

ARL

NEWS



APRIL 1967

No. 3



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,
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 Convenor

Mr. H. Hood, Ex. 9.

The Rose Society

Sec. Mr. Leniham, 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. Mr. M. Murray,
Group G, Ex. 83.

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, Admin., Ex. 124.

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A.R.L. News is published every two months. The last date for receipt of contributions for the June edition is Monday, 15th May.

Editorial

The geographical area which contains the subject of our cover photograph of this issue is very much in the news at the moment, and it is hoped that the general mess and destruction to wild life caused by oil from the wreck of the TORREY CANYON will be minimised by a combination of the efforts of those engaged in the clearing up operation and a fortuitous turn in our capricious weather.

This issue of A.R.L. News contains a further instalment of "Spotlight on the Groups" which seems to be a popular feature (could it be the photographs?) and one which takes us some way along the road to a 'fuller appreciation of each others problems and achievements" as mentioned by the Superintendent in his Introduction in our first issue. On the Editorial side we continue to make the dead-line with sufficient material to provide another issue. In fact we have had to leave over a few contributions of the general interest type until next time, including our serial on 'Model Engines' because last minute contributions with either a direct A.R.L. flavour or a limited time factor have had to take priority. But, we cannot be complacent and all are urged to write that article which they have been thinking about. Articles of direct interest to A.R.L. and its staffs are particularly welcomed, but don't make them too long please.

J. R. Gibb

A W A Y O F L I F E

Take time to work -

It is the price of success.

Take time to think -

It is the source of power.

Take time to play -

It is the secret of perpetual youth.

Take time to read -

It is the fountain of wisdom.

Take time to be friendly -

It is the road to happiness.

Take time to laugh -

It is the music of the soul.

Take time to dream -

It is the road to greater vision.

Take time to give -

The day is too short to be selfish.

Take time to love and be loved -

It is the privilege of the gods.

H. S. Thomas

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

(To 31.3.67)

ARRIVALS

<u>Name</u>	<u>Grade</u>	<u>Group</u>
Mr. P. A. Hodges	Actg. Ldg. D'sman	D.O.
Mr. J. Dalgleish	T/A.E.O.	A.H-B.R.E.
Mr. J. A. Draper	T/Sc. Asst.	'G'
Mr. M. C. Short	T/Sc. Asst.	'D'
Mr. W. R. Lane	T/Sc. Asst.	'G'
Mr. V. J. R. Smith	T/Sc. Asst.	'G'
Miss J. M. Neves	T/Sc. Asst.	'D'
Mr. M. Pengelly	T/Sc. Asst.	'L'
Mr. P. R. Ridgway	T/Sc. Asst.	'L'
Miss I.M. Brosnohan	T/C.A.	'L'
Miss V. K. Watts	A.E.O. - S.E.R.L. based	'C'
Mr. J. F. Slasor	Sandwich Course Student College based Sandwich Course Student	'G'
Mr. J. B. Stevens	M/T Driver	M/T Section
Mr. J. Atkinson	Patrolman	Porters/Patrolmen's Section

CONGRATULATIONS TO

Mr. P. J. Campbell	Apprentice now Actg. D'sman	D.O.
Mr. W. F. Norgett	Ldg. D'sman now Actg. Sen. D'sman	D.O.
Mr. L. A. Hammett	Artificer (TGIII) now Actg. Sen. Artif. (TGII)	E(W)
Mr. F. Joyce	Artificer TGII now Actg. Sen. Artif. (TGII)	E(R)
Mr. C. F. Kay	Sci. Asst. Loch Goil now A.E.O. on probation	

SPECIAL CONGRATULATIONS ON MARRIAGE

Mrs. D. W. TEDD nee WILDE	M Group
Mrs. S. M. HORNER nee POLLOCK	G Group
Mrs. K. J. WARD nee WHITBREAD	Tracing Office
Mr. C. R. NAPIER	G Group

DEPARTURES

<u>Name</u>	<u>Grade</u>	<u>Group</u>	<u>To</u>
Mr. M. Brown	Sc. Asst.	A.H-B.R.E.	Resigned
Mr. R. Mannering	Senr. Artificer	E(W)	A.U.W.E.
Mr. W. E. Paul	Senr. D'sman	D.O.	A.U.W.E.
Mr. R. B. Wilson	S.S.O.	'C'	Agric. & Fish as P.S.O.
Miss M. Hopgood	T/Sc. Asst.	'M'	Resigned
Mr. E. Hart	Actg. Senr. Artif.	E(R)	A.S.W.E.
Mr. D. Boyle	Sc. Asst.	'C'	Home Office
Mr. R. C. Leonard	C.O.	A.H-B.R.E.	H.M.D Portsmouth as E.O.
Mr. F. Sedgwick	M/T Driver	M/T	Retired (Health)
Mrs. P. Dunn	Cleaner	Cleaners	Resigned
Mr. W. F. James	Patrolman	Porters/ Patrolmen's	Resigned

The mind is an unknown entity the workings of which are not always controlled by the brain.

(Professor Bronowski)



Back Row: P. J. Hill, A. White, P. A. Surman, E. J. Clement,
I. R. Hebblethwaite, R. J. Barnes, A. Morrell, D. R. Walker,
R. H. Harris, R. E. Payner, A. Davison, M. C. Short

Middle Row: T. V. Craddock, H. H. Applin, A. D. Fraser, S. C. Sutton,
S. J. Thurlow, Miss K. M. Westlake, Miss B. D. Pratt,
Mrs. V. Gierth, Mrs. B. M. Jeffery, J. M. Holgate, R. B. Gierth,
G. T. K. Knight, R. E. Baker

Front Row: Mrs. D. Wass, J. H. James, G. T. P. Rissone, G. L. Hensel,
A. L. Kendrick, N. B. Wood, G. Rowe, D. Smith, Mrs. K. Jay

Other members of D Group who were away on duty, college, etc., are
Lt. Cdr. Foster and Lt. Wyer, R.N., Messrs. J. L. Littlefair,
K. B. Kidney, P. H. Williamson, D. Honey, C. G. Purves, and
Miss S. Shepherd. Miss J. M. Neves has since joined.



S T A F F A T L O C H G O I L

W. Paton, D. Rollings, G. E. Cousins, R. C. Scott, D. C. Kidd
Miss F. MacGillivray, A. Boyd, D. H. Cameron, Miss J. Cousins

(Mr. C. K. Kay was unable to appear in this photograph)

D-GROUP

“**D**elighted, would have been my rejoinder, but for the general pressure of work, to the invitation to write an article on Group D for the bulletin. It will no doubt be appreciated that, in the space available, it is impossible to do justice to the rich and varied history of this long-established group. Beside continuing an unbroken line of descent (in the hereditary sense) from the Acoustics Group formed when A.R.L. began we are, of course, one of the main links with the Board of Invention and Research, formed in 1915, the chief initial activity of which was underwater acoustics.”

Until 1915 the science of Military Acoustics had progressed little beyond putting an ear to the ground. Very appropriately, among the earliest experimenters at Aberdour was Sir Richard Paget, who listened to submarines in the Firth of Forth by sticking his head underwater.

In its early days the A.R.L. Acoustics Group was much concerned with the development of ASDICS as the "echo" system of submarine detection was then called, but this work was transferred to H.M.S. OSPREY at Portland in 1927, following which the group at Teddington began to turn to more fundamental studies, i.e. to obtaining understanding as distinct from hardware - a direction in which the group still likes to turn as much as possible. Some of the research topics of the late twenties and thirties, such as cavitation noise and sound propagation, are still very much alive.

Active (i.e. pinging) and passive (i.e. listening only) acoustic detection of submarines eventually gave rise to the complementary requirement of reducing the underwater noise of naval vessels with the aim, on the one hand, of decreasing detection risk, and on the other, of increasing detection sensitivity. Mention of this aspect of the group's activities first appeared in A.R.L. progress reports in September, 1937.

The work on Noise Reduction soon required measurement of the underwater noise of naval vessels, which begun in early 1940 in the Devonshire Dock of Messrs. Vickers-Armstrongs Shipbuilding Yard at Barrow in Furness. One of the personnel engaged in this work was George Cousins, who joined Group D in 1939, and is thus the oldest-established member of the present group complement.

It soon became apparent, however, that the general background of shipbuilding noises at Barrow was embarrassingly loud for our purpose and that quieter waters had to be found. This led to the selection of Loch Goil as A.R.L.'s first Noise Range, which commenced operations in 1942: A.R.L.'s consequent steady patronage of the West Highland railway line must surely have helped save it from the Beeching axe. When Bernard Hensel first visited Loch Goil in 1942, he had to walk most of the 14 miles from Arrochar: he doesn't recall whether or not he claimed for shoe leather.

Over the past 25 years a considerable proportion of D Group activities have been devoted to static and underway noise trials on naval vessels. It is probably common knowledge that in recent years we have had to bring two additional noise ranges into operation.

At this point we must salute the veritable army of S's, E's, and S.A.'s who, over the years, have manned the trials teams and contributed to the considerable accumulation of A.R.L. noise reports. Despite the rigours of these activities there have been numerous female participants, latterly referred to as "dB Birds" when heard on noise recordings sent to H.M.S. Dolphin: their predecessors evidently didn't escape notice either, since some of them became Navy wives.

Intra-murally the group continued to study a variety of acoustic problems, the main subjects changing considerably with time. Ten to fifteen years ago much effort was put into studies of cavitation noise, acoustic camouflage and underwater sound propagation. During this period part of Group D was absorbed

into the newly-formed Group J (the forerunner of Group L), in order to accommodate which Group D quitted the Orlit Hut at A.R.L. and moved to Upper Lodge.

Following the latter period one finds a considerable proportion of the effort concentrated on basic studies of the generation and transmission to the sea of machinery noise, and on flow-induced sonar self noise. Later still, the machinery noise section left Group D and the fundamental studies became focussed, as they still are, on flow-induced radiated noise phenomena and on the acoustics of vibrating bodies. Since 1960 the group has also contained a section concerned with the statistical analysis of noise trials results.

The nature of the group's activities has from time to time induced people to seek our help on a wide range of problems, including the location of leaks in water mains, detecting the activities of train wreckers, and finding the Loch Ness monster (not one of our success stories).

At present the group comprises some 40 scientific grades (including 7 based on Loch Goil) plus clerical and industrial personnel. Despite the ceiling on defence expenditure our work load is steadily increasing, largely due to the expanding programme of trials on nuclear submarines. We shall only escape eventual inundation by joining the general drive for greater productivity. To this end we are desperately streamlining our trials procedures and data processing methods, and arranging for as much donkey work as possible to be handled by the A.R.L. computer.

A. L. KENDRICK

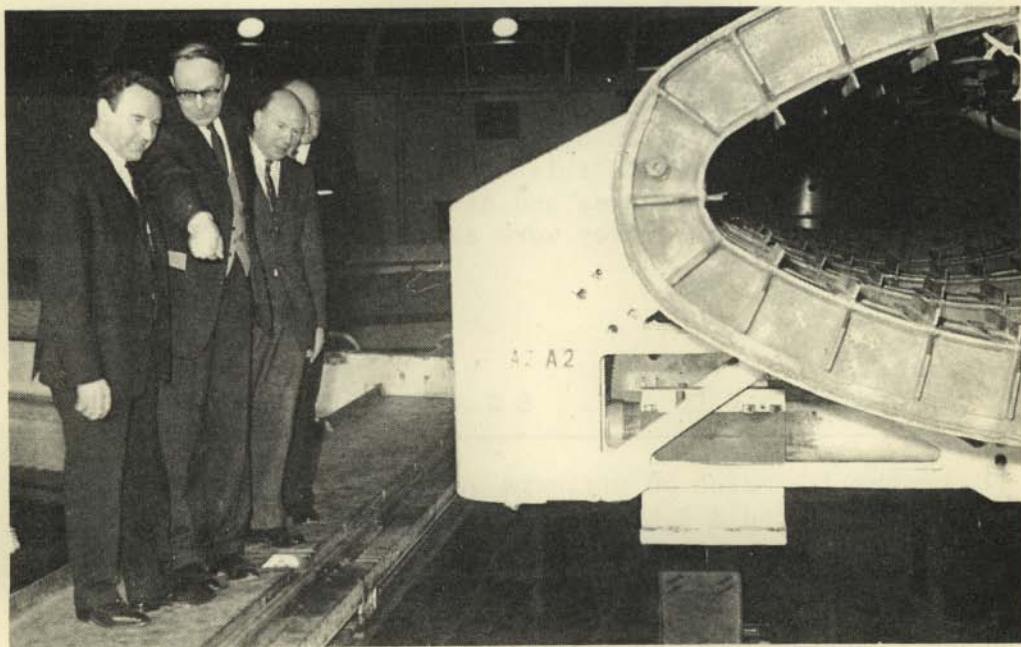
V I S I T O F R.N. S T A F F C O L L E G E

On the 7th March 58 Officers attending the Staff Course at Greenwich, visited A.R.L. and were shown various activities in progress. This is an annual occasion and the Officers on the present course including several from N.A.T.O. and Commonwealth countries went on to visit other Naval establishments at Taunton, Portland and Yeovilton.

MINISTER VISITS A. R. L.

As part of a recent reorganisation at ministerial level in the Ministry of Defence, some departmental posts disappeared and some new inter-service posts were created. One of these was that of Minister of State for Defence (Equipment). The new Minister, Mr. Roy Mason, will include in his responsibilities a number of research and development establishments and among these are several serving the special needs of the Royal Navy. On Monday 13th February the Minister visited A.R.L., in order to acquaint himself at first hand with the latest developments.

He was shown, among other items, progress in the use of sound in detecting submarines, basic investigations of flow noise, new ideas for ship propulsion and control, a "T.V." presentation of movements of shoals of fish achieved by scanning with a high frequency sound beam, a portable meter for measuring radioactive hazards and a method of cleaning contaminated air drawn in large quantities into ships' engine rooms.



In the picture the Superintendent, is showing the Minister some of the features of the rotating beam channel used to investigate the characteristics of new underwater weapons by towing them along a circular path of 100 ft. diameter. Mr. F. S. Burt, Head of G Group is standing behind the Superintendent. Mr. A. W. Ross the Director of Naval Physical Research is on the left of Mr. Burt.

A. R. L. THEATRE CLUB

The first outing of the theatre club was in February, when 60 members visited the Theatre Royal, Drury Lane and saw the musical Hello Dolly starring Dora Bryan. This very successful evening was the preliminary of future visits by the club to Theatre and Cinema.

Please watch notice boards for further announcements.

D. Tedrekin

DARTS TOURNAMENT

On Tuesday evening, 14th March, the inter-group darts tournament got away to a good start. Good reports have come from all directions, everyone it seems enjoyed the evening; the competition was keen and I understand that the Drawing Office only just managed to defeat the Workshop/Stores. There was one outstanding feat - by Mrs. Reddick (W/S) who got 2 treble 19s and 1 treble 17 in one throw - a pretty useful contribution. It certainly looks as if this is going to be a really enjoyable contest.

N. W. Ferguson

Z E M B R A 1 9 6 6

One evening at the end of August my husband and I set off from London Airport for a three week diving holiday in Tunisia. It was late the next morning when we arrived on the rocky island of Zembra - off Cape Bon.

The diving school we went to is run by Reg Vallintine, an Englishman who has run similar schools in the Mediterranean for many years now. It was Reg who inspired the Tunisian Government to make the waters around Zembra into a fish sanctuary. This made diving here quite different to the other parts of the Mediterranean we have visited. Small, brightly coloured fish would come and eat out of your hand. Large grouper would sometimes let you get close enough to touch them. We saw many varieties of fish we had never seen before. Reg was always a mine of information on all the species there and could give the name of any fish in four or five languages.

One of our dives was spent searching for the remains of an ancient wreck thought to be in the area. We have previously found an almost complete amphora on the site, but we had not been able to stay long because of the depth (about 180 feet) and the need for recompression. When we returned a few days later, to explore further, we left some spare aqualungs hanging below the boat, ready for use during decompression. Unfortunately, one of the party had misunderstood the instructions on sharing these extra sets, so three of us spent about 10 minutes under the boat with one aqualung between us. Luckily we were all used to doing that kind of thing in swimming pools so we were not worried.

One of our most interesting experiences was a dive at night. Each diver had a torch - needed both to see around us and to signal to one another. It was fascinating to see how the underwater world, that we all knew well by day, changed at night. Creatures one normally saw hidden away in dark holes came out into the open. Fish lay, seemingly asleep, on the bottom. We were all sorry when the instructor called us together to return to the boat.

The most popular 'diver' on the island was a four year old bitch with the inappropriate name of 'Sac a Puce' (Flea bag). She came on the diving boat every day. When the boat reached a place that interested her, she would dive overboard and swim ashore to hunt rabbits. She soon got to know all the regular divers and would greet them as friends whenever she met them.

Zembra would be an archaeologists paradise. It is typical of the kind of trading base the Phoenecians would have used. The Carthaginians must have found it a convenient anchorage since it is about half way between Carthage and their colonies in Sicily. Some remains of a Roman mosaic floor, complete with underfloor ducting, were uncovered whilst the present club village was being built.

Halfway through our stay it was clear that the holiday season was lasting longer than had been expected. Also one of the diving instructors had to leave early, whilst others had already gone. My husband and I had both acted as instructors in our club at home, and we have both logged over 200 dives, so we asked if we could help out at the school there. Slightly to our surprise our offer was accepted - so the last week of our holiday was a 'working' one. Whilst we were not paid we did get back the extra cost of our third weeks holiday - and we were doing what we wanted to do anyway. What more can one ask for!

LINDEN BLAKE

THINGS THAT HAVE BEEN SAID
ON MOTOR INSURANCE CLAIM FORMS

I consider that neither vehicle was to blame, but if either was to blame it was the other one.

I knocked over a man. He admitted it was his fault as he had been run over before.

One wheel went into the ditch, my feet jumped from brake to accelerator pedal, leapt across to the other side, and jammed into the trunk of a tree.

A. R. L. ANNUAL CHILDRENS' PARTY

The February issue of the A.R.L. News went to press too early to contain an account of the A.R.L. Childrens' party, which was held this year on the 28th January. In the meantime, however, parents of the two hundred or so children will already have received first hand views on the success of the event. It is hoped that these judgements all accorded with the enthusiastic approval which has been unanimously reported to the Committee.

The afternoons' entertainment included scientific (and non-scientific) side shows, party games, film cartoons and a sumptuous party tea, followed by stage entertainment, sing-songs, and finally a visit to the "Cave" to receive a gift from a very convincing Batman and Robin.

The Childrens' Party Committee acknowledge gratefully the thanks and appreciation which have been expressed to them by numerous parents - and some children - and wish in turn to express their own gratitude to all those non-committee-members whose assistance contributed so largely to the success of the party. Notable amongst these were Mrs. Sapsworth and Keith Ellis and his friend, who provided polished and popular musical entertainment, Alf Shambrook and his daughters who ran the cloakroom, John Long (Mk II) of E(P) whose photographic masterpieces recorded the event for posterity, and all the ladies who turned up to help Pat Miles with her mammoth catering project. There were others, too numerous to mention by name, and some from outside A.R.L. who will not be reached by this journal.

The Committee also wishes to thank all those who helped with and patronised the dance held in Glazebrook Hall on 18th February. This function was attended by over 400. It was a great success socially and went a long way towards replenishing the depleted coffers.



UNDERGROUND EXPLORATION

Place - Mendip Hills, Somerset. Time - Saturday morning, any weekend of the year. A group of young people have assembled at a small hole down which thunders a lively stream. Their intention - to explore one of Mendip's best known caves, Swildon's Hole.

They are dressed in skin-divers' rubber 'wet-suits', boiler-suits, boots, wear safety helmets and miners' electric cap-lamps. Distributed amongst them are bags of lightweight alloy ladders and lengths of nylon rope. The ladders and safety line will be used to descend the vertical drops they will encounter on their journey. In caving circles these drops are known as 'pitches'.

The leader carefully checks the equipment of the party as lamp faults etc. cannot be tolerated underground, and could place them all in danger. The emphasis in caving is on team spirit, every man relying on the others. A man using poor equipment has no place in the party. One by one they plunge through the white spray and assemble in a small chamber just inside the entrance. Assured that all the party are ready the leader sets off, clambering over the top of a roaring waterfall into a small passage. Climbing down a near vertical face for twenty feet they arrive in a lofty stream passage forty to fifty feet high, four feet wide. Their voices are loud and hollow and the boots thump and splash in the water. The helmet lamps flash briefly over the drapery of stalactites hanging above, but most attention is given to careful placing of the feet - the floor is full of small pits and crevices waiting for the unwary.

They travel for half an hour sometimes crawling in the water, sometimes walking easily until the first pitch of forty feet is reached. This is a particularly arduous pitch as the only place for the ladder to hang is straight through the waterfall! However, twenty minutes later, after some puffing and panting and a good deal of swearing as the ladder swings in

and out of the water, they are all safely down. Travelling down a large passage they reach the next pitch, shorter than the Forty-Foot but just as wet. Another careful descent here, and they press on, the stream slower now, with two large lakes to be negotiated by climbing around the walls. Someone always manages to fall into one of them and is cheerfully derided when he reappears on the surface! Two and a half hours have passed since they left the daylight and they are nearing their goal for this trip, and also the trickiest obstacle.

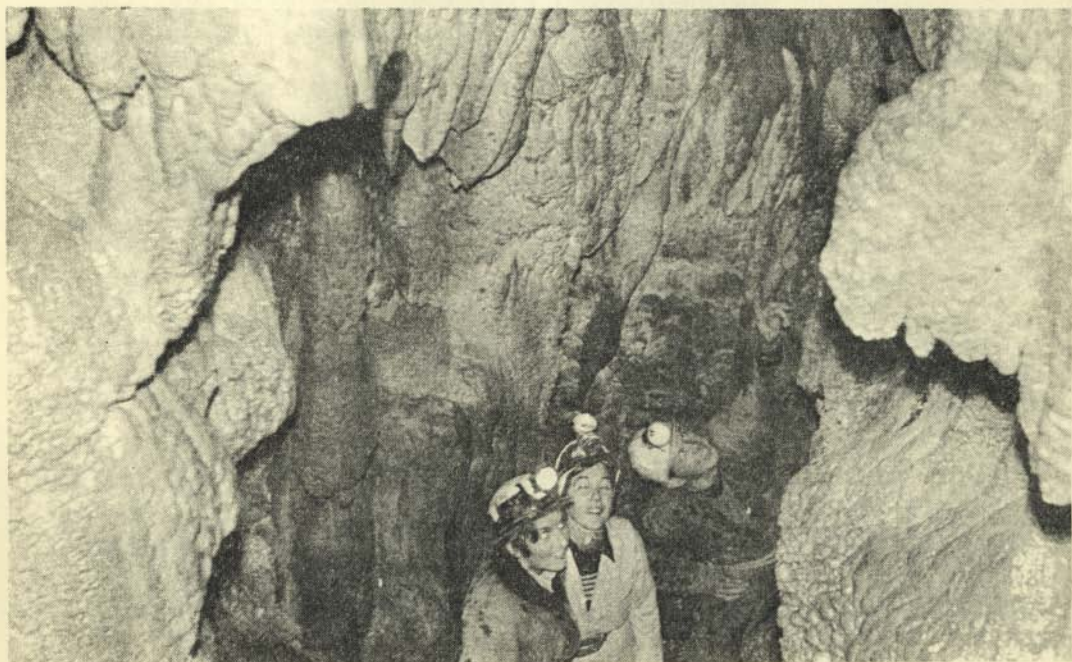
A dip in the passage has occurred and is flooded to the roof for about six feet. In caving terms a 'sump'. Sumping requires considerable nerve and self control. The object is to wade into the pool just before the flooded portion of passage, allow a moment or so for air trapped in the clothing to escape, take a deep breath and plunge through to the other side. In the eerie conditions underground, darkness, stygian pools and nil visibility underwater even the bravest heart misses a beat or two! One by one they pass through and collect in a dripping, steaming group. A break now for some food and time to appreciate some of the beauties around them. They are four hundred feet underground and three quarters of a mile from the entrance. The stream flows lazily between banks of fine sand in a huge passage, the walls are coated here and there with white calcite and the many minerals seeping through small cracks show as beautiful hues. Brown and red for iron, blue and green for copper and dark streaks of manganese. Many people imagine the underworld as a black unfriendly place, its explorers know it as a place of stunning beauty, of enchanting grottos and delicate crystals.

Ahead of the party there is still four miles of cave passage but it must wait for another weekend. They have achieved their object, to show some new members the beauties of Swildon's beyond the sump, and must now start the long journey back. Through the sump, up the ladders and thence to the sunlight - six hours without it.

Every weekend all over the country hundreds of trips similar to the one I have tried to describe to you take place. The arguments rage about the foolhardiness of cavers and potholers and I will not attempt to convince you that caving is utterly safe. It is not. However, under the guidance of a good club, with proper equipment and experienced leaders, accidents are extremely rare. By determined effort cavers have the unique opportunity of seeing marvellous works of nature and of discovering new caves untouched by man.

If this article has brought to life some of the splendours and atmosphere of caving in Britain, it will have achieved its aim and, perhaps, helped to explain "why they do it".

Peter Goddard
Mendip Caving Group



C R I C K E T

The Morgan Cricket Cup on display in the Main Building was presented to A.R.L. in 1965 for winning the N.P.L. Stanton Trophy cricket knock-out competition. This is a much sought-after Cup by the cricket fraternity of the N.P.L. Divisions.

Although A.R.L. have seldom provided more than one N.P.L. 1st XI player at a time, nevertheless, our establishment has held the cup no less than 9 times since 1951 and has been runner-up on two other occasions. Credit for this achievement must be largely due to the Esprit de Corps amongst the players taking part, and to the fact that individuals like Gordon Newcombe could pick up the bat for the first time in the Season and hit a quick fifty.

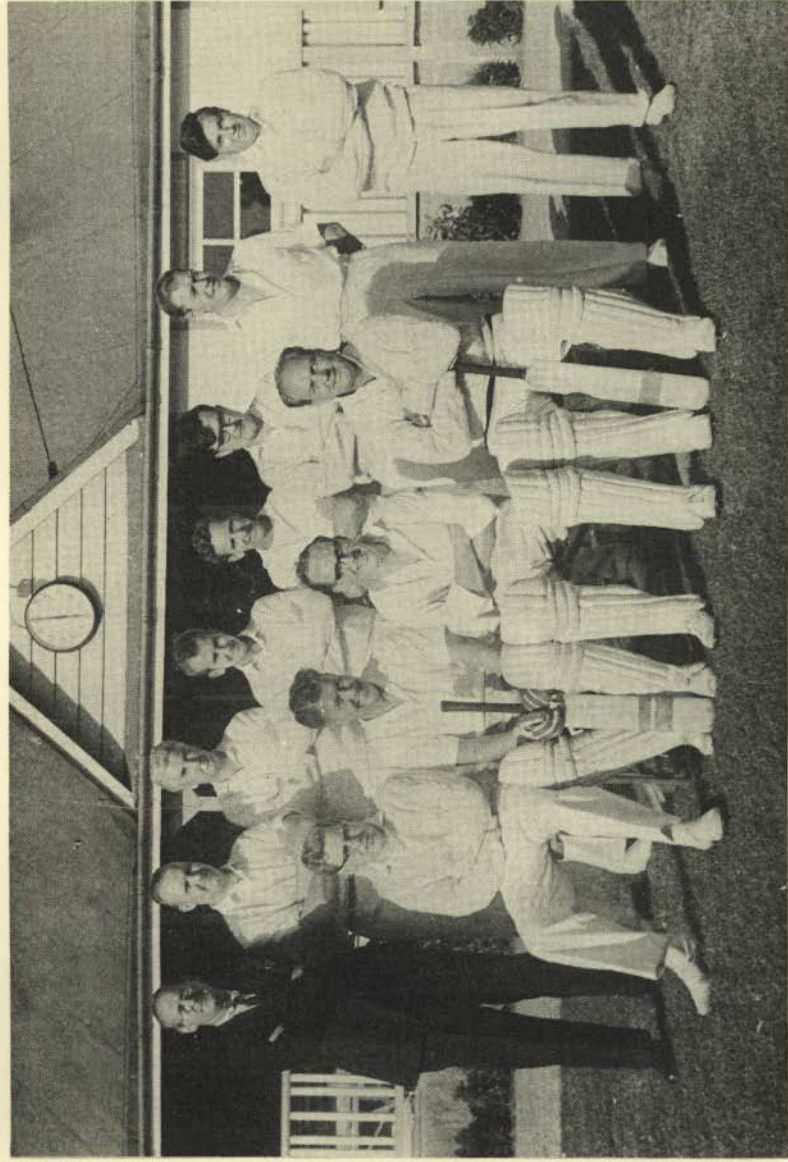
Alas, since the photograph accompanying this article was taken of the winning team, a cricket drain has taken place. As well as losing the aforementioned player we have also lost the services of such sporting characters as Mr. Ernie Donald, Basil Wright, Tony Groves and now Bob Wilson.

Cricketers who have joined the establishment during the last year or so will be required to fill the vacant positions when the team is called upon to defend the Cup in the future. It has been known for our Superintendent to buy the liquid refreshment after the match; it could happen again, thus providing an additional incentive to play.

If no new players come forth it will mean that A.R.L. Management will have to be taken to task for not recruiting the right calibre of staff!

It is worthy of note that the N.P.L. Sports Club has had the services of Ted Williams as Scorer for the 1st XI during the last 17 years and have had Harold Hood's services as Umpire for almost a similar period. The club is always in need of additional officials as well as players - if you are interested, why not take part in the cricket activities of your Sports Club.

A. C. RAYMENT



ADMIRALTY RESEARCH LABORATORY CRICKET XI
1965 WINNER OF THE MORGAN CHALLENGE CUP

H. HOOD D. SOUTAR J. PARKER B. MOSES E. M^cDONALD R. WILSON B. WRIGHT D. MORGAN
(SCORER)

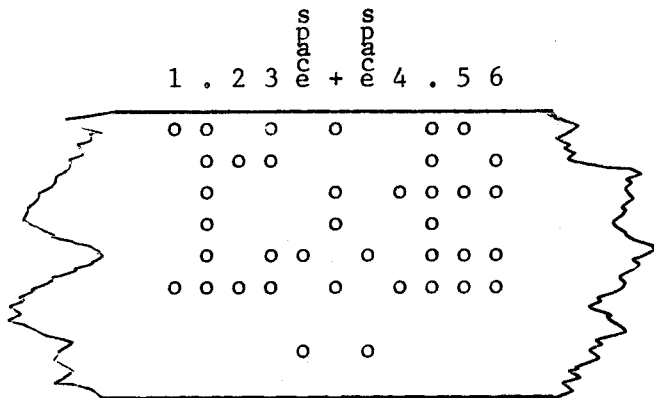
N. WOOD G. NEWCOMBE A. GROVES A. RAYMENT.

DATA LINK ACROSS THE PARK

Information is normally fed into the KDF9 computer at A.R.L. in a coded form represented by holes in paper tape. Letters, numerals, mathematical symbols, punctuation marks, etc., are each represented by a pattern of holes across the tape in one or more of eight tracks. For example,

$$1.23 + 4.56$$

appears on the tape as follows.



Each row of holes is known as a character, and can be read by photoelectric readers on KDF9 at speeds up to 1000 characters per second.

The paper tapes are produced on Flexowriters, a form of electric typewriter. The use of punched paper tape to store information in this way is well known in telegraphy, where 5

track paper tape is used with teleprinters, and the variety of symbols available is more restricted.

Programmers using KDF9 send along to the computer room their paper tapes containing computer programs or amendments to an existing program and data for the calculation. Delays in transit result in a total turn round time, for a short run of perhaps only seconds on the computer, of nearly a day for programmers at Upper Lodge and two days at other establishments using letter post. This compares with a turn round time of not more than several hours, depending on the length of the queue of jobs, for programmers at Queen's Road. When a programmer is 'debugging' a program, progress is very slow if he (or she) can only get test runs at the rate of one a day or worse. To overcome this and, in effect, to give the distant programmer facilities similar to those working near the computer, data link terminals have recently been installed in the computer building at Queen's Road, at Upper Lodge, at Ship Dept., Bath, and at N.C.R.E., Dunfermline, all connected to the public telephone network via the nearest STD exchange.

The I.C.T. data link terminals that have been installed include a paper tape reader, an information store, and a paper tape punch. When sending data, blocks of 9 characters are read from the paper tape into the information store, a check character added, and then the block is transmitted down the telephone line to the information store in the terminal at the other end. There checks are made, and if they are not satisfied a signal goes back asking for a retransmission of the block of characters that is still in the store at the sending terminal. If the checks are satisfied the information is read out of the store at the receiving end and punched on paper tape. The whole process is repeated for consecutive blocks of characters. In this way a paper tape read on one terminal is reproduced at another which can be several hundred miles away. The speed of transmission is 100 characters per second on a line of reasonable quality.

Using the data links, programmers will be able to send their paper tapes to the computer building in a few minutes and the results of the computer run will be sent back in the same way. It is planned to install data link terminals in more establishments in early 1968 after the KDF9 computer has been expanded in size to act as a central computer for Naval R & D establishments. The expansion of the computer will be the subject of a later article in 'A.R.L. News'.

F. STEEL

SOLUTION TO CROSSWORD IN
FEBRUARY ISSUE

1	M	2	A	3	T	4	I	5	S	6	M	7	U	8	T	9	A	10	N	11	D	12	I	13	S
	O		A		I		L		P		L		O		A										
14	N	15	O	16	B	17	E	18	L	19	O	20	O	21	S	22	P	23	U	24	R	25	N		
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88	S	89	E	90	N	91	T	92	E	93	N	94	T	95	I	96	O	97	U	98	S	99	N	100	E
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Our thanks are due to Mrs. P. Ward for the effort in compiling this Crossword.

S A F E D R I V I N G

As an encouragement to Motor Transport drivers, both in the Service and in Industry, the Royal Society for the Prevention of Accidents make annual awards to mark a year free accident record. The Superintendent was pleased to present the following awards to A.R.L. drivers on 10th March:-

Mr. E. Melton	- Oak Leaf to the 10 year medal
Mr. L. Martin	- 3rd Bar to the 5 year medal
Mr. F. Matcham	- 1st Bar to the 5 year medal
Mr. E. Blackmore	- 3rd year Diploma
Mr. B. Watson	- 3rd year Diploma
Mr. W. Standing	- 2nd year Diploma



During the year 1966 A.R.L. vehicles covered 102,739 miles without being involved in an accident for which the A.R.L. driver was to blame.

F.E.K.

LETTERS TO THE EDITOR

The Editor
A.R.L. News

1st February, 1967

Dear Sir,

INDISPENSABLE?

It is always possible to devise an analogy to support an attitude.

If the writer of this defeatist doggerel with its aroma of sea-side gift shops and Victorian Sunday school, will substitute a basin for his bucket and use his hand in place of the bung he will be forced to a different conclusion.

B. W. Soole

Dear Sir,

As a comparatively new arrival at A.R.L. (less than ten years) can someone write a short acticle, or letter for publication giving the "gen" on flag flying at A.R.L. and other Government buildings. I presume there is a system but I cannot fathom it out.

Also why do we have a high diving board without a pool at Queen's Road and a lovely large greenhouse without any tomato plants?

Yours faithfully,

A. Newcomer

THE CIVIL SERVICE SAILING
ASSOCIATION

This short account can only hope to give an outline of the manifold activities of the C.S.S.A. since its inception ten years' ago; and is based on an article by G. H. JUBB, Boatswain of the C.S.S.A., which appeared in WINDOW, the house journal of the Ministry of Social Security.

The Civil Service Sailing Association was formed to promote and encourage sailing and cruising under sail or power in the Civil Service. Its policy has been to try to cater for every variety of interest in sailing or power craft, and to provide sailing facilities for civil servants and their families within reach of their homes and at moderate cost. From the outset the association has drawn members from a large variety of departments, from novices to yachtsmen of long experience, and from all grades of civil service staff, who all enjoy sailing under the very appropriate burgee of a blue anchor fouled with red tape (comparatively few come from M.O.D.(N) for some reason).

The C.S.S.A. is affiliated to the Civil Service Sports Council, and in 1958 was admitted to Recognised Club Membership of the Royal Yachting Association.

Publicity and two way communication is organised through Departmental Links, and this system is used to distribute the monthly news letter, C.S.S.A. NOTICE TO MARINERS. Our Link in A.R.L. is Harvey Meyer. Informal monthly meetings are held the last Thursday each month at the Kronfeld Club, Eccleston Square.

CRUISING

Harvey Meyer will be pleased to give information to people interested in cruising. He is on the C.S.S.A. skippers list, and has been skipper in Demijohn (described below). He is now in a syndicate owning a six ton cutter and has cruising experience extending from the coasts of Norway to Portugal.

Upwards of 60 sailing craft ranging from about one and a half to thirty five tons are now owned by members, and the two main competitive events in the cruising calendar organised by the Association are the East Coast and Cowes Rallies in May and September respectively.

Cruising for other members are provided by:-

- (i) Demijohn, a 7 ton 4 Berth Bermudan Centreboard Sloop
- (ii) Melanie, an 11 ton 6 Berth Bermudan Ketch.
She is managed and maintained by a small syndicate of members.
- (iii) Berths in members own yachts - particularly if you are willing to sail at short notice.

Details of the cruising program are published in C.S.S.A. Notice to Mariners, vacancies for novices as well as experienced crew members being available. Cruising is not limited to the English Coasts and the C.S.S.A. boats are no strangers to the harbours of Normandy and North Brittany, and it is hoped that this year Demijohns will visit Holland. The berth fee of £6 per week is extremely reasonable and many members have found an economical and interesting holiday. The Association was one of the first clubs to receive an invitation to provide a crew for a passage in the Royal Yacht Bloodhound, and members of the Association have sailed in the Sir Winston Churchill. For the last three seasons a C.S.S.A. team has been entered in the Round the Island race for the Inter Club Challenge Trophy. Future developments include schemes for keeping an Association Cruising Yacht in Scottish waters, and Portsmouth Group has recently been formed with the object of carrying C.S.S.A. colours into the field of Ocean Racing.

DINGHY SAILING

Where there is a specific local sailing need, and the water, premises and a nucleus of willing members can be found, it is

the policy of the Association to establish Divisions which, for practical purposes, are regarded as autonomous clubs.

Our first group venture of this type was the formation, in 1957, of a dinghy sailing centre at Littleton Lake, Shepperton, a wet gravel pit of rather less than a mile long by about half a mile wide at its widest point. Members have toiled at the lake during weekends building jetties, landing stages, dinghy parks, slipways, clubhouse and galley accommodation. Littleton Sailing Club now has a family membership of about 550. The largest family in the Club is that of an honorary member, Vernon Paul, Superintendent of Dr. Barnardo's Home, Kingston-upon-Thames, for whose boys a fleet of five boats are available. The main dinghy classes sailed at Littleton are the Enterprise, Mirror and G.P.14., although other classes are well represented, and altogether some 160 boats of various types are berthed at the club. Events are organised each weekend to cater for all levels of experience. Highlights of the social events of the year are the Regatta in June, the annual firework party and barbeque and the laying up dinner and dance in November.

There are now twenty-two different Dinghy Sailing Centres from the Solent and Dover to the Clyde and Firth of Forth. Netley Cliff and Fisher's Green provide sailing facilities in Southampton Water and North London respectively.

In 1962 the C.S.S.A. organised an Inter-Services Dinghy Tournament between the Sailing Associations of the Royal Navy, Army, Royal Air Force and the Civil Service. The original intention was that each Association would act as host in turn, but the facilities provided by Littleton were such, that, by common consent, it has become the permanent venue for the Tournament. It is a fiercely contested competition involving such helmsmen as Adrian and Stuart Jardine of International (Olympic) fame. The C.S.S.A. team has shown up very well against such opposition. It won the 1963 event and was second to the Royal Navy by only one point in 1964. These events have been shown in the B.B.C. programme "Town and Around".

POWERCRAFT AND MOTOR CRUISING

To cater for the novice as well as the expert, the potential charterer as much as the boat owner, the Power Craft Sub-committee introduced a crewing and information bureau. During 1966 the Association was fortunate in securing a highly desirable site as a centre for motor cruising interests. Cleeve Court, as the site is known, is situated between Goring and Cleeve Locks on the west bank of the river Thames. It includes a small lake with a cutting connecting it to the river and there is ample accommodation for land based facilities. The site has immense possibilities, but it is, at present, in an early stage of development.

SOCIAL AND GENERAL

The highlight of the Association's social activities is the annual dinner which for the last few years has been held at the House of Commons, and is timed to coincide with the Boat Show early in January each year. Lectures, films and courses also find their place in the social calendar. A number of members have qualified for the Yacht Masters Certificate.

AN INVITATION

If this account of the range of activities of the C.S.S.A. has aroused your interest, applications for membership should be made to the Hon. General Secretary, Miss A. M. C. KAHN, M.B.E.
122 Hendon Lane,
Finchley, N.3.

I shall be pleased to give any further information to anyone interested.

LUCILLA GARRARD

FOR SALE Little used "Osokool" cooler, suitable for caravans and boats. What Offers? contact Mr. B. Smith Ext. 5 (Q.R.)

WANTED A girl's cycle for a seven year old. P. Redmayne, Ext. 225. (Q.R.)

T H E C E D A R

Three to four hundred years can be a pretty long existence if measured by human averages.

Nevertheless, until September 1965, Upper Lodge did have an "old resident" whose life span probably came within those figures.

I am referring to a very old tree, a Cedar of Lebanon, which, because it was so clearly out of the perpendicular one received a feeling of apprehension on passing under it.

If I term it a natural leaning Tower of Piza it will give an indication of the acute angle. With a height of roughly eighty feet this also only added to its insecure appearance. Despite this handicap it must have remained in this precarious position for a very long time. Then, some weeks before it actually fell it began to give indications of being unsafe. The angle became more acute, warning notices were posted, and then one rough night it eventually gave up the struggle.

During the last war, the Americans when they occupied Upper Lodge had found its height useful as an observation post for 'Doodle Bugs'. At least, we are led to believe this, as a platform and a bell, at one time could be seen high up among the branches.

It is possible that this Cedar was one of a long avenue of such trees, which, at one time, long ago, stretched from the Robin Hood Gate Putney Vale, to a point somewhere around Hounslow.

As a matter of interest, Upper Lodge has still another of these stately trees in its grounds, and not far away can be seen the remains of the other.

An inspection of the latter will give an indication of its great age.

Mr. A. Love

