

ARL

NEWS



FEBRUARY 1967

No. 2



FOR ARL STAFF ONLY

SOCIETIES, CLUBS AND ASSOCIATIONS

Your C.S.C.A.

Hon. Branch Sec. Tedd.
Norman W. Ferguson,
Stores Office,
Ex. 24.

C.S.B.F. (Benevolent Fund)

Mr. C. J. Borrill,
Sec. Kingston Local Committee
of Civil Service Benevolent
Fund,
G Group, U/L Ex. 7.

C.S.S.G. (Sanatorium Soc.)

Treasurer,
Mr. E. R. Holly,
Stores Office, A.R.L.
Ex. 23.

N.P.L. Music Society

Mr. K. Ellis,
A.P.U. U/L Room 444 Ex. 45.

H.S.A.

Sec. Sister Hammett,
Room 28,
Ex. 300.

C.S. Sailing Assn.

Admiralty Link
H.C.W. Meyer Room 40 Ex. 224.

N.P.L. Sports Club

A.R.L. Rep. G. P. Barlow
Ex. 33

A.R.L. (Stanton Cup R. Wilson
Convenor) Ex. 21.

The Rose Society

Sec. Mr. Lenham, U/L G Group.

S.T.C.S.

R.N.S.S. (London) Branch
Sec. W. Parrington D.O. Ex. 116

United Kingdom Civil Service
Benefit Society

Local Sec.
Mr. J. Gleeson, Stores Office,
Ex. 24.

Upper Lodge Club

Sec. E. J. Clement
Group D, Ex. 79.

Motoring Association

Mr. Redmayne,
Workshop, Ex. 225
Mr. C. J. Borrill U/L Ex. 67.

I.P.C.S.

Sec. D. W. Norman
Group G U/L Ex. 84.

Would the Secretaries and representatives of any other groups or associations who would like to be included in future editions please notify Mrs. P. Ward, C Group, Ex. 28.

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Editorial

Our first A.R.L. News has passed and we are still recovering from having been (a) congratulated, and (b) reviled and have found it instructive to observe the extraordinarily different reception given to this venture by various parts of the Establishment.

It is, of course, the contributors and not the Editorial Board who set the tone of the 'News' (apart from the Editor's blue pencil). If you want your 'News' to be frivolous then write us a number of brilliantly witty articles; if, on the other hand, you want it to be more serious, then send in instructive and enlightening contributions for the readers to enjoy.

"Our life is in your hands".

To mention an entirely different subject, it will be seen from Page 3 that in the past two months we have welcomed a considerable number of new arrivals. All of us have at one stage been new to A.R.L. and can sympathise with the newcomers

who find their surroundings strange and perhaps a little bewildering. The "old hands" can do much to alleviate this suffering and in many instances already do so, but perhaps a gentle reminder of the need to prepare things beforehand so that the newcomer feels he (or she) was expected, will not be out of place.

J. R. Gibb

THE LIBRARY COMMITTEE

A Library Committee has been formed to assist the Librarian in the choice of books and periodicals to be purchased for the Library and to provide a link between the Groups and the Information Section whereby the former can bring up any matter concerning technical information, incoming or outgoing. The supply of films and the classification of A.R.L. reports have already come up at the first meeting of the Committee.

Any member of the staff with a suggestion to make on information services should contact his Group representative. The representatives are:- 'C' - Dr. Soole (Chairman), 'D' - Mr. Wood, 'E' - Mr. Scovell, 'G' - Mr. Norman, 'H' - Dr. Cook, 'L' - Dr. Crane, 'M' - Dr. Wilson, 'O' - Mr. Rockcliffe. If you wish to examine more closely a book which has been favourably reviewed, the Library will obtain a copy on loan for you to see.

L. E. Mayes

OUTING TO THE TULIP FIELDS AT SPALDING

SATURDAY, 29th APRIL, 1967

For further details see the Notice Board or contact Mrs. Chandler, Stores Office.

W H O G O E S W H E R E ?

(To 16.1.67)

ARRIVALS

<u>Name</u>	<u>Grade</u>	<u>Group</u>
Mr. P. Douthwaite	T/A.E.O.	'M'
Mr. R. J. Cogswell	T/Sci.Asst.	'C'
Mr. J. A. Bedwell	A.E.O.	'O'
Mr. P. H. Lindop	P.S.O.	'O'
Dr. I. M. Yuille	P.S.O.	'M'
Miss M. Nicolson	T/C.A.	A.H.-B.R.E.
Mr. T. G. Overfield	T/Machine Asst.	'M'
Mr. J. W. Benton	S.S.O.	R.R.A. Derby (from D.M.R./N., via R.N. College, Greenwich
Mr. C. G. Purves	T/Sci.Asst.	'D'
Mr. A. R. Downing	T/S.O.	'M'
Mr. J. E. Ison	T/Sci.Asst.	'M'
Mr. M. J. Walshe	T/A.E.O.	'O'
Mr. P. M. Chambers	T/Sci.Asst.	'G'
Mr. M. G. Lee	T/Sci.Asst.	E(R)
Mr. G. J. Clegg	T/Sci.Asst.	'M'
Mr. H. S. Thomas	D.A.O.	Accounts
Mr. P. Fisher	A.A.O.	"
Mrs. J. Payne	T/C.O.	"
Mrs. S. White	T/C.O.	"
Mr. R. Barkham	Labourer	E(W)
Mr. R. E. Payne	Skilled Lab. Sch. II	E(W) - attached 'D'
Mr. P. Caygill	Patrolman	Admin.
Mr. G. E. Gingell	Skilled Lab. Sch. I	E(W) - attached 'L'
Mr. R. Hathaway	Porter	Admin.
Mrs. D. I. Bonome	T/C.A.	'C' & Tech. Records

CONGRATULATIONS TO

Mr. B. B. E. Death	E.O. now S.E.O.	'M'
Mr. J. M. Buckle	E.O. now S.E.O.	R.R.A. Derby
Mrs. P. Ward	C.A. now C.O. (Templ'ry)	'C' to Admin.
Mr. P. W. Jackson	Sci.Asst. to A.E.O.	'M'

DEPARTURES

<u>Name</u>	<u>Grade</u>	<u>Group</u>	<u>To</u>
Mr. M. J. Rice	T/Sci.Asst.	'G'	Resigned
Mr. A. M. Evans	A.E.O.	'G'	Resigned
Mr. G. D. Haberfield	P.S.O.	R.R.A. Derby	D.G. Ships Bath
Mr. H. W. K. Kelly	S.P.S.O.	'O'	D.N.P.R. London
Miss D. I. Hedges	T/Sci.Asst.	'M'	Resigned
Mrs. J. B. Herrington	C.O.	Admin.	Board of Trade, Southend, as Exec. Off.
Mr. L. L. Edwards	Labourer	E(W)	Resigned
Mr. P. Sibley	Yard Boy	E(W)	Resigned
Mr. J. Wentzell	Labourer	E(W)	Resigned
Mrs. E. Douse	Cleaner P/T	Admin.	Resigned

INTERNAL MOVES

<u>Name</u>	<u>Grade</u>	<u>Group</u>
Mr. E. N. Howard	Sen.Sci.Asst.	From 'D' to 'G'
Miss P. M. Miles	E.O.	" 'D' to 'L'
Mr. A. White	A.E.O.	" 'L' to 'D'
Mrs. B. M. Jeffery	Sci.Asst.	" 'C' to 'D'



Back Row	R. Seabrook	S. Ireson	D. Boyle	H. Meyer	R. Cogswell
Middle Row	B. Smith	E. Pike	B. Horwood	W. Jager	
Front Row	Mrs. P. Ward	R. Wilson	Dr. Soole	D. Morgan	Mrs. W. Meyer

C-Group

"Certainly", I said to the 'News' representative when she asked me to write something about C-Group "beginning, if possible, with the letter C." After all, we were founded when the embryonic R.N.S.S. first came to Teddington in 1921 and we must have done something in the ensuing years that could form the subject of a three-page article. The early experiments in growing crystals of Rochelle salt for asdic sets for instance, or the experiments in television of the early '20s.

"Yes, television", I repeated. I had to explain that I knew that television was not a very chemical activity, not even in those days, but that it was entirely fallacious to regard our alphabetical title as necessarily standing for chemistry. Anyway, why should we stick to the Roman alphabet? If we switched to the Greek and described ourselves as the Gamma Group we would have a title perhaps somewhat more descriptive of our interests during the past few years.

Yes, I knew that E-Group was concerned with Engineering and M-Group with Mathematics, but then was L-Group concerned with 'Lectricity perhaps, or D with Din (-reduction)? I laboured the point somewhat because I felt that here lay a popular misconception. After all, I was still smarting from that occasion when the new S.O. (of another group) on finding that I was not as familiar as he expected with an abstruse point of physics upon which he had concentrated for the past six months excused me with a reference to my undoubted but entirely presumed competence as a chemist.

So that is why C-Group is C-Group and not the Chemistry Group. We have, of course, a representative stock of flasks, beakers and even, I believe, in one of our more distant cupboards

a sample of that universally understood symbol of chemical activity the retort or alembic. We believe it important to keep a stock of such articles, for experience has shown that supplies of more conventional glass-ware are not always available on time or in sufficient quantity for those 16.30 occasions in Room 201.

At other times our activities are just as effectively, though less obviously concerned with facilitating the progress of naval science. Though jaunts to the Pacific and the Australian outback to further an understanding of the effects of the radiations from nuclear explosions are now entirely in the past, we still endeavour to further the understanding of such matters in the laboratory.

To this end we are now engaged, for example, in converting the tunnel under the Stores to yet another purpose in its long history: a low-level X-radiation range. With the growth of the number of nuclear reactors run by the navy, an interest comparable to that of the Central Electricity Generating Board and the Radiological Protection Service in the accurate control and measurement of radiation of low intensity is developing. The unique facilities for the production of accurately defined and controlled X-radiation of an intensity comparable to that which might be experienced after a nuclear disaster which has been built up by the Group at Upper Lodge can most easily be used at lower intensities by the simple extension of the length of the radiation range, for which purpose the tunnel is ideal, providing simultaneously both the necessary distance, a steady temperature, and some shielding against natural radiation from the surroundings. It is expected that, when developed, the facilities will have an accuracy comparable with that of those available at N.P.L.

As the increasing concern of the Navy with ionizing radiation as a matter of routine has become the province of the Naval Radiological Protection Service at the R.N. Medical School, Alverstoke, with the early work of which the Group has been closely connected, the Group has become more free to concentrate upon outstanding problems of radiation measurement.

Not that such problems occupy all our time. A head poked round the door of our lab. next to the paint shop (provided the red light is out) will perhaps be surprised to see some structures more suggestive of Group G, and provided the attached body is 'protected' with a film badge when the light goes on, its ears will confirm that here indeed is some dynamic fluid undergoing violent assault by a mechanical contrivance of diabolical simplicity: the rotary filamentary or spinning filter, designed to clean large quantities of air or of any other gas from coarse radioactive or any other particulate material. The evaluation of the filtration efficiency of this contrivance with the help of a radioactive tracer illustrates the advantages that accrue from working simultaneously in a number of apparently unrelated fields, a sentiment which appears to be one of the few unbroken links with those early days of asdic crystal growth and amateur T.V. experimentation.

B. W. SOOLE

S M I T H, J O N E S A N D R O B I N S O N

(The Answer)

THE GUARD

If the GUARD'S namesake lives at SHEFFIELD, his name is not ROBINSON, because Mr. Robinson lives at LEEDS.

It must therefore be JONES or SMITH.

£100.2.1. not being divisible by 3, proves that the GUARD'S nearest neighbour is not Mr. JONES. Therefore his nearest neighbour must be Mr. SMITH.

This leaves Mr. JONES to live at SHEFFIELD so - the GUARD'S name must be JONES.

The FIREMAN must be SMITH or ROBINSON. As the FIREMAN plays billiards against SMITH his name must be ROBINSON. THE DRIVER? SMITH

WIN £5.0.0. - AN ANSWER

A proof that 'if a has any value and n is any positive integer the coefficient of x^n in the Maclaurin expansion of

$$\exp \left[a \sum_{s=1}^n \frac{n(s-a)^{s-1} - s^s}{s!s} x^s \right] \text{ vanishes'.$$

We first observe that if $\phi(x)$ is any function analytic at the origin then the coefficient of x^n in the Maclaurin expansion of

$$e^{-n\phi} \left(1 + x \frac{d\phi}{dx} \right) \text{ vanishes.} \quad (1)$$

Proof of (1) Integration by parts gives the simple relation

$$\int x^{-n-1} e^{-n\phi} x \frac{d\phi}{dx} dx = -\frac{1}{n} e^{-n\phi} x^{-n} - \int x^{-n-1} e^{-n\phi} dx. \quad (2)$$

If we divide (2) throughout by $2\pi i$ and take the integration positively about a simple closed Jordan curve c enclosing $x=0$ then the first term on the right hand side vanishes, since there is no branch point in the contour, and (2) becomes

$$\frac{1}{2\pi i} \int_c x^{-n-1} e^{-n\phi} x \frac{d\phi}{dx} dx = -\frac{1}{2\pi i} \int_c x^{-n-1} e^{-n\phi} dx.$$

This is simply a statement in Cauchy integrals that the coefficient of x^n in $e^{-n\phi} x \frac{d\phi}{dx}$ is minus the coefficient of x^n in $e^{-n\phi}$. This establishes (1).

The identity $\exp \left[-a \sum_{s=1}^{\infty} \frac{s^s}{s! s} x^s \right] = 1 - a \sum_{s=1}^{\infty} \frac{(s-a)^{s-1}}{s!} x^s$

$$|x| \leq 1/e \quad (3)$$

will now be proved.

Proof of (3) A brief (but not the simplest) proof of (3) is to apply the quite standard theorem of Lagrange which has been well known since 1770 (see for example Whittaker and Watson, Modern Analysis, page 133 or Copson's Functions of a Complex Variable).

Lagrange's theorem can be put in the form:- If $f(z)$ and $\psi(z)$ are analytic at the origin, $\psi(0) \neq 0$ and $x = z/\psi(z)$ then

$$f(z) = f(0) + \sum_{s=1}^{\infty} \frac{x^s}{s!} \left[\left(\frac{d}{dc} \right)^{s-1} \{ f'(c) (\psi(c))^s \} \right]_{c=0} \quad \text{for all}$$

sufficiently small positive values of $|x|$.

If we take $\psi(z) = e^z$ and then take $f(z)$ successively as z and e^{-az} we obtain

$$z = \sum_{s=1}^{\infty} \frac{s^{s-1} x^s}{s!} \quad (4)$$

and $e^{-az} = 1 - a \sum_{s=1}^{\infty} \frac{(s-a)^{s-1} x^s}{s!} \quad (5)$

for sufficiently small $|x| > 0$. Substitution of (4) in (5) then gives (3) since the value of $|x|$ can be taken as large as $1/e$, which, by Stirling's formula, is the radius of convergence of the series. This establishes (3).

If we now put $\phi(x) = -a \sum_{s=1}^{\infty} \frac{(s-a)^{s-1}}{s!s} x^s$ (6)

then $\exp \left[a \sum_{s=1}^{\infty} \frac{n(s-a)^{s-1} x^s}{s!s} \right] = e^{-n\phi} \exp \left(-a \sum_{s=1}^{\infty} \frac{s^{s-1}}{s!} x^s \right) = e^{-n\phi} \left(1 + x \frac{d\phi}{dx} \right)$

by (3) and (6), and so the coefficient of x^n in the expansion of

$\exp \left[a \sum_{s=1}^{\infty} \frac{n(s-a)^{s-1} x^s}{s!s} \right]$ vanishes by (1) and, since the function

$\sum_{s=n+1}^{\infty} \frac{n(s-a)^{s-1} x^s}{s!s} = O(x^{n+1})$ makes no contribution to the

coefficient of x^n we have completed the proof.

Remarks The relation (3), which is more elegantly expressed if the sign of a is changed, is known and used when $a = -1$ to establish Cayley's formula n^{n-2} for the number of 'trees' with n distinguishable points (labelled nodes).

Both (1) and (3) can be proved in more elementary ways but the present proofs are given for brevity.

There are many related results similar to this one which can be obtained by using analogous but different results from (3) in (1). e.g. there are analogous results involving Bernoulli numbers, Euler numbers, binomial coefficients, Laguerre polynomials and Jacobi polynomials.

"The man who wants to be fully employed should procure a ship, or a woman, for no two things produce more trouble."

--- PLAUTUS

A. R. L. ROSE SOCIETY



The Society, was formed in January 1964 being the first society outside of the Royal National Rose Society. The formation was done on the spur of the moment, a gamble, would it be successful, were there any rose lovers in A.R.L.? The answer was to be found at the first show held on 4th July at which a challenge cup, presented by the organising secretary was the premier award. The number of exhibits was 128. The 1965 show produced 136 and the 1966 Summer show 144 and the shows have now

become the social event on the A.R.L. calender. The 1966 show was very successful and the exhibits were highly commended by the judge, Mr. T. Newby, Supt. Met. Water Board gardens. At the request of the members an Autumn Show was held on the 17th September, adjudicated by Miss A. Cooper of the Hampton Court Rose Gardens. This was a limited success and the committee are considering whether or not to hold an Autumn show next year. Your comments, please!

We are privileged to be affiliated to the R.N.R.S. which enables our members to visit the rose shows and trial grounds in Great Britain and to exhibit at the national shows.

The membership of the society has grown quickly for such a small establishment numbering at present nearly fifty. An annual subscription of three shillings ensures membership.

Books on all aspects of rose growing, pests and diseases are available on loan from the Secretary.

The Society's committee is now in the process of planning 1967's summer show and is pleased to announce that Mr. J. Borrill is kindly donating a cup for the best exhibit in the floribunda classes.

The Challenge cup is still held by Mr. R. Morris.

New members may apply to any of the committee members listed below:

Mr. E. L. W. Leniham	-	Upper Lodge
Mr. R. Morris	-	L Group
Mr. A. Kirby	-	Workshop
Mr. A. Taylor	-	Workshop

Statistician - A man who can go directly from an unwarranted assumption to a preconceived conclusion.

The recent revival of Son et Lumiere at Hampton Court Palace has led to further research into its history, in the course of which fragments of the "accompts" of "the Clerke of the King's Chests" came to light. These revealed among other interesting matters that as in our Civil Service today, so also four hundred years ago there was provision for the re-imbusement of the King's servants who had "suffered damage to their cloathes in ye king's service." Mention was found of a payment by the said "Clerke of ye Chests" to mistress Anne Bullen for the loss of "one pr garters and one pr silke stockinges, the said cloathes being of a value of six gold nobles, which were wholly lost unto the said mistress Anne Bullen when she did slip and fall in ye King his bedchamber."

Beneath in another handwriting was a note stating that .. "His Grace in his royall displeasure did cut off ye head of ye clerke lest he should speak of the matter and it should come to the ears of ye Spanish Ambassador; and did order that ye said Clerke should search for evermore for the accompt for the said monies, for the reason that there was lacking six nobles from ye chest and ye said clerke had no acknowledgement thereof."

In the margin is a brief note "did conceal ye accompt among ye papers on ye table of My Lord Cardinall. H.R."

What fiendish cunning led Henry to hide this vital top-secret document among the papers awaiting the attention of his Foreign Secretary, we shall never know. We can only guess; but today in a Pay Office not a hundred miles from Hampton Court there is a door that opens mysteriously, untouched by human hands. A cold draught chills the room even on the hottest day, before the door silently swings to once more.

The hardened stalwarts of the Civil Service of 1967 refer to it as a visit from

THE HEADLESS CASHIER

The Headless Cashier down the corridor walks.

Security track him like eager-eyed hawks.
He glides through locked doors with the greatest of ease;
his trackers are baffled- they've mislaid their keys.

They can hear him inside as he twiddles the knob,
there is rustling of paper, they fear he will rob.
Is he burgling the safe all its secrets to sell?
At midnight Security jobs are sheer Hell.

Shall they ring the police? or their boss in Whitehall?
They'll be named in the Press which they fear most of all.
When all of a sudden a figure glides past;
he is hopping and skipping, he's running so fast.

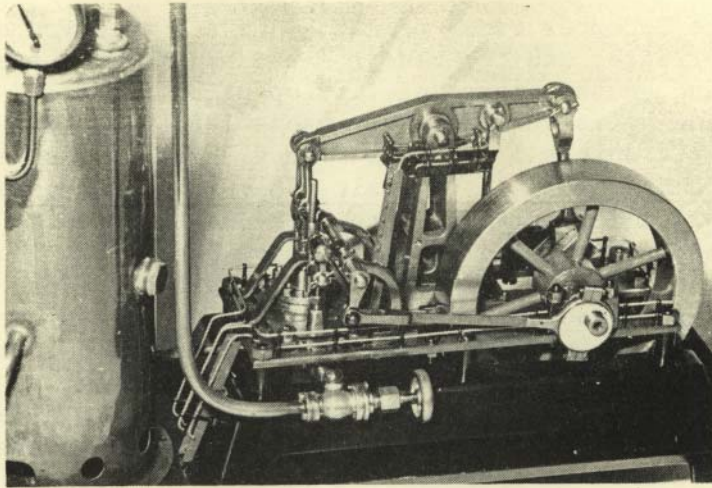
And catch him they cannot; of brimstone he smells;
EUREKA! I've got it! the headless one yells.
To Hell with the Audit and Exchequer too,
my accmpts will now balance, I'll see that they do.

That voucher they said they're unable to trace
was there all the time, and t'was in a safe place!

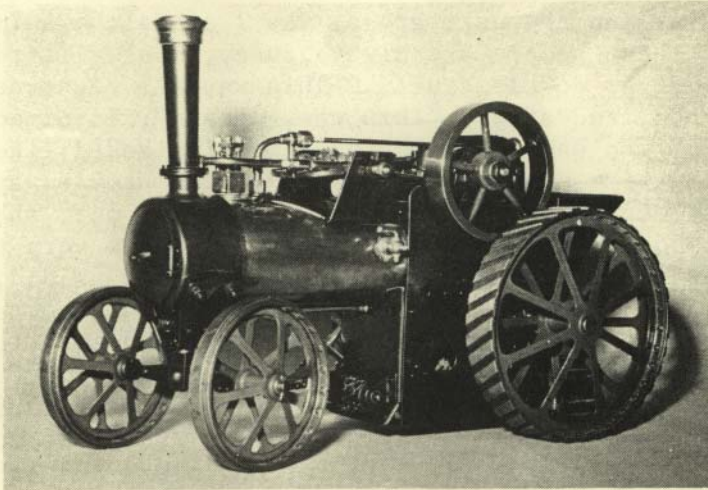
This story can now have a real happy ending.
Missing papers are best sought in trays that are pending.
So all raise your glasses and down with your beer
in a rip-roaring toast to the HEADLESS CASHIER.

John Paine

(Editorial Note: Best Wishes to Mr. Paine in his retirement
with apologies for inadvertently downgrading
him in our previous issue)



MODEL BEAM PUMPING ENGINE



MODEL TRACTION ENGINE

MODEL ENGINES (Continued)

In the December issue of A.R.L. News I told you about my early experiences and the models I had made. The scene now changes, and another phase of life opens before me. War has started, and after three or four weeks I got the idea we should never win it, unless I joined the Navy. So to ensure this was the case, and I had a little salt water in me, because my Grandfather was a smith in Portsmouth Dockyard for several years and other relations employed in engineering branches by Union Castle Line, Southampton - I joined up. That was the idea, so I told the firm what I proposed doing, and really I could not help myself, for I was the right age, and conscription looked a certainty, also the army did not interest me a bit. Now I settled things up, prior to departing, and within a few hours I arrived at Whitehall and they could not have known what was coming to them as an enthusiastic hopeful to be a Marine Engineer. At any rate they appeared friendly and invited me into the office. Where, who I was, where I had been and what I hoped to be, was duly entered in books. This seems to be satisfactory, and the next stage, was I a healthy animal, and to make sure, these people are always fussy, would I strip naked and let their doctor do his stuff. This was all right as far as I was concerned, and after, "This way, please", I joined about thirty more, who had the same idea, and it looked like a nudist colony. As time went on I got used to the Navy's ways. Well, after doing everything, except turning inside out, they said I would do, and believe me I felt I had been done very thoroughly. So now we returned to normal, at least most of us did, and we were issued with travelling warrants to Chatham dockyard. We duly arrived at the Barracks about eight o'clock in the evening, passed through the gate, evidently we were expected, and directed to what was to be our new home for a short time. This was Block B, the second on the right going in and as we found later this was the engineering section for engineers and stokers. We were received by the President of the Mess, or his understudy, and then a stoker mess man took over and directed us to the mess tables, where a plentiful supply of bread, excellent Cheddar

cheese and pickles, was prepared for us, with coffee or cocoa as a finisher. By the time we had finished the time was getting on, and as most of us were tired we were prepared to turn in, and under the tuition of our mess stoker, we mastered the art of opening up, and getting into a canvas banang, slung about six feet off the ground. Of course this was our hammock, and if we passed our tests this was our bed from then onwards. Morning came, and personally I had a good night, my new bedstead, to my surprise, was very comfortable and now it was up, wash and breakfast, this was good too. When the meal was finished, it was time to make a start, and we were escorted into the dockyard to the trade test shop, and at first glance it looked as if we were going in clink, for the benches were divided into sections by fine mesh wire screens. This was to protect each other from flying steel chips from the test pieces. We were each given a hammer and cold chisel and a few files, also the forgings we were to work on. This was known as the block and strap, plus tapered collar and nut and the shank had to be turned and square threaded eight to the inch. These forgings resembled a large tuning fork, and was about four inches square and one foot long the product of the engine smiths test, and there was about a quarter of an inch of metal all round that had to be removed, also the lathe was a poor specimen to do the turning on, gear wheels all over the floor everything loose, and if you could work against those odds, and believe me it was tough, you were the type they wanted. I believe we were allowed thirty hours and I came through full marks. At about eleven o'clock on the first day a most important event took place, this was the introduction to the rum ration. We returned to our living quarters about this time, wondering if we stood any chance of a sample and the smell of the Finest Jamaica Navy Rum in large quantities is a smell that you will never forget. The President of the mess sat before a table with ledger, bottles of rum, and a silver half gill tot measure, also jugs of water if required, this was to quench the fire if your clothes started smoking. Well, we the newcomers, did not know what to do, so we just watched, until the President said, "Come on, don't you want any?" There was no need for a repeat question, we lined up, and started, very surprised we were given the benefit of the ration because, until we passed, we were not

in the service and could leave at any time. Now this is where things began to move, in more ways than one. As we were in line a man took his tot and poured it into a small glass, knowing there was no time to sip it, there was only one thing to do, and that was down it, in one gulp. If you have ever tried to swallow a red hot poker, you have some idea what it was like, it ran like fire, to your very toes, and then you left this world, and I don't mean flat out, the pictures of life, through those rose coloured spectacles was something you had never seen before. It took me two years after I left the Navy, to lose the eleven o'clock rum issue habit, but you cannot buy it, only imitations, and I don't suppose ever will. So much for that, and the only connection between rum and engines is, they both make things go.

Chris. Harding

INDISPENSABLE?

SOMETIME, WHEN YOU'RE FEELING IMPORTANT.
SOMETIME, WHEN YOUR EGO'S IN BLOOM,
SOMETIME, WHEN YOU TAKE IT FOR GRANTED,
YOU'RE THE BEST QUALIFIED IN THE ROOM.
SOMETIME, WHEN YOU FEEL THAT YOUR GOING,
WOULD LEAVE AN UNFILLABLE HOLE,
JUST FOLLOW THIS SIMPLE INSTRUCTION,
AND SEE HOW IT HUMBLER YOUR SOUL,
TAKE A BUCKET AND FILL IT WITH WATER,
PUT YOUR HAND IN IT, UP TO THE WRIST,
PULL IT OUT, AND THE HOLE THAT'S REMAINING,
IS THE MEASURE OF HOW YOU'LL BE MISSED,
YOU MAY SPLASH ALL YOU PLEASE WHEN YOU ENTER.
YOU CAN STIR UP THE WATER GALORE,
BUT STOP, AND YOU'LL FIND IN A MINUTE,
THAT IT LOOKS QUITE THE SAME AS BEFORE.
THE MORAL IN THIS QUAIN EXAMPLE,
IS DO THE BEST YOU CAN.
BE PROUD OF YOURSELF, BUT REMEMBER,
THERE'S NO INDISPENSABLE MAN.

News from the North

By the time this is published, Christmas and New Year will be far behind but as I write the festive season is very much with us. As most people know the Scots celebrate the New Year as a holiday while Christmas Day is a religious festival only. It is surprising how telephone calls to A.H.B.R.E. still come from the south on the first two days of January with great expressions of surprise that the Establishment is closed.

In this part of Scotland the attitude to Christmas has changed a great deal in the last ten years. When I first came to A.H.B.R.E. there was no obvious difference between Christmas Day and any other week day. A.H.B.R.E. closed, of course, but this was because it was part of the "English" Admiralty. Business and shops went on as usual but came to a complete standstill during the early afternoon of 31st December to prepare to see in the New Year and take part in the festivities of New Year's Day, not to mention the recovery therefrom. Now practically all shops are closed on Christmas Day, but not Boxing Day, although many business firms continue as usual. This recognition of Christmas Day as a holiday has not reduced the celebration of New Year's Day so the "canny Scots" are now getting it both ways.

In England it is natural for staffs to add a few days leave to the Christmas public holidays and to make a week of it. In Scotland this can now take place for two weeks running so that activity at A.H.B.R.E. tends to fall to a low ebb for a fortnight.

A.H.B.R.E. consists of two separate stations about eight miles (two steep hills and one loch) apart, one at Glen Fruin and the other at Coulport on Loch Long. The Coulport section of the Establishment, with its full scale water entry facilities, has been under Care and Maintenance for a number of years although the main workshop and some of the storage facilities have continued in use.

The Coulport station is now being brought back into operation with the establishment of a Cableway, nearly a mile in length, which will provide test facilities not previously available in this country. The general design of this facility is being carried out by A.R.L. and M.P.B.W. with some assistance from ourselves. The contractors have placed the winches in position, the pier on the Coulport side has been extended, and the new buildings there are beginning to rise from the ground. It is hoped it will commence operation this summer.

In addition the full scale water entry launcher at Coulport is to be replaced. This device is some 300 ft. long and operated by about fifteen 3" rockets, which in addition to the blast they produce periodically set fire to the grass and bracken on the hillside now to be occupied by the new R.N.A.D. base. It is not, therefore, very surprising that its removal has been requested.

The opportunity has therefore been taken to provide a more modern facility using a cordite driven slotted cylinder launcher, mounted on a floating platform to take it out to deeper water. This will be capable of higher launching velocities and also of operating in a range of angles from nearly zero up to 90°.

Very much can be done, in the field of water entry studies, at the relatively large model scales possible in the main tank at Glen Fruin, but there remain great advantages in having available the means of checking results at full scale. Indeed some of the work can only be done satisfactorily with a full scale model or the actual weapon.

It is unfortunate that the timing of this return to activity to Coulport should correspond with the building of the new R.N.A.D. maintenance base at Coulport and the Polaris base at Faslane. The great problem of A.H.B.R.E. in the past has been its isolation. Added to this now is competition for staff with these two very large Establishments in an area of relatively low population. With the special powers which C.P.E. has obtained in the matter of housing and recruitment in order to establish the new bases, this situation is likely to get steadily worse.

In addition, the Coulport side of A.H.B.R.E., once so well cared for is in a state of almost unbelievable chaos due to M.P.B.W. and their contractors operating through it for the construction of the new R.N.A.D. site. Further damage has been caused by the great amount of rock blasting that has been necessary. This state of confusion will not be helped when the dismantling of the old launcher, some 200 ft. high, commences early this year. I look forward anxiously to the day when we shall again have an orderly and effective experimental station operating at Coulport.

J. W. Norman
A.H.B.R.E.
Glen Fruin

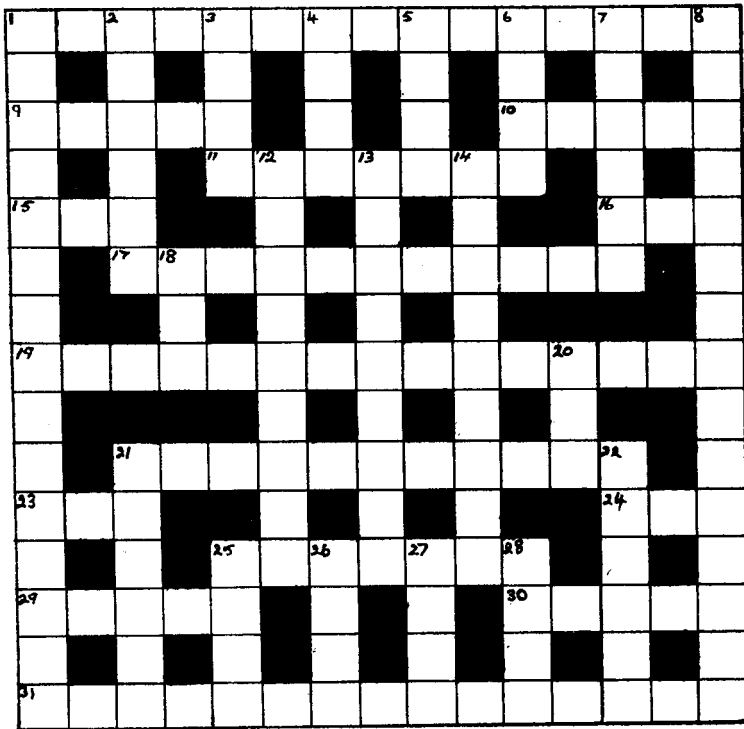
DANCE

In aid of the A.R.L. Annual Children's Party

In response to popular pressure arising from the success of the November dance, the Children's Party Committee have been persuaded to hold a second dance this season.

This event will take place in Glazebrook Hall on Saturday 18th February, dancing to the music of "The Monks" from 8 p.m. to midnight.

Tickets are on sale throughout A.R.L. price 6/-. Come and bring your friends for a happy evening.



A C R O S S

1. Admits its autumn (anag.) (6, 8)
9. Money prize (5)
10. Fame is the reject (5)
11. Puffin lion place (7)
15. Unbend charioteer (3)
16. Invert high for cattle's cry (3)
17. A sensible mob should be this (11)
19. The Bath of Psyche, presumably (7, 2, 6)
21. He made the drop move (6)
23. Way out west jacket (3)
24. Shake the lotion well, not to be taken (3)
25. What to do with policemen if you want to know the time (3, 4)
29. Lies are less than truth (5)
30. That damsel Ginger Rogers has a heart of stone (5)
31. Dispatched ten i.o.u.s to the cape (15)

D O W N

1. Tom play ten hymns (anag.) (7, 8)
2. Emblazoned coat, perhaps (6)
3. The place to make money grow (4)
4. Singular slant in naval chests (4)
5. 19/11 makes this (4)
6. Not only but (4)
7. You can do this back if you don't do it up (6)
8. Obviously neither desert nor dessert (8, 7)
12. Speeds up at the lower reaches of the river (9)
13. What Aeolus gave to Ulysses (9)
14. Civil servants' holy place (3, 6)
18. Is it old English? (3)
20. Tobacco plant, perhaps (3)
21. Deer in triumph in the sky (6)
22. Found in boot with toe at each end (6)
25. Instrument used in mathematics (4)
26. Incapable thinker (4)
27. An intelligent genus (4)
28. A cats home perhaps (4)

Dr. I.M. Yuille

Dr. Yuille joined M. Group at A.R.L. on 9th January, 1967 to develop a method of computer aided ship design. The basis of the system will be a series of computer sub-programs, each of which will deal with the calculations required for a particular facet of ship design. All the sub-programs will use common data regarding the shape of the hull and the internal arrangement of the ship, but certain sub-programs will require extra data to be specified by the designer when one of them is called. The ultimate aim of the work is to set up a link between ship designer and computer in which the designer uses his knowledge and judgement to create a design meeting specified requirements, while the computer rapidly and conveniently carries out the calculations he requires during the design process.

Dr Yuille, Principal Scientific Officer comes to us from D.G. Ships, Bath having joined the R.N.S.S. in 1952. He served at the Naval Construction Research Establishment, Dunfermline for 8 years before being appointed to D.G. Ships, Bath for 6 years. He gained his B.Sc. and Ph. D. at Glasgow University.

We welcome Dr. Yuille to A.R.L. and express the wish that his stay with us may be fruitful and enjoyable.

SAFE AND SURE

Secure your safe, thats normal of course
Electrical equipment, cut off at source
Classified papers, under lock and key
Up with the windows, bar this entry
Regular night checks, leave desk clear
Its all for your good, so have no fear
This is your job, see that its done
You can go home happy, have good fun

Letters to The Editor

Applied Psychology Unit
Teddington.

30th November, 1966

The Editor,
A.R.L. News.

Dear Sir,

I regret having to cavil at an item (page 4) in the first issue of A.R.L. News; but your invention of a "psychologist" grade necessitates some comment.

You might say that we should be used to irregular spellings, since the A.P.U's mail arrives with many quaint forms of address (for examples, "The Applied Physcology Unit", or "The Clyde Physiology Unit"). Some people indeed drop pseudo-accidental blots on the name, either to hide their doubts about orthography or, perhaps, in fear of complaints from the G.P.O. about indecent language.

A.R.L., however, after harbouring psychologists for more than a dozen years, should not be in doubt. Your experimental approach to new forms of address ought to be discouraged, in any case, since it could easily lead to distressing consequences. It is clearly an easy step to the name "Spychologist", and, once that is made, Mr. Payne will be about our ears, and there will be banner headlines in the national press.

E. Elliott
Head of Unit

(Ed. comment) Sorry about the spelling Mr. Elliott. Perhaps you could give us an article psycho-analysing why we tend to stumble over this word, e.g. fear, prejudice etc.

Group C.

16th December, 1966.

The Editor,
A.R.L. News

Dear Sir,

I would like to offer my congratulations to you and your staff on the appearance of the first issue of the A.R.L. News. There is undoubtedly much that goes on within the establishment of interest to us all and although the grape-vine will be glad, I am sure, to know that in your publications it has a responsible ally, it will undoubtedly continue to flourish, though no doubt considerably chastened.

The news of the comings and goings of staff is likely always to be of interest. However, since we all know that no-one is likely to leave in order to get more money or better conditions elsewhere, one is curious to know the reason for departures. May I suggest therefore that instead of 'Resigned', the post to which anyone moves is given whenever this is known, so that we may hazard a guess as to the attraction? After all we ought also to know what part of the community is going to benefit from that unique A.R.L. training.

B.W. Soole
C. Group

(Ed. comment) Thank you for your kind words. Those who leave us for better things usually are reticent about where they are going. Perhaps this is just as well, for to advertise where these plum jobs are would only increase our "brain-drain".

N.P.L. SPORTS CLUB

On behalf of the officers of the N.P.L. Sports Club I would like to take this opportunity of inviting A.R.L. staff who are not already members of the Sports Club to join and to participate to the full in both the sporting and social activities of the Club.

Facilities are available for playing most sports and an extension of the playing area is planned for the near future. The standard of sporting achievement varies widely from the proficient to the extremely modest so no-one need feel shy about his or her sporting prowess - or lack of it; enjoyment, playing at your own level, is what we try to provide.

On the social side, the Sports Club runs its own bar and during the year there is a series of dances in the pavilion.

Unlike many local clubs, we are almost entirely self-supporting, depending mainly on the subscriptions of our members. This does, of course, mean that we rely on a considerable amount of voluntary labour for the bar rota, weekend afternoon teas, etc.

Most sections of the Club can cater for extra players, and new playing members would be most welcome. If on the other hand your playing days are over and you wish to make use of the Club's other facilities or are prepared to give financial support to a worthwhile cause, you would be welcome as Social or Honorary Members.

May I take this opportunity to thank our present members for their consistent support, especially those who have spent much of their leisure time working for the Sports Club.

Further information can be obtained from the Membership Secretary, I. W. Goodier, N.P.L. Ext. 202 or from G. P. Barlow, A.R.L. Ext. 33.

M. T. LILBURNE (Hon. Chairman)

