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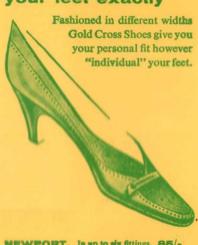
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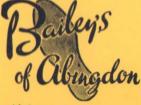
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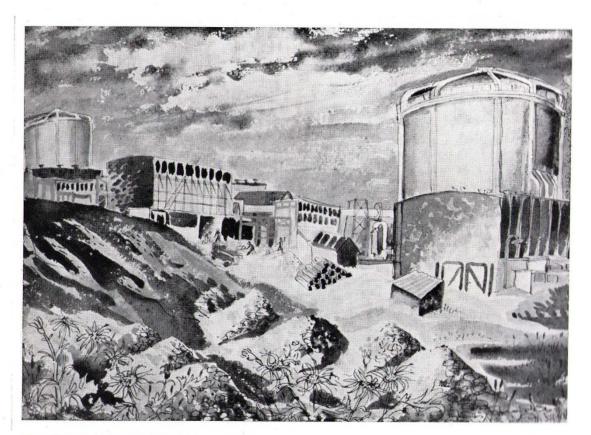
HARLEQUIN

NUMBER 27

AUTUMN 1959

Leisure Magazine of the United Kingdom Atomic Energy Authority Research Group

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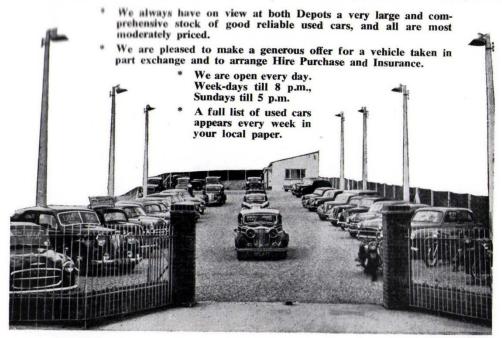


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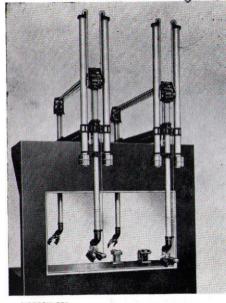
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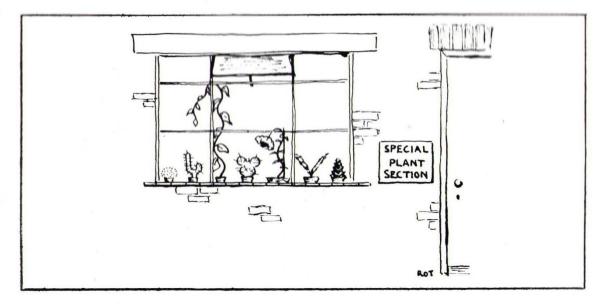
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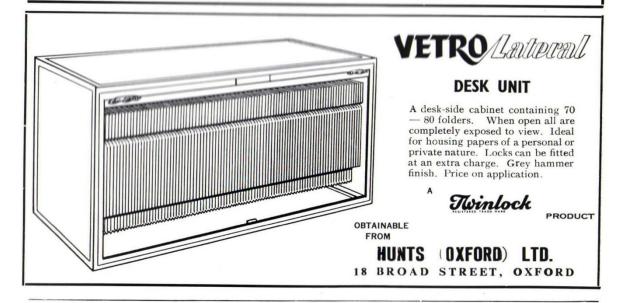
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DR. J. B. SYKES

EDITORIAL

Davies, whose words we feel merit this wider circulation, says that, although he has been at Harwell seven years, he will be regarded by those of longer standing as a junior apprentice. Writing in the newsletter of the A.E.R.E. Apprentice Association, he asks whether the present day apprentice really appreciates how the site has expanded and knows how many unique pieces of apparatus, such as reactors, accelerators and isotope separators, are located within the security fence: Harwell was Hangar 9 to apprentices of early intakes and although the system has changed I am sure that the new apprentices would benefit from an introduction to the whole site in order to let him see that there are very many openings for him in the future. Let him see how NIMROD is progressing, let him see what is inside the "ship's bridge" tower near the South Gate, explain to him why those pipes radiate from the Neutron Booster 418, take him through the "space-ship type airlock" into the heavy water reactors, explain why Building 220 has a windowless first floor and so on. Such an introduction will not only benefit the apprentice but the site also since he will have a clearer picture of what is going on at Harwell.

Only a few of us can have first-hand experience of more than a little of what is going on, but a relaxation of security since the first Geneva Conference should make it possible for 'Harlequin' to supplement more specialised sources of information, such as 'Atom' and 'Engineering Division Review'. From a wider outlook can come a sense of proportion, but it is as easy to lose touch with one's Establishment, and sight of where one's own part in the general effort fits in, as it is to lose one's sense of association with the other parts of the expanding Research Group.

As this is read, the second site grows still larger on the Winfrith scene. There will be none of the smoke and grime associated with the exploitation of science by industry, but the present bleakness of new buildings is accentuated by the mournful cries of the seagulls circling overhead. Soon less familiar languages will blend in a common purpose as the ideals of European collaboration are put into practice, and later, the well laid out flower-beds and avenues of trees, which have long been a pleasant feature of the Harwell landscape, will make their appearance.

It is fitting that this should be so, for the new science of nuclear energy and the oldest science of all, concerned with the cultivation of the soil, have this in common: an inter-play of the Works of Nature with the works of man.

D.A.T.

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NUCLEAR POWER covers the whole subject of applied atomic energy; reactors in theory and practice, fuels and other special materials, chemical and allied topics, isotopes and applied radiation, instrumentation. Each month's issue contains regularly: international and commercial news, reports of conferences, news of new products and equipment. The main feature articles are contributed by specialists and are designed to provide this cross-fertilization of ideas which is so important in atomic energy.

Many of NUCLEAR POWER'S contributors come from Harwell itself. For example, in recent months exclusive articles have appeared by the following specialists at the A.E.R.E.: W. Abson, H. W. Bowker, R. W. Bowring, J. H. Buddery, I. Everson, V. L. Fontaine, P. Fortescue, J. F. Hill, W. R. Loosemore, C. M. Nicnolls, A. E. Robson, H. A. Roberts, H. Rose, J. J. Syrett, F. L. Speed, J. G. Tyror, P. C. Thonemann, W. B. Woollen, together with many others.

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THE "DRAGON" PROJECT

(From a statement by Lord Plowden, K.C.B., K.B.E., Chairman of the U.K.A.E.A., after the signing of an agreement in Paris on 23 March 1959 for the joint development by twelve nations of a high-temperature gas-cooled reactor.)

T gave me great pleasure to participate in the signature of this Agreement for the joint development of the high temperature gas-cooled reactor. I speak for the Government of the United Kingdom and for the United Kingdom Atomic Energy Authority, as well as for myself when I say that we all welcome this project. We are confident of its success and of the benefit that it will bring to all the countries taking part.

The project, which is called "DRAGON", will be the third joint project under the auspices of the European Nuclear Energy Agency. It is the second in which the United Kingdom is participating, and the first for which the United Kingdom is the host country.

We are confident that the high temperature gas-cooled reactor is a sound choice for this purpose. Making it a joint project, in which the Euratom Community and other member countries of the European Nuclear Energy Agency will join with us, will allow the work to proceed at a considerably faster pace than any individual country could achieve on its own, and will enable all the countries taking part to share not only in the theoretical results of the kind that appear in published documents, but also, and this is much more important, in the practical experience of design and operation which is so vital in nuclear technology.

The reactor will be located at Winfrith Heath, in Dorset. A programme of research and development will be drawn up in the next few months, and a joint reactor design team formed. We hope that civil engineering work on the reactor experiment proper will begin early in 1960.

The duration of the DRAGON agreement will at first be five years, but since much of the value of the reactor experiment lies in the practical experience to be gained from operating the reactor, it is to be expected that some at least of those taking part will wish to carry on with operating the reactor as a joint undertaking thereafter.

This is the first reactor project to be on a co-operative basis from the very beginning. There will be many technical and administrative problems to be solved. Administratively indeed it would probably be much easier for one country alone to run its own project. But we who are concerned with this project believe that the difficulties will be more than outweighed by the potential benefits. There will be both administrative and technological problems; but we are confident that they can be solved. We in the United Kingdom are looking forward to the privilege of acting as hosts and to sharing this exciting experiment with our European friends. We hope that our partners will find the project rewarding and that those who come to England to work on the project will find their time at Winfrith Heath both pleasant and profitable. Certainly we in the United Kingdom will do our best to make it so.

In collaborating in this project the countries taking part are doing more than collaborating in the pioneering of a particular technological project. We are also pioneering in the field of collaboration itself. "Dragon" is an encouraging step forward in the development of co-operation between European countries in science and technology. I hope it will set a pattern which will be followed and further developed.

Such a development will bring great benefit to Europe and to the ideal of European collaboration which we all cherish. It is in this spirit that we in the United Kingdom look forward to working with our European friends to bring this important venture to success.

Atomic energy is still a young science. European civilisation is amongst the oldest in the world. We can all be proud that the old countries of Europe are sharing together in this exciting new enterprise. *



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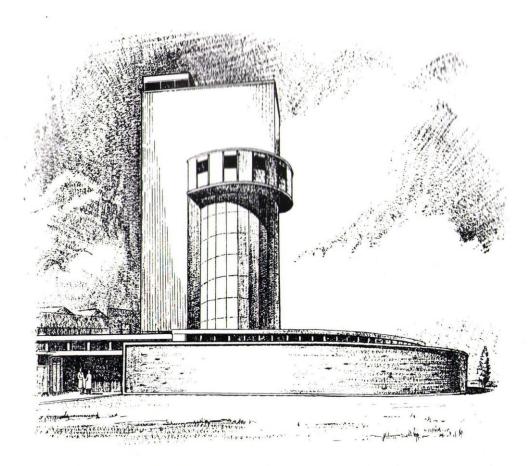
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Buildings of the Research Group

No. 1. THE TANDEM GENERATOR, Building 477 at Harwell has become a notable landmark at the south-east corner of the Establishment and has provided the design for the Research Group Christmas card for 1959. A model of the building was selected for display in the 1959 Royal Academy Summer Exhibition.

Structural Problems. A tower 101ft. high was required to house the 80 ton Tandem Generator vessel together with attendant target rooms and pit. This tower was to be topped with a structure housing a 15 ton crane. At ground level three target rooms were required — semi-circular in plan and covered with open mesh steel floor. The target rooms were to be surrounded by an access road for loading purposes which was in turn to be bounded by a 2ft. thick, semi-circular shielding wall.

Materials. The central tower, the focus of the design, is of concrete for shielding purposes and finished in pink-faced precast concrete panels. The rectangular structure is a light steel frame, as shielding is not required, and clad in light aluminium sheeting — not only for economy but for ease of erection and of maintenance. The laboratory and office block are of

timber for the same reasons, and can be removed or readily adapted to suit changing requirements.

Design Appreciation. The design is purely functional: that of housing a machine for doubling the voltage through which particles can be accelerated; and as such it makes a valued contribution to the harnessing of the atom for peace. With so many modern buildings box-like — stacked one on top of the other like coffins marking the end of man's desire for beauty — curves are always welcome to the eye. Both shape and texture are derived from their use and by this happy accident, as much as by good design, a pleasant contrast is made with surrounding Harwell buildings.

Historical Significance. Every extinct civilization is judged by the character of its surviving architecture and one may predict that the purpose of this structure may well be confused by historians of a future age. An archeologist who unearths this design with its 2ft. thick, semi-circular shielding wall before a tower built 3ft. thick may well exclaim: "These thick walls, this moat, these slits of windows — what a fearful testimony to the barbarities of our rude forefathers!"

NEW

WORKS



Temporary Building



Contemporary Building

FOR

OLD

by P. B. DUNTHORNE Assistant Chief Architect

ILLUSTRATED BY THE AUTHOR

A RCHITECTURAL style is a subject little understood even by architects. Most of us have a vague idea that Norman arches are round, and Gothic ones pointed. Some, who have studied the architectural treatises From Pillar to Post and Homes Sweet Homes by Osbert Lancaster, together with his latest book (see p. 65 of this issue) Here of All Places, can recognise Stockbrokers' Tudor and Bankers' Georgian, but few can identify those subtle changes in architectural style which affect the growth of a large research establishment such as Harwell.

The purpose of this article is to increase awareness and to point out the differences in detail which distinguish one style from another. Office of Works Georgian

The earliest buildings at Harwell date from the mid-nineteen-thirties and are the original aerodrome buildings. These are all in "Office of Works Georgian", a style which was widely used by Government Departments during the interwar years, and which makes Post Office buildings so readily identifiable all over the country. The Harwell buildings were built to

standard plans and others like them are to be found on aerodromes throughout England, so that it is not surprising that they are rather dull. Good workmanship and excellent materials, especially hand-made bricks, have, however, done much to offset their otherwise undistinguished appearance. Particular characteristics of the style are tiled pitched roofs, wooden double-hung sash windows, high rooms, and an excessive regard for symmetry. Typical examples are Building 77 and Ridgeway House.

During the second world war the brickwork was camouflaged with paint; as this gradually wears away and becomes softer in outline, the brickwork gains a strange quality of age. Perhaps we shall one day be simulating aged camouflage paint on new brickwork!

Transitional

Most of the first essays in building at Harwell by the Ministry of Works were conversions of existing buildings for scientific purposes, and it was found that the existing hangars were particularly adaptable. With these alterations a number of interesting new skylines, such as the roof of BEPO in Building 10, were created.

The first major new buildings at Harwell were the hot laboratories (Building 220), which date from 1946-8. This impressive edifice was comparatively advanced for its time. Gone were the pitched roofs and double-hung sashes of Office of Works Georgian, but the air of solid respectability so characteristic of that style remained. This was due possibly to the symmetrical composition of the building, which generally leads to dullness, but which was in this case a true and honest reflection of the planning requirements. Evidence of the earlier influence can be seen in the use of stone dressings to windows and entrances, and in the deep coping which takes the place of the traditional classical cornice. The eaves of a building are one of the first places where ingenious architects try out their fancies.

Utilitarian, or Treasury Cuttish

About the time that Building 220 was completed, many new buildings arose in the Utilitarian, or "Treasury Cuttish", style. These were built at a time when there was a great shortage of steel; their height was therefore kept down, usually to two storeys, the floor and roof loads being transmitted to the foundations through brick piers or walls, and not through a structural frame. This resulted in general proportions somewhat similar to those of Office of Works Georgian, with comparatively small windows interspaced with wide piers of brickwork. Good examples are General Admin. (Building 329), Metallurgy (393), Medical Research Council (383) and Medical & Health Physics (364). Treasury Cuttish did much to introduce fair-face brickwork internally, by saving the price of plastering, despite giving a rather sordid institutional appearance. However, the architect is never down-hearted, and seizes on these quirks of fate for his own advantage, so that in later work we find many entrance halls and staircases which are fair-face brickwork, in a slightly superior type of brick, and purposely left unplastered and undecorated as a decorative feature.

Here we may also consider windows, those most useful of all features for the identification We have already architectural style. referred to the wooden double-hung sashes of an earlier era, which gave way quite suddenly to the standard steel casement, of somewhat similar appearance but cheaper and easier to maintain. This happened before meddling with atoms became a popular pastime, and by the time Harwell was growing rapidly steel casements were de rigueur. We had passed on, however, from the early copies of the Georgian proportional pane to the horizontal bar. This was due to an ingenious manufacturer who found that windows could be made equally well if the vertical glazing bars were omitted to give a horizontally divided window. Subtle publicity induced architects to use these windows extensively, and they had a great but transitory vogue, particularly in industrial estates, just before the war. Like most Government Departments, Ministry of Works are slow to catch on to new ideas and discard old ones, and these windows were used in Building 329 long after they had been abandoned elsewhere. (Pity the poor window-cleaner!)

Subsequently, glazing bars were omitted, a logical trend which has increased visibility and cleanliness and reduced the costs of manufacturing, painting and glazing. The new design



"An excessive regard for symmetry."

has been used very extensively in Treasury Cuttish buildings all over the site. These windows were generally divided into three large lights with smaller ones over, which gives excellent control of ventilation. But they could not long appeal to architects, principally because of their symmetrical appearance, which was démodé. They gave place to an innumerable collection of types used in Festival style, to be described later.

Industrial

Parallel with Treasury Cuttish ran "Industrial", a style which was used for larger buildings where there was no alternative to a steel or concrete framing. External brickwork gave way to asbestos cladding, and steel windows to patent glazing. The outstanding example is Chemical Engineering (Building 351), dating from 1950–1. Others are the Zero Energy Building (401) and the Boiler House. This style is largely prescribed by considerations of finance, but it must be admitted that many of the results are aesthetically very satisfactory. Festival

Following the simplicity of Treasury Cuttish came "Festival", a reaction against the dullness of previous work. It took many forms. Architects vied with one another in their desire to use old materials in new ways and new materials in old ways. Any form of symmetry was shunned. Buildings took strange shapes, and were composed of a multitude of contrasting materials, so that some of them were more appropriate as exhibitions of differing forms of construction and material. It was not unusual to find, in one building, two different types of brick, some curtain walling, asbestos sheeting, metal windows, patent glazing and timber cladding. This certainly produced lively and, for a time, attractive building. But mere novelty is apt to pall, and buildings in this style have shown considerable disadvantages when needing extension: one has great difficulty in deciding which of the many means of construction and materials to repeat, or whether to add to the existing medley by the use of wattle-and-daub or thatch!

The most successful example of Festival is seen in the Cockcroft Hall, in the writer's opinion the finest building on the site. It did not fall into the trap of being too clever, nor that of using too many contrasting materials; the general shape, too, is simple and pleasing.

Some other examples, such as the Proton Linear Accelerator (Building 412) and the Neutron Project (418), are less satisfactory and, as the newness wears off, they may become shabby and ordinary.

At this stage it is appropriate to refer to the general external finishes of buildings. Most of the original R.A.F. buildings, being comparatively small, were built without structural frames, and were therefore of brick, which carries its own weight. Treasury Cuttish followed the same principle. The Industrial style, however, depends on the use of sheeting, generally asbestos on a framed building. In Festival style the buildings are chiefly framed, and this led to the use of many other light materials merely as panelling over the structural members of the frame. In this style is the curtain walling to Theoretical Physics (Building 8.9) on the west end of Building 8; timber and aluminium sheeting are also used elsewhere on the site.

Research Recherché

To the more recent buildings, the productions of the New Works Group at Harwell, I am hopefully giving the title "Research Recherché". We have attempted to combine the simple economy of Treasury Cuttish with the appeal of Festival. Types of construction have been adopted which best suit the particular building problem rather than any preconceived idea as to what the building should look like. We have tried to suit materials to the places where they are to be used. An example is the Vertical Tandem Generator (Building 477), which derives its shape and texture from its use.

Other buildings in this style are those in the Proton Synchrotron group. These simple buildings depend mostly on their grouping for their interest, together with the use of colour. Others again are the new hostel at Rush Common and the extension to Grimsdyke House.

This review has brought us up to the present. What of the future? A tendency that must be guarded against is the growth of standardised buildings, such as the Terrapin huts and the asbestos-sheeted horrors of the C.T.R. area, which the Director has aptly described as "gypsy encampments". Buildings must continue to be designed primarily for the benefit of their users, but at the same time the Authority must give a lead in architectural design as well as in atomic research.

GOSSIP



HOMOLKA

"Gossip", as Rochesalt says in his famous Keyhole Essays, "is the life's blood of any establishment."

Since the cynical French wit died some fifty years ago, he could not have had *our* Establishment in mind. But human nature has not changed much, and a little bit of tittle-tattle is as welcome at Harwell or its outstations as it would be in the cubicles of a ladies' hairdresser.

Idle talk, tale-bearing or standing godfather to (Shak.) are the dictionary definitions of this much-practised pastime. These, somehow, fall short of the mark. Gossip-real honest-togoodness, pursed-lips, character-fraying, nearslander talk—is certainly not idle: it is alive. It can break up an engagement to marry, or start a civil war. It is the mainspring of history. How did the world come to hear of "Not tonight, Josephine"? Intuition? Extra-sensory perception? Most unlikely. An enterprising chambermaid is nearer the truth. Literature abounds with it; Sheridan even raised it to a fine art and instituted a "School for Scandal." Opera plots are fifty per cent gossip: how far would Mozart's "Marriage of Figaro" get without it?

And yet, withal, we still like to surround this fine old custom with an air of disrepute. With typical British hypocrisy it is practised but—like eating peas with a knife—never openly condoned. Why? Because we do not know enough about it, and because anything esoteric (in others) is always viewed with a certain amount of suspicion.

Is there a Technique of Gossip? Perhaps not, as there are too many variables: the gossiper, the listener, the victim and the aim. But there are some fairly standard openings used by the less sophisticated. Let us have a quick critical look at some of these.

PART I: THE ATTACK

The Direct or Bulldozer approach, e.g. "John Gladeye ought to be ashamed of himself larking about with girls at his age."*

Note the absence of preliminaries. No subtleties, no softening-up of the listener with pleasant anticipation, but straight in with hobnailed boots. This method is so puritanical and self-righteous that it barely deserves to be graced with the name of gossip. It is too crude, although not lacking a certain amount of courage, and seems to be favoured by spinsters, widows, aunts, hen-pecked husbands and frustrated bachelors.

The Feeler or Broad-Minded approach invariably begins: "What's this I hear about so and so?" This is, of course, a rhetorical question. Users of this are not seeking confirmation, but audientation. Indeed, any unsporting attempt at answering the question will leave them piqued and frustrated. It is unethical to steal the thunder of another gossiper.

To be successful this opening must be said with the right degree of surprise and indifference (a difficult combination, you will agree). It is quite popular and appears to be used much by men, especially married men.

The Duty or This-hurts-me-more-than-her approach usually starts:

"It's none of my business but——"

This is a bad tactical start. It asks for the hackneyed rejoinder, "If it's none of your business then shut up."

Gossip should always appear to be your business.

Used essentially by women; men generally avoid it, as they are afraid of betraying hypocrisy.

* (The examples are only hypothetical and do not refer to any real person, living or dead or both.)

ABINGDON and its RIVER

THE Ancient Town of Abingdon, once the capital town of the Royal County of Berkshire, has stood now for more than thirteen hundred years on the junction of the River Ock with that noble river the Thames, or Isis, as it is sometimes called in these reaches.

Perhaps, after its historical record and ancient buildings, Abingdon's biggest attraction is the River; most guide books and road maps refer to the town as Abingdon-on-Thames, although this is not the official name. It is an apt description, because the river gives Abingdon much of its character, and is never far from its varied life. Many visitors gain their first glimpses of the town from the river, approaching by steamer or motor cruiser from Oxford or Wallingford. And what lovely glimpses they are—the spire of St. Helen's soaring above the trees, the bridge, and the warm old roofs. Those who come by rail also get their first views of the town along the river. The branch line from Radley runs through quiet meadows, suddenly curves past Abingdon Lock with its neat gardens, its punts and sailing dinghies, and sidles along the Abbey stream to its terminus. Even of those who approach by road, probably the majority come from the direction of Dorchester, and first see Abingdon across the water meadows before sweeping along the graceful causeway and over the bridge into the town.

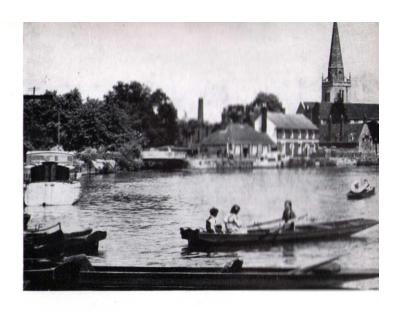
It is rare for a town so populous as Abingdon to lie exclusively on one bank of the river. Most riverside towns overflow across the bridges and along the opposite bank. But here, except for the small group of cottages on the flank of the bridge, the water-meadows make a leisurely approach right up to the town. A busy town on one bank; cattle knee-deep in the water by the other! That is the contrast offered at Abingdon, and many an attractive picture it provides, especially on a Sunday when the impression is enhanced by the sound of bells borne across the water.

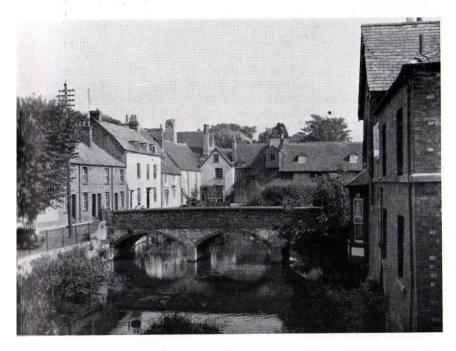
The river provides all kinds of amenities and recreations. The Corporation are the owners (in trust for the inhabitants of the neighbourhood) of all the waters of the Thames, with certain exceptions, between Nuneham Bridge and a point just above Culham Bridge—a stretch of about 3 miles, in which there is good sport to be had by fishermen. The enterprising local angling associations have acquired the fishing rights over a further 17 miles in the vicinity.

Boating is another popular pastime. There are three establishments from which may be hired skiffs, punts, canoes and motor craft. There is the Sailing Club, where 10 and 12 foot dinghies fill the lower reach with their sails at weekends. And, since the river is comparatively free from pollution in these higher reaches, there is bathing too, although most people prefer to use the Corporation's swimming pool, attractively situated at the Abbey Meadow alongside the river. But for all the number who use the river in these ways, it is of most value as a general amenity.

It offers delightful walks—upstream to the Lock, downstream to Culham, around the Abbey Meadow, along St. Helen's Wharf (Abingdon's "promenade") and Peep O' Day Road. It offers an ever-present yet everchanging spectacle of light, colour and movement. It makes its own quiet music, stirred by the wind against the reeds, or rippling against the bow of a passing boat. Above all, it is reassuring as a symbol of permanence. It is pleasant to stand on the 500-year-old bridge and watch the activities of swans, ducks, fishermen and river craft. Old as this town is, its river is far older. Long as the town may endure, the river will outlive it. The town not only takes character from the river, but gives the river character. With the exception of Oxford, it is the largest town in the first 70 miles of the Thames' journey to the sea, and it is a hospitable port of call for river voyagers. *

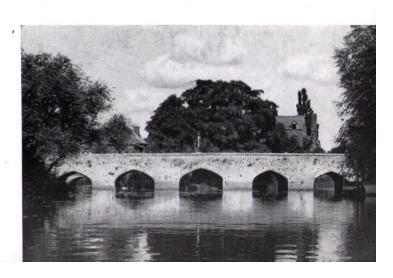
BOATING ON THE RIVER AT ABINGDON, WITH ST. HELEN'S CHURCH IN THE BACKGROUND.





THAMES STREET AND THE OLD MILL.

THE 500 YEAR OLD BRIDGE.



(Blocks from 'Guide to Abingdon', Abbey Press, 1/6)

ANY of us will remember the stark interior decorations that were so characteristic of Government Departments some years ago. We remember shiny brown dado walls, and gallons and gallons of cream paint everywhere else. If we were lucky, we may have had a bottle green dado wall, but the same oppressive atmosphere remained. Imitation cut glass light fittings hung down from yards of flex above wooden folding chairs and trestle tables. The early days of Harwell as an Atomic Station came towards the latter end of this period.

M.O.W., and later the Building Group of the Atomic Energy Authority, have gradually been introducing more colour and variety of texture to both the inside and the outside of buildings. The glossy dado wall has gradually disappeared and given way to plain brighter walls, the colour being dependent on the orientation of the room and the amount of light available. Doors have been painted in contrasting shades with skirtings, door surrounds and window frames in white, whilst the larger offices and public rooms may well have walls of contrasting colours. In these days of well-designed contemporary wall papers, there is a range of patterns and colour at most economic prices; staircase walls are often finished in a bright wall-paper to give a colourful background to the design of the actual staircase, and to give emphasis to a focal point and change in direction. Applied wall textures are now made in a variety of materials, such as acoustic tiles, veneer woodwork, plastic sheets and glass bricks, which all play their part in brighter, lighter and cleaner interiors. But the decorative application has not stopped at the wall surface. Flower boxes and plants have been given their part to play and we should pay tribute, in passing, to the Grounds Department at Harwell which does a very commendable job in landscaping the areas around the buildings and bringing the gardens into the interiors. Much care and attention is needed in keeping plants healthy, and we have a wide variety of these around the Establishment which augment the efforts of New Works in brightening the general scene.

We no longer always stand on brown linoleum, for use has been made of the attractive range of coloured linoleum and flooring tiles, both plain and patterned, now available on the market.

If we look above our heads, the electric light fittings make use of the contemporary range of

LOOKING . . .

designs now available. The use of colour should be considered with the quantity of light available, and comfortable contrast between light and dark is desirable. Any type of glare or harshness of light should be avoided. The use of Venetian blinds and the curtain fabrics has also followed the contemporary trend, and the pattern and colour range now available should suit all tastes; the Harwell hostels are good examples of this.

The introduction of colour does not finish with the interiors, but has a great use in external application to buildings. Whether the character of the structure should be "highly stimulating" or "restrained" is dependent on the use of the building and what people are intending to do in it, and this can often be expressed by contrast of colours and materials used, such as the wide variety of coloured bricks now available on the market; coloured concrete blocks with exposed aggregate in various shades, and the use of stone with its mellow hue contrasting against such materials as wood.

The infill panels of the so-called "curtain wall" can have sheets of coloured glass or metal to give an overall abstract pattern to the facade. All these materials create a challenge to the architect of today which can of course be dangerous, if good taste and restraint are not used.

The invention of photography and the influence of the Impressionist school of painting have resulted in stimulating interest in colour and light which has led to more research into the range of colours available, and such organisations as the Building Research Station have developed both quality and the number of colours now available.

Much has been said of the psychological effect of colour on industrial output, welfare and general health of the community. Just how far this goes is not for New Works to claim, but I think most people will agree it is more pleasant to spend one's working hours amongst colour and in a cheerful setting.

J. K. THORNTON.



A typical interior, A.E.R.E. Hostel.

. . ON THE BRIGHT SIDE

* * * * * * * * * * *



Experimental suite of Chief Architect.



During the visit to the U.S.S.R. described by Sir John Cockcroft in the last issue, four of the party caught the-

NIGHT TRAIN

HILE Sir John went on to the far east, the remaining four of us made a oneday trip to Leningrad, travelling in a very comfortable night train each way. We were put to sleep by a tremendous night-cap of cognac and caviare. At the station to meet us next morning was a large reception party headed by Colmar, Director of the Leningrad Electrotechnical Institute, and Constantinov, a leading physicist at the Leningrad Physics Research Institute. Our hosts' arrangements were very

Institute, about an hour's drive from Leningrad. At this Institute, where much of the heavy engineering for physics installation in Russia is designed and manufactured, we saw the "Alpha" toroidal discharge apparatus. Colmar stated that the purpose of their work is to learn how to build toruses for high current gas discharges, and to provide training for young engineers and physicists in thermonuclear work. "Alpha" is the first installation, and they propose to build others-BETA, GAMMA and so on-until they get to ZETA! "Alpha" itself is a fairly exact replica of ZETA and, according to Constantinov, the decision to build it was taken after the publication of our results. In general, their results are similar to those obtained on

efficient, and they managed to give us a banquet-

breakfast and to show us the city, the Winter

Palace and the Summer Palace at Pushkin,

before getting us to the Electro-technical

R. S. PEASE, Acting Head of C.T.R. Division, who records this, is seen explaining ZETA to His Imperial Majesty the Shahanshah of Iran, who came to Harwell during his three-day State Visit this year.

ZETA, with some evidence that their discharge contains more impurities. They have not obtained such high ion energies nor did the spectrograms shown to us exhibit lines of such highly ionized atoms as we have seen in ZETA.

The outstanding impression was of the efficiency and speed of their engineering work; they appear to have compressed our 3-year ZETA I and ZETA IA engineering programme into about 10 months. Colmar particularly stressed the importance he places on speed, and evidently he has been able to switch powerful teams of engineers, well versed in physics problems, on to a variety of projects. This allying of able and original physicists to such forceful engineering methods means that important contributions to thermonuclear research can be expected from the Leningrad group.

We returned for a visit to the Opera ("Sadko" by Rimsky-Korsakov) which seemed in all respects better than the Opera in Moscow. The superiority of Leningrad to Moscow was a frequent topic of discussion by our hosts in Moscow as well as in Leningrad. After the opera, there was a light snack(!) and more toasts; our indefatigable hosts put us on the night-train back to Moscow at midnight, having set a standard of hospitality, both in a technical as well as in the normal sense, which we found hard to match when they paid us a return visit

at Harwell this year. *

TO LENINGRAD





Second from the left beside the statue of Peter the Great is R. J. Bickerton, and next to him, also hatless, W. B. Thompson. The picture was taken by P. C. Thonemann, who is seen (above) wearing the traditional Cossack hat of the British visitor to Russia. R. S. Pease, on his left, introduces a style of headwear new to their trilby-hatted hosts.

RECREATIONAL

A.E.R.E. LAWN TENNIS CLUB

Owing to the generous help of the Recreational Association, the club is now equipped with four hard courts and two new grass courts, while yet another is "on the way". Under the capable attention of Mr. Arthur Loveday, the groundsman, these grass courts should be as fine as any in the neighbourhood.

This season has seen the opening of the Tennis Club Hut adjacent to the Ridgeway Courts, which it is hoped will help Club Meetings to have a more social atmosphere, providing somewhere to sit out of the cold winds that often blow up in our English summer.

One matter of regret is that out of a membership of eighty only one person other than the previous year's Committee attended the Club's A.G.M. He was elected to this year's Committee, but there is still plenty of opportunity for members to take a hand in running the c'ub.

All tennis players are welcomed and matches are arranged of varying standard so that almost everybody who wishes is able to play in them.

Next year the club will enter the Oxford League and so cater for the keener players of higher standard.

Enquiries to the Secretary, R. Delavigne, Ext. 2415.

A.E.R.E. ARCHERY CLUB

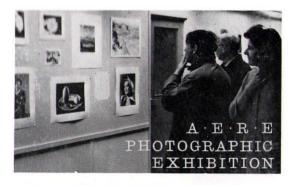
As well as being affiliated to the Recreational Association, this club is affiliated to the Grand National Archery Society. Shooting takes place regularly during evenings and weekends throughout the summer

Archery is an open-air sport for all ages. Enquiries of the Secretary, A. C. Fox, Ext. 3602.

A.E.R.E. CAMERA CLUB

The Club exists to help and encourage all who are interested in photography in any way. No Club evening is too technical for the newcomer to photography, and lively discussion of members' prints and colour transparencies makes for a relaxed and profitable evening. The Club also has darkrooms and a studio which are the envy of many a Camera Club of similar size.

Club membership has been growing steadily for some time now and enquiries will be welcomed by the Secretary, G. G. Webb, Ext. 3723.



A.E.R.E. PHOTOGRAPHIC EXHIBITION

Two months after an exhibition, when only its lasting impressions remain, is perhaps the best time for a layman to be asked to comment, for the lasting impressions are surely the only ones worth recording.

One was struck most forcibly, not by the substance of the display, but by the obvious enthusiasm of the Camera Club in organising it. One could sense their desire to outdo the A.E.R.E. Art Group's exhibition held a few weeks earlier, but in this one feels that they fell into the trap of trying to overwhelm by sheer numbers. Was not the solitary David's bravery sufficient to crush the Philistines? Might not "Brussels

1958" have spoken for all? If this is an extreme view, one can suggest in all seriousness that one third of the number of prints exhibited would have sufficed to give a fair picture of the scope of the Club's activities and interests, while leaving a less confused impression in the mind of the casual visitor.

The exhibition entertained or stimulated, depending on whether one was content merely to gaze at whole pictures, and perhaps to select half a dozen which one would like to have taken oneself, or was prepared to study and compare, say, the polished work of the specialist with that of the general photographer, or the approaches of different workers to Harwell's young ladies!

To the layman, many of those frustrating "No Title" pictures, which presumably are supposed to speak for themselves, did not do so. It was also difficult to see the point of "compositions", and the relevance of faded family groups, and of all the colour photographs. It is unfortunate that presentation in this manner reduces to the level of "somebody else's holiday snaps" transparencies which, properly projected, would otherwise be very interesting.

In spite of these minor criticisms the Camera Club is to be congratulated on staging a very worthwhile and enjoyable exhibition, which amply repaid a second visit.

K.R.P.

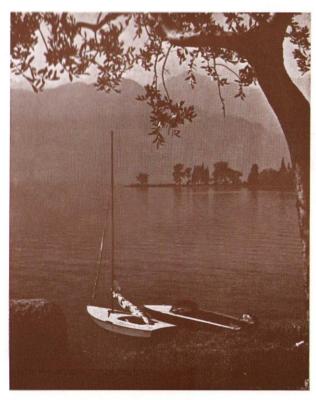


LOW TIDE AT ST. IVES

G. T. SNEDDON (Eng.)

FOX
MISS M. K. JONES (Med.)





LAKE GARDA H. A. Ballinger (C.T.R.)

THE COUNTRY SCENE

UCH has been said and written about the spectacular beauties of Nature, of wide landscapes and of mountain ranges, or of spreading forests and rushing torrents, yet to many of us the simpler works of Nature, lying near our homes, have a strong appeal. Who does not love the winding country lane and springing hedgerows? There the wellknown wayside flowers, as honeysuckle and wild rose, mingle with the hawthorn and blackthorn, and there are found the nests of our garden birds, the blackbird, the thrush and robin, the chaffinch, birds which we see every day and which have become part of our lives, but without which life would lose some of its joy. The well-worn footpath and much-used stile have also endeared themselves to us, and the rustic bridge and babbling stream have been sung about long enough to prove their popularity. The gentle cattle, too, that gaze at us round-eyed and wondering, they are a part of the scene, as commonplace as our morning tea or daily newspaper, yet we should miss them, were they not there, for the things we are accustomed to and take for granted are the things that matter.

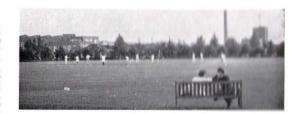
One of our greatest artists, John Constable, seemed to capture this aspect of nature, for he painted what he saw with great fidelity, and when you look at his pictures it is as though

you were looking at Nature herself.

Were it possible to delineate what we may call a typical English scene, I think all these features would be included in the picture: a picture, not of brilliant vistas and glorious panoramas, but of trees and grass and gnarled old roots, lush meadows and centuries-old paths that lead to farms and homesteads, with their dogs, cats and little children.

Yes, a homely scene, that's the real England. D. H. WATSON.





WINNING ANSWER TO-

—THE ONE GUINEA QUESTION

What do I like about working at Harwell? To me that seems easy to answer, without much brain cudgelling.

I needed a job, and when the opportunity arose for me to come and work at Harwell, I embraced it gladly as a chance to get into something big. I have always liked to work for big concerns, and was proud and glad to serve at Harwell. It meant an escape, from dullness or mediocrity, perhaps. It meant being united with many others in work of national importance, which again meant much to me.

Harwell is a community in itself, and one feels a sense of being "in the swim", a sense

of "belonging."

The social side, too, appeals to me, although I don't mean going to dances or dinners, but just meeting people having a common interest. Quite a feature of Harwell social life is the occasional trip to Carters' Stores, where the world and his wife are to be found most lunch times. Then again, the surroundings are pleasant, with shrubberies and flower beds, and trim lawns, where the sound of birds may be heard. All this is why I like Harwell.

ARIEL

What it is that appeals to you about the life of the Establishment may appeal to you and no other. Can you extract it from a welter of sense impressions and values and say what it is from your experience?

This competition will be continued. One paragraph or sentence may win the **one guinea** first prize. Other entries—for which pen names can be used—may qualify for book-tokens when published in the next issue of "Harlequin".

Page 78 gives details of how to send in your entry.

The paintings reproduced in monochrome at left and on pages 3 and 47 are the work of 'Harlequin's' cover artist of ten years ago, SETON McCONNELL, (Mrs. R. M. Fishenden)

The background of the present cover is reproduced from the Ordnance Survey Map with the sanction of the Controller of H.M. Stationery Office. (Crown Copyright reserved).

There's no end to GOSSIP and HOMOLKA suggests some new openings for those wishing to improve their technique



The Sealed Lips opening entails phrases like "I know I can trust you", or "Don't let this

go any further."

It must not sound too sincere or there is a danger that it really will not go any further. Accompanied by little gestures like closing the window or looking under the table this can be quite an effective start. It sets the true conspiratorial mood and is very sound. Properly applied, it can initiate a whole series of closely guarded secrets—known to everyone but the victim.

The Bursting Point or I'll-regret-this-in-the morning start never departs much from "You'll

never guess-".

Exuberant, wild-eyed, mouth-watering, it is a favourite of teen-agers, pseudo teen-agers and highly strung women. It is quite good but palls with usage unless backed up by really good "meaty" scandal—which unfortunately it seldom is. It is surprisingly difficult to nobble someone's character without the listener being aware of it. The ground must be well prepared beforehand and a particularly oblique approach used. Briefly, this consists of enhancing the sordid tale with an aura of nobility, viz.:-

You: "It's amazing how little we know of people we know." (You muse a bit. Suck your pipe or chew a slide rule. Look philosophical, worldly wise and benign. A little wistful smile

helps.)

"I am thinking of old Gladeye. Do you know, I always thought of him as rather reticent. A good chap with sound principles, but sort of backward at enforcing them. Pacifistic almost. Well, last night he certainly showed he has the courage of his convictions."

Listener (Now hot on the scent of some unintentional tit-bit): "Never. What happened?"

You: "He just punched some drunken lout's nose for insulting his girl friend, that's all. At

some pub called the 'Red Eagle' it was. It takes guts to do a thing like that, especially from a quiet, self-effacing type like old Jim. I feel like shaking him by the hand this morning."

You know, but the listener does not know you know, that (a) old Gladeye has been married for ten years, (b) he is secretary of the local Temperance Society and (c) the "Red Eagle" is the worst dive in the district. So in a few words you have established Gladeye as taking part in public bar brawls over shady ladies in disreputable haunts, at the same time creating the impression that you are an idealist

or, at the worst, a gullible fool.

The axiom that people only believe what they want to believe is applicable to the art of gossip. So choose your confidant carefully. In general women prefer to hear smirch about other women while men are not so fussy: they are usually more interested in the details than in personalities. In an American university a controlled experiment using "planted" gossipers showed that men are much quicker at circulating slander, whilst women are better at embroidering it. Close friends of the person whose character we wish to tatter make surprisingly good listeners. Avoid like the plague people "with principles". They will lap up your tit-bits, then promptly go and blow the lot to the party under discussion, including your name. Remember that it is against all the ethics of Muck-Spreading to reveal the calumniator to the calumniated. We soon get to know people like that and never tell them a thing.

Yet there are some rare persons who, through too strict an upbringing or because of some idealist quirk, do not like gossip.

If this minority will contain itself until page 53 is reached, we will deal with the problem as it faces them.

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HARWELL AS HOME FOR SCIENTISTS



An A.E.R.E. Dramatic Society Rehearsal*

E. Lyall (Chem. Eng.)

. . . "A Place of Contrasts . . . Relaxed as well as Purposeful"

THE strange congregation of buses on a Wessex plateau is directly caused by Los Alamos. After the war, when it was clear that Britain would be committed to a substantial and permanent effort of research into atomic energy, the decision was taken not to build an "atomic city".

"We had seen Los Alamos," one senior scientist said, "and we weren't going to have anything like that here." Harwell is an astonishing place in many ways; after all it houses Zeta, still a possible runner for the millennium when power will be got from water. But almost as interesting is the way this community of scientific high flyers, with their futuristic, not to say sinister, reputation, fits quietly in to the deep countryside between the race-horse gallops of the Ilsley Downs and the cherry orchards sloping down to the Middle Thames.

HOUSING ARRANGEMENTS

Didcot and Abingdon, Wantage and Wallingford sound like Housman's quietest places under the sun. Harwell has moved in 2,000 scientists with honours degrees. In each of these four towns the Atomic Energy Authority own housing estates, with a thousand houses all told. On top of that, it nominates the tenants to a further 500 houses by arrangements with local authorities. Only a fraction of the total work force of over 6,000 live on the Harwell site. There are two small estates of post-war prefabs, mainly reserved for those who must live close at hand. Two bachelor staff clubs have been luxuriously converted from R.A.F. messes. Senior staff live in the small row of R.A.F. married officers' quarters. (Sir John Cockcroft occupies the very modest splendour of the C.O.'s house and his successor as director, Dr. Schonland, lives just down the road.)

Hence the buses. Every morning dozens of them lumber up to nearly a hundred numbered stops on the site, single deckers and double deckers, in the blue livery of the establishment or freelance colours, and wait there like so many stranded whales.

The official policy is to integrate the Harwell people as much as possible into the life of the region. On the whole it seems to work very well. Of course 2,000 scientists in a rural area are not unobserved. They are locally regarded as mildly eccentric and known as "the atomics." Their clever children flood the grammar schools and make the competition at 11-plus unusually formidable; but there can be little doubt that the schools have benefited correspondingly. Many a local cricket team has had reason to be grateful for an atomic acquisition; there are even two atomic Justices on local benches.

EXCELLENT MUSICIANS

One of the greatest passions among the Harwell scientists is music. A large number of chamber groups and choirs flourish in a quite unofficial way. There is one clarinettist of real international quality and a number of other excellent musicians; but apart from this music is an almost general passion. The musical life of several Berkshire communities is remarkably strong. In other ways, too, Harwell gives the lie to the popular stereotype of the scientist as a man dead to the humane arts. I saw 'Dr. Zhivago' in each of the first four bachelor rooms I visited; several of them had bulging bookshelves in which Faber poets and the collected works of Turgeney, for example,

*In the above photograph J. T. Reader (Admin.) — less relaxed than purposeful — will be identified as the producer.

jostle 'Festschriften' on theoretical chemistry. Prints and reproductions cover the walls, and there are several distinguished amateurs as well as a host of hobbyists among the Harwell artists.

In many ways, in fact, there is a university atmosphere, in spite of the almost hectic rhythm of projects which have given Harwell tight deadlines and a sense of purpose in the last 12 years. Pioneering research and design work has been rushed through first for the Windscale plutonium factory, then for the Calder Hall reactor, for Zeta, and now for the new low energy reactor. All this has been vitally important work. and it has been done fast. But the scientists in the canteen, even if they talk shop over their luncheon, are informal in manner, and green tweed jackets are normal wear. Like dons, they are very modestly paid by comparison with their contemporaries of equal ability in private industry, and it is a modest procession of oldish cars which queues with the buses for the exit gate at the end of the day's work

In fact Harwell has a considerable teaching function, as well as devoting an estimated 20 per cent, of its effort to pure fundamental research. Just next door, a few hundred yards from the Dido and Pluto reactors on the south side of the site, contractors' cranes and bulldozers are bustling about the new National Institute for Research in Nuclear Science, which will house immensely expensive equipment which could hardly be allotted to any single university and is to be a partnership between the Atomic Energy Authority and all the British universities. Then there are two schools attached to the establishment-an isotope school and a reactor technology school-to both of which come a large number of students from the Commonwealth and from foreign countries. There are a large number of apprentices, and, of course, there is an exceptional toing-and-froing between the senior scientific staff and university science departments. Twelve professorial chairs have been filled from Harwell in the past 10 years.

"COMMERCIAL SECRETS"

All this is a long way from the hyper-secret security shrouded boffinry of legend. Ninety per cent. of Harwell's work is now unclassified, and Harwell people are apt to be rather cross if teased about security. The director, Dr. B. F. J. Schonland, said to me, "The secrets we have are commercial secrets."

Nevertheless they are well guarded secrets. The security precautions, if not burdensome, are pretty noticeable. The shrub-lined avenues of the site, with names like Rutherford or Curie Avenue, are threaded with a high wire fence, and polite but highly alert members of a special police force ask for your pass at every gate. Radio jeeps patrol the perimeter: and you are asked if you are of British nationality before you can get a pass.

In spite of the policy of integration, Harwell is—
it has to be—almost a self-sufficient entity. It has
its own firemen, two schools on the site, a shoppingcentre with bank, bookshop, and hairdressers as
well as a super-market. On the Authority's estates the
houses are well designed and pleasantly set about
with trees and lawns. But the housing manager talks
of the four standard types of houses as a Principal
Scientific Officer's house, and so on for each of the
main grades. To the superficial observer, this and
other details sound like Aldous Huxley's world of
proud As, refusing conversation over the fence to
the unfortunate Bs.

VETERAN INHABITANT

But the place is not like that. In the first place it is still new. The only inhabitant who has been on the site for more than 13 years is a sleek old mess cat called George, who is a veteran of the R.A.F. Many even of the senior staff are still young. As one of them put it, they are still too young to have become failures, and too young to have become pompous. Sir John Cockcroft, who is still a member of the Authority, keeps in close touch, insisted on remaining a scientist, and it is still scientists, rather than administrators, who have the running of this great undertaking. There are no "crown princes" to the administrative succession, and most men are deeply interested in their work.

So Harwell is a place of contrasts. It is relaxed as well as purposeful, ultra-modern and yet with a certain rural calm. (The official cars have radiotelephones, but sheep stare point-blank at the reactors.) The scientists, who have had a bad Press as runners of things, have made a pleasant place of their kingdom. Down in Dorset, where Winfrith Heath is rapidly being pushed on to half Harwell's size, they need have little to fear.

Quote from "The Winfrith Punch", fortnightly news letter of the Second Site:

"The Editor of 'Harlequin' has appealed for a member of the Winfrith Staff (preferably an old Harwellian) to write periodical reports for 'Columbine', the Winfrith Section of the magazine. Unless some public-spirited member of the staff is willing to volunteer for the task, this section is likely to die out.

As the 'Columbine' is the state flower of Colorado, we may be in danger of a take-over bid by the Americans!"

Columbine's Last Words: Our know-how, know-when and know-who are at a new low. At some time or other someone is said to have said at one or other of the Establishments: "Things have grown so big that one half of the Research Group doesn't know what the other nine-tenths are doing."

WOODBINE

A "Harlequin" Supplement of Nuclear Endeavour

- Architecturally, the nuclear age is exploding outwards and upwards.
 - Behind the shock is an immense building programme
 —unprecedented, unless the building fever of ancient Egypt and Greece is taken into account.



Third Site

This site was selected because of its proximity to a coolant-liquid supply and because, as at the first site at R.A.F. Harwell, use could be made of existing buildings. It is expected, our correspondent tells us, that 'The Anchor' will remain as much the focal point of our new community as of the old. Around it, new buildings are being designed so that they blend unobtrusively with the gentility of the old.

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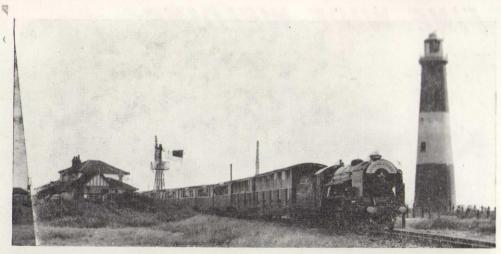
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FOURTH SITE



Here, security requirements were primarily responsible for this harmonising of the old and the new as a local traction company retains rights for the conveyance of passengers across the land. The Main Power Station, shown on the left of the photograph, is commonly mistaken for a restaurant by passengers as they travel through the Establishment, while the Pile chimney, constructed to resemble a lighthouse, readily escapes the special attention of travellers on the Market Day Express.



FIFTH SITE

Bogmire Common

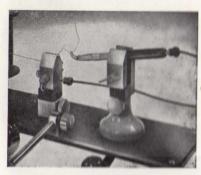
Panoramic view

Less trouble was experienced in acquiring this site than with any of the others and the Local Authority was more co-operative. The fact that the Common is under water six months of the year presented no difficulty to the Establishment planners. Our panoramic view was taken from a barge, which is used for communications during the winter months. A letter received this summer states: "We are finding the mud less formidable now that snowshoes are authorised as standard stores issue."

FINE WIRE WELDING

Precise and dependable

IN WIDE MATERIAL RANGES AND SECTIONS



Accessories are interchangeable, e.g., wire head and electrode holder replaced by 2 vices and fine wire clamp.

ACCESSORIES

Electrode Leads fitted with special plugs, crocodile clips and fine wire clamp.

Electrode Holder and Mount fitted with argon feed tube and protective glass housing. Can be used as a portable welding tool, with carbon or tungsten electrodes.

Wire Welding Head consists of two three-dimensionally moving wire clamps for accurate adjustment of wires.

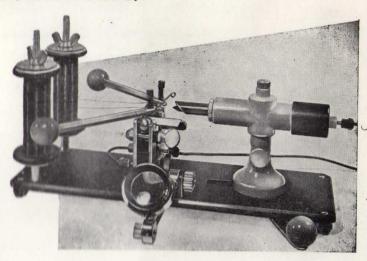
Electrode Vice for clamping specimens or large wires etc., e.g., used for welding thermocouples to specimens for surface temperature measurement work.

Basic Accessory Stand for mounting electrode holder and mount, wire welding head, electrode vice and flexible magnifier. Also, wire reel posts and manually controlled slide for bringing wire head up to the electrode holder, when used in the mounted position.

Probe Clamp used for welding wires at appreciable distances along the inside of tubes.

Flexible Magnifier to facilitate fine wire work.

Flash Butt Welder for welding copper wires to aluminium etc., on a laboratory or production basis.



Capacitor Type Discharge Welding Apparatus

The equipment has been developed primarily for the manufacture of fine wire thermocouples although it has many other uses. It can produce precisely repeatable welds in wires down to 40 S.W.G. and up to 20 S.W.G. in most materials. For example, platinum has been welded to uranium, copper and iron, nichrome to tantalum, nickel and steel plus many more, both to themselves and to other materials. The preparation of thermocouples now becomes a simple and repeatable operation with this apparatus. With the accessories, new fields of accurate surface temperature measurement are now capable of being explored, e.g., it is possible to place .005" diameter platinum/platinum rhodium thermocouple wires 6" inside a 3/8" bore inconel tube.

SMALL AND COMPACT POWER PACK UNIT

Containing a capacitor bank with selective charging arrangements. The standard unit is capable of supplying power welding pulses discharging from capacitors at potentials of up to 120 volts and giving energies of up to approximately 50 joules.

Controls provided include voltage selector switch, capacitors selector switch, makes switch, output electrode switch.

Controls provided include voltage selector switch, capacitor selector switch, mains switch, output electrode switch, with voltage and charging current indicating meters. All controls are interlocked for safety where necessary and the basic power pack is housed in a box approximately 13" x 9" x 8". Power supply required 200-250 volts or 100-120 volts A.C. mains.

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Sixth Site.

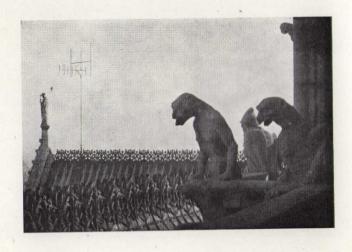
Newly-transferred staff describe some arrangements as "a little primitive", but the innovation of open sewers with little shrubs planted along the sides gives the Establishment an idyllic appearance that bids fair to compete with Harwell in horticultural elegance.



Seventh Site

Mr. Indigo Smythe, Site Architect, finds less beauty in current building styles than in those which marked a gracious and more mature civilization. "Dead uniformity", he told our reporter, "is the worst feature of contemporary architecture—the element of surprise is lacking".

Work starts on the entrance of the proposed Lecture Hall.



Zero Energy building seen from the roof of Reactor I.

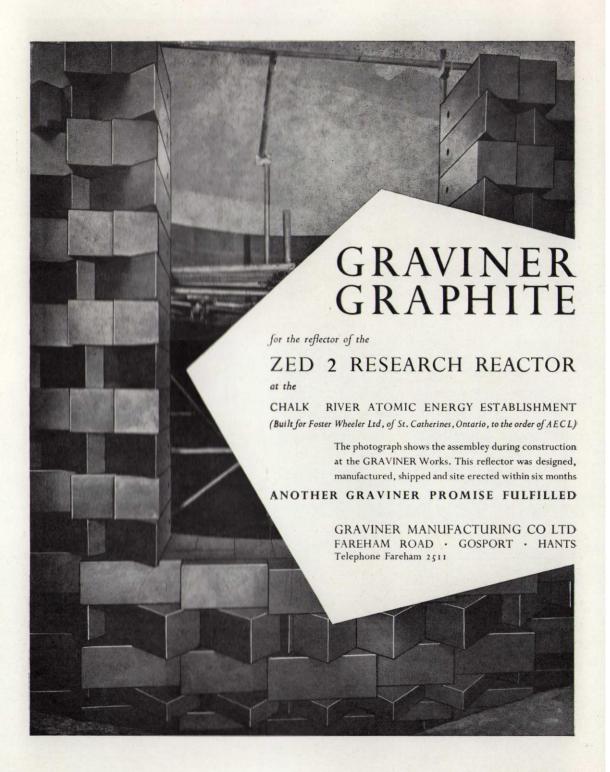
Eighth Site

The Main Workshop is not one of those shining modern affairs with orderly white lines between chromium-plated machines. It is a place of honest disorder where men work.





It is perhaps not widely realised that the basic research of this new establishment is of paramount importance. Since the first atom was split about forty years ago, there has been an uncontrolled scientific race to find better ways of splitting more and yet more atoms. Today it is realised that the number of unsplit atoms in the world may one day become dangerously low, and upon Dr. N. Tropy and his Adhesive Physics Group rests the rather awesome responsibility of perfecting methods of joining the split atoms together again.



Windscale

*

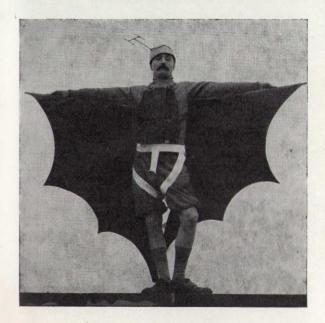
The coming of automation has not meant the loss of the human touch when special standards of refinement are sought. Here workers in the canteen are seen preparing a recipe named after a member of the C.T.R. Division at Harwell. "Pease Pudding," as it is called, requires bulk methods and production so that supply can meet demand.

Without runways, Windscale has heard with envy of Harwell's lunch-time ski school for dry land ski-ers. With the same Spirit of Adventure they have examined their resources, and come up with something which they feel will be a soaring success — The Windscale Flying Club.



The roving camera has caught the essence of this venture, exemplified by Bert Figgins, who flies First - Wing for the Club. Yes, indeed, W.F.C. members can truly be called New Elizabethans.

Preparing to take off: The equipment of First Wing Bert Figgins is of clean functional contemporary design, including Ground-Air T.V. for last second briefing and quick release toggle so that the valuable T.V. can be recovered from emergency situations.





Bert in flight: The small group left have just assisted his "take-off" and are now preparing to divide his belongings.



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NEWS OF NUCLEAR ROCKET RESEARCH PROJECT

"MOONSHINE"

Careful arrangements were made for the firing of the nuclear-propelled rocket. "Directed at Moon". The evening before the event reporters from all leading newspapers in this and other countries and from the press agencies, representatives from both television corporations and experienced broadcasters from all the radio networks, attachés from each of the embassies in London and fifty international experts in rockets, were entertained at a reception at the Grand Guignol Hotel.

BANK RATE STEADY

It was a typical June morning for the launching and on arrival the eight visitors, sufficiently sober to make the journey from London, proceeded to the marquee thoughtfully erected by the reception committee, where they continued the previous night's carousal and sheltered from the gale.

ASTON VILLA SCORE IN SECOND HALF

At 12 o'clock precisely, two hours after the scheduled time for take-off, the launching party, consisting of Miss Flossie Flounce, the starlet kindly supplied by the Dank Organisation, Sir Henry Snapp-Fidgett, Chairman of the Project, Dr. A. Cwere, Project Leader, and photographers hurried to the launching platform. Miss Flounce, in a bikini, was the only suitably dressed member of the party. After photographing her at the controls in various poses to bring out her best points, during which time Sir Henry had to be forcibly restrained, the two representatives of the press returned to the refreshment tent.

to bring out her best points, during which time Sir Henry had to be forcibly restrained, the two representatives of the press returned to the refreshment tent.

Miss Flounce, who had been learning her lines for the past week, prompted by Dr. Cwere, performed the naming ceremony. "Ah name this — ah ship The Halibut. Heaven help all who — ah sail in her." She then pulled the firing lever.



A view, looking out through the security fence, taken during the subsequent conflab on the misfiring of the rocket.



The scene at the rocket launching platform.

She then pulled the firing lever. She then pulled the firing lever.

Dr. Cwere pulled the firing lever.
Sir Henry lit his pipe which obscured the launching platform in thick smoke.

Dr. Cwere adjusted the controls and pulled the firing

Sir Henry kicked the control panel and pulled the firing lever.

firing lever.

Miss Flounce kicked the rocket.

It fell over.

BANK RATE UP

A vivid description of the scene appeared in The Daily Flagwagger the next morning. It was written by the celebrated Hug Wudknut. He was not actually at the ceremony (in fact, he was in the little bar in Fleet Street from which he always telephones his scoops). We are privileged to publish a short extract from his article.

FIRE OVER ENGLAND

It was ten o'clock on a beautiful clear June morning on a deserted airfield in Shropshire when Dr. Queer, pudgy, middle-aged researcher, pressed the button which sent our gigantic nuclear rocket roaring into the blue vault of the heavens, at the start of its journey to demonstrate British genius by reaching the moon . . . And so on for three columns.

BANK RATE DOWN

At the subsequent enquiry into the mis-firing of the rocket it was discovered (by the Assistants Scientific) that due to an oversight no fuel had been provided. It has been decided to increase Dr. Cwere's staff to cope with this unexpected requirement.

Neither Sir Henry nor Miss Flounce has been seen since the ceremony.

This Supplement of Nuclear Endeavour was type-set during the Printing Dispute of 1959 by The BlackLegge Printing and Opium Works, Old China Town, Hong Kong, to whom all letters of complaints and writs should be sent.



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Mr. J. W. Berry of Reading, our Area Manager, visits the Establishment each week and will be pleased to advise on any of the above projects. Appointments may be made through the Reception Office, Harwell, extn. 2233.

Interviews can also be arranged at Bracknell, Oxford, and Winfrith.

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The Reactor Engineering Course

"You would seem to know but little," the guv'nor said one day,
"Of how uranium fissions, and less about the way
The gammas and the betas and the neutrons fly around,
And cosmic rays with mesons and other things abound.
To appreciate Reactors, you earnestly must strive
To know how many particles there are in 'two-three-five';
And, further to this study, you must also give due weight
To the reasons why some more of them are found in 'two-three-eight'.

"You had better go to Harwell, for there they have a school Where, by lecture and experiment, and reasoned logic cool, And patient explanation, they claim that they can show The extraordinary principles that make reactors go." To Harwell then I made my way, upon the proper date; With cheerful mien and peaceful mind I turned in at the gate. I found the hut, sat on a chair and took a good look round, Then prepared myself to listen to the lecturers expound.

"You must understand quite clearly" said Hicks with some intensity,
"That the protons in the nucleus have really no propensity,
For they defy our theory, to our minds bring some confusion
When they refuse to fly apart in violent diffusion;
Though each and every atom has electrons in a cloud,
Not one of them can ever for a moment be allowed
To form a beta ray, but from a nuclear proton burst
Proceeds a new electron, where there wasn't one at first!!!"

Now, this took some believing, when taken in conjunction With the irritating meson, which seems to have the function Of making protons neutrons or, what seems to me far worse, Making neutrons into protons, thus achieving the reverse. My bewilderment's not clarified, nor theory made much neater By considering the alpha and the gamma and the beta. Neutrinos didn't help at all, and when the lecture finished My ardour for the subject was consid'rably diminished.

In the counting of these particles we learned to set great store on A device which utilizes the tri-fluoride of boron, And scintillation counters, and those which are proportional, And geiger tubes and such-like things especially abortional. We carried out experiments and earnestly consulted Our slide rules and log tables to establish what resulted; And when the graphs we plotted were curved instead of straight, Frowns there were, and furrowed brows, and intricate debate.

Then, lecture after lecture, we received more information:
Once more to Hicks we listened, this time on "Perturbation".
But many others there had been before we reached this stage,
Like Hull's "Reactor Physics" with its most impressive page
Upon page of learned formulae and statements categorical
And theses mathematical, equations diabolical.
So lucid then was Constantine on "Transfer Coefficient",
My lack of comprehension showed intelligence deficient.

Praise be to Hull and Constantine, and praise to Betty Flew, To Hicks, and Hogg, and Barrett, and to all the others who, For my further education, their pearls of wisdom spread—But even so I didn't get them all into my head.

Though hard their task and thankless, to achieve their end they worked, And the answers to my questions I found were never shirked. So from now on, sneer as they may, my very worst detractors Can not with any truth maintain I'm clueless on reactors.





Seton McConnell.

RESIDENT Maintenance Engineer at Harwell from 1946–49, the writer has moved around a little since then. Returning from six months in Canada in 1950, he re-enlisted for a few more weeks at Harwell on plant installation before transfer to Aldermaston on the same work. In early 1958 he joined a new section for maintenance work on Herald, the research reactor in course of construction at A.W.R.E.

Even then he could not escape from Harwell, for it was thought that a course on reactor technology would be beneficial "in a general sort of way" and he returned for a month's stay at the Reactor Engineering Induction Course. Quite separate from the Harwell Reactor School, this course is intended mainly for graduate engineers who will be working in the reactor field. These verses were penned by our Old Harwellian while recovering from an injection of new theory.

OWN by the river everything was cool, everything was pearly blue and grey. The heat and dust of the day seemed to be somewhere back in next week. The tide was high and from the Festival Hall and other places lights danced on water that was dirty but looked divine. The Shell-Mex and neighbouring buildings were dove grey. The old waterway of the Thames has its magic all right.

I strolled along the Embankment, enjoying a Turkish cigarette, waiting for the twilight to thicken a little. I wanted another night sketch of the river to help me with an illustration I was doing for a woman's magazine. It was a love story, where a girl and a boy found their happiness finally on the river bank. It was a good story: it had people in it, not words. When you came to the end you were glad things were all right with the young couple.

I stopped at Cleopatra's Needle. It seemed to be the place I was looking for. I mounted the steps and went down the ones on the other side and took in the view from the built-out part. It was just on the bend there, just right. Upstream, Hungerford Bridge and Big Ben; downstream, the clean sweep of Waterloo Bridge, the dome of St. Paul's. I threw my cigarette away, stuck my easel up and a pad on it, and started work in the lamplight.

After a little footsteps clattered up the steps from the pavement and stopped above. I glanced up from my work. A young couple were standing hand in hand at the top, staring about them, arrested by what they saw.

The girl said softly: "Isn't it lovely, Jim?" "Isn't it," the boy agreed. He turned her face to him and kissed her, and I was just going to turn away when I saw the car.

It was one of those imported jobs, all hammernosed and fintailed, like a whale on wheels. It was moving along towards Westminster at about one mile an hour, then not moving at all, its brake lights winking red.

Two doors swung open as silently as the car had been moving, and two men got out. They looked right, then left, like children doing their curb drill, then fixedly straight ahead. They weren't looking at the Needle, or the sphinx, or the river. They were looking at the young couple.

I thought at first they were plain clothes policemen, but the car was no police car, so I

QUICK ON THE DRAW

by Nat Easton

concluded they were just some other sort of trouble.

One was a giant. Standing behind he looked clean over his companion's head, and parts of him showed all the way round the other's outline like a frame. You could have put a baby car to bed for the winter in his suit. The other man was average height, but slight. He wore an ordinary trilby, brim slanted over his eyes as severely as a guardsman's. The big fellow had on a pork pie, worn so squat it gave the impression that the top of his head was missing. Perhaps, I thought, it was just a very small head.

The young couple had not seen the new arrivals behind them. They came on down the steps and leaned on the parapet a few yards from where I stood working. They took no notice of me. People cocooned in love are not very observant. The boy had ginger hair, an eager face, a cleft of worry between his young brows. The girl was about twenty. She wore a white jumper which ran tight round lovely shoulders. Her face, in a mass of dark hair, was a young moon—pallid, clear-cut, and remotely dreaming.

I wondered why the men just stood there by the car, then two stout women ambled past along the pavement, and I realised they had been waiting for them to go by. When this had happened, they started forward purposefully and somehow or other I got a chill little feeling that perhaps the next few moments under Cleopatra's Needle were not going to be too pleasant for some of us.

They came down the steps side by side on rubber soles. The sight of me stopped them,



Mulford

but they came on again hurriedly. The averagesized man walked with his hands hanging limp, the giant with a fist-swinging roll. He looked so muscle-happy you felt it would be a joy to him to tear up the first tree he came across and heave it into the river, and a brace of lamp standards too, just for the fun of it. He was the most animally frightening biped I ever want to see. By just being near me he put wobbles into my pencil lines as I tried unconcernedly to sketch.

They stopped right behind the young couple, in the same elephants-on-the-chimney-piece formation they had used on getting out of the car.

"Carter," the one in front said gently.

Young ginger whisked round as though the giant had spun him.

"Stroud!"

"Yes, Stroud," the gentle voice corroborated. "I'm surprised you recognise me though, I must say. I had an idea you must have forgotten all about me. You didn't turn up yesterday, you know."

The boy was silent for a moment, then stepped diagonally in front of the girl.

"Look," he said, with an imploring spread

of the hands, "when the time came I just couldn't go through with it. When you're in a flaming temper, giving information against your own country is one thing, when you've cooled down it's quite another."

The man called Stroud shrugged.

"Start something and you've got to finish it. They want the information as promised. Bring your girl friend and get in the car. You'll be back here in an hour if you're sensible."

"No," young Carter said, trying to out-man the shake in his voice. "The deal's off."

The giant jumped rather than moved, but he wasn't as quick as Stroud. A gun appeared in his fist as though it had dropped from the sky.

"These things are extremely silent nowadays, you know," he said, his voice as gentle as ever. "I should think about her, if I were you." He nodded at the girl.

She stepped to the boy's side, as straight and fresh as the tulips in the public gardens over the road.

"Jim's talked this over with me," she said.
"He made a great mistake in getting in with you at all, and he knows it now. You've got a gun and it looks as though we've got to come with you if you say so, but you're wasting your time."

The giant grinned.

Stroud said: "Get in the car." He turned his head an inch towards me. "You too, Michelangelo. I'm afraid my people would think it untidy of me to leave a witness who could dial 'nine-nine-nine' before we got to ground."

I drew feverishly on the paper pretending I hadn't seen or heard anything. I crossed the fingers of my left hand. About this time last night a brand-new policeman with a face of under-done beef had stopped a moment to watch me and speak of art. He knew a little about it. I was hoping he might happen along now, in time. But it was not to be,

There were two light footfalls and the big fellow's hand settled round the nape of my neck, heavily.

"Come," he said, speaking for the first time, in a furry foreign accent.

I dropped my pencil and went.

The car passed my beef-faced policeman before it was out of second gear. Another minute and he would have patrolled right into us. The giant chuckled, tilted his pork pie over his eyes, and we sped on.

It seemed like ten years before I dared un-

cross my fingers, but I suppose it was only ten minutes later, really, when the tyres screeched and Stroud muttered: "Police cars—four of 'em!"

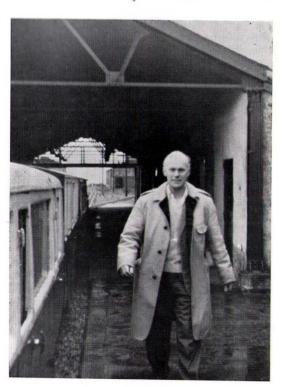
He whipped out his gun as fast as before, but a tide of blue uniforms swirled up round the car and all four doors were jerked open before he knew where to point the thing. It might have been a toffee apple, the way an official hand coolly removed it.

Carter came to see me some days later. There had been an embarrassing question or two in the last few days, and there would be more to come, but all the same there was a tremendous relief showing through him.

"Sorry we involved you in this," he said.
"But a thing I still can't understand is how did
the police get to know and manage to be so
quick in intercepting?"

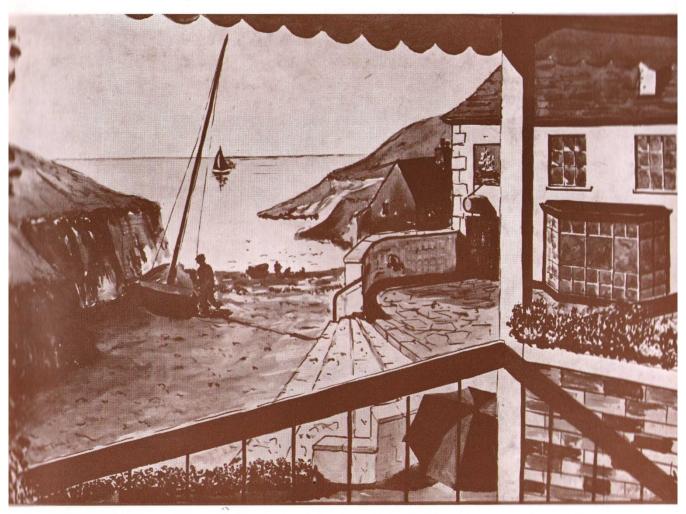
I handed him my sketch. It was a bit wobbly, but the giant and all of us were thoroughly recognisable—as was the car and its registration number. Right across everything I had scrawled

KIDNAPPED. "It wasn't at all a bad piece of work," I said. "Considering it was all done in seconds and in fear and trembling." ★



Quick on the Click.

A photograph — as the train was about to start — of guest contributor NAT EASTON, taken by the Editor while himself a guest of the former on the Romney Marsh this year. The scene is a station on the railway which runs between Hythe and Dungeness in Kent: a suitable background against which to be photographed if one were short of stature, for this public railway (further described on page 63) is the world's smallest!



SUN- SHADE

J. B. Worts (Eng.)

VIEW FROM CLOVER CLIFF, GOWER H. E. CROOKS (Med.)





PALAMOS HARBOUR H. C. WHITBY (Accel.)

BRINGING AN END TO GOSSIP

PART II: THE COUNTER-ATTACK

First of all, you must never just ignore an honest gossiper. You may not agree with his or her hobby but, after all, live and let live, and rudeness gets you nowhere. There are two suggested courses to take.

One is the Thumbscrew method, where the tale is killed by over-enthusiasm. A typical example is as follows:

Gossiper: "Mrs. Dyehard certainly does not look her age, does she?"

(This, incidentally, is an excellent opening s for the gossiper. It involves the listener right away. To answer "No" implies that Mrs. Dyehard is older than she looks-suggesting heavy make-up, facial treatment, etc. "Yes" implies that she looks older than she issuggesting late nights, riotous living, etc.)
You: "It's hard to say without knowing her

age. How old is she really?"

Gossiper (losing ground): "Well you can never really tell with some people. Between

35 and 40 would you say?"

You: "Never! 50 would be nearer the mark. Let me see—she was at school with old Miss Bogeye whose father played cricket with W. G. Grace. Allowing that she was two classes lower, that still makes her a good 55. Of course the wig and false eyebrows knock ten years off, but anybody who remembers the relief of Mafeking is no chicken . . . " And so

The other method is the Holmes (Sherlock) treatment where the tale is hounded to death

by interrogation, viz.:-

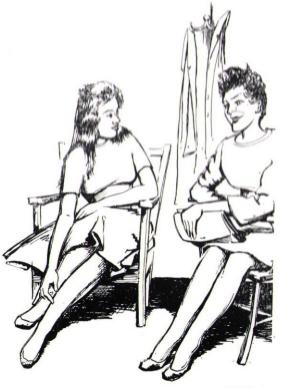
Gossiper: "I'm told old John Gladeye can knock back the hard stuff." (Do not resort to the old hackneyed defence of "Who told you?" It is messy, unethical and unkind.)

You: "Well, well, what do you know, eh? Old John. By hard stuff you mean whisky, gin and that sort of thing?"

Gossiper (impatiently): "Yes - you know, spirits."

You: "The fly old fox. Where does he do all this drinking, "The Duke's Nose", eh?"

Gossiper: "I don't know. I was just told



Mulford

You: "The old rascal. What does his wife think about it? Does she go with him?"

Gossiper: "I don't really know. I merely heard that-"

You: "The old sinner. Anybody we know go on these drinking orgies with him?"

Gossiper: "No—that is, I do not really know. I was just told that—'

You: "The sly devil. A secret tippler, eh. Does he drink at home too?"

Gossiper: "How should I know. This person merely told me that-"

You: "Ah. The person who told you gets drunk with him, is that it?"

And so on. This method tends to lose you friends. But if you do not like gossipers any-

way, what's the difference?

So much for the "How" of gossiping. What about the "Why"? This is more complicated. Effect is always easier to grasp than cause, as shaggy-dog story tellers will vouch for. However, Dr. Phew of Minnesinger Department of Sociology gives some interesting reasons why people gossip and grades them according to intelligence and character.

Personal Enmity. A very poor reason. There is always a certain element of risk in slandering a person out of spite. Anyway, gossip sounds much more convincing if you have, apparently, no axe to grind.

Inferiority. Fairly popular and quite good. Boosting your shaky ego by denigrating someone else is normal. The same idea is used in Snakes and Ladders. If you cannot advance yourself, you hope the other fellow will be sent back.

Envy. The most common reason and very sound. A little bit of smirch about someone better-looking, better-off, better-mannered or just better than we are always receives an appreciative ear. This is pure human nature. The boss's little misdemeanours are always more interesting than the office boy's.

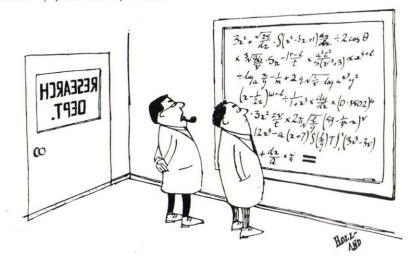
Material Gain. The best and most praiseworthy reason by far. Impersonal, objective and uncomplicated. Just the right shade of innuendo in the right ear and your chance of promotion is enhanced at the expense of poor old Gladeye. (If poor old Gladeye is reading this, read Leatherbottom for Gladeye. If Leatherbottom is reading this, then he too deserves to be defamed with a name like that.)

Gossiping, although easy to learn with some practice, has its pitfalls. As with the innocent pleasures of drinking and gambling. British

Statute Law has adopted its usual spoil-sport attitude towards it and the Laws of Defamation limit the style and field of the devotee considerably. Fortunately, with one or two exceptions, the usual topics are reasonably safe unless the victim "is able to claim pecuniary loss." The Law is a greater respecter of hard cash than of hard words. Of course, some unscrupulous object of gossip will twist your innocent remarks and plead "pecuniary loss" where none exists. Watch out for these unsporting types. The exceptions mentioned above are interesting. They include (1) slander imputing a criminal offence, (2) slander defaming a man's trade or business and (3) slander about a woman's behaviour. This really does not leave much to talk about-except a man's behaviour, which apparently does not count. But the experienced gossiper will work out ways of getting around these snags. By far the safest procedure is to ensure that your little secrets circulate as much as possible. This way, it is difficult for any aggrieved scandalee to pin the tale down to any particular person. Safety in numbers is the maxim.

Finally, never, never put your tit-bits into writing. They then leave the cosy intimate, jolly realms of slander and become libel. And successful, safe libelling is a complex, tricky art best left to newspapers, members of Parliament and "Harlequin".

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Len Herring (Chem. Eng.) and Ray Parsons (Eng.) aboard Enterprise Class "Cyclaman". (Photo E. Lyall)

A.E.R.E. GOLFING SOCIETY

Formed under the chairmanship of G. C. Ashworth in March 1956; four successful events were organised in the first year on the Frilford Heath course, as well as a match against A.W.R.E., which has since been a regular fixture.

The President, T. B. Le Cren, has donated a handsome silver tankard of antique design and added to the array of trophies, which include "The Cockcroft Cup", "The Chivers Cup", "The Recreational Association Cup" and "The Ashworth Tankard".

Club member Ian Crawford last year enjoyed the lowest handicap and also represented the County.

A noteworthy addition to this year's programme was a match with the Industrial Group, played at Birmingham. Risley, who had donated a silver cup, became its holder by a narrow margin. A third regular fixture is against the Royal Military College of Science.

Golf is an all-season game for both sexes and introduction to golf courses in the district can be arranged for beginners and for newcomers to the area.

Enquiries of the Secretary, W. L. Baker, Ext. 2697.

HARWELL SAILING CLUB

Formed less than two years ago, the club now has a very active dinghy racing section on "Amey's Lagoon" at Dorchester (Oxon) and a riverside site at Sutton Courtenay for canoeists and motor boat enthusiasts. For those who yearn to visit far away places there is a small cruising section which is steadily acquiring the technique for making such ventures a success.

The 12 foot Bermudian rigged club dinghy is used at Dorchester for training and pleasure. A club canoe has been built and is almost ready for use. The fleet of 10 Enterprises, 2 Fireflies, 2 Nationals, one Graduate and several boats privately owned by members is growing weekly. Several have been built by their owners in the club workshop. When visiting Aldermaston Sailing Club, Harwell crews gave a good account of themselves in a friendly race against their hosts, and a return visit was arranged.

Slipways have been constructed at Sutton Courtenay and at Dorchester, the latter by kind permission of Ameys Aggregates Co. Designs of a club house are being prepared, but planning permission has yet to be obtained.

Enquiries to the Secretary, P. Clare, Ext. 3382.

*

Harwell golfers at Frilford Heath. An 8 sec. delayed-action camera was pre-set by one of the group before racing into position. (l. to r.): R. A. Coulson (Eng.); P. Murdock (now A.E.E.); R. L. Faircloth (Chem.); W. L. Baker, Sec. (Eng.); M. L. Cunliffe; Dr. C. A. Uttley (N.P.); A. G. Coulbeck (Admin.); R. A. Payne (Admin.); Dr. D. T. Livey (Met.); Dr. A. R. Thomson (Iso. Res.). (The photographer with the 8 sec. spurt? The most relaxed member of the group — R. A. Coulson — at extreme left.)



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IDENTIFICATION PARADE RESULT

The correct answers were: (1) Savage and Parsons, p. 58; (2) Lloyds Bank, p. 10; Read & Partners, p. 50; (4) Ilford Films, p. 8; (5) Hobson, p. 5; (6) West Anglia School of Motoring, p. 52; (7) Economic Motor Co., p. 54; (8) Johnson Matthey, p. 66; (9) Monroe, p. 62; (10) Pope & Co., p. 12; (11) Hartwells, p. 56; (12) Lloyds Bank, p. 10.

The winning entry came from Miss B. Clarke (Gen. Admin.) who receives one guinea.

'Harlequin' Competitions

CARTOON COMPETITION

One Guinea will be awarded for the best Cartoon depicting THE HARWELL MAN AT HOME. The prize will be shared with an artist if only an idea or rough sketch is submitted, but the winning entry will also be eligible in the twenty-guinea contest detailed on page 78.

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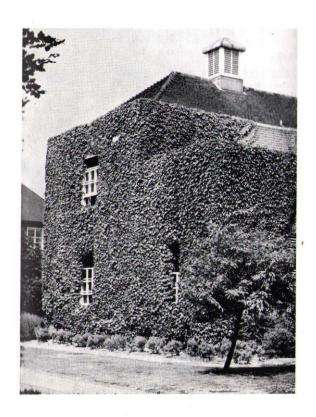
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PLACE THAT FACE

The photographs for identification in the last issue were those of (1) ROSA HIBBERT (Library), seen here with her sister Kathleen (General Admin.); (2) JILL NAPPER (Newsagents and Stationers, Shopping Centre); (3) A. R. KENYON (Chem. Eng.); (4) E. J. LAKER (Stores). The first correct entry opened was from D. C. Wall (Oxford Office), who receives one guinea.





FACE THAT PLACE

Too often the works of nature are obscured by the works of man; here we present a reversal of this trend, in which the works of the builders of R.A.F. Harwell are becoming obscured by the works of *Parthenocissus quinquefolia* (Virginia to her friends). One Guinea will be awarded for the first entry opened which correctly identifies this building.

Page 78 gives details of conditions of entry for all 'Harlequin' competitions.

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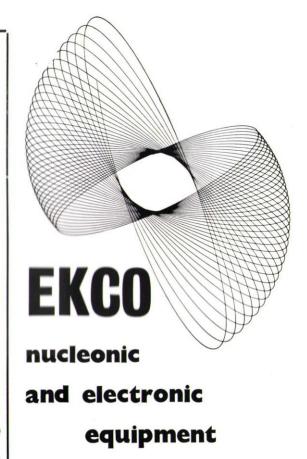
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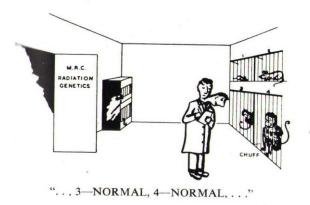


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SCHOOL FOR AUTHORS

A HALF-PAGE advertisement in The Oxford Magazine announces a £1,000 competition for the best crime novel "to be written by a Professor, Reader, Lecturer, Fellow or anyone holding an equivalent position (or their spouse) attached to any University or University College in Great Britain." The following plot is offered any reader who may be eligible to enter, but who lacks original ideas for expansion:

Valerie Greengrass, a St. Brunhilda's undergraduate, has gone to the University Museum to survey the collection of ancient looms before weaving a suit for her fiancé, William Thumb, a graduate student. Glancing at the other exhibits en route, she recognises one of the mummies. It is Swordfish, Thumb's tutor, who is, or was, a prominent member of the powerful Anti-Extravagances Committee. With the aid of Cornpoke, the janitor, she breaks the glass and begins to unwind him. Conditioned by years of local service, none of the police sent to the Museum can break past the row of cars parked outside, but remain, marooned by reflex, checking horns, distributing pink tickets, etc. Hugo Dapifer, the scholar-detective, is summoned hastily from St. Angus's, but only arrives when the contents of the showcase have been much disturbed. He notices as possibly significant objects a paint-brush, the title page of the Uranometria Nova Oxoniensis of 1885,



Winning entry by J. D. H. Hughes (Iso. Res.) in the last 'Harlequin' One-Guinea Cartoon Competition.

a small bronze tao-tieh, a stethoscope, and a quartz knife with a N'dumbo (fertility) handle. It is not clear which of these are clues and which are merely exhibits. The cause of death is declared by Borage, an endocrinologist who works in the Museum, to be thortocane, a rare nerve drug which travels along hairs from the tips to the roots. Analysis by him of hatbands during a meeting of Congregation shows that one out of every ten is impregnated with thortocane. The announcement of this by the Senior Proctor produces an atmosphere of mingled hysteria and grudging admiration which enables Dapifer to make the most of the interviews with prominent eccentrics which fill out the book. The chief suspects emerge as Onward, a local Crachiste whose painting, "Sputum 6", had been adversely criticised by the Applied Arts Committee, of which Swordfish had been chairman, and Thurible, whose seven-volume work on Cornucopiae had recently been remaindered by the Press, of which Swordfish was a delegate. The book culminates in a dramatic chase of Thurible through the cellars of the Examination Schools, at the end of which, by taking refuge at a lecture given by a distinguished visiting professor, he finds himself the only member of the audience and is readily identified. Under grilling, however, he admits to having promised the Oxford representative of the Times three years ago to write Swordfish's obituary; he has thus every reason to keep him alive, and is released. The re-appearance of Swordfish from the cataleptic trance, into which he has been voluntarily thrown by Borage and Thumb, draws dramatic attention to the publication of his minority report on the need for maintaining more than an amateur interest in criminological work in the University. *



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LETTERS TO THE EDITOR

Dear Sir.

It is reassuring to find that one of the most important scientific undertakings in the world encourages the arts and sciences to work happily together in partnership rather than to sneer and jeer at each other as irreconcilable enemies, and your house magazine must be a big factor in fostering and strengthening that partnership.

Because you are engaged in a very practical way with the problems of communication, you approach English in the spirit I wish to see it approached in the schools, and you have given me substantial help in an uphill fight. That you spoke of my book at the convention of the British Association of Industrial Editors adds still more to my debt of gratitude to you. I hope that you will later allow me to use in my books some of the material appearing in "Harlequin".

I know just a little about the difficulty of running a magazine which has to depend largely for its material on voluntary contributors, and I think that you

are doing a splendid job.

May I say, in conclusion, how much I am enjoying the last issue of "Harlequin"? You have achieved a nice balance of serious and gay material, and, while keeping the essential characteristics of a house magazine, succeeded in producing something which can be read with interest by those outside the "house". The rector has already carried off my copy for his hoping-to-be-a-scientist son! The theme Men, Methods and Machines, was a worthwhile one, and effectively imposes unity on a variety of material. In short, I can see that teething troubles are over and that "Harlequin" has the assurance of a magazine which has found its purpose.

With every good wish for your continued success.
Yours sincerely, GORDON TAYLOR.
Old School House, (Author of 'Creative English')
Thorley, Bishop's Stortford, Herts.

Dear Sir,

I have been trying for a long time to find a moment during my Government duties to write for the 'Harlequin'. I am awfully sorry but I really have not had a chance to produce anything worth while as you wished during May. This is very remiss of me, I know, but so far as writing is concerned I am anxious to produce something really good.

I hope there will be other opportunities in the next few months when you will be prepared to accept a contribution from me. I am going away for two weeks' holiday in France when inspiration may welf come, and I will certainly try something as soon as Parliament goes into Recess at the end of July. It really is impossible to write in the House of Commons, or at any rate to write anything reasonably creative!

Would you, therefore, continue to be patient and give me the dates of your future publications. Fortunately there appears to be some time before we are likely to have an election. Yours sincerely,

AIREY NEAVE.

House of Commons, London, S.W.1.

REVIEWS

"World's Smallest Public Railway" 2/6
"The Line That Jack Built" 1/6
(Ian Allen Ltd., Hampton Court, Surrey)

What does the word "railway" suggest? To some simply a means of transportation; to others, a subject of absorbing interest. Equally well, we may think of models: the youngster's train set, maybe, or the devotee's efforts to reproduce the workings of the "real thing". A railway that is all these; large enough to be utilitarian, operating to the rules of a standard system; so small as to have the appeal of a miniature; of a size that its locomotives are exquisite scale models and yet efficient, powerful machines in their own right — a unique blend of seeming incompatibles, that is the Romney, Hythe and Dymchurch Railway.

Of these two little books the title of the second refers to Jack Howey, the racing motorist, who gave a passenger and freight service to a hitherto isolated area, and who has watched, from his house by New Romney station, the successful running of his railway for thirty years and more. The books largely duplicate each other, although the first named gives a fuller account of both technical and general aspects. As to illustrations, however, there is no duplication, and the many photographs of high quality are themselves a source of delight, be it to the artist or to the engineer, and lead one to read the text with heightened interest.

Now, some readers may find the style of writing rather too guide-bookish; but the matter covers a wide range of features, from vacuum brakes to Martello Towers, from level crossings to marshland scenery. It is, maybe, a pity that road transport has drawn away the custom for which the line was originally built, so that nowadays there is no winter service: but to learn that during Hitler's war the railway ran an anti-aircraft train, helped to build PLUTO and was the main link with civilization for troops stationed on Dungeness, that comes as more of a surprise, for the rails are only 15 inches apart - little more than a quarter of the standard gauge. Yet, despite their smallness, the trains put up a remarkable performance, a total load (with some 200 passengers) of perhaps 50 tons being normally hauled at 25 miles per hour. We read that the block system of signalling is employed, the principal stations have refreshment rooms and all maintenance is done in the repair shops at New Romney, albeit the British Railways works at Ashford undertakes major work on locomotives.

Although now completely dependent on summer visitors for its traffic, this little line is still a worth-while enterprise. May it be long before the last train rumbles over the Duke of York's Bridge and sniffs its way across the coastal marshes of South Kent, before the R.H. & D. timetable is removed from "Bradshaw" (where, by the way, it appears regularly, though neither booklet mentions the fact).

In collector's jargon, this is a unique.

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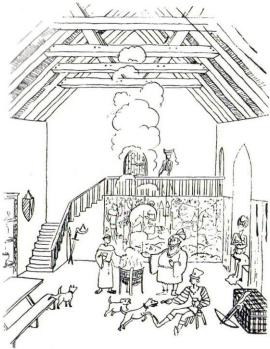
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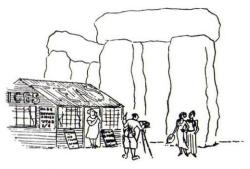
During the Middle Ages the original Spartan simplicity of the Norman home suffered progressive modification, and if no very high degree of comfort was finally attained, at the end of the period the houses of the rich compared very favourably with, say, the average first-class waiting-room in a modern provincial railway station.

In the course of time increasing security from internal disturbance led to the gradual abandonment of all but the most modest fortifications—a carpstocked moat and a few token battlements—so that it was possible to increase both the number and size of the rooms. Nevertheless the hall retained its old importance and the majority of the household continued to spend most of their time beneath its now rather more elaborate and considerably larger roof.

A taste for privacy, however, was beginning to emerge, and in the wealthier homes the master and mistress, and occasionally their children, had small bedrooms of their own and there was frequently a parlour, called a solar, in which the ladies of the house were accustomed to occupy themselves between meals. At the same time the upper classes began to interest themselves in the question of decoration and the plain white-washed walls of their Norman ancestors were hidden behind tapestries, painted canvas or frescoes according to the financial resources of the householder. In most houses the hall was still heated by means of a brazier in the middle of the room, the smoke from which was optimistically assumed to

disappear through a hole in the ceiling, and it was not until the very end of the Middle Ages that the fireplace and chimney became anything like general, even among the well-to-do. Needless to say when this novelty appeared it was roundly attacked by the conservative on moral grounds; the comparative absence of smoke secured by this new device was bitterly regretted by all those, and they were as numerous then as now, who clung to the old English belief that if a thing is unpleasant it is automatically good for you. An immediate and shameful weakening in the moral fibre of the nation was confidently predicted.

Apart from these few improvements the home life of the period was much the same as it had been in Norman times. Glass was still very rare and the wooden lattices, which appeared at this date, let in considerably more wind than light and the floor was covered with rushes which were changed at the most infrequent intervals—an unhappy arrangement since, as in all English country houses at every period, there were far too many dogs.



The earliest mode of building employed in England was one in which everything, including shelter, was sacrificed to obtain an effect of rugged grandeur. Simple in design, the principal buildings in this style nevertheless presented a series of exceedingly tricky problems of construction, and the labour and ingenuity required to manoeuvre the vast monoliths into position must have been considerable. The successful achievement of such feats (without the assistance of any cranes and machinery) indicates the existence. even in that remote age, of that spirit of dogged perseverance and tenacity which has done so much to make British architecture what it is today. Incidentally it is interesting to note that even then British architects were actuated by a profound faith, which has never subsequently wavered, in the doctrine that the best architecture is that which involves the most trouble.

The actual date of such erections as that represented in the illustration has never been accurately determined; the building in the left foreground, however, can with some degree of confidence be assigned to the second or third decade of the twentieth century A.D.

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N the Flaubert district of France there is a valley called "Chemin de Navet." At the foot of the strange looking hill which gives the valley its name lies the little farming town of Fanchelle. From here, as far as the eye can see, picturesque white farm houses are scattered along the lush green and golden countryside that stretches into the haze of the distant greyblue hills.

In those days there lived in one of these farms a cattle-breeder called Pierre Leon, whose only son, Marcel, hated farming. He disliked horses and cattle and anything big or rough. But above all he disliked the tough, hearty farmers and their buxom wives and daughters. For this Marcel was a gentle boy, sensitive and imaginative, who loved to wander up through the quiet fairy-like woods of the "Navet", reading his books and dreaming in the gentle sunshine. Or walking alone in the soft rain he would half believe fancies unthought of by the prosaic farming community. And thus, he was a lonely youth, a lover of small gentle things in a country of large boisterous people.

One day there came to Fanchelle a girl called Lise Duvet. She had come from Paris to live with her widowed aunt who owned a large farm called "Bocage." Lise was a small, fragile person, pale and unhealthy from the city air and looking more like a child than a young woman. But she was beautiful, with that translucent perfection of those who live half in the shadow of death. And—inevitably—she met Marcel and they fell in love.

Wandering together over the peaceful countryside, climbing to the green crowned dome of the "Navet", Marcel and Lise passed a year of carefree youthful companionship. They were inseparable and devoted to each other. Marcel had at last found someone slight and gentle. Lise had found someone who loved her for her frailness and not in spite of it.

But the day came when Marcel had to leave Fanchelle. Not for him the life of a farmer. His future lay in finer things, to be learned only in the great cities far from his birthplace. Broken-hearted, they parted at the little station, he vowing to return one day, she promising to wait for him.

From Paris, Marcel went to London and then to America. Three years passed and the letters from Lise became fewer and then stopped. Experienced and successful now, Marcel still cherished his memories of Lise. But he no longer knew what to expect should

LIDEAL



he return to his native town. His father was gone and Lise had been his only friend in the place. The last news from her had told him that her aunt had died, leaving "Bocage" to her. But that had been over a year ago. Had she tired of waiting? he asked. Was she married And—remembering her frailness—Marcel wondered sadly if she were even still alive.

In an early spring day of pale sunshine and delicate shades Marcel came back to Fanchelle. As the odd shape of the "Navet" appeared around the bend in the road all the memories of joyous days spent with Lise returned. The same white houses nestled against the hillside, the same rich meadows stretched along the valley into the distance, and an almost nostalgic feeling came over him. Yet, recognising some familiar figures in the little town, Marcel knew that his instinctive dislike for these rugged farming people still remained.

Overwhelmed by anxious impatience, Marcel spoke to one—an aged farmer called Charconier—and asked where he might find *Mademoiselle* Lise Duvet. Almost sick with relief he heard the old man's faltering reply. *Mademoiselle* Duvet lived in the big farm just outside the

town.

Lise was alive and not married!

As Marcel hastened, now light-hearted, towards "Bocage" he noticed for the first time many changes in the place. Near the farm he saw broken hedges and unkept fields. On the roadway, leading to the house, he passed a large brawny man and a squat, muscular, redfaced woman, perspiring as they lifted calves onto a waggon. They were strangers to him and he passed unnoticed. Nervously, he knocked at the door.

An elderly woman whom he did not remember ever seeing before opened the door.

"Is Mademoiselle Lise Duvet at home?" His

voice sounded distant and trembling.

The woman regarded him for a moment. Then, lifting her arm, she pointed over his shoulder in the direction of the man and woman he had just passed on the roadway.

"Lise Duvet? Why—she is down there at the waggon. You must have passed her."

And she added with a cackle, "She is the one wearing a skirt."

There is—as you feared—a moral to this poignant little tale. It is this:—"Beauty is only skin deep, and never forget that skin can stretch."

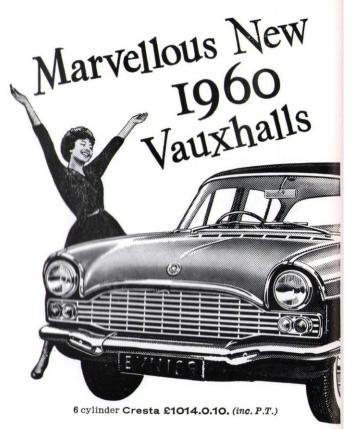
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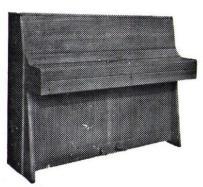
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LOCAL WILD LIFE by Reg Heath

2. Weasels and Stoats

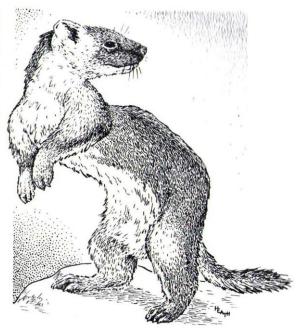
The weasel and the stoat belong to the family Mustelidae which includes also badgers, otters, martens and polecats. The smaller of the two, the weasel (Mustela nivalis), is nine or ten inches long over all. It is like the stoat in general appearance except that it has no black tip to its tail, which is also shorter. Its colouring is reddish brown with a near-white belly, and it can be found generally all over England, Scotland and Wales but, curiously enough, not in Ireland.

Weasels produce two litters a year; the first brood in April and the second about July. The young are born blind and are covered in fur; they remain dormant in a hole dug for them by the female, or in a disused rabbit burrow. There are usually four cubs in each litter and these are a very active set of quads. Their play is similar to that of most wild animals inasmuch as it fits them for the sterner life of hunting. Soon their small, alert faces will when circumstances femand it become masks of fury with lips drawn back and teeth bared. Being nocturnal, they are not so readily seen as the stoat (although this animal according to some reports is now scarcer, due to the depletion of its main diet by myxomatosis).

The main prey of the weasel are voles, mice, shrews and small birds, but it will attack rats, rabbits, and chickens, and it has been known to drag these larger animals for great distances. For its size it is perhaps the most formidable animal in Great Britain, lacking neither strength nor physical courage.

The method by which it obtains and kills its prey is worth noting. Rats, mice, small birds, etc., are pounced upon and a bite is made at the base of the skull, which instantly paralyses. In the case of the larger victims, the jugular vein of rabbits and rats, or the large vein under the wing of chickens and game birds is torn. Its favourite food is the brain, but it eats flesh and even descends to carrion when hard pressed. Weasels have been known to hunt in packs, i.e., male, female and cubs, hunting as a team and that can be a very murderous family! It is an expert swimmer, holding head and shoulders high out of the water and with back strongly arched. Cunning is another useful asset, they sometimes do a 'danse macabre' by performing antics which fascinate the prey until it is close enough to pounce upon.

The stoat (Mustela erminea), much like the weasel in appearance, is about 14 inches over all, has a



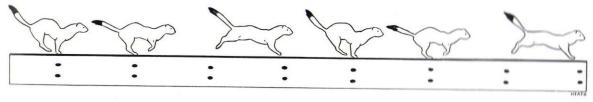
partiality to rabbit and is an extremely bloodthirsty assassin who kills much more than he needs. The change of colour from brown to white in winter does not normally occur in this country. This white winter coat with the black tail tip is the ermine so extensively used by fashion and dignitaries on ceremonial robes, and occurs in northern countries, the north of Scotland and in some mountainous districts further south.

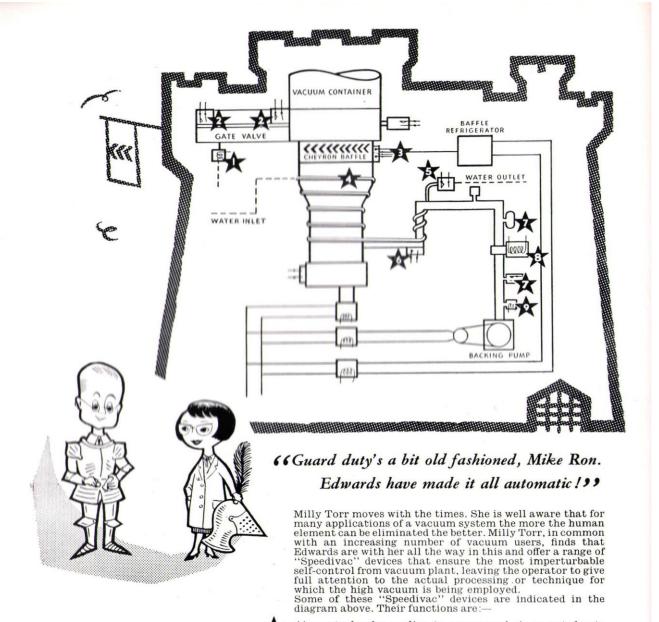
An objectionable odour is ejected from scent glands when the animal is frightened or annoyed.

A bait of fish will often succeed in bringing them within watching distance—they don't seem to be able to resist it. Their snakelike form comes darting in and eager jaws get snapping.

It would appear from all the foregoing that these are most objectionable little animals altogether. But to look at they are most pleasant and lively denizens of our Harwell countryside, and it is well worth the trouble to watch them.

Note for the younger reader: The weasel (above) is weasely recognised; the black-tipped tall of the stoat (below) is stoatally different.





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ABINGDON AMATEUR OPERATIC SOCIETY

Although some members travel to rehearsals from Harwell and others not connected with the Atomic Energy Authority travel twice that distance from the opposite direction . . . they meet in a Society that fosters their common interest in music. Initiated by former members of the A.E.R.E. Music Club, this is but one of the activities of scientists and engineers in the social and cultural life of the community and whether or not Harwell remains in the majority, the Abingdon Amateur Operatic Society will continue as one of Harwell's contributions to community relations. It is a combined operation of some who have come to regard Abingdon as their home, and the Society will be increasingly supported by all who love music.



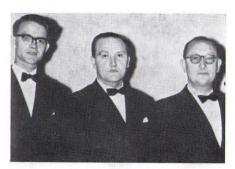
Barbara Moore (Gianetta)



Roland Jacobi (B. 10.5) (Duke of Plaza-Toro)



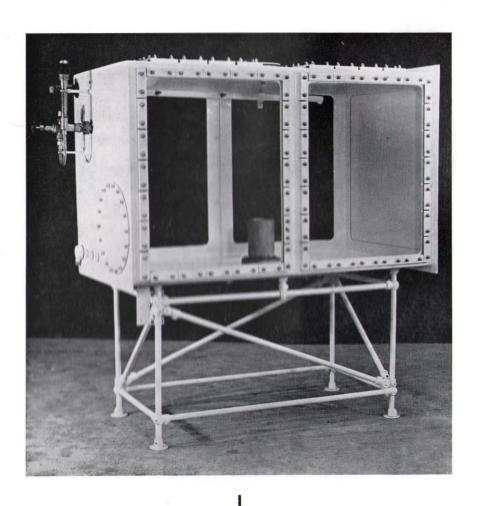
Kathleen Butt (Duchess of Plaza-Toro)



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IOLANTHE

was given in four performances last year by the Abingdon Amateur Operatic Society from October 29th to November 1st. 'Harlequin' was represented at the third of these. After an uncertain start, the piece really got going with the Entry of the Peers, and from then on it was superb. Lords Mountararat and Tolloller (played by Geoffrey Long and Trevor Hyman) were as urbane a pair of aristocrats as you will find in a day's hard riding and John Besley bis make urbane. day's hard riding, and John Beasley, his make-up a wrinkled masterpiece, made a nimble Lord Chana winkled masterpiece, made a nimble Lord Chancellor; a word also for his diminutive and equally nimble Page. Producer Sylvia Preston worked wonders on the cramped stage of the Corn Exchange, and Benjamin Kingdon's direction of the music was efficient and unassuming. The Society's coming presentation of *The Gondoliers* will be causely awaited. eagerly awaited.

THE GONDOLIERS

THE GONDOLIERS

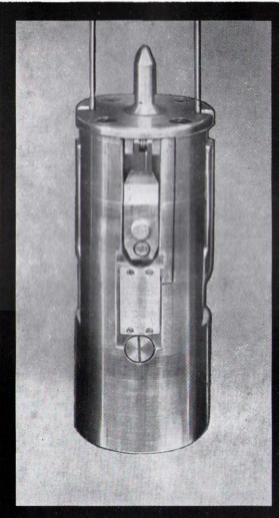
We arrived at the Tatham Memorial Hall in time to hear a cry of 'I'm the producer—I know what I'm doing!' Despite what seemed like murmurs of dissent, this statement proved to be correct, as we soon found on taking stock of the situation. In one corner a 'Harlequin' contributor, elevated to ducal rank, was closely studying his part; in another, a skilful pianist was valiantly playing colla voce with soloists who had not quite memorised their words. Presently the chorus, armed with castanets, but evidently not sure whether to dance a cachucha, fandango, or bolero, were arranged by the producer in gaps between chairs to simulate the various entrances to the stage. Even if not to the complete satisfaction of stage. Even if not to the complete satisfaction of the musical director, the entire proceeding left no doubt in our minds that the finished production of *The Gondoliers* will surpass the already high standard set last year in Iolanthe.

ABINGDON AMATEUR OPERATIC SOCIETY: "THE GONDOLIERS"

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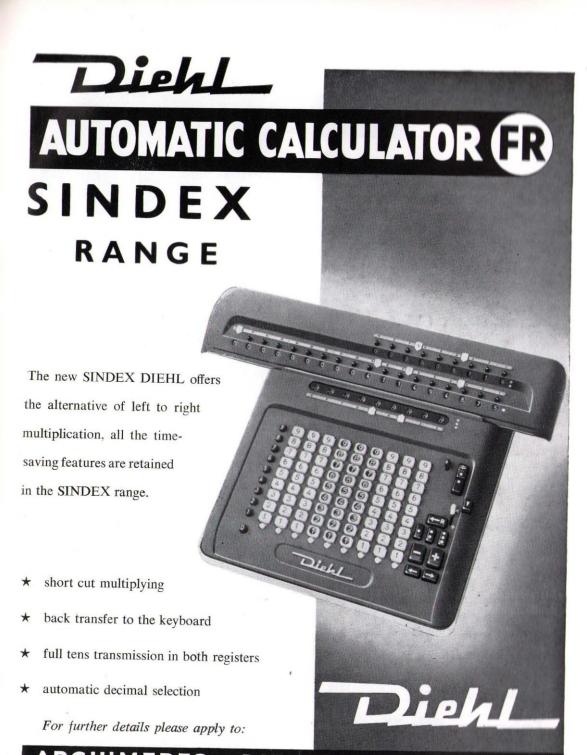


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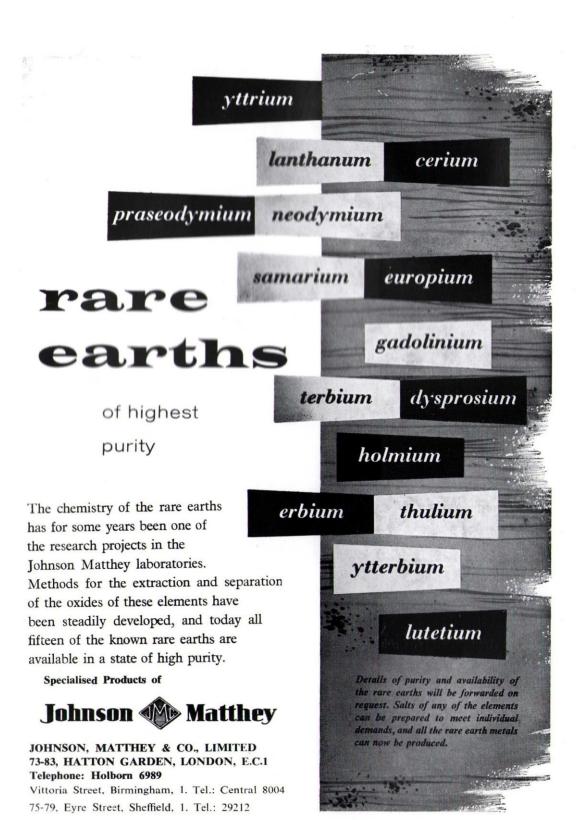
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A journal's knowledge of what its readers want is more important than skill in technicalities. The comments below are reproduced by permission of the readers concerned. Even if you cannot be a contributor (and why not?) your comments too will be valuable.

READER	LIKES	DISLIKES	WANTS
Miss Y. Newman (Estabs.)	Photographs and art reproductions.	Poor Poetry.	Amusing errors extracted from official notices etc.
Ed.	Expensive; but will be continued.	Agreed; but the only poetry in the last issue, except for a carol, was by R. Burns!	Book tokens await the first senders of such items.
Mrs. J. M. Bumpass (Iso. Res.)	Articles on the various Divisions.	Printing Winfrith news on different paper so as to set it apart from the rest of 'Harlequin'.	A crossword based on Research Group Activities.
Ed.	Time-consuming but to be continued.	Winfrith, as an integral part of the Research Group, will now form an integral part of the Research Group journal.	Now being attempted.
R. Ellis (S. & M.)	Other People's Jobs.	Nothing — very interesting and informative, the best issue so far.	Articles of local interest.
Ed.	Action promised.	Still room for improve- ment.	Three are in hand and further contributions are sought.



In the next issue Harwell people are featured on land, on sea and in the air; locally, there is "History on an A.E.R.E. Estate" and the results of research now being completed on the impact of Harwell staff on the life of a local town—plus the usual variety of features to which all readers are invited to contribute.

THE NEXT ISSUE WILL BE

"CHRISTMAS HARLEQUIN".

In the National House Journal Competition for 1959, organised by the British Association of Industrial Editors, journals of comparable production costs and circulation were again judged on the basis of *contents* and *presentation*.

"Harlequin's" final placing in its class was second only to the journal of the Carborundum Company. On presentation it defeated that journal.

For contents, where improvement is evidently needed, a journal is largely dependent on its contributors. The prize money of sixteen guineas in 1958 (four issues) has been increased to TWENTY GUINEAS in 1959 (three issues).

I	For the best informative a		(not special	lly con	nmissioned))	Four Guineas
II	For the best humorous arti	icle	111				ditto
III	For the best art work						ditto
IV	For the best photograph		111	(1)			ditto
V	For the most original idea		111	111			ditto
You	may be eligible for more	than	one award	from	the TWEN	TY	GUINEAS.



This is the *closing date* for contributions for the third round

of the

TWENTY-GUINEA CONTEST

Not eligible are commissioned articles, editorial matter, and work exhibited by the A.E.R.E. Art Group or Camera Club. This means that in this issue there were:

- in Class I Still no entries.
 - II Only one entry: from Homolka (p. 21).
 - III Still no entries.
 - IV Only two entries: from H. A. Ballinger (p. 9), and E. Lyall (p. 33).

Conditions of Entry for all "Harlequin" Competitions

- (1) Attach to your entry (or entries) comment—as brief as you like—on
 - (a) what you like in "Harlequin",
 - (b) what you do not like,
 - (c) what you would like to see in future.
- (2) The closing date for receipt of entries is Tuesday, 10th November.
- (3) The address is "Harlequin, c/o Post Room" for internal mail; "Harlequin, AERE Harwell, Didcot, Berkshire" for external mail.

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