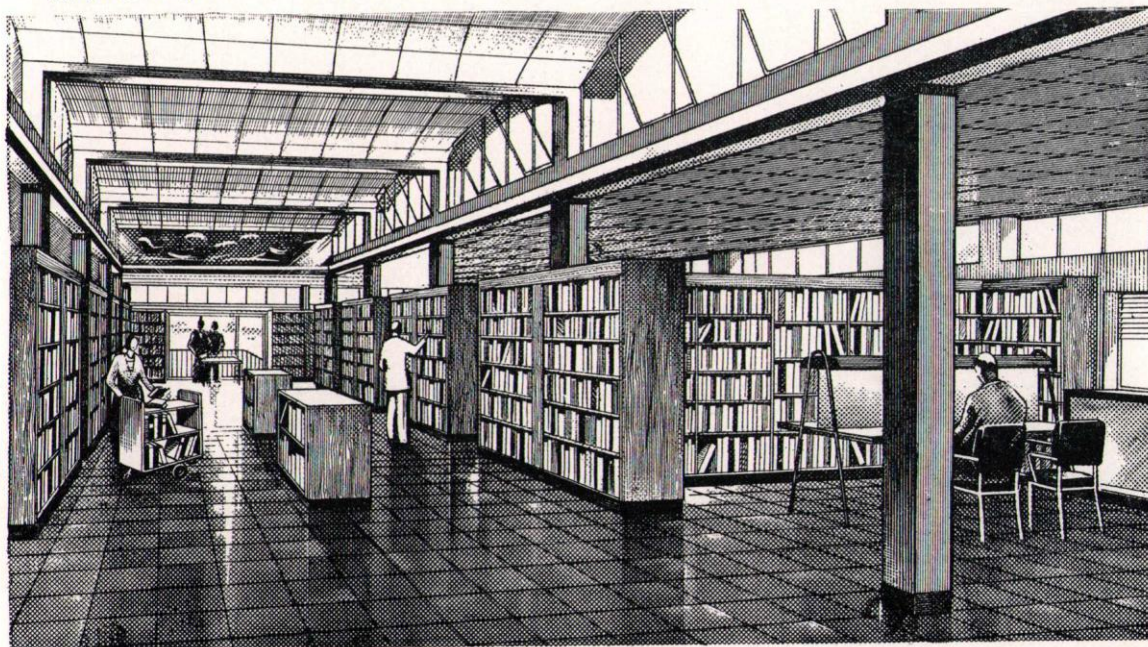
"As I see it, a library in a research establishment has two major functions, apart from such minor amenities as offering a place where the exhausted research worker can rest after luncheon and think deeply with his eyes closed. The major functions are, first, to supply information and, second, to supply inspiration. With 20,000 volumes in stock, a quarter of a million reports, 50,000 microcards and a growth rate of 4,000 volumes and 30,000 reports a year, information is here in plenty. But, of course, the problem is how to make proper use of these enormous and expanding capital resources. It is fortunate indeed for me, and for you, that Mr. Fishenden has taken, and is taking, the trouble to find out something about the reading and information-culling habits of the users of this great library. I have recently read, and if you have not you should read, Mr. Fishenden's report to the International Conference on Scientific Information held in Washington two years ago. To me, the most significant feature of this paper is the fact that the best source of information for the scientist of Harwell is still the reading of

current journals and reports, and, for the pure research worker, a preponderatingly great use is made of current journals. This gives me an opportunity of mounting my own favourite hobby horse and pointing out once again that whatever new methods of disseminating scientific information may be available now and in the foreseeable future, nothing has yet replaced or shown signs of replacing the ordinary paper in a journal. This is the raw material of scientific information and how raw it often is! I am tempted to quote a remark made by J. N. Langley in 1899 at the end of a long presidential address to Sec. I of the British Association, 'Those who have had occasion to enter into the depths of what is oddly, if generously, called the literature of scientific subject, alone know the difficulty of emerging with an unsoured disposition. The multitudinous facts presented by each corner of Nature form in large part the scientific man's burden to-day, and restrict him more and more, willy-nilly, to a narrower and narrower specialism. But that is not the whole of his burden. Much that he is forced to read consists of records of defective experiments, confused statements of results, wearisome description of detail, and unnecessarily protracted discussion of unnecessary hypotheses. The publication of such matters is an injury to the man of science; it absorbs the scanty funds of his libraries, and steals away his poor hours

of leisure.' There spoke an embittered editor, . . . and I am afraid that it applies to much of the content of the 50,000 odd volumes for which we are providing a residence to-day. The point that I wish to make is that the business of scientific information is so much a collaborative effort between the producer, the librarian and the user. I am certain that everyone's task would be so much lighter if the scientific worker wrote less and wrote better. What a forlorn hope that is!

But there is another side to collaboration. I notice in Mr. Fishenden's paper the rather distressingly low figures that he produces of the use made by his colleagues of the services provided by the library. It seems clear that the average worker only has recourse to the library in digging out information when all other sources have failed him; he would, in fact, much rather use his own fallible memory or private card index than consult an expert organisation designed to do this very job. I wonder why this is so. I don't think that it is due to any old-fashioned and reactionary attitude to modern techniques (that is not what one would expect in Harwell) and, in any event, the senior and junior workers behave identically in this matter. I must admit, however, that the junior staff seem slightly more willing to use the library catalogue. The library staff should not be disheartened by this failure of their colleagues to make use of the admirable services they can supply. The reason for it, to my mind, is bound up with the second function of a library that I have already mentioned, that of supplying inspiration. This is a much more

difficult matter to put into quantitative terms than the provision and use of information, but as a biologist I might be allowed a little loose speculation. What are the needs for the inspirational function of a library? First, books in plenty and access to them without let or hindrance by barriers, unsurmountable bars or dragons of one sort or another: this I gather you have provided. Secondly, a sufficient supply of attractive young ladies to assist and advise when necessary. These, I am sure, the Authority will provide and they will, no doubt, take care that they are not so attractive as to distract the users of the library from their proper purpose. Thirdly, quiet and soothing surroundings, and this again we can see around us. Finally the research worker must have time and opportunity for quiet thought and browsing in these luscious pastures. Since I went back ten years ago to the hurly-burly of academic life, I have not had the experience of these joys, but my memory of them is still strong. I am quite convinced that a most important function of a library like this is to give that atmosphere that encourages an only partly purposeful search of literature of only partial relevance to the problem in hand. The atmosphere of a library is conveyed not by its structure, however beautiful and efficient it may be, but by the men and women in it, by the library staff and by the users in a joint effort for its well-being. You have been provided with a lovely and efficient library; may you have the good fortune to build between you a happy and productive organism that will do great service to the advancement of natural knowledge." ★



Fifty years ago even fewer of its slow-moving inhabitants appear to have heard of clocks and calendars in this quaint old town where time has stood still.

The Abingdonian Manner

James Edmund Vincent

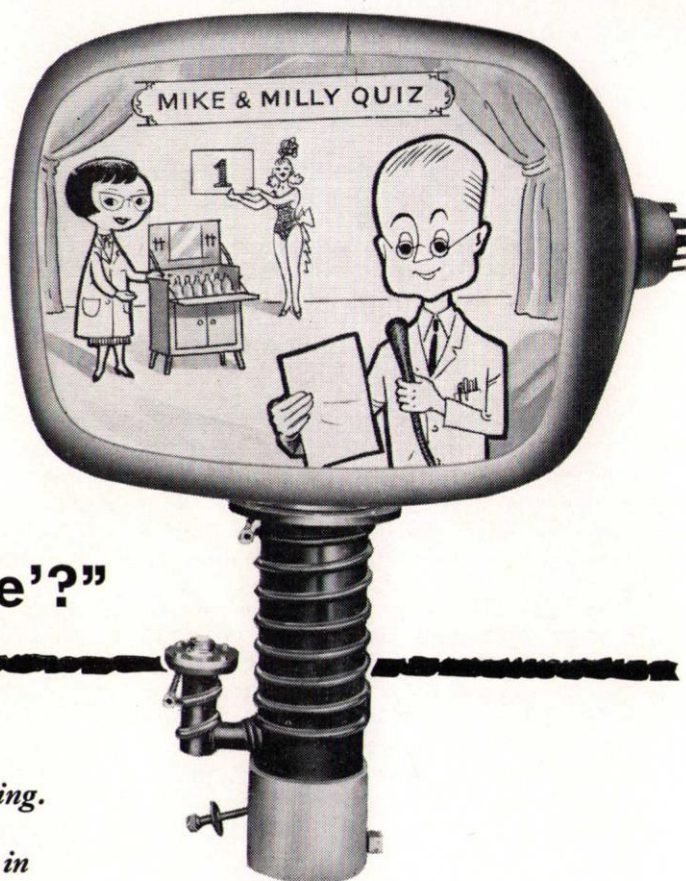


The worthy folks of Abingdon did not desire communication with Oxford in the early days of railways, since they thought that the Oxford shops, being better than theirs, would take away their trade, and the University authorities at Oxford did not desire the railway at all, lest youth might be corrupted by ease of access to places beyond the range of the Proctor and his "bulldogs". Perhaps, indeed, they were shy of Abingdon itself, which, in the days of the Shot-over Papers, was not without reproach of gaiety. So two petitions, the first as frankly selfish as it was wanting in provident insight, the second well meaning, but foolish, were presented with success. The result was curious, annoying to the Great Western Railway authorities at the time, and inconvenient to the greater number of the inhabitants of Abingdon, even to this day.

To Abingdon, none the less, would I conduct the visitor by rail, having duly explained to him why he is entitled to say as much as he likes concerning the petty discomfort of the journey; and at Abingdon, for other reasons than that it is as tiresome to leave it as to reach it, I would detain him some time. Just because it is inaccessible it is a place of which the world at large knows little. More often than not, on requesting that sundry goods and chattels should be forwarded to an address of which Abingdon forms a part, I have found the apparently cultivated assistants of great shops in London ignorant how to spell the word at all, innocent, apparently, of the very existence of the town which has stood at the junction of Ock and Thames (or Isis) since the seventh century at any rate. If the railway had been allowed to go straight through it, it would, by virtue of the splendid stretch of river between it and Sutton Courtney, one of the best sailing reaches of the river, and the vicinity of Nuneham Woods, have been "a popular boating resort". That it is not so may not be altogether a matter of regret, except perhaps to its keepers

of hotels and to its tradesmen. Of the former it has a fair supply, and there seems to be no reason why the faithful guide should not speak frankly in the matter.

The markets, on Mondays, so that they do not interfere with the more important markets of Oxford, still remain, but they are free. The fairs also endure, taking the form of mild Saturnalia, partly for the purpose of hiring, for two autumn days, with a supplemental day, entitled the "runaway fair", a week later. Other fairs there are, too, but the first-named is the real institution. Your Berkshire labourer takes little notice of Bank-holidays and like festivities, but his village "feast" and "Abendon Fair" are to him as sacred institutions, and on the days allotted to them he will by no means work. Cost what it may, he will walk into Abingdon, or jog thither in the carrier's cart, in his Sunday suit, accompanied by his whole family, and "just about" enjoy himself in the market square by the abbey gates. His spirit is probably much the same as that which animated his forefathers, and some of the amusements are substantially the same. Roundabouts and biographs are modern of course, but harmless. But fortunes are told, and boxing is exhibited in a booth to patrons of the "noble art" at threepence a head, and beer is drunk as freely as in the days of yore. The effects, also, are the same, as they will continue to be to the end of time; and it cannot be denied that, of those who wend their way homewards from the fair, more than a few find Ock Street (which is nearly as wide as Whitehall in these days) inconveniently narrow. It is a pity, no doubt; and the custom is not defended for a moment; but if monotony of daily life and miserable inadequacy of wage are an excuse for occasional indulgence in beery hilarity, the Berkshire labourer of the Abingdon district may claim it to the full. Hard by Abingdon wages are 11s. a week on an average, with a little extra in harvest time — not much, for machines are



**"What is
'High limiting
backing pressure'?"**

- (A) *A system for controlling the odds on horse racing.*
- (B) *A desirable characteristic in a vapour diffusion pump.*
- (C) *The effect of reversing a car with the hand-brake on.*

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everywhere — and the rent of a cottage has to be paid in addition. It should be added that "Abendon Fair" is still a genuine hiring fair, and that, in October of 1904 and 1905, young men with whipcord in their caps were to be seen in front of the Lion Hotel with farmers, some of them actually in top-boots of the John Bull type, scanning them with a view of employment. So the fair has its uses no less than pleasures.

As the town is so are the people, old-fashioned, slow-moving and comfortable, and the Abingdonian manner gives one the impression of having descended from father to son for generations. There are families of lawyers, doctors, brewers, estate agents and auctioneers, butchers, grocers and the like, which go on for ever, overlapping sometimes, but not very often; and between them they rule the little town kindly enough. There is a Corporation of course — there has been one since the days of Queen Mary — and the Council meets regularly; but it is a very peaceable Council and by no means given to startling movements. Improvements are, indeed, discountenanced in Abingdon, for the simple and sufficient reason that most of the inhabitants have an interest in the old enterprises which the improvements, if made, would displace. It is unreasonable to expect the shareholders in gas works to foster a scheme for electric lighting. After all life would not be any happier, and no more money would be made in Abingdon, if the streets were

lighted by electricity instead of gas, and the paperhangers and painters would lose much of their work.

Abingdon, in a word, does well to be provincial, steady-going, and contented. Isolated, through its own irretrievable folly, in the matter of railway connections, it can hardly aspire to popularity for a few months in a fine summer as a boating resort. It is, in fact, essentially a county town and rural centre, although it is not the capital of Berkshire; and it fulfils its functions as such to the satisfaction of the district which it serves. That is to say, it is a busy place on market days, and it keeps a half-holiday religiously on Thursdays. But it is really only kindness which induces the tradesmen not to keep a half-holiday for at least four days of the week, since always, on any other days than Saturdays and Mondays, the shopkeepers inform the chance customer with an air of gentle surprise that "the town is very quiet today". That is its charm, or one of its charms. But, unless I am very much mistaken, these good, easy tradesmen, of whom most, except the butchers, charge more than London prices, do uncommonly well for themselves, and it is reasonably clear that new-comers into the ranks of Abingdon tradesmen must fight an uphill battle for many a long day. No doubt the story would be the same in the professional life of the little town if any "foreigner" should venture into competition with the established practitioners. Indeed, it has even been whispered, and something more, that the recent advent of a medical man who strove to establish himself in Abingdon was resented bitterly by his brethren of the order of the leech, inasmuch as he had received no formal invitation from them. The story may not be true; but it is quite true to the character of a community which behaves as if it had a freehold of comfortable prosperity without undue effort. Another story, equally characteristic and credibly reported, is that a lady who tried to make some local board or other do its obvious duty was informed that, if she did not like the place, she would be well advised to return to London. That is Abingdon all over; but for all that it is no bad place to stay in for a while, and quite tolerable as a residence when, as they say in Berkshire, you have learned 'to put up with' its little ways; and this you may as well learn soon as late, for Berkshire changes little and slowly.

Extracts from 'Highways and Byways in Berkshire' (1906) now out of print and reproduced by arrangement with Macmillan & Co. Ltd.

★ ★ ★ ★ ★

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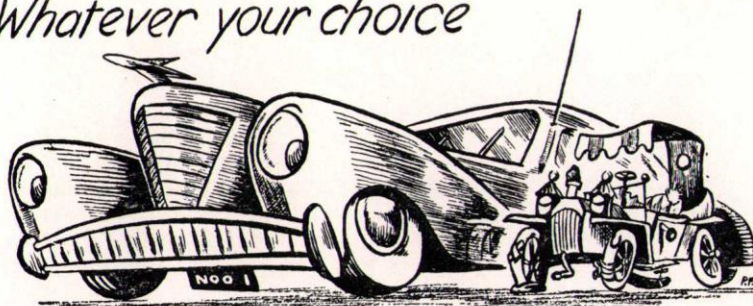
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I have never been to Winfrith; yet I know Egdon Heath better, perhaps, than the many people who regard it solely as the rather bleak country around where they work. But for anyone who has read Thomas Hardy's "The Return of the Native", the Heath is a living entity, as integral a part of the story as the characters who work and walk there. Some may have come to know this story from the serialised version broadcast on the B.B.C. not so long ago; to those who do not know it and who may be going to Winfrith, I suggest it is well worth discovering. Somehow, identification of the places mentioned makes the story itself more vivid. Is Rainbarrow still there? Or has it been bulldozed flat in the interests of Progress?

Better known, perhaps, among Hardy's novels is "Tess of the D'Urbervilles", which I was brought up to believe was so shocking that I borrowed it from the library with some trepidation — only to find it quite innocuous by modern standards! Most people know that Wool Manor is connected with it as the scene of the first night of Tess's married life, when she told her husband the secret that he found so unforgiveable; it was also the home of the illustrious ancestors from whom the humble village girl was descended. Anyone who has read the novel can never forget it; nor can one look on Stonehenge without remembering the closing scenes, with Tess asleep on the altar stone as the hunt closes round her.

As it happens I am at Harwell, and not Winfrith; but I find Hardy was here before me. "Jude the Obscure", the book which cured him of novel-writing because of the reception it

received, is set hereabouts. At the opening of the story Jude Fawley, the hero, is bird-scaring in a concave field; and anyone who takes the road up Red Hill out of Wantage, bound for Great Shefford and Hungerford, can identify that field, on the right before the signpost to Fawley. "The Brown House", at the top of the hill from which he looked longingly towards the lights of Oxford, is a thin disguise for The Red House which is there now, and we can admire the stamina of the folk who, less than 100 years ago, thought nothing of walking from Fawley to Wantage (Alfredstown) for their shopping and back again. Cresscombe, where Jude met his Arabella, is Letcombe Bassett, where the watercress grows yet, and Arabella's cottage, thatched and with its back to the stream, still nestles charmingly opposite the inn. I cannot honestly recommend the book, for the tragedy is rather too heavy, but it is very interesting to realise how difficult it was, even so recently, for a working man to get to "Christminster" (which is, of course, Oxford).

Not all Hardy's work is tragic: "Far from the Madding Crowd" and "The Trumpet Major" are most amusing at times; but somehow it is the tragedies which make the greatest impact on the reader. His outlook is strangely modern in many ways, and the novels are so well constructed that one must admire his craftsmanship; but in the end it is the people, and the settings that remain, and one's appreciation of Wessex is heightened, interest is added to one's travels, by being able to identify the thinly disguised names of places where Hardy set the situations one remembers so well.

B.M.

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The Downs before Domesday

by Shirley Kay

When we who live along the chalk springs go up on to the downs above us we seem to move into a different world, "a country of grass and short springy turf, silent except for the whisper of the air over the edges of the land", which bears signs of the past rather than of the present. The hills rise all about one, and like Tolkein's barrow downs "all those hills are crowned with green mounds, and on some are standing stones, pointing upwards like jagged teeth out of green gums". As darkness falls, we too feel that a barrow-wight may be lurking there, and make swiftly for the Ridgeway and the road home.

From east to west of the Berkshire downs runs the green track of the Ridgeway, part of a prehistoric route linking the Wash with the south coast by means of the Icknield Way to Goring, the Ridgeway to Stonehenge and the river Avon down to the sea. It was certainly in use by the time of the barrow builders, if not before, and the stretch centred on Harwell, from the historical boundary at Wayland's Smithy to the topographical one at Goring, is rich in prehistoric constructions, from the Stone Age to the Saxons.

Wayland's Smithy is the earliest monument along this stretch of the Ridgeway. Its megaliths visible today are the tumbled remains of the burial chambers of a long barrow, built about 2000 B.C. (though this is only accurate to within 200 years), in a tradition which was spread along the western sea-boards of Europe by a band of proselytising missionaries from the Middle East. The chambers were built in the form of a cross and covered by a long mound of earth; they had already been rifled and exposed by Saxon times but 8 skeletons were found there early this century.

The legend of Wayland the Smith, probably associated with the place by the early Saxons, tells that he would shoe one's horse if a groat was placed on one of the capstones. Excavation revealed two Iron Age currency bars beneath this very slab!

Another Neolithic long barrow was recently discovered in this area, in the Lambourn group of barrows. This mound is 380 feet long and is the most easterly of its kind known in England.

While Neolithic barrows are rare, the downs do not lack tumuli from later periods. Indeed these mounds, looking just like giant mole hills, are a common feature along the Ridgeway; they date from 1900 B.C. onwards and were built by the wealthy Bronze Age civilization which, at the height of its power, gave us Stonehenge and Avebury. Most of them were ransacked in the 19th century — A.D. — for the weapons and jewels which they contained! The circle was the basis of Bronze Age religious constructions; it was also that of their tombs. An abrupt knoll on the downs can usually be identified as a barrow if its diameters are equal. Such a knoll can be seen from the main gate of A.E.R.E.; if you look eastwards immediately to the right of the Chilton-Hagbourne road, you will see a large barrow on the brow of a hill just below the skyline.



Round Barrows

Bowl-barrows, the commonest type, were constructed in this way; the body or cremation was either buried in a shallow grave or placed in a wooden mortuary house. Around this all manner of ceremonies appear to have been enacted — the ground is sometimes found to be littered with deliberately broken flint tools, sometimes it is packed hard as though it had been trampled or danced on by many feet — before a circular ditch was dug round the grave and the earth piled in a mound inside it. Today the mounds survive; the ditches have gone.

Yet not without trace. In July of last year's hot dry summer, I went up to the Rifle Range on Churn Down; the corn was yellow then, yet

all round the barrows it was deep green in a wide ring. Nearby was a broad L-shaped green swathe running like a ribbon across the range, and on a hill to the east was a series of criss-cross green fingers. These so-called "crop-marks" are often visible from the air in a dry spell, but rarely from the ground, and are caused by the crop's growing better in the deep soil of a silted up ditch than in the shallow soil all round it. Conversely, a crop growing over the line of a buried wall will suffer worse from drought and will be poorer than the rest of the field. These reactions show at their best here on the downs, where the solid chalk is so near the surface. The rings round the barrows marked the ditches, the green fingers showed the former tracks of the ridgeway, slightly to the south of its present course, and the green band ran across the line given as "site of Grim's ditch" on the Ordnance Survey map. It was assumed to be straight at this point; the crop showed that this was not so.

Grim's Ditch runs for many miles across our area and is either late Bronze Age or early Iron Age. We can still see it clearly in many places, but can only guess its purpose. Was it for defence? Unlikely, given its structure. Or to mark the division between tribal lands? Or perhaps a ranch boundary? It remains one of the impressive mysteries of the downs.

Perhaps the most spectacular of the pre-historic earthworks, however, date from the last few centuries before our era — the period of the Iron Age invasions. Early Iron Age settlers established themselves from about 500 B.C. onwards along the foot of the downs, and undertook an extensive farming programme. Remains of their field systems are still clearly visible on Streatley Warren, where former terraces and balks now show as grassy ridges. However, from the 3rd Century B.C., pressure of population movements on the continent led to spasmodic invasions by war-like tribes who threatened the livelihood and life of the original settlers. Their solution to this danger on the Berkshire downs was to build the great defensive earthworks of Blewburton, Letcombe Regis, Ram's Hill and Uffington. Letcombe Castle (or Segsbury), at present unexcavated, appears to have been built in only one period as a refuge for the villagers and their animals — the out-turned ramparts at the original eastern entrance suggest cattle herding rather than prolonged warfare — and was never inhabited for long. Nevertheless the ramparts were once revetted with great sarsen stones brought from the Lambourn downs, and the ditch to this day is some 15 feet deep.

A few miles to the west the earthworks of another camp on Ram's Hill are still just discernible, although ploughed out, and a little beyond them stands the great camp of Uffington. It has a rampart, originally sarsen revetted, a great ditch and a slight outer bank



The White Horse

or counterscarp, which makes it the most formidable of our camps. The huge White Horse carved on the hill below is another well-known mystery. At present it is thought to be the tribal emblem of the Atrebatas, which they had copied from the gold staters of Philip of Macedon, and to have been cut in the 1st century B.C.

Travelling east we see the terraced western slopes of Blewburton Hill, approached by a footpath which crosses the brow of the hill at the exact spot where, over 2000 years ago, the fortified main gate of a camp once stood. How different the scene must have been then — high chalk ramparts, revetted with limestone dry-stone walling, gleamed white above the traveller, a causeway crossed a ditch up to 35 feet wide in places, and a cobbled street led through huge double wooden gates, hung from tree-trunk posts which probably supported a sentinel's path overhead. That not all entered safely we know from the skeletons of a horse, a man astride the horse, and a dog, found together in the bottom of the ditch. Evidently two periods of extreme danger threatened this camp. The original village on the hill had only a timber palissade, which was replaced by a wood revetted rampart and a ditch in about 250 B.C. After some time the ditch was allowed to silt up until, centuries later, probably in the opening years of our era, it was dug again, the rampart was heightened, a stone revetment wall built and the entrance gateway narrowed and strengthened. All in vain, for the fortress met a violent end. The peaceful turf today covers a scene of shambles; the walls were brutally pulled down, the gates burnt, and

the skeletons of animals and a small child left lying on the cobbled streets. Who did this? We do not yet know.

Neither do we know who built the vast terraces on the hillside. They are newer than the hillfort and may be mediaeval, but as they have virtually no top soil their purpose is as mysterious as their age.

Troubled times were only temporarily banished from Berkshire by the Pax Romana, for by late Roman times we find the upland farm on Lowbury Hill substantially fortified. A rectangular wall, 30 inches thick and made of cement faced on each side by 12 inches of flint, was put up round the flimsy living quarters. An attempt may have been made to insure its strength by a human sacrifice, for the skeleton of a woman was found embedded in cement, in its foundations!

The Romans lived on the downs: they ate oysters on Lowbury Hill, terraced the hills and cultivated them; an enclosure of theirs is shown by aerial photo on Roden Down. A large cemetery was also excavated there, and another in a mound near Uffington Castle, where many Roman skeletons were found alongside a mound containing Saxon remains — the result perhaps of a skirmish on the hills.

A more famous battle is the last great mystery of these downs. A contemporary account of Alfred's victory over the Danes, in 871, places the battle on Ashdown; but as the whole range of hills was called Ashdown in those days the site of the battle is lost. It was either near present Ashdown or near East Ilsley, an area revisited by the Danes for a dare in 1006, when they marched along the Ridgeway to Scutchamer Knob, for legend held that Danes who saw that barrow would never look on the sea again.

Even before Domesday, then, the downs were a place of mystery and legend. Small wonder that today they should seem strange and remote. For many centuries man has chosen to live in the shelter at their foot, and the monuments on the open hills have been left undisturbed. These, too, are the record of death and fear. Everyday life leaves little durable trace visible, except to the aerial photograph or the archaeologist's trowel; it is the great death-focussed religions and the periods of trouble in the land which have most impressively marked our Downs.

★ ★ ★ ★ ★

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On a bright and sunny morning in mid-July, ten members of the Cyclists' Touring Club met at Victoria. We were off on a Club-organised tour to the French Alps and the Riviera. After registering our cycles and the tandem, we loaded them on to the train, and were soon settling down to the trip to Dover. Once aboard the boat, organised chaos reigned supreme on the 3rd class deck. What with passengers coming up one gangway, porters loaded with luggage coming up another, and all concentrating on an ever diminishing portion of deck, it was little wonder that many took refuge in the Dining Room soon after getting on board. Apart from this, the crossing was smooth and pleasant. On arriving at Calais, we actually saw our machines, still in one piece, being loaded on to the train. Right at the front, a compartment had been reserved for a railway caterer for the sale of soft drinks. After walking the length of the train and queueing two deep in the corridor, the thirsty traveller eventually managed to purchase a bottle or two, and then came the struggle to return to one's own compartment for a quiet drink. Well, it passed away an hour or more anyway.

On arrival at the Gare du Nord we collected our cycles and soon had them in working order again. We were met by a friend of the Club who directed us across Paris to the Gare du Lyon. This could be a terrifying journey to a lone rider, as the Paris traffic seems to come at you from all directions at once. Registering the cycles again for the next stage of the journey, we were soon in a nearby restaurant having an evening meal. Time for a walk before the train departed, and then back to the station to claim our couchettes.

Everything had so far gone very smoothly, and as we settled down for the night we were looking forward to arriving in Grenoble at seven the following morning. But it was not to be. Somewhere, somehow, during the night, the usually punctual French Railways had come unstuck, and we did not arrive until ten.

Having satisfied ourselves that our cycles had arrived safely, we proceeded to have a late breakfast. It was then considered advisable to purchase supplies of food for lunch. We were ready to begin the serious business of cycling, and off we set in great spirits,

but it was not long before we realised that someone was missing. One member, having been to Grenoble before, had made a quicker exit, and was actually waiting for us in the next village along the road. At this point, we left the main road and began climbing our first pass, the Col Luitel. By now the sun was high in the sky, and the road was more like a tree-lined English lane than a mountain pass. The heat was terrific, and as we made our way slowly upwards we decided to call a halt and have lunch. One member was carrying a primus stove, and some of us had tea with our lunch. Pressing on again, and stopping whenever it was possible to obtain water, we eventually reached the lake at the summit about six. And then the fun started. The descent was steeper than the ascent, and the straights between the hairpin bends were short making constant braking necessary. Several of us suffered heat bursts, and the two on the tandem were very unlucky, damaging their front cover beyond repair. A replacement was not obtainable in the village, so they finished the day on the local bus. From Sechilienne, the road to le Bourg d'Oisans follows the Gorges de la Romanche.

First thing next morning, one member was out trying to get a new tyre, but finished by having a new wheel built instead. Having decided to meet at la Grave for lunch, the party set off in small groups. The road, twisting and turning and climbing steadily, was soon high above the river, and some grand views of the Gorges of the Infernet were seen before reaching the Barrage du Chambon. The dam has formed a large lake in the valley of the Romanche, and the ride up through the Combe de Malaval was very pleasant. From la Grave can be seen views of the Meije Glacier, and it certainly looked impressive with the sun shining on it. The Col du Lauteret really starts at la Grave, and here again the road twisted and turned as it made its way slowly upwards. After a mile or two the descent became a fairly straight road, and it was possible to sit back and freewheel at high speed nearly all the way to Briancon. The old town built on the mountainside is an ancient stronghold, and much of the walls and gateways are still in a good state of preservation, and together with the new town, built in the valley,

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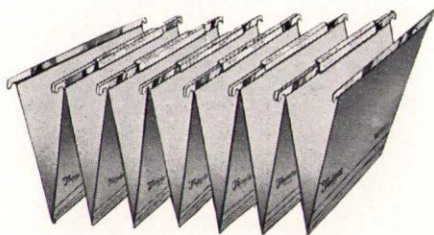
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has become a tourist centre and winter sports resort.

The following morning the party decided to split, the tandem and myself deciding to take the easier route down the valley of the Durance. The rest of the party kept to the scheduled route and tackled the 7,544 feet Col d'Izoard. After a rather prolonged bout of sightseeing, the party eventually set out. Although I was in the group riding down the valley, the ride was by no means uninteresting. For the first few miles, the road was high above the river, and the railway below looked more like a miniature railway than the real thing. At one point, a huge pipeline, about 8 feet diameter, could be seen coming down the mountainside and spanning the valley in a great arch. A series of hairpin bends brought the road down to river level, and we were soon looking for a place for lunch. All the grocery shops in the village of la Roche were closed for lunch, so we had to use a café. A short distance along the road we came upon a small lake — it was much too tempting to pass by without having a swim, and we spent a very pleasant afternoon before eventually joining the others at Guillestre. Here we witnessed our first match of the very popular game of bowls. The game is played slightly differently to our own game, the balls being of metal about 3 inch diameter, and are thrown instead of being rolled, but the object is the same.

The climb up the Col de Vars, for a change, took place in the morning, and we were well on the way before the sun became really hot. Buying food in some of the villages was a bit of a problem, but we were able to get most of what we required. Above the villages, the Col opened up into a landscape dominated by black shale, the road rejoining the valley of the Queyras with that of the Ubaye. Beyond St. Paul-sur-Ubaye the route descended to Jausiers, the approach to Barcelonnette being along a tree-lined avenue.

The town was crowded with holidaymakers and servicemen but we soon left them behind as we set out to climb the Col d'Allos. The road winds gradually upwards to nearly 7,400 feet. For most of the journey so far, and especially during the heat of the day, we had been troubled by mosquitoes, but on the Allos, they seemed really determined that we should not pass and continually attacked us. Filling up the water bottles became a job for two hands — one to hold the bottle, the other to brush off the flies.

We had just got everything ready for lunch when distant rolls of thunder were heard, and we were caught in the tail end of a shower. Continuing to climb after lunch, our luck with the weather did not hold out, and near the summit a terrific storm developed. There we were, on top of a mountain pass, in the middle of a storm, with thunder, lightning, wind, rain, and hail all thrown in for good measure. With plenty of motor traffic on the road, and the wind blowing us all over the place, cycling became almost impossible, and we eagerly sought what shelter there was.

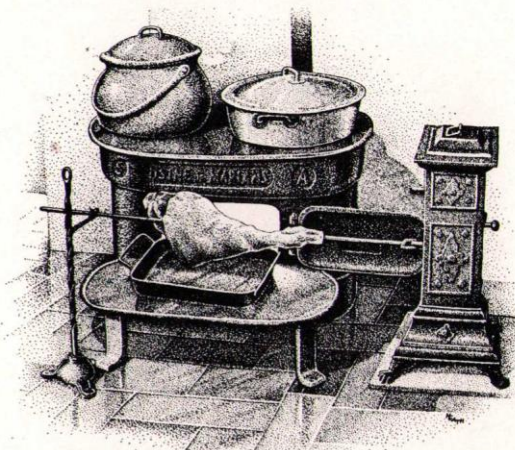
One good thing about mountain storms is that they start suddenly and finish suddenly, and it was soon possible to resume the journey. Our route branched off the main road, and we rode down a valley where the cultivation of lavender seemed to be the main occupation. We were in the Verdon Valley, across a narrow defile of which a great dam had been built together with a powerful generating station. A short run down, and we were soon in Castellane looking for our hotel for the night.

The following morning was bright and sunny, and as we set out we were hoping to be able to dry out

anything still damp from the previous downpour. But it was not to be, and soon we were in the midst of another storm. At some points along the road pieces of rock had been washed down the mountainside and were lying in the road, adding to the hazards of riding. Coming upon a wayside café, we entered, most of us ordering coffee and cognac. And then began the long wait. For each cup of coffee, a separate handful of beans had to be put in the grinder, and the poor old lady turning the handle was evidently not used to such a large order. Coffee over, we continued our ride into the Gorges du Verdon, and after a long, slow climb reached one of the best viewpoints, known as Point Sublime. From here, on a clear day, magnificent views of the Gorges, sheer at that point, can be obtained.

Continuing the steady climb, and cutting across a great loop in the river, we passed through la Palud. About a mile beyond the village the road descends, taking up a position about halfway down the side of the gorge. Unfortunately, it was still raining, so the views of the Gorges were spoilt for us. The rain had, however, stopped by the time we crossed the river and began the climb to Aiguines. This little village, tucked away in the mountains, had a surprise in store for us. At our hotel (more of a country inn than a hotel) we noticed, while waiting for dinner, a leg of lamb roasted on a spit. This was something out of the ordinary and some of us took photographs of it. Little did we realise at the time that this was to be part of our evening meal. Dinner ready, we sat around a large table covered with a clean white tablecloth — something that had been lacking in larger hotels in which we had stayed — and then it happened. Along came course after course, and while we were wondering what was coming next, in came the leg of lamb on a plate. Ten hungry cyclists soon made short work of that, and only the bone was left. Madame apologised later that this had been a rather scrappy meal, as she had had rather a heavy run on lunches, but we wondered how long a proper meal would take if a scrappy meal took two hours to get through. We have since voted this the best meal of the whole trip.

Perhaps it was because we knew we were returning to Castellane, which was very dead in the evenings, or because we had fallen for the village, that the following morning found us reluctant to leave, and everyone was busy wandering around the back streets taking photographs. ★



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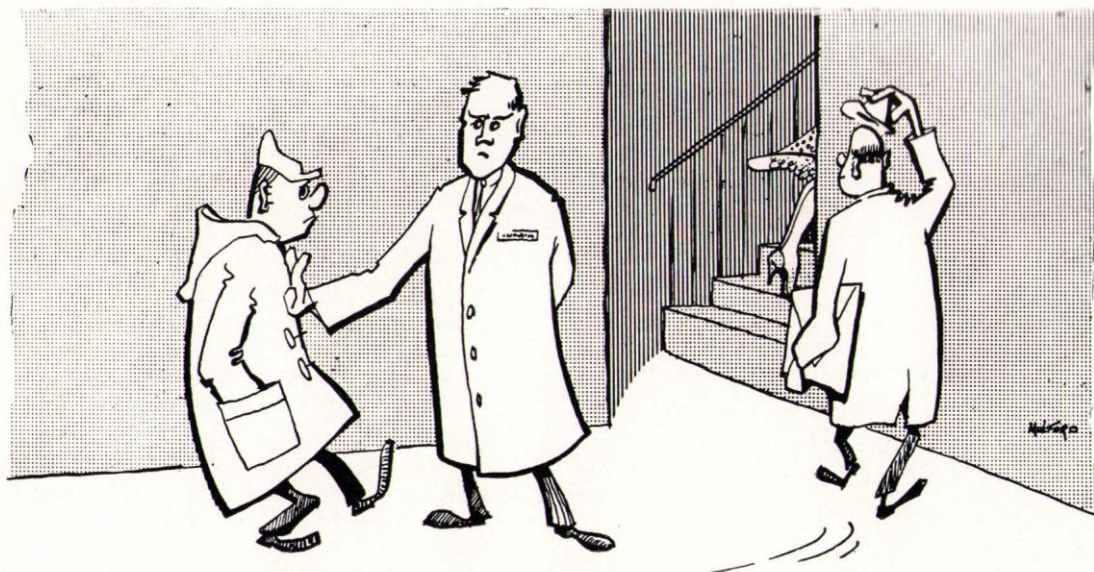
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A stone's throw from the fervour of the engineering workshop, and gently shaded by trees, stands the old Reproduction Section. With its heavily barred windows and drab walls it remains a mute reminder of the days when Harwell was Harwell.

In its time it has fired the imagination of many young men, and many is the time that I have myself stood outside and watched, fascinated, as men, many of them elderly and balding, passed in and out of its door. At times the lilting ripple of girlish laughter would float through those very bars, or occasionally a female face would appear momentarily behind them.

I had never bothered to question its *raison d'être*; indeed its very existence had for a long time escaped my notice, and after the initial fascination had worn off the memory began to fade from my consciousness. One day, however, I was pulled up with a jolt when one of my colleagues calmly announced that he was going over to the Reproduction Section. He strode off purposefully with a large envelope under his arm and we did not see him again for about an hour.

The incident had a quality of nearness about it which revived in me the hope that one day I, too, might be permitted to go.

A week or two later the same fellow again announced that he was going to the Reproduc-

tion Section, and this time I could not avoid a slight feeling of resentment. He was a fine figure of a man all right, and probably well liked down there, but in a place the size of Harwell favouritism of that sort was just not cricket.

When, shortly afterwards, he had yet another appointment I was ready. After striking up a conversation with him I asked casually if he minded my coming over as I had a call to make in the vicinity. He raised no objections, and soon we were approaching the door. Inside was a security post where my friend informed me that I could go no further. He then walked boldly past the guard, and as he did so the man gave him a friendly, if subservient, nod of the type that waiters and doormen accord to regular customers.

I could not remain there; jealousy and righteous indignation welled up within me as I strode out, slamming the door.

No opportunity of visiting the place has ever come my way since then, and time has healed my wounds. In fact I had almost forgotten that the place existed until, a short while ago, word that the Reproduction Section had moved was whispered around the Harwell 'grapevine'. Even the best-informed sources did not know where the R.S. had gone but I felt sure, with my bad luck, that the whole project may have been shelved.

John F. Gibbs

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"Next please".

The old fellow with the hacking cough staggered out and I hobbled in.

For about four minutes Dr. — ignored me completely. He busied himself, placing things in his steriliser and scribbling in his little book. Then, looking up suddenly, he said, "Ah, Good morning. Sit down," as if I had just materialised.

In obvious agony I lowered myself into the chair. "Well," he exclaimed, beaming brightly, "and how are we today?"

The banality of this routine rhetorical question so infuriated me that I completely forgot the long list of symptoms I had memorised in the waiting room.

"I've done something to my back. It's all stiff and sore".

By now his head was buried in the filing cabinet as he searched for my record card. A muffled interrogation percolated through.

"What do you think it is?" he asked.

I knew this gambit of old. You tell them you think it is a slipped disc and they prove scientifically that it is housemaid's knee. I did not rise to it.

"I don't know. I thought you might have some ideas". (Round one to me, I thought.)

He probably did not hear me, however, as he had found my card and was completely lost in my medical history for the past twenty years.

In a faraway, preoccupied voice, without taking his eyes from the fascinating reading before him, he murmured, "How long have you had it?"

Right, I thought, whether you are with me or not, the time has come to state my case.

"Well, last Wednesday I was cranking my

car —". His head lifted up from my pathological memoirs and in a distinctly interested tone he cut in.

"Battery flat?"

"No" I replied, slightly irritated. (If you are cranking your car why do people always assume that your battery is flat?) "the starter pinion got stuck."

He put down my medical data and looked at me quizzically. "The *what*?"

"The starter pinion — you know, the cog thing that engages the flywheel when —"

"I know, I know," he interrupted impatiently, "but cranking would surely not help if the thing were stuck in the flywheel. I remember once when we were motoring in Wales — miles from any place it was — the same thing happened to us."

I dislike interrupting people when they are imparting information — especially doctors — but my back was killing me.

"How about my back, doctor. What do you think it is?"

"Touch of lumbago," he advised airily "Try rest and heat for a few days. *And*," he added with a smirk, "don't try dislodging pinions by cranking. As I was saying when it happened to us I put the car in reverse gear and got my wife to get out and push it *forward* — you see. This loosens the —"

"My pinion was *not* jammed in the flywheel". My voice had taken on a decided edge. "It was stuck at the other end. And lying about only stiffens my back up! Is there anything else I can do to help it?"

"Oh" he said, in a slightly disappointed tone. "It wasn't engaging at all, eh? Well, the obvious thing to do there is to take the motor out, clean the spindle up and put some of that stuff — what is it called — you, know, the stuff they put in bearings. It's a sort of —"

"I meant my *back*." My voice had gone up half an octave. "Is there anything else I can do about it? — not the cog. It stiffens up. Anyway, I'm putting the car into a garage."

"Oh, yes, your back. Well, if it tends to stiffen up, try hanging by your hands from a door frame. But why put it in a garage — your car, I mean. It's the simplest thing in the world to whip out the starter motor. Usually they are held by three bolts or nuts."

I eased my tortured vertebrae into a more comfortable position and resigned myself to hearing about various motors and their nuts. When he had apparently got it out of his system I once more steered the topic around to more morbid matters.

"Can you give me something for it?" I ended up. Like many naive people I never feel that I'm getting my nine and elevenpence worth unless the medico trots out a few pills or powders. Even a bottle of coloured water keeps me happy.

"Certainly," he agreed, to my surprise. "There is an excellent thing being used just now. I've had to use it myself at times. "Not," he added rather maliciously, "that I would be daft enough to try loosening a pinion by cranking."

I murmured something but he did not hear me as he was busy scribbling on his prescription pad.

As I limped out he called after me, "Remember — car cranking causes cricks and creaks."

Two elderly ladies in the waiting room cast horrified glances at me as they read my lips.

The chemist took my prescription to the dispenser who hurriedly took it back to the chemist who took it to his assistant. He, in turn, looked up a big reference book, made a 'phone call and then held a whispered consultation with the chemist and dispenser.

Fascinated by the importance of it all I held my breath as they called me over and handed me back my prescription.

Very quietly and soothingly — in the tones one uses to humour a madman — the chemist said, "I think you've come to the wrong shop, Sir."

Outside I opened the piece of paper. Written in block capitals were the words, 'ANTI-SCUFFING PASTE'.

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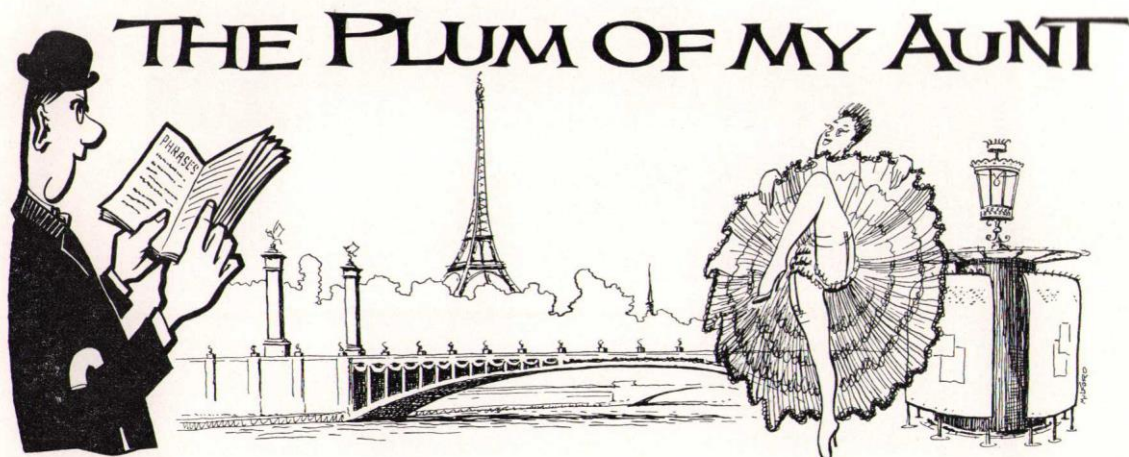
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That young lady in the bath informs us regularly that the perfume in her soap (worth nine guineas an ounce) was imported from Paris. Not Smernovski, mark you, where good musk deer come from, nor Aberdeen where good chemists come from — but Paris, France.

There *is* an attraction about anything French. What an aura of romance is conjured up simply in the words "Left Bank" — the artist in his dirty garret throwing down his brushes, giving his model-cum-mistress a perfunctory kiss and sauntering off to the Café Bohème for a glass of cognac and a bowl of frogs' legs.

But there is more to it than that. A little knowledge of French is a must in social conversation and can save one from much misunderstanding, if not actual embarrassment. At any lab. sherry party, expressions like "Arc de Triomphe," "Rue de la Paix" and (if there is enough sherry) "Folies Bergères" are splattered about willy nilly. How can the ordinary chap, who has never been further afield than El Alamein or the Burmese jungle in wartime, cope with that young lady who has been on a day trip to Boulogne? It has been claimed that the following two basic expressions will see him through if they are learned by heart and worked in at the right moment:

1. "Ah, yes — the old Rue de la —. That's where La Trine wrote his 'Contes Sanitaires', n'est-ce pas?"

(If she is coming the old Charlie and does not know Balzac from Agatha Christie the young lady will fall at his feet in adoration. If she understands French she will slap his face;

but, as the French say, a slapped face is better than a lost face).

2. "Ah, yes — the Old Place de la Concorde (or Moulin Rouge or Chez Fanny). That's where I met Nicolette. Très drôle. Très you-know-what. But — some other time. There are ladies present."

(This will usually result in a date — or another slapped face).

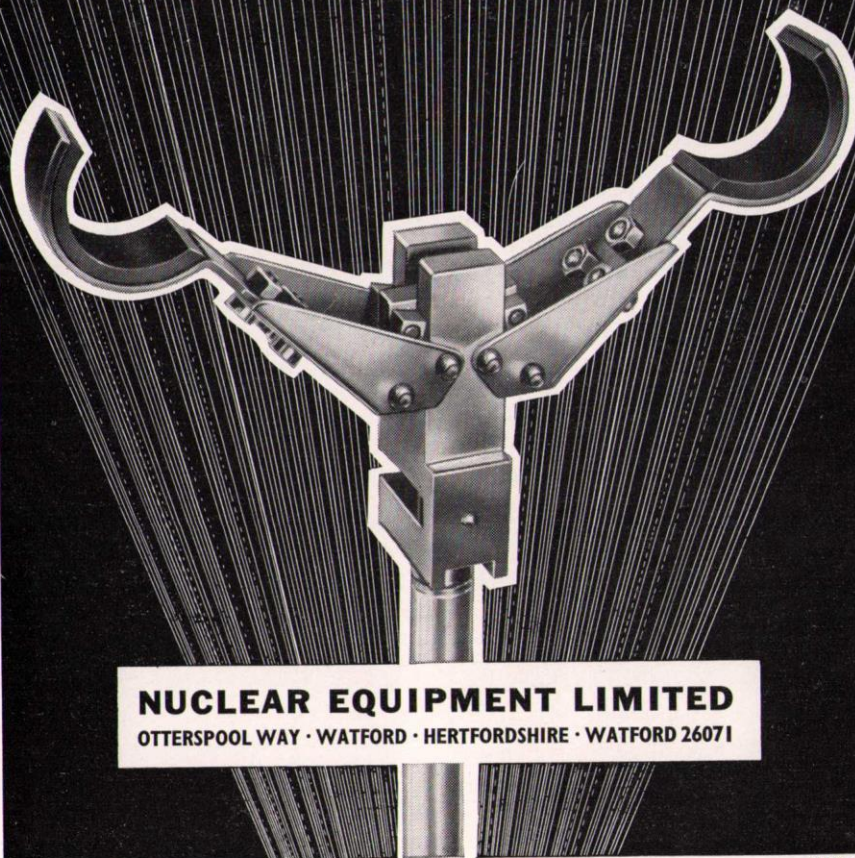
However, these are only stop-gaps. A little knowledge is a dangerous thing, especially with little French things, and it is surprisingly easy to find oneself in prison or married (or divorced) because of preconceived notions or a faulty accent. A certain amount of elementary grounding is required in order to appear "au fait" (on the beam) with French small-talk. In this respect, few books are of greater assistance than those two first-class introductions to social French — Professor Sploget's "Idioms for Idiots" and Jacques Fleabite's "Illustrated French for English Gentlemen".

Fleabite's "Illustrated" is essential for every aspirant to the upper intellectual crust. Let us look at a few extracts.

"It is suggested elsewhere," says Fleabite "that the visitor to France can get by knowing only three words, viz., "Oui" (Yes), "Non" (Sorry, I'm married) and "Combien?" (Have you forgotten the Liberation already?). This is an over-simplification. One must have a smattering of French construction in order to avoid those annoying "faux pas" (bloomers). Consider the simple act of playing the piano in French: "Jouer du piano". "Jouer sur le piano". "Jouer dans le piano". Normally, of course, one plays of the piano."

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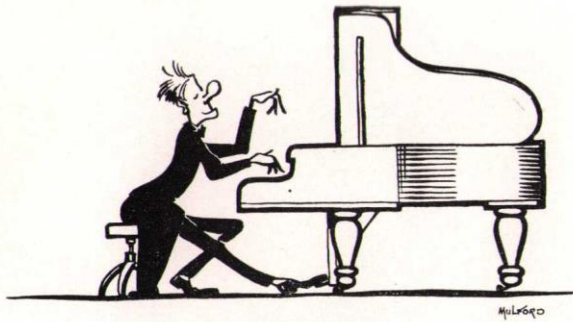
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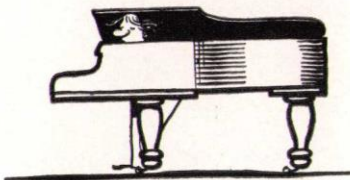
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"Jouer du piano"



"Jouer sur le piano"



"Jouer dans le piano"

Fleabite goes on, "One must be careful about French words which sound the same to the insensitive English ear. For example :

'J'ai une grande faim'
(hunger)



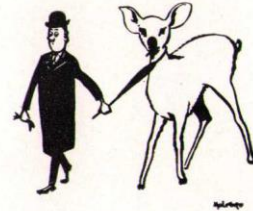
'J'ai une grande femme'
(woman)



'J'ai une grande faîne' (nut)



'J'ai une grand faon'
(fawn)



'J'ai un grand fond' (base)
'J'ai une grand fin' (end)



Preconceived ideas on the meanings of popular French expressions can cause a lot of trouble and make one look 'un Charles propre' (a right wet). Here are a few of the more common pitfalls likely to be encountered :

'Comment allez-vous?' means 'How is the old back an' that?' *not* 'What a nice view of the alley'.

'Je me porte bien, merci, et vous?' means 'I'm all right, Jack' *not* 'Jim will have a large port, what's yours?'.

'S'il vous plaît' means 'Do you mind' *not* 'The seals want to play with you'.

'Défense de fumer' means 'Watch where you put your fag ends' *not* 'The fence is on fire'.

'Chacun à son goût' means 'She's not my type' *not* 'Jack has his gout again'.

'Dormir la grasse matinée' means 'To sleep in' *not* 'To spend an afternoon in the long grass'.

'Ne vous emportez pas' means 'Keep your shirt on' *not* 'Isn't your father a porter?'.

Doubtful expressions should be avoided altogether : 'Mademoiselle from Armentières' is considered 'de trop' (brick-dropping) in more ecclesiastical circles. It is probably all right in young company who do not remember the First World War, but even here the sundry variations



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should be omitted. 'Demi-monde' is quite safe if you are a writer of 19th Century romances. In ordinary conversation it is somewhat risqué (risky). 'Un demi-monde est mieux que rien' is *not* the French equivalent of 'Half a loaf is better than none'.

Fleabite is essentially a practical book and very useful to the novice. Sploget's "Idioms for Idiots" goes a bit deeper, touching on the difficult problem of pronunciation and even the French influence on our vocabulary.

His chapter dealing with French influence on our dialects is very enlightening. "Of course," he remarks, "historically, French affinity is with the Scots rather than with the English. It is a sobering thought that, but for the grace of God (and a bit of fifth-column work at Glencoe, etc.) we might well now have a parliament based in Scotland with the English clamouring for Home Rule. In those far-off days when the fate of this island hung between porridge-and-bagpipes and fish-and-chips, the French threw their lot in with the Scots. (Was it because they had a 'penchant' (yen) for anything in skirts?). Fortunately for the English, some of the Scots had a stronger 'penchant' for hard cash and threw their lot in with the Sassenach. So apart from a royal season ticket between Auchtermuchty and Dieppe, all the Highlanders got out of the 'Auld Alliance' were a few French words incorporated into their dialect. It is perhaps significant that these words present much perplexity to the Anglo-Saxon tongue, viz.,

Haggis from 'Hachis' — a meaty mess. (Not from "hashish" as popularly thought. Haggis is definitely not habit-forming).

Glaikit (daft, round the bend) from 'Glacé' — frozen stiff.

Fash (to do one's nut) from 'Fâcher' — to do one's nut.

Stoury (grimy) from 'Estour' — a free-for-all.

Spiug (a young bird or female teenager) from the old French 'Spiuger' — to flutter round.

At the end of his book Sploget gives an alphabetical list of French names likely to crop up over hors d'oeuvres. No one is expected to know who the President of France is, but to be ignorant of what Alexandre Dumas said to the Can-can girl is unforgivable. France in the Nineteenth Century has been described as the "Cradle of Romance". Ignoring the obvious contention that babies are seldom romantic, it must be accepted that during this period there

was more arty Art (as opposed to crafty Science) per square kilometre in France than in any other country in Europe. The centre of this movement was that association of painters, writers, musicians and professional neurotics known to the outside world as Bohemians or Romantics. They were something like our modern beatniks — only they washed themselves now and then and did *some* work. It is imperative for the culture vulture to know a little about these people, and to be able to bandy their names about in conversation. From Sploget's comprehensive list, here are a few taken at random:

George Sand: Female novelist who fostered the queer notion that women were as good as men (but later discovered that men were as bad as women). According to history, she smoked cigars, drank and swore. According to Hollywood, she wore trousers and fluorescent lipstick. Changed her name from Aurore Dudevant (and who can blame her?).

Fred. Chopin: Wrote piano music, was allergic to barbers and had an affair with George Sand. First man to do a one-minute waltz.

Alf. de Musset: Wrote poetry, sulked, smoked reefers and had an affair with George Sand.

Prosper Mérimée: Wrote books, kept cats and had an affair with George Sand. Called "Prosper" because he was the only Bohemian who ever had any money.

Gene Delacroix: Revolutionary painter. Developed new technique for painting blood and had an affair with George Sand. Said to be the son of Talleyrand.

Sam P. Winterbottom: Greengrocer in Montmartre. Could not paint, write, play music or tell funny stories, but immortalised as not having an affair with George Sand.

Finally, in passing, a word of warning for those aspirants to "la mode française". The grass in the garden next door may always look greener, but too much chlorophyll is very sickening. Perhaps, after all, the best reply to the young lady who has been to Boulogne is to ignore her and go on reading your "Guide to Britain". As the French say, "L'ennui est universel" which — roughly speaking — means "It is easier to be bored if you understand the lingo".

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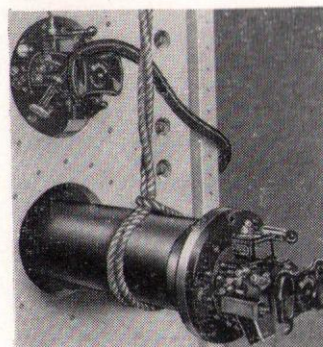
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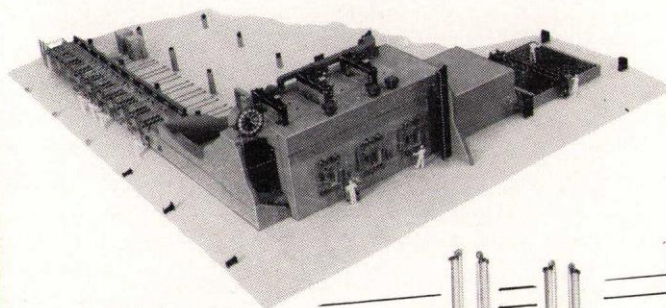
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(Photograph by courtesy of the Atomic Energy Authority)

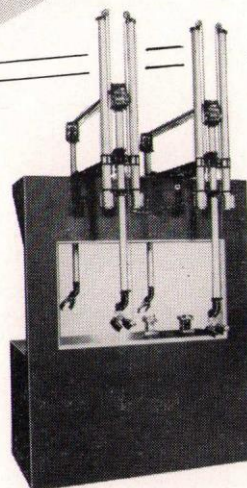
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In response to a request from readers for a more difficult competition —

Harlequin Christmas Quiz 1960

One guinea will be awarded the most correct entry opened, and one guinea will be paid to any other reader supplying the answer to any one question not found by any other competitor. For conditions of entry see page 78.

1. On what day did a plane first fly across the Atlantic and back the same day?
2. What, apart from cricket, had the following in common:— L. Hutton, H. Sutcliffe, Major Booth and J. Tunnicliffe?

What is the connection between:—

3. Elephant, Bishop and Fool?
4. CAT, BRM and BUG?
5. Argonauts and Atomic Energy Development?
6. Fuchs, Garden and Dahl?
7. Bear and Staff, Wessex Dragon and Golden Daffodil?
8. Where was it "Always winter and never Xmas"?
9. Who said "I may be under a bit of a cloud at the moment, but I will not be laughed at by a barge woman"?

10. Who said "Will find a Tiger well repay the trouble and expense"?
11. Of whom was it said "What a large, pink, Holothurian — with hands, too! It must be connected with Synapta"?
12. Who said "In that way, I can talk while I am eating without being rude"?
13. What are "jet streams"?

What or where are the following:—

14. The Kelpie of Corryvreckan?
15. Dead Men's Fingers?
16. Merry Men of Mey?
17. Islets of Langerhans?
18. Isle of Bones?
19. Who said "It was a damned large rat"?
20. Who was the "Angelic Doctor"?

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This is Harwell's second win in this competition since it commenced in 1956, the other having been won by Alan Elkin, D.O. Apprentice in 1958.

HAROLD TONGUE CUP

We extend congratulations to Lyle Adlem, Craft Apprentice at Winfrith, on winning the Harold Tongue Cup for 1960. The Research Group competes with other Groups of the Authority for this second cup.

BOOK REVIEW

'British Nuclear Reactors' 6/6 Chatto & Windus

This book was produced by two members of Harwell: Kenneth Jay, author of several books on atomic energy and Gerard Gibbons, Art Editor of 'Harlequin', who did the illustrations.

The printing is unusual in that the artist has worked to the actual page size but in reverse — a method similar to that of the engravers who work direct on to a plate. Each colour had a separate plate; half the book is in colour.

Originally, the plan was to produce two books, one on elementary physics and another on British reactors, but these were combined. The result is an easily read and attractive production that will be welcomed by both the teenager and the adult layman.

A second book on Isotopes is being produced by the same collaboration.

AIR YOUR VIEW

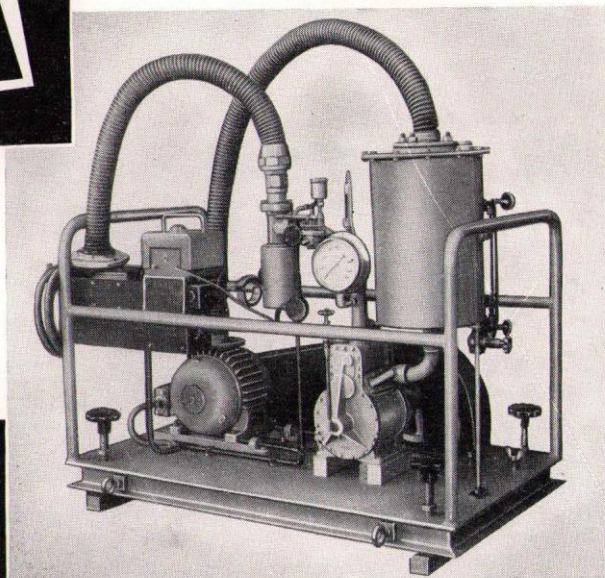
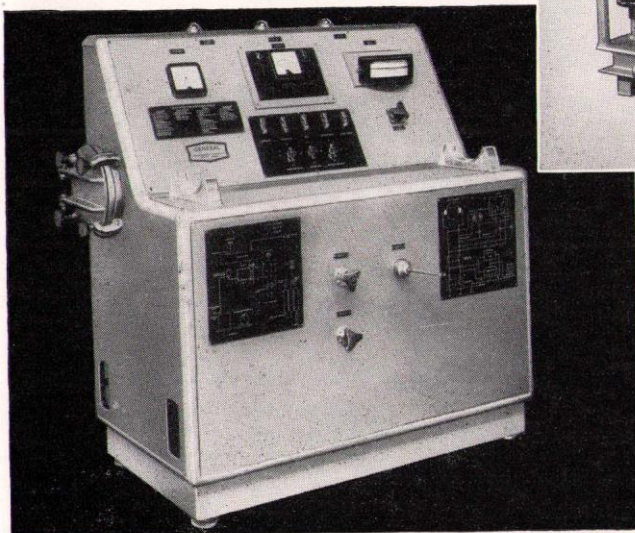
The mystery aerial view in the last issue was correctly identified as that of WANTAGE. The first correct entry was from Mrs. E. James of 43 St. Giles', Oxford.

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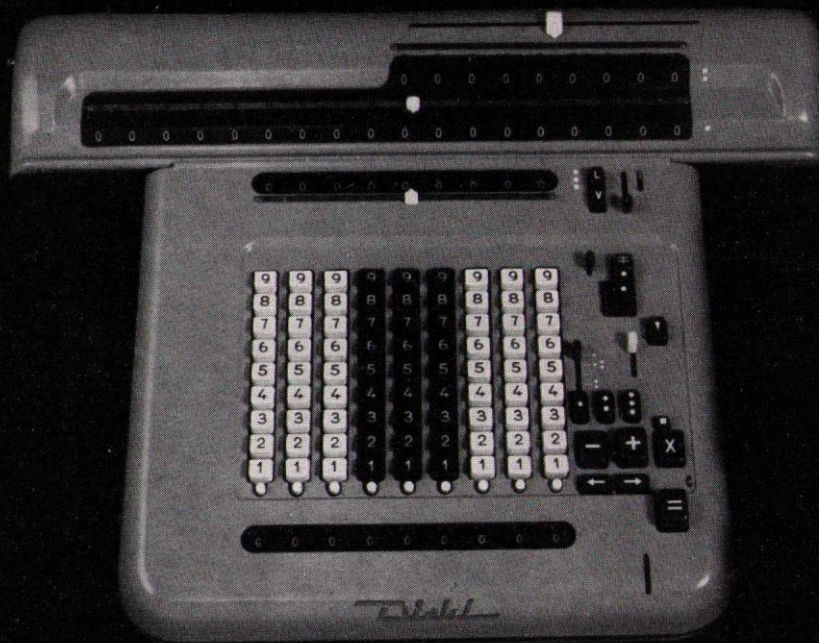
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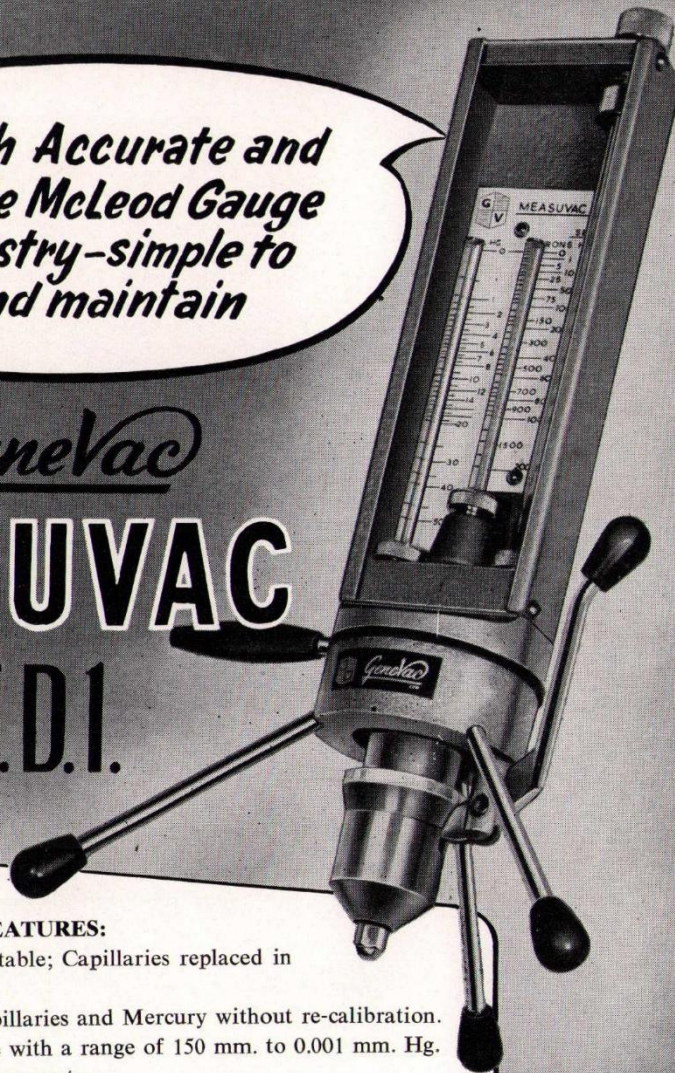
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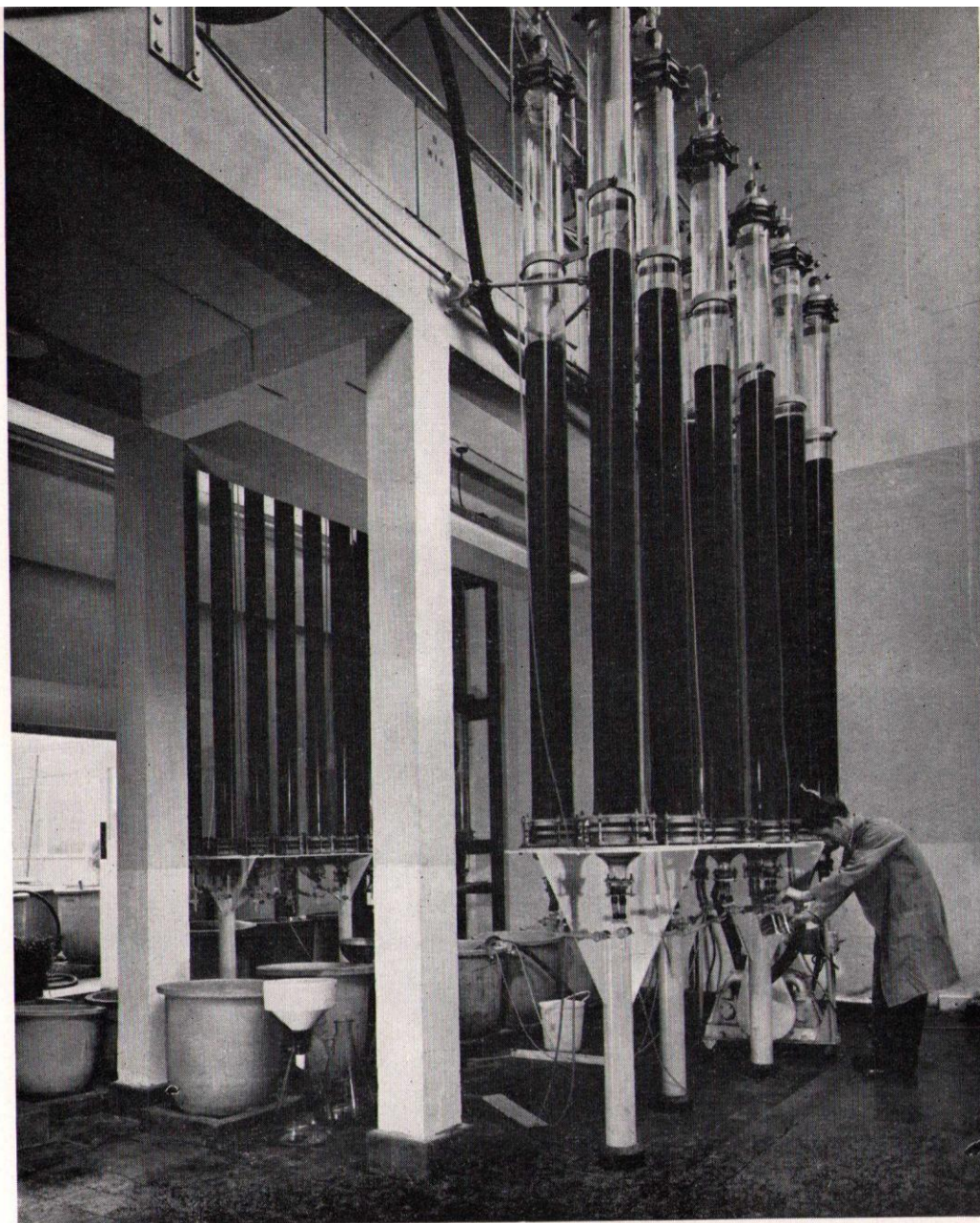
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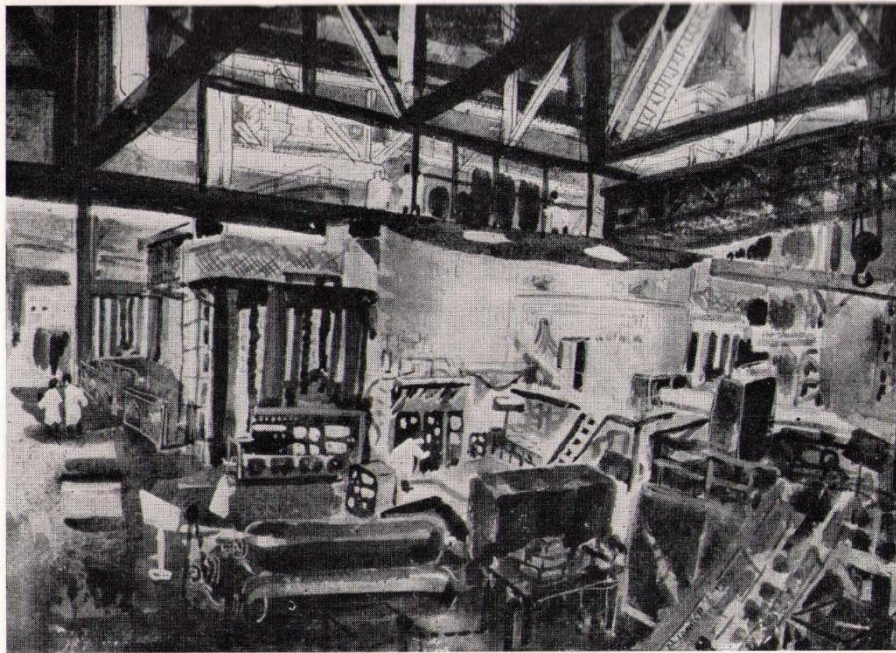
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And yet, despite these smooth efficient parts,
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 To guide with their peculiar human arts
 The actions of the beast without a soul,
 Whose curse is, that it cannot answer why:
 Machines respond, but only men reply.

D. M. BLACK.

Verses by permission of "English", Journal of Literature and Criticism.

“Harlequin’s” 1960 Twenty-Five Guinea Contest

Two winners of five guineas were announced in the Spring issue. Readers are now invited to register their votes so that awards can be made based on the most eligible entries printed this year in *Harlequin*:

- I For the best informative article (not commissioned): *The Winfrith Scene; On being a Stranger; Letter from Tehran; The Impact of Harwell Staff; Paradise Lost; The Degree of Tomorrow; In Defence of London; Plane Sailing; And She Came Too; Luxury Camping; Youth Club; Moscow Visit; Troopship; Novelist of the Atomic County; The Downs before Domesday; Hailstones on the Allos.*
- II For the best humorous article: *The Harwell Motorist; Wary Views on A.E.R.E. News; Not Transferable; Making the most of your office; Reproductio ad Absurdum; The Hippocratic Oaf; The Plum of my Aunt.*
- III For the most original idea: *The AERE-Fairy Garden; The Reason Why (I stay at Harwell); Very efficient—Burmese you know —* or any 1960 *Harlequin* contributor whose work is listed above.

The recording of these votes is a condition of entry for competitors and contributors. Others are invited to vote and help in assessing the awards.

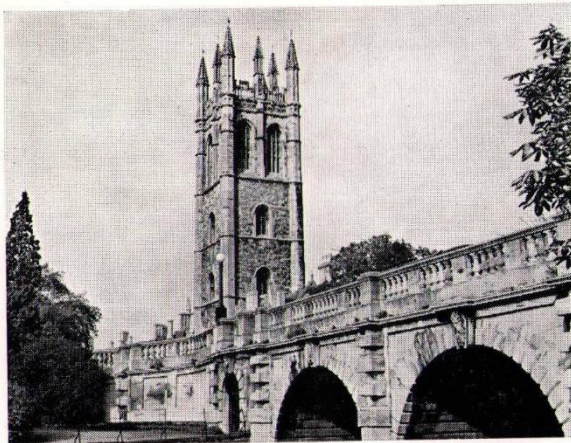
For 1961 awards will again be made:

I	For the best informative article, not commissioned	...	...	Five Guineas
II	For the best humorous article	...	...	ditto
III	For the most original idea	...	...	ditto

**Monday
Jan. 16th**

This is the *closing date* for Round One contributions for sections I, II and III, and for competition entries for the Christmas Quiz detailed on page 77.

The address is HARLEQUIN, 329, for *internal* mail; HARLEQUIN, A.E.R.E. HARWELL, DIDCOT, BERKS, for *external* mail.



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Printed at The Abbey Press, Stert Street, Abingdon, Berks.
Blocks by Progressive Engraving Co., Newbury.