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# Royal Naval DIVING MAGAZINE



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# R.N. Diving Magazine

## EDITORIAL STAFF

Editor: Petty Officer R. L. Benfield

Treasurer: S. J. Newman, Snr. Cmd. Gnr. (TAS) R.N.

Vol. 3

May, 1955

No. 2

## EDITORIAL

Dear Readers,

Once again there has been a change in the editorial staff due, I am sorry to say, to service requirements. Our last Editor, Lt. Sagar, has departed for Canada to start life afresh in the Canadian Navy. The last Treasurer, Mr. Currie-Davis, has departed for the distant outpost of Portland, Dorset.

This, our first magazine under the new staff, I trust contains news for all, but Oh! the pain of obtaining it.

May I remind every one that the future of this magazine rests in your hands, so please let us have your support. Send in any material you have to *R.N. Diving Magazine*, H.M.S. *Vernon*, Portsmouth. I would like to thank all those who have given us support in this our first issue by sending in stories and photographs, not forgetting our cartoonist. Let us hear from a few more of you lads, it does not matter how tall the story might sound, we will find room for it. EDITOR.



## TREASURER'S NOTES

As mentioned by the Editor, there has been a complete change of staff for this magazine. Many of you will have received a letter and new subscription form from me; there are still many to go out, but it is a long job. Nevertheless the response so far is very encouraging, and I trust that in the very near future our circulation will have more than doubled itself.

Remember it is your magazine, and you can help in increasing the size and circulation by sending in your contributions, also passing your magazine on for others to look at and interest them in becoming a subscriber also. Please remember to let me know any change of address, it is quite a problem to keep in touch with you all especially these days with shorter commissions, etc.

All for now, S.J.N.

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## A NOT SO BRIEF ENCOUNTER

After a pleasant luncheon in *Vernon's* wardroom, I had arrived back on *Deepwater* and was contemplating the cold muddy waters around the stern with little enthusiasm for my forthcoming 'dip,' when I was hailed from *Clearwater* and asked if I would like a run out to have a look at the German training ship *Pamir* which was lying in St. Helen's Roads with a fouled screw.

Having obtained the reluctant approval of my diving instructor, I was soon aboard *Clearwater* and heading out towards Spithead and the *Pamir*.



By kind permission of *Portsmouth Evening News*

We came alongside her under the critical gaze of the entire German crew, who were then treated to the impressive sight of Mr. Walker swarming aboard by means of a rope. A rope ladder was then lowered and I ascended in a more sedate and less precarious manner.

On deck we were greeted by Captain Herman Eggers and Staff Captain Helmit Gruppe and after much saluting and handshaking, we retired to the wardroom where the traditional Schnapps was produced. We learned that *Pamir*, an all steel four-masted barque of 3,103 tons, was bound from Hamburg to the River Plate; her crew consisting mainly of cadets. Whilst proceeding down Channel one of the mizzen course (or lower sail) sheets had carried away and fouled the screw of her diesel auxiliary. It was absolutely imperative that the auxiliary should be functioning, as without it she would be unable to dock or proceed up river unaided, and the cost of engaging a tug would be prohibitive.

Already *Clearwater* was moored in a position on *Pamir's* port side adjacent to her counter, bottom lines rigged, and the first diver in Mk. I.U.W.S.S. and gas mask inspecting the task. Some 30 feet of steel wire rope was then removed from the propeller shaft, enabling a more detailed examination to be made. This revealed that the offending wire had worked up underneath and inside the rope guard, and as this was not a standard fitting but was welded directly on to the hull, it was evident that a section would have to be cut out of it.

As I had only come out for an afternoon, the gear I had was what I stood up in, and a battledress and raincoat was not an ideal dress for a three-day task such as this one turned out to be. However, the crew of *Clearwater* rallied round and soon I was attired in seaboots, khaki slacks, two blue jerseys, the P.O.'s jacket and my R.A.F. beret—an odd but workable assortment of clothing.

At the request of her Captain we had our meals on *Pamir*—thank goodness, as corned beef and biscuits can soon get monotonous!—enormous steaks, eggs, etc., washed down with Rhine wine, excellent coffee and the inevitable Schapps.

The *Pamir's* cadets were very interested in the diving operations and it was quite a task getting into a suit as there were so many pairs of keen but amateurish hands trying to help. We also had a German officer on duty with us for the purpose of producing anything we needed from *Pamir's* resources.

On the second day, Staff Captain Gruppe was down on *Clearwater* when an R.A.S.C. launch came alongside. A naval helicopter was closely inspecting *Pamir* and at the same time I was being hauled out of the water; he looked at me and shook his head in a puzzled manner and said in his very good English: "I don't understand it—the Air Force is working under the water, the Army are sailing about in boats and the Navy are in the air."—I could not attempt an explanation!

On the third day, with the completion of the task almost in sight, I had to take my leave; so with my souvenirs, tally bands, autographed photographs, a pair of wire-scratched hands and a most enjoyable insight

into life on board one of the fast-disappearing "windships," I left the excellent comradeship of all on *Clearwater*, and with the shouts of "Coward!" and "Keep a level head" from Mr. Walker I reluctantly returned to *Vernon*.

C. T. LYNAS, *Squadron Leader, Royal Air Force.*

## H.M.D.T. CLEARWATER



Photo by kind permission of *Portsmouth Evening News*

In every week there is a Tuesday.

As far as *Clearwater's* crew are concerned, there are now two Mondays (no Tuesday), Wednesday, Thursday, etc., Tuesday having been unanimously "scrubbed" from the week. For it has been this fateful day that, amongst others, two of the more unusual jobs have been undertaken by *Clearwater*.

First was a new coastal minesweeper in Southampton with more than her fair share of a dredger's cable around her screw. The usual "faster faster" routine was undertaken in somewhat chilly conditions and a mass of 1 1/2 chain cable was finally cleared, the job taking two days and much basic English to complete. Damage to the C.M.S. consisted of half-a-dozen minor chips from the port screw.

A matter of interest—the captain of this particular vessel was one of the two survivors of H.M.S. *Hood*, which was sunk on Empire Day, 1941 by the German battle cruiser *Bismark*.

The following Tuesday, at almost the same time, we were off again, this time something really unique. A foul screw on the four-masted barque *Pamir*, a German cadet training vessel of 3,103 tons net.

This turned out to be a "Pig's Orphan" of a job, due to the extreme coldness of the water and a constant rise and fall under the counter of some three to five feet, giving the divers a steady "shoulder massage" against the hull and rudder, in the best traditions of a Peruvian yo-yo champion. (In fact, life became a series of ups and downs!)

Through the effects of the above, work progressed painfully slowly, one diver being knocked out, one having a finger severely gashed (later operated on by the German doctor on *Pamir*), and all having a generous proportion of cuts and bruises.

The barque had been on her way down channel on what promised to be a record run to the River Plate. Her speed was a steady 16 knots, when she ran into head winds. Starting her auxiliary diesel to assist her, she was unfortunate in having the mizzen course sheet pendant (2 1/2 wire) carry away and foul the screw. The winds forcing her back up channel, she put into St. Helen's Roads, and requested help from Commander-in-Chief, Portsmouth.

Strangely enough, on the day *Clearwater* went to *Pamir's* assistance, we had already been out in the vicinity of the Nab Tower, assisting the B. & M.D. Unit under Mr. Currie-Davies. On returning we circled *Pamir* for a closer look. Little did we know then that our services were so urgently needed.

The hospitality of the German captain and his crew was overwhelming. They gave every possible help, even to unofficial "diver's attendants," and including as liaison officer, the third mate. Truly, as his nickname implied, "A man and a half." Standing six foot four, and built accordingly, he had a friendly habit of picking up our cox'n with one hand, and wishing him "Guten Morgen."

Meals—always hurried business—became something of an embarrassment, for, if one failed to consume enough for six, our generous hosts became alarmed, thinking we were ill. (The miracle was—why we never were!)

Whilst the job progressed, sound friendships were made, and much regret was expressed by a certain "Alexander the Great" (and one other), at not being in a position to accompany *Pamir's* crew on their voyage.

It was noted that the linguistic capabilities of one other provoked great envy in the leading stoker mechanic of *Clearwater*, whose grasp of the German language after four days was limited to the equivalent of "mouse-hound."

On *Pamir* finally continuing her voyage, her crew gave the team a wonderful "Chuck-up" which was heartily reciprocated, both vocally and on the *Clearwater's* siren. To such good effect that the L.S.M. had to keep up pressure by running the compressor. (This, aided by much basic English, interspersed with his own brand of "German" curses, turned the atmosphere of the engine room a beautiful shade of Royal Blue.)

The eager friendliness and unbounded hospitality of *Pamir* was emphasized by a most complimentary signal of thanks to the Commander-in-Chief, Portsmouth.

To work on one of the last sailing ships was truly a memorable and unforgettable experience.

It may be added that everyone managed to "keep a level head" although it was a distinct strain on occasions. HOOKY.

## CRUISE OF H.M.S. "RECLAIM"

On Monday morning, January 17th we slipped from the North Wall, Portsmouth and set off on the first lap of our Scandinavian cruise.

Our first stop was Portland, where for ten days we worked up, performing A/S exercises, meeting old ships, and generally getting our sea legs. From there we sailed to Fort William, at the head of Loch Linnhe, where we arrived on Monday 31st after a rather a rough passage.

Without wasting any time we started our diving, the first dive being to 200 feet. Gradually working down the gauge for the next three weeks, we exercised all our divers to 500 fathoms. Naturally there was some play between the work, the Highland populace of Fort William proving wonderfully hospitable and kind. The lasses were very co-operative too, many a budding romance having its conception during our three weeks there. *Reclaim's* farewell dance was held in the Grand Hotel on the night of February 14th, and a wonderful dance it was. Then with regret we said goodbye to our friends in the Highlands, and set off for Port Edgar.

Rounding Cape Wrath was an experience. We met howling gales and hurricane force winds, some of the gusts being more than 70 m.p.h. We had some navigational difficulties, our gyro compass and Decca navigator packing up when both were most needed. The worst was yet to come. Suddenly the engine telegraphs clanged and registered STOP. It seemed at that precise moment that the sound of the wind changed from a howl to a high-pitched scream. The helm was quickly put over to bring our head to the sea. Helplessly we wallowed in the grip of the waves beating in from the north, and pushing us steadily towards the black forbidding rocks of Cape Wrath. The N.U.C. signal was hoisted and frantic phone calls went on between the bridge and the engine room. The reason was that we had lost suction owing to the terrific rolling of the ship. Outwardly calm the captain rested his arms on the bridge screen, and watching him we could feel the responsibility that rested on his shoulders.

Half an hour went by and bit by bit we were being driven inshore. All eyes were on the telegraphs and suddenly, unbelievably, they clanged from STOP to HALF-AHEAD. There was a lifting of tension and the captain laughed with relief as he shouted a magnetic course to the quartermaster.

Next day, having weathered the worst storm in most of our memories, we thankfully passed over our berthing wires at Port Edgar. A week there licking our wounds and making ourselves look pretty again, and we set off for Norway, the land of the Vikings.

This time the weather proved kind to us, giving a little push if anything, and after a couple of days we steamed through the Pudde and Byfjords, and secured alongside in Bergen harbour a.m. Saturday, 26th February.

Bergen proved to be a very old and picturesque town, founded in 1070 by King Olaf Kyrre. It is reputed to have the heaviest rainfall in Norway, 74" annually, but *Reclaim* struck lucky; the weather during our stay was cold, but in the main dry. The city is practically isolated from the hinterland by tall mountain ranges. This has led to an independent spirit among the inhabitants, and they tend to regard all other Norwegians as "Furriners." In fact, ask a local if he's from Norway, and the chances are he'd say "No, I am from Bergen."

A rugged mountain, Floyen, towers over the city, and is to Bergen what the Peak is to Hong-Kong, or Table Mountain to Capetown. The summit is reached by a very modern funicular railway, and at week-ends most of the populace ascend in the train for the favourite Norwegian sport of skiing. Through the good offices of our estimable liaison officer, Lieutenant Commander Peter Salen, a number of pairs of skis were allocated to *Reclaim*. Needless to say our sailors took to the sport like ducks to water, and made up in enthusiasm what they lacked in skill. The locals were highly amused to see No. 8 clad British tars charging down steep slopes, go flying into snowdrifts, and then doggedly pick themselves up and start all over again. Luckily during our stay we had no serious accidents, the only casualty being Leading Seaman Puttock, who sprained an ankle.

Meanwhile the diving went on apace, and we were able to demonstrate our technique to the Royal Norwegian Navy. The water was 5° C on an average but, despite this, we eventually achieved a depth of 411 feet, erroneously claimed by some journalists as a world record. This was rather embarrassing, but then we must remember that newspapermen have to live too.

The captain, Lieutenant Commander C. R. Sims, was in great demand as a lecturer. Other officers attained fame or notoriety by more unorthodox means, notably our number one, Lieutenant Hefford, who was well known for his propensity for sticking silver paper cups on the deck-heads of certain well known hotels.

However, all good things must come to an end, and we prepared for sailing. The night before we left, your correspondent went to the top of Floyen to have a last look at the fairyland that is Bergen by night. A carpet of velvety darkness stretched away to the waters of the fjord, the blackness relieved by seemingly millions of twinkling diamond lights, like reflections of the stars. A golden half-moon, floating serenely in the sky, sent a shimmering path of soft light across the cold black surface of the Byfjord. It was breath-taking and unforgettable.

The dawn came round much too quickly, and in very bad visibility we sailed from Bergen for Copenhagen. Blinding snowstorms and blizzards met us as we entered the North Sea, and once again our Decca failed; but men sailed the seas before Decca was invented, and we ploughed on. Saint Patrick's day came and with it the announcement that one of our company had become the proud father of a daughter. Following the Nemedri routes we felt our way round the Skagen Horn and into the Kattegat. Early on Friday morning we passed Helsingor, the Elsinore of Shakespeare's *Hamlet*, and anchored until daybreak. With the light we weighed anchor and before another hour had passed we were secured alongside the 'whispering pines' of Langelinie.

The B.N.A. Commander Potter and our Danish liaison officer, Lieutenant Pelle Mosbech, made us extremely welcome, and organised diversions like visits to the Carlsberg and Tuborg Breweries, which were thoroughly enjoyed by the lucky types who went. Your unfortunate correspondent was otherwise employed each time.

The Royal Danish Navy was very interested in our diving. Restricted to comparatively shallow depths, helium diving proved rather a novelty. Mr. Otley, D.O.I, proved an able lecturer to the squads of Danish officers and doctors who visited us. Here, too, we had some very good journalistic friends. Nigger, our ship's cat, was sadly libelled, being credited with innumerable feline wives from Spitzbergen to Shanghai, and with more offspring than Solomon. Poor old Nigger, he's been a eunuch for years!

Sailing day came round just as we were getting to know the place, and on Wednesday we found ourselves ploughing through the Southern Baltic en route for Karlskrona. Our objective was a buoy a few miles south of Karlskrona, where we should pick up a pilot. A Decca fix put us right on the buoy on the morning of Thursday. Unfortunately, no buoy had been laid and, after cruising round searching for it in obviously dangerous waters, the captain thought it more prudent to drop anchor and wait for the pilot to come to us. Eventually a small boat chugged out and we embarked the pilot and Lieutenant Lennart Malmberg, our Swedish liaison officer.

What a sight awaited us as we entered harbour. The whole area was absolutely ice-bound. *Reclaim* proved an efficient ice-breaker, however, and we carved through it like a hot knife through butter. Getting alongside was no easy task, as the ship compressed the ice into one mighty fender. By dint of sea-sawing with the head and stern wires we eventually got near enough to put a brow out. As usual, the first ashore was Nigger, followed closely by the postman.

The Royal Swedish Navy, thorough as usual, had left nothing to chance, and a rather full programme was laid on. Part of this was a visit to the Swedish Training Establishment, which proved very interesting. About 50 officers and men were conducted round and were very impressed by the brightness and cleanliness of the classrooms and workshops. The porcelain factory was another attraction which proved of great interest.

The Swedish diving ship *Belos*, commanded by bluff Commander Holger Donhammer, very quickly became our chummy ship. A demonstration of the Swedish rescue bell was laid on for our divers by *Belos*, and *Reclaim's* diving officers had the experience of descending in the bell to a submarine, transferring, and coming back into harbour on the bridge of that craft. We did a demonstration of deep diving and a surface recompression, and now Commander Donhammer feels he has a good lever with which to pry a new diving vessel from the Swedish Admiralty, his own being somewhat ancient, more than 70 years old. The British and Swedish chiefs and petty officers became friends quickly, the one learning to say "Skaal" and the other to say "Cheers" in rapid time, while large quantities of aquavit and beer were consumed. A dance was held at the Savoy Hotel where British tars were welcomed with open arms, and on Sunday night many a fond adieu was taken of Nordic lady friends in quiet isolated corners. "Parting is such sweet sorrow."

Early on Monday morning we left Karlskrona to a volley of fireworks from our friends of the Royal Swedish Navy. It was a pleasant day as we sailed through the minefields of the Southern Baltic, bound for home *via* the Kiel Canal. A glorious dawn heralded our entry into the canal, but the promise didn't hold good and before long we ran into blizzards that reduced visibility to a few yards. The Kiel Canal winds and twists for 98 kilometres, roughly 60 miles, and the whole length of it is covered with as much shipping as Piccadilly Circus is with motor traffic. On a fine day it would be a wonderfully interesting and beautiful trip, but the bad visibility made it a nightmare. However, magnificent ship-handling by the captain got us through safely, and at 4 p.m. we entered the estuary of the Elbe. Miraculously, the weather cleared and we had a comparatively innocuous passage through the Nemedri routes until we cleared the minefields.

Good times were had, friends were made, interesting places were seen, and at times it saddened one to say the eternal goodbye. The cruise was now a pleasant memory, something to talk and think about in future days. The main concern now was the state of the No. 1's and the time of the first liberty boat when we arrived in Pompey.

There was a keen feeling of anticipation as that old friend the Nab Tower loomed up on the horizon. As we passed *Dolphin* and *Vernon*, and the pipes whistled and trilled, there was a pleasant glow in our hearts—"Here we come, Pompey, the Smoke, Brum, the sailor is home from the sea."

## BOMB AND MINE DISPOSAL NOTES

Since our last issue the New Year found command teams rather busy dealing with a variety of mines, missiles and projectiles washed up or uncovered as a result of the rather heavy gales, abnormal for even that particular time of the year.

Senior Commissioned Gunner (C.D.) "Jackie" Rae, fresh (?) from the Goodwin lightship search, spent a busy time in the Nore command, the high-light of which was a Mk. 17 at Margate. Nothing quite remarkable about this except that the party tackled the job under arduous weather conditions after 60 hours without sleep. So if you see any of the Nore team with "bags" under the eyes, that's the reason.



The Plymouth command team also sometimes have this optical affliction but for totally different reasons. However, 3 jobs in 5 days, entailing a distance of 1,400 miles, is pretty good going, and it can well be imagined that "Bluey" and his team made their usual impression on the Welsh mountains and Lancashire mud-flats.

Scottish command had a G.O. late last year and have been quite busy with a considerable variety. "Pete" Messervy and his team of Scottish country dancers have a large and rugged parish to cover, and despite the silence from them we are sure they are well engaged.

We have, alas, heard little from the Mediterranean team, apart from a brief paragraph in the national dailies about a German bomb being found and recovered from the clear depths of Grand Harbour at Malta G.C.

We here in Portsmouth, the smallest, but I don't think least in importance of the command areas, have had a fair share of the harvest; but then, as we always have bags under our eyes, it's difficult to decide when and what we have been doing (no cracks please). In passing, we mention a couple of 1,000 lb. bombs and a German G.V., the latter at Bognor Regis where, I might add, the hospitality of the local inhabitants was quite overwhelming.



Photo by kind permission Lalouette, West Street, Bognor Regis

The appointment of Senior Commissioned Gunner E. Mapply as the Far East Station Bomb and Mine Disposal Officer has just been announced, thus now making our responsibilities "world wide." We wish him luck in his new job, and congratulate him on his recent promotion.

We are soon to say goodbye to Commissioned Bos'un S. Currie-Davis who, having completed his sentence at Portsmouth, leaves for Portland. No *not* the Borstal institution but as officer-in-charge of the clearance diving team. The "bandit" had a good innings of over two years (no remission) and has vastly benefited by his experience—many and varied they be—. No, we couldn't quite pin him down on what sort of experiences (nuff said)! Senior Commissioned Gunner D. Donoghue takes over in Portsmouth and we wish him equal success.

Finally we should like to record that our liaison with the bomb-busters at Broadbridge Heath is still on an excellent basis. Thanks is expressed for their very kind assistance on more than one occasion, and the value of their experience has helped in the dealings that we have encountered in somewhat limited B.D. work.

The Joint Services Advance B.D. Course held last December at the Army School was a great success and the "Sappers" as usual made everyone feel more than "at home" and so to them and to you all, cheerio till next time. C.D.

## A DIP IN WOOKEY HOLE

By BUBBLE AND SQUEAK

The non-de-plume under which this article is written is justified not only on the grounds of anonymity but also because of the divergence of opinion about breathing apparatus on the part of the two spelean divers.

Bubble is a whole hearted compressed air fanatic (he is incidentally an amateur) for he considers that for nearly all *peaceful* uses the following advantages fully outweigh the disadvantages:—

- (a) No risk of oxygen or carbon dioxide excesses or deficiencies.
- (b) No danger if internal parts of apparatus are accidentally flooded.
- (c) Minimum of drill required for use.
- (d) No reasonable depth limitations.
- (e) No rubber counterlung to tear.
- (f) Greater ease of depth changing when swimming as there is no counterlung whose buoyancy varies when subjected to fluctuating ambient pressures.

Squeak (a professional) on the other hand was fully aware of the one great advantage of the pure oxygen regenerative type of set—endurance. He realised that for a dive to 33ft. for instance, about 1/50 of the quantity of gas only need be carried as compared with the C.A.B.A. type for a dive of given duration. Linked with this he realised that the bulk of his apparatus would be very much less than that of Bubble's—an important point when squeezing through narrow rocky passageways.

They did not come to blows over this divergence of opinion—they merely turned up at Wookey Hole one Saturday night with their respective pieces of apparatus. Bubble had a 2,400 litre Siebe Gorman C.A.B.A. and a cut-down D.S.E.A. set for emergency use. This gave him an estimated 80 minutes' endurance at 10 feet with a completely alternative 20 minutes' emergency oxygen supply. Squeak has a standard U.B.A. rigged for use with pure oxygen on hand demand. By using his emergency bottle his endurance would be over 120 minutes.

The only other gear that they had besides swim suits and fins were diver's knives, D.S.E.A. torches and some hanks of codline. It is of interest that though they both favoured neck seals, Bubble had to use a hood as his 17½" neck becomes uncomfortable in the neck seal made for the so called "average man." It is no hardship in Wookey to have one's hands or head in water as the temperature throughout the year remains in the 48°—50° region.



Wookey Hole has been known to exist for centuries and has a most interesting history which can be looked up at any public library. For many years the river Axe which flows through the cave system has been used to provide water for a paper mill situated in Wookey Hole village. Diving has been carried out in the river rather intermittently for the past 20 years and it is by no means fully explored. The cave is highly commercialised and for a small sum the public can visit the first, second and third chambers. On occasions when the river level is low it is possible to go by small boat to the fourth and fifth chambers.

Bubble and Squeak started by having a trim dive in the open water of the first chamber and then proceeded upstream through beautifully clear water under about 100 feet of rock at an average depth of 10 feet to the third chamber. The second chamber has a very small air surface which was ignored but the "dry party" from the banks were able to check the progress of the divers. They saw the torches flashing and heard occasional rushes of air from Bubbles' apparatus eventually finding its way *via* the rocky ceiling to disturb the mirrorlike surface.

The divers disappeared again at the top end of the third chamber and swam steadily upstream. Morale was so high on reaching almost the end of one hank of codline that they wondered what was the "problem" of Wookey. They felt confident and warm. They could see within the range of their D.S.E.A. torches—about 15 feet—and it was a most interesting "landscape." A mixture of rocky walls, valleys and crevices and, beneath, a rippled sandy bottom of varying gradients broken by outcrops of rock. They had, guided by the groundline that runs through from the third to the ninth chamber, successfully negotiated one narrow-looking hole (in spite of the D.S.E.A. set and C.A.B.A.). It was soon after this, from a place about 150 feet beyond and 15 feet below the third chamber, that they saw the groundline disappear down a dark looking ravine to a lower level. They hesitated, and as they did so they were immediately surrounded by a thick reddish silt that reduced visibility to nil. In spite of care, the movement of fins, knees and elbows had disturbed the bottom of this very slow-flowing river.

The next 60 seconds lasted far longer than one minute. Bubble did not know whether Squeak intended to go on or back. Bubble had dropped his spare reel of codline and had got it caught up with body, apparatus and rock. Squeak cautiously pulled in about 10 feet of the 12 feet buddy line which they had between their wrists. Feeling no resistance he thought that Bubble had burst! In fact he was only about a foot away! They soon afterwards groped their way out, back along the codline guide and rather thankfully surfaced in the third chamber.

Over an enormous steak in the Wookey Hole Inn they decided during a post-mortem that they had in fact missed the fourth and fifth air surfaces and had swum beyond the waters of the sixth. A resolution was made to return to the cave after breakfast on Sunday to locate these "missing" air surfaces, recover the abandoned lines, and generally tidy up after the night before.

Having achieved this they decided to have a final dive under the rock between the first and second chambers. This was prompted by meeting

the previous evening the 'resident' archaeologist and hearing his tales of finding human skulls and miscellaneous relics in that area. It was thought that the very heavy rain of a month before which had swollen the Axe might have uncovered more bones on the river bed, so they decided to have a look. Unfortunately the 'squaring off' operations further upstream were now having their effect lower down. Visibility was very bad so after a short search they returned to the surface. The Wookey Hole area was finally left with the feeling that the overall air of a first dive in a pothole of that nature had been achieved.

**Lessons Learnt:**

1. An underwater compass would have been a most useful addition to the diving equipment.
2. Some means of communications should be worked out in advance between the divers on the buddy line. Once beyond the fifth chamber there are very few air surfaces—the use of which would permit speech—and to find these requires a most intimate knowledge of the cave, for once the water has been disturbed it is practically impossible to locate anything.
3. Bubble took his wife to the cave and a very useful Sherpini she made, transporting gear from the entrance of the cave to the river. She also assisted with dressing and Bubble suspected that it was the manicured nails of the dresser that perforated his cuff before the Sunday morning dip. At all events his suit was flooded throughout on emerging from the river some 30 minutes later!



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## ODD ODE

This is the tale of Diver Perce,  
 Who wore a diving dress and spurs.  
 A little man just short and stocky,  
 Before he joined, a famous jockey.  
 He'd managed to survive the war,  
 Yet went to sea to ask for more,  
 And being keen to fill S.9's  
 He volunteered for Clearing Mines.  
 It shall not be recorded here  
 How he cleared a minefield in Korea.

Working on a mine beneath the ocean,  
 He saw a big shark was approaching.  
 No more to-do at all made he,  
 But simply gave a loud whoopee,  
 And swimming in the darn thing's track  
 He straightway mounted on its back.  
 Then digging in his starboard spur,  
 He felt the shark being to stir  
 And give a roar so aggravated,  
 All mines were triggered and actuated.

Poor Perce flew high into the sky,  
 Waving his pals a fond goodbye.  
 Whilst up aloft he scored a hit,  
 Upon a MIG and damaged it.  
 Returning late that afternoon  
 He landed on a met. ballon,  
 And thinking he was in the saddle,  
 He quickly had his legs astraddle.  
 He dug his spurs in at this juncture  
 And caused a rather large-sized puncture.

He came down with an awful Wheck  
 Upon the flagship's quarterdeck.  
 It was a perfect three-point landing  
 On what he used when not standing.  
 Our old friend Perce just sat and hollered,  
 He'd impaled himself upon a bollard.  
 His exploit caused a great sensation,  
 And earned for him a decoration.

And now at last I'm grieved to say,  
 He's had to put his spurs away.  
 He'll never ride again I doubt,  
 His stern's too badly knocked about.

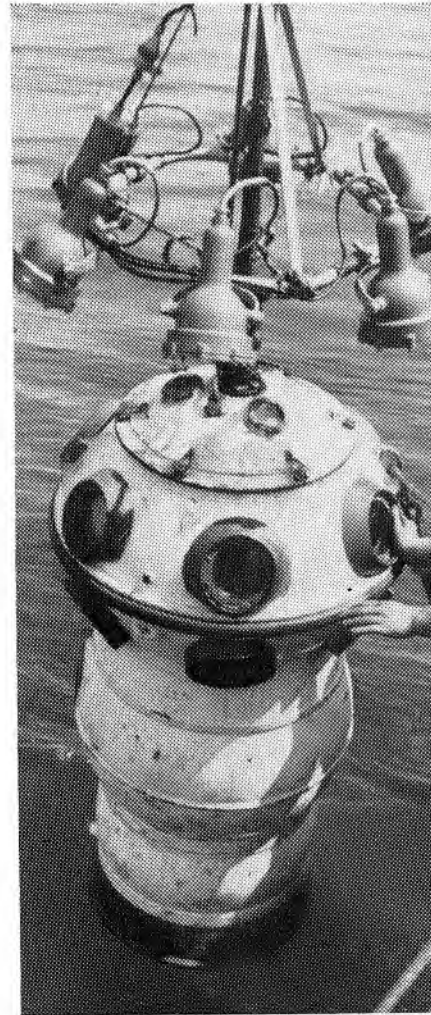
T.E.T.

*The Medical Officer of A.E.D.U. has the writer under close observation.*

## OBSERVATION CHAMBER AND ARTICULATED ARMOURED DRESS DIVING

By LIEUTENANT C. W. CHADWICK, ROYAL NAVY (RETD.)

Deep Diving Officer



The use of observation chambers and improved articulated armour is going to increase for deep and ultra-deep diving and salvage purposes in future, in spite of the great advances made in late years using the flexible dress and synthetic mixtures. The latter technique, linked with physiological and decompression hand-caps, will rarely prove an economic solution to the deep sea salvor, owing to limiting time factors on the sea bed. For this reason, the following guide for the use of chambers and diving armour is provided for deep divers, divers, and qualified personnel whose activities are engaged in the submarine world.

### TYPES OF OBSERVATION CHAMBER

Observation chambers are of two standard types, firstly with jettisonable solid ballast and secondly with fixed solid ballast and water ballast controlled by compressed air. They are made by British and Continental manufacturers, both types having their adherents. Successful salvage operations have been carried out in depths of over 400 feet, notably the *Egypt* and *Niagara* gold recovery enterprises, to name but

two, and very much deeper and exploratory projects are envisaged in the future.

## DESCRIPTION OF OBSERVATION CHAMBER

### Solid Ballast Type.

The most widely used type of observation chamber, constructed by a Continental manufacturer, has the following broad characteristics, but modified improved types are in course of development.

Tested depth ... ..	1,148 feet
Working depth ... ..	984 feet
Safety ratio ... ..	2.5
Weight in air with ballast ... ..	1,637 pounds
Weight in air without ballast ... ..	977 pounds
Weight of heavy ballast ... ..	660 pounds
Weight of dome or lid ... ..	75 pounds
Height base to upper eye bolt ... ..	5 feet 11 inches
Height without lid ... ..	5 feet
Maximum diameter ... ..	3 feet
Inside capacity ... ..	19 cubic feet
Displacement ... ..	21.9 cubic feet

The chamber is fitted with the following equipment to afford maximum vision, comfort for the operator, and facility for every seamanlike manoeuvre under water.

**THE CHAMBER.** Is constructed of high tensile steel plate on a spherical zone system, with forged interior reinforcement plates, the whole jointing being electrically welded.

**OBSERVATION PORTS.** Fifteen in number, situated six in upper top zone, six in lower top zone, and three in the lid for upward viewing. The glasses,  $1\frac{1}{4}$ " thickness, are tested to a working pressure of 45 atmospheres (or 1,485 feet), with specimen glasses tested to 60 atmospheres (or 1,980 feet). Each glass has a free flooding protective glass port, which is detachable and normally held in position by a feather and feather way and spring plunger. Circular fairing plates to obviate risk of fouling also surround each port.

**THE CHAMBER DOME OR LID.** Is secured to the chamber by means of a ring of  $\frac{5}{8}$ " steel studs, with throw back hinge nuts fitted to the lid. Watertightness is ensured by a circular section washer fitted within a groove in the lid. In the centre of the lid is fitted a detachable eyebolt for securing the suspension cable, with cutting shears to sever the telephone cable in emergency. A watertight gland is also fitted to entry of the telephone cable, of size up to 20 mm, with adjustable ring washers.

**THE LOWER ZONE.** Is closed at the bottom by a heavy base which acts as fixed ballast, and is recessed to house the removable ballast.

**ROTARY FRAME AND SADDLE.** Within the chamber is fitted a rotary frame, with flanged rollers and saddle, steel stirrups and the housing for oxygen cylinders. The frame can be divided in two parts for removal by unscrewing two nuts on the roller frame.

**BALLAST.** The chamber is provided with removable ballast, of two types, light at 330 pounds, heavy at 660 pounds. This ballast is controlled by the diver by means of a lever and safety catch, which operate special hooked pawls which engage within the recess of the ballast.

**SUSPENSION EYES.** Two eyes are fitted on the upper part of the body of the chamber to facilitate lifting on deck without placing on the dome or lid.

**FENDER.** At the maximum diameter of the chamber a substantial rubber fender is fitted for protection against damage when the ship is rolling and the chamber is in operation.

**HOOK FOR CABLE WAY.** A special hook is fitted, operable from within the chamber, for securing a wire distance line to the shot-rope. This can be slipped at will by the diver.

**BREATHING APPARATUS.** There are many variants of self-contained breathing apparatus that are applicable for work in observation chambers, the standard supply being a 6 volt D/C motor—fed by  $4 \times 1.5$  volt electrolytic batteries—which draws the chamber air through a charge of  $\text{CO}_2$  absorbent, thus removing accumulated carbon dioxide. Oxygen is supplied, hand operated by the diver, from one or two flasks of oxygen, which should be freshly charged to 120 atmospheres (1,800 lbs/sq. ins.) prior to each dive. Another method is for the diver to wear a nose mask, secured by light elastic webbing, the mask being attached by corrugated tubing to a  $\text{CO}_2$  absorbent canister.

The duration of submarine operations is solely governed by the supply of oxygen and  $\text{CO}_2$  absorbent taken down by the diver. Fresh protosorb should be used for each dive, the endurance of the existent fixed and portable canister being one hour of  $\text{CO}_2$  free breathing.

**TELEPHONE EQUIPMENT.** The telephone equipment most suitable has proved to be the laryngophone type, giving the diver absolute freedom of rotatable observation within the chamber with no hampering mouth piece. Sound power telephones can also be utilised.

**GAUGES.** A pressure gauge is fitted within the chamber, luminous and calibrated to 1,000 feet in pounds per sq. inch and feet. Care must be exercised in seeing the external orifice to the gauge with the fine gauze cover is free from obstruction.

**TRIM.** The chamber, with diver and necessary equipment, will remain suspended vertically with light ballast in a stream up to  $1\frac{1}{4}$  knots. The heavy ballast should enable work to be carried out in a stream in excess of 2 knots. The chamber in all cases, will emerge and float with about  $10^\circ$  list when the ballast is released and the suspension and telephone cables are cut in emergency.

**BUOYANCY.** The chamber has a reserve of buoyancy in excess of 180 pounds, and in later versions this is further improved.

**DRAIN.** A drain is fitted at the bottom of the chamber in the side wall, operated externally by box key, in order to clear any water which may have gained admission to the chamber.

### Water Ballast Type

Observations chambers in general, fitted with water ballast arrangements, are chiefly cylindrical in section, of steel, and constructed with ballast compartment encircling the upper part of the chamber. High-pressure air cylinders are provided either internally or externally for the discharge and regulation of ballast, and an anchoring sinker operated by the diver can be provided. With such chambers, the diver can be rendered

immune from the movement of the parent ship, this being the only recognisable advantage of this type.

Fixed ballast types of chamber obviate this difficulty by means of a "monkey," or counterweight on deck, which proves very satisfactory. The whole of the components listed for fixed ballast chambers are a necessary adjunct for successful operations in both types.

The chamber, suitably ballasted, may be tested for leaks by immersion to 50 feet, then heaved inboard and examined. Prior to very deep descents it is recommended the chamber be dived to 150 feet in excess of operational depth, where possible, but full reliance may be placed upon test figures, subject to the systematic periodic overhaul of the chamber.

This chamber was used for the salvage of Comet *Yoke Peter*, January—April, 1954.

### ARTICULATED DIVING ARMOUR

This type of diving equipment dates back to 1715, and while the resistance to external pressure has been largely overcome and very great improvements made in articulation, free movement is naturally impeded on a muddy sea bed and in a strong tideway. Nevertheless, with ingenious new tools coupled with the latest development of a Continental designer and submariner engineer, much useful work is projected at depths far beyond the capacity of the flexible dress diver.

The articulated diving equipment of latest tested and improved design has the following characteristics:—

Weight in air complete	...	...	...	860 pounds
Weight of one leg	...	...	...	121 pounds
Weight of one arm	...	...	...	101 pounds
Weight of ballast chamber	...	...	...	60 pounds
Weight of dome or lid	...	...	...	55 pounds
Height overall	...	...	...	6 feet 7 inches
Height without dome	...	...	...	5 feet 8 inches
Maximum diameter	...	...	...	2 feet 11 inches
Internal capacity	...	...	...	800 pounds
Internal capacity ballast	...	...	...	150 pounds
Displacement	...	...	...	960 pounds
Capacity air cylinders	...	1,720 litres at 150 atmospheres	...	
Capacity oxygen cylinders	...	310 litres at 120 atmospheres	...	

**THE SUIT.** Comprises a main body, with articulations of shoulders and thighs of a gymbal type, with feet fitted with ankle joints of rocking and rotating movement. The dome secures to the main body by  $\frac{5}{8}$ " steel studs and throw back hinge nuts. The arms terminate in a ball and socket water-tight joint which houses the special tools operable by the diver for siezing, grabbing, or manipulating ropes, etc.

Tested depth	...	...	...	990 feet
Working depth with full limb mobility	...	...	...	825 feet
Glasses tested to	...	...	...	1,650 feet

**LUBRICATION.** *Castor oil and pure Vaseline are the only lubricants to be used with the entire assembly.*

**ANKLETS.** Are provided of 50 pounds in weight each, to encircle the lower legs when working in a tideway. They in no way impede movement or progress, but must be jettisoned if worn and emergency ascent becomes necessary, in order to regain reserve of buoyancy.

**WINDOWS OR OBSERVATION PORTS.** Ten windows are fitted with  $1\frac{1}{4}$ " thick glasses and unbreakable protective glass. They are disposed six to the front covering all angles of vision, two in rear, and two in the dome.

**TELEPHONE AND BREATHING EQUIPMENT.** Fitted identically as the solid ballast chamber previously described.

**DETACHABLE EYEBOLT.** Is also fitted with the same regulations applicable as for chambers.

**BUOYANCY.** The armour is adjusted for buoyancy by the diver, who operates his blowing and venting arrangements from within the suit to govern conditions of the dive according to the tidal factors. Fully vented, the diver can manoeuvre with ease all his limbs, walking with a natural gait but bending slightly forward. The joints are smooth in operation and the tools, with practice, are easy to operate for grabbing, retention, or releasing.

**COMPRESSED AIR.** Compressed air is required for trimming the armour during work at depth and to exhaust the ballast tank if required to surface in an emergency. Two cylinders are fitted which carry 1,720 litres of air at 150 atmospheres, linked together and operated by a control valve in front of the diver. The venting valve consists of a small lever situated at the left rear of the diver. The charging valve is on the right side of the diver.

**OXYGEN.** Oxygen is supplied in two cylinders containing 310 litres of gas at 120 atmospheres. The diver cracks his oxygen bye-pass valve as required for breathing purposes, the same valve being used when charging.

**CO2 PURIFICATION.** Is carried out by 6-volt fan motor and proto-sorb housed within the suit, operable by a switch. It is recommended that dual equipment be used, i.e. breathing mask and container for long descents, ascents, and preliminary search; and the automatic absorption method whilst at work, leaving the diver free of facial obstruction.

The diver should wear waders and arm guards, the latter to prevent chafe when manipulating the tools. A slight leak may be apparent from the joints on first immersion. These are of little moment and seal up under pressure during descent. If a major leak develops in any joint, the dress must be hauled to the surface and the defective joint further tightened.

After the day's submersion the suit should be thoroughly relubricated by removal of the main securing rings, making sure that the rolling bearings remain in position on the rocking joints. The inner steel surfaces should be kept immaculately clean and heavily Vaseline'd, or rust and pitting will be inevitable due to small ingress of water and condensation during storage. The use of silica gel in an open container hung inside the assembled armour is recommended when the suit is stowed for sea between

decks. The dome should be checked clear to allow for ventilation. To get continuous satisfactory results with absence of leaks, great care is necessary in stripping and assembly with particular reference to washers and ball bearings.

#### DIVERS—SUITABILITY

The diver, if of normal stature, will find the standard assembly an excellent "fit" but, for operators exceeding six feet in height, extension pieces are provided for the legs, which bolt in between the ankle and thigh sockets. Also, in the case of light men, it is necessary to provide up to 40 pounds of lead ballast, hung about the body of the armour inside, to attain stability when at work.

#### HINTS FOR OPERATIONS IN CHAMBER AND ARMOUR

The tide, always the handicap of the flexible suit diver, comes to the aid of the chamber diver, and in a minor degree to the articulated armour diver. With a flexible steel wire shot-rope to which is shackled a swivel and a one ton "shot," the chamber diver can be connected by wire distance line, releasable at will from within the chamber. The chamber must be rigged to travel down tide and with judicious use of the derricks will maintain position. When diving at slack water a backhaul must be shackled to the shot-wire to keep diver and shot-rope clear and obviate turns. A light stop should be secured around the diver's suspension wire, telephone cable, and submarine lamp cable, at about every 30 feet during descent, and removed during ascent, this ensuring minimum risk of fouling on wreckage. Knowing the position of the "shot," and using it as a guide, it is practicable for the chamber diver to give orders for shifting ship, derrick, or "shot," in a positive tideway, relative to the wreck or other objective.

When using diving armour the same rules apply; distance line may be slipped if required and the diver having mobility on a firm bottom may order the purchase wire to be veered away to attain freedom for search.

#### UNDERWATER ILLUMINATION

The whole of salvage operations which require the services of the observation chamber or articulated diving armour are closely linked with submarine illumination because in the majority of cases, except in the Mediterranean, natural light is practically non-existent below 300 feet. A series of trials have been carried out on the majority of feasible types of lamps and filaments and it has been proved that a moderate wattage lamp, with true parabolic reflector fitted, will give the best light, and in waters where the light scatter is high due to plankton and other minute organisms the use of an additional removable amber glass or plastic filter is recommended. This does away with the complications of current supply and vulnerability of sodium and mercury vapour units, which have the added disadvantage of being required to burn in a static position. Positioning of the lights for maximum viewing efficiency has been found to be on the suspension wire, at a height where the beams can be diverted around the diver. The lamp units must be fitted so that they are releasable with the purchase wire, in order to retain reserve of buoyancy of the chamber or armour. Lights should be sited to the front of the dome

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in the case of the articulated suit. To obviate blind spots, if any, the chamber can be tilted by manoeuvring the shot and distance line, or the articulated armour diver can trim ballast to direct the search to the desired target. Blanking off the top windows to stop ingress of light to the diver is an asset when working. Under no circumstances should the dome or lid ports be blanked externally, as it is frequently necessary to observe through these windows to see that the suspension wire is clear prior to ascending from a wreck.

Details on underwater lamps and submarine illumination generally are the subject of a separate report and will be given in the next edition of this magazine.

### H.M.S. "SAFEGUARD" SCHOOL OF MARINE SALVAGE

We have been digging up the D.G. range here for the last three weeks and deep down in the mud it was too; this we will lay again as soon as the billet is dredged so that it can hide itself again in the next two years.

A rather larger operation took us farther north to view the harbour defences, and many pleasant hours were spent at interesting depths in the cold clear Scottish waters. One peculiarity was noticed during these dives, it was that we always had many inquisitive eels around our feet and we assume that the attraction was the highly polished toe caps of our diving boots.

About a year ago the National Coal Board (Lothians Area) sought advice from Lochinvar on the possibilities of mine rescue work in flooded pits using self-contained diving apparatus. This was demonstrated by the 51st flotilla C.D. Team (Lt. Cdr. McLean-Foreman). Since that period and during the absence of the 51st team we carried on with the job and have had many volunteers of the Coal Board's Rescue Teams struggling manfully under water, some of them not even being swimmers. In reply to our efforts we were invited to become miners for one day. We arrived and were dressed as miners in new equipment, helmets, lamps, elbow and knee shields, and generally looking like a cross between a racehorse and a dirt-track rider. We were taken down at terrific speed to the very bowels of the earth. We walked about half a mile, crawled another half a mile and there found the hewers of coal at the coal face. These chaps were working in very confined spaces in high temperatures doing a very arduous job; we were frayed out merely getting to the spot. We were all impressed by the discipline in the mines, safety equipment and precautions and smoking regulations. On return to surface tired, dirty, but very much enlightened, we used the lovely bathing and cleaning arrangements at the pithead. We were taken into lunch with the shift in the canteen, ate well and returned to *Safeguard* still wondering what makes a chap want to be a miner.

The annual inspection of diving equipment in the Scottish command was carried out by *Safeguard*; this consists of a fairly all-embracing tour

of Scotland from Scapa to the border. We had lunch one day at the "George," Inveraray, and all the good people of that village send all divers their best wishes.

Preparations are now going ahead for another range; we have surveyed the area and with very little squaring off to do we shall soon be laying it out with spirit level accuracy; as it is not deep, we shall, as dear old Chads would say, "only need a fanny and a bedcover."

The staff now consists of Mr. W. Barrington (Q.D.D.); C.P.O. "Algy" Ware who has recently relieved C.P.O. Gates; L.Sea. Bying, P.O. Foreman's relief; and L.Sea. Skiggs who last week relieved P.O. Robinson.

Well, this is the place for work and also the place where we empty the snow out of our boots before we start every morning, not to mention our very exclusive tartan diving suits.

Yours Aye,

from the Mac Barrington Gang, in the land of work, snow-filled boots, and natty exclusive tartan diving dress. W.B.

### THE FLYING DIVER

#### WONDER BOY DOES IT AGAIN

Petty Officer J. Burgess, diver 1st class, who won the Goodhart Trophy for the most advanced gliding of his club last year has again won it this year. Congratulations to him from us all.

This is a fine achievement, as it is the first time ever that this wonderfully trophy has been won for two consecutive years by the same person.



### A.E.D.U. NOTES

A.E.D.U. has now settled down in its new quarters; installation of various test equipment has been completed and this enabled a general speed-up all round.

There have been one or two changes in staff; Mr. Cowland, Experimental Officer, has gone to U.C.W.E.; Mr. Payne has been elevated to the peerage and is now our Experimental Officer; Mr. Cullen has forsaken the noise and turmoil of Whale Island and joined the quiet placid atmosphere of our Drawing Office.

Progress is being made with the conversion of M.R.O. for standard diving. The main problems are:—

- (a) The method of carrying the weights.
- (b) The method of bringing the air pipe to the helmet.

Our ideas at the moment are for a belt in two sections adjustable front and back and slung from the corselet studs. Curved weights are carried on each side of the body and are capable of being slipped. The airpipe is brought to a connection on the right side of the belt in a similar fashion to the A.S.W.D.D. on air, and thence to an adaptor containing a non-return valve, at the right air inlet of the helmet. The connection on the belt is capable of being slipped; this will enable the helmet and airpipe to be removed complete to facilitate undressing when carrying our surface decompression. A mock-up of this equipment has been dived and so far indicates that we are on the right lines.

Our main project at the moment is C.A.B.A. (loud cheers). It was recently decided that a dual purpose set for damage control and shallow water diving would not give the most efficient answer, so we are now developing two separate sets; this will also simplify matters considerably.

We are making a departure from the normal type of harness associated with C.A.B.A. Our ideas are for the set to be slung from the shoulders on two padded hooks. A belt will hold the set into the body, and the ends of the belt brought to a common point with the ends of straps from the hooks. The advantages with this type of harness will be; comfort in wearing, no restriction to movement, and ease of jettisoning.

H.M.S. *Reclaim* as most readers will probably know has been carrying out deep diving trials at Gibraltar and Bergen. Certain modifications to deep diving drill were necessary before the trials could commence; these will now become standard and will be promulgated in due course. At Gibraltar the practical working depth on oxy/helium was extended to 430 feet for 30 minutes.

At Bergen it was intended to report the trials in cold water but unfortunately it was not possible to complete the series due to shortage of time. Nevertheless, as a result of these two series of trials, a big step in deep diving has been made.

Development has been going ahead for some time on underwater swim suits. Recently we have come across a new material, rubberised two-way stretch nylon. This material, we think, will give us the best possible swim suit. A number of suits made of this material are now undergoing trial with the Experimental C.D. Team.

Other important projects have been started but at present they have not yet reached a material stage.



## DIVER'S BOOKSHELF

By JAMES BENSON



It is some time since Nevil Shute has ventured into the world of the Royal Navy to find a subject for one of his best-selling novels. In *Requiem for a Wren* (Heinemann: 12s. 6d.), which is undoubtedly the most sob-stuffy book this column has so far reviewed, he makes a successful return. I make no apology for calling this book "sob-stuffy" and then recommending it in the

next breath. It is obviously a book that wives and sweethearts will enjoy. It is less obviously, but none the less certainly, a man's book.

For those of you who know Shute's previous work let me say that I was delighted to find that the unpleasant cynicism of *In the Wet* seems to have been abandoned and that the old master is almost all the way back to the standard of *A Town like Alice* and *Most Secret*.

*Requiem for a Wren* is patently a tribute to the W.R.N.S. in novel form. As such it tells a picturesque and convincing war narrative which incidentally is concerned in one very small part with self-contained diving. It is also a book that poses a mystery and sets out to solve it. This part of the book is rather incidental to the main story—more correctly it springs not from the story itself but rather from the author's way of telling it—and at times, I feel, it palls somewhat. The trouble really boils down to the fact that if the mystery could not have been made slightly less obvious, then it should not have been introduced at all.

My "not-so-new" book this issue is *Harpoon at a Venture* by Gavin Maxwell (Rupert Hart-Davis: 21s.). Published in 1952, this is a work of much greater stature than Nevil Shute's. It has enough scientific "breaking new ground" in its content, enough suggestion of hidden poetry in its prose style, and enough demonstration of its author's "guts" to place it in the same category as Kon-Tiki.

Gavin Maxwell is an ex-Scots Guards major who bought the island of Soay, just to the south of Skye and under the shadow of the Cuillins, and started a shark-fishing business to provide himself with interest and the islanders with employment. His book delights in so many ways. For those of you who know the lochs of the west coast of Scotland and the beautiful islands of the Hebrides it will surely suffice to know that the atmosphere of—for me at least—one of the world's scenic high-spots is completely re-captured. If you are also one of the fortunate ones who experience, even though you may not confess to it, the romance of ships and wires that surge and the delight of two quick turns caught on the capstan as a hawser runs out; if you have ever felt that there was any truth in the saying that the only real seamanship left in the Andrew was

to be found on the quarter-deck of a minesweeper; then you will find in *Harpoon at a Venture* a book with which you can "live" the physical exertions and the heartbreaks of the toughest job at sea.

For good value this book also encompasses the fight of one man to establish a new industry. This part of the story is by no means the least interesting, so I won't spoil it for you by telling you the dramatic outcome.

One of the reading fashions of the day is the pocket edition. Two of these have caught my eye for this column, though they are both unrepresentative in that neither of them is a cheap version of a book already published at a heftier price. *Victory in Australia* by E. W. Swanton (The Daily Telegraph: 2s. 6d.) is chosen in the belief that there must be some members of the diving fraternity who are civilised enough to enjoy their cricket. The story is, as we all know, a pleasant one to read. If you do enjoy your cricket, and if you enjoy the thinking part of it almost as much as the actual playing part, then Swanton must be your man. The book is composed of reports and articles published in the *Daily Telegraph* during the course of the series and has the added attraction of a prologue and epilogue by C. B. Fry.

*Best of the Bedside Esquire* (3s. 6d.) will need no introduction to those of you who know the parent magazine. Just to save disappointment let me start off by saying that this pocket edition is not illustrated. "This apart it has got everything. You like *Esquire's* "classics?" This version has Hemingway, Steinbeck and Sean O'Faolain. You prefer something nearer the bone? Then you will enjoy "Latins are Lousy Lovers" and "The Wench is not Amused." The only thing you won't get from this pocketful is bored.

That really should have been the end of this bookshelf. However, strictly STOP PRESS and treated with very much less space than it deserves, here is the only book in the column of technical diving interest. *2,000 Fathoms Down in the Bathyscaphe* by Georges Houot and Pierre Willm (Hamish Hamilton and Rupert Hart-Davis: 18s.) is the story of the record descent to 13,125 feet made by the two authors, both French Navy, in February, 1954. I confess to being a little fed up with the steady stream of aqua-lung books from French wardrooms. But this is very, very different indeed. It is technically fascinating, from the point of view of one's job it is something one ought to know about, and the pleasant thing is that it is very enjoyable reading into the bargain. Make this a four-star "must."

See you next issue.

## THE CLEARANCE DIVING DEVELOPMENT AND TRIALS TEAM

This is not a misprint. We are growing and as we grow we seem to become more static. Those of you who know Titivulus will understand why the "Trials Team" has now become the "Development and Trials Team" and anyway, it helps us in our struggles against other Establishments.

From a total of six, which the boss could count easily as it was comprised of himself, the chief, Smith and three others, the team has now nearly doubled in size and counting is left entirely to the new chief (Nick Carter) who, as an Instructor fresh from the school, should be able to do it easily.

We have drunk two members into a state of matrimony in the past few months (Cobb and Whitton) and at least one other is known to have his foot on the bar. Soon any movement to a trials area will resemble the march of an ancient Persian army.

During the winter months, the annual official and unofficial clothing trials have occupied a large part of our time and discussions on "What the Best Dressed Diver is Wearing" have discovered budding Divers even amongst the toughest. Starting at the foundations—quite the most important—you will find that black nylons (not too sheer) with your rayon coms really make you feel different. Then be sure to add three or four layers of thin material (light-weight woolly reach-me-downs, etc.) and even in the coldest water this is all you need while your figure will be just as trim and neat as the baggy folds of the Mk. I will allow. But, don't despair, really tailored garments are on the way which will completely eliminate unsightly folds and bulges bringing to each of you the svelte lines of a performing seal.

Gloves are now the acknowledged wear of anyone who would submerge intelligently at 40°F or below and the *Annel* team have undoubtedly produced the best example. For your information they use an anti-gas (linen lined) shorten it and attach a frog suit cuff. We consider that a thin woollen underglove should also be worn to avoid pinching. For those with a delicate skin, the Portland team offer a special Paris Soir face cream which they claim to have found effective.

Neck seals we claim to be the best wear for all waters of any temperature where a suit must be worn, except when you go bathing in the local sewer or take a bath in a cess-pit. With a scarf and a rubber cap one is warmer and freer than anyone in a "C" type hood. Try it and see.

The merest hint that we might not call on all of you again this year to borrow gear and live on your stores and reputations will doubtless bring grief and despondency to many. So far we have confined our attention to the Home Fleet and Portland teams but we hope something will turn up so that we can extend our hospitality and bring you welcome once again. We have got to start moving if we are to approach the 10,000 miles covered going to trials in 1954.

## REPORT FROM THE SOUTHSEA SECTION BRITISH SUB-AQUA CLUB

In 1951 there were few people in England apart from the professional and Service divers who realized what potentialities there were beneath the sea's surface, let alone had been under to inspect them. Gradually the number increased until in 1953 the nucleus of the British Sub-Aqua Club was formed as the future national organisation. Since then branches have been founded all over the country where-ever a sufficient number of local enthusiasts could band themselves together, and not all branches are in

coastal regions, for several are inland, like Nottingham and Northampton. So much for the potted history of the club's formation to serve as an introduction to this magazine.

There are two distinct forms of diving as practised by amateur divers, each having its own techniques and merits. One being entirely sporting, the other embodying the serious aspects of our activities.

Skin diving is a term used in this country to denote the diver using the basic equipment, i.e. mask, flippers and snorkel. The object of this type of diving is confined mainly to spearfishing. The dive is limited by the one breath which has to suffice for the descent, the stalking, shooting and retrieving of the fish, and the ascent. Fish swim at all levels, but the most satisfying kill, if killing can be satisfying, is at a reasonable depth. So by continual practice in baths and in the sea the physical and mental endurance is stepped up. The depth desirable for this sport to be effective is at least 30 feet. To take an example of this point, the Dorset shore slopes away very steeply and levels out at between 30 to 40 feet. The larger fish were adequately camouflaged at the bottom in weeds and rocks. Those with a maximum dive of 3 or 4 fathoms are fortunate to see these fish, let alone shoot them. This past winter the practice and training has been more intensive, and armed with a knowledge of hyperventilation and anoxia possibilities—and of course a harpoon—this summer may prove to be a good sporting season for spearfisherman. Fortunately for the fish, visibility and water temperature weigh heavily in their favour for survival.

Before the war there were many adepts at spearfishing throughout the world, except England. However, the slaughter of fish began to pall, and a Frenchman then redirected the course of man under the sea.

Jacques-Yves Cousteau produced the first safe self-contained underwater breathing apparatus, known now as the aqua-lung. All the lung did was to convert high pressure air to ambient pressure and to place the exhaust in such a position as to permit easy breathing.

To those more familiar with the Service types of equipment, an attempt is made to summarize briefly the advantages and disadvantages.

As compressed air is used, all the properties of air at pressure apply as in standard diving, decompression requirements, nitrogen narcosis, quality of air, ear clearing, sinus, etc. The advantage of having an automatic air supply are considerable. No blow ups, squeezes, tangled lines, no enormous weights when out of water, no attendants to rely upon, mobility on land and no crucial adjustments to buoyancy; in fact complete independence of all earthly things. The disadvantages are that no hard work can be accomplished, the cold is felt more, as even with a suit less clothes can be worn. Submerged duration is less, thus the work at depth would be very limited and communications only possible if a life line is attached; stability is less and energy has to be used for movement in all planes.

With closed circuit diving the advantages of the aqua-lung over standard apply equally with the exception of manual adjustment of buoyancy. The inflatable counter lung for surface floating and controlled surface height, silence, the 'warming' effect of oxygen, duration and the

obvious lack of bubbles are additional favourable points. Weighed against oxygen sets are the limitations to depth and the dangers of O<sub>2</sub> at relatively shallow depths, CO<sub>2</sub> trouble, the efficiency of the canister and the quality of the contents, the vulnerability of the counter lung to punctures, the constant maintenance of the set and the need for adjustment in the water—and not forgetting the 'dribble' on the soda lime.

After consideration on the somewhat broad lines without delving into mixture and combined sets, and realizing that the aqua-lung is not the last word in diving equipment, it would be fair to state that it is at least suitable for lengthy dives of considerable depth, if need there be, and used as an aid to visual interests with very light manual work. The open circuit compressed air set is the only breathing apparatus permitted by the club rules, and the future with it holds many intriguing possibilities.

There is a colossal amount of work to be done under the sea by amateurs. To enumerate the various fields to be investigated in a very general way is all that space allows at present.

Marine biology is one of the sciences in which the free diver can prove of value. Little is known of the habits of the majority of sea life, the mass migrations of fish, etc. Just one particular objective is inquiring into the spawning, etc., of the basking shark which inhabits the seas off Scotland. Information on this would probably help the shark oil industry. Too bad if the sharks object to prying eyes!

Throughout the centuries the sea has encroached on the land and in consequence there may be remains of past civilizations awaiting discovery by divers. The Cathedral in Deer Park and the possibilities of Belgic remains near Ventnor are but two of many known archaeological sites.

Of course, all scientific ventures would be under specialist direction, as it is essential that archaeological sites especially should not be desecrated by souvenir hunters. If anything has remained underwater through the centuries it will not disappear overnight, and is better to leave it until a thorough expedition with full equipment can tackle it, even if it means years.

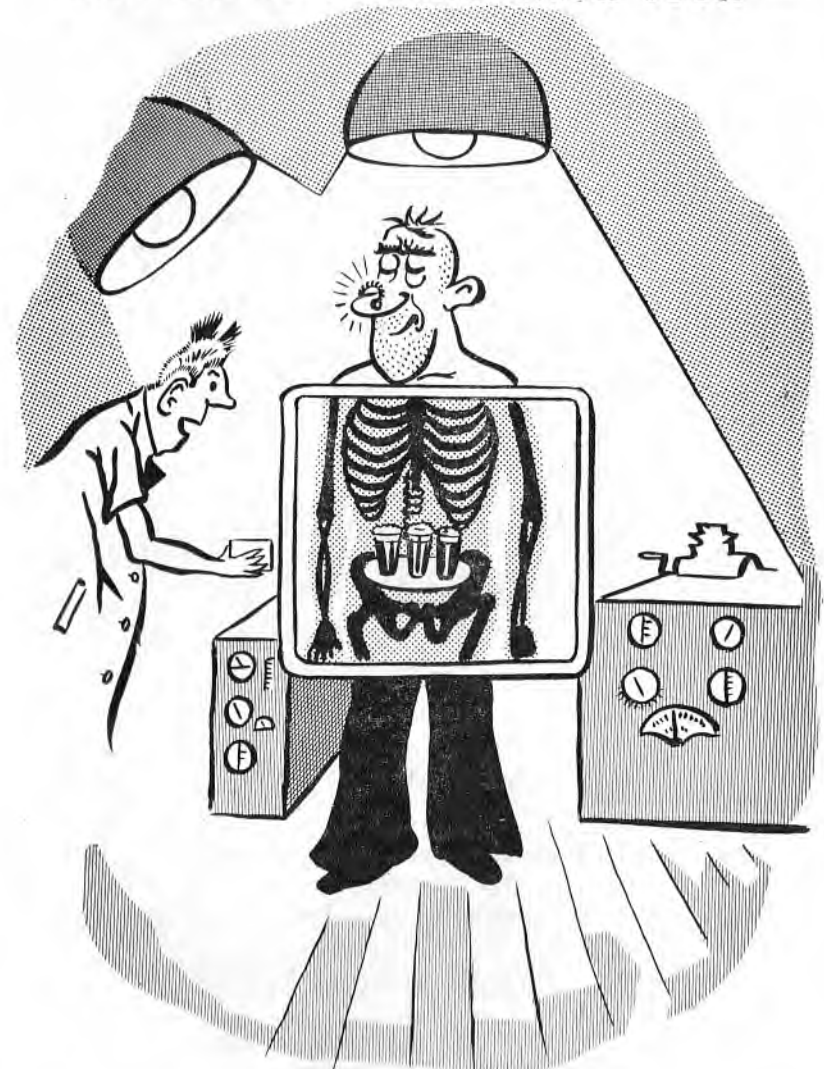
Geology is yet another subject whereby aqua-lung equipped diving teams can be of service, both for the pure study or as prospectors for mineral deposits.

At present we are still groping our way forward, intent on safety and compliance with various regulations by authorities and adding in a few of our own. For instance, hunting fish while wearing a lung is not allowed as, apart from upsetting rod-and-liners, stripping the coast of fish and possibly causing legislation, this is not sport, just a sadistic butchering of unsuspecting creatures. An unwritten rule, in Portsmouth, at least, is that lobsters must be hand picked.

This activity is here to stay, and is increasing in popularity. This country has a lot of leeway to make up on the Continental amateurs, but given a few reasonable seasons we will at least attempt to catch them up.

To condense such a large new subject is somewhat a tall order, but I hope that I have conveyed to you some idea of the club and the intentions of its members. The surface of the subject has only been scratched and later, perhaps, someone will offer more specialized topics for publication.

"ARE YOU UP TO DATE WITH YOUR —"



XXXXX-RAY

## MEDITERRANEAN TEAM

Much water has flown and much 'amtoot' has been lowered since last going to press. For the first, we apologise—for the latter, jealous?

We are busy as usual with various trials and keeping up the high standard of the M.F.C.D.T., inter-mingled with such interesting jobs as removing pistols, primers and blowing down air vessels of torpedos removed from sunken wrecks in Grand Harbour. Earlier on we had a nucleus of the Trials Team disporting themselves in our domain, led by one who is known as 'foze,' whose theme song from outward appearances seems to be 'silver threads amongst the gold,' time marches on!

We were then graced/disgraced (delete as necessary) by a flying visit of Lieutenant Commander Warner, D.S.C., who visited all ships and establishments carrying the unlightened breatheren and was on the receiving end of more 'drips' than a broken 'fawcett.'

He was taken on a run around the more selected dives and duly crowned, with ceremony befitting the occasion and his old felt hat duly topped up, for calling our establishment a hut or a shack.

Half the team ably led by Mr. Lawrence have just returned from a spot of business in Cyprus, where the most outstanding diving took place. Quote "Shackle another couple of bottles on and I will sort this b . . . out" unquote (Jacko).

Mr. Foster has just joined the firm next door in lieu of Mr. Lavis and will no doubt be flashing up boilers and raising a full head of steam. We hear you have been playing snowballs at home whilst we have had to 'sweat it out' in the far-flung outposts—you lucky people.

That is about all for now,

sa-ha,

SAM.

## CHATHAM NOTES

It seems only five minutes since we were last called upon to provide our news for the magazine. How time flies—especially as we are So Busy here.

It's been pretty hard going running Six classes with Four Instructors, but are we down-hearted? No.

Anyhow we hope that our troubles will be over when the next D.I's class completes.

H.M.Ss. *Kingfisher* and *Dingley* are now in our area and H.M.S. *Annet* has just left us.

We did manage to get in one reunion at the "Five Bells" and were surprised at the very high standard of dancing witnessed there. Good hunting *Annet*, it was grand knowing you.

We are having rather a frustrating time in the mine department at the moment, surely we haven't reached the bottom of the barrel yet!

Anyhow we have managed to find a few diversions, such as the S/M *Talent* and the *South Goodwins*, and we hope to be taking part in an operation on the 2nd April.

Its amazing how much in demand we are all becoming since the fleet have been issued with the S.W.B.A.(S) or is it our teams around the stations giving them something to think about?

Algy Ware has left us for H.M.S. *Safeguard* and O.P. Nicholls, complete with new badge, has relieved Shan Tuck in H.M.S. *Kingfisher*.

We welcome both Shan and Crasher Gates to the school.

For information; we are now negotiating to use a chalk pit (depth 130 feet) for our deep dives; it's clear water too, so will be a pleasant change.

All the very best to you all from Chatham—not so chatty either.

P.S.—We haven't reached the bottom of the barrel after all.

## FAR EAST TEAM

Lieutenant Wardle took the weight of the Far East Team from Lieutenant Gash at the beginning of 1954. By this time the latter with three years plus to his credit was by far the oldest active naval inhabitant in Hong Kong.

In May, F.C.D.O. and P.O. Butler went over to see 2nd Lieut. David Brown the local B.D. representative. He has a nice set-up lacking only a Stout House in the vicinity. It was good to recall the struggle at Broadbridge Heath.

We had a couple of days doing general exercise in Tolo Harbour. Drop and pick up with an M.F.V. was great fun though hardly the thing.

After this four gunner pilots from the local A.O.P. flight came in for a dip. They haven't succeeded yet, however, in getting the team airborne!

In June we did a night exercise on two destroyers of Lieut.-Cdr. Crawford's squadron. Captain Hopkins D.8 came out in the M.F.V. for the run and was served up with "Bull" by some of the team that made even F.C.D.O. blush. But he seemed to love it and was pleased by the team's performance.

The end of June saw us all at Singapore for a spell where we began by running a conversion course to swim for "Terror's" shallow water divers.

Our next job was to recover some ammunition ditched in 1942 by the Army in Selarang River. Working from an L.C.A. we raised 500 rounds of up to 6 inch calibre in a week. We couldn't blow in situ because of buildings alongside and we didn't like to leave the stuff out in the sun by day unless it got angry so we unloaded and countermined each night on an island. We were pleased to see the back of the Selarang River with its two sewers, and monkeys chattering derisively to each other about our efforts.

At the end of July ill luck struck the team. We were surveying the inner harbour of Singapore commercial port when L/Sea. Larkin was taken by a shark in 20 feet of water a few yards from a busy pier. He died in a few minutes after we had got him into the boat. L/Sea Sayer

and A.B. Sharris made a valiant effort to save him which, we are glad, has been recognised by the Royal Humane Society. Sayer has been awarded the Silver Medal and Sharris the Bronze Medal.

The death of Larkin was a grave loss to the team. He was one of its most promising members whose stature had been growing day by day.

After this sad event the team split. F.C.D.O. with Sayer, Hough and Chaplin set off by train for Penang armed against bandits, whilst Butler and the rest packed up to return to Hong Kong; we were all glad of a change from Singapore.

The Penang party had a couple of pleasant days looking at the bottom of the harbour and then moved to Port Swettenham. We found that 93rd Squadron R.A.F. Regiment who had arranged to put us up had received sudden orders to move next day so we were invited to help them reduce their beer stocks. We left behind us a splendid stack of empties and took with us a signed picture of Diana Dors.

We dived from a most palatial vessel provided by the harbour master. He assured us that they rarely saw sharks (a relief in our state of health) but that we might meet the odd alligator!

We believe this work in Malaya qualified us for the General Service Medal (Malaya) but we must admit the only bandits we met were in the beer bars.

August saw us all back in Hong Kong starting conversion courses for the fleet. We were three down in the team so we borrowed three handpicked S.W.D's—A.B. Kirkwood, Duckett and Drewitt, all good hands.

A few weeks later there was another fatal shark attack. This time a sailor whilst bathing over the ship's side. The team was about to do an exercise but discretion, we thought, was the better part of valour, so we called it off, and busied ourselves for the next few days in the baths and tank with conversion and qualifying classes.

The unusual presence of sharks in Hong Kong waters was attributed to the extremely hot summer. The hottest for 90 years. F.C.D.O. went shark fishing with a monster hook and some noisome bad meat as bait but the sharks didn't appreciate his efforts and stayed away.

In late September Mr. J. P. L. Thomas, First Lord of the Admiralty, visited Hong Kong and showed great interest in the team's activities. He had been through Singapore so he knew all about us. F.C.D.O. had the pleasure of meeting him.

U.S.S. *George Clymer* paid a recreational visit to Hong Kong, with the 11th U.D. Team on board. They were most impressed with our gear and the general set-up.

Christmas and New Year went in the usual way. The divers won a cake for the best decorated mess. We began 1955 with a medical on 1st January. Apart from a tendency to go to sleep during the blood pressure test we were all, surprisingly, fit!

Chinese New Year which lasts several days was spent in Tolo Harbour where we played with the destroyers again. The M.F.V. broke down on the way there and Sayer and Stockton distinguished themselves by

volunteering to paddle 12 miles in a canoe to get help. This they successfully did and *Cossack* came out and towed us to harbour lest we should become "guests" of the Communists.

We were inspected by the commodore in February. F.C.D.O. thought the team had done well and looked smart and fit. He hasn't heard the commodore's view yet!

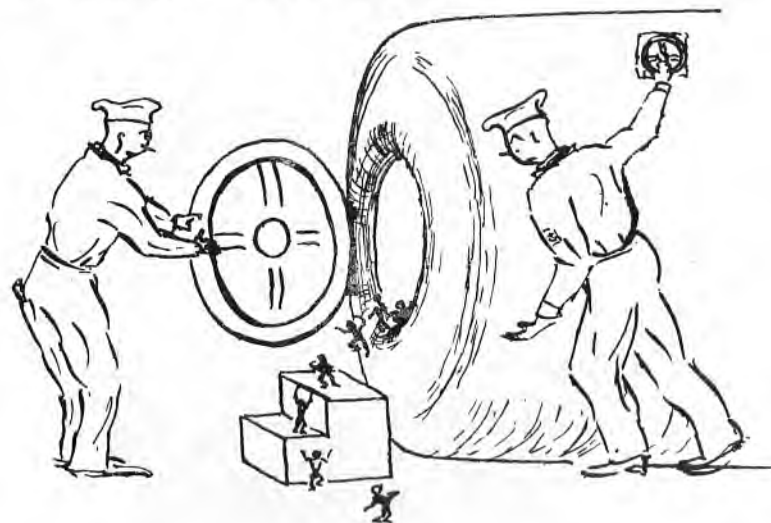
The last event to report is an attack on a beachhead made by the Army for one of their routine exercises. This was a change, successful, and great fun. B.D.O. has an excellent team of standard divers out here with whom we work very well and happily share the mess.

Best wishes to all at home and elsewhere. F.C.D.O./F.E.

We wish to thank the F.C.D.O./F.E. for this interesting item and at the same time convey our congratulations to Lieut.-Cdr. Wardle and Lieut.-Cdr. Gash on their promotion. EDITOR,

### BY TECHNICAL ADVISOR

As stated in our first edition it is not intended to make this magazine a text book. Most divers like to keep abreast of their subject, and with long periods spent from the schools this is not always easy; so the following item is being printed for interest only.



Wasn't there something about "stops"?

Last month ammendment No. 24 to B.R. 155/43 was issued. This gives the new Therapeutic Decompression Tables. Diving Officers and Divers of the Fleet please note this important change.

## H.M.S. UPLIFTER AT BLYTH

Following Summer leave, we embarked upon an operation for which the Home Station C.D. Team joined us. No details of the job can be given but a degree of success was obtained for which we can be justly proud. Valuable experience was gained and, in spite of the inevitable accommodation problem, I think that the C.D.'s enjoyed their spell with us.

One enterprising C.D. chose as his bedroom our "Pot." Fortunately he was a light sleeper and was able to surface each morning with only one stop—from "Call to Hands" to "Out Pipes."

On completion of the operation we returned to our old stamping ground in Weymouth Bay to continue the clearance of wreckage of bombardons. These were large steel structures in the shape of a cross, designed to float just under the surface and break the force of the seas on the mulberry harbour. They proved eminently successful in offering resistance to the swell, but not, unfortunately, off Arromanches. Having been moored in Weymouth Bay to await the great day, they quickly came to an inglorious end in the shallows round the bay.

In order to work on these pieces close inshore, it was often necessary to beach the ship. Diving then became relatively simple in depths from twelve feet to zero and was often watched by a large and appreciative audience from the neighbouring holiday camp. In spite of the distraction of the Female Form Divine, we achieved good results and carried off many of the larger pieces of Portland for disposal.

As a bad weather job during this period we undertook the clearance of an old wooden hulk in Castletown. Former a collier, it had been on the bottom for some fifty years and, though reduced to the keel and broken ribs, it provided a home for the finest Portland prawns, lobsters and conger eels. Many of the latter were seen, the biggest and most fearsome being reported by Petty Officer Carr. Since he invariably dived in the afternoon, however, no great credence was placed upon his reports.

It was feared that strops would cheese through the rotting timber, but S.M. Baker achieved success with a well placed strop and we were able to bring the whole keel to the surface, where, with an ingenious lead of wires, we hung it along the port side of the ship. The keel was some 200 feet long and resulted in *Uplifter* having a 50 foot bowsprit. The Portland stanchions, however, had long been accustomed to seeing *Uplifter* crossing the harbour with a varied assortment of garbage hanging from the horns so our latest capture probably evoked no surprise.

This brought to a close a satisfying season but the Christmas leave period soon gave way to the start of the next season which opened with an attack on the wreck *Resolve*, an Admiralty tug mined and sunk on the Cant outside Sheerness. Many salvage teams have worked on this wreck and no doubt many readers will recall the name with mixed feelings, but, undeterred, we rigged the 6-inch airlift and commenced to clear the mud from the after compartments. Diving was severely restricted by tides and an extremely low water temperature but we pressed on in the hope

that we could succeed where others had failed. Unfortunately, our programme was interrupted by an emergency call to the assistance of R.F.A. *Eddy Reef*, a fleet oiler which was beached at Harwich with a flooded engine room.

It seems that the lid of the mud box on the main inlet had been removed, only to find that the valve was not properly closed, and the engine room quickly flooded.

Although no diving was necessary, it proved an interesting job in that we were able to bring into action three of our largest pumps, including an 8-inch Drysdale steam pump. Having passed a bottom line and hauled down a canvas patch over the inlet, our pumps quickly beat the inrush, and, within a short time the vessel was ready to be towed away.

Yet another emergency call followed. This time to Marchwood in Southampton Water, where the R.E.M.E. Training Unit awoke one morning to find one of their small tugs on the bottom alongside the pier. It had, presumably, jammed under the pier on the rising tide.

Again no diving was required on our part, since the Army divers had already passed the 2½-inch messengers. It remained only for us to pass two 7-inch wires and button on to our 100-ton purchases. With part of the weight taken by a 50-ton floating crane, we brought her to the surface and soon pumped her out.

This job was notable in that we had no labour problem. There appeared to be whole battalions of soldiers only too ready to give their all in the cause of salvage.

It was notable, also, for the hospitality extended to us by the Army during the evening. It must be recorded that when we sailed on the following morning, Petty Officer Carr's eyes resembled those of the congers which allegedly passed his front glass with such regularity at Castletown.

We returned, for the last job of the season, to another old chestnut—the wreck of an L.C.T. in Stokes Bay. We had already lifted and beached two sections and we now, with the assistance of *Barrova*, prepared to deal with the third section.

The civilian divers of the Emergency Salvage Party on the staff of B.D.O. Portsmouth had spent months in cutting the wreck and were familiar with every rivet of it. However, ship's divers were able to assist in the passing of messengers. Unfortunately, since it was necessary to beach at the top of springs, time pressed too heavily and we were unable to position the 7-inch wires to ensure that the wreck came up clear of the stems of the ships. Notwithstanding, we lifted and pressed on for the beach and finally grounded the wreck in a fairly accessible position. Thus ended another successful season.

Since our last contribution, L/Sea. Webster had been relieved by L/Sea. Hopper, and S.M. Baker by A.B. Douglas. All have gained valuable experience and Baker left the Service extremely hopeful of gaining a billet in civilian salvage.

In closing, may we extend to all readers our sincere good wishes.

T.W.D.

## 50th C.D.T. H.M.S. "DIVER"

After reading the last magazine (and leaping hurriedly to the side) and its urgent pleas for material, we, the blue fingered characters of the north, found that with constant kicking from Sir Boss, we simply had to contribute.

This then is the first screed from us and, if the writer has his way, probably the last.

Since being up here we have been engaged in desperate duties dripping danger every inch of the rugged way. When we first formed, Sir Boss, in an informal little chat like one of Sir Winston's wartime speeches, told us that it would be nothing but "Blood, Sweat and Tears."

Being a small ship team we have functioned to the satisfaction of all concerned, until the advent upon our horizon of the Bomb and Mine Disposal Team, who have all had a vampire for an ancestor, whose predominating trait has been well handed down; not that we mind, we had too much any way.

Canteen messing has worked wonders for the waist lines of the divers three at least are being looked askance at when they relax a little, though time for relaxation has been scarce of late with a Captain of Lochinvar's inspection on our hands, as well as the normal duties that had to be performed by this in great demand little ship; which at the moment is the smartest in the command.

We have just been through what was reputedly one of the most severe winters in local memory, the only complaint we had as regards this was the fact that it was expensive on life lines. When calling a diver to surface it necessitated a spare hand going on to the top bridge and snapping the lifelines off into three foot lengths and stacking them like faggots of wood as they came out of the water, frozen solid and brittle with ice. As for the diver, he could not afford to dally too long on the ladder or he swiftly became one with it; our galley oven is not big enough to take the ladder as well. There were even those amongst us, who came from Pompey incidently, who felt the need of gloves whilst underwater—after all, you know Pompey.

There is a rival circus up here with a little Red Man doing the ram-rodging, but we don't see much of them as they are always gadding about the holiday resorts or in dry dock; but of course on their return from each outing, the sea was always rougher than any other man had sailed it before—we believe them of course as we were on the edge of it all the time.

Just lately we have been in great demand for displays, in aid of the Boy Scouts and other crazy associations that run swimming galas—in mid-winter too, hardly race these Scots. "You must see this smooth slick performance by seasoned artists." We are working up a front row chorus that will stand comparison with that of the Follies Bergere, not nearly as attractive but the numbers were there anyway. If we do much more of this sort of thing there will be complaints from the artists' union, asking us to go on strike. Unfortunately tea and sticky buns are as far as

the organizers have got round to serving after the shows, they don't seem to realize that we would prefer a noggin or several of Scotland's main export.

Many of the ex-Lochinvars will remember the "pond." Curious to relate, many strange and gruesome objects were found in it when we started to survey it. Varied were the guesses hazarded as to their nature. Breeding bed for haggis? Extinct saurian's respiratory organs? Bag-pipe plantation? Medieval gash dump? The latter explanation was accepted as the hieroglyphics detected upon some of them bore a semblance to the tallies of a few grey-bearded C.D's. Peculiar and puzzling to say the least.

We have had one recent change in the team, "Muscles" Mardling swapped for A.B. J. Harrison (Another bloated type).

That's enough contributing for this time, so will five bells by wishing all opps all over the place, Wet Dips. NANOOK.

## A FISHY STORY



After reading *The Silent World* by Cousteau, having done a diving course at H.M.S. *Vernon*, and being professionally concerned with shell-fish research, I thought that I would be in a fair way to keeping our table supplied with the evasive crustacean *Homarus vulgaris*.

Cousteau describes underwater caves where the lobsters hang like flies on the ceiling; wrecks where they peer out of every port and nestle in every crevice.

Lobsters are caught commercially in some places by fishermen who go round the rocks at low water springs with a hook and poke about in holes under rocks at the water's edge. They often make good catches. My station is on the west coast—a rocky underwater terrain, ideally suited for lobsters. With the aqua-lung I was not limited to the low water spring tide mark, nor the spring tides.

As a corollary of all this I looked forward to many large suppers; to being able to say casually to any friends "Drop in for some lobster this evening." A rich harvest incidental to my work.

The end of the first summer after the delivery of the aqua-lung was taken up with some serious work on scallop research. During the winter I dived once or twice a month to keep in trim, but the lobster season was over—they are alleged to go into deeper water during the cold weather, and are not caught.

In April, diving from a pier in the Menai Straits, our usual practice ground, with a rich fauna and a certain amount of treasure trove—I once found half-a-crown—I saw waving gently two enormous antennae. They led into the dark recesses of a half-buried large aeroplane tyre that had been used as a fender on the pier. I had no hooks or other implements so I hopefully waggled my fingers at the edge of the darkness. What seemed a gigantic lobster slowly emerged. I tried to reach over with my other hand to grab, but the tide slowly but relentlessly carried me sideways and away, whilst the lobster retreated into his deep dark recess. I repeated this manoeuvre two or three times and each time I would drift into an awkward position or the lobster would retreat as I lifted my hand to grab.

Never renowned for my patience I decided to use some brute force and b . . . ignorance. I surfaced and asked for an implement. I was handed a piece of bent wire, which I found not very helpful when trying to exert brute force, and the lobster backed further into his hole at my every attempt to get him out. I surfaced again and at last somebody produced a gaff. I got a grip on a giant claw and twisted and heaved and pulled, but the lobster had a better grip than I and didn't budge. Finally the claw came away in the gaff. It looked a lot smaller on the surface, but still big enough to impress my attendant on the pier. The hunt was up now and someone produced an anchor. I hooked this under the edge of the tyre and four people on the surface heaved. The tyre was more than half buried in the sand and didn't move. Surfacing again I told them to slack off whilst I released the anchor. As I swam down the lobster swam out very casually, and I ascended in triumph. He weighed 6½ pounds. A colleague made a dive and surfaced in five minutes with another 2½ pound lobster, a claw held firmly in each hand. This was it. There were lobsters for the picking now that the season had started.

We have neither of us seen a lobster since !

We did have some in a 6 ft. deep experimental tank which I decided to observe and practice handling underwater. These lobsters were by no means tame though in captivity, and would face up to one, making it difficult to get hold of them. I thought of trying some chemical warfare. It seemed to me that if I could squirt some noxious but not toxic liquid behind them in their holes, they wouldn't like it, would come out and be easily caught. It didn't work, they only nestled deeper into an aura of formalin or acetic acid. The conclusion drawn from this is that it is of no advantage trying this to catch lobsters in their natural habitat; but there again one has to find any lobster first !

BY R. H. BAIRD.

## AND HERE IS THE FISHY STORY TO END ALL FISHY STORIES

Published in the *London Evening News*, 21st April, 1955.

Portuguese Bend, California.

Wearing a face mask and oxygen equipment, a surgeon spent 23 minutes under water here operating on the eye of a nearly blind pet fish.

The operation was performed on Charlie, a 50 pound bait ray, which had damaged its eyes in an aquarium tank.

Dr. George Blasdel replaced the cornea of one of the eyes of the fish with a healthy cornea from another bat ray.

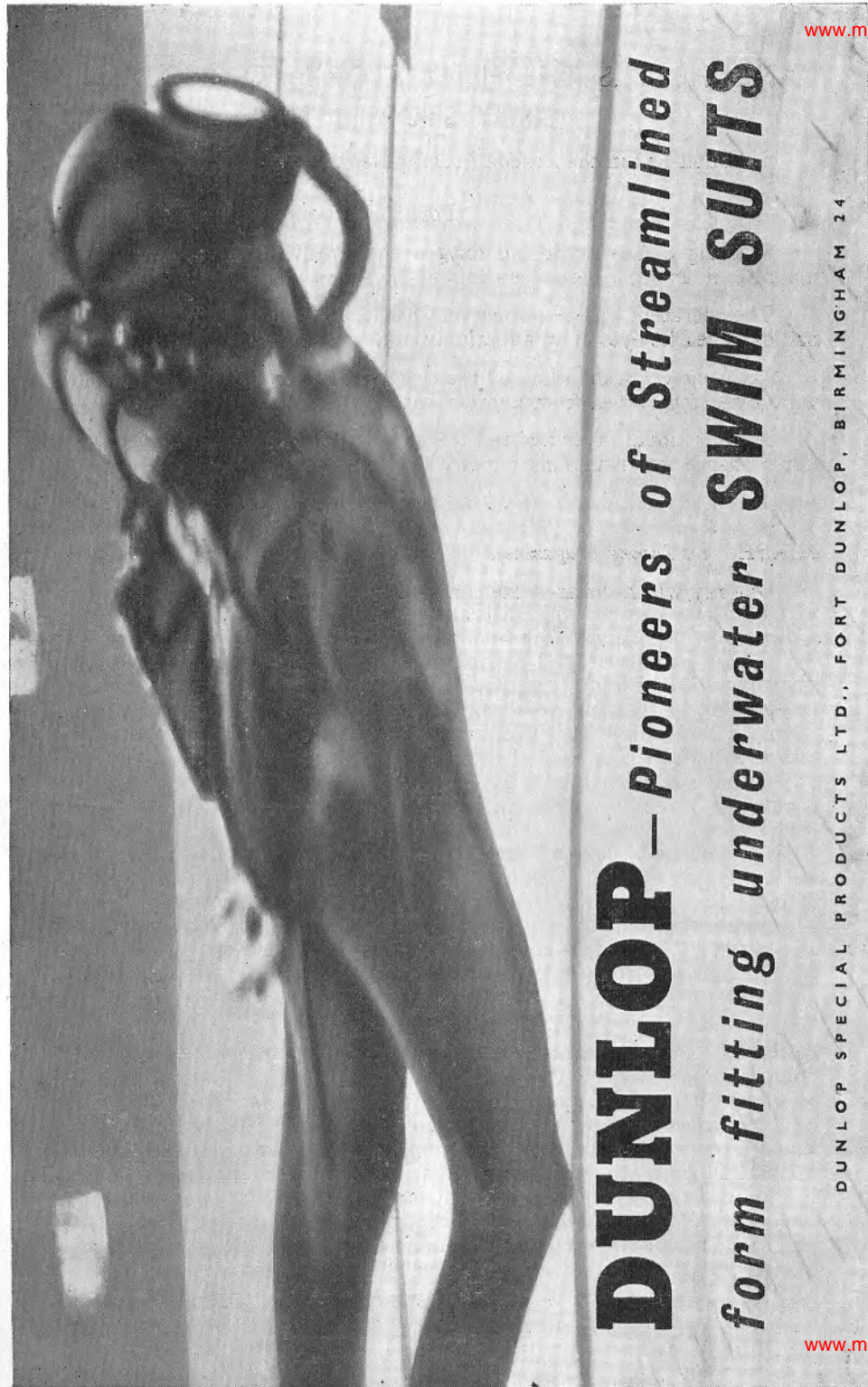
A professional diver assisted the surgeon 22 feet below the surface. Later Charlie was swimming happily around the tank.

(By kind permission of *London Evening News*)

**FLASH** (by *Diving Magazine*).

The ray which donated the cornea unfortunately died. STOP.





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## THE EMPLOYMENT BUREAU

Many enquiries have been made recently from divers away from their depot regarding the Employment Bureau, and wishing to know if we can help in any way by giving names of firms requiring divers in civilian life.

Many of you I am sure will be pleased to hear the good news that the Employment Bureau has been revived. If you wish to have your name on record please forward the following information to *R.N. Diving Magazine*, H.M.S. *Vernon*, Portsmouth.

Full Name..... Rating..... Off. No.....

Time as diver..... are you willing to serve abroad.....

Time expires..... Private Address.....

This record, when received from you, will be filed, and when your turn comes, "Who knows." Please remember the bureau does not assure you of employment. It merely puts you in contact, the rest is up to you. Records held show that many divers upon receiving information from this Bureau have found good employment in civilian life.

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