



bush
April '72
telegraph

bush telegraph

Wood Lane's Club Magazine

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cover: Design by Christine Ogbourne

vol. 18 no. 2

EDITORIAL

The subject concerning the origin of proverbs is a fascinating one. Presumably those who have studied the Literary Arts are familiar with the subject, but in the absence of such study, it is possible to imagine all sorts of origins.

Since most of the greatest philosophers lived way, way back in our evolution, it would appear reasonable to believe most proverbs were compiled at a very early date.

The very first greenhouse, however, could not have been constructed at least until the Middle Ages (the basic assumption is made that the first "house" constructed solely of glass was a "greenhouse" because of man's dependence on the soil and hence its efficient usage) - because of the lack of technology on the subject at that time.

Of course, the development of proverbs was an international pastime in days gone by. The traditional Scottish saying "One Sassenach is all it takes to spoil the Haggis" was discreetly altered by the English into "Too many cooks spoil the broth" ("broth" - please note, a benevolent touch for the English to leave a Scottish word in the proverb).

Working at Shepherd's Bush, it might be interesting to consider the origin of the men with one hand big enough to accommodate a bird (obviously a Wren or Humming Bird, you understand). It was obviously a long time ago, and in those days a hand containing a bird was quite highly prized, and Shepherd's Bush was, at that time, the centre of the export industry. So it was, that if anyone had a bird in a hand to sell, it was always brought to this area, as it fetched double the price.

Have a good month.

the FILM column

The next and final film show of the current season will be held on Wednesday, 10th May, and features NIGHT OF THE GENERALS. This film, discussed by Anatole Eitvak, produced by Sam Spiegel with an all star cast (Peter O'Toole, Omar Sharif, Tom Courtney, Donald Pleasance etc. etc.) is about a murder mystery set in Occupied Warsaw during 1942.

FILM REACTIONS

The audience ratings for the feature films shown so far this season are given below:-

ZULU	85%	ROSEMARY'S BABY	70%
CHARLIE BUBBLES	82%	BLUE MAX	81%
HOUSE OF THE ANGEL	51%	THE COLLECTOR	80%
IF	91%	BELLE DE JOUR	75%
DOCTOR FAUSTUS	71%	ORPHANS OF THE STORM	85%
JUST LIKE A WOMAN	42%		

NEXT SEASON

The Film Committee for the forthcoming season is:-

Mike Dennis	Annette Mattock
Ted Morrison	Tom Ruben
Pete Higgins	Clive Robeson

Plans are already in hand for the now annual Film Poll. An early response by all members of the Social Club will be welcomed by the new Committee.

NATIONAL FILM THEATRE

The April/May Season includes:-

"Hollywood and the Blacklist" featuring the works of screen writers during the McCarty Era.

The films of Edward Dinytryk including THE CAINE MUTINY, THE YOUNG LIONS, SHALAKO and WALK ON THE WILD SIDE.

The film of Francois Traffand including LES QUATRE CENTS COUPS, JULES ET JIM, FARENHEIT 451 and L'ENFANT SAUVAGE.

A short season of new Hungarian films includes THE FALCONS directed by Istran Gaal and seen at the 1970 London Film Festival.

And many others - see our Notice Board (Main Hall)!

THE OTHER CINEMA

The OTHER CINEMA, in common with the NFT, is presenting a series of films entitled THIRD WORLD CINEMA during April. A series of films from Cuba to Argentina recognised as representing contemporary political and radical cinema. It has been suggested that film-making in Latin America constitutes the most radical initiative in film since the early Soviet cinema. (Details on the Notice Board).

BUSH CINEMAS

Following the take-over of the Essoldo cinema chain by Laurie Marsh's Tigon Group, who already own the Classics, the Shepherd's Bush Essoldo has now been renamed the Classic.

Brew it yourself

by Terry Watkins

In the last issue of the B.T. I gave a recipe for making wine from tinned fruit. Another convenient way of making wines is from concentrated fruitjuices such as Rosehip syrup (e.g. Delrosa) and Blackcurrant syrup (e.g. Ribena) and the recipe given below for Rosehip wine can be used for any concentrated juice.

Rosehip Wine

Ingredients

1 small bottle rosehip syrup (6-8 oz)
2½ lb sugar
yeast
yeast nutrient
citric acid 1 teaspoon (or juice of 1 lemon)
water to 1 gallon

Method

Bring two pints of water to the boil, add sugar and syrup, stir to dissolve then pour into a bucket, and add the rest of the water. Add the acid, yeast and yeast nutrient, cover the bucket closely with a sheet of polyethylene. Leave for three days, by which time the fermentation should be fairly vigorous, then transfer the liquor into a fermentation jar and fit an air lock. After two to three months fermentation should be finished and the wine can be racked and two Campden Tablets added. Rack the wine into bottles when clear.

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For the Pup that has everything

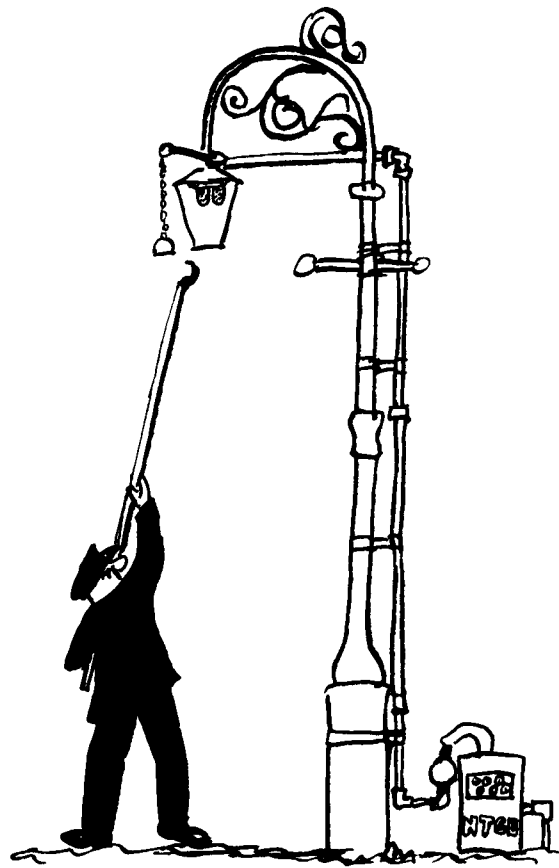
Antique Lamposts

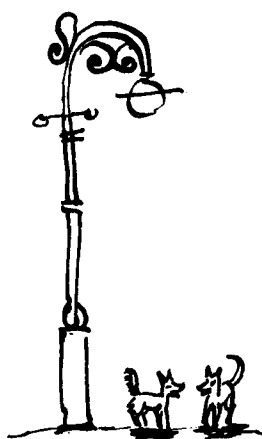
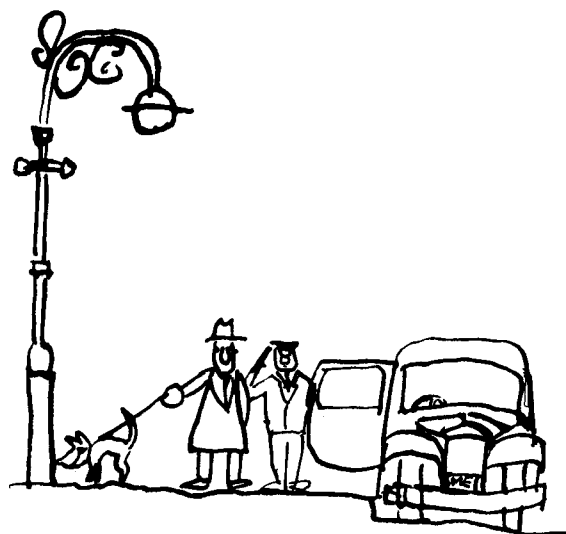
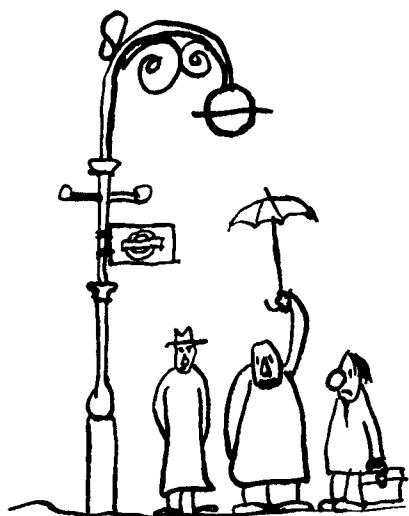
Offers to Works Engineering Dept.

For Your Light Entertainment

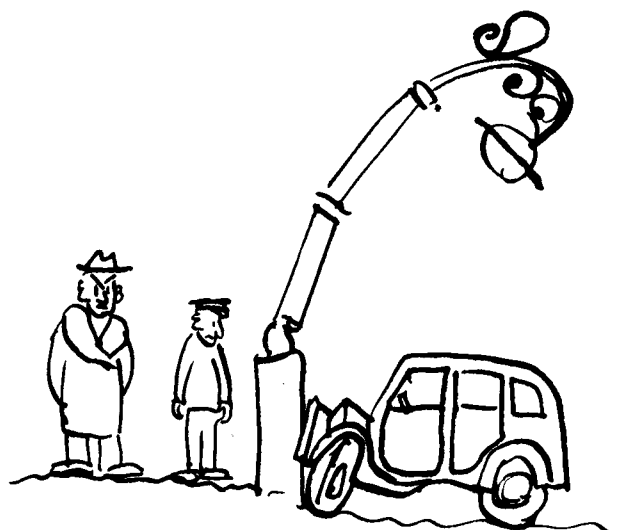
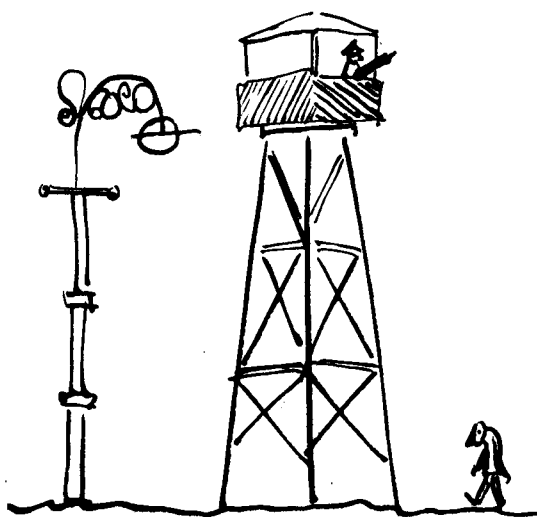
To anyone who may have bumped into one of four rather tall, solid objects and said "I beg your pardon" before realising, of course, they are lamp posts.

The imaginations of some of our readers have been given free rein once more





I remember it when they had no facilities at all here.



Cook's progress

HOT CROSS BUNS

OVEN Mark 7 or 425 degrees

Makes 18 buns

1 lb Plain Flour
2 oz Butter
3 oz Soft Brown Sugar
 $\frac{1}{2}$ pt Water
 $\frac{1}{2}$ oz Dried Yeast
3 oz Currants
1 oz Sultanas
1 oz Mixed Chopped Peel
1 Level Teaspoonful Salt
4 Level Teaspoonfuls Mixed Spice

For the Tops

1 oz Plain Flour
A Little Water
1 Level Desertspoon Caster Sugar
2 Desertspoons Milk

Make up the basic dough mixture sifting the spice in with the flour. After beating the dough knead in the dried fruit. Let the dough rise for about thirty minutes. Turn the dough on to a lightly floured board, cut it into eighteen two-ounce pieces and form each into a round bun. Lay the buns on greased baking trays. Mix the flour for the tops with a very water to make a thick batter, then put the mixture into a piping bag and pipe crosses on top of each bun. Leave the buns in a warm place for about fifteen minutes to prove. Bake the buns in a hot oven, mark 7 or 425 degrees, for fifteen to twenty minutes. Dissolve the sugar in the milk, bring it to the boil and brush it over the cooked buns.

If you have any special dishes that you would like to know how to make, I will try my best to tell you. Please write to me.

Pauline Earles
Typing Office

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*****  
*  
* WEIGHT AND WATCH THIS SPACE *  
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THE
Film Society
PRESENTS

Belle de Jour

and

Orphans of the Storm

An edited version, stretch-printed
to remove the flicker and with an
added sound-track.

Director; Luis Bunuel

Starring; Catherine Deneuve, Jean
Sorel, Michel Piccoli, Genevieve
Page, Pierre Clementi.

Director; D. W. Griffith

Starring; Lillian & Dorothy Gish,
Joseph Schildkraut, Frank Losee,
Catherine Emmett, Morgan Wallace,
Lucille La Verne, Sheldon Lewis,
Frank Puglia, Creighton Hale,
Leslie King, Monte Blue, Sidney
Herbert, Leo Kolmer, Kate Bruce.

on April 12th

WED FILM SHOW 8.30 PM

Night of the Generals

and

The Cinema of Raymond Fark

Director; Anatole Litvak
Asst Dir; Tom Pevsner

Starring; Peter O'Toole, Omar
Sharif, Tom Courtenay, Donald
Pleasance, Joanna Pettit,
Philippe Noiret, Charles Gray,
Coral Browne, John Gregson, Nigel
Stock, Christopher Plummer,
Juliette Greco.

Number six in a series 'Critic and
Film' sponsored by the BFI.

on May 10th

The Page 8½ Column

A monthly miscellany.



THIS RESTLESS EARTH

A seven month old copy of New Scientist (surely the most widely read and hence most slowly circulating journal in the Library's list) arrived on my desk recently. An earlier reader had encouraged a later one to see Page X and thereby provoked the comment, "I had no idea that the theodolite was such a dangerous instrument". Appetite whetted I found the offending paragraph in an article about Icelandic rock structure and movement.

"The island's unique position is currently being exploited by a number of geodesists trying to make direct measurements of the speed at which Iceland is being torn apart by precise surveying".

Thanks to the hawk-eye concerned.

BANGING THE DRUM

BICC has, perhaps unknowingly, entered the field of contemporary art. A visitor to the ICA in the Mall recently noticed that the new tables in the coffee lounge were upturned BICC cable drums.

DOM, DOM, THE POLO MAN

During the protracted Malta crisis a Middlesex youth club poster announced a talk "Can Anything Save Malta?". Handwritten below was the legend, "The Mintoff with the Loophole".

X-PECTACTION

Recent double-bill at the Shepherd's Bush Odeon was something of a conflict of ideas.

"I am a Nymphomaniac"

with

"Not Tonight Darling"

It seems that baser instincts must have prevailed somewhere along the line, for the late-night film the same week was,

"Battle of the Bulge"

Social Club AGM

The 21st AGM of the Social Club, the first to be held in the Main Hall since the sequestration of the Lecture Room, took place in the presence of 25-30 members in Tuesday 21st March.

The previous year's minutes were suitably altered to eliminate the rather obtuse reference to a pugilistic nobleman before the Hon. Treasurer presented the accounts, which to his great relief provoked little comment. Enter the Vice-Chairman in a state of metal shock, having returned only that morning from an exhausting tour of duty in the uncharted wastes north of Watford to discover his sense of time and his annual report non-existent. Under the circumstances his sleepy rhetoric was more than could be reasonably expected under the circumstances and undoubtedly contributed to his unanimous unopposed re-election later in the proceedings.

Before announcing the names of Club Officers and elected committee members for 1972-3, the Chairman announced his own retirement from that position. His successor as Chairman is to be the Divisional General Manager.

The names of Club Officers and Committee members are as follows.

President	Lord McFadzean
Vice President	Dr. A.L. Williams
Chairman	Mr. E.H. Reynolds
Vice-Chairman	Mr. M.J. Squelch
Hon. Treasurer	Mr. H. Charman
Hon. Secretary	Mr. M.R. Dennis
Senior Staff Representative	Mr. S. Tempest

EXECUTIVE COUNCIL

Mr. R.J. Coomber
Mr. R.A.G. Fraser
Mr. D.R. Groombridge
Mrs E.W. King
Mr. D.B. McCarthy
Mr. C.R. Robeson
Mr. A.C. Town

BAR COMMITTEE

Mr. S.M. Castle
Mr. J.B. Childs
Mr. D.R. Groombridge
Mr. C.R. Robeson
Mr. G.C. Taylor

A vigorous discussion then ensued on the subject of two proposed amendments to Club Rules the first of which, reducing the minimum number of Executive Council meetings from 12 to 4 per year, had previously been turned down by the Council themselves. Many good reasons, and some emotive ones, were put forward opposing the motion which was eventually defeated. A second amendment, allowing the secretary or treasurer to authorise any expenditure previously approved in the Annual Budget without further reference to the Finance Committee, was passed by a large majority.

The meeting paid its tribute to the work of the retiring Chairman, Mr. P.W. O'Donnell, before a healthy clunking noise indicated the opening of the bar and the closing of the meeting.

New Sites For Old Standards

Recently four lamp standards, the switch box doors of which are embossed with the legend 'British Insulated Wire Co. Ltd., Prescott' have been erected around the central lawns in front of the McFadzean Laboratory at Wood Lane. The story of how and why they got there may be of some interest to our readers who are probably wondering why such relics of the past should be allowed to end their days within our precincts.

It was in THE LINK for February 1971 that an item appeared which paid tribute to the lamp standards of Prescott. These were to be replaced in that year by modern slimline concrete standards more in keeping with the march of progress. The old standards were to be removed and presumably scrapped after over seventy years of illuminating the streets of Prescott by night. The only interruption to their service being during the blackout of the second World War and during the recent coal miners dispute. The photograph and tribute in the Link suggested to some of us at Wood Lane that in view of their historic connections with the Company, it would be a pity for the old standards to pass away without some attempt to preserve them for posterity. Accordingly, telephone calls were made to The Editor of the Link and to the Prescott Urban District Council's Engineer and in due time four standards were delivered to Wood Lane, cleaned up and erected in the positions they now occupy.

In order to find out something of the original appearance of the standards and of their history a search was made in the Wood Lane cable archives. This produced not only a photograph taken in 1898 of an actual standard outside the front of the British Insulated Wire Company's factory but also some interesting details of the electric lighting installation for the town of Prescott in 1893.

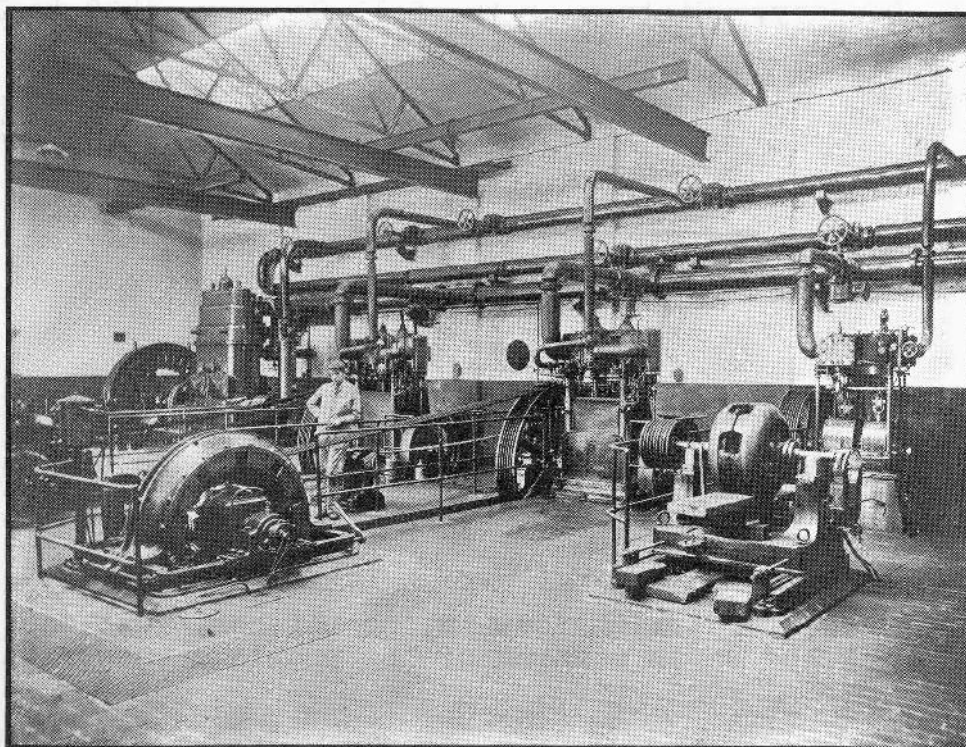


Lampost (Arc Lamp Standard) outside front of B.I. Factory 1898

On the 2nd August, 1892, an application of the local board for the lighting of Prescot was accepted and the B.I. Wire Company applied to the Board of Trade for a licence to supply electricity for public purposes. Due to this initiative on the part of the Company, Prescot was to become one of the first towns in the country outside London to have electricity supplied for public purposes.

London was at this time the principal centre of electrical development, having had electric lighting on the Thames Embankment since 1877, and although Brighton, Eastbourne and Hastings were notable examples of early electrical enterprise, having started a public supply system in 1882, by the beginning of 1892 such important centres of population as Manchester, Leeds, Edinburgh, Hull, Nottingham, Leicester, Wolverhampton and Norwich had not even begun the construction of electric light stations.¹

The generating plant which was to supply the B.I. Wire Company's factory, the neighbouring town of Prescot and the districts of Huyton and Roby, Whiston, Rainhill, Eccleston and Knowsley was installed in the old dynamo room at the Prescot Factory.² The plant consisted at first of two 25 kW Brush-Mordey rope-driven alternators. A little later a 55 kW Ferranti alternator driven by a Browett Lindley operating engine was added. The generating voltage, or pressure as it was called in those days, was 2000 volts which was transformed down to 100 volts for consumers use. The transformers were located in substations situated in the outbuildings of public houses or in the cellars of 'complaisant consumers'. Towards the end of 1892 a horizontal engine was acquired from St. Helens where it had been used to grind pills and set to drive a Brush arc lighting machine. The latter was to supply sixteen arc lamps, mounted on special lamp standards which were erected chiefly at important corners of the town. The arc lamps were in addition to twenty 100 volt 16 candle power incandescent lamps mounted in converted gas standards.



The engine and arc lighting machine were appropriately (and inevitably) named 'Joan of Arc' and was said to be a good deal more reliable than either the circuits or the lamps which they supplied. It is recorded that it was someone's duty to go round the town after lighting-up time and to apply a vigorous kick to the base of the arc lamp standard in the frequent event of the lamp 'sticking'.

The arc lamps were switched off at midnight being replaced by two incandescent lamps mounted about halfway up each standard. The brackets for these incandescent lamps were removed at some time when the arcs were replaced with more modern fittings and only the holes where they were, survive on the standards at Wood Lane.

The other incandescent lamps on the converted gas standards were run in series on a 2000 volt circuit. Brush 'cuttings' were incorporated so that in the event of one lamp failing another was automatically switched on in the same lantern. If both lamps failed to act or were cut off due to a fault in the cable, a compensating lamp was automatically lighted on the switchboard in the dynamo room at the factory. Doudney in his history of the B.I. Wire Co., on which much of this account is based, relates that on some occasions there was, sadly, quite a brilliant array of lights on his board!³

REFERENCES

1. R.H. Parsons, "The Early Days of the Power Station Industry", Cambridge, 1940.
2. B.I. Wire Co. Ltd., "The British Insulated Wire Company's Works at Prescot", Electrician, 1899, July.
3. S.P. Doudney, "History of the B.I. Company, 1890 to 1902".

R.M. BLACK

ERRATA

Brain Teaser in last month's edition

In place of "It's quite straightforward, no catches, answer on Page 13"

please read

"It's quite straightforward, no catches, just one mistake altering the whole meaning of the problem, answer on Page 13"

Personality Poser

Obviously the Round 2 clues in last month's edition gave the game away.

We had 3 replies all told, two correct, one slightly baffling.

The answer to your question, Mr. P.W. O'Donnell is, unfortunately no. Can you please supply us here at the B.T. with some information concerning the gentleman you suggested, as we are all intrigued.

We have decided to award half of the prizemoney to the sender of each correct entry. Those were:

H.A. Martin, Chemistry
and R. Spencer, Metallurgy

Congratulations!

As you both correctly said, the Personality was W.A. Mozart.

The Laws of Research

- (1) All research is carried out by modest talents; exceptional ability results in transference to a position where time for research is no longer available.
- (2) Successful researches bring their originators impressive non-financial rewards.
- (3) Published research is of no practical value, since publication ceases as soon as the work shows signs of having commercial or military possibilities.
- (4) The main objective of research organisations is to generate more research; hence their size, facilities and costs increase continuously.
- (5) Research institutions are monopolistic, aiming to secure all funds available for work in those fields in which they specialise.
- (6) Research is necessarily inconclusive, since reaching a conclusion leads to the termination of the research.
- (7) When a research group begins to operate on a wave-length close to that of another group, interference patterns appear and strong oscillations develop. The entire system then becomes unstable and may disintegrate.
- (8) The upper limit of research cost is determined by the ultimate breaking strength of management, and the lower limit by the torsional characteristics of the research director.
- (9) The cost of research always exceeds the money available for its execution, and is independent of the amount of work done.
- (10) All research is regarded with favour, until it results in the formulation of specific recommendations, when an adverse reaction is generally produced.

Motoring Section

A complete list of the gadgets and tools available to any member of the Social Club is printed below.

Items available on loan for a very small charge and a substantial deposit.

<u>Item</u>	<u>Charge</u>
(1) Colourtune	10p
(2) Strobe Timing Light	2½p
(3) Compression Tester	2½p
(4) Greasegun Kit	7½p
(5) Jacking Ramps and Axle Stand	12½p
(6) Tappet Adjustor	-
(7) Valve Spring Compressor	-
(8) Battery Jump Leads	5p
(9) Automative Spanner Set	12½p
(10) Torque Wrench	2½p
(11) Vacuum Gauge	5p
(12) Ezibleed (Hydraulics)	7½p
(13) Carbalancer (Carburettors)	7½p
(14) Universal Ball Joint Puller	7½p

Some of the more useful and recent additions are:-

- (1) Bleeding of Hydraulic Brakes etc.
Ezibleed (ugh!).

Despite its name this is a well made and very useful device. By pressurizing the complete hydraulic system and using a simple topping up device, bleeding the brakes is made a one-man job.

- (2) Balancing Twin Carburettors
Carbalancer (ugh! again)

All you twin carb. owners will find this much more accurate and simpler to use than a piece of rubber tubing stuck in your ear!

- (3) Vacuum Gauge

Providing you have the necessary topping on the inlet manifold, probably the best way of tuning a carburettor.

- (4) Universal Ball-Joint Puller will separate all track-rod ends and most suspension ball joints

Also Duckhams Q20-50 Motor Oil at 80p per gallon is available

G.C. Taylor 322

Spring Navigation Trial

Yet another fantastic rally has been organized by the Electrical Dept. (hint! hint!), so here is all the info.

DATE: 14TH MAY 1972
TIME: START 15.00 (OR 3 PM TO YOU)
PLACE: ?
MAP: O.S. 170 LONDON S.W.

Starting in car park at bottom of Box Hill. Map Reference 172520.

APPLICATION FORM

NAME
DEPT EXT

Forms together with a nominal entrance fee of 10p should be returned to GEOFF LEWIS EXT 311 or JOHN SKELTON EXT 272

Local News

A new theatre has recently been opened in Shepherd's Bush.

Founded by the Alternative Theatre Company and using converted accommodation paid for by Ind Coope, the New Pub Theatre at the Bush Hotel opened on Good Friday.

Directors of the Theatre Company include John Neville and Brain McDermott (who founded the Company). They intend to present plays which combine the best of both establishment and fringe theatre.

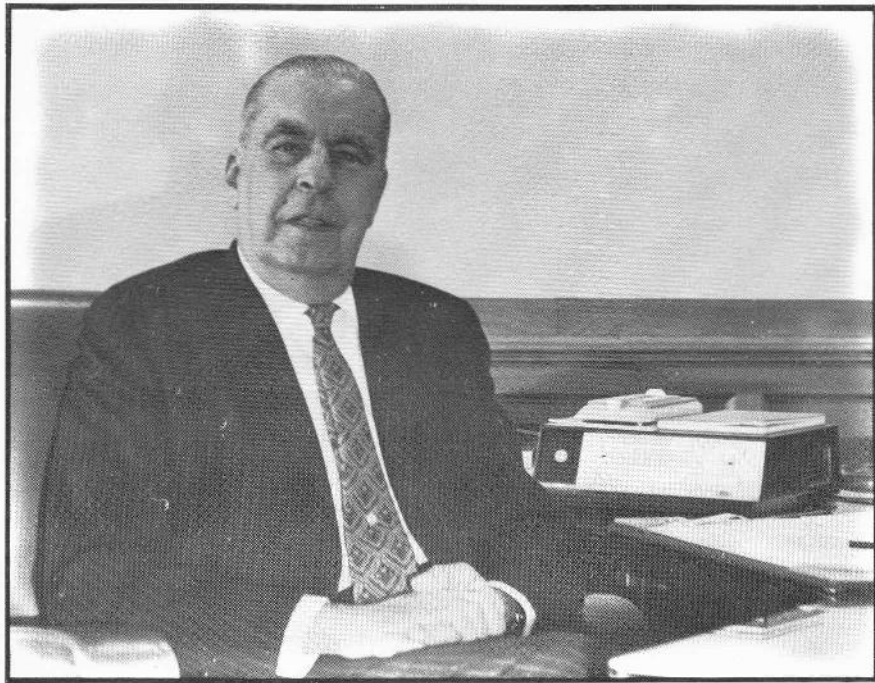
The first presentation was "The Collector", which is transferring direct to the West End after its run at the Bush Theatre, and is predicted to be as popular as "The Mousetrap" was, and still is.

Also planned for the New Theatre are lunch-time productions and old time music hall shows.

TENNIS

Weather permitting we hope to start playing on Tuesday evening 2nd May, at Wormholt Park. WANTED. Players and would-be players also new energetic secretary as weary old secretary is retiring.

Profile: Dr. A.L. Williams



ON THE OCCASION OF HIS RETIREMENT
APRIL 30TH 1972

Dr. A. L. Williams

M.Sc., Ph.D., A.R.C.S., D.I.C., C.Eng., F.I.E.E.

On the 30th April, 1972, Dr. A.L. Williams, Director of Research and Engineering, will retire after 22 years in the service of the Company, the majority of which were spent at Wood Lane. It is hoped that in this brief biographical note, commissioned to commemorate the occasion of his retirement, it will be possible not only to express our Best Wishes for his future but also to attempt an appreciation of his professional career first with Westinghouse Brake and Signal Company and then with BICC.

Born in London in 1909, Albert Leslie Williams, now known affectionately to his colleagues and staff as 'Bill' Williams or ALW, entered St. Olave's Grammar School by scholarship in 1920 at the age of eleven. After taking inter-B.Sc in 1928, he won a scholarship to Imperial College of Science and Technology and studied for the B.Sc in Chemistry. In his last year in 1931, he researched in electrochemistry under Dr. H.J.T. Ellingham (later Secretary and Registrar of the R.I.C.) and gained the M.Sc by thesis.

Having completed his studies, ALW obtained a position in the Research Laboratories of the Westinghouse Brake and Signal Company at King's Cross where for the next eleven years he was to devote his activities almost entirely to work on semi-conductors. He was particularly concerned with the development of the copper oxide rectifier, of which Westinghouse became the world's leading supplier, but he also contributed to research on the selenium rectifier which was to succeed copper oxide in many applications. He is named as the inventor in numerous patents on rectifiers and photoelectric cells.

While much was known in those days about the manufacture of "metal" rectifiers, the theory of their mechanism of operation was far from being established or even clearly defined. Although it was realized that the observed assymmetric conduction was a contact effect, very little was known of the nature of the barrier or blocking layer which in practice behaved in a similar manner to a thermionic valve. Dr. Williams was very much involved both in the development of improved rectifiers and in the establishment of a more satisfactory theory of the mechanism of operation.

It was in order to carry out more fundamental studies by means of electron diffraction techniques that he returned to the laboratories at Imperial College in 1934, seconded to work for two years under Professor G.I. Finch. The work was a major contribution to the development of a theory of such semi-conducting systems and was the basis of a comprehensive paper on metal rectifiers, written in co-operation with L.E. Thompson (now Managing Director of Westinghouse Brake and Signal Co.) and first read before the Institution of Electrical Engineers on the 26th June, 1941. For the original work Dr. Williams qualified for his Ph.D and for the Institution paper the Authors were awarded the John Hopkinson Premium of the I.E.E.

On the outbreak of the second World War, Dr. Williams was placed in charge of Rectifier Production at Westinghouse and because this work was of national importance he was not allowed to join the regular forces. Instead, he became a Company Commander in "Dad's Army" and, as he puts it, "having once been a chemist, got landed with the job of Battalion Gas Officer". In 1943, he was appointed Executive Engineer and acquired responsibility for various production departments.

In 1950, ALW decided to leave Westinghouse and was appointed Power Cables Research Manager in BICC at Wood Lane. Later in the same year, he became Chief Engineer of Power Cables Division jointly with Mr. W.P. Fuller of Prescott and, after the retirement of the latter, continued to act in that capacity, until Mr. P.M. Hollingsworth joined BICC in 1953. Meanwhile, in 1952, he was appointed Research Manager and, in due course, Manager (Research).

It was for an I.E.E. paper in the field of Power Cables entitled "An Assessment of the Impregnated Pressure Cable", prepared in co-operation with the late Dr. L.G. Brazier and Mr. D.T. Hollingsworth that Dr. Williams shared the John Snell Supply Section Premium. This was perhaps the last milestone in the story of the Impregnated Pressure Cable as it was in the later 1950's that the oil-filled cables began to predominate and manufacture rationalized in their favour.

It was in the early 1950's that Dr. Williams was nominated to represent BICC to collaborate with Siemens Brothers (later AEI and then GEC) to study the possibility of a cross-channel cable, based initially on the impregnated pressure cable. He realized that the deficiencies of this for submarine work could be overcome by adapting the Glover type of gas-filled cable which permitted continuous manufacture in unlimited lengths. A considerable research effort at Wood Lane, in which many of our people participated, led amongst other things to the perfection of the theory and practice of heavy submarine cable-laying control which was first applied in 1956 in the Vancouver cables - the world's first major submarine power cables - and to the Cook Strait cables in 1964, generally considered as the most difficult cable project yet successfully completed. For this project, ALW was appointed Managing Director of BIC (Submarine Cables) Ltd. in 1962 at the purpose-designed factory which was built on Glover's site at Trafford Park. Several "Wood Laners" were in his team, including Derek Edwards, Norman Waterhouse, Peter Higgins and Vic Denholm.

In 1964, ALW was appointed Director of Research and Engineering but, because of severe problems in Cook Strait during which, to quote his own words, "he often wished he had never had the idea in the first place", his return to Wood Lane was delayed until mid-1965. The I.E.E. paper on the Cook Strait project which he presented in 1966, with his co-authors E.L. Davey and J.N. Gibson, was awarded the John Hopkinson Premium. The fact that all three of Dr. Williams' major I.E.E. publications should have been awarded special premiums must surely be a record.

Since 1965, Dr. Williams has represented CRED on the Main Board and has done much to stimulate and co-ordinate R & D throughout the Group.

He is happily married with three sons (two resident overseas) and five grandchildren. He used to play fives, Association football, squash, cricket and tennis - and gave them up in that order. In his early days at Wood Lane he achieved a reputation both as a bridge and as a chess player, although, more recently, his duties have curtailed these interests. He still enjoys gardening at home and travelling abroad, and we hope that in his retirement he will achieve much pleasure in these activities.

We wish him a long and very happy retirement.

R.M. BLACK