

JULY/AUGUST 1978

3p

Harlequin

Leisure Magazine of the United Kingdom Atomic Energy Research Group and Associated Organisations



HARLEQUIN 30TH BIRTHDAY ISSUE

Contrasting pursuits
of HARWELL apprentices

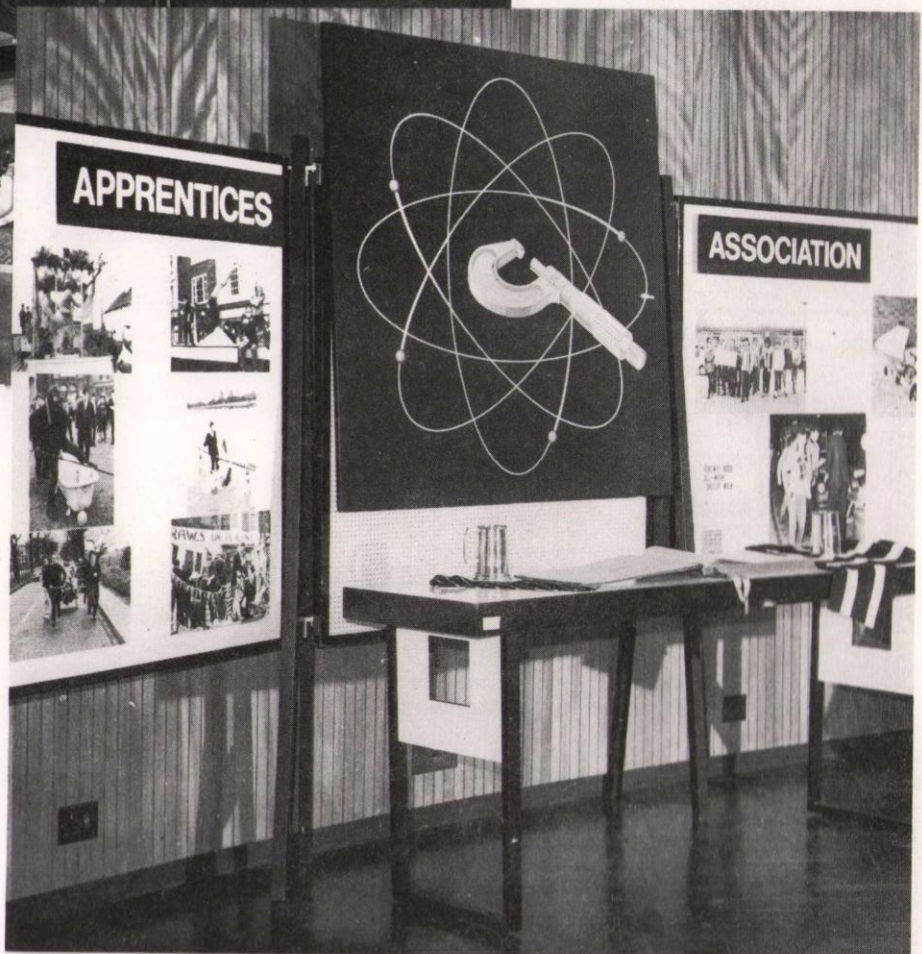
In this issue

A MAGAZINE IS BORN

D.C. SAHIB, RAJA-BAJA

JOHN WALLACE

HARWELL ARTIST: BARRIE DALE



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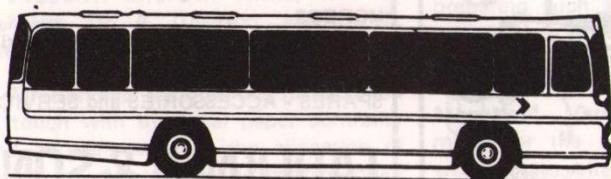


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Harlequin

No. 6(141) Vol.XXII
Abingdon 24141
Ext. 2527

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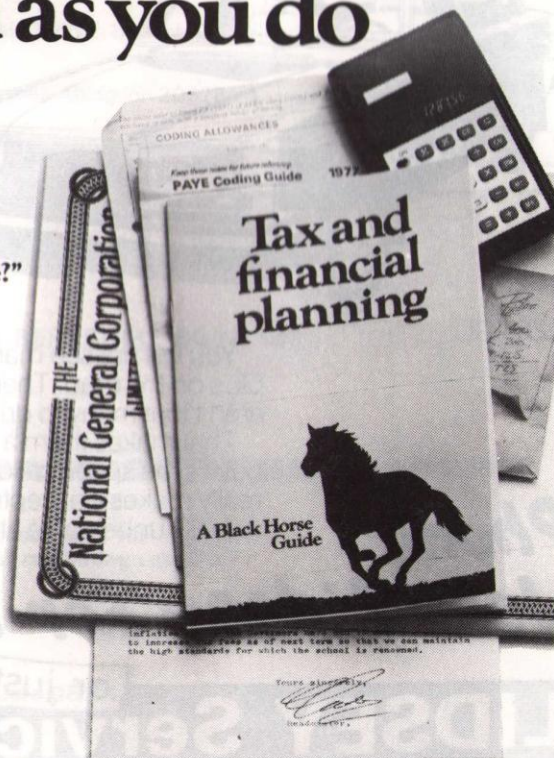
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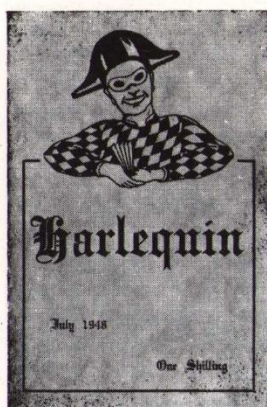
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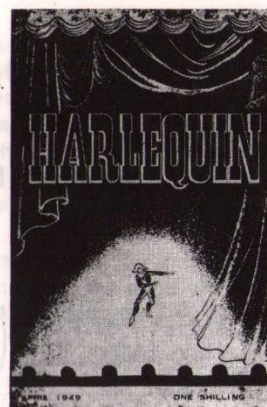
At the sign of the Black Horse





A MAGAZINE IS BORN

*From the Ancient Archives
of thirty years ago:-*



Preliminary Meeting, 23rd January, 1948

Present: Mrs. N. Arms, Mr. D. Behrens, Dr. A. Gillieson, and Dr. P. Stewart.

Mr. Behrens¹ reported that he had been in touch with the local paper controller and had learned that the allocation of paper for a magazine as contemplated was 8 cwt. every four months. A general discussion on format followed.

Two months later: **the Second Meeting.** As regards the composition of the Editorial Board, Dr. Stewart and Mr. Behrens stated that they had decided by the toss of a coin that the former should be Editor and the latter Secretary, Mr. H. Arnold² had accepted the position of Treasurer.

Contributions were discussed and it was agreed to have an "Appreciation of the work of Mr. Chapman Pincher" in the first issue. It was felt that this would be of widespread interest, and that the material

existed for writing such an appreciation without fear of libel. It was agreed to allow Mr. Arnold first refusal of the task of preparing such an article. Dr. Stewart³ undertook to write a "Letter to the Editor", to be published as a tailpiece, protesting at the publication of an A.E.R.E. Magazine⁴. Various suggestions were made for the name of the magazine, which were all in turn rejected. "The matter was left over for further consideration".

The Third Meeting. In place of Mr. Rennie, who had been co-opted, but was away on "official business", Mrs. Rennie was present, and reported progress on the business aspects. The Treasurer suggested "for reasons which he explained" that the Appreciation of Mr. Chapman Pincher be deferred to a later issue. This was agreed. As a name for the magazine **THE RUNAWAY** was suggested; members were to continue to ponder the subject.

The Fourth Meeting. Further discussion on financial aspects and circulation of MSS. There was a lengthy and inconclusive discussion on the name of the magazine: **PEGASUS** was considered by a majority to be the least unsatisfactory suggestion so far.

The Fifth Meeting. In view of receipts from advertisements it was decided that the price of the magazine should be one shilling instead of eighteen pence.

It was agreed unanimously that the name of the magazine should be **HARLEQUIN**.

¹A Principal Scientific Officer who left the Establishment in 1954.

²The Chief Security Officer; he was absent at the time owing to "official business".

³The first editor, who went to Canada soon afterwards.

⁴Duly published over the pen-name "Disgusted".

In the leading article the Director, Sir John Cockcroft, wrote of the genesis of AERE itself, then in its second year.

We considered the desirable conditions for the future Establishment. It should not be too far from London; there should be easy access to a major University; there should be some degree of isolation, and lastly the countryside should be pleasant to live in. It was thought necessary also to start with a prepared site with roads, services and some permanent buildings, and Lord Cherwell suggested that we should look for a suitable R.A.F. airfield.

There was much transatlantic cabling on where we should establish our housing sites. A start had to be made quickly and the only solution was to provide prefabs and to erect them on our own site where services and sewers were available and where the minimum of consents had to be obtained. A little more time was taken to search for other sites and, in the end, we were lucky in finding places as good as Fitzharry's and Wantage.

In the foreword to this first 'Harlequin', July 1948, Sir John wrote:

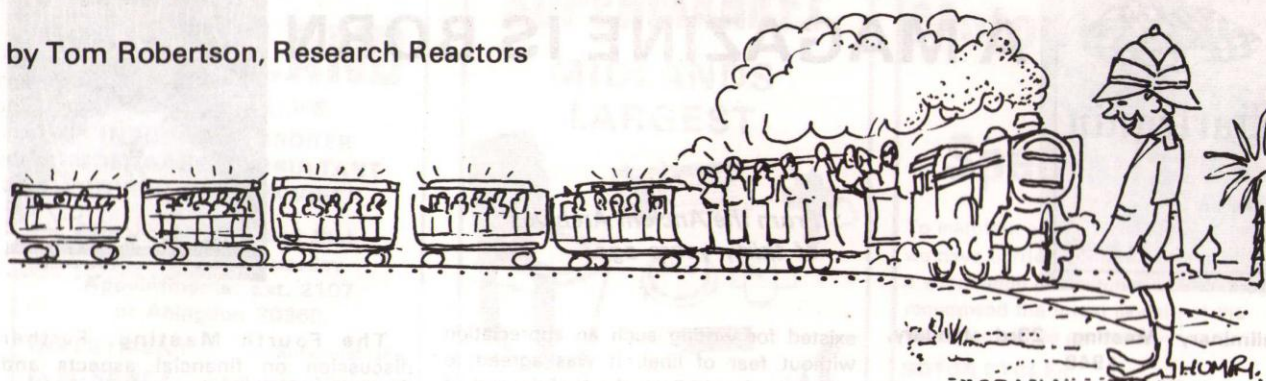
The new community of A.E.R.E. was founded just over two years ago. Since that time there has been a progressive and vigorous development of our corporate life, expressing itself in the numerous clubs and societies of the Recreational Association. It is fitting

now that we should found a magazine to provide an outlet for the literary abilities of our community and to record in some permanent form its development.

I therefore welcome the new venture and wish it a long and vigorous life.

D.C. Sahib, Raja-Baja (The End!)

by Tom Robertson, Research Reactors



Mr. Bourne quickly settled in as D.C. The transition to his methods of administration was aided by the memories of those of the older generation who knew from past experience exactly what would be required of them. A tacit understanding was also quickly established with the Provincial Government. As long as they did not send inspectors and what not to bother him, D.C. would not embarrass them with reports, statistics, returns, or other useless bits of paper. This arrangement operated very much to D.C.'s advantage. His own sojourn in the corridors of power had not been entirely unfruitful for he now had several useful contacts who kept him fully informed of all matters of interest, whereas the Establishment had only a very sketchy notion of the affairs in his district. The Second World War had little impact on that remote corner of the Indian sub-continent and so the tranquil years rolled on.

There were changes, of course. There were very few Europeans left in permanent office, and even fewer British officials in the Civil Service as the older ones retired and were not replaced, while the days of the British Raj steadily drew to a close. In principle, D.C. had no objection to returning 'home' to act as squire in some rural corner of England, but of course it would be necessary to sport an appropriate selection from the letters of the alphabet to impress the locals with the Sovereign's mark of approval of his distinguished career abroad.

That there had been some epic milestones in his career was beyond doubt, but his contacts at headquarters informed him that the name of Bourne had not, as yet, been added to the list for the almost obligatory retirement commendation. This grave omission certainly required rectification. Indeed, after a career like his, D.C. considered that something rather more than the average citation was called for, and so he bestirred himself.

The opening move of his campaign was the arrival in the middle of 'his' town bazaar of a party of surveyors complete with measuring tapes, levels and the information that a new road was to be built to allow the free passage of through-traffic. There was general consternation: none of the stall holders wanted their traditional pitch used for a road, and none of the town merchants wanted unimpeded through-traffic; there is no customer so satisfactory as one safely embarked on a departing bus before he finds that something is wrong with his purchase.

A delegation of townspeople accordingly called on the District Commissioner to make their views known. D.C. was full of sympathy and explained at length that it was the Provincial Governor's idea to leave a permanent memorial to governorship in India and he had hit on the notion of the road improvement so that his name would be remembered with gratitude by all travellers in the future.

"You see" confided D.C. "His Excellency has no son, and so needs some memorial to his name." The convincing logic of this latter embellishment was such as to leave his hearers utterly crushed. The fact that the new Governor hardly knew the name of the town and that there were insufficient finances for administrative necessities, let alone grandiose road improvement schemes D.C. did not think worth mentioning. "However", continued D.C., "I will personally see the Governor on your behalf and try to persuade him to modify his schemes."

The delegation was suitably impressed. All knew D.C. hardly ever visited the provincial capital so that for him to put himself out to this extent on their behalf was a real mark of self-sacrifice. Mr. Bourne did not care to spoil the effect by letting slip the fact that the Governor had

called an emergency meeting of all the District Commissioners and that he would have had to go anyway.

That there was reason enough for an emergency meeting was soon very apparent when the day arrived. The maintenance of law and order was becoming increasingly difficult, and the administration was losing credibility as the time for the handing over of power approached. At the meeting, one District Commissioner after another confirmed the state of unrest, with accounts of local Hindu-Muslim clashes, refugee problems, and the likelihood of matters becoming worse. The general comment was that, if no more police or military support was available, the only prudent course would be to evacuate the European population and remove all valuables to safe storage. When it was our D.C.'s turn, there was something of an air of expectancy in the meeting. He was by then considerably older than the other assembled Commissioners; indeed, it was the first time that many of them had seen him, but they all knew him by reputation and knew that on the rare occasions he attended a meeting he had never been outdone. If he was to maintain his reputation the tales of horror in his district would be worth hearing.

Mr. Bourne's account indeed left them all stunned, for, with the mild geniality of the elder statesman chiding his younger colleagues for their lack of experience and the impetuosity of their youth, he indicated that in the area under his experienced jurisdiction all was peace and tranquillity. To be sure there was a minor refugee problem caused by the natural desire of the less fortunate wishing to enter such a secure haven in the midst of the general unrest, but there was nothing that he could not deal with perfectly adequately. His air of calm conviction was most convincing and left many of the assembly wondering whether D.C. was not indeed the most talented of

administrators, and that perhaps only a series of unfortunate misunderstandings had prevented him from chairing the present meeting in the role of His Excellency the Provincial Governor.

The Governor himself, though, had not reached that position without a good working knowledge of human nature, including a healthy suspicion of unsupported statements and His Excellency's reaction was: "This I must see for myself" - or something to that effect.

When D.C. got back, he reported to the anxious bazaar delegates that, though he had not been able to get the road scheme cancelled outright, he had been able to persuade the Governor to come and see the situation for himself and that, if there was a convincing display of loyalty, the Governor might well be persuaded to abandon the road project. He was more likely to heed the wishes of loyal subjects than to pander to dissident travellers simply concerned with stirring up trouble.

His Excellency the Governor duly arrived and found himself fêted, garlanded, cheered and generally treated as if the British Raj was still in its prime. Unfortunately he had a language problem to contend with and he had only recently been transferred from South India, which is a Tamil, not a Hindu-speaking area, but with D.C. acting as interpreter he conversed most affably with many of the locals. There was however one puzzling incident when he was alone with one of the local dignitaries who had a smattering

of English. This individual, as far as the Governor had been able to make out, was concerned about some new road or other, and seemed delighted when reassured that no road works were imminent. Following this odd conversation, his reception seemed, if anything to become warmer than ever.

Well satisfied, the Governor returned to the provincial capital where he felt moved to add one more name to the list of those whose outstanding service should receive due recognition. In all fairness it must be said that the honour was probably well justified as right through the run-down period and following the transfer of power itself, the district administered by D.C. was one of the few where there were no serious incidents and where the transfer went smoothly despite the fact that the predominantly Hindu community had a sizable Mohammedan minority and smaller groups of other religions as well. Indeed there were present all the ingredients which had led to full-scale riots in other districts.

As the Governor's letter of commendation put it, "if there had been more with Mr. Bourne's talents for administration in the Indian Civil Service the history of the British Raj might well have been different".

Be that as it may, D.C. could now look forward to an honoured retirement in the country in whose service he had spent his life. Just before he was due to leave his district for the last time, however, word

came in from one of 'his' outlying villages that a tiger was seizing cattle. Delighted at the prospect of 'one last tiger' D.C. set off with a bearer to deal with the menace even though it was no longer his responsibility. The hunt was an easy one and the tiger rolled over into a shallow ditch where it lay out of sight. The youthful bearer reached the spot first and kicked a stone over the edge on to the beast to check whether it was really dead.

For once, D.C.'s marksmanship had been faulty and the lightly wounded beast seized the unfortunate bearer and dragged him into the ditch. Mr. Bourne still had his rifle but by the time he could get to the scene the man was under the tiger and probably already dead. Even so, D.C. would not risk a downward shot as the bullet could so easily strike the man after passing through the tiger. He jumped into the ditch to fire from low down at close range so that the upward travelling bullet could not hit his companion. This time the shot was fatal but, due to the awkward angle, not instant in its effect, and before he could scramble clear the enraged beast left its dead victim and mauled D.C. savagely in its death throes. He died two days later.

It was, in a way, a fitting end to an outstanding career, for I doubt whether this descendant of Geoffrey de Boune (of historical fame as the knight who very nearly won the Battle of Bannockburn before it started) would have found a post-war England enough of a challenge for his restless energy.

PROBLEMS from the first Harlequin of July 1948

(1) Six prefabs in a row are occupied, but not in that order, by one member of each of the following Divisions: General Physics, Nuclear Physics, Theoretical Physics, Engineering, Chemistry and Metallurgy. The six occupiers are a general physicist, a nuclear physicist etc., etc., but none of them works in the Division appropriate to his specialization.

Mr. Addle's neighbours are the members of the G.P. and N.P. Divisions, while Mr. Bumble lives between the theoretical physicist and the chemist. Dr. Carpolish and Mr. Drumstick are neighbours, but Mr. Drumstick's other neighbour is not a member of the Nuclear Physics Division. Mr. Eggwight works in the Chemistry Division. Dr. Fyddlestyx lives next door but one to the engineer, and also next door but one to the metallurgist, who works in the Engineering Division. The chemist works in the Metallurgy Division.

Who specializes in which subject? Who works in which Division? Who lives in which house?

(2) Messrs. Black, Brown, Gray, Green and White are members of the staff of A.E.R.E. and all occupy houses provided by the Ministry. Owing to an error, each has been sent a report intended for one of the others.

A report on nuclear physics was sent to the man who lives at Wantage, the nuclear physicist received the report which

should have gone to the man who lives in South Drive, and the man who lives in South Drive was sent a report on pile engineering. The metallurgist received a paper on genetics, while the geneticist was sent the report which should have been sent to Dr. Green. Dr. Gray received some notes on isotope chemistry, the report intended for Mr. Black was sent to the man who lives on the Chilton estate, whose papers arrived in the office of the resident in North Drive. The paper intended for the man who lives at Abingdon was sent in error to Mr. Brown, and Mr. Brown's report found its way to Dr. White.

Readers are invited to assign to the staff their subjects and residences.

SOLUTIONS to problems

(1) Mr. Black, a geneticist, lives in North Drive. Mr. Brown, a pile engineer, lives in Wantage; Dr. Gray, a nuclear physicist, at Abingdon; Dr. Green, a metallurgist, at Chilton; and Dr. White is the isotope chemist and lives in South Drive.

(2) The reverse order of houses from 6 to 1 would also satisfy the conditions of the problem.

Mr. Eggwight, theoretical physicist, Chem. Division; Metall., 5; Mr. Bumble, engineer, N.P.; and 6, Dr. Fyddlestyx, nuclear physicist, G.P.; 4, Mr. Addle, Engineering Division; 2, Mr. Drumstick, general physicist, T.P. 1, Dr. Carpolish, who is a metallurgist and works in the

Artists Exhibiting at Harwell

Barrie Dale finds the compulsion to paint disconnected snippets of what he sees around him to be capricious and irrational. It is also diametrically opposed to what is usually expected in a scientist, and has provoked some interesting revelations. He remembers the incredulity during a two-year stint as Honorary Chairman of the Oxford Area Arts Council, which greeted the discovery that he should spend his days working in Nuclear Physics Division, HARWELL. So much for conventional attitudes!

He feels no need to make wide searches for things to paint. Subjects present themselves at odd and frequently inconvenient moments, and they are often exasperatingly intangible and ephemeral. The juxtaposition of red brick wall, white window frame, wet slate roof and threatening sky can be fascinating one day, mundane the next.

If he feels short of inspiration, getting up at dawn usually solves the problem. Subtle and muted colours, later to be swamped by the glare of the sun, are in evidence then, and shapes are indistinct and mysterious.

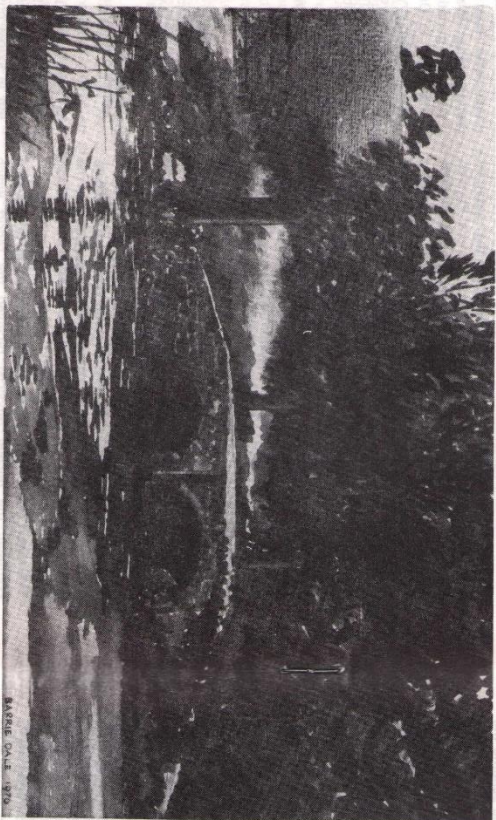
Didcot Power Station is to him another endless source of delight, whether smouldering in the haze, fighting off a storm, or, massively still, glittering in the sun.

In 1976, Barrie Dale took over from Geoff Best the organisation of the annual HARWELL Art Exhibition. Since that time his professional responsibilities at Harwell have increased significantly and he would be very glad to hear from anybody, not necessarily a potential exhibitor, who would be prepared to lend a hand to keep this autumnal feature of HARWELL's leisure activities alive and well.

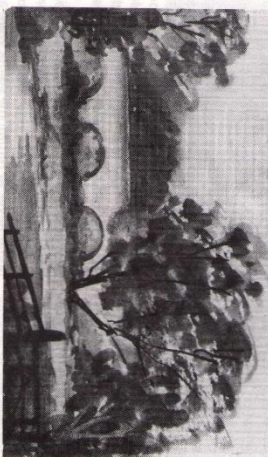
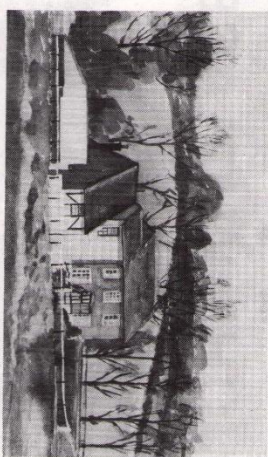


Painting at East Hendred

Traitor's Ford, Warwickshire, morning light



BARRIE DALE, 1976



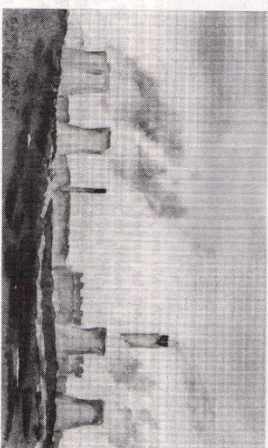
Water side building.
Henel Hempstead.

The Thames, Newbridge,
dawn

(6) *Barrie Dale*

Long Compton, Warwickshire, September dawn

Didcot Power Station



SELF-MADE MEN

by John Butterfield, Engineering Division

(4) JOHN WALLACE

HARWELL's Apprentice Training Manager, John Wallace, M.B.E., has retired after 32 years' valued service to the Authority. The results of his work and the principles he stood for will continue to benefit the engineering industry long after he has passed into legend.

John was born in the "Royal Burgh of Rutherglen", Glasgow. His parents wanted him to make a career in law, and he left school at the age of 14 to work in a solicitor's office. There he learned to express himself both orally and in writing; even more important, he learned a great deal about people. However, he was not happy in the rather stuffy environment, and left after two years; later in life he was to appreciate the influence of that early training.

In 1936, at the age of 16, John became an apprentice instrument maker with the firm of Kelvin, Bottomley and Baird. This Clydeside firm, founded by Lord Kelvin, specialised in the manufacture of nautical and aircraft instruments. John still carries the piece of paper which shows the starting weekly wage and the four pay increments he was to expect as a result of awards made after the first ever national apprentice strike in 1937. In the first year, pay would be 12/6 a week, rising to 30/- a week in the final year. A skilled instrument maker earned £3.15s.0d in 1936.

It is amusing to consider the Victorian principles which motivated industry before the last war. To clock on, each man had to take his check from a board and drop it through a slot in a large box. This box was fitted with a slide which closed the slot. It was controlled by a timekeeper with a sadistic streak. At precisely 7.47 a.m., two minutes after starting time, the slide would be slammed home irrespective of innocent fingers trapped in the mechanism. Anybody waiting, check in hand, would then have to use another box - and lose 15 minutes' pay.

Special toilets were provided for the men. A "stand-up job" was permitted, but if one wanted to sit he would give his name and number to a timekeeper manning a gate to the cubicles. Seven

minutes was the allotted maximum. Seconds over the prescribed time and the man would lose fifteen minutes' pay. Only one visit to the cubicles was permitted each morning and afternoon. In the case of illness a man would require a chit from his foreman. It seems incredible that only 40 years ago diarrhoea was a "reportable disease", while constipation could make a man bankrupt!

In spite of these seemingly oppressive conditions, John maintains that the skilled men of those days enjoyed a status they do not have today. Following his apprenticeship he took an active interest in union affairs. He was a member of various works committees and especially interested in the training of young men in the complex skills of his trade. One of the last things he did before leaving Glasgow was to sign an agreement with management which stipulated the ideal circumstances for apprentice training - including day release.

In 1944, he was directed by the Ministry of National Service to work at the Radar Research Establishment, Malvern. Here he was appalled to learn that in the whole of government service only two establishments, Farnborough and Woolwich, recognised an official apprentice training scheme. Elsewhere trainees were regarded as "junior labourers", even though they were given full recognition by the unions. At the end of the war, the Government set up a commission to review the situation. Their findings and recommendations were published in 1946. Feasibility studies were then carried out in all government departments.

John came to work at HARWELL as an instrument maker in the summer of 1946, his clock number: M 36. He joined the staff of a small workshop situated on the north-west side of Hangar 9, which later became the first apprentice training shop.

On Friday, 18th April, 1947, a committee was called together by Harold Tongue, the Chief Engineer at that time. It was agreed at that first meeting that A.E.R.E. would undertake the training of apprentices on the lines laid down by a headquarters committee which had

published its recommendations the previous year. It was known that John had worked untiringly to achieve better conditions for apprentices, and he was present at the meeting as workshop representative. He sought a specified training scheme which would include official day release: for him the goal was in sight, but the work was just beginning.

In June, 1948, a selection board chose thirteen boys to be the first apprentices at HARWELL. John was to be their instructor, and this onerous task is best described in his own words ("Harlequin", 1955-56): "My first impression was that they had quickly discarded the wings and haloes which they had displayed on interview and by the end of the first week, when one lathe had been rendered unserviceable and one boy had gone home never to return, my spirits were at a very low ebb. Fortunately, however, the unbounded enthusiasm of the lads was the perfect antidote for this fit of depression, and a few months later we were able to exhibit some excellent examples of the work which the lads had made".

From the inception of the scheme the committee, now known as the Apprenticeship Board, has insisted that there must be three facets of training. The first is the obvious one of practical skills; the second is theoretical knowledge, while the third - and just as important - is character-building. In short, its aim has been to produce not only a man whom any employer would be pleased to accept on his pay roll, but also a man any employee would be happy to work for.

High ideals are easy to talk about but not always so easy to bring to fruition. In the early days, Building 168 was allocated for student apprentices recruited from all over the country. There were times when this hostel was the bane of John's life.

On one occasion a certain apprentice, suffering from temporary financial cramp, offered bets to the other hostel residents that he would jump off the roof of Building 168. Obviously the monetary considerations were attractive enough, for at the allotted time, encouraged by a cheering crowd of onlookers, he made his



death-defying leap into space. To the annoyance of the bloodthirsty mob waiting below he landed quite unscathed on the grass. It is reported that he collected his earnings, but so ungracious were some of the losers that they started an ugly rumour. They claimed that he had damaged nothing vital or useful because he had landed on his head. John disclaims this statement, pointing out that this "long drop" record-holder is now a senior engineer at HARWELL.

Unfortunately, other pranks were more far-reaching in consequence, like the "Battle of Ridgeway House", the senior

staff hostel. On this occasion, considerable damage was caused to 'A' Mess property and to the peace of mind of the official residents. The young intruders used fire extinguishers as water cannons to cool the latter down when they tried to complain. Following this escapade, several of the apprentices were relegated to the notorious Chivers hostel in Chilton village. There were no reports of a resurgence of violence during their sojourn with the "heavy mob".

Things eventually came to a head at the Apprentice Hostel, where it must be admitted that conditions were fairly

John Wallace at the Apprentice Association dinner with three of the first apprentices and three from last year's intake.

Left to right: David Elliott, Gerry Hilyer, Robin Brazier, John Wallace, Michel Mason, Anthony Parsons and Martin Axton.

"The impossible dream": as it might have appeared to him in 1948, but now the Apprentice Training Workshop as seen today in Bldg. 501.





John Wallace looks on as Peter Davies and Eunice Davies sign the indentures for their son, Jonathon.

Peter Davies, one of the first apprentices, is now a Group Leader in M.A.T.S.U.

Spartan. Although John had complained on many occasions, the hostel administrators did little to improve on those pre-war standards for the apprentices.

Finally, the lads took the law into their own hands. One night a party of budding mountaineers climbed onto the roof of the Hostel armed with a tin of white paint and some brushes. Now the late Sir John Cockcroft could see the hostel roof from

his bedroom window, and next morning he drew back his curtains to be greeted by the word "CLINK" scrawled across the skyline. He was not amused, and ordered an enquiry which rapidly unearthed the cause of the apprentices' complaints. Immediate repercussions had the desired effect of improved conditions from that day on. In return, the lads knew that they would be treated as responsible adults only if they behaved as such.

"Murk", polar bear mascot of the Apprentice Association, with Ralph Bartlett, Chairman, and Harry Wells, training supervisor for the last twenty years.



No other major incidents were reported on site, although the Wantage police suspected them of painting a line of footprints which led down from King Alfred's statue, visited the local loo, then returned to the plinth.

As John points out, it was his job to re-channel this ill-directed initiative. Today the lads - while still expressing themselves - raise hundreds of pounds for charity each year. When apprentices came to John they were schoolchildren. While at HARWELL they saw more of him than they did their own parents. When they left him, they were responsible engineers.

The HARWELL Apprentice Scheme was the first in the Authority. John's role cannot be minimised. He speaks with pride and gratitude of the highly efficient team of instructors and administrators who are today collectively known as the Apprentice Training Section. But they are the first to acknowledge that John was the founder. He was alone for the first two years, alone with nothing but a dream, and confidence in his ability and beliefs. As his scheme proved successful, so it grew and gained support from every quarter. Through the years the number of recruits was increased and extra staff were taken on to cope. These were all vetted by John and cast in the same mould as himself, highly skilled, and with a proven understanding of young people.

Today, a young man is lucky indeed to be selected as a HARWELL apprentice. There are over 400 applicants each year for only 35 vacancies. Many of these lads offer educational qualifications adequate for entry into scientific or administrative grades. For four years they will undergo a course of intensive training on modern machine tools. Every third week they will attend college to attain a technical standard virtually unheard of before the War, and during their four years will attend courses on subjects varying from vacuum technology to adventure training.

At the end of their apprenticeship, each man will have cost the taxpayer about £15,000 to train. As skilled men with technical qualifications some may be employed by the A.E.A. It seems odd that they will be classed as "industrials", and paid less than many a clerk.

In 1975, John Wallace was awarded the M.B.E. in recognition of his services to the Authority and engineering, an honour well-deserved.

Earlier this year John took part in an interview board to select the 1978 intake of apprentices. In September, they will be met at the Main Gate and taken to the Apprentice Training School, B.501, to meet their instructors. Among them will be the 1000th HARWELL Apprentice.

Britain's high speed trains

HIGH Speed Trains (HST) have now been running on the Western Region of British Rail for over a year. The 125 mph service was introduced on the Paddington-South Wales/Bristol routes on October 4, 1976. The majority of people who have travelled on the trains will agree that their introduction is the best thing to have happened on British railways for years.

In selecting the route of the GWR, British Rail have carried on a tradition which began towards the end of the 1830s when Isambard Kingdom Brunel was constructing his railway from London to Bristol. Brunel selected a gauge of 7 ft. $\frac{1}{4}$ in. instead of the 4 ft. 8 $\frac{1}{2}$ in. which was common throughout the rest of Britain. The broad gauge gave far greater stability at speed and the locomotives of the GWR were able to pound along at speeds up to 60 mph!

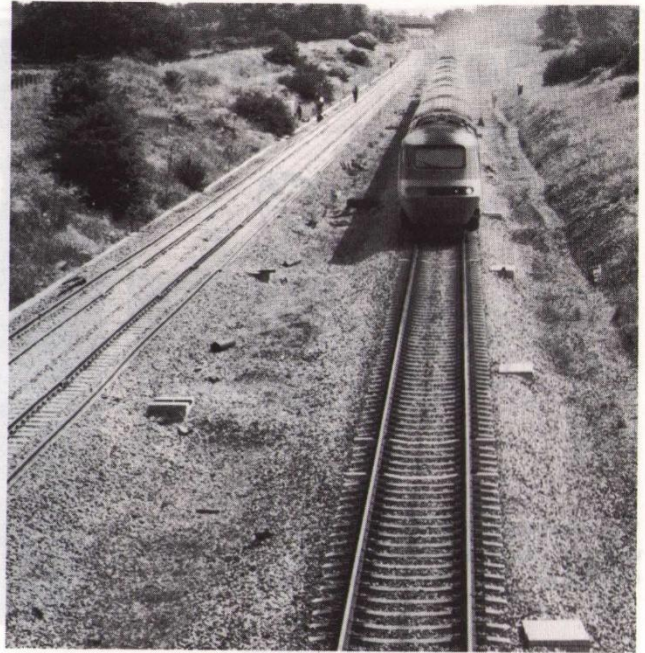
Standardisation eventually caught up with the GWR, but the company was unwilling to give in without a fight and did not finally abandon the broad gauge until 1892. However, the space created by the introduction of the standard gauge track came in useful later when track capacity was increased considerably.

"God's Wonderful Railway", as it was called by its admirers, had a splendid reputation throughout the whole of its existence. Safety was always a prime consideration and the GWR pioneered the Automatic Warning System (AWS) which gave protection in fog and a relatively low rate of accidents.

Speed and comfort were also important and these were achieved with express services such as "The Cheltenham Flyer" and "The Torbay Express" and by the construction of locomotive classes such as "Castles", "Halls" and "Kings." The latter continued in service when British Rail came into being and were not withdrawn until diesels were introduced.

Steam locomotives were finally replaced by diesels of the "Western" and "Hymek" classes which were the basis of the first Inter-City services. The eighty HST services that operate today are an extension of those first Inter-City services and they achieve speeds which even Brunel would not have thought possible.

The HSTs pass through Berkshire on their way west and the 111 $\frac{1}{2}$ miles from Paddington to Bristol Parkway are covered in seventy

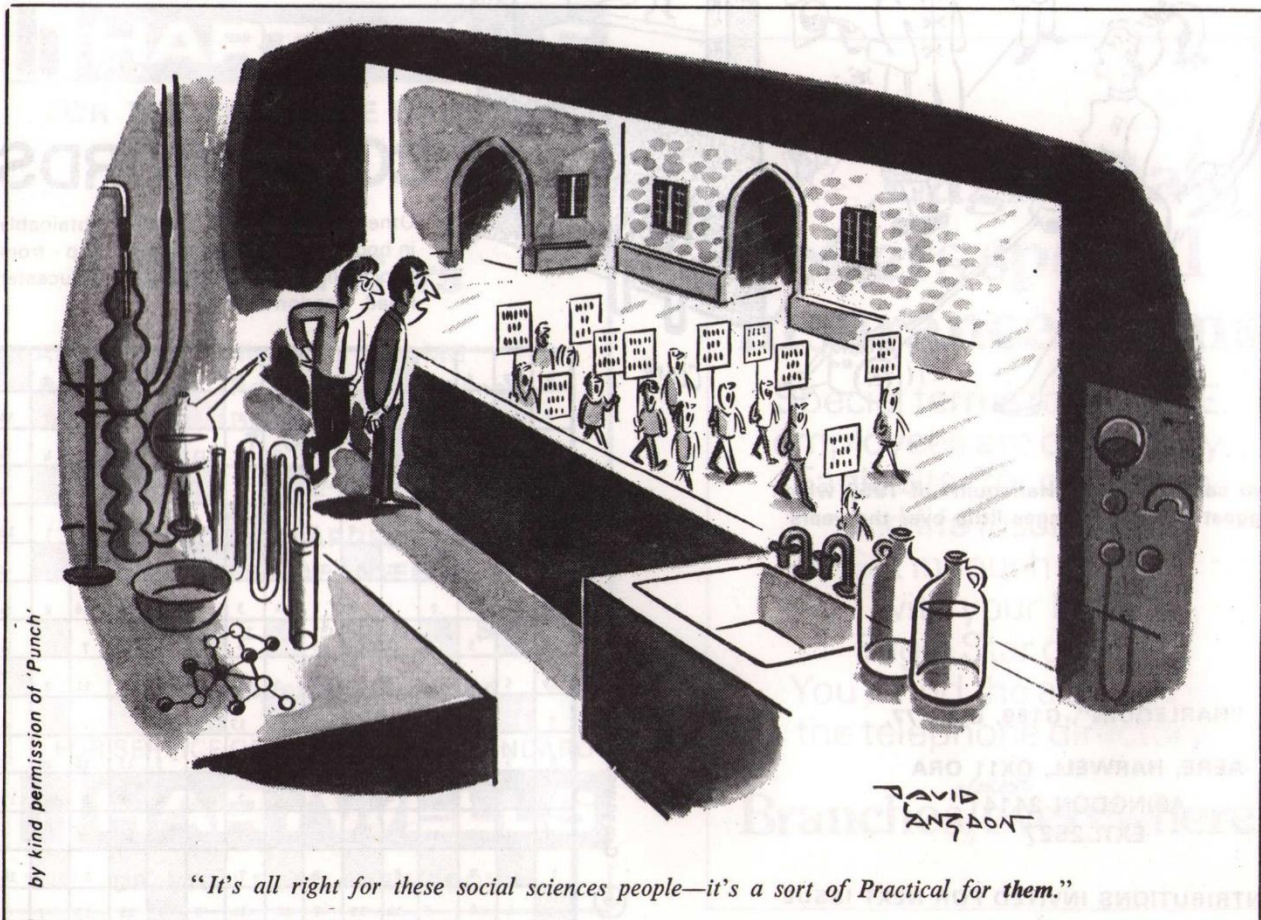


A bird's eye view of the High Speed Train travelling westwards between Didcot and Swindon. Photograph by Reg. Wilkinson.

minutes at an average speed of just under 96 mph. Reading is particularly well served and it is now possible to make the thirty-six-mile journey from Paddington in twenty-two minutes, while the 75 $\frac{1}{2}$ miles from Bristol Parkway to Reading flash by in forty-nine minutes.

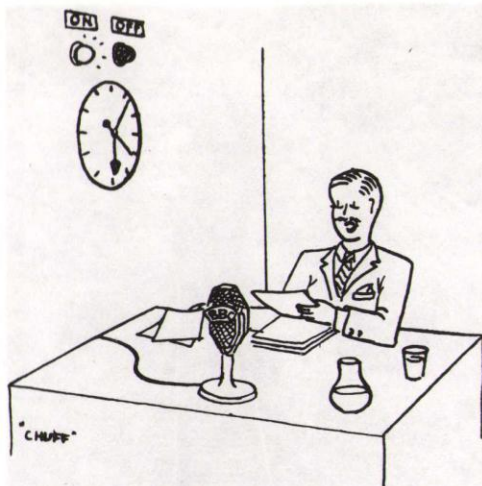
By 1980 British Rail hopes to increase its HST service considerably. Passengers travelling from Slough, Reading and Didcot should then be able to travel at 125 mph to destinations like the south coast, Penzance, Birmingham and Edinburgh.

Reg Wilkinson



by kind permission of 'Punch'

"It's all right for these social sciences people—it's a sort of Practical for them."



"AN ACCIDENT OCCURRED AT HARWELL TO-DAY WHEN A FISH FRYER CAUGHT FIRE IN THE CANTEEN. NO RADIOACTIVITY WAS INVOLVED..

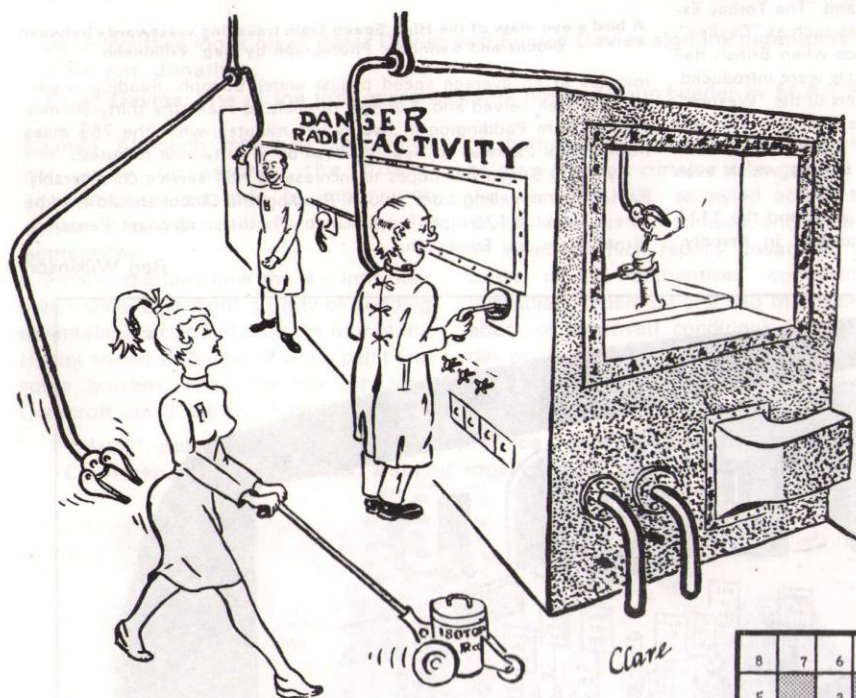


30 YEARS' SERVICE

Left to right: T.A. Nickson,

E.H. Henderson, G.M. Bowen

- Further long-service photographs
in next issue



Two cartoons from "Harlequin" of 1958 which suggest that life changes little over the years



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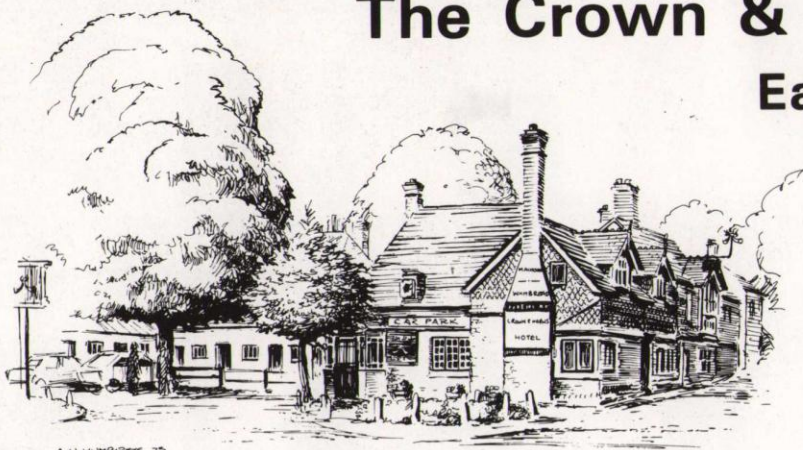
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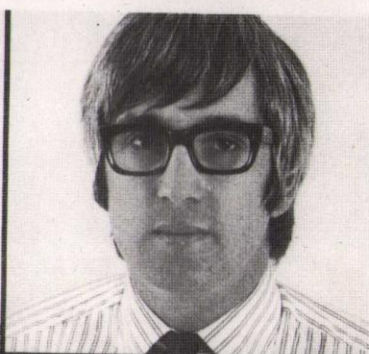
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