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Contents

	PAGE
EDITORIAL	3
LETTERS TO THE EDITOR	4
VALETE	5
RETIREMENT	7
ANCIENT (AND MODERN) MARINERS AROUND THE HORN	7
DIVING IN THE SNOWY MOUNTAINS	8
S.E.A.T.O. EXERCISE	13
ODE TO THE OGGIN	14
THE INVESTIGATION INTO THE LOSS OF THE MOTOR VESSEL 'DARA'	15
UNDERWATER PHOTOGRAPHY	17
ROYAL NAVAL AND ROYAL MARINE CHILDREN'S HOME	19
PORTSMOUTH COMMAND BOMB AND MINE DISPOSAL NOTES	20
SOME CONSIDERATION OF THE POSSIBLE CAUSES OF DEPTH INTOXICATION	21
DIVING'S TEDIOUS 'AINT IT?	28
DROPPING A CLANGER	31
NEWS FROM 'SHOULTON'	32
DIVER'S CROSSWORD	36-37
DIVING OPERATION IN SIERRA LEONE	37
NEWS FROM 'RECLAIM'	41
UNARMED COMBAT	43
RECOVERY OF JET AIRCRAFT FOLLOWING DITCHING	45
PROMOTIONS AND ADVANCEMENTS DURING THE LAST SIX MONTHS	48
WHAT IS A DIVER?	49
I WONDER	53
CALLING ALL SUB-AQUA CLUBS	56

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Vol. 9

April 1962

No. 1

Editorial

SINCE the last issue of your magazine, our rotund friend C.P.O. Benfield has put down his pen and with much courage has proceeded into the great outside. The best of luck, Ben!

Owing to the co-operation of all concerned in the production and sale of the magazine and more economical methods of printing, we can now offer far more quality in the magazine. For a start, we have doubled the number of illustrations and can also include a delectable 'Pin Up' in each issue, the latter being supplied at the expense of Bernards of Harwich and by courtesy of the Rank Organisation. This greatly increases our capacity to use good photographs and drawings and contributors stand a better chance of having their articles adequately illustrated. So let's have more support and we will try not to disappoint the writers because of space shortage.



This is your magazine. It will only thrive with your support. To make it cheaper we must increase sales and, most important of all, **Receive Payment for Outstanding Bills.** We are non-profit making and cannot write off as bad debts the amount at present outstanding. Give us your support and we will continue in our endeavours to make this magazine even more popular than it is at present. Our thanks go to the Officers and Ratings concerned who have done so well in distributing the magazine around the fleet.

FRONTISPIECE. A.B. David Glyn Williams of Southsea, Hants, cooling off between dives while operating from H.M.S. *Protector*. She is at present serving on the South Atlantic Station.

We require articles on all diving activities from our civilian readers as well as from our teams and ships, and the odd diver stuck away on his own in some corner of the world who cares to send us news will receive the same attention as would the writer for a large organisation. If you have little to say, don't forget the 'Letters to the Editor' column.

Hoping to hear from you.

EDITOR.

Letters to the Editor

From: MR. A. HIGGINS, London.

Dear Sir,

Reference your article *re* Tubby Linton who was commended for his sterling work in the book 'The Admiralty Regrets' which tells of the loss and recovery of H.M. Submarine *Thetis*.

During the war I was fortunate enough to spend two years of my six aboard H.M.S. *Tedworth* and R.N. Diving and Salvage ship. Of the many salvage jobs she did apart from taking ammunition from the sunken French cruiser in Greenock Harbour (still with part of her dead crew aboard) and working on training X craft submarines in Loch Alsh and raising sunken seaplanes, the most vivid I recall is the time we were called out to search for H.M.S./m *Thunderbolt* (ex-*Thetis*). We had her last radio position and found her a few miles off Cambeltown in Scotland. She had failed to surface on a trial dive.

When we did reach the tell-tale mushroom of bubbles, a diver was put down but the current proved the master and he could not reach the submarine. The chief diver volunteered to be extra weighted and to further his difficulty he volunteered to descend hand over hand down the anchor cable. Our Captain (Captain Gray) refused this because of the risk to such a good and experienced diver. The only alternative was to wait for a turn of tide, which if my memory doesn't fail me, called for an all night vigil, a position that suddenly dampened everyones hope

of a chance of rescuing any of the poor souls trapped in the steel coffin below.

I remember that night so well, for that was one of the rare occasions I leant over the rail not to be seasick but to gaze at the ever changing cauldron of bubbles sweeping in different circles, and to pray so hard I did not know I had the gift. I think too, that alongside the rest of the hardened crew I shed a few tears, being so helpless, and to wait for them to die, was the one thing I believe that made that night so endless.

Finally, daylight filtered through and whilst our ship quietly rolled and lurched in protest against her forward and aft cable, a diver departed on his grim task.

He found her, right side up I believe, and also an E.R.A. in the escape hatch. He alone was surfaced and then with the entombed dead crew we raised her with the aid of lifting craft and with a series of lifts enabled her to be beached where our duty ended and the local authorities took over.

The submarine, having killed two entire crews was again refitted and again she disappeared for the final episode. Try as I will, I cannot find a book to correspond with my story, every ship was mentioned but H.M.S. *Tedworth*, even on the X craft experiment H.M.S. *Bonaventure* took credit and again the *Tedworth* had a rear silent seat . . .

Comments are invited (EDITOR).

John (Mick) Steen writes from Cassier, B.C. Canada. He wishes to be remembered to all the Divers and especially those on *Reclaim* 1954-56,

the 'Guz' steamers and such old pals as Shan Tuck, Dolly Duncan and Spiro Collar.

Valete

by CDR. J. R. CARR, O.B.E., R.N., *Superintendent of Divers*

THIS is my last contribution while in the 'chair' and on looking back over the last five years my first feeling is one of gratitude for the support I have enjoyed. Harry Wardle, Bill Filer, the Officers of *Reclaim* and *Dingley*, P.O. Wyvell and many others have given me an insight into diving matters, while Captain Miles and Eric Mackay have taught me the meanings of lots of long words. Equally am I indebted to those in the A.E.D.U. such as Tom Grosvenor, Jock Campbell, etc., and further afield in the Admiralty such as Goodridge, May and Shearman. In fact as I think over the matter it becomes invidious to pick out names because so many have helped me, not only in Government service, but in industry too. Because of this the job has been the most interesting I have ever had and I am sorry to be leaving at a time when the door is opening and there is so much more to be done.

I have been fortunate in meeting most of the C.D. Officers and Q.D.D.'s who are still serving. Collectively I have enormous admiration for them in both their personal attainments and as leaders in and out of the water — the only advice I can offer is that they should study to do their paper work as well as they do their diving (and doing it properly does not mean submerging others in paper). It is very hard for those that are concerned with development to find out by hearsay all that goes on and I can assure you that the correct use of the Defect

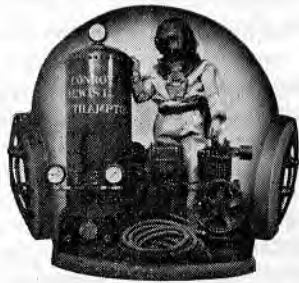
Report Form is beginning to have an effect.

While I personally have met fewer of the Clearance Divers, their exploits do not pass unnoticed and they have won for themselves a position of respect within the service. The activities of Med., Far East and Home Station Clearance Diving Teams are now properly appreciated as also are those of the Bomb and Mine Disposal Units. I hope that many of you will become C.D. Officers and that all of you will continue to ply your trade with the zest and enthusiasm that is at present so characteristic.

It is the ranks of the Free Diver and Shallow Water Diver (whose qualification I am proud to hold) that I feel most encouraged today. Tradition dies hard and there is still a belief that when something is lost overboard divers are quite admirable people but at other times they are a — — — — — nuisance; it is this that the ship divers have inherited. As a result some First Lieutenants and Senior Engineers cannot spare time for exercising divers and regard minimum qualifying times for diving pay as a matter for the divers to put in during the dog watches. I hope that the importance of the divers role will come to be better understood without any more of the painful lessons we had in war. In the meanwhile divers and their officers should be eager to point out the useful functions that they can perform for their ships — checking propellers for chips, clearing wires,

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removing the cause of rattles, plugging valves for refits, cleaning domes and so forth. I have personally recovered the handrail of a destroyer's quarterdeck ladder on the morning of her inspection and like to think that the ships divers will be able to alleviate such crises themselves in the future. I look forward

to the day when divers fall in wearing swimsuits and scrub the bottom once a month.

Meanwhile the best of luck to you all, and may you have many divers all over the world without too much interference from the other dwellers in the sea.

Retirement

COMMANDER J. R. CARR, O.B.E., Royal Navy turned over his appointment as Superintendent of Diving to Commander E. C. HANNEN, Royal Navy on 21st March prior to retirement. Commander Carr has been Superintendent of Diving for five years and the following appreciation is made by one privileged to serve with him:

“He came, he saw, he conquered. What did he see: he saw too many keen divers with insufficient equipment inadequately used by the service and unrecognised for their potential value. He saw the equipment to meet their needs and the education necessary to make the Command aware of the dormant under-water capability at its disposal. He qualified Shallow Water Diver and was seen to be in regular diving practice, which at

45 years, plus captured the respect of all. He conquered the glittering appeal to do spectacular things, such as ‘breaking the depth barrier’, and instead gave us suit inflation, neck seals, foamed neoprane mitts and hoods, new underwear, D.U.C.S., S.A.B.A., S.D.D.E. and a host of other incidentals of equal merit, but less easy to acclaim — how to make the Admiralty work for instance.

Sir! We view your departure with a feeling akin to that associated with the loss of an elder statesman and friend. We wish you every success and enjoyment in your retirement, and rest assured we shall endeavour to continue with the good work — yes, even until every Commanding Officer of H.M. Ships personally carries out weekly Underwater Rounds.”

Ancient (and Modern) Mariners Around the Horn

From Admiralty News Summary

THE Navy went back to sail for a few hours recently. When the Ice Patrol Ship H.M.S. *Protector* arrived off Cape Horn, a whaler was lowered so that a few members of the ship's company could sail round the Horn before breakfast. They returned drenched to the skin, looking — as the ship reported to Admiralty — ‘As though they were 40 days out

from Sydney and fully appreciating why Cape Horners were known as Shellbacks’.

At the same time some other members of the ship's company took the easy way out and admired the view by flying round the Horn in one of H.M.S. *Protector's* helicopters.

The Naval whaler was commanded

by Lieutenant-Commander Malcolm Burley, R.N. of Kensington who, in addition to now being one of the few men still in the Navy who can claim to have sailed round Cape Horn, also has the distinction of having been deeper and higher in the Antarctic than most other men. He is the Diving Officer of *Protector* and leads

the only operational diving team in the Antarctic, often diving among the ice flows to make repairs and carry out observations underwater, and in addition was the first man to beat the hitherto unclimbed 9,565ft. Peak of Mount Paget, the highest point in Antarctica.

See cover picture.

Diving in the Snowy Mountains

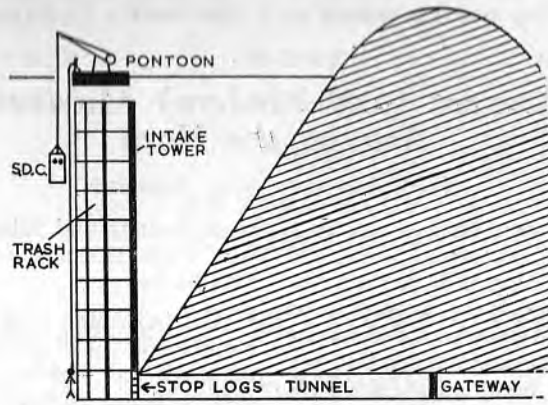
by 'DOWN UNDER'

MARCH 6th 1961 saw members of the R.A.N. Clearance Diving Team starting a most interesting diving operation. Following the topsy turvy pattern of existence which seems to characterise life down under, diving took place not at sea nor in harbour but deep inland, not at ordinary atmospheric pressure but at an altitude of 4,000 feet, not in the languid tropical waters beloved of all travel posters, but in ice-cold Lake Eucumbene which draws its water from the perpetual snows of the Snowy Mountains in New South Wales.

This is the dam which forms part of a vast Hydro-Electric scheme;

earth and rock filled, it is half a mile thick at its base, 381 feet high, contains nearly nine million cubic yards of fill and will eventually contain a quantity of water 56 square miles in area and nine times the volume of Sydney Harbour. Unfortunately, visibility was zero from about 8 feet down due to the large amounts of decaying vegetable matter present and powerful lamps had to be carried which extended this by about 3 to 4 feet.

Beneath this dam wall is a tunnel with an electrically controlled gate midway along holding back enormous pressures — 257 feet of water in early March and 262 feet at the



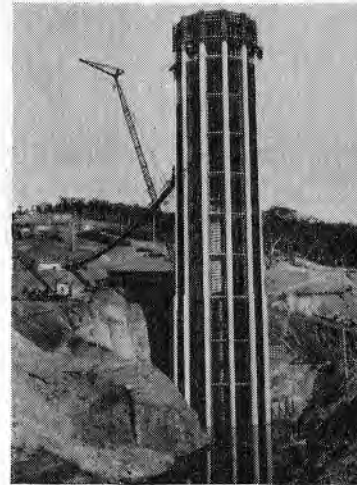
Cross section of the dam and tunnel showing water level on completion.

finish three months later. When it became necessary to do maintenance work on this gate the tunnel had to be de-flooded and so 'stop logs', which are massive pieces of steel weighing about 3 tons each, were

remarkable for their freedom from such mishaps.

Cousteau Constant Volume suits were worn with neoprene sponge rubber under-suiting and this proved fairly adequate for insulation against cold — especially the neoprene mitts — the lowest temperature was 40°F. A porpoise demand valve with a constant bleed by-pass designed by our Commanding Officer, Commander Batterham, proved adequate and two-way communication with the surface was maintained by means of a throat microphone and earpiece. Surface supplied compressed air down a Hookah hose, fins and weight belts comprised the remainder of the gear.

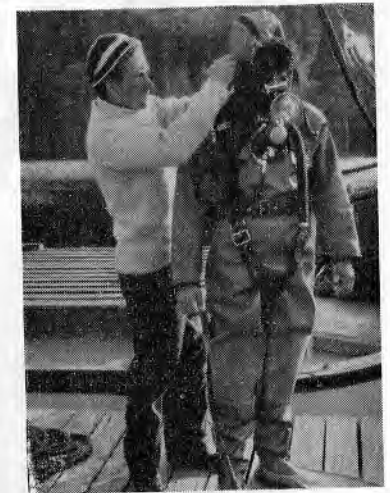
In order to gain proper access to the job, a bank of trash racks, i.e. steel grids designed to prevent logs and other debris from entering the tower and hence the tunnel, had first



The tower before submersion

lowered in two banks of 14, down specially constructed slots of an intake tower at the tunnel mouth. It was when these were in place and the water drained down that an unacceptable leakage around these stop logs became apparent, and the Navy was called in to supply a remedy.

About three weeks were spent doing recompression chamber dives at H.M.A.S. *Rushcutter* in an attempt to become familiarised with the narcosis which was expected to develop whilst working in compressed air at such depths. It was found later however, that there was no real substitute for actually working in water because the first few weeks of deep diving were marked by repeated cases of potentially serious narcosis. Gradually, however, things settled down and the later stages were



Doc' in the Hookah Gear

to be removed. There were 20 of these, each weighing about 2½ tons and shackles had to be attached before hoisting. Plastic explosive was used to shake one particularly ob-

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stinate customer free. At this stage, all stops were done in the open water because the crane was not free for lowering the sumersible decompression chamber and oxygen was fed from 30 feet.

A load of rubbish was cleared from inside the tower by various means — including the use of a monster rake and much sweating on the handles of a winch — and finally the stop logs taken out and an inspection made of their seating. This latter stage of the work involved the complicated laying of a jackstay without which it would have been impossible to cover the 40 feet across the tower base.

The crane was free now and enabled use of the submersible decompression chamber including oxygen decompression from 60 feet. Table III of the R.N. Diving Manual was used throughout and no Bends were experienced in 28 'bottom' dives of up to 16 minutes duration, and in well over 100 intermediate depth dives.

Finally the bottom was clear, a torn seal on one stop log was

renewed and everything replaced in very much shorter time than taken for its removal.

Water skiing, trout fishing, scenic drives, ski-lifts, lake picnics, runs to Cooma, visits to power stations 1,200 feet underground and to the other dams of the area, an aerial tour of the whole scheme, the friendship that comes of living and working close together in an isolated settlement (but what hospitality from the locals!) and above all Commander Batterham's continued cheery enthusiasm and close personal interest in every member of the team, made the whole operation extremely happy and memorable.

The Team included Cdr. 'Bats' Batterham, Lieutenants Ron Titcombe, Peter Egan and 'Shiner' Wright, Doc, Rex Gray, Chief Bill Fitzgerald, Leading Seamen Jake Linton and Johnny Ingram (now P.O's), Pony Moore, Keith Gregson, Laurie Gosling, Bunker Hill and Able Seamen Norm Jeffries, 'Pugs' Pugsley and Kel Creasey (since tragically killed diving in Jervis Bay).



The boss, Cdr. Batterham, with some of the team.

S.E.A.T.O. Exercise

by 'MAC.TYZACK'



WE, Chief Petty Officer McKinley, Leading Seaman Lusty, Tyzack, Able Seaman Harrison, Wannerton and Wilkes, of the Hong Kong Fleet Clearance Diving Team, were detailed to take part in a S.E.A.T.O. exercise in Thailand.

The evening before joining the U.S.S. *Cook* we had a run ashore with the U.D.T. who were to be with us on the trip to Thailand, it was a great social success, as is usual in Hong Kong, and good relations were established.

The trip in the *Cook*, which was acting as a fast convoy escort was quite pleasant, we made friends and enjoyed the American meals. Turkey legs, strawberries and ice cream were an ordinary meal for our gum chewing friends. Chief McKinley had his fellow Chiefs making tea in a pot, instead of the usual tea bags, and it became quite a regular sight to see an American wetting the tea, instead of drinking the coffee which was always available in the Dining Hall. Our Clearance Diving Officer, Lieutenant Checksfield, was making the trip by air, which he assured us had nothing to do with the fact that American ships are 'dry'.

Two movie shows per day were not unusual and with the large film library, and vast storage spaces, it was surprising that there was room for the main engines.

On arrival at Bangkok we had a couple of days ashore which was second only to Hong Kong, if you knew where to go. The 'Mosquito Bar' was popular around midnight and, by moonlight across the railway lines, it was possible to see the different colours and styles of uni-

forms seeking relaxation in bamboo abodes.

After proceeding to Sati Mib where everyone prepared for the exercise, we practiced with the U.D.T. in drop and pick-up. Both the American and our methods were tried, before we settled on the latter as being preferable.

Lieutenant Checksfield, Chief, Lusty and Harrison reluctantly had to leave the comforts of *Cook* and move to the base camp. We heard that they battled with Sabre-toothed tigers and 'ginormous' King Cobras, had no fresh water, and had to live on Thai whiskey and curries. How they suffered. The remainder of the Hong Kong team, plus Singapore's notorious Unit, prepared to battle with jungle horrors.

We hit the beach as only experts can and ripped two rubber boats on barbed wire. After covering our kit we prepared breakfast on the beach and were just tucking in when a Major (one of the judges) politely told us that we should not be picnicking but hiding in the jungle. During the night all went well, we cleared the beach of hindering objects and crept back to our hide-out to await the dawn, when we could move into the exercise area again.

The exercise was a huge success and we greatly enjoyed the loud bangs of the demolition charges laid by our Yankee friends. We moved back to Bangkok and spent a couple of days relaxing in the Mosquito Bar before returning in U.S.S. *Cook* to the hardships of Hong Kong. Lieut. Checksfield again found he had to travel by air!

This yarn had gathered a lot of dust before I found it but as the spirit with which a bunch of C.D's

can upset the digestion of the top brass is dateless, I have decided to publish it. Ed.

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Ode to the Oggin

by 'CHAIRBORNE'

Have you seen the dark grey oggin just around the Nore?
Or the vivid violet oggin outside Singapore?

Have you seen the shot silk oggin, where the sun sinks in the bay?
That's Kipling's flipping oggin, where the flying fishes play.
Well don't believe it sailor! It's all a ruddy game.

It's all just ruddy oggin and it's all the ruddy same!

You read about them hardy blokes who've nothing else to do,
But sail the blinking oggin in a dinghy or canoe.

All around the world they go, and oggin all the way.

It's stupendous, it's terrific, it's adventure so they say.

Well don't believe it sailor! Them blokes is flipping mad!

Oggin's ruddy oggin and there's nothing quite as bad.

And then there are the scientists—they shoot a pretty line.

About oggin rich as creosus, like a flipping diamond mine.

'There's gold in that there oggin and pearls in the deep below'.

That's a lie if I ever heard one. Pearls come from Sasebo.

So don't believe it sailor, just keep on saying No!

Oggin's ruddy oggin even when it's H.₂O.

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The Investigation into the Loss of the Motor Vessel 'Dara'

by Lt. N. L. MERRICK, R.N., *Late E.C.D.U.*

ON the 10th of April 1961, the British cargo liner *Dara* was proceeding North from Dubai, a trading port on the coast of the Trucial States, just 240 miles East of Bahrein in the Persian Gulf. She had left port in a hurry as an angry storm had blown up and put the ships, then anchored in the unsheltered waters of Dubai roads, in danger of dragging their anchors. One ship, the *Zeus*, had in fact done just that. At approximately 0430 on the morning of the 10th, as the seas were moderating slightly, the *Dara* turned South to return to Dubai (as well as her own crew and passengers she had had to leave with a crew of stevedores still on board). A few moments later the ship was shaken by a tremendous internal explosion. Within minutes the vessel was a raging inferno, the flames were egged on by the strong winds and by the fact that internally she was constructed mostly of wood; panic overcame the 700 people on board. A blow had been struck which proved fatal; *Dara* never recovered. Two days later the blackened wreck heeled over and sank . . . and 200 people had died.

Immediately following the disaster the Ministry of Transport ordered a full inquiry. This, of course, meant the painstaking task of interviewing hundreds of witnesses, most of whom quickly became spread far away from the scene of the incident. These witnesses included not only the people on board the *Dara* but the many who had taken part in the vain efforts to fight her fires and save her. However, even before the questioning was finished, it became obvious that some ques-

tions were not going to be answered. Accounts varied, some became more and more distorted as survivors told and retold of their hours of terror. The only solution was to revisit the *Dara* where she lay, in 60 feet of water, four and a half miles from the coast.

About two weeks after the disaster, Lt. Fletcher, C.D.O., and A.B. Park, D.3, both of whom were serving at that time in the Persian Gulf, made the first dives. They found what they had been sent to find — four foot diameter hole in a cabin flat deck-head; a hole that could only have been caused by an explosion.

Unfortunately these divers, hampered by lack of suitable equipment and by shortage of time, could only make a hasty survey. They did, however, gain enough information for further laboratory examinations and tests to be made. These in turn established the need for a further series of fully comprehensive dives, carried out by a properly briefed team with no lack of equipment. The task was passed to H.M.S. *Vernon*.

On the 19th September, whilst sitting in my office wondering who would next foul a screw or drop something over the side ('it fell into the water just there'), the Superintendent of Diving telephoned to ask how I felt about going on a job in the Persian Gulf. I immediately tried to locate it on the chart to see if it was Gosport side of the Harbour or Pompey and finding no such place I was coming to the conclusion that it must be up the Portchester creek when the Superintendent, ignoring my silent thoughts, continued the conversation and brought me down

to earth with a jolt. He meant THE Gulf! Never having had more than a quick sniff of the Gulf when once taking passage from Aden to Karachi I was of course intensely interested. So throwing all caution to the wind (I could foresee the inevitable repercussions up 'homers', ugh;) I announced this interest.

I was given ten days to get together a team and equipment and transport myself with the same to Bahrein. The team I formed consisted of Petty Officers Ron Flanagan, Taff Davey, Leading Seaman Ginger Andrews (all three brand new from C.D.1's course) and Leading Seaman Pincher Martin of my own Unit. As the first three were still finishing their course, Pincher (to coin a phrase) was 'lumbered' with the task of preparing the equipment. This included a set of Seafire underwater cutting apparatus, S.D.D.E. with compressor a S.A.B.A. set for standby and three U.B.A. sets with spare bottles charged with oxygen and 60/40mixture.

We had to rely on local sources for the gas to operate the Seafire. All-in-all, this part of the operation was the most difficult but everybody with whom we dealt was wholly co-operative and sure enough all the diving gear, a ton of it, and all the divers (only a little less) arrived out in Bahrein within the allotted time.

In Bahrein the team met Lt. Futchter who explained that he would also be present for the diving operations. This, of course, was an excellent arrangement since not only did we have an extra diver but the knowledge gained from his previous experiences would prove invaluable. Having left Lt. Futchter and the team to sun themselves and complete local arrangement, I flew on to Dubai Here I established what was to be an extremely profitable and congenial liaison with the Trucial Oman

Scouts, an Army force staffed mainly by British Officers and N.C.O's whose job it is to maintain law and order throughout the Trucial States. These were stationed at Sharjah a few miles North of Dubai. I also inspected an Arab dhow that we were to use as a diving platform which had been hired from the Sheik of Dubai.

On the 2nd October, the remainder of the team embarked in H.M.S. *Parapet* (an L.C.T.) and sailed for Sharjah, arriving there some two days later. I joined her and together with the dhow we sailed northwards towards the wreck. It was not difficult to find the *Dara*, even before the buoy could be seen, for miles to the south of her position a long straight click of oil lay across the surface, pointing like an arrow to show the way. This oil slick had run continuously since she sank six months earlier. Of *Dara* herself, all that could be seen was the stir on the surface where the water sluiced across her sides, and, pointing forlornly skywards, her twisted boat davits. Just as it was growing dark we dropped anchor close by the wreck and the diving equipment was loaded on to the dhow in preparation for the first day's dives.

At 0700 on the 5th October, the dhow slipped from *Parapet* and slowly moved over to the wreck where she was secured on to the davits. Even at this time in the morning, the heat was tremendous, noticeably so to us who had flown out from an English April. Lt. Futchter prepared for the first dive, to tie guide lines to the entry point on the wreck and thence into that part that we were to inspect. Meanwhile I prepared the underwater camera for use, but it had an imperfection in its mechanism which showed itself in no mean way. This imperfection was the electrical

connection to the flash attachment which was permanently made. Thus, as I placed a bulb in it for a trial run, it went off. The results were horrific and intensely painful. Of course everybody roared with laughter whilst I rolled about in the throes of death with, neatly welded to the

Underwater Photography

Introduction

by ROY FORDHAM

IT seems a long time ago, since we in the *Vernon* Photographic Section first took an interest in this subject. Since those days in 1958 we have managed to produce a few recognisable photographs of the world beneath the water. When I think about it, we certainly could have produced some very interesting shots of the divers' antics above water, but that's another story.

Our first real successes in underwater photography were made possible only by the generosity and enthusiasm of Lt.-Cdr. J. Warner, who not only offered advice but also provided our first camera and case. This was a 35mm Robot camera in a home made perspex case. Despite its limitations it proved a very useful piece of equipment.

We had use of the Robot for three years during which time we travelled far and wide with the Acceptance Trials Team recording their trials operations. One thing we really improved upon as a result of these trials was our consumption of the native brew. Our capacity is now at least four pints, taken very slowly of course.

Of all the places visited, I think Alderney affords the best diving conditions, at least, in my limited experience I have found that the

palm of my hand, one extra large, Admiralty pattern flash-bulb! Yet, I couldn't help thinking in spite of the pain, that this was indeed an auspicious if somewhat original start to the operation.

To be continued, with photographs, in the summer issue.



Under water shot of a Fleet Air Arm pilot in practice, escaping from a sinking aircraft.

water there is usually pretty clear, the best vis' being about 30 feet; far better than any other place I've been to including Falmouth. During May I expect to be going out to the Mediterranean and am looking forward to the experience of diving in water with a 100 foot plus visibility. We expect to be working from Malta, so, get the beer in Ginger!

Last year we received our first Admiralty supplied underwater outfit. This was the Reed 35mm camera in the Lewis Marine case. We drew two of these outfits but one has been returned owing to a leak developing . . . there is a moral here: 'Don't bang 'em on the diving ladder!'

The photographic section at A.U.W.E. have quite an impressive array of equipment. A couple of

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VIRGINIA TOBACCO AT ITS BEST

16mm Balex cine cameras, a Rolliemarine and two Reids with the Lewis housing. Most of the work undertaken these days is a combined effort between Portsmouth and Portland groups. Nothing would be accomplished without the help of the C.D. teams, who have always shown a great deal of patience toward us amateurs.

Before we go to the Maltese paradise we have a trip to Alderney.

After a couple of weeks there it should be 'all stations GO'. All set for the blue Mediterranean.

I have made no attempt in this short article to tell you about the techniques we have developed or the snags we have overcome in our efforts towards the perfection of this subject. This will be the topic of my next article and I hope to include some interesting shots from Malta.

Royal Naval and Royal Marine Children's Home

THE R.N. and R.M. Children's Home, South Africa Lodge, Stakes Hill Road, Waterlooville can accommodate about 30 children, ranging in age from 2 to 15 years. They can take temporary cases, although the original function was to care for the children who had lost one or both parents.

All the children live at South Africa Lodge, a completely modern building, built as a Home. The children attend schools in Waterlooville and, if able to pass to Grammar Schools, remain until 18 years of age, and are found jobs suitable to their ability and taste. Those who have no family, spend holidays at the Home, and continue to keep in touch.

The admission of a child of serving or ex-serving personnel below Officer rank in the R.N., R.M., W.R.N.S. or Auxiliary Services is governed solely by the need of the child. A parent is assessed for a maintenance payment on his circumstances.

Any enquiries with regard to the admission of children should be forwarded through the normal welfare channels.

The Editor wishes to thank those of our readers who have so generously contributed to the H.M.S. *Vernon* collection to provide a vehicle for the Home to enable the children to be taken to the sea front and on other outings. These outings have, in the past, been limited by the high cost, etc., of hiring coaches.

Contributions can be received at this address:

The Editor,
R.N. DIVING MAGAZINE.

or

The Treasurer,
Children's Vehicle Fund,
c/o The Chaplain,
H.M.S. *Vernon*,
Portsmouth.

Temporary receipts will be issued pending the presentation of the money to the Home.

NO MODESTY

The *Vernon* Sports had just been completed and the prize-giving was under way. As an A./B. Diver of no training and much drinking came round for the fifth time with arms

already full of cups, the Lady presenting the prizes remarked, 'I think you have done rather well this afternoon M . . .'; 'Yes, Madam', he said, 'I thought so too!'

Portsmouth Command Bomb and Mine Disposal Notes

HAVING recently retreated from the onerous, hard-working and precarious duties of a member of the Bomb and Mine Disposal Team, to the indolent sinecure of the Editorial Chair of the DIVING MAGAZINE, this same Editor now considers it his bounden duty to harrass me into writing an article for his 'wretched rag'. So here goes and the best of British luck.

Business for the Pompey B. and M.D. team has been fairly routine lately, and nothing very exciting has turned up in recent months. We have recently had a trip to Jersey, followed soon afterwards by one to Alderney. The object in Jersey was an American Mk. 6 moored mine, which just goes to show that one should pay attention to all that is taught in the Mine

Identification and Disposal Section especially mine recognition, and never think that 'this can't happen to me'.

The job at Alderney was another (the 14th in my term of office), 260 millimetre (10.5in. approximately) shell which was found in Cobletts Bay and destroyed at Trais Vause cliffs. A more interesting job which we had earlier in the year was the recovery and disposal of 110 A.W. bombs from a lake at Pachington Hall, the home of Lord Arlesford, near Coventry. These bombs, which were issued mainly to the Home Guard in 1940, were glorified 'Molotov cocktails', consisting of a pint bottle filled with phosphorus, benzine and rubber (see photograph) and it was advised that the safest

stowage for them was under water.

The Team at the moment consists of Leading Seaman Edwards and Able Seaman Thomas (the latter is about to depart to that great wee ship H.M.S. *Dingley* and is being

relieved by A.B. Hayes ex-*Brenchley*). Query? Why does everyone call Edwards 'Bungey' when in my humble opinion it should be 'Cuts', 'Bungey' being the nickname applied to the Williams Clan.

MAC HOUGHMAGANDIE.

Some Consideration of the Possible Causes of Depth Intoxication

by P. B. BENNETT, B.Sc., R.N. *Physiological Laboratory*

IT is well known that men exposed to high pressures of air exhibit signs and symptoms of narcosis, such as a deterioration in arithmetical performance and most fine practical activities, accompanied by tendencies towards laughter, loquacity and overconfidence, some loss of clarity in thought, and rarely, hallucinations. Individual susceptibility is variable, but at 300 feet few if any individuals are not affected and little trust should be placed on human intelligence at such a depth.

Recently, as no doubt many of you will know from the T.V. show from R.N.P.L., if not from his own publicity, Hans Keller and Dr. Buhlmann have been diving very deep on their own special mixtures and using their own decompression tables. They have more or less denied the existence of the narcosis and suggested a number of factors which could cause such effects. I therefore thought it might be of value to the readers of this magazine to review the various suggested causes of the narcosis and discuss the Buhlmann and Keller theories. It will be necessary during this discussion to use scientific terminology but I hope that this will make it no less interesting to the less scientifically minded readers of the magazine.

The earliest suggested cause of the narcosis was that it was due to

pressure alone (Moxon 1881). The increased pressure caused the blood to accumulate in the brain and spinal cord and the resultant increased intracranial pressure produced the narcosis. However, there is no blanching of the skin as would be the case if this were true. Further at the same pressure different gases exert different levels of narcosis.

Another theory by Hill and Phillips (1932) was that the effects were of psychological origin. They showed that many of their more sensitive subjects were suffering from latent suppressed claustrophobia. But if these men were given different gas mixtures the level of narcosis was altered. So again this theory is not tenable. These workers also suggested the unlikely idea that the narcosis was due to impurities entering the air from the compressors.

The possibility that the narcosis was due to the raised oxygen partial pressure was postulated by Damant (1930). Now breathing air at 300 feet (10 Ats.) there will be two atmospheres of oxygen present, but a 100% oxygen mixture at two atmospheres produces none of the signs and symptoms characteristic of depth narcosis. This also is therefore not a satisfactory explanation.

In 1935 Behnke and his colleagues first attributed the narcosis to the raised partial pressure of nitrogen.



A.W. Bombs found in lake at Pachington Hall near Coventry, 2/2/62

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This theory they based on the so-called Meyer-Overton Law that there is a parallel between the affinity of an anaesthetic for fat and its narcotic potency. Thus the more an agent is soluble in fat and the less in water, the better anaesthetic it will prove. Evidence rested on the fact that arrangement of the anaesthetic agents in order of narcotic strength agreed reasonably well with the order obtained by grouping according to their fat/water solubility ratios.

The representative Fat for this exercise was olive oil.

	Argon	Nitrogen	Helium	Hydrogen
Fat/water Solubility Ratio	5.32:1	5.24:1	1.7:1	3:1

However the inert gas argon is just over twice as potent as nitrogen which is not in agreement with the fat/water solubility ratios, although argon is twice as soluble in fat as nitrogen which may enter into the problem, Fat solubility would also help to explain the narcotic action of other inert gases such as xenon, krypton and the less narcotic helium. A further criticism of this theory is that in spite of the high relative solubility of hydrogen, suggesting a significant narcotic potency, it has been used in deep diving without producing narcosis. Case and Haldane (1941) have confirmed that the narcotic effect of air at 8.6 atmospheres can be abolished by substitution of an oxygen/hydrogen mixture whilst Zetterstrom (1948, 1949) dived to 535 feet on a 4% oxygen/hydrogen mixture and found no subjective sign of narcosis. However little work has been carried out with this gas due to its explosive properties with oxygen concentrations much over 4%.

The fact that the greatest mental change is observed immediately on reaching pressure and may decrease as the diver remains at depth is often quoted against the nitrogen theory. It is suggested that if the narcosis

were due primarily to nitrogen the symptoms should increase with exposure rather than decrease. Objective experiments by the Americans, Kiessling and Maag (1960) however do not suggest any change in the level of narcosis with time at depth. It is likely that the greater subjective sensations on first reaching pressure, are the result of a combination of a number of factors such as temperature changes, noise of compression and a raised carbon dioxide tension. The latter possibility will be discussed more fully later.

There is in fact little reason why symptoms should increase with exposure. Although saturation of the whole body may take a considerable time it is likely that the brain which is highly vascular takes a much shorter time to reach equilibrium. In this connection Ferris, Molle and Ryder (1942) found that exchange of nitrogen with arterial blood is very rapid in man. One passage of blood through the lungs is enough to empty or fill it with nitrogen to within 80 to 95% of the equilibrium value. Thus the brain may reach this value very fast and the small amount of nitrogen still entering exert such a small further narcotic effect that it is difficult to measure. Recent work has shown that it is possible to compress to 300 feet in less than 30 seconds and arrive at pressure before the circulating blood carrying the nitrogen reaches the brain. When it does so the narcosis comes on rapidly and more or less maximally.

With regard to the hydrogen exception, it has long been known that there are as many exceptions to the Meyer — Overton Law as substances in agreement. As the test fat generally used is olive oil this is perhaps

not so surprising, for the fat in man has considerably different characteristics.

Another physical property that might influence the narcotic activity of inert gases is molecular weight.

	Hydrogen	Helium	Nitrogen	Argon	Krypton	Xenon
Molecular Weight	2	4	28	40	83.7	131.3

Case and Haldane have further suggested that absorption (i.e. increased concentration of gas on a surface) may be as important as fat solubility in determining the narcotic properties of gases. In this connection Armstrong has shown that a particular charcoal at 0°C. absorbed by volume as follows:

Hydrogen	Helium	Nitrogen	Argon
4	2	15	12

Although these figures with such a crude model, as one might expect, are not in agreement with the generally recognised narcotic potency of the gases, a general trend is still present.

Until 1950 it was therefore generally considered that the narcosis was due to the raised partial pressure of nitrogen in the air. In that year, however, Bean published some work reviving an idea tentatively suggested earlier by Damant (1930) and Hill and Phillips (1932).

As a result of 24 animal experiments Bean suggested that compressed air narcosis was due to retention of carbon dioxide in the body. This could be effected in a number of ways. Either by compression of the gases in the lung causing an increase in the partial pressure of carbon dioxide there and/or the inflow of air into the chest during rapid compression preventing carbon dioxide being breathed out of the lungs and/or the difficulty of diffusion and mixing the carbon dioxide would meet due to the increased density of the air. These changes would tend to drive the carbon

dioxide back into the blood with resultant changes in its acidity. The experiments substantiated his claims in that the carbon dioxide in the lungs rose from the normal 5% to

values as high as 10% on compression. The result led Bean to conclude that until definite proof otherwise was available carbon dioxide should be considered as an alternative cause of the narcosis.

C. R. Rashbass at the R.N. Physiological Laboratory, in an effort to clarify the issue, subjected 26 men to an equivalent depth of 250 feet and measured the amount of carbon dioxide in the lungs together with the extent of the narcosis. For the latter he used arithmetic problems. The results are shown below.

	C.O ₂ %	Sums Correct
Surface	5.125	24.12
250 feet	5.385	16.81
250 feet after		
5 minutes panting	3.91	18.0
250 feet without		
5 minutes panting	5.21	18.2

Panting reduces the carbon dioxide as is normal, but even if the divers did not pant to reduce the carbon dioxide percentage, the degree of narcosis was not significantly changed. Only initially is there any sign that a slightly raised carbon dioxide level might cause an increased narcosis. This factor was therefore undecided, but the other results led Rashbass to conclude that the suggestion that carbon dioxide is responsible for causing the narcosis was fairly adequately disproved.

Further support that carbon dioxide is not the cause of the narcosis is forthcoming from the work of Pierre Cabarro when at G.E.R.S. in

Toulon. He also measured the carbon dioxide percentage in the lungs, but with a slightly different technique. At 150 feet he measured a rise of up to 7.5% which then returned to the normal 5% levels in some four to eight minutes. If compression was very slow, e.g. 30 minutes to reach 150 feet, there was no change in the carbon dioxide percentage. Panting before compression also ensured no change. At 270 feet the percentage rose to 6 to 8% and in one case 10% of an atmosphere and then returned to normal. Heavy ventilation of the lungs at pressure again reduced the carbon dioxide to normal levels.

A further indirect proof against the carbon dioxide theory was obtained from exposing 20 subjects to mixtures containing 2% oxygen at 270 feet. The partial pressure of oxygen breathed was thus very similar to that of air at atmospheric pressure. An excess of carbon dioxide under these conditions should have given rise to an immediate increase in the rate and amplitude of respiration. However Cabarro found not even the slightest variation during the course of 60 experiments.

Closer examination of the work of Bean reveals that his experiments are similar to those of Cabarro. The latter took measurements at periods of 1, 2, 4, 6, 8, 10, 15, 20 and 30 minutes at pressure, whereas Bean recorded only every 1 or 2 minutes for up to a maximum of six minutes at pressure. Most of the graphs of Bean demonstrate the start of a gradual fall in the percentage carbon dioxide a few minutes after reaching total pressure. Had he recorded over a longer period it is likely that he would have also observed a return to normal levels after the six minutes.

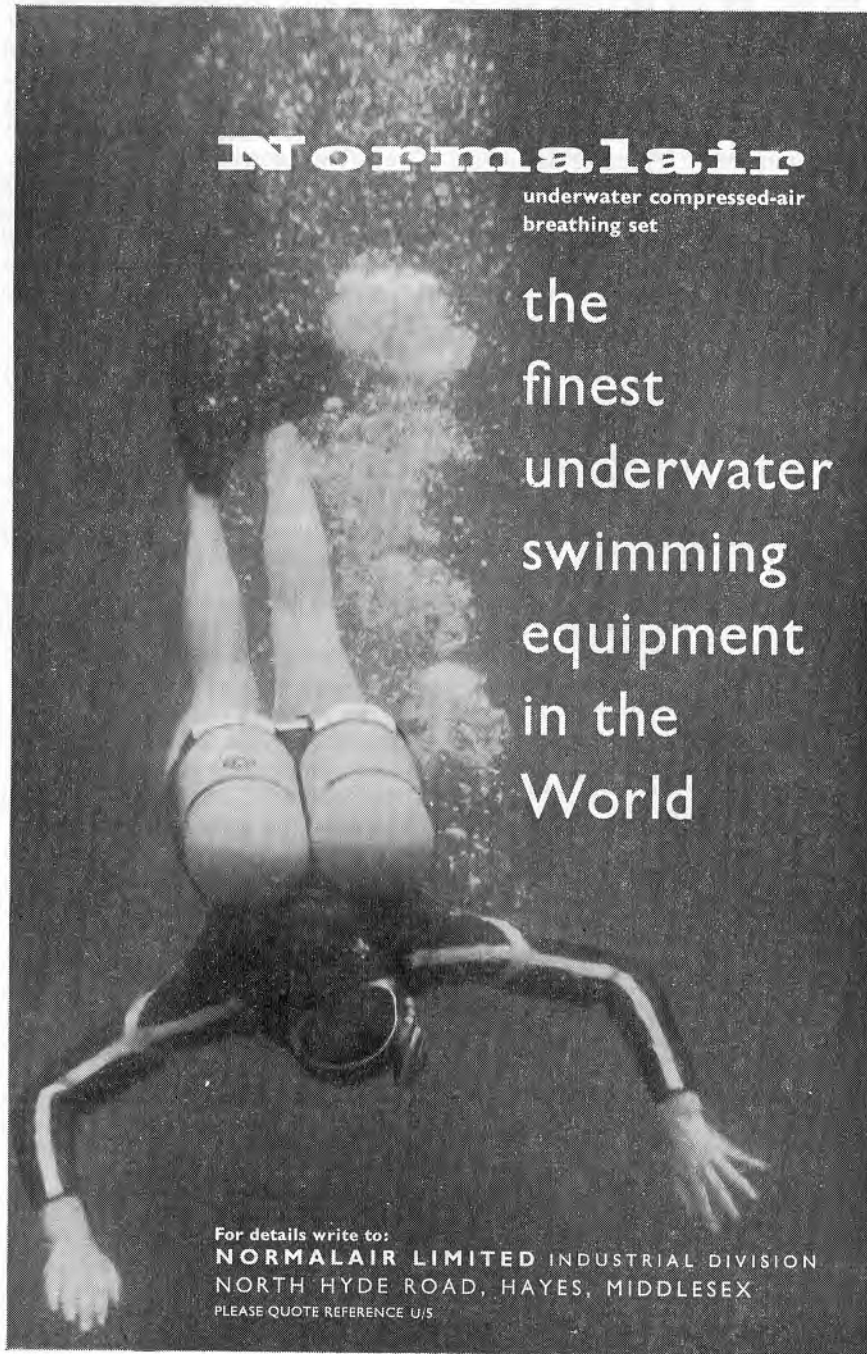
In spite of this work however Buhlmann (1961) with Hans Keller and Seusing and Drube (1960) have again denied the narcotic action of

nitrogen and proposed carbon dioxide as the cause on much the same argument as Bean. They postulate that due to the increased gas density caused by compression there is a rise in the viscous resistance in the respiratory tree. This increased breathing resistance impairs lung ventilation causing carbon dioxide retention. The problem is aggravated by the high partial pressure of oxygen which also produces a tendency for underventilation of the lungs. They suggest the narcosis may be avoided by either using a less dense gas such as helium or hydrogen or by assisting the breathing muscles by artificial respiration. The use of the former is of course well known although it has been chosen due to its position in the Meyer-Overton table and not density as suggested by the above workers.

According to Buhlmann, Keller has used both helium and artificial respiration to overcome the narcosis.

Further it is claimed that Keller reached a depth of 120 metres in 1959 on a low oxygen high nitrogen mixture without experiencing narcosis! This would be equivalent to diving to over 400 feet on air!

Recent experiments at the R.N. Physiological Laboratory by Mr. Hempleman and Surgeon Lieutenant Barnard have shown that diving on a low oxygen/high nitrogen mixture makes you more narcotic than when breathing air, i.e. the narcosis is proportional to the partial pressure of nitrogen in the mixture. Further the results of my own animals, experiments previously published in a R.N. Personnel Research Committee Report show that reducing the oxygen concentration and increasing the nitrogen content of a mixture, increases the level of narcosis, whatever the density of the mixture. If Keller was using his own subjective appreciation of the level of narcosis and did not take measurements of



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the narcosis this could well be the reason for this discrepancy of results for it is well known one should not rely on one's personal assessment of narcotic level which can be most misleading.

In the light of this work it would be most imprudent for anyone to try to emulate Keller and try deep diving on a 95% N₂/5% air mixture. At 300 feet he will be very narcotic and if unduly sensitive possibly unconscious. If you could see the colour film of the human experiments at R.N.P.L. it would I am sure convince even the most fool-hardy.

However, there is no doubt that increased breathing resistance is found at pressure, but it is difficult indeed to justify many of the claims of these workers in favour of the carbon dioxide theory. They appear to have read very little indeed of the previous literature on the subject of compressed air narcosis and many of their statements are not in agreement with their own hypothesis.

Thus Buhlmann suggests that many of the research workers in favour of the nitrogen theory have not considered that it is possible to cause the symptoms of narcosis with an inert gas heavier than nitrogen, for example with xenon or krypton at atmospheric, which he says, proves the importance of molecular weight.

In fact this has been appreciated for many years, since in fact 1948 if not before. More important however, is that the equivalent molecular weight of a 20/80 oxygen/xenon mixture at 1 atmosphere (which will in fact induce surgical anaesthesia at atmospheric pressure) is 111.44 whereas the weight of air at 10 atmospheres is found to be 288. This is over twice the weight or density of the xenon mixture but although there is evidence of nar-

cosis on air at 10 atmosphere one is certainly not anaesthetised as with xenon on the surface. How then can density be the primary cause of the narcosis?

Further work by Cabarro is also against this density hypothesis. From studies of brain wave activity, similar to those I have described in a previous Diving Magazine, he showed that with a constant partial pressure of nitrogen, variations in absolute pressure had no effect on the brain waves, but with a constant absolute pressure, variations in the nitrogen partial pressure did cause changes in the brain waves. This led to the conclusion that the density of the mixture was not the cause of the narcosis, neither was carbon dioxide except as a possible aggravating factor, which is of course well known, but that the main cause was the partial pressure of nitrogen in the mixture.

Further clarification of the carbon dioxide versus nitrogen theories is afforded by examination of the level of carbon dioxide in the blood. Bean has measured this and found an increase in carbon dioxide during and just after compression which returned towards normal once at pressure. The results are in fact very similar to the lung carbon dioxide measurements already described. Another American Pittinger and his colleagues has measured blood carbon dioxide in subjects anaesthetised with xenon. Under Buhlmann's ideas one should expect to find a high carbon dioxide but in fact no change from normal was found. However as the primary tissue concerned in the narcosis is that of the brain, measurements of tissue carbon dioxide may give a better indicator. Such work is in progress at the R.N.P.L.

Only more careful experimentation will determine the true cause of the narcosis, for at the present time there

appears to be as many if not more arguments against as in favour of the carbon dioxide compared with the nitrogen theory. It has only been possible to discuss a few of the less

complex arguments but perhaps it will have been sufficient for you to realise that it will be sometime yet before the matter is finally clarified. Meanwhile the research continues.

Diving's Tedious 'Aint It?

by "B.F."

The flag goes up and the shot goes down,
The prop on the shaft stops going around,
They dress me up and they send me down,
Diving's tedious 'aint it?

I stumble off in search of gold,
We know it's here, so I've been told,
A fortune looms but it's so cold,
There must be a diver's wage freeze.

The water in the sea is cold and raw,
Been 40 below for six months or more,
I rub my hands but they just wont thaw,
There's just no feel'in nohow.

I cut my hands on a rusty wire,
My foot's caught up in a cast-off tyre.,
I'm up to my waist in filthy mire,
Diving just 'aint worth it.

I slither down to the murky depths,
The shot rope burns but no heat collects,
My ears are screaming and the drums are wrecked,
I just got to get down somehow.

The CO₂'s beginning to tell,
Oh my head, it hurts like hell,
I keep quite still to take a spell,
Now the boat starts drifting.

Arrive at the bottom in disorganised heap,
Nitro narks suggests deep sleep,
Proto's wet, I've sprung a leak,
Just can't depend on no one.

I open my valve and signal more air,
But the blokes up top just don't care,
I'll close the valve and blow if I dare,
Just 'aint another thing I can do.

I've lost the shot and the light's gone dim,
I stir the mud and it's black ag'in
I try to lay down and hit my chin,
Can't think why I'm down here.

Life down here gets sadder and sadder.,
The cold's beginning to upset my bladder,
If only I was back on the ladder,
There's something to be said for wet suits.

The distance line's a mass of knots,
Made up by those top-side clots,
Though I stay down until it rots,
There 'aint no free end nowhere.

Back in the boat everything's fine,
I'm all set for char and 'bine',
But the fags are wet and the boys drank mine,
Diving's hell 'aint it?



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Dropping a Clanger

by 'BATZ'

THE Diving School, H.M.S. *Vernon*, recently 'won' the unusual job of removing a bell from the belfry of a small local church. The task was to be treated as 'Unexploded bomb in Church roof', in fact, the belfry was in a dangerous condition and the five cwt. bell was becoming quite a worry. The bell had been valued at approximately £100, a sum badly needed for renovations to the old building which was built in the 1780's by Dockyard Apprentices.

Taylor of Loughborough, the world-famous bell specialists had estimated that this scrap value would be swallowed up by its removal and transport. So in view of H.M.S. *Vernon's* close associations with St. George's Church, the job became an Evolution for the 'Diving people'.

A meeting was held, and in his absence, Lt. Wilson, C.D.O. was chosen to lead a team consisting of L.S. Andrews, C.D.1, P.O. Gibson, L./Seamen Adam, Mackenzie, Beck, Power and A.B. Jackson. With the gratefully appreciated assistance of the Shipwrights, trial section and Navy Works Department, the team collected a medium load of the necessary ladders, ropes and timbering so that they looked busy and knowledgeable.

The bell itself was shakily suspended in a small wooden edifice about 60 feet above the ground, having been well ravaged by time, weather and birds! Survey showed that having reached the apex of the domed ceiling, entry to the belfry was through a hatchway 2 feet 6½ inches square, 40 feet above the pews, with another hatch immediately above, forming the floor of the tower proper. The 'Ding-Dong' proved to

be 3 feet high, with a diameter of 2 feet 3 inches at its base, not much room for fingers and things, and in anything but a light breeze, the whole erection creaked and moved considerably. In the crumbling beams a number of painters and carpenters had left their marks. The first apparently in 1817 when he 'Re-formed an Oake Tye'.

A false floor was rigged, and with the aid of props 'Acrow' the bell was lifted very, very gently, and work commenced on freeing it from its yoke. By now the site resembled a Great Auk's nest with planking and lashings at various angles; all this at first viewed with suspicion by the locals and a Policeman. They slowly became used to the odd hammer and quiet oath dropped periodically from above, and also the sight of piratically clad sailors 'two sixing' in the tower. At one point the Curate quietly asked what was happening, but having been assured that the Vicar knew all about it, and that the bell had been erased from the Ecclesiastical loan list, he passed on his way.

The operation had been planned to cover four days, but having slipped the bell from its moorings, the rising force of the wind made it expedient to lower the said bell on the third day, the insurance for the fourth day's operation was promptly cancelled in the interests of the parochial finances.

Much could be written of what was observed from our lofty perch, but no, suffice it to say that never before in the history of Naval Diving has so much church attendance been concentrated in such a short space of time, by so few divers.

News from Shoulton

by Lt. D. G. EDWARDS, R.N.

STUNG into action by the latest News handout by their Lordships, which gives *Shoulton* two paragraphs without mentioning her divers (and of course a certain amount of pressure from Uncle Bill), I feel it is time that the world was told something about *Shoulton's* Divers and what they have been up to in the last year or so. We have been as far afield as Toulon and Stockholm and visited numerous foreign ports . . . but let me start from the beginning.

The vessel commissioned from scratch in October 1960 after completing a long refit. Our predecessors had left the ship when she started the refit and so we had to start from nothing and rely on the Naval Stores Organisation. This was very frustrating for a time and if we had not had friends, we would have been unable to dive when the work-up started.

This took place in Weymouth Bay in November and early December, and during the period of asdic training we dived on all sorts of things including a torpedo stuck tail first in the sand, a battleship's navel pipe, one of the *Hood's* anchors and a washdeck locker. The diver refused to open the latter item having heard the story of the washdeck locker and unpopular First Lieutenant lost in the same storm from a ship running out of Portland.

In December we visited Holland for the first (but not the last) time and gave the first of our sales demonstrations showing how efficient our new asdic equipment is. December in the Texel was very memorable . . . I don't think any of us had ever been so cold before . . . the only reason our blood didn't freeze, I'm sure, was due to the generous mixture

of Geneva it carried! From Den Holden we set sail to Port Edgar, our new base port, and gave Christmas leave.

After Christmas we had our first unplanned incident — a helicopter off Portland in 29 fathoms. This was located without difficulty, but we had no deep mixture on board at the time and missed the fine weather. Thereafter we were delayed both in recovering the 'Chopper' and in our return to Scotland by bad weather.

Shortly after this we went to Brest to give a demonstration to the French, a rather dull two days, there being nothing much to do ashore apart from eat (if you like garlic) and drink. The Brest area is the home of pancakes — the most famous being Crepe Suzette.

From Brest we went to Gibraltar. We should have called in at Lisbon on our way down but unfortunately we developed a defect and had to carry on direct to Gibraltar to be docked. There was an easterly gale blowing as we turned Cape Trafalgar and the trip was quite uncomfortable during the latter stages — especially when both main engines stopped through lack of cooling water, the strainers being full of jelly fish! Still, we made it eventually with a nice white funnel top of salt deposited from the spray, and as soon as we had completed our repairs we sailed for Toulon.

This was a splendid place for divers, beautifully clear water which is warm and inviting — in fact you don't need mine hunters — you can see the mines from the surface in 18 to 20 fathoms. The highlight of this trip was an expedition with the French diving school and sharing their equivalent of a bag meal in the diving launch! This came up as a

three course meal with a litre of wine per man followed by coffee and Cognac! All the cooking was done on a primus too! How about getting a French chef for Horsea Island?

Then we returned to Gibraltar and joined up with the 100th and 108th Minesweeping Squadrons in an exercise to prove that in good conditions, one minehunter with a diving team equals eight sweepers!

Because we had to refuel at Brest on the way home, we sailed early. This was a wonderful opportunity, which we duly took, to give the other sweepers 'Reveille' by thunderflash.

Our next trip was back to Brest (without an 'a' unhappily) for a big N.A.T.O. M.C.M. Exercise where we found the old crab and scallop with our mines, as well as old navigational buoys lying on the sea bed riddled with bullet holes. Relics of the war perhaps and not connected with painters of 'Algerie Francaise' on handy walls.

From Brest we sailed to Portsmouth for a weekend before doing a sales tour of Belgium and Holland. This was most enjoyable as we operated in various conditions and places off Ostend, Flushing, IJmuiden and both inside and outside the Texel, interspersing this with a weekend in Antwerp and another in Amsterdam, both of which were greatly appreciated by all. One member of our crew thought he had fallen for a blonde in Antwerp only to discover 'it' was 'one of those' and that a soldier had left his wife and deserted to be with 'it'!

After that we had a short spell in Port Edgar for maintenance, followed by another exercise this time in Beaumaris Bay where the diving was not unpleasant, there again being a crab or two among the mines.

I have said little about our diving because this all followed a pattern — investigating an asdic contact and dropping the diver within a radius of five yards of the object to be investigated — no 100ft. circulars for us!

The next little frolic was some log trials off the Isle of Arran, where we discovered a large size scallop bed, so while the ship did her trials the divers collected a ship's company scallop supper.

From Arran we sailed North about for Port Edgar calling in to Benbecula for a day. The army had a misguided missile which had dropped into the 'Ogwash' and they wanted divers to find it for them. When we reached the beach we found it exposed to the full force of the Atlantic Westerlies and as usual the Hebridean horizontal rain was in full torrent. Added to this, the army had only a very vague idea of where they wanted us to look so we were unsuccessful and the increasing gale persuaded us to give up at dusk.

By noon the next day when the ship sailed it was still blowing hard but the sun was shining and by the time we passed Cape Wrath it was as flat as a mill pond.

We had another two demonstrations in Sweden and Germany before summer leave.

Continued on page 35.

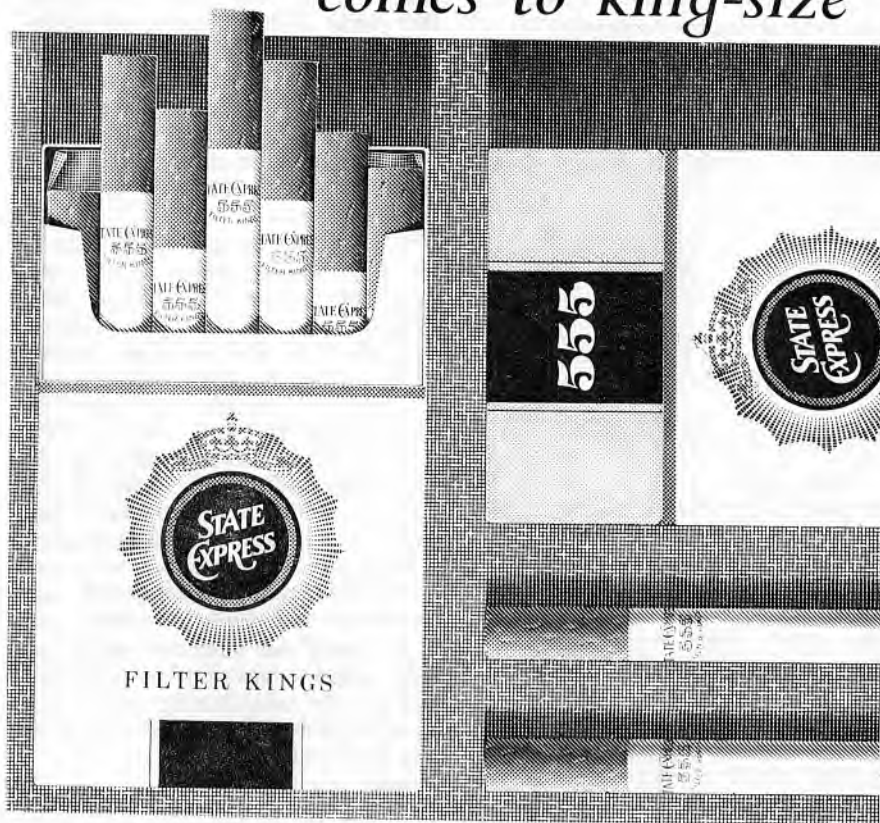
FAIR SHARES

The story is told that on the eve of Trafalgar a young seaman was seen kneeling in prayer. The Chaplain waited until his meditation was over and said, 'I suppose you have prayed

for a glorious victory'. 'No Sir', came the reply, 'I've prayed that the enemies shot be distributed, like the prize money, with most of it going to the officers'.

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For the weekend we went to a small summer resort called Saltsjobaden which was only half an hour by train from Stockholm — a good but expensive run ashore. On the cultural side, however, we had an organised trip to the *Vasa*, the Seventeenth Century warship under the mud by a Swedish aqua-lunger, which is now being cleaned and preserved in a special museum. The interesting thing about her is that she was fully stowed for a voyage when she sank, including all the personal effects of her crew, and so she should be a mine of information to historians and sociologists.

From Sweden we went to Kiel for more Baltic demonstrations which were most successful and then back to the North Sea via the Kiel Canal (a wonderful piece of engineering). We got a good North Sea welcome too — it was blowing force 8 to 9 when we put to sea from Cuxhaven! We had a divers' run ashore in Cuxhaven with the usual effects on the peace of the town and on our heads the next morning but no one spent the night in a cell which was perhaps a good thing.

We were on our way back to Port Edgar when we were diverted to Portland for another helicopter, which we found fairly quickly and marked, leaving *Dingley* to strop it up and salvage it; then heigh ho! for bonny Scotland and summer leave.

Shortly after summer leave we had yet another helicopter — there must be an awful number of them on the bottom near Portland, for they would not relieve us of this one until we had told them the side number.

We then had a week in Portsmouth (while the dockyard tried to make our starboard engine work) before going off on another exercise off Den

Holden. (By this time the married men were beginning to wonder if they would have been better off on the Den Holden married quarters list). We were bedevilled with fossilized tree stumps during this exercise, although one dive was on a 6ft. diameter locomotive driving wheel! We had developed another defect by this time, and so went to Chatham for docking and repair prior to going up to Greenwich Pier for a couple of nights. This was much appreciated especially the alongside berth — the only snag being to persuade the pier keeper not to charge you a penny to get back to the ship.

After a demonstration to the Argentine Chief of Naval Staff, we returned once more to Port Edgar to be inspected and to prepare for another exercise, this time in the Moray Firth. Being in October by now the weather was not good, but we still managed to prove ourselves against five sweepers. Once again we had an unprogrammed interruption, a Dutch S.58 helicopter was lost from the 'Karl Doorman' and we were asked to locate it for the *Reclaim* to salvage. (See *Reclaim News*). This we did, and found the diving ideal although in some 170 feet of water, about 60 feet of visibility and pleasantly warm water made life beneath the surface quite enjoyable. On top, however, the weather made salvage a difficult proposition. The first wire, attached by our team using a Gemini to plumb the helicopter, unfortunately parted with the surge, but by this time the helicopter was under the stern of the *Reclaim* and the second wire, for lifting from the stern winch, held. We then had the seamanship problem of transferring the load to the main derrick and lifting it inboard. This was finally accomplished but not without sweat and tears.

We now had a few more days at Invergordon recovering mines, before a remarkably unpleasant passage back to Port Edgar. We returned, or so we thought, to a life of ease and day running but, oh no, not for U.S.S. (usually sails Saturday) *Shoulton*. The Americans had lost a B.66 bomber from their base at Scunthorpe and wanted to salvage it to find out why. So off we flogged to the position they gave us, about 40 miles N.E. of Great Yarmouth. We found the wreck in reasonable time, but had to remain until salvage operations were well in hand, which gave us a very uncomfortable

fortnight. The diving was restricted severely by strong tides, and visibility was nil. Most of the time it was blowing force 6 or more. However, diving from *Geminies* we were able to cope even in force 8.

Eventually the edges of the wreckage were marked by two small Trinity House buoys and we left the salvage vessel to get on with the recovery. Very glad we were too, to see the Forth Bridges again! As soon as we got back to the Forth we went over to Rosyth for an engine overhaul having run through our engine life in one year instead of two!

Diving Operation in Sierra Leone

THE following is an account of a salvage operation by the divers of H.M.S. *Solebay* while in Sierra Leone on Royal Escort Duties.

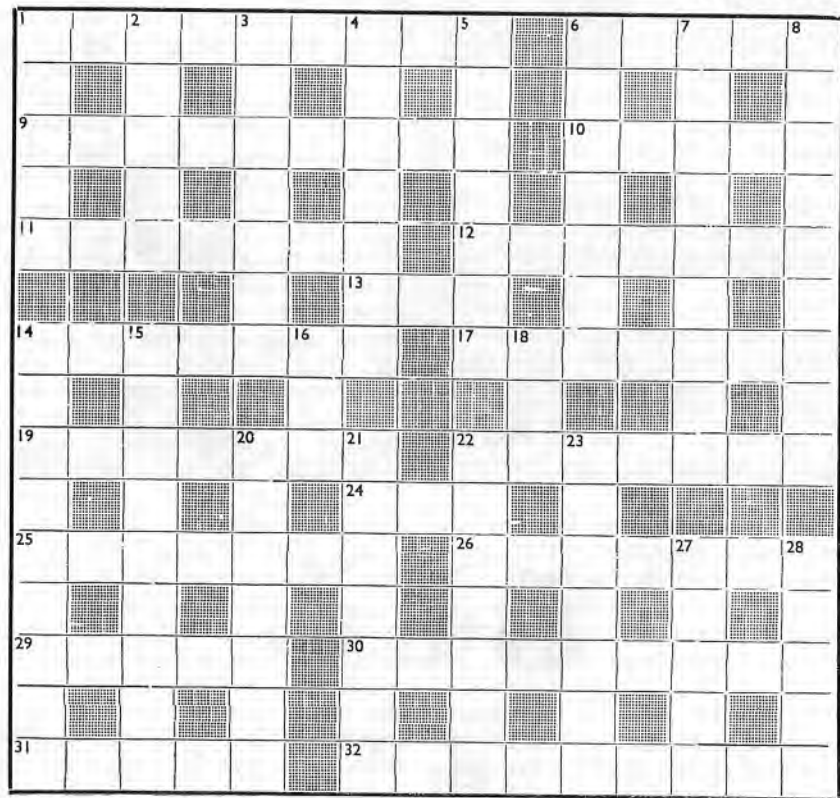
On the afternoon of Tuesday 28th November 1961, H.M.S. *Solebay* (Captain J. Smallwood, R.N.) was lying alongside King Tom Jetty at Freetown, Sierra Leone. She was there as the Royal Escort Commander's ship for Her Majesty the Queen's tour of West Africa. A telephone message was received requesting assistance of her divers in

salvaging a bus which had fallen into a river. As the location was fifty miles up country it was too far to do anything that day.

At 0830 the following morning a diving party left the ship. It consisted of S./Lt. (S.D.) S. L. Masterson R.A.N., L.S. B. T. Shepherd, A.B. B. Davis, A.B. G. W. Garriock, O.Sea. P. H. Cripps, R.E.M. A. J. Menzies, L.R.E.M. A. C. Thompson.

The party was led by Lt.-Cdr. R. K. S. Bethell who now takes up the story.

DIVERS'



CROSSWORD

ACROSS

1. Watery Jatens inflate their chests to create original French sets (9)
6. Samuel said it in Code (5)
9. Does he wear the best fitting of all wet suits? (9)
10. A square is four (5)
11. Hang it (7)
12. 'Nelson' was — and on the Hamilton Bank! (7)
13. Curtail the Perewian Royal Race (3)
14. 'Nelson's blood' call? (3, 2, 2)
17. A 'family' of lengthy fish? (3, 4)
19. Sanitary man making his mark at sea (3, 4)
22. Just a pretty bauble (7)
24. A very good breathing mixture (3)
25. Abstract — but when dropped usually 'rings the bell'! (7)
26. Found when broching a Roman maritime wine store (7)
29. Nearly all with this in the Artic Circle (3, 2)
30. Give up — and you'll be one of these (9)
31. Not at all nice (5)
32. Give this a whirl and you'll be all at sea (9)

DOWN

1. They get 'browned off' on beaches! (5)
2. One at a time, please (5)
3. They'll help you up — a foot at a time (7)
4. Dive in — but 'pusser' style (4, 3)
5. Where a good diver leaves his worries! (7)
6. A French wind — on demand! (7)
7. 'I? I AM DRUNK?' — yes — and an luminous fluid (anag.) (6, 3)
8. Finished off nicely — but not grammatically (5, 4)
14. Process of diminution! (9)
15. Sharks, barrucudas (and some women they say!) (9)
16. Initially an ideal system (1, 1, 1,)
18. A hooded nuisance? (3)
20. A state demanding attention (7)
21. If you don't keep it clear you might miss the sun rise! (7)
22. The one essential to the diving art (7)
23. Casts assertions! (7)
27. Tooth gnashing darkness (5)
28. I left the central court of a Roman House (5)

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"A minibus type of van arrived at the jetty at half-past eight and all the diving gear was loaded into the back. We took with us a fair amount of general salvage gear as well, including axes, shovels, crowbars, wires and ropes. We also took a .303 rifle in case of crocodiles.

A young Lebanese driver of some skill soon sped us out of Freetown and up the Sierra Leone River for about 40 miles. We were followed at an increasing distance, by a breakdown vehicle equipped with a powerful winch.

By half-past ten we reached a turning off and, stopping to ease the pressure in the tyres, took to a dusty bumpy side road through the jungle. After half-an-hour's bruising jolting progress — there were no seats in this van — we reached a wide river with a primitive handraulic ferry.

The river was 150 yards wide, lined with jungle in which we saw monkeys, snakes and birds during the day. Our first active physical effort of the morning was to push our van on to the ferry. It was taken

across by four Africans hauling hand over hand on a wire! Very slow work!

We learnt that the job really consisted of salvaging a Morris light-weight open truck out of the middle of this river. Its brakes had failed and it had 'stormed' the ferry and dived off the farther end. Fortunately the driver had escaped. We took soundings and found it was 34 feet in the centre, where the river was flowing at about one knot.

One major snag now was that the winch vehicle could not cross. It weighed seven tons and was much too heavy for the ferry. Its wires were not nearly long enough to span the water to the submerged truck.

The time was now 11 o'clock and we got cracking trying to locate the truck in the muddy river. From now on a crocodile guard and a lookout were kept whenever someone was in the water. Due to the current and poor visibility it was midday before one of the divers literally bumped into it and bent a line on.



Backing up towing lorry; ferry and breakdown truck in the background. Inset, 'Strange creatures in the Jungle'.

The Morris had turned right round so that it was now facing the way it had come in. This was very lucky as we found that a towing ring had been fitted on the front of the vehicle, so now we could pull it directly out.

It took us 45 minutes to lay out the heavy towing wire but by 1 o'clock we started pulling with our light van. All went splendidly until the ferry, coming closer to watch proceedings, fouled the towing wire. Perhaps it was just as well that the ferry crew did not understand our expletives. The result of this foul was nearly disastrous. The truck struck fast in some rocks with a heavy list—we could not budge it in spite of much heaving and burning of rubber from the tyres of our 'tug'.

However it was now in only 15 feet of water and the divers could work harder at trying to free it with shovel and crowbar.

We tried again at 2 o'clock but only moved the truck about three feet. Foiled but not depressed we delayed our meals no longer and settled down to sandwiches and beer.

During our meal we discussed ways and means out of our impasse. It seemed nearly impossible without a more powerful 'tug'. And there are no telephones in this part of the world.

Just as we were about to start afresh with more underwater excavations a cloud of dust approached the ferry from the other side of the river. When it had settled we saw two Bedford lorries waiting to cross over.

The Insurance Company's agent, for whom we were working, cajoled and argued with their drivers and finally came to a price bargain with one of them. He brought his lorry over on the ferry and we connected up the tow to it.

With many entreaties to take it slowly, the lorry driver ground his way up the track. Several times the engine stalled, the wheels spun and the dust rose. Then the shackle joining the two wires parted. I am glad to say it was not one of ours, but we did replace it with one of ours and tried again.

Suddenly the truck in the river broke free of the bottom and came home to dry land in a swirl of mud, bubbles and stench. We were almost too tired to cheer.

We flung ourselves on it now, determined to finish the job off rapidly. It was manhandled out, turned round and heaved on to the ferry. On the other side the white elephant used its winch at long last and took our prize away to Freetown.

Collecting all our bits together, we climbed wearily into our van and set

off for home. But our troubles were not over. After a mile along the rough track, the truck had to stop. The clutch had had sever strain put on it during the towing operations. The van had no tools. However, like Swiss Family Robinson, the Navy has something extra in their bag of tricks. We mended the clutch and drove on.

Halfway home we were stopped behind a large queue of lorries and cars by the police and told we would have to wait one and a half hours so that the Royal Procession would not be interfered with. Nothing daunted

we set off to find the police officer in charge. After some discussion he rashly said he had had orders to allow some Army vehicles through as they were part of the escort. Rapidly we claimed our due as Royal Escort (Navy) and before he could change his mind drove through.

We saw no sign of the Royal cavalcade and reached the jetty, full of our day's achievement by 7.30 p.m.

We spun our yarns and those who had not been taken were duly envious. It had been a most enjoyable day — something different but handled as usual."

News from 'Reclaim'

by S.L.T. C. (SNOWY) DAVIS, R.A.N.

ON the 29th of June 1961, *Reclaim* sailed for Bergen where the ships company spent 14 most pleasant days sampling the local hospitality. Nevertheless we did manage to carry out a series of evaluation trials of using the Surface Demand Diving Equipment from the Submersible De-compression Chamber to depths of 180 feet.

Next stop was Korsor, a Danish tourist resort about two hours run from Copenhagen. The Danish divers from Copenhagen were entertained on board and reciprocated with overwhelming hospitality. After four days of sampling potatoes in liquid form, it was with a feeling of regret but also relief that we sailed . . . How much can the human system stand?

After passing down the swept channels in the Baltic mine-fields we arrived at Travermunde, a tourist resort on the border of East and West Germany, complete with border guards, machine guns, barbed wire and all the other tourist attractions.

We pushed the boat out for the West Germans diver from Neustadt

and on the return visit ended up by drinking champagne and beer at 1030 which we all thought was a good start Unfortunately the proposed visit to the Drager Works was cancelled due to the place being closed for the summer holidays. It was here that the summer cruise of 1961 came to and end and we returned to Scotland via the Kiel Canal.

The next happening of interest was in October, when in company with *Shoulton* we raised a Dutch helicopter, 30 miles off the N.E. coast of Scotland from 170 feet. Valuable experience was gained on that job and it was with a feeling of achievement that we sailed back to harbour with a six ton helicopter on the boat deck.

With the minesweeping season over and our presence as support ship no longer, we cast off all the 'tin gear' and breathing a sigh of freedom made ready for the passage to the Canary Islands, to progress the Table II, de-compression trials.

We were destined never to arrive, for instead of leaving Portsmouth on November the 13th for the long haul

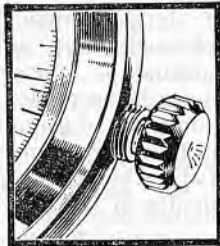




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south, we ended up in Falmouth loaded with an observation chamber and grab to assist in the recovery of a Wessex Helicopter which ditched in 246 feet of water, 10 miles from Falmouth.

After 10 days of frustration from not being allowed by regulations to dive, we were called off the job. But by then it was much too late to chase the sun.

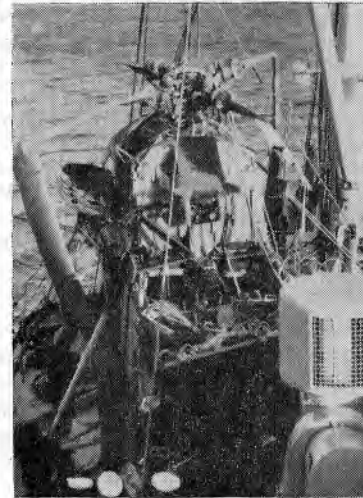
By way of contrast, the only other possible alternative was the Gareloch on the west coast of Scotland and we arrived at the beginning of December in a blinding snow storm.

We pressed on with trials and the first five dives produced four 'Bends'. After this initial set-back all went well though the Australian doctor we had on board must feel it is not normal to do stops on a shot in an upside-down position, not even for him!

December 16th saw us back at Rosyth and due to go into dockyard hands for an extensive refit.

For the information of the old hands, the entire after-mess deck is now being fitted out with bunks and the stoker's mess is being turned into a cafeteria.

From the gale-swept northern outpost we bid one and all, 'Au Revoir'!



Wreckage of the Dutch helicopter on the boat deck.

Unarmed Combat

Or the Gentle Art of Bringing 'Em Up Alive

by SHINER

IN our last issue, you may have read an article by the Venerable Beaton, R.N. (if not, rush to get one now, while stocks last). In his article on the preparation of aquatic grub, the worthy gentleman takes it for granted that 'anybody who is ANYBODY' has, at one time or another, gained sufficient experience to require no instructions on the catching of the crustaceous beasts. He therefore leaves many of us in the embarrassing position of being masters of the culinary art with nothing to cul.

Let us take a look at the possibilities of reversing this unhappy state.

They are, (a) by buying the animal, (b) knocking it off, (c) picking one up on the beach or (d) catching the flipping thing in its natural habitat. As (a), (b) and (c) upset your pocket, 'oppo', or stomach in that order, we are left with (d).

To gain an insight into what this entails, let us follow a prospective lobster catcher down into the cool clear waters. Notice how he enters the water, his body describing a graceful arc as he performs a backward flip off the . . . Oh! . . . I wonder who left that plaice on the deck? Ah! They've thrown his set in after him . . . Now, where were

Recovery of Jet Aircraft Following Ditching

by SURGEON LIEUTENANT COMMANDER A. F. DAVIDSON, R.N.

IN recent years, Clearance Divers have occasionally been requested to locate and recover ditched aircraft.

After the *Buccaneer* from H.M.S. *Hermes* ditched in Lyme Bay on 31st August, H.M.S. *Dingley* conducted the diving operations. These were restricted however, by the lack of a diver familiar with the Martin Baker Aircraft Ejection Seats. As the ejection seat guns and drogue guns are capable of firing under water with the possibility of fatal results to anyone who is in the way, it is essential in an accident of this type that the guns be made safe at the earliest possible stage in the salvage operation.

A long series of underwater escape trials has been carried out by Naval Medical Officers at Glenn Fruin in Scotland, assisted by various teams of Clearance Divers. The divers who have taken part in these trials are all familiar with the ejection seats and equipment but I feel that it would be advisable to distribute information to all other divers who may be required for aircraft salvage operations.

It is also important that as much information as possible be obtained from such accidents and therefore it is helpful if a specialist in aviation medicine or safety equipment is able to examine cockpit, seats and equipment before it is disturbed to determine whether or not the equipment has functioned satisfactorily. The ideal system would be for the expert himself to dive and make his initial inspection underwater, but this is not always possible as at present only Surgeon Commander J. S. P. Rawlins and myself have the necessary exper-

ience in aviation medicine, and in working underwater.

Luckily in the case of the *Buccaneer* accident I was able to reach the scene of operations before the aircraft was raised above the surface. I then dived and inserted the safety pins in the pilot's seat and drogue gun, secured the observer's seat and inspected the harness and personal equipment of the two aircrew. The observer's seat had been fired inadvertently, probably on impact with the bottom. I feel that it would have been even more satisfactory if I had been able to inspect the aircraft before it was raised from the bottom but naturally it was not advisable to delay the recovery of the aircraft to enable this to be done. In spite of this it was possible to make a more detailed report on the attempted underwater escape than would have been possible if the aircraft had not been inspected until it arrived on the jetty at Portland.

Aircraft Ejection Seats

Ejection seats are designed to enable the airscrew to leave the aircraft safely at very high speed, where a high ejection velocity is required to clear the tail of the aircraft, and at low level when the seat must rise to a sufficient height for full deployment of the parachute.

The actual velocity obtained by the seat varies with the type of gun.

Gun Type	Velocity in Air (ft./sec.)	Velocity in Water (ft./sec.)
1	60	26
2	50	11
3	80	33
4	83	33

we? See how he sinks effortlessly . . . effortlessly . . . eff . . . hang on a minute 'Chuck him a weight belt someone: Thank you!'

Now we see our hunter gliding easily through the long kelp. Notice how it parts gently to the displacement of the water at his passing . . . and swings back to caress his legs. I wonder what that sharp manoeuvre was in aid of. Ah! He's spotted something. He stops! He backs! Is it? Yes! No! Oh well, it was good of him to give it right of way. A prawn can get hurt barging around backwards like that!

We are among the rocks now and our diver is searching for the tell-tale signs of a lobster's dwelling. He's coming to a hole now. From the dark interior protrude two blue antennae. Our diver spots them. Now he's coming back!

At this junk . . . , at this junch . . . , at this point I would like to mention that there are many ways of getting the prey to leave its lair. The most common in use today is with the aid of a stout wire bent into a loop and secured to a stick, S.W.D. or whatever is cheapest to get hold of at the time. The instrument is shoved into the lobsters back bedroom and an effort made to annoy his Missus who will then lash out and precipitate her unfortunate mate onto the front lawn.

A more subtle method, employing that old stand-by, sex, is far superior. First, you require a pair of antennae and these can be found on most types of 'walkie-talkie' set supplied by 'Pusher' or any large surplus store. With these tucked under your head straps you are ready to make your approach to the lair in question. This approach is most important. You must sidle across to the opening very slowly and at the same time exude a beady eyed charm. The instructions for this are given in the

Gunnery Manual, I think.

After a correct approach the lobster will start to show interest though he will try to conceal the fact, especially if he does have a Missus in the back bedroom. His excitement will be signified by the clicking of his pincers and this must be answered by the nearest thing to a female clapping her tail. You've got it! You bring your flippers smartly up against your belly (sit down Ted) and shoot astern a couple of feet.

. . . Your lobster is now at your mercy, scampering forward like a C.D. down Strait Street. Pounce and grab him. Otherwise you're in trouble.

Back to our diver. Well, I never thought of that. Our intrepid diver has allowed the lobster to grab his finger and has pulled him clear of the hole . . . Now they are circling each other on the sand, each looking for and opening.

That is the interesting part, picking the thing up. This is a small one so our diver can go behind the beast and grab his after parts. And get nipped on the knuckles. On the other hand he can get above it and grip it's back. And get nipped on the knuckle . . . That is the advantage of getting a big lobster, its claws are too awkward to reach back.

Our diver feels the same and is swimming off to explore those thick kelp patches to our right, looking for bigger game. Hang on. I'll just pick up this one he's left and then we'll follow him. This is where he went, through this gap in the weed.

Of course, when you want the big stuff you should look out for signs of strong pincer work; . . . like that crushed corned beef tin or that splintered bone and this flipper with deep marks on it. And look at that . . . that . . . Uuurrh! Oh well, I'll stick to small ones,

This means that the seat can travel between 14 and 17 feet through the water and its speed is sufficient to cause severe injuries to anyone who gets in the way. It could easily break an arm or leg or even have fatal results. The underwater blast produced by the gas bubble on separation of the gun may also be dangerous if one is very close to the seat.

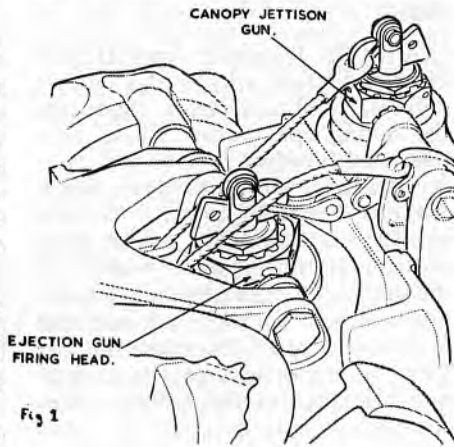
The primary cartridge is fired by removal of a sear from the firing head and as the inner and intermediate tubes of the gun extend they uncover the secondary cartridges which are ignited by the hot gases. The ejection gun can therefore be made safe by inserting a safety pin in the sear.

Figure 1. Shows the top of a typical ejection seat with the breech of the canopy jettison gun bolted to the bulkhead behind it. Both the sears are ready to fire.

N.B.—In some aircraft the canopy jettison gun is not present.

Figure 2. Shows both systems with safety pins inserted.

On the left side of the seat, attached to the seat beams behind the drogue container is the drogue gun. This fires a steel bolt which deploys the drogue. It is usually fired after the seat has moved about 2 ins.,



by a short telescopic rod, the trip-rod (see Figure 3) which is connected to the rear cockpit bulkhead. It can be made safe by removing the pip pin attaching the firing rod to the rear bulkhead and inserting it in the small hole at the base of the breech (safety lock).

Figure 3. Illustrates the position of the drogue gun relative to the top of the seat and also shows the pin in the safety lock.

While working near the cockpit before all the pins have been inserted

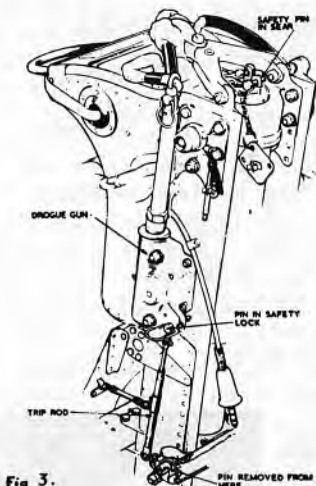


in the ejection seat and drogue guns it is advisable to keep well clear of the possible trajectory of the seat.

DO NOT SWIM OVER THE TOP OF THE SEAT.

DO NOT PULL HANDLES IN THE COCKPIT.

If no safety pins are available a 4BA bolts will do. The safety pins are normally stowed in the cockpit but it is far easier to take a spare set down with you than to look for the pin stowage in the aircraft.



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CATALOGUES AND PRICE LISTS SENT ON REQUEST

INFORMATION WANTED

The following letters arrived by the same post on the 2nd of January.

Will the gentleman who took my blazer badge (R.N.D.A.) on New Year's Eve, please return the blazer Box 103.

Miss C. Gleep of Brighton wishes to contact the diver whom she met on New Year's Eve in Trafalgar Square, preferably by the end of September. Box 1.

Miss D. Villiers of Notting Hill wishes to know why the diver who

said he would meet her, wearing a blazer and R.N.D.A. badge, in Trafalgar Square on New Year's Eve, didn't show up. Box 2.

Mrs. P. Nutcake of the Club and 'Knuckle' Inn near Waterloo Station, asks, where shall she send the Blazer and earrings left there by a young couple on the 1st January. Box 10.

A.B. Hogwash wishes to swap drafts URGENTLY! With any diver serving in the Far East. Any flipping box.

Promotions and Advancements during the last six months

Apologies to any members who have been omitted as a complete list has not been available.

Congratulations to Lt.Cdr. P. A. White (C.D.), M.B.E., R.N. on being provisionally selected for promotion to Commander. This will be the first time since the Clearance Diving Branch came into existence that we have been able to boast an officer qualified purely C.D. above the rank of Lt.-Cdr.

Advancement to C.D.O.:

Lieutenants K. G. LEES,
T. BAIN-SMITH,
G. SHAW
J. K. WILSON

To C.D. 1st Class:

A/P.O. R. H. ANDREWS,
P.O. R. FLANAGHAN,
P.O. R. N. DAVEY,
L.S. C. KEMPSON.

To C.D. 2nd Class:

P.O. W. T. CORBETT,
L.S. D. LOTT,

L.S. MACKENZIE,
L.S. P. L. POWER,
L.S. R. ADAM,
L.S. K. BECK,
A.B. D. LOCKWOOD.

New Members of the C.D. Branch— C.D. Star

L.S. V. GIBBONS,
L.S. C. E. B. SMITH,
L.S. J. WRIGHT,
L.S. W. JONES,
A.B. J. F. FEGAN,
A.B. B. BOULTON,
A.B. L. THOMPSON,
A.B. T. MCCLUSKY,
A.B. W. TURTON,
A.B. J. MAHER,
A.B. A. BARKLEY,
A.B. P. MARKS,
A.B. S. RUSSELL,
A.B. D. ROGERS,
A.B. D. HARKER,

To Artificer Diver:

MECH. E. BROOKSBANK
MECH. M. F. COPPIN,



Lieutenant K. G. Lees receiving the Superintendent of Diving's Trophy from Vice Admiral D. P. Dreyer, C.B., C.B.E., D.S.C., on passing out top in the 1961 Long C.D. Officers' Course.

SHIPT. M. A. JENNINGS,
E.R.A. F. HOWARD,
E.R.A. R. LONGLEY,
E.R.A. P. PLUMBRIDGE.

To C.P.O.:

C.P.O. J. R. CULLEN,
C.P.O. E. BUTLER.

To A.P.O.:

R. P. DAVIS, C.D.I.
MACGRATH, C.D.II
R. RADFORD, C.D. STAR
R. LUSTY, C.D.II
R. H. ANDREWS, C.D.I.
WALKER, C.D. STAR.

What is a Diver?

by "PSYCHO"

OF all the Navy's inmates the Diver is perhaps the most widely dis(cussed) and least understood character of them all. He is one of uniform classification and appearance yet possesses a unique individual opinion of his own.

He is ruled by regular amendments to the R.N. Diving Manual and the state of the 'barons' on board.

A diver can be of any colour or creed, and yet he observes the same attitude of being in turn, a profound lawyer, a cynical pessimist, a 'buzz' spreading optimist, a paragon of virtue or a loud voiced victim of countless green rubs.

He can be found in, out of, swimming around and beneath ships of every shape and size upon or below the ocean; yet his appearance never faulters nor his face portray any appreciation of his worthy tasks. But when the diving boat mysteriously appears alongside at 'Tot Time', his face, shining up from the bilges, will take on the appearance of a sad cocker spaniel.

He has an amazing capacity for consuming liquid and a cast iron digestion that would make an ostrich feel like a non-runner.

A diver will drip every minute of every day and twice as colourfully after 'up spirits', talks of some strange 'time' which is the bane of his life meanwhile venting his wrath on the Chief, the Messdeck

P.O. or a killick depending on who is furthest away at the time.

Ashore a diver is a paragon of good manners. He is sociable and genial. He will sing dubious ditties at the top of his voice, reeling like a storm tossed tug, yet the appearance of a white-belted patrol seems to have the magical effort of subduing his voice and steadying his step.

He makes mental notes of the pints consumed, old dears who drink scrumpy and of his best Darts score — to relate during breakfast next day, much to the awe of his listeners.

A diver dislikes pusser's boots, hats and lanyards, dhobeying under-suits and sweaters, efficiency tests, pay books, station cards, inspections, falling in (except for loot), pulheems, mess bills, Wakey, Wakey, kit musters, circuit training and returning from leave.

He likes very much 'Bubbly', Uckers, 'Dry' Drafts, long leave, mail, his sack, make and mends, stand off, the last dog, baccy issue and the girl he dreams of up the line.

T.A.S.I's find him maddening, Jimmies ignore him, the girls all love him and heaven protects him. Give him some string and wood and he'll make something, put him in a classroom and his brain turns to jelly.

A diver is civility with a shabby cap tally, industry under a bilge keel, studiousness with a cuttlefish, truth with a locker full of nose clips,

initiative with a boss nut, life with the lid off and humour with a corned dog wedge. He is an accomplished sewer, mender, dish-washer, tea-wet-ter and snack bar attendant. He is a connoisseur of all wines, beers and spirits from Scapa Flow to Freetown and Grenada to Hong Kong.

He knows the names of every bar-maid in every port, while his recol-lection of the exact location of their habitat is truly bewildering.

His locker consists of beer labels, ashtrays, Chinese lanterns, pussers yarn, marline spikes, photographs (some even properly attired), tickler tins, old letters and his oppo's oil-skin. Like a midshipman's chest, everything is on top and nothing handy.

He relies on his chum's sense of comradeship for borrowing collars, silks, and shoes to get ashore, but never seems to remember from whom they were borrowed.

He is a subtle combination of ap-plied indifference and patriotic concern yet, despite his faults he would be the first to risk his neck for another in trouble above or below the surface. He hates to admit defeat and would rather finish a tough job on his own than call for relief. It is a matter of pride that when asked if he wants a relief he will answer 'No' and will go on until the next diver takes over by order.

The next time you see a diver ashore, treat him like a human being, tell him a joke, buy him a pint and remember, mine's a bitter!

We can now offer the R.N. Diving Association Blazer Badge as shown, for 25/-, including P. & P. This is the official badge of the Association and can be purchased by all serving and Ex-R.N. and R.M. divers including the Commonwealth Navies.



The Association Ties are again available at 12/6 P. & P. 6d. extra. They are available in Blue or Maroon Terelyne and have an alternate motif of an underwater swimmer and a diving helmet embroidered in yellow silk. They are for sale to all serving and Ex-R.N. and R.M. divers in-cluding the Commonwealth Navies.

to start on account, i.e. 6/- will cover the next three issues. Send P.O. or Cheque to:—

The Treasurer, R.N. DIVING MAG-AGINE, H.M.S. *Vernon*, Portsmouth, and include Name and Address with details of the last magazine that you purchased.

* * *

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We regret to announce that all back issues up to the Christmas 1961 Edition have been sold and we can no longer take such orders.



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★
**THIS
MONTH'S
STAR
BARGAINS**

I Wonder

by PUSSER HILL

THIS is a story about the Strand. No! not the one in London. This one is situated in Brixham which is a small fishing town in South Devon.

Overlooking the picturesque harbour in all its glory stands a statue of William, Prince of Orange. It was erected by local subscription to commemorate the landing of that Royal Personage.

This story takes place in the year 1944. The excitement of 'D' Day had gone and Brixham was being used for the training and resting place for 'P' Parties. More about them at a later date. Also included on the books of H.M.S. *Fireworks*, later H.M.S. *Vernon (D)*, was a group of divers for experimental work, later to become the Admiralty Experimental Diving Unit. These very brave and fearless men are a few of the people who helped to make diving a little less dangerous by their trials, often carried out with weird and 'Harry Tateish' equipment. Small wonder that a certain Surgeon Lieut.-Commander said after some trials that he wasn't sure if they were all mad or just completely insane, but by and large they were a hard working and a hard drinking lot and respected by all. A blind eye was turned to many of their escapades — this is the story of one of them.

Naval Party 1574 had just returned to England and brought back from France several vehicles that had once belonged to the German Army, at the same time acquiring a uniform for all its personnel. The Officer Commanding this Unit was a much decorated Australian. He stopped his men about two miles from Brixham and then proceeded to change his entire Unit into a convoy of German troops led by a large Mercedes Benz, flying the Nazi flag, with the C.O. sitting dressed as a

high ranking Officer of the S.S. They proceeded into Brixham and drove slowly along the Main street towards the accommodation set aside for them. Alas, they were fated not to reach the perimeter of the base. Out charged the local Police and Home Guard, plus all the sailors that could be rounded up (what a panic in the Base). They were all arrested and taken to the local lock-up.

Much fast talking was done by Lt.-Cdr. . . . and by 1930 that night they were all released and allowed to go to the base, where they were treated with all the normal festivities that greeted a returning 'P' Party. Later on the A.E.D.U. personnel challenged them to a drinking match at the B. . . Arms, which was taken up with great gusto.

After many well sunk pints of beer and scrumpy we decided, helped by the local policeman, to return to our billets. Now, to do this we had to pass by the William of Orange statue. After saying goodnight to him several times and dancing like so many savages around him, we left and went to turn in. Then a strange thing happened. As if by instinct, we all went back to be confronted by members of the A.E.D.U. armed with a bright orange paint, painting the statue. Oh! boy, it really looked good.

Alas, next morning when we were all eventually rounded up and put to work in front of all the local people to clean the mess up, you can imagine how we felt. I must say it was really worth it and the local people were pleased because he wasn't due for a face lift for several years to come. Which reminds me of the going away party for those members of A.E.D.U.

It was like this:— Sorry, the Editor want's this paper so I'll tell you that yarn at a later date.

Lillywhites

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SMALL ADS. — LOST AND WANTED, ETC.

LOST. One diver, last seen entering a large black car with blue prints of a booster pump in his possession.

Box M.I.5.

LOST. Two Badges. Box 999.

FOUND. One small monkey in what looks like a crashed bubble car. Keeps saying: '3, 2, 1, Zero . . . Oh Crikey!'

Page 1.

FOUND. A 'Thing' in a rubber suit, covered in what appears to be mud, and keeps repeating: 'Round the island or bust!'

Page 2.

FOUND. A large diver with lapel badges; Purple complexion. Discovered in the Gym, flat on his back under a bar bell.

Cages 3 and 4.

WANTED. A . . . (Cor., don't we all?) Ed.

WANTED. A reliable Ex-Naval Diver for employment in the Red Sea area. Diving duties will include scrubbing the bottoms of Harem inmates' (wait for it) swimming pools. £5,000 per annum, plus expenses. Must be a Eunuch.

Box 16.

WANTED. A snow-plow suitable for fitting to a small car for use when leaving the Dockyard gates at 5 o'clock in the evening.

Box 17.

PERSONAL. Joan, I love you. Bill.

PERSONAL. Bill, leave Joan alone Joan's Husband.

SOLUTION TO DIVERS' CROSSWORD

Across:—(1) Aqua-lungs; (6) Morse; (9) Skin-diver; (10) Sided; (11) Suspend; (12) Aground; (13) Inc; (14) Rum is up; (17) Eel line; (19) Dan buoy; (22) Trinket; (24) Air; (25) Clanger; (26) Amphora; (29) Ice on; (30) Abnegator; (31) Nasty; (32) Maelstrom.

Down:—(1) Asses; (2) Units; (3) Ladders; (4) Navy dip; (5) Surface; (6) Mistral; (7) Radium ink; (8) Ended neat; (14) Reduction; (15) Maneaters; (16) U.N.O.; (18) Ear; (20) Urgency; (21) Yardarm; (22) Trainee; (23) Impugns; (27) Outer; (28) Atrum.



A good turnout by the Vernon Diving Staff for the Christmas 1961 Pantomime. From the left: Lt.-Cdr. P. A. White, C.P.O 'Fairy' McKinlay, Terry Tomkins, Bill Barrington and P.O. 'Mick' Corbett

Calling all Naval Sub Aqua Clubs

Recommended reading for all Naval Sub Aqua Clubs: the *Nepton*, news bulletin of the Home Air Command Sub Aqua Club.

The *Nepton* is produced for the mutual benefit and general information of all Royal Naval personnel interested in underwater activities. Distribution is free to any Club that satisfies the standards which have been adopted by the H.A.C-S.A.C. Committee. Any Naval Clubs interested are invited to contact the Chairman, Lt. R. Graham, R.N., H.M.S. *Ariel*, Lee-on-Solent, Hants.

A DIVING REQUIREMENT IN LIBYA

Replies to
Capt. A. L. Hendrix (Please hold)
c/o Piccadilly Hotel,
London.

Extract from Letter

Captain A. L. Hendrix of the Oasis Oil Company of Libya, Inc. is desirous of employing one Diver and two Diver Tenders.

The Diver should be ex-seaman branch but with some Diesel knowledge or an ex-mechanical Engineer. He should be ex-shipwright Diver. Minimum standard would be Diver 2nd Class or Artificer Diver.

Clearance divers or shallow water divers would not be satisfactory.



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at
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