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R.N. Diving Magazine

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Editor's Notes

HERE at last the first of the new style Magazine in an attempt to increase our circulation and appeal. Only with the help of you, the reader, will it be a complete success. By sending in the money for magazines sold and news/information of your work, you will ensure that we have something to print and also the means to pay for the printing.

Within the following pages is a mine of information including details of the DIVERS DINNER, a must on every Diver's calendar and a change of venue this year.

For those of you who would like to do something useful with your spare time, the S.N.A.P. courses started earlier this year should help you to achieve this ambition and assist in preventing future wreck 'finds' from being plundered.

In future editions, we hope to start a 'Question and Answer' page, in which we will endeavour to answer any queries of a technical or medical nature which readers may have. The 'Letters to the Editor' section of the magazine could do with more controversial material. We know the magazine is good, it could be better with your help.

With two changes in the Editorial Committee already a thing of the past and a change of Editor due shortly to use the words of the prophet 'It's all happening'.
EDITOR.

DIVERS DINNER, 1969

THE Divers Dinner will be held this year on Thursday 16th October 1969 at Kimbells Clifton Oak Lounge. Reception at 7.15 p.m. Dinner at 8 p.m. The cost this year is 38/6 including Wines. Bar Extension to Midnight. Seats cannot be booked without names and money. Tickets will be issued at the time of booking and will constitute a receipt. No money can be refunded after 1st October for seats not taken up.

It would be appreciated if applications could be received as early as possible and in any case not later than 1st October.

Please make cheques/postal orders payable to The Divers Dinner Fund, and forwarded to: The Editor, R.N. DIVING MAGAZINE, H.M.S. *Vernon*, Portsmouth, by the 1st October.

FRONT COVER. *Compliments of Alan Bax.*

Lt.-Cdr. Alan Bax examining the result of the excavation of the Dutch East Indiaman—*Liefde*—Shetland 1968. Photograph taken with a Nikonos fitted with a fish eye lens manufactured by Slip Shulke, Miami.

Royal Alien Navy—part II

San Diego,
California, U.S.A.
December 1968.

SINCE our last article, we have moved around California quite a bit. At the end of July, most of the SEALAB personnel moved up to San Francisco, to commence training with the Deep Diving System Mark 2 and the Habitat.

This presented a few problems at first as the shipyard was still hard at work completing the installing of the Mark 2 System in the support ship *Elk River* IX-501. So at first, they concentrated on the SEALAB (the Habitats designated title), systems and procedures.

On 10th August, Lt.-Cdr. Lafontaine, L.S. Lukeman (now designated Major and Corporal—but don't address them that way!) and myself moved down to Port Hueneme. Lafontaine with Team V—training with the Mammals, Lukeman and I with Teams II and III, training with the Salvage and Construction projects. Lukeman and I spent ten days working with the Salvage and Construction teams, alternating between them. The training took place off Anacapa Island, which is about 10 miles off the coast from Port Hueneme.

Then, we had three days with Team V, working with the mammals. My first dive was with Topo, a well trained seal. It was wearing a small fitted harness with a small float attached to it. We sat in a mock-up of the SEALAB in 50 foot of water and Topo would come down to us from the surface where we would remove the float from one side of the harness and replace it on the other side, to simulate bringing a message or package to the diver. Then we would gradually approach the entrance hatch to the SEALAB trying to entice Topo to come up inside the hatchway. On my dives we managed to get Topo as far as the hatch entrance. We also made dives with 'Rascal' and 'Tuffy', two porpoises who will be worked on the SEALAB III project.

I must admit that I was a little apprehensive at first, but I quickly got over it, and thoroughly enjoyed the experience of working with these intelligent and well trained mammals. One cannot help being impressed by the confidence all the trainers have in what their particular mammals can and could do if necessary.

We all returned to San Francisco on 24th August and got on with the further training and testing with the SEALAB and Deep Diving System. The schedule of work had picked up so much that we were now

working at least twelve hours a day, seven days a week and most likely would be until the project got underway.

For the first ten days of September, Lt. Lafferty and I spent most of our time training up a special group in the use of the Mark VIII Diving rig. This group consisted of Cdr. Scott Carpenter, Phillipé Cousteau, Dr. Joe MacInnis, Dr. Raymond and Mr. Martin Harrell, all of whom had been unable to join up with the earlier training course held in May back in San Diego.

For the remainder of September, and the first two weeks of October, training and testing was carried on at a steady pace, highlighted by the Shallow Water tests held with the SEALAB in San Francisco Naval Shipyard. The SEALAB was lowered to the bottom of the drydock in 35 foot of water, and each team spent up to four hours at a time in the SEALAB—diving from it and operating all the systems so as to give each team member a thorough checkout, the alternates working within a team so that all personnel got in this SEALAB training.

Mid-October, the SEALAB left San Francisco for Long Beach and I accompanied the Lab to run another Mark VIII training course for a further four, these personnel to be alternates, as all teams had been increased to nine members, and the alternates list had decreased slightly.

The *Elk River* eventually left San Francisco on the 8th November and all personnel moved out to San Clemente Island to prepare to start the project.

It was during our training with the Personal Transfer Capsule, that, while putting P.T.C. No. 2 down to 550 foot in the Hydrostat Mode, unmanned, so that the Strength, Power and Communications Cable (S.P.C.C.) could be restowed on its winch drum, that the Capsule flooded. This of course has put the 'down date' back till most likely early in the New Year. It was a bitter blow as everyone was 'keyed up and ready to go'. This means that most of us will be able to spend Christmas with our families, which would otherwise have been impossible.

Since our last article, Lt. Lafferty has been promoted to Lt.-Cdr. and has become a Mark IV Dad—his wife presented him with a bonnie little girl on September 6th. I am sure you all join me in congratulating him on both events.

As already mentioned, the Canadian Navy has changed its titles, and we now have a Major and a Corporal in the Alien Navy. The Corporal is

eagerly awaiting his sergeants stripes, which should be through any week now.

There have also been a couple of team changes, Lukeman will most likely go to the bottom with Team V and I am at the moment going on the Construction project with Team III.

I unfortunately missed Vic Humphries on H.M.S. *Fife* when they were at Long Beach, as I was on San Clemente Island at the time. But we had a fleeting

visit from Lt.-Cdr's. Jackie Warner and Bill Filer, who came out to the Island to have a look over the SEALAB and the *Elk River*. Also, we met Capt. Blake, Cdr. White, Doctors Rawlings and Elliot and Lt.-Cdr. James Majendie, who were all in San Diego attending the International Deep Diving Conference. It was almost like being back in *Vernon*, except it was so much warmer, as we were having to put up with a cool 68° temperature outside.

Treasure Diving—New Style

TREASURE diving being the current 'in' thing, let me take you on a real expedition that paid off, without the need for such elaborate preparations as the *Santa Maria de la Rosa*, *Association*, or *De Liefde*.

Equipment needed will be suits with plenty of thick underclothing, as the water will be very cold, and a really heavy weight-belt to stop you being washed away in the 4—5 knot current. Breathing apparatus of choice, but purge-valve masks usually mean a constant inflow of water with such a strong flow of water.

Descent is quick, after a carefully executed entry that rules out a jump which would be unwise, if not outright folly. As the diver descends, he feels the colossal pull of the current, and automatically keeps his head into the current. It is pleasing to note that there is next to no drop-off in the light transmission, and that as he bottoms and digs his toes in (no fins), it is as light as at the surface.

In this watery bargain basement, as the diver takes his first look round, the simple matter of breathing must not be overlooked, so he takes a deep breath from his snorkel. With all the expectation in the world, he surveys his surroundings—depth 18 inches, in the clear waters of the River Wey, at Tilford, Surrey.

On a bed of hard-packed sand and gravel, with lumps of strangely shaped iron-stone dotted about, it is time to start scratching—which is the correct term. Fingers, a hand trowel, or preferably a water jet is used to loosen the river bed, and all loosened grit must be searched, with the current carrying away the sand, and larger pieces being stacked behind a convenient bridge buttress.

George III farthings, halfpennies, and a sixpence are found, together with a revolver, pistol, old mortar bombs, and remnants of the staunch defenders of the bridge in more troubled days—blank cartridges,

an L.D.V. badge, and an A.R.P. 'Shelter' plate. An old bayonet scabbard—thickly encrusted in sand and grit—is thrown into the wire-basket, to be cleaned up when time permits.

After handing in to the police the two firearms, the rest of the days finds are left in the basket, at the bottom of the diver's garden. Some days later the scabbard, along with other items, gets a scrubbing in the kitchen sink, only to reveal glittering glass and brass underneath the coating.

Needless to say, the brass was gold, and the glass were diamonds, 635 all told, with a few recovered from the 's-strap' under the sink.

Enquiries eventually led to the National Maritime Museum, where Commander May was able to provide some very useful data, confirming that the article is the top locket of a sword scabbard, richer in manufacture than anything seen before.

The central motif on each side is a crescent moon with eight-pointed star on a blue enamel background. This is the Turkish Order of the Crescent, which was created by the Sultan of Turkey to honour foreign nationals who did outstanding service towards his country. It was first awarded to Lord Nelson after the Battle of the Nile.

The Sultan also gave Nelson a musket, water canteen, and jewelled sword. The original sword disappeared, and was replaced with the fake which is now in the National Maritime Museum, and there is now no longer any doubt that the Tilford scabbard is from Lord Nelson's sword, though how it came to be there will forever be a mystery.

Some dozens of searches have taken place to locate the remaining sword and scabbard parts, without success, but to the man who found it, 'Nobby' Besch of New Haw, offers keep coming in, the latest being one of £6,000, which goes to show you don't have to go deep to hit the jack-pot.

At a Coroner's 'treasure trove' Inquest, the jury returned a verdict which meant that the scabbard did not come within the verdict of treasure trove, and as no-one had come forward with a plausible claim, it was handed back to Mr. Besch.

One amusing sideline was that at the 1968 Divers' Dinner, it was startling to see the napkins, then the cutlery, all marked with the crescent and eight-pointed star crest—the Portsmouth City Badge—presumably honouring the city's old freeman.



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Diana's Fins

DRAFTED from 'Pompey', to make the Diving Team aboard a 'Guz' ship, six keen outstandingly efficient Divers formed the complement of *Diana's Fins*. Still muttering abuse at C.N.D., they accepted the situation and settled down to overcome any problems that confronted them.

The first major problem was the Diving Store, not in as much as squaring it off, but finding it. Blueprints were studied, plans were consulted, and an amazing conclusion was drawn, 'Clubs' was in the wrong caboose. This meant just one thing, he had to go, so two of our Diving stalwarts duly evicted him.

Our first assignment was originated by the Q.M. who when wanting to ring eight bells, discovered to his amazement that there was no ship's bell. This was conspicuous by its absence. After every search in the book and the assistance of George France, it was decided that we should draw a new one from the Naval Stores, and sail to Portland where we did the usual work-up routine.

Our complement was lowered by one, due to a compulsory loan draft of 28 days somewhere in the Portsmouth area. On completion of the work-up we set sail for our spring cruise in the Med. Little diving was done owing to the fact that we were putting out fires on merchant vessels in distress and searching for lost subs. We embarked the Med. Diving Team with their 'pot' and survivors equipment. Although the team had little work to do, they did dip in with salvage money and Sam's $\frac{3}{8}$ spanner.

Ten months gone already, and we are on our third Diving Officer, Lt. Downing (Airy Fairy). Just the routine dives in Malta, poker gauge, bottom search, etc., but foremost in our minds was Easter leave in U.K. The period after leave we spent 'bumming gear', so that we could be ready in all respects for the Far East station (and yet another Diving Officer). Gibraltar brought problems owing to the fact that our new Diving Officer had not joined (R.A. in Pompey). H.M.S. *Defender* rendered assistance and invited us to dive with them during the afternoons, . . . even more problems. The ship's side had to take another coat, so our indispensable, and dejected Divers could not be spared. Jimmy the One, said 'work now, play later?'

Where next? I'm glad you asked, Simonstown! Still no Diving Officer, but we managed to grippo *Grenville's* Diving Officer into a combined Diving Exercise. We've now got forty minutes each to our credit, but in fact the dive proved to be very interesting as we were accompanied by a vast quantity of

seals (well—two!). They appeared to know a lot more about diving than we did but took an instant dislike to the sound of the Equalising Valve. Leaving Simonstown, we spent several boring weeks on Beira Patrol, and the only salt water we saw was in the bathroom.

Come Mombasa, things really changed, we were honoured with the presence of a genuine, beduine, real McCoy Diving Officer. Just in case he owes Rum, money or favours to any reader, he answers to the call of S.-Lt. Bob Pilling. By this time we started to think as a team and began to familiarise ourselves with each others diving habits. Rumours had it, that shark fishing was common, in fact it was a good 'buzz', because after furnishing ourselves with a suitable length of coullene and a hook, we managed to land an 800 lb shark (KILLER?). Needless to say diving still took place the following day, by our brave and completely irresponsible divers.

Maintenance was the order of the day on passage to Gan. Although we only had eight hours to spare whilst refuelling, we took advantage of the opportunity to partake in some most colourful and enjoyable diving. Next stop, Pulau Tingi, where once again we were able to feast our eyes on yet more splendours of the deep. We were very fortunate to unveil a bed of giant clams, which are now prominently displayed as trophies in various messdecks ('G' Members).

Singapore, nothing to recall, owing to the fact that the majority of the divers were on station leave, the C.D.O. on loan draft to a minehunter, the store was obliterated by 'chokies' and there was no air anyway. Attempts were made to recruit new blood, but once again due to ship's commitments the four ratings who started the course were unable to complete it. We did however have a new diver drafted on, who is as good as any C.D., or so he informs us.

Again *Diana* was on the move, this time to Sydney, partaking in a long and tedious exercise on route. Sydney proved the making of history for us. Not only were we permitted to dive in 'pushers' time, but we were allowed a banyan as well. The banyan invitation came from the R.A.N. Diving Team in H.M.A.S. *Penguin*. We spent a pleasant enough day, and made good use of their gear, but the general impression was in favour of our own S.A.B.A. and S.D.D.E. The boss however was infatuated with the new German Mixture Set (L.A.R.). We were lashed up to a real beach barbecue, which was very much enjoyed and appreciated by our ravenous crowd.

On returning onboard we discovered we had paid for our days enjoyment by the loss of one watch, one pair of oves, and one pair of nix. We hasten to add that the watch was duly recovered by the boss, who was compelled to accept the hospitality of *Penguin's* Wardroom.

Once more *Diana* made a move, a day late, owing to a defect down the stoke-hole, this time the destination was Okinawa, supplying *Hermes* with a plane-guard on the way. At least two of our divers finally earned their 'Golds', when they were called to the rescue of a crew from a ditched *Gannet*. Much to the relief of the crew and to the credit of the lads, the operation was carried out both speedily and effi-

iently.

The Japanese visit of Okinawa, Hiroshima, Eta Jima and Beppu proved quite fruitless, diving wise, apart from a couple of routine dips. SAM.

The Team:

S.-Lt. Bob Pilling. The Boss.
Ch.M.E. George Hornby. B.E.M.
P.O. Ginge Sargent. C.D. 1½ (S.D.)
L.-Sea. Stumpy Richards.

No comment without being rude.
A.B. Sam Sizer Yeoman, Editor and Life-saver.
A.B. Jan Stocker. The only Janner and he's bone.
A.B. Nobby Hall. R.P. and don't we know it.
Mech. Marshall. Our beloved maintainer.

A Winter Cruise in the Caribbean

H.M.S. *ROTHESAY* commissioned in June 1968 with insufficient divers onboard and no diving officer. Volunteers were soon forthcoming and just prior to work-up, the divers had increased to nine in number with one diving officer.

Work-up at Portland helped to weld together a team out of many individuals. While at Portland we were involved with the recovery of a 'Wessex' that had ditched. The helicopter had overturned during the salvage operation and the diving team were called upon to fit a recovery strop. Unfortunately the sea was too rough for comfort and the diving operation had to be abandoned although it was the ships' divers working on the surface who eventually fitted the strop.

December saw us saying farewell to cold and windy shores of Britain, heading for the West Indies.

Our first stop was at Bermuda which proved to be a little disappointing from the diving angle as visibility was poor and the water was not much warmer than that of the United Kingdom.

When the Islands of the West Indies were reached, rubber bags and poor visibility were forgotten. It was not unusual to have a visibility of 100 feet.

Shark and Barracuda only interfered with diving operations once when Dave Cherry and Alley Alleguen leapt out of the water and into the gemini insisting that they had been chased by a barracuda at least twice the size of the gemini!

A period of self-maintenance in Chaguaramas, Trinidad enabled us to undertake a variety of diving training as well as expeding. The whole team managed to get in at least one 120 feet dip and many

night bottom searches were done.

While expedition diving at Chaguaramas, a coral encrusted anchor was found and after much effort recovered. On chipping off the coral the anchor proved to be much more modern than we thought which was a little disappointing.

Also while in Trinidad, we undertook some underwater demolitions for the Trinidad and Tobago coastguards. It involved cutting off some pylons which were proving dangerous to small craft. Our explosives went off well but very few fish were 'caught'.

In Grand Turk Island we liaised with some American Scuba Divers who were attached to the Satellite tracking station there, a result of which was that a couple of our divers went diving with the Americans who had an intimate knowledge of the waters around Grand Turk.

Shell collecting became a mania of the divers until the smell given off after a few days dampened the diver's ardour for collecting them.

While on the West Indies Station the Anguilla crisis occurrd. *Rothesay* had to go to Antigua to join up with H.M.S. *Minerva* prior to the invasion in order to embark troops.

Shark and Barracuda have but infrequently attacked divers in the West Indies, we were told, but of course the usual precautions against shark and barracuda are always taken.

The Team was: Lt. Jones, A.A. Wrightson, I.C.E.M. Olsen, L.M. (E) Magnus, R.E.M. Gray, A.B. Adamson, A.B. Cherry, A.B. Alleguen, A.B. Hannah, M.E. Flanigan.

Inglorious Mud

by M. HAMMERTON

Sound Effect: fade in and out the refrain of Flanders and Swan singing: 'Mud, mud, glorious mud! there's nothing quite like it . . .'.

Text: If I had met Messrs. Flanders and Swan early this summer, I would have been very tempted to commit assault and battery upon their persons. I felt a similar strong inclination towards the Director of B.B.C. Radio 1. Not that I have anything personal against any of these gentlemen; and, to tell the truth, I quite like Flanders and Swan's singing, under normal circumstances. The circumstances, however, were not normal, as I will explain; and I hope that when I have done you will have some sympathetic understanding of my violent feelings.

A couple of years ago, I carried out some experiments and observations upon a group of civilian amateur scuba-divers. More recently, I became interested in extending these studies, and to that end I approached the Royal Naval Diving School at H.M.S. *Vernon* in Portsmouth. The Navy are always wonderfully helpful, of course, and they were willing enough to let me do my work. However, it turned out that they had a little problem of their own concerning trainee divers, and they made the suggestion that, whilst studying my problem, I should also look at theirs. This was so obviously reasonable that I promptly agreed. It was then put to me that, in order to study their problem properly, I would have to take their training course.

Now I enjoy underwater work—I held the British Sub-Aqua Club's third class certificate, and I had a dozen or so open water dives to my credit. I knew well enough that I would be about fifteen years older than the lads taking the course; but I reckoned that, as academics went, I was pretty fit. So I agreed. Little did I know!

It was explained to me that there are two sorts of diving courses; ships divers or S.D. courses, and clearance divers or C.D. ones. Ships Divers are men who are able to carry out routine diving activities as needed, although they are normally employed upon their other duties, whatever these might be. An S.D., however, can volunteer to become a clearance diver and a C.D. is a full-time professional diver. Their training gives them a very thorough and extensive grounding in the theory and practice of their trade; and I had no doubt that it would be a fairly rigorous business. I began to have my first nagging anxieties when a briskly amiable Lieutenant Commander suggested that I should start with an S.D.

Officer's course, and transfer to a C.D. course when one started a couple of weeks later. If I started from scratch with the C.D.'s, he explained kindly, it might very well kill me.

My fears were partially stilled by pride when I was told that I was only the second civilian ever to be allowed to participate in a C.D. course; but they returned, somewhat amplified, when I was further told that my predecessor had fled after 48 hours, declaring that all divers were lunatics. (Incidentally, I still don't know if that particular story is true. Accounts differ very sharply). My opportunity already appeared in prospect to be a very rare privilege, but not, perhaps, an entirely enviable one.

So I duly arrived at H.M.S. *Vernon*—a Naval land establishment in Portsmouth—early in May, and was accommodated in the wardroom. Needless to say I was made to feel at home, for the Navy can offer any institution points and a beating when it comes to making strangers feel welcome and comfortable. On my first full day, I made a number of arrangements about my own work; and then met the four young officers whose S.D. course I was to share. I very rapidly concluded that, whatever might be bad, it wouldn't be the company. There was a theory class; and being fairly well up in the theory of the thing, I was able to sit back and admire the instructional technique—which really was first rate. Then we met our instructor, and collected our kit. The instructor was a remarkable fellow, and the kit is also worth a careful note.

The Navy still does most of its diving in what some humorist has called a 'dry' suit. I am told—nay, I am earnestly assured—that it is possible to get into one of these things in two minutes flat. I never managed better than five. This is how it's done: First, you don one or two woollen undersuits; then you tackle the main rubber-coated nylon dry suit itself. It is a one-piece garment, open only at neck and wrists: you get in via the neck. Seated on the floor, you insinuate your legs through the neck opening, and by much dragging and heaving, get your feet into the boot-ends of the suit, so that you can stand up and writhe around until the neck opening is around your hips. The next step has to be a co-operative effort by two divers. You grab the neck yoke in front, and your friend grabs it behind. You leap in the air, both of you making a frantic upward jerk, and, with luck, get the yoke up to your armpits. Then you grasp a doorframe firmly with one hand, putting the other on top of your head.

Your friend seizes the yoke under your raised arm, at a signal he heaves at it, and you thrust your arm down and into the sleeve. Repeat the process for the other sleeve, perform the same services for him, and you have *nearly* got the dry suit on.

There remains the need to seal the neck. First you insert inside the yoke an I-sectioned aluminium ring, rather like what I imagine an ancient thralling to have been. This rests most uncomfortably on your shoulders with the lip of the suit-yoke over it. You then drag over your head a kind of rubber cravat, the wider end of which fits outside the yoke, bearing on the ring inside, whilst its narrower end sits tight to your neck—or at least, it is supposed to.

At last you pass a second, adjustable metal ring over your head, and screw it tight over the joint of cravat and suit, and lo the knight is arnarmit! If you think this sounds a very exhausting rigmarole, you are right.

Thus attired, and carrying our flippers in our hands, the five of us found ourselves, one cool morning in May, standing by the shore of an artificially shaped arm of the sea known as Horsea Lake. By the lake were the collection of buildings which constitute the diving school, and above its water—just under 21 foot above them, was a narrow diving board. Our instructor surveyed us and the scene with benign approval, rubbed his hands, and said, with a glance at the board, 'Well, gen'lemen, up you go, jump off, and swim across'. As we climbed the ladder—with myself well in the rear—he added 'Hang on to your neck rings, or you're liable to have your chins cut off. And point your feet down, or you'll lose your flippers'. I climbed up donned my flippers, gingerly approached the edge of the board, whence my braver friends had already disappeared, grasped my neck ring very hard indeed, and, with eyes tight shut, jumped into the intrenchant air. I made an interesting discovery, although everybody else seems to go down very fast indeed, you always have time to think 'Where the hell's this damned water?' before you hit it. It tastes horrible, and makes a great splash, but is otherwise all right. Yet—would you believe it?—though I lost count of the number of times I made that jump, I never managed it with my eyes open. Every morning I vowed that I would gaze upon Portsdown Hill as I fell through the air, and every morning I stepped to the end of the board, grasped my neck-ring . . . shut my eyes, and went. No doubt I am an invincible coward.

After a few jumps of this kind we got down to the diving itself; about which you probably cherish some mistaken notions. The sort of films and advertisements featuring underwater work always give an

impression of limped blue water, gaudy fish and corals, delectable warmth, and, of course, an Ian Fleming type lady in close attendance. It is not like that at all. At a depth of 60 feet in English waters you are often unable to see your own outstretched hand, and even in our lake, which was about half that depth, we esteemed ourselves very lucky to be able to discern objects about six feet away. There were no pretty ladies either, and worst of all, for the first few weeks, it was cold. You might be sent down with a length of iron pipe and a hacksaw, and be told to cut the pipe in two, or you might be told simply to follow a pattern of ropes—properly called jackstays—laid along the bottom. After an hour or so of this, I found that I emerged with no control over my fingers, and very evil thoughts about the man who christened our suits 'dry'. Water at about 5°C. is very dampening to the ardour as it seeps in through neck and wrists.

Once, being temporarily lost, I knelt on the bottom whilst feeling for the nearest jackstay and snagged the knee of my suit on some sharp object the sensation of chill water gradually welling in around knee and thigh and shin, spreading inevitably to foot and crotch, is not one that I recommend. And of course, when you come out, you charge up your set with more air and go in again. And so on, two or three times a day.

As I remarked, I had reckoned that, as academics went, I was pretty fit. It's just that academics don't go very far. By the end of a couple of weeks of diving, jumping, and mud-running—of which more in a moment—I thought I really *was* fit, when I duly transferred to the clearance divers, and discovered how wrong I was once again.

Clearance divers do whatever ships divers do, and very much more besides. We used oxygen sets instead of compressed air. (I preferred these, though some did not) and got ourselves very, very tired indeed. The company again was excellent: the course consisted of 10 ratings, instructed by a Petty Officer and his assistants, and for sheer courtesy, considerateness, and the kind of manners that matter, they outmatched any group I have ever been with. True, neither their topics of conversation nor their vocabulary would, I imagine, have pleased the woman Whitehouse—and who's she I'd like to know?—but they knew to perfection how to live amicably together. I suppose this must be so with sailors: if you take a couple of hundred men and shut them up in a steel box for months at a time, they must either go crackers or become reasonable—and they don't go crackers.

In fact, as the weeks passed, and the water grew warmer, making diving much pleasanter, I had only

two real sorrows: B.B.C. Radio 1 and mud-running.

I detest pop music; and these nice people would have it on, all the time we were out of the water, from awakening to sleeping. I persuaded them to let me have something else for a short time, and at 0659 and 30 seconds I turned to Radio 3 for the new headlines, followed by a little music to my taste, but after 10 minutes or so of Mozart or Haydn, they would say 'Come on Doc, that's enough for one day', and back we went to those strident, insistent rhythms, banal lyrics, and nauseating accents: hour after hour of it. I particularly recall a juvenile delinquent bawling, several times a day, that his name was Jack, and that he lierved ('lived' I suppose he meant) in the back of somewhere or other. If I could have laid my hands on the director of B.B.C. 1 . . . !

I could not help noticing that my friends had no more respect for Pop than I had. They used to produce improved—much improved—lyrics at great speed; but they could not bring themselves to switch off.

The mud was worst of all. 'Mud running' is a misnomer—mud crawling would be more accurate—for an activity necessary in the training of divers. Basically it is very simple: at low tide you go forth clad in the basic kit I described, and walk across some exposed mudflats for half or three-quarters of a mile. The mud around where we were, has a smooth, greenish-brown surface; but the surface easily breaks, and beneath it is a vile-smelling viscous black liquid. Into this you sink with every step, and to withdraw your foot requires some effort. To withdraw your foot the five-hundredth time requires heartbreaking effort.

After some practice I got to the stage where, if the mud came no further up than mid-calf, I could

keep upright and keep going. When it was deep enough to reach mid-thigh, almost everyone keels over and flounders forward on hands and knees. This is a mode of progression which is slow, painful, and very dirty. After a few hundred yards of it, you can tell men apart only by their height and build: they are uniformly blackened and stinking with mud. I used to trail in about fifty or a hundred yards behind every one else, and it was on one such occasion, when I arrived gasping, soaked in mud without and sweat within, that I recalled Messrs. Flanders and Swann. A wave of homicidal fury rose within me. What did they know about mud? 'Glorious' mud forsooth! They deserved to be drowned in it—slowly. I really was not feeling charitable.

When the time came for me to leave, the members of the course presented me with a framed certificate they had made for me. It declares me to be a member of the Royal Order of Mud Runners. I am more than proud to see it hanging on my wall, for it took some getting.

If ever you should meet a naval diver—the badge is an old-fashioned diving helmet with either two stars or a crown—treat him with great respect: he has earned it, and stand him a drink, if you have an opportunity, for it's long odds that he is very interesting company, but switch off Radio 1—or chuck the set in the mud. Please.

* * * *

Editors Footnote:

Dr. Max Hammerton is a psychologist with the Medical Research Council, who, at frequent intervals gives broadcast talks on Radio 3. This broadcast is reprinted by the Courtesy of the British Broadcasting Corporation.

New President for Southsea B.S.A.C.

SURGEON-Commander D. H. Elliott, D.PHIL., R.N., has agreed to become Honorary President of Southsea Branch.

Dr. Elliott is well known in the international world of diving and is at present engaged in practical diving medicine and research at the Royal Naval Physiological Laboratory, Alverstoke and the Admiralty Experimental Diving Unit, H.M.S. *Vernon*. He has contributed the 'Diving Accident' chapters to the last two B.S.A.C. manuals and has a position of Technical Advisor on the council of the National Underwater Instructors Association.

A new professional book entitled 'The Physiology and Medicine of Diving and Work in Compressed Air', to be published shortly, was co-authored by Dr. D. H. Elliott and Dr. P. B. Bennett and is likely to become the standard reference work in the field for many years to come.

Southsea B.S.A.C. are honoured that Surgeon-Commander Elliott has accepted presidency of their Branch and welcome him to B.S.A.C. membership in general and to Southsea Branch in particular.

E. JOHN TOWSE, *Chairman*, Southsea B.S.A.C.

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On S.N.A.P—A School for Archaeology Underwater

THE idea of the school was first born in 1965, when the Committee for Nautical Archaeology (C.N.A.) sponsored a small organisation at Swanage in the South of England. In retrospect, it was before its time, for although born, it did not prosper, and by the Autumn of that year had quietly returned to the womb. The general feeling seemed to be that Marine Archaeology was the prerogative of the Mediterranean Sea and no other.

Time passed until in the Autumn of 1968, the Committee took stock of itself and the Underwater situation. Things had changed. Marine Archaeology was 'on' outside the Mediterranean. Stockholm's 'VASA' was not an isolated rarity, ancient wreck was being explored systematically—in fact excavated as thoroughly as on any land site—in Norway, Holland, Denmark, Australia and New Zealand, and it was being found off Great Britain and the United States. Unfortunately, it appeared that the historic value of the two major U.K. finds had been successfully masked by the glamour of the treasure finds which accompanied both.

The Committee considered that there was a considerable general interest in the exploration of old wreck, and that, if in the course of its exploration, irreplaceable knowledge of past life at Sea was being lost, it was certainly not because the diving community as a whole lacked a sense of responsibility towards the past. It was because in their pleasant jaunts for souvenirs, treasure, or salvage, there had been no reason to acquire the knowledge, either to appreciate what they found, or to explore it properly.

The way of the Committee appeared clear, they must satisfy this need for education. Although both the Salvage and Antiquity Laws urgently required amendment to recognise the historic potential of underwater sites, it was appreciated that such amendment would take a matter of years. Therefore, a twofold course of action was decided; in the long term to amend the law so as to protect finds and sites, and reward the finder adequately; in the short term to resurrect the School.

It was appreciated that, whatever the Law, the maximum value of the mass of ancient material around our coasts could never be realised without the goodwill, and active support of those who used the sea both amateur and professional. It was hoped that the School would not only prove 'education',

but also engender the necessary goodwill.

As a result of these deliberations, the name 'S.N.A.P.' was evolved, and after a three month administrative interval, the first course took place late February 1969. It was thought sensible to walk before running, and so only nine weekends have been planned for this year.

The response has been more than satisfactory. Instead of 10 students as planned, courses have been stretched to take 12. The February and March courses were over-subscribed, despite water temperatures of 8 degrees centigrade, and appalling wintry road conditions. April was full, as are May and June, and the four remaining—August to November—are slowly but surely filling.

A feature of the courses is an air of responsible informality, which has grown up rather naturally as the most effective way of putting students at ease—not to mention the lecturers! Ages have ranged from 16 to 42, and professions have been equally varied. Knowledge of these totally different backgrounds has led to the lecturers actively encouraging student participation, so that all may benefit from this wide experience.

Local interest and support has been considerable from the beginning. Not only has there been an audience of some 50 to 60 at the open lecture on Saturday evening, but also the lecturers have come from the South-West. A great deal is owed to the Commanding Officer of the 95th Royal Artillery Commando for allowing the course unlimited use of his conference room in the Royal Citadel—a setting historic in itself, which is of great value to the course, in that 'instant' cannon are readily available for discussion on the nearby parade ground. The Royal Naval Diving Officer has also been kind enough to provide air, and, in turn, the Officer Commanding the Royal Marine Barracks has permitted access to the practical work site at Millbay. Nor is the Junior Service to be left out, for as well as contributing a grant of £10 from their Sub-Aqua Association, they have also provided the first Service student, and indeed, they are setting a Service trend with a peak of seven in June. Civil support is also far from lacking, accommodation and meals are being offered at reasonable rates, Newspapers, Radio and Television covering our activities with accuracy, and the owners of the local diving store giving us invaluable assis-

tance in running the lecture and bar on Saturday evenings.

But, perhaps the greatest encouragement that has been received is the decision of the British Sub-Aqua Club to make a grant of £100 to the School, and £100 to the C.N.A. for legal costs in connection with action to amend the Laws.

The training of a team for a specific expedition is a task for which 'S.N.A.P.' is particularly suited. It is pleasing to note that Imperial College spent a week at Plymouth with Jim Gill, working up for their underwater living experiment off Malta in July. In May, five Aston University students will be preparing for their expedition; in June a R.A.F. team, under the guidance of Bill Wilkes, form the bulk of the course, and in November, the Reading Branch B.S.-A.C. seem to have taken over! Plans are also afoot to arrange an additional weekend for an Army team who may be off to Cyprus.

As to the content of the course, the observation which stands out from all others, is that a two-day course on so varied and absorbing a subject is very much akin to squeezing a gallon into the proverbial pint pot. Only the ready co-operation of the students has enabled the schedule to be maintained.

A 40-page booklet is offered to all students called 'S.N.A.P.'s Practical Guide', at 2/3 cost. It contains an outline of all lectures, with diagrams, and leaves space for notes. It is hoped that it will be rewritten in the Autumn as a result of our experience.

The morning of each day is given over to classroom work, keeping lectures as practical as possible, by allowing students to handle gear, and for example, giving pairs of students six prints of an underwater site so that they may gain the experience of connecting their own photomosaic.

We have also been very fortunate in having a number of specialist lecturers to assist with this work. Their wholehearted participation in the course has inspired enthusiasm in the students, and provided a most effective supplement to the lectures of Jim Gill and myself. So far Don Bailey of the British Museum, Stuart Swiny and Helena Wilde of the Institute of Archaeology, and Collin Doeg, Underwater photographer of the year have given their services.

The afternoons are practical, and at Plymouth, there is no shortage of likely sites. Two have been selected, one at Millbay a sheltered site with rather poor visibility inside the harbour, the other, an unidentified wreck on the coast, which holds great potential. A number of cannon are spread over a wide area, and it is hoped that their practical exploration will demonstrate most aspects of the classroom work. So far Millbay only has been used, a few cannon, and cannon balls are scattered in some 20 feet of somewhat 'opaque' water. It may not sound over attractive, but it has already taught students and staff many valuable lessons. Sediment probing, grid laying, area search, and mosaic photography are taught.

Finally a look at 1970, current thought is developing along these lines:—

- (a) A one-week course in early March and November for those who have attended one of the weekends.
- (b) Weekend course in March, April and May, September, October and November.
- (c) Exploration of a selected site at two week intervals in April/May/June, and September, at which all volunteers will be welcome.

An Important New Role for the Club Diver?

DIVERS, if anyone, must know how helpless a man is, when immersed in British coastal waters without the protection of special clothing such as the 'wet suit' or the 'dry suit'. How many of us could spend a few hours treading water somewhere in the English Channel without a 'wet-suit'? Not me!

With this knowledge, it is not difficult to appreciate the predicament faced by the present sea-rescue services. Apart from the inherent problems of

handling their rescue craft in often treacherous sea conditions, there is the very real problem of actually picking up the victim, and here is where the Club Diver could help.

The victim is all too often too cold to be able to contribute any useful effort to his rescue. His hands are completely numb; his fingers virtually immovable; his shivering is uncontrollable; his vision in the cold, salty and wind-swept water is not very reliable; he may be on the verge of unconsciousness or worse

still, *he may be unconscious.*

How can the gallant rescuers get hold of this helpless victim? Conventional techniques only allow for the throwing of lines and life-belts from the life-boat, which has first to manoeuvre as close as possible to the survivor. The grasping of a rope, the attachment of the rope to the life jacket or the passing of it around the body might well be an impossible task for the victim.

Whether or not this type of rescue is successful, consideration must also be given to the *time it is taking*. It must surely be difficult and time consuming to manoeuvre a life-boat in heavy seas, often close to a foundering ship or amidst floating wreckage. Throwing lines from a lurching boat at a relatively small, moving target may involve many attempts. Even with the rescue line within arms reach, it may still be a long while before it is held or secured properly by the victim. Much time can be spent in this sort of dilemma whilst more victims await rescue, slowly but progressively succumbing to the coldness of the wind and sea.

That is the problem that has faced the R.N.L.I. since its inception and still does today.

A simple attack at the problem, and in my view, the solution, lies in putting wet-suited divers wearing basic equipment (mask, fins and snorkel) at the disposal of the R.N.L.I. Such men would be invaluable assets in situations similar to those described above. Within seconds they could swim to a victim and attach a line to him; conscious or unconscious; co-operative or unco-operative. Victims snagged in

cordage could be untangled; victims trapped under upturned boats could be brought out; the vital first breaths of Expired Air Resuscitation could be administered before a victim has even got onboard the life-boat.

Today, and in the future, lives could be saved, which may otherwise have been lost, if 'swimmers' are used in rescue missions of the R.N.L.I.

This 'new' technique has already been tried and proven by a member of Southsea Branch—Frank Martin. Together with his two sons, he has successfully effected very many rescues working from a fast inflatable, in up to gale force 8 conditions in the Solent area. The inexhaustible pioneering efforts of Frank Martin in this field are largely responsible for the growing awareness to the vast potential of this scheme.

Today there are Sub-Aqua Clubs liberally scattered around our coast, and their numbers are increasing every year. Many life-boat stations are situated in areas where there are already active Sub-Aqua Clubs. The right type of men are, therefore, available, and I am sure it goes without saying that given the opportunity they are ready and willing.

Surely here is a golden opportunity for the B.S.A.C. to show its mettle in a realistic way. I believe the B.S.A.C. is mature enough a body to accept this tremendous challenge and prove itself yet again as the World's greatest Amateur Diving Organisation.

What do you think?

J.B.

Underwater Association Report 1968—Review

THE Underwater Association of Malta was formed in 1965 to promote and develop underwater scientific research.

This report covers the papers read at the 3rd Annual Symposium held in March 1968. It is very well produced with very good photographs and line diagrams to illustrate the various papers read at the Symposium.

The subjects covered, quite naturally, a very wide range and include Marine Geology, Marine Archaeology, Underwater Photography and Vision, and Medical aspects as varied as Decompression Sickness and Personality of Divers.

For the serious student of underwater science, this report is highly recommended. Even those who merely dabble in diving as a sport will find at least

one statement of interest. I quote from Helen E. Ross's paper on the personality of student divers: 'Diving is an inherently dangerous sport and should probably be compared with activities such as rock climbing and parachute jumping rather than athletics'.

The more our knowledge of underwater science increases, the more capable will we become in off-setting the dangers. The Underwater Association of Malta is carrying out a valuable task in getting the finest brains to present their work, and disseminating the information.

(The Underwater Association Report 1968, Published by Iliffe Science and Technology Publication Ltd. at £3 per Copy).

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Diving in the North Sea

THERE are several firms which employ divers for the North Sea. All have their advantages and disadvantages. Some employers pay more than others. Most of these firms have excellent equipment, but one or two of them have little more than rubbish.

As I intend to stay in this business for some time, I cannot talk money, or name the firms that are rubbish.

It is not necessary to have been in the Royal Navy to be employed as a diver, since companies do employ ex-Army, R.A.F., Royal Marines and Siebe Gorman trained divers, although most firms have their preferences.

There are various forms of employment for divers, such as 'ships bottom cleaning' which is quite difficult to master, and very unpopular. The diver attempts to manipulate a powerful pneumatic tool, similar to a 'pussers' polishing machine without a handle, usually in nil visibility. Until one becomes adept at it, the machine 'takes charge' and steers the diver all over the place. I know!

Another not too popular task is for those with 'green fingers' which is planting plastic seaweed, to prevent coastal erosion and erosion around the North Sea gas pipes. This takes place mainly in the Norfolk 'Wash' area. Its unpopularity stems from the fact that this necessitates spending several days at sea in a small ship, and a large number of divers being ex-R.N., believe that 'all ships should be in bottles'.

By far the most popular job, is on the oil rigs. We normally work two weeks on, and one week at home. These rigs are huge and all have a helicopter deck, hotel type accommodation for about fifty workers and three, four or six divers. Usually, it is four to a cabin, with stewards to clean up and make the beds. Each rig has a dining hall, and each man is entitled to three excellent square meals a day. Coffee, tea, milk, orange juice and biscuit facilities are available twenty-four hours a day. There is usually a television room and films, and even table tennis and darts. Divers enjoy these facilities more than the 'crews' who have to work twelve hour shifts, seven days a week. We only work at 'slack water' weather permitting.

Most oil rigs are 'dry', American 'rigs' particularly. The penalty for being caught with drink is dismissal. British 'rigs' permit a limited amount of tinned beer. On French 'rigs', one can drink wine all day long. Whether a 'rig' has duty free tobacco or not, is at

the company's discretion.

As we all know, the North Sea is shallow and there are oil rigs all over it. For 'jack-up' 'rigs' (ones that stand on the sea bed) the usual depth of water is between 30 feet and 150 feet. They can however operate in over 200 feet of water. Floating 'rigs' specialise in deeper water, although they do operate in shallow depths.

Most 'jack-up' 'rigs' have three, four or six legs. The basic diving equipment for these is an R.C.C., a compressor, self-contained bottles, and S.D.D.E. equipment, rubber suits and associated equipment.

There are four tides a day, but generally speaking, when nothing is especially required, we do one 'dip' a day each, on the tide of our choice, or depending on the sea conditions.

Our main job is to check the base of the legs, known as 'cans', for 'scouring'. It is of course appreciated that these 'cans' penetrate several feet into the sea bed. This scouring takes place when the 'rig' first beds down. Our job is to arrest the scour by using sand-bags.

When I was on the *Gulf Tide* under George Lewis (ex-C.D. II) and on the *Endeavour* under Ron Eastwood (ex-C.D. II), on both these 'rigs' we dropped and placed twelve thousand sand-bags. As the water in both cases was shallow enough to allow it, we dived twice a day. It must be remembered that we cannot go into long 'stops' as the tide turns very quickly and is usually quite strong.

Other jobs include 'lifting' objects of importance that have been dropped, usually between the 'rigs' crane and the supply boat, i.e. sections of drill pipe. We also inspect the casing around the drill for leaks, which can cause the pressure to drop.

A diver really comes into his own when he goes on an oil rig which is in deep water and even more so, if that rig is a 'floater' like the *Sea Quest*. This means that the 'cans' float and that it is held in position by anchors. Also these rigs have a sub-sea 'well head'. That is to say that a lot of hand-wheels, gearing rods, etc., which are normally handled by the drilling crews, are only accessible to the diver.

I was flown to the *Sea Quest* with Mr. Currie-Davis (ex-C.D.O.) when she was in 230 feet of water and her anchors were in 245 feet. The reason Mr. Currie-Davis was there was because although the divers were happy to do 230 feet on air, they required oxy-helium for 245 feet. Our firm had just bought Draeger's new semi-rebreathing oxy-helium gear and

Mr. Currie-Davis was Draeger's representative. He had flown out to explain one or two technicalities about the set. Ron Neville (ex-C.D. II) had in fact used the gear the previous day, down the *Sea Quest's* anchor cable, but was forced to surface because of the cable's vibration. He did about 200 feet.

When we arrived on the *Sea Quest* the first person we saw was Ken Blaylock (ex-C.D. I). His firm, Strongwork International, had hired to our firm, N.S.D.S., its new 'Galiazzi' diving bell and chamber and he was responsible for it. It was from this bell that we did our 230 feet (air) dips.

Mick Horlock (ex-C.D. II) was in charge of all six divers, and he sent me with Mr. Currie-Davis to a boat where we were to attempt the 245 feet oxygen helium dips on the *Sea Quest's* three anchors.

It was here that we met Chris Dyer (ex-C.D. II) (now diving superintendent for Murex) who was in charge of the dives. Ron Neville was also on board. However, through no fault of the divers, the dives were cancelled, and instead we surveyed two B.P. production platforms using compressed air.

Later, on board the *Sea Quest*, we had our work cut out, as we had Mick Horlock in the R.C.C. for 48 hours with a 'bend' and we still dived, but did our 'stops' in the 'bell'. The bell, of course, when required was lowered by crane, which is in fact, the way 'rig' divers nearly always enter the water, 'though normally in a basket. We sometimes climb down the legs, some 80 feet which is not too bad, it's the climb up afterwards that hurts. We usually find the crane available though. The usual system is

for one diver to be up top, to watch the compressor, and direct the crane driver, one in the basket and one in the water. It is only on deep jobs or special jobs that we have more than three divers.

On the *Sea Quest* at the time of the 'bend', we had one in the R.C.C., one 'pot' operator, two in the bell, one on the telephones and one on the compressors.

Not all oil rigs have divers on board permanently, for instance, I went out to the *Trans-Ocean 1* with Dave Audoir (ex-C.D. I) (now manager of Strongwork International at Great Yarmouth), did a small survey, and flew back the next day. We may sometimes be on board a 'rig' several days sand-bagging, and then all leave when the job is completed as on the *Endeavour*.

I have served on British, Dutch, German, French and American oil rigs, and find them very safety conscious. We exercise fire-drills and life-boat drills at least once a week. We have safety officers come out to give us lectures, and there are safety pictures displayed all over the 'rigs'. Each individual on a rig is very safety conscious in himself as well.

I know the *Ocean Prince* and *Sea Gem* sank, and recently we have read in the papers about the Hewitt A, Unifor 1 and the *Stayflow*. In each of these cases it was apparent how quickly the rescue operations were carried out, and the absence of panic from the crews. Compare these with the number of collisions at sea of Merchant ships and, also while we are talking of oil and ships, what about the *Torrey Canyon*? Give me the rigs any day! M. D. SMITH.

Bends Emergency

AFTER three weeks intense Navigational Training, H.M.S. *Ulster* had only been anchored in Braye Harbour, Alderney, for three hours when the St. John Ambulance Brigade approached the Captain about the possibility of recompressing two Guernsey divers, who were suffering from the 'bends'. Although there were no facilities on board, the Captain offered to take the casualties to H.M.S. *Vernon*, because the only other alternative was to fly them in an unpressurised aircraft when the fog cleared. This would certainly have made their condition worse, if not critical.

The Captain received the initial request by 'phone in the Albert Inn at 2025. All adjacent bars and establishments were quickly cleared as the recall was passed. The luckier people obtained lifts from local residents for the mile journey down to the jetty while

the less fortunate broke into a very hearty jog-trot. Three boat loads of liberty men embarked by the time the ship was underway. One boat was left inshore, and by 2045, the ship was leaving harbour and working up in speed to rendezvous with the ambulance launch *Flying Christina*. The patients were transferred in choppy conditions at 2120 and placed in the Diving Store attended by their own nurse, the ship's L.M.A., Diving Officer and O.A. The Diving Store was chosen for its ease of access and H.P. Air facilities. This compartment was rapidly made airtight, so that pressure could be created to try and ease the patients pain. The pressure was achieved by releasing air from the H.P. Air Charging Panel and 150 cubic feet bottles, but the only method of measuring the pressure was by noting the depression in a piece of rubber which had been

placed over an open drain to help make the Diving Store airtight. Although little pressure was achieved, one patient had the pain relieved in his right side, which, combined with an abundant supply of coffee, soup, sandwiches and sweets helped to cheer both patients a great deal. As the Diving Store has no airlock, it was necessary to provide all equipment and food before closing down, after which the attendants were 'on their own'. Meanwhile the ship sped towards Portsmouth at 32 knots, through thick fog, across two of the busiest shipping lanes in the world.

At 0110, the ship was met at Spithead by an M.F.V., with a medical specialist onboard and the two patients were transferred to the care of the staff of the Emergency Treatment Centre, at H.M.S. *Vernon* Diving School where they were immediately put under treatment, and the medical specialists from R.N.P.L. called.

H.M.S. *Ulster*, however, still had two Midshipmen, three Senior Rates, twenty Junior Rates and a

motor cutter in Alderney, so the ship turned round immediately and steamed back, allowing the nurse, Mrs. Margaret Franklin, an undisturbed night's sleep in the First Lieutenant's cabin (the normal occupant was kept under surveillance in the Wardroom). After landing the nurse at 0600 and retrieving some very bewildered ship's company, H.M.S. *Ulster* set out again to cross the Channel for the third time within 12 hours to give some much needed leave.

* * * *

Editor's Footnote:—The reader can well imagine the many thousands of Pounds which this emergency cost, in addition to the upsetting of many plans. Civilian, and Sub-Aqua Club divers must appreciate the dangers of decompression Sickness. We strongly recommend the B.S.A.C. Handbook as a source of information on 'stops' and prevention. The Diving School, H.M.S. *Vernon* is also only too happy to give advice on the prevention of this potentially crippling divers ailment.

S.N.I.C.C.D.T.

SINCE the retirement of Lieutenant-Commander J. Fitcher, M.B.E., we have been taken over by our new boss Lieutenant-Commander T. W. Trounson.

Life has been very full with numerous E.O.D. incidents and a variety of diving jobs to contend with. The team has worked very closely with the Western Fleet team from the port of Stromness in the Orkneys in blowing a Tetra Hydra. The visibility was perfect—60–80 feet in places. The job was interesting just to see the damage that was done by the charges which were laid by the divers. The obstruction was a maze of railway lines about 60 feet high from the bottom and half a mile long. The diving had to be done by tides and was worked in two weeks stints.

The E.O.D. jobs ranged from two G.C. mines alongside the gas-pipe off Bridlington and Easington, numerous mines trawled up, to a small nest of hand-grenades in Stornoway. Incidentally, while at Bridlington, we met a few of the ex-clearance divers who have now hit the big time money and BENDS.

During the summer time, we are called down to Holy Island, seven miles south of Berwick, as a helpful man, who works in Admiralty, spends his holiday pottering around with his entire family (including a very small boy) for 500 and 1,000 lb. bombs. Holy Island was a war-time range, hence the frequency with which these bombs pop up.

Our chief, Mac., had a close call there, when a 500 lb. bomb was countermined. The full order went off well. As the landrover went back to inspect the result another 500 lb. pounder sympathetically detonated. Metal flew all over the place just missing two members of the team but fortunately no damage was done.

Scotland is still littered with the explosive debris of the First and Second World Wars. The E.O.D.T. have the task of 'Soldiering on gallantly' to clear the beaches of these dangerous relics.

One of the team has been up here so long that he speaks with a Scots accent, however, he is now going to 'Guz.' to learn all about the airy fairies in the *Ark Royal* round about June.

The Team consists of:—

- Lt.-Cdr. T. W. Trounson, C.E.O.D.O.
- Lt. J. L. Brown, M.C.D.O.
- C.P.O. Mac. McCrea-Clifton.
- P.O. C.D.I. Stan Templeton.
- P.O. C.D.II. Tanzy Lee.
- L.S. C.D.II. Mick Crawford.
- L.S. C.D.II. Leo Whelam.
- L.S. C.D.II. Nobby Clark.
- L.S. C.D.II. Doc Docherty.
- A.B. C.D.II. Dave Harker.
- A.B. C.D.II. Jock Lettice.
- A.B. C.D.II. Jock Kirkpatrick.
- A.B. S.D. Ginger Graham.

Navy to the Rescue

DIVING for Bristol Division R.N.R. tends to be of a rather routine nature. We can be seen disporting ourselves on Sundays at a local quarry turned 'Lido', or occasionally creeping underneath the hulk of H.M.S. *Flying Fox* to plug holes in her rotting frame. But, in November, we hit on a somewhat unusual job.

On our way to a training session, we stopped off to look at the place where a large tar tanker-lorry had plunged into the Avon. There were a number of dejected employees of a local crane firm at the site, who explained that they were going to have to take their vast 50 ton crane back to base (and probably lose a lot of overtime), because the civilian divers had just refused to perform.

We peered at the torrent, decided that we could hardly refuse and there ensued a four hour job. We

streamed our oldest and boldest diver on a lifeline, and he, eventually, discovered which way the lorry was lying. It had been swept out by the stream and was on its side in the mud. We then attached a wire round part of the chassis, and the crane heaved towards the bank. The monster appeared on its back and we were able to attach another strop on the chassis. The lorry, in a very mangled state, was hauled out and righted. The job now successfully completed, we went home rejoicing and with the reputation acquired, we hope to get other jobs of this nature which give us very good training. In the meantime, however, it's back to the South coast resorts—or the 'Lido'.

The Diving Team, H.M.S. *Flying Fox*,
Mardyke Wharf, Bristol.



St. Adjutor's Church, H.M.S. 'Vernon'

On Sunday 22nd September 1968, the church of H.M.S. *Vernon* was dedicated to St. Adjutor by the Chaplain of the Fleet. Why St. Adjutor? And who was he anyway?

The church in *Vernon* had never been dedicated to any saint, and exhaustive research showed that there was no Patron Saint of Divers. The most appropriate was a St. Adjutor who was invoked by swimmers in danger of drowning, and by sailors and prisoners. The fact that he was born in Vernon-sur-Seine added interest, and further research was made into details about him. He turned out to be a Vernon, and a member of the same family as Admiral Edward Vernon (Old Grog), 1684—1757, of Portobello fame, Admiral Sir Edward Vernon, 1723—1794, and the Hon. George Vernon, 1803—1866, whose figure-head is outside the Administration Block in H.M.S. *Vernon*. The genealogy is in the Chaplain's Office, in case anyone is interested!

St. Adjutor was born in Vernon-sur-Seine, about 1070, the son of John, Seigneur of Vernon, and Rosamonde de Blairv. He joined the First Crusade, and left with 200 Knights, for the Holy Land in 1096. The next year, they captured Nicaea, and advanced to Antioch in Asia Minor. It was near here that St. Adjutor's army fell into an ambush, and all seemed lost. He invoked St. Mary Magdalene, and promised to build a chapel to her honour in Vernon, if only his army could escape. A violent thunder-storm came up at once, which threw the enemy into such confusion that victory was achieved.

On 15th July 1099, St. Adjutor took part in the capitulation of Jerusalem, and he took the opportunity of visiting different Holy Places. On one visit he was captured by the Saracens and put with heavy chains into a cell. He spent many weary years there, till one night he had a dream. Mary Magdalene and St. Bernard appeared and snapped his chains off the wall; they carried him, with his chains, to his hunting lodge outside Vernon, and told him to build his chapel there. When he awoke, he was actually back in Vernon. (For a similar story, read the 12th Chapter of the Acts of the Apostles in the New Testament.)

The news spread of his sudden return, in circumstances attested by numerous Knights, and people started to ask for his help. He was by now living the strict life of a hermit, wearing a hair shirt and living on bread and water. He was supposed to have worked many miracles of healing, but his most famous was in the Seine opposite his cell.

The river narrowed here, and there was a notorious whirlpool which drowned the unwary and engulfed their boats. St. Adjutor saw this happen, and determined with the assistance of his friend, Archbishop Hugo of Rouen to rid the Seine of this danger. They set out in a small boat, and as they were sucked into the pool, the Archbishop made the sign of the Cross, and sprinkled holy water. St. Adjutor called on Mary Magdalene and St. Bernard, and threw the chains of his captivity into the whirlpool. From that moment, the whirlpool disappeared.

His reputation as a wonder worker increased, but he felt his power ebbing, and on 30th April 1131, he died after receiving the Last Sacraments from Archbishop Hugo.

Last month, two statues were given to our church, one of St. Adjutor about to cast his chains into the Seine, and the other of Mary Magdalene granting his request. Both are in bronze, and were made by Miss Ann Hughes of Twyford. The statues seem almost alive, and Adjutor in his hermit's shirt and Mary Magdalene in a 'mini-skirt' look real people, instead of plaster saints.

Last month, too, for the first time in *Vernon's* history, the Church of St. Adjutor was licensed for Banns and Marriages. At the end of June, it is hoped that three of *Vernon's* ships will visit Rouen and Vernon-sur-Seine to cement the relations started by that Vernon who has become our common patron saint. The Diving Section is well and truly represented by H.M.S. *Laleston*, which will remain at Rouen for the visit.

DIVER'S SUNDAY

THE next Diver's Service will be held at St. Adjutor's Church in H.M.S. *Vernon* on Sunday 10th August. All divers both past and present are invited to come, together with their families.

COMPETITION FOR MAGAZINE MATERIAL

THE unanimous decision of the Editorial Committee voted Mr. Alexander McKee of Hayling Island the winner of both £5 prizes in the competition for his article: 'Historic Wreck in the Solent Area' and the accompanying photographs from his collection.

Mr. McKee is the well-known author of underwater books such as 'Farming the Sea' which was reviewed in our last edition. His comments on the review are published in the Letters to the Editor section.

EDITOR,

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A Diver's Guide to Sharks—part 1

The following article by Lt.-Cdr. J. G. B. Armstrong, Royal Navy will be published in two parts. He has recently spent nearly three years in the Island of Mauritius, information comes from published sources, backed by his own experiences of diving in tropical waters, including Australia.

* * * *

1. General Description.

ALMOST all species of shark except the large plankton-eating Basking and Whale Sharks and the smaller varieties like Dogfish should be regarded as potentially dangerous.

Most of us would recognise a shark on sight. The body is scaleless and streamlined and somewhat flattened in vertical section. The large head, except in the case of the Hammerhead and Carpet Sharks, is round-nosed from above or below but pointed in profile. The mouth is situated well back on the under side of the head and multiple gill slits (five in most species) are placed low down near the pectoral fins. The small eyes are widely set. The dorsal fin is high and triangular and the tail fin longer above than below. The pectoral fins are very pronounced and extend downwards at an angle from the lower part of the body. The colouring in all species tends to be darker on the upper part of the body than on the belly. Seen swimming underwater, the shark gives an unforgettable impression of grace and power.

All species except the Basking and Whale Sharks are carnivorous. Most are fish-eaters; some forage for molluscs and marine animals living on the bottom; some can become scavengers and swallow almost anything even vaguely reminiscent of flesh, dead or alive. The reproductive processes differ slightly from species to species, but in most cases the male and female couple on the sea floor, the female remaining horizontal whilst the male wraps himself laterally round her body. The female gives birth to live young. Dogfish, Bullhead and some other female sharks lay tough-skinned eggs or 'purses' in which the young develop. The shark has no true skeleton. Bone is replaced by cartilage.

Biologists say that the shark is primitive and small-brained but equipped with highly evolved senses (with the possible exception of eyesight) and powerful instincts and appetites. The balance between hunger and self-preservation is probably the determining factor as to whether a shark could be dangerous and although attacks on divers are rare, we should always be aware of the possibility that a shark may, in the face of all discouragement, decide to attack.

2. Respiration and Buoyancy

The Shark has no air bladder (swim bladder) as do most bony fish and is very slightly negatively buoyant. This has several effects. Firstly, the shark cannot remain motionless for long if it is to maintain its depth. Secondly, it can alter his depth much more rapidly than other fish as it does not risk rupture of the air sac. Having no reserve supply of oxygen its gill organs are extensively developed and vital to its metabolism. As they are unprotected by a bony shield as in the case with the higher fishes, the gills are a vulnerable point and clogging or malfunctioning caused by oil or chemicals in the water or by an injury near the gills is a frequent cause of shark death. The Dolphin family, who are the traditional enemies of sharks in the sea, kill their foe by blows with their hard snout to the side of the body next to the gills.

Some smaller sharks possess very large oil-rich livers which provide them with some compensating positive buoyancy. At the other end of the scale, some of the larger species gulp air into the stomach and let it out when they wish to sink.

3. The Vitality of Sharks

The other organs of shark's body have an astonishing resistance and vitality. Sharks have been known to swim on having been disembowelled, having had slices of flesh and fins cut away and even having taken rifle bullets in the head. A severed shark's head has been known to snap at a passing leg and so on. The shark in general shows almost complete insensitivity to pain except in one spot, the tip of the nose. A sharp blow on the nose, not, obviously, with the bare fist or foot, may discourage a shark as its central nervous system is relatively unprotected at this point.

4. Shark Skin

Shark skin, in spite of its toughness, is complex and sensitive. The entire skin area is covered with minute denticles (placoid scales) or razor sharp teeth. Between these teeth on some parts of the body are gustatory, common chemical sense, and other sensory nerve endings. Dangerous wounds can be inflicted by a shark simply brushing a victim at full speed with his flanks of fins. When brushing or touching a possible victim, the shark is also tasting and thus deciding whether his potential prey is eatable. Unless a shark is frenzied as can happen in certain circumstances or has already decided by using other senses (such as might happen if it smelt blood emanating from a cut or graze) to attack, it

will normally brush or otherwise investigate before attacking. It follows that one should always dive fully dressed.

5. The Shark's Movement through the Water

Sharks, with exception of the swift game fish of the Requiem family, although excellent swimmers, graceful and fast-moving, are 'high geared' and cannot execute the characteristic 'flip-flap' motion of other fish who can expend their reserves of energy in a few instants of violent rapid motion. This means that last minute alterations of course are not the sharks' forte. Rather like a bull, once committed to a run in on a victim the shark can miss a highly manoeuvrable target. Sharks have been seen to chase through shoals and come away without a mouthful. Unfortunately an underwater swimmer is a large and slow-moving target, and whilst it is hoped that no one will ever have to, nor is advised to play matador with a hungry shark, this characteristic of a shark's movement through the water underlines the sensibleness if caught in open water, of always facing and moving towards a charging shark so as to present the smallest possible target and have sufficient way on to dodge at the last minute.

The shark suffers from another in-built handicap which affects his manoeuvrability. The 'paired' pectoral and ventral fins are fixed. They can be used to alter direction effectively, but they cannot be used as other fish use them, for instantaneous braking, and they impart no motive power. This explains the shark's reluctance to make a rush attack on a possible victim on the sea floor or in a position up against a vertical coral or rock face.

6. The Effects of the Shark's Temperament

There is no doubt that the shark is usually of a cowardly disposition. Unless it is hungry, something that has the slightest aura of the mysterious and is not immediately sensed as being palatable and harmless is likely to be avoided. However, it follows that anything which gives the impression of being dying, wounded, helpless or afraid, unfailingly arouses a shark's curiosity. For this reason, flapping or struggling, precipitant retreat or any action which might indicate fear or panic is to be rigorously avoided underwater or on the surface. Once thoroughly aroused, either by the prospect of appeasing its hunger or by foolhardy interference, the shark shows quite remarkable courage, determination and vindictiveness. Unlike any other fish in these circumstances will be extremely difficult to scare away.

7. The Shark and its Digestion

The digestive processes of the shark are something of a biological mystery, but it is believed that the

shark does not digest its stomach contents when it is on the move. Thus food may remain in a shark's stomach for weeks before it has the opportunity to start the process of digestion. Sharks can occasionally be seen resting motionless on the bottom. (Note that it is slightly negatively bouyant and cannot remain suspended for long). It is likely, if found in this position, to be digesting food (and rather sleepy) and whilst obviously it should not be disturbed it is unlikely to attack. Some sharks also have the interesting ability to turn their stomach inside out through the mouth opening, thus disgorging indigestible objects like tin cans, turtle shells or false teeth.

8. Senses of Smell, Hearing and Sight

The sensory nervous system of fishes is not yet fully understood, but of a shark's senses, the most highly developed is probably the sense of smell. It is not only amazingly acute but it differs from our accepted concept of a sense of smell in that it is directional. We know that a shark can detect the most minute concentrations of blood in solution in seawater and that it can differentiate between the degrees of concentration at its two nasal sacks and thus steer straight for the source of the odour. The ears of a shark are concerned purely with equilibrium and hearing or 'vibration detection' is achieved by a sensory system consisting of a number of nerve-endings in the skin of the shark's head and flanks. The shark is extremely sensitive to underwater vibrations and can 'home' onto a source of noise over long distances.

Sharks obviously do not have to rely on eyesight to locate a possible victim and indeed biological evidence indicates that their sight is rather poor and does not cater for colour perception. Practical experience however does not entirely bear this out. Their eyesight is effective at least to the normal limits of underwater visibility and bright glossy colours at the red end of the spectrum are more likely to catch a shark's eye than others in depths where these colours are still discernable. Light orange or yellow in particular attract attention whereas dull blues and greens remain unnoticed. Divers' clothing or accessories in white, yellow, orange, red, silver or gold should be avoided.

9. Shark Behaviour in the Presence of a Potential Victim

This is a most controversial subject because there appears to be so much variation and unpredictability in shark behaviour when attacking. A good deal must depend on the species and the geographical area. The following description however represents the norm in good visibility.

The first indication that a shark is taking an interest is that it will start a leisurely circular movement around the possible victim usually at a distance of 30—40 feet if a small (5—6 feet) specimen or 50—60 feet if a large specimen (8 feet or over). Its courage and appetites aroused, there will be an acceleration, a tightening of the circle and a powerful nervousness in the manner of swimming. The next stage is a turn towards the victim. This will almost certainly be a 'tasting' run and although a very dangerous wound may be inflicted by the passing body and fins of the shark, it is most unlikely to use its teeth. The circling is then resumed. If the shark has realised that the victim is palatable it will again turn towards and run in, this time with the intention of attacking. On this run it may turn onto its side or back to expose the mouth and swim fast in a quite characteristic and distinct undulating and convulsive manner. Using its dreadful array of teeth, the shark literally slices through the victim, scooping away flesh cleanly. This murderous type of attack may be repeated several times until eventually, sure of the victim's powerlessness to retaliate, the shark may remain close to the victim snapping, tearing and pulling like a dog until its appetite is appeased. If the description above represents an average set of circumstances for known shark attacks it is by no means invariable and it is known that sharks have on many occasions attacked directly, without circling, with little noticeable change in the manner of swimming and without turning on their side. The change in the manner of swimming is however a sure sign of danger and is quite unmistakable. Normally the shark's head when swimming seems to lead the body smoothly. When aroused or attacking the head starts to jerk from side to side.

Another feature of a shark attack, again not invariable, is that the shark prefers to attack from below, swimming up towards the victim at an angle. This does not mean, though, that attacks do not take place in very shallow water. A particularly dangerous place to swim is in the choppy water on the outer side of reefs that shelve gradually to seaward. Sharks have been known to come out of the water onto a coral shelf to chase a chosen quarry.

Although it may seem obvious, it is worth noting that the greater the number of sharks in the vicinity, the greater the danger to the diver. Sharks are noticeably more courageous when in company and the diver's problems in taking avoiding action correspondingly increased.

10. Habitat, Geographical and Time Factors

With the exception of the Requiem and Basking Sharks, most sharks remain all their lives in the area in which they came to maturity, carrying out an

endless patrol of their kingdom. In tropical waters the same individual sharks can be seen going the same way at the same time of day for weeks on end. It is a constant circular route running out to sea often going deep and coming back up into the reef, following the reef along, nosing up into the passes where they may stay for a while stemming the current and the turning out to sea again. Unless actually chasing a victim or on other rare occasions, a shark will never cross over the coral reef barrier even if there is plenty of depth over it. This is interesting to us because it means that an area which has been fished out of its shark population may be relatively safe for a period. Also, areas inside coral reefs unless as is sometimes the case there are some permanent residents, are safe.

Sharks seem to be less sensitive to changes in salinity than other fish and are known to go up rivers and estuaries. Indeed sharks appear to congregate in coastal areas where there is an efflux of fresh water, perhaps for breeding. There is also a possibility that immature sharks are more vicious and courageous than when fully grown. Thus estuary waters which have a reputation for being breeding grounds should be avoided.

Water temperature also has its effect on a shark's feeding habits. With few exceptions sharks have been known to attack human swimmers only in warm waters and then more particularly in areas where the shark population has acquired a taste for human flesh. Sea areas in which visibility is consistently poor and water temperature high often have a bad reputation for shark attack.

The predators of the sea, including, but perhaps to a lesser extent, the sharks, have only two regular meal periods a day—from an hour before morning twilight to three quarters of an hour or so after sunrise and from roughly three quarters of an hour before sunset to an hour after the end of evening twilight. Sharks will eat outside these hours more often than do other predatory fish; nevertheless, most of a shark's hunting will be done at dawn and dusk. One should avoid diving at these times.

F.E.C.D.T. . . . Heard on the Section:

Scene: Royal Engineers class who have just had a lecture on decompression being questioned by C.D.I.

C.D.I. Define a combined dive.

ENGINEER. (After a think). That's when you are down with your friend on a body string.
T.G.

Committee for Nautical Archaeology

University of London Institute of Archaeology

31-34 GORDON SQUARE,
LONDON, W.C.1.
Tel.: 01-387 6052. Ext. 13.

TO many, archaeology is becoming a fascinating and absorbing subject, taking us far from a hectic modern life. To a small, but rapidly growing section, underwater archaeology is providing one of the few challenges left on this small island of ours.

Beneath the seas that surround us, our great heritage as a sea-faring nation has deposited a wealth of knowledge, not to be found in book or shipwright's plan. If this is not to be squandered and lost forever, rapid action is required.

The C.N.A. was formed in 1964 to develop and guide underwater archaeology. Its members are representatives of the National Maritime, the British and the Science Museums, the Society for Nautical Research, the Institute of Archaeology, the Council for British Archaeology, the Services and the British Sub-Aqua Club.

Our aims are to:

- Promote research in Nautical Archaeology.
- Promote underwater training in this field.
- Provide contact between divers, archaeologists and historians.
- Safeguard the archaeological content of underwater sites.
- Safeguard the rights of diving co-operating with the C.N.A.

During 1969, after a great deal of behind the scene activity, we are launching an all out effort to implement these aims.

An increasing programme of the lectures and film shows is being carried out throughout the country, with leading divers and archaeologists freely offering their time.

A series of weekend courses on practical underwater search, survey, photographic and charting techniques commenced in February at Plymouth. Industry and the services are providing great assistance.

In this manner it is hoped that future finds will be treated in the same magnificent way in which Sweden recovered the 'Vasa', and not just plundered for souvenirs.

But, as is so often the case, our own resources are limited and, for the first time, we are appealing for financial assistance. With your help, we could be ready to raise our own 'Vasa'—which may only be a few years away!

Donations of any size will be gratefully accepted and a limited number of 'Founder Memberships' are offered, details of which will be gladly sent on receipt of your enquiry.

Please send your contributions, made out to Committee, to the above address, and our current News Letter will be sent by return.

G. P. B. NAISH, F.S.A., *Chairman.*

* * * *

S.N.A.P.

School for Nautical Archaeology, Plymouth

This is one of the committee's major projects for 1969. Here the techniques and practical application of proven underwater methods will be taught and practiced on the sites of actual wrecks.

It will consist of a series of nine weekend courses, supported by Civil and Service authorities who are providing many of the facilities.

Lecturers, well-known in their individual fields, are freely giving their time and expertise. Two resident diver/lecturers will cover general subjects and will supervise underwater instruction.

Two sites, each containing cannon and ship remains, will be dived on. One, a coast site, has a rocky bottom with good visibility; the other, in a harbour, has a mud bottom and poor visibility. It will thus be possible to practice under a variety of conditions.

In both cases, the leases of the sites have been obtained and the wrecks are therefore protected.

Only ten students will be taken each weekend and all must be competent divers. Funds may be available to help those living far from Plymouth and selected divers from each course may be invited to attend further courses at the Committee's expense. These will be more fully trained so that they can act as regional diving liaison members of the Committee. They will then be able to quickly investigate all finds that are reported.

This is an ambitious programme a great deal of work, but the reward will be in the growth of knowledge and ability of those who attend. Only in this way can our underwater history be brought to light.

At the time of going to print there are still some places available on the courses available during August, September, October and November and applications should be made as soon as possible to the following for further information:

LT.-CDR. ALAN BAX, R.N.,

5 Ashley Place, North Road, Plymouth.

Royal Alien Navy—Part III

San Diego,
California, U.S.A.
April 1969.

UNDOUBTEDLY, most of you have read of the fatal accident, that marred the attempt to get the SEALAB project underway on February 17th of this year. In case the newspapers and magazines at home gave such misquotes and misrepresentations as they did over here, let us get the story straight as I saw it on that fatal morning.

The SEALAB had been lowered to the sea bottom, on the evening of Saturday 15th, reaching bottom at 2055. During the night, a number of leaks in the SEALAB were seen via the closed circuit television. These were confirmed, the following morning, by Cdr. Scott Carpenter and Lt.-Cdr. Lafferty riding in Lockheed's Submersible DEEP STAR, which had witnessed the safe landing of the SEALAB on the seabed, the previous evening. It was decided that group 'A' of Team I, Barth, Blackburn, Cannon and Reaves should be compressed at a faster rate than normally used, 15ft./min., so that they could enter the SEALAB to attempt to seal off the leaks, while group 'B', Bird, Cooper, Dowling, Myers and Dr. Vorosmarti would descend at the normally used rate of 40ft./hour.

Group 'A' entered the Deck Decompression Chamber (D.D.C.) about 0930 on Sunday morning, and reached 600 feet later that afternoon. They made their first dive Sunday evening, during which, they managed to complete all the preparatory tasks, except for opening the SEALAB diving station hatch, and had to abandon this task because of the effects of the coldness experienced, not only in the water which was about 47 F., but also in the Personnel Transfer Capsule (P.T.C.), where they had spent approximately two hours before they could enter the water. The transfer time, from the D.D.C. to reaching the bottom in the P.T.C., is a slow job, especially in the initial handling procedure, transferring the P.T.C. and its cable from the D.D.C. to the Boom Arm for the Strength, Power and Communication Cable (S.P.C.C.). The group was then brought back to the D.D.C., to be warmed up and rested.

Approximately five hours later, in the early hours of Monday morning, they made their second attempt to enter the SEALAB. The P.T.C. was lowered to the seabed, and Barth and Cannon entered the water about 0450. In the short time it took Barth to swim over to the SEALAB diving station swim-on platform, approximately 25 yards, Cannon was in difficulties. With the assistance of Blackburn from

the P.T.C., they managed to get Cannon into the P.T.C. and commence emergency resuscitation and heart massage, but to no avail. The P.T.C. was brought to the surface, and mated to the D.D.C., and Berry Cannon's body was surfaced in the outer lock and subsequently taken ashore.

By this time, the leaks in the SEALAB were of such magnitude that the *Elk River* (IX-501), the support ship, was having difficulty maintaining the internal pressure, and a submarine had to be called in from 60 miles away to assist in maintaining pressure. The lifting of the SEALAB had commenced on the Monday evening, and reached surface on Tuesday morning, 18th February.

The team was decompressed, and eventually got to the surface at about 1315 Monday 24th February, when the IX-501 and the SEALAB returned to Long Beach and all personnel back to San Diego, where a Board of Investigation was convened to look into the accident and its causes. The hearings lasted about 13 days and, at the moment, we are awaiting their findings. At the time of writing, the SEALAB has been taken back to San Francisco, so that repairs may be carried out, and the IX-501 is in Long Beach, where later this month we hope to start working the Mark II Deep Diving System (D.D.S.), starting at 100 feet and working to 600 feet.

We have hopes that the project will get underway sometime this autumn, but details of any time schedule have yet to be worked out, and will depend on many contributing factors.

To bring us up to date since our last article, after the Christmas recess we recommenced training in Long Beach on the 6th January. P.T.C. II, which had been flooded at the end of November, had been fitted out with batteries to drive the C.O.2 scrubbers, unscramblers, intercom, and the interior lights, and was almost ready for its certification dives. The training in the P.T.C's and handling procedures continued through till the end of January, when all personnel moved out to San Clemente Island on the 1st February. From arrival on the island to the fatal start, we continued with the training dives out of the P.T.C's as well as the Certification dives for P.T.C. II to 950 feet unmanned and 600 feet manned in the hydrostatic mode. Also, we ran a 100 foot saturation dive in both D.D.C's, to check out all personnel and equipment in the operation of the Mark II system. The SEALAB was brought out to the island about the 7th February and loaded with the required equipment and food stores, prior to being lowered to the bottom on Saturday 15th February.

Since our return from the island, apart from the Board of Investigation, it has been relatively quiet around the Unit. We have, *of course*, kept up our physical training programme, which now includes a one mile surface swim twice a week with wet suit top and fins. We also have sport diving in the Kelp beds off Pt. Loma at least once a week and a Mark VIII refresher dive once a week. Most likely, once the findings of the Board are known, the tempo will increase and we will start diving the Mark II D.D.S. as already mentioned, either out of Long Beach or San Diego.

The Alien Navy has had some long-awaited promotions within its rank:—Lukeman's rate came through—he is now a Sergeant, and yours truly's B.13 tor C.P.O. So we are now a quite highly echeloned department of the SEALAB organisation with various responsibilities.

Major Lafontaine, C.A.F. (R.C.N.)—
Assistant for Aquanaut Equipment.

Lt.-Cdr. Lafferty, R.N.—
Assistant for the SEALAB and Assistant Training Officer.

Lt. Sutton, R.A.N.—
Assistant for the Mark II D.D.S.

C.P.O. Clark, R.N.—
Assistant to Major Lafontaine and Training Department.

Sgt. Lukeman, C.A.F. (R.C.N.)—
Assistant to Lt.-Cdr. Lafferty and Training Department.

During the second week of April, we had a change of command here at the Technical Office. Cdr. William R. Leibold has taken over from Capt. Walter Mazzone who remains here with the unit as the West Coast Representative of the Deep Submergence Systems Project Office in Washington, D.C.

Cdr. Leibold is a Submariner, who has been qualified in diving since 1952 and comes to the Technical Office from the Naval School, Diving and Salvage, Washington, D.C., where he was Commanding Officer.

* * * *

EDITOR'S FOOTNOTE:— Since this article was written, it was found that the accident was caused by the CO₂ absorbent canister being empty. Surely, there is a lesson to be learned by all C.D's from this!

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The Big 'T'

LITTLE seems to have been said by *Triumph* in the past and it is time we let the diving world know what we have been up to during the period of silence. The ship is usually rather flush with divers, the numbers hovering around the thirty mark. This included C.P.O. Soper for some time, who I had not met since he was the instructor on my S.D.O.'s course in August 1966, a case of the pupil meeting his past master but this time in different roles.

The rumour that *Triumph* is spending more time at sea does contain some truth as the R.A.'s in the team will willingly testify. Having completed our D.E.D. in September 1967, our first major trip was the Third Mombasa Deployment. During the time at M.5 Berth in Kilindini Creek, we managed an average of two dives on Likoni Reef each week, in addition to the routine work. A more pleasant change from Singapore Naval Base could not be imagined. Enthusiasm was at its highest with the viz around the 50 foot mark, and plenty of fish and coral for the collectors and photographers amongst us. Although there had been whispers on the subject of sharks, no one seemed particularly worried and none decided to appear during our stay of nine weeks.

The largest specimen of fish life that was sighted turned out to be a large Ray which measured about eight feet from wing tip to wing tip. A vain effort was made to chase and catch it (a case of valour being temporarily being the better part of discretion!), and, considering the fact that it appeared to be asleep when it was first sighted, the divers didn't put up much of a showing which may have been due to various establishments ashore such as the 'Casablanca' . . . etc. taking up more energy than people would care to admit. The whole episode would have been reduced to that of yet another 'the one that got away' except that this time there is photographic evidence.

During the stay we were called upon to a small job for the Mombasa Water Ski Club. It was to locate and mark a 900 lb. concrete filled oil drum that had been used as one of the sinkers holding the club's Slalom ski run in its correct position. The river running into Old Mombasa Harbour reached two knots off the ski club, and the moorings were in the habit of shifting and parting. Conditions were not in the least helpful as the sinker was in 100 feet of dirty river water. Using a circular search, S.D.D.E., D.U.C.S. and lamps we managed to achieve the unexpected, notwithstanding the report from one of

the divers, that when he was on the bottom, he found that thousands of small ant-like creatures were crawling over him. Never-the-less, the sinker (which still had part of the riser attached) was eventually marked with a Jablex float.

A requirement to use a Cox's Gun arrived in the form of repairs to a pontoon in Old Mombasa harbour. The pontoon was secured to the seabed by securing chains, which were shackled to the pontoon below the water line through a set of eyebolts, which were badly corroded and in danger of parting. (One had already done so.) As the ship did not carry underwater welding gear, the only way that a series of new eyebolts could be attached was by welding each one to a steel plate (on board), and subsequently bolting each plate to the pontoon.

A close inspection of the pontoon's rusty surface with a two pound hammer resulted in a hissing noise and embarrassed looks all round. A rapid repair with a softwood wedge saved the day. The shell of the pontoon appeared to be less than a quarter of an inch thick, and in bad condition, which posed a problem in that the lowest powered bolt ammunition (No. 2) was obviously not going to stay in the pontoon long enough to allow a nut to be screwed on one end. This was solved simply and effectively by firing a series of No. 2 and No. 3 bolt ammunition into an empty 45 gallon oil drum, which we packed with sand on the nearby beach. The drum was used facing a bank of earth, and the bolts extracted as they appeared protruding from the metal casing. The net result was that we accumulated sufficient bolts for a revised approach to the job and a 45 gallon oil drum that brought to mind a night watchman's brazier. A series of holes were then punched in the pontoon as near as possible to the original eyebolts and in the sections of the pontoon that did not form parts of the buoyancy chambers. This minimised any loss of buoyancy from leaks and made both sides of the shell of the pontoon accessible. The new eyeplates were bolted in position using the expended bolts each with a nut on either end.

January 1968 found us back in Singapore once again, but this time in rather a different role, that of maintaining submarines as opposed to frigates and destroyers. We had been relieved by *Forth* in Mombasa and on our return to the Naval Base we embarked the S.U.B.M.U. (Submarine Maintenance Unit) which normally resided in *Forth*. From that time onwards, it was a not uncommon sight to see *Triumph* lying at 'C' Buoy flanked by 'A's' and 'T's'.

The highlight of this period came when the nuclear submarine *Warspite* visited S.N.B. The diving fraternity must have been nursing a secret passion for the nuclear boat for, when S.U.B.M.U. requested that we undertake a planned maintenance dive on her, the response took the form of 13 divers (including three guests from *Dido*) 'all booted and spurred' and eager to do what was required of them. The boat was certainly an eye-opener for those divers who had previously had little contact with submarines, and to those who had dived on 'A's' and 'O's', the *Warspite* was still something of an oddity even when viewed through the oily dockyard water.

We then entered a phase when jobs on the Escorts came thick and fast. The first was the *Troubridge*, which required repairs and a replacement to her hull filling plates. Not many people knew precisely what these mysterious plates were to begin with, but we soon learnt and with a vengeance. As our experience in this job happened to be nil, a complete system and technique had to be evolved for dealing with the job. After five days, the tricky task was completed.

The latter end of February saw us alongside Garden Island Naval Base in Sydney. There were great hopes of a quiet time, to enjoy the hospitality of the Australians, but for some people these were short lived. *Zest* presented us with a job on hull filling plates. Progress for the first few days was remarkably good, suspiciously so as it later turned out. Problems rapidly accumulated, not the least being that having removed her plates and repaired them in *Triumph's* workshops, they obstinately refused to fit back in position once it was time for them to be replaced. During the nine days spent beneath *Zest*, the hard core of the team came to know the ship's bottom as intimately as the odd fish that were lured on to the scene by the knocking and banging, the cursing, and the bubbles of N₂ and O₂ that floated to the surface from C.P.O. Soper and P.O. Barrett.

Back in Singapore, exercises were the order of the day with Admiral's Harbour Inspection looming in the near distance. After the day of frenzied activity had passed, we found time for repairs to *Caprice* and *Carysfort*. 'Plates' yet again, and with past experience behind us it was becoming more routine. The period, if it could be said to belong to anyone, would belong to the Artificer Diver who was in great demand as a technician. It was no longer a case of sitting on one of the ship's screws with a big bristle scrubber on one's hand or hammering a 10 inch bung into the D./G. discharge. Phrases such as 5/8 inch or 9/16 inch Whit? and 'another 1/16 inch off here became commonplace.

An emergency afloat dome exchange on *Carysfort* by the F.E.F.C.D.T. renewed the interest in our two dome exchange outfits, D.E.O.2 and E.D.O.3. We were called in as temporary reliefs during the exchange, and gave our none too professional services. It was extremely good value and a lot was learnt. A week later, I had 'volunteers' riding our D.E.O.2 up and down beneath *Cambrian*, who had kindly loaned us their H.O. 15 dome for the exercise.

Still on the subject of 'dome and things that go ping', two of the ship's C.D's, in the form of P.O's Cobb and Barrett, stole the limelight when it came to exchanging the Type 185 U./W. telephone in *Fife*. Instead of following the more orthodox approach of removing the dome with the D.E.O.3, we put two divers into the dome from inboard. An extract from the S. 288 was later found to read 'visibility . . . 6 inch. Bottom . . . Fibreglass'.

Mid-July 1968 saw *Triumph* at sea off the Island of Pulau Tioman in the South China Sea, participating in a weapon training week in which we conducted every conceivable exercise. The programme ranged from a Casex to running field kitchens ashore as part of a Distex. Telok Tekek, where we anchored, proved to be ideal for under-water scenery with the visibility around the 50 foot mark.

Fish were there in abundance in amongst the coral. Two turtles were caught, and this naturally gave rise to a great debate as to what was to be done with them. With the field kitchens in operation ashore, there was a certain amount of temptation in that direction, but the final decision on their disposal was happily the humane one. Appetites were later satisfied ashore, with steaks and Tiger. An interesting time was had by all concerned during the demolitions, which we ran about two miles to the North of the anchorage. Divers were included with the U.W. rates, and within the confines of the bay, plenty of practice was had with 1 lb. scare charges and P.E.4. Although clearance for the practice had initially been obtained from Kuala Lumpur, it was policy to make the final clearance with the local Police Force. After the initial problems of the language difference had been solved by what appeared to be the resident Chief of Police's brother-in-law or son, who spoke some English, nobody seemed particularly interested in 'big bangs at Berus Dalaam'. The only point, which they made any effort to put across through sign language and bad English, was the plea of 'mind the coconuts!'

As a farewell to the Island, an exercise was held on the evening that we sailed for Singapore. An amusing incident arose whilst the ship was in State 1. An attacking diver from the F.E.F.C.D.T. squelched his way up one of the gangway ladders, greeted the

Bosun's Mate on watch, proceeded to the Quarter-deck and under cover of the blackout created havoc. The moral to that short story is that ladders that are 'physically down', but, in actual fact, 'for exercise up' are no deterrent to the intrepid diver. Of course, it is rare to find such an obliging Bosun's Mate.

During the less tense moments of our time in Singapore the weekly dippers get time in by, amongst other tasks, cleaning the ship's twin screws. These give rise to the odd total of seven blades, a point which gives rise to much speculation on the part of new arrivals. Training with Cox's gun and cutting holes in an old and rusty wreck of a landing craft

with Seafire make a pleasant change from pounding up and down the jackstay off the Diving School as I'm sure everyone will admit. Changes in bottom scenery come by way of jobs on the R.F.A's of which there are usually no shortage and when we are not feeling too energetic, dry dips in the ship's two compartment ex-Japanese pot.

The ship is still clocking up sea time with recent trips to Brisbane, Auckland and Bali, to mention but a few, however that is another story in itself.

SUB.-LT. WIGNALL,
Diving Officer, H.M.S. *Triumph*.



'Amphorae, Cannon and Pirates'

by Lt. R. H. GRAHAM

THE story of how the Naval Air Command Sub-Aqua Club came to be diving in the Lipari Islands off Northern Sicily last May has little to do with diving, as opposed to conniving, and since some of the strokes we pulled are best unpublicised, suffice to say that with the blessing of at least four admirals, British and Italian, and the help of many other individuals and authorities, we got there on time with all necessary gear and aboard St. Angelo's Fleet Tender, *Alness*.

The aim of the expedition was to gain experience in underwater archaeology. We went at the invitation of Professor Bernabo Brea, the Superintendent of Antiquities in Eastern Sicily and were directed by a German archaeologist, Herr Gerhard Kapitan who lives in Syracuse.

Underwater archaeology, like most other underwater arts, has blossomed since the advent of free diving. The Mediterranean being the cradle of civilization, it is the graveyard for thousands of ancient ships lost during the last three thousand years. These wrecks contain historical evidence in time capsule form, of all the ancient civilisations, Egyptian, Greek, Byzantine, Roman and others. Since few rivers drain into the Med. and because the tides are slight, the water is clear, as well as warm, and visibility exceeds 100 feet.

Also, during the summer, there are long periods of calm settled weather when quite elaborate archaeological operations are possible. For example, George Bass anchored a large pontoon and several tons of compressor over a wreck off the coast of Turkey for a whole summer and trained archaeological students from the University of Pennsylvania to dive on site.

Under such ideal conditions, and with so much to be found, it is natural that the Mediterranean became the first arena for the inevitable clash between the diver-historian and the diver-freebooter.

The most common artifact remaining to mark the site of an ancient wreck is the amphora, the large earthenware jar used to carry wine or oil. During the heyday of wreck pirating the black market price for a complete amphora rose to 600 dollars. The largest wrecks contained as many as 10,000 amphorae in vessels of about 260 tons, although 3,000 amphorae ships of 80 tons were more usual.

In addition, many other valuable objects can be found ranging from bronze or marble statues to

coins and jewellery. It was inevitable that such treasures would excite the attention of 'pirates' and the next move was legislation by Mediterranean Governments to protect ancient wrecks from uncontrolled exploitation.

It might be argued that, there is no harm in allowing all who dare to work old wrecks for profit, for the treasures will eventually go to the highest bidder who would tend to preserve his purchase for posterity. The trouble is that when a valuable piece is wrenched from a wreck, it is taken out of context, and items of great historic, but little intrinsic value, are often destroyed or ignored by the uninitiated diver. It is only when the whole content of a 'time capsule' is studied in relation to its period that all historical data can be deduced.

For example, N.A.C.S.A.C. found a lead anchor stock on a wreck off the island of Filicudi. Similar lead anchors had been found before, but in isolation, and so their period was in doubt. Fortunately, late Roman amphora found beneath the Filicudi specimen made it possible to date this type of anchor. It was this kind of find that caused our tame archaeologist to drool at the mouth.

The Italians have gone to the expense of creating a small fleet of fast patrol boats, manned by the Finanza, a species of Customs/Water Police, and one of their tasks is to ensure that amphora wrecks are worked for the benefit of the State Museums.

When N.A.C.S.A.C., arrived there was much talk about the 'Forbidden Wreck' of Lipari. This wreck was found by the local diver pirates last October. It contains very rare black ceramic pottery and some pieces are unique. There had been a slight disagreement at Messina when some of the booty was intercepted on its way along the 'back alleys' of illegal commerce. The leader of the local divers, a very charming and friendly man, entertained us right royally.

It was a local diver, who last year when diving near the 'Forbidden Wreck' at about 250 feet contracted a mild bend. He was more annoyed about the silly way it happened, than the six weeks spent in hospital. His method proven by many years of safe, deep diving on air is to descend down the steep sides of the volcanic islands, marking his route well and taking care to leave a charged set at about 40 feet so that the necessary decompression stops could be observed. I noticed that the Italian divers always

did more decompression than the tables prescribed just to be on the safe side. On this occasion, the spare set had turned out to be only partly charged and the result was a mild bend. This mild bend was subsequently transformed into a very serious one after he was treated as the first patient in a new recompression chamber in the local hospital!

Anyway, he is almost recovered now and ready to continue the game of Pirates and Finanza. The museum authorities are going to work the 'Forbidden Wreck' this Autumn, employing the self-styled 'Pirates' to do the diving. This promises to be a very interesting situation indeed.

The N.A.C.S.A.C. team, directed by our German archaeologist, enjoyed a variety of diving. Off the Islands of Panarea were found the broken remains of three wrecks, one modern and two ancient, but no complete amphora. Because of the relatively shallow water over the reef, the amphora had been broken by wave action.

We investigated some Roman walls now submerged near Basiluzzo, and carried out an unsuccessful search for the remains of a ship belonging to the Moorish pirate, Barbarossa, said to have been sunk by the guns of the castle at Lipari in the 16th century. The underwater hot springs at Volcano are worth a visit, although the hot sulphurous water is not too good for wet suits.

It was at Filicudi where we really struck it rich, searching the South-East Cape, where the Sirocco's of past centuries would most likely have driven unlucky ships. We found within a stretch of less than half a mile the remains of a prehistoric wreck, two Greek wrecks, a Hellenistic wreck (180 B.C.), one early Roman wreck (1st century A.D.), three late Roman wrecks and to our great surprise, a 17th century wreck with three bronze cannon.

The 17th century remains, were somewhat reluctantly, chosen for closer investigation. We had come for amphora wreck, after all! We were amply rewarded, for when, after patiently prographing and training the cannon wreck, we started raising the cannon a nest of Greek amphorae was found beneath them. Thus, we had two wrecks for the price of one. The Greek wreck belonged to the period 250 to 350 B.C.

After this, we had to go to Messina for fuel and there had the privilege of meeting Admiral Franco Costa himself, a diver of vast experience who was most kind to us. He had been in charge of the Italian underwater chariots during the war and was, I understood, captured whilst attacking shipping at Malta and spent the rest of the war in the U.S.A. We invited him onboard to help polish off the last

of the Saccone and Speed stores, and thinking he might wish to be accompanied by some of his staff and hoping to gain time for a more meticulous tidy-up on Alness suggested a time 20 minutes hence. This was not to be the way of it, for he said 'No, we are all sharks together' and strolled down to the jetty with us and paid us a most cordial and informal visit.

Back at Filicudi, we were joined by two experienced Italian divers, Vincenzo Paladino and Franco Colosimo. Vincenzo (Che-Che for short), a world-champion underwater fisherman, delighted in wrestling with octopus, a pastime which I personally do not enjoy. The Maltese crew of *Alness* were kept quite happy cooking his catches though most of our team found the octopus stew, albeit au vin, not much to our liking.

On the last day, we handed over our finds to the Museum Authorities at Lipari, with all due ceremony, on the quay. The small army of officials was swollen by the crew of the Finanza Patrol boat assigned to us. (For the protection of our good name!) When all the trophies had been humped up the hill to the museum, the Italian T.V. team arrived and they were all humped back again! Finally, we departed to a farewell party with the 'Pirates', on the lovely island of Volcano. As we were leaving, the tourist season was starting and the party was enlivened by the attendance of some very hearty German ladies.

The cannon and amphorae will eventually be valued by the Museum and N.A.C.S.A.C. will receive one third of this valuation. At the time of writing the experts have not yet identified the cannon wreck, but are agreed that it is probably of Italian Origin.

List of Divers:

- Lt.Cdr. Jack Gayton,
Officer in Charge and Engineer Officer.
- Lt. Roy Graham,
Diving Officer and Expedition Officer.
- Lt. Terry Montgomery,
C.P.O. Bomber Brown.
C.P.O. Arty Shaw, Caterer.
P.O. Allen Swingard, Boats.
- M.A. Taff Richards.
- N.A. Mick Duncan.

Crew:

- Lt.-Cdr. Hugh Murray, Skipper of *Alness*.
- L.R.O. Ken Alner, Radio Operator.

Number One Clearance Diving Officer

by GORDON GUTTERIDGE, O.B.E.

THE title of this article may seem presumptuous and misleading because I'm not really writing about diving at all—so why, one may ask, is it being printed in a diving magazine. Actually it's a personal story of what has happened since I left the service, and the curious way in which diving matters and diving people keep cropping up.

But first, a little history, for those too young to remember—and, by 1969 that includes most of you. During World War II, groups of divers were formed, called 'P' Parties, whose job it was to clear captured enemy harbours of mines and to recover 'new' enemy mines for examination. At the end of the war, these parties were disbanded. I was lucky enough to command the largest, and last of them, which did the post-war de-mining of Dunkirk Harbour. When that job was finished, everyone was demobbed except for four 'time servers', a Leading Seaman, two A.B's and me! Since their Lordships had no idea what to do with us, we were sent to H.M.S. *Lochinvar* the Port Edgar base of our diminishing mine sweeping and counter-measure force. I think there was a feeling at the Admiralty in those days, that this was a job for hostilities only people, and not proper employment for peacetime R.N. types.

After battling extinction for a couple of years, very ably supported by Cdr. Bob Harland, the C.O. of *Lochinvar*, and later, S. of D., we finally came to be accepted, recognised and christened 'Clearance Divers'. John Crawford came to us as the first peacetime officer for training as a C.D.O. Later, he went to *Vernon* to establish proper training programmes for this new branch.

After I left the service in 1957, Lt.-Cdr. Mark Terrell and I set up our own commercial diving enterprise but for reasons which don't matter, I finished up as a 'Junkologist' (scrap metal dealer to the uninitiated) in Bermuda. Much of our non-ferrous scrap metal was recovered from wrecks around Bermuda, from abandoned undersea cables, and from the old British naval dockyard, where our scrapyards is situated. In its eleven years life, our scrap metal company has shipped out of Bermuda—an island of only 50,000 people—over one million dollars worth of scrap metal—junk that people have thrown away!

One of the heavy costs, in our junkyard, was the importing of oxygen and acetylene from the United States for cutting up the scrap metal so, in 1961, we

formed a new company to manufacture these gases locally. In those early struggling days, I was the Managing Director, plant superintendent, shift operator for all three shifts, maintenance engineer, salesman, purchasing agent and cylinder delivery man!

It was surprising how useful a diving background turned out to be. I was familiar with gases, high pressure cylinders, gas analysis and, rather more vaguely, with the operation of compressors, manifolds and the like. This small plant was a success from the start, and we now have production plants for oxygen, nitrogen, acetylene and carbon dioxide in Bermuda, Antigua, Nassau, Freeport (Grand Bahama) and St Croix in the U.S. Virgin Islands. We recently opened a branch in St. Thomas and purchased an interest in the Barbados gas production plant. Assets of the group exceed one million dollars and so do our yearly sales.

In each of the islands, the Royal Navy and/or the U.S. Navy are our customers (how we hate those British 100 cubic feet naval oxygen cylinders with round bottoms and valves that need a wrench and hammer to open and shut; who ever heard of a service cylinder that can't be stood up!?) We supply virtually all the diving air used by sports and professional divers, and also, have the only local facilities for hydrostatically testing their air tanks. Additionally, we are main distributors of diving equipment, which we purchase in bulk from Italy, Germany and the U.S.A. At the present time, we are starting to import Japanese diving cylinders, valves, harnesses, etc., of very high quality indeed.

Of perhaps only indirect interest to readers of this magazine, is that our Freeport plant supplies tens of thousands of cubic feet of 99.99% pure nitrogen each week to a large contraceptive pill factory. Apparently the steroid ingredient of the pill has to be extracted in an inert atmosphere, otherwise the pill doesn't work. We resist the temptation to send joke packages to Portsmouth!

One interesting coincidence is that, during the war, I served with a very able Dutch 'P' Party diving officer, Captain Jan Lenderick, and I now find that he is my opposite number as the Managing Director of the Curacao Oxygen Company. He has maintained an active interest in diving and operates a successful diving company in Curacao that mainly does underwater clearing of Marine growth from the bottoms of supertankers.

Arising from my growing familiarity with business in the Caribbean, I became involved in Banking about three years ago and now manage a private Bank in Nassau, with a number of subsidiary companies in the Caribbean and Europe. We look after the financial affairs of a small number of wealthy clients. Curiously, even this produces its link with diving. One of our interests is in an invention for cleaning ship bottoms which is presently undergoing user trials with Captain Lenderink in Curacao. We have also recently financed the design of a new diving rig for use in the North Sea gas fields and similar situations.

All this sounds a bit of a success story, and it is, though it was pretty gruelling in the beginning. At one stage, we were so short of money that one week, we would sell a typewriter to buy groceries and the sale of a desk would put stuff into the refrigerator for three whole weeks. It's still not easy; I flew in 106 airplanes last year, from one-whizzers to V.C.10's. I've got socks, pyjamas and shirts distributed in most hotels in the Caribbean—not by intent.

However, naval training and background has been invaluable. The rudimentary Operational Research knowhow acquired at U.C.W.E. whilst deciding how to spend miniscule research and development funds is all I've needed to enable me to produce business prospectuses sufficiently convincing to generate the

finance needed for various projects. Planning and costing of projects and attention to detail comes fairly easily after close on twenty years of Naval discipline and experience. Business jargon has to be learned, as does knowledge of money and its uses, but the Navy was never a 9 am. to 5 p.m. operation, least of all Clearance Diving, and all it takes is plenty of homework.

One discovery I made whilst in the service was the value of a well written report. These look impressive, most senior people only read the recommendations at the end anyhow and I suspect that the merits of some reports were determined by weight. This curious phenomena carries over into civvy-street. I continue to produce bumper annual reports of progress fairly well filled with mind clogging detail and, hey presto, all is well for another year.

Any reader visiting our islands, on holiday or in H.M. ships, will be most welcome at any of our plants. Our Managers are knowledgeable about local diving facilities and most of them are amateur divers (our Manager in Freeport has recently acted as '200 feet safety man' during a world record diving session off Grand Bahama for which we supplied the equipment and gas).

G. GUTTERIDGE,
P.O. Box 4688, Nassau, The Bahamas.

Supercession of the Instructional Diving Officer

Lt.-Cdr. Karl G. Lees has recently taken over as Head of the Diving Section in H.M.S. *Vernon*, relieving Lt.-Cdr. Bruce Mackay who is now the Course Officer for this year's Long Mine Warfare and Clearance Diving Officer's Course.

Karl Lees joined Britannia Royal Naval College, Dartmouth, as a cadet in 1954. He subsequently served in H.M. Ships, *Forth*, *Birmingham*, *Seneschal*, *Essington* and *Torquay*. He was inaugurated into the diving world in 1959 by being 'detailed off' to take the Shallow Water Diving Officer's course and became the Diving Officer of H.M.S. *Tiger*. He was then appointed to H.M.S. *Vernon* to undergo the C.D.O's course in 1961.

On completion of the C.D.O's course he remained in *Vernon* as Officer in Charge, Horsea Island, followed by Diving Training Officer. Then followed the formation of the Heli-crash Deep Diving Team (now the Plymouth Deep Diving Team) with the

operational capability to dive to 250 feet on air. This team has worked-up at Plymouth and Falmouth and employed operationally in Malta, Scotland and the West Country.

Then followed three years away from the branch with the Long T.A.S. Course in 1963 followed by a two year exchange appointment in Australia. There the superb diving conditions tempted him to H.M.A.S. *Rushcutter*, the 'down under' Diving School, for practice dips, as well as being the Diving Officer of H.M.A.S. *Parramatta*.

On return to the U.K. he was sent to H.M.S. *Lochinvar* for what turned out to be three years, at first on the staff of Captain Mine Countermeasures and latterly 'driving' H.M.S. *Iveston*, a minehunter carrying a C.D. Team. This involved a lot of diving, as the ship was employed in many places in Northern Europe and the U.K. and worked with most of the U.K. based C.D. teams.

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Ulster Notes

NORTHERN Ireland's diving unit is based at Londonderry and has a full-time strength of a C.D.O., C.D.I and four ship's divers, who are supported by two C.O.A's and an M.(E.) Another dozen or so ship's divers are based at units in Waterside, Ballykelly and Belfast. Ships visiting Londonderry give generous diving support, particularly the Hydrographic Service, who traditionally, don't know when to stop work anyway.

Each Joint Services Course leaves behind its crop of submarine smoke candles and an ever increasing number of N.A.T.O. maritime exercise ordnance. The total of recovered suspected I.R.A. ordnance stands at 5,000 round S.A.A., five hand grenades, five rifle grenades and a grenade thrower. Building contractors and holiday-makers are on a par for turning up an interesting assortment of eroded hardware.

Co-operation with the Royal Ulster Constabulary, the Gardai and the Admiralty Constabulary this year has resulted in the recovery, amongst other things, of a stolen tape recorder, a record player and three drowned persons. During the Summer, which has been the driest since 1932, four low level reservoir take-off pipes have been uncovered and cleared for various district councils. Naval airlifts have proved invaluable on these occasions when large quantities of gravel, sand or mud have had to be removed.

The Ministry of Public Building and Works do not have divers based in Northern Ireland. Consequently we assist the Civil Engineer Northern Ireland to maintain the numerous marine installations of the three services. Apart from building two slipways, we recently completed the survey of the six major Londonderry Naval jetties. The painstaking method of survey of the M.P.B.W. engineers has been of particular interest to us, all measurements of timbers required to the inch! Petty Officer Roberts (who recently relieved that other stalwart, Petty Officer Burrows) was thought to have muttered odd Gaelic invectives as he toiled away on the *nine hundred* piles and ties of the last jetty at Lisahally.

Looking back over the last twelve months the only other M.P.B.W. task worthy of mention is perhaps the construction of the jetty for the R.A.F. Marine Craft Unit (M.C.U. 1105) at Portrush.

The completed jetty is 45 feet long, supported by three reinforced concrete pillars, each approximately 2 feet 6 inches in diameter, with its dressing, ladder guards and rubbers of greenheart secured by counter-

sunk metal ties. Access to it is by an 8 foot metal stairway which leads to the end of the jetty from the top of the harbour wall.

The first task was to make holes in the sea bed which would take reinforced concrete cylinders 3 feet high and 7 feet in diameter. The drawing showed deep sand and it was thought that one hole could be completed by air-lift on each tide. The sand, however, was all of three inches deep and covered what seemed to be solid granite! The depth of the water over the holes was, from seawards at high water, 9 feet, 5 feet and 1 foot. After a brief conference, at the bar of the 'Imperial', it was decided to make the holes with the assistance of explosives. This was much easier than anticipated as further examination showed the granite to be several large boulders, the largest weighing about half a ton. The Army camouflet kit supplies all that is required to complete this kind of task without difficulty. The foundation cylinders were duly lowered into the holes by crane and then half filled with concrete. The pillars, flanged at the lower end, were then placed inside and the filling of the cylinders completed. Later the pillars had steel reinforcing rods inserted and were filled with concrete. After this the divers were only called upon to fit the greenheart rubbers. Incidentally, any masochist wanting an alternative to mud runs should try hand-drilling greenheart.

The close liaison which exists between the R.A.F. Marine Craft Unit and the diving unit is to our mutual advantage. The M.C.U. has four A.S.R. Launches and a tender. Apart from the recovering of the odd battery and the usual odds and ends which inevitably fall into the water from boats, the unit carries out the four-monthly maintenance routines on the moorings. The rising pendants and the ground chain are similar to a modified sixth class trot mooring except that the buoys are of inflated P.V.C., with chain dressings and standing 2½ inch wire bridles. Virtually every underwater fitting has been tackled on the launches, the latest being the complete replacement of two sets of bolts on gland fairing plates.

The unit has also carried our surveys of the jetties, hazards and approaches of Ballycastle, Red Bay and Carnlough for the R.A.F., who use these harbours as havens or support positions during exercises.

The smaller of the A.S.R. launches is an excellent diving platform. Once a month it takes all available

divers to the Skerries or Rathlin Island for 120 feet dips. Before dispersing, the diving is usually completed by endurance swims in Portrush Harbour on S.A.B.A. Portrush has the advantage of being 25 feet deep and relatively unaffected by tidal stream, with little visibility but plenty of kelp and congers.

A staunch ally of the unity is 819 Squadron, R.N.A.S., stationed at Ballykelly, and from time to time we provide swimmers for night pick-up drills in the Foyle. We have not needed their services yet but our mobility in an emergency is greatly enhanced with their support.

The unit also assists the sailings fraternity. Three 3-pilot moorings and a dinghy trot mooring were laid in the Swilly in the spring. Because of the hard sandy bottom and the scouring currents at the sailing club moorings, holes were blown and the anchors were dropped into them. Apart from two other moorings which were located and recovered, all the naval moorings were serviced during the summer term. A six ton yacht, with virtually its starboard side torn out on a rock, was kept afloat at Ballycastle by nailing its sails, and anything else available, to what was left of the hull. The only other incident worthy of recall was the location and recovery of a twenty foot dinghy which sank in 60 feet of water in Mulroy Bay. Four hours after our arrival, the dinghy was back at its mooring a mile away, dried out and ship-shape. The moral of that incident is if you must take your sweetie sailing, don't reach with the sheets turned up.

Our most publicised incident, this year, was the ramming of the seaward gates of Victoria Lock on the Newry Canal by the collier *Saint William* on 30th January. The Newry Canal, opened to the traffic in 1741, connects Newry with the 150 square miles of Lough Neagh, and then leads seaward into Carlingford Lough. Improvements were carried out by Sir John Rennie in the early nineteenth century. After 1930, ships of 500 tons gross were able to use the port. Victoria Lock gates, each twenty-nine feet long, thirty-two feet high and weigh forty-eight tons, have had a chequered career. Before the ramming incident, they were damaged by I.R.A. explosives in 1952.

Harland and Wolff were contracted to effect repairs and the unit was invited to examine the damage. The outer leaf had, fortunately, been unhinged from its pintle. Apart from a few buckled plates in the impact area and a ruptured heel post, the remainder of the damage was confined to a catwalk and parts of the mitre post and clapping sills, a one-inch steel chaffing plate, which had broken in three pieces, had saved the sill of the dock.

The gates were removed and thoroughly refitted. Two interesting points came up at this stage. The first was, had the cast iron pintles been fractured? If so, a cofferdam, which would have to be built before they could be replaced, would cost at least £30,000. Extensive, but unsuccessful enquiries were made to locate an underwater radiographic unit, so, after the rapidly silting dock sill had been cleared by air lift, the engineers settled for the clear ringing sound obtained by a good clout with a 2 lb. hammer! The second point became apparent when our Chief O.A. observed that the leading edge at the foot of the gate was curved and not straight as we supposed. The significance of this was that the greenheart clapping sills which form the watertight seal between the foot of the gate and the sill of the dock (now without its chaffing piece) would have to match exactly before fitting.

Producing an accurate template proved easier than anticipated. The depth of water ranged from 5 feet to 21 feet with the tide, and each flood tide brought copious quantities of the foulest mud. Weighted $\frac{3}{4}$ inch whitewood boards, each about 6 feet by 10 inches, were passed down to the diver who tacked them together allowing an overlap of about a foot, until the distance between the pintle of the leaf and the apex of the dock sill had been covered. The curve was reproduced by placing a 4 inch length of 2 inch angle bar on the boards with its back to the sill. A welding rod was used to record the progress of the inner edge of the angle bar, as it moved along the boards. Back and forth a few times, just to be sure, and then the template was gently allowed to float up. The 29 foot slender curve which was produced brought a smile even to the face of the foreman shipwright. Later, after the gates had been rehung, a rubber skirt was fitted along the clapping sills to seal off slight leaks caused as the gates settled on the worn pintles.

With the assistance of a floating crane the P.D.U. also cleared 50 tons of canal wall which had toppled into the canal, about a mile from Victoria Lock. Work was hampered by dense brambles and bushes which tumbled in onto the wall, but eventually improvised cutting charges were placed to break the wall into suitable lengths for slinging or removal by grab.

Several demolition jobs have come our way. One in the dockyard where the foundations of an old building were to be removed and used in the construction of a sea retaining wall is perhaps of interest. The floor, 70 feet by 40 feet of 8 inch concrete, was required in 80-100 lb lumps and the foundation walls in neat 5 foot lengths. Thanks mainly to Terry Spooner of R.A.R.D.E., the job was completed in a

few hours instead of the anticipated week or so. On another occasion, an anti-tank block had to be removed, which was found to be tight up against a fence and only 20 yards from a row of cold frames! Just recently, we also demolished and cleared the concrete piles of a derelict jetty.

During the summer months, the unit was invited all over Ulster to participate in recruiting drives, civic weeks, fairs, open days and even a 'Learn to Swim Week'. The highlight for the unit, however, was our 'Open Day' to Northern Ireland sub-aqua clubs. The long hours of work put in, preparing the displays, and completely renovating the section, seemed worthwhile after the crowds had gone home. Help came unstintingly from all quarters, but we would particularly like to thank the dockyard police, N.A.A.F.I., the Electrical department—for the new strip lighting, the public address system and dreamy background music—M.P.B.W., the illustrators, the dockyard signwriters, the gardeners—who completely relaid the gardens to look like a showpiece—Londonderry S.A.C., our gorgeous Wrens for acting as hostesses, the Base Technical Officer, and last, but by no means least, Tim Trounson of F.O.S.N.'s staff who kindly sent across the items we lacked for the static displays.

The unit works closely with Ulster's thriving S.A.C.'s and will be keeping an eye on Queen's University, Belfast S.A.C. particularly whose autumn projects include underwater magnamometers and lifting bags! Time is still found to clear trawlers'

scrows from nets, wires and ropes, keep the Londonderry graving dock operating and replace chains and recover anchors for our pet dredger. We recently located seventeen pieces of sheet piling for George Wimpey on the site of the new dock at Belfast. The Dock when completed will be capable of receiving tankers of up to one million tons and will be the largest in Europe.

Visitors to the unit can always be sure of a warm welcome and the opportunity of a dip somewhere around Ulster.

At present the unit is manned by:

P.D.O.—Lt. Stratton, C.D.O.
P.O. Roberts, C.D.I.
C.O.A. Payne, Sh.D.
O.A. Hutley, Sh.D.
L.S. Edwards, Sh.D.
L.A.M. Mitchell, Sh.D.
M.(E.) McDonald, Sh.D.
A.B. Townley, Linesman
M.(E.) Lawton, Linesman
R.E.M. Wright, Sh.D.

and well supported by:

Lt.-Cdr. Hickson, Sh.D.
Lt.-Cdr. Olsen, Sh.D.
Surg.-Lt.-Cdr. Swann, Sh.D.
C.P.O. (819) Sh.D.
P.O. Catherwood, Sh.D.
M.(E.) Beattie, Sh.D.(T.)
C.P.O. Keating, Sh.D.

Mediterranean Fleet C.D.T.

THE reduction of the Malta C.D.T. to an E.O.D. Unit is now almost complete and from 1st April 1969 the unit has operated from St. Angelo under the command of Lt. D. A. Bartlett. Over the years the amount of unexploded ordnance recovered and disposed of has reached a truly impressive total. Far too many to list here, the total includes a fair percentage of all types of ammunition and explosive objects used during World War II by Allied Forces. A sample of the German origin explosives, dealt with in situ in many cases, owing to the advanced state of deterioration of the fillings include mines type Q, T and G, and bombs from Butterfly to 1800 Kg. S.C.

A last major effort was made before reduction on the E.O.D. side, to search and clear the inner harbours and the team have spent long periods underwater in the unpleasant conditions of Marsa Area where Government Dredgers are working. This didn't prevent the team from taking part in the

usual NATO Exercises and ships husbandry tasks on visiting ships including *Defender*, *Fearless*, *Eastbourne* and *Torquay*. On the sporting side (athletics) we have had a very successful season and after playing 12 matches finished 3rd in the inter-Part football League. We have lost our boss Lt.-Cdr. J. J. Parry who has gone to be the diver's representative at M.O.D. and changed our habitat but the job is still the same even if there are a few less to do it. It is hoped in time to include a longer article of interest sometime in the future.

In conclusion a copy of a signal from Flag Officer, Malta.

"On the reduction of your team to E.O.D.U. status I would like to record my appreciation and the admiration of all of us for the very hard and at times hazardous work you have all done. Your expertise has been invaluable to the success of many NATO Exercises."

Book Review

"HISTORY UNDER THE SEA"

Price: 63 Shillings

Author: ALEXANDER MCKEE

Published by HUTCHINSON

THE aim of this book as stated by the publisher is 'to throw into evaluated perspective the whole complex disputed field of underwater archaeology and its contribution to history'.

With 332 pages, about 180,000 words, over 100 black and white photographs, maps and sketches one must allow that Mr. McKee comes close to doing just this. Unfair to add, that no other author has had the audacity to try because, whatever its faults, the book fills a vital gap right at the sharp end of the bibliography of underwater archaeology by providing a key manual.

'History Under the Sea' is not a comprehensive work of reference of archaeological events underwater, but, because of its varied selection of examples ranging from prehistoric wrecks circa 1200 B.C. to the Royal George 1782 and its geographic range from the Mediterranean to the Caribbean, the Baltic and the Solent, the book confers an adequate appreciation of the state and development of the art.

After reading it, no diver (primitive, sea-going peasant, commercial or naval) could remain innocent of the power of the proper way to treat an historic wreck. Indeed, he could acquire a very shrewd idea of what is historically valuable, and would certainly not confuse the casual raising of bits and pieces with underwater archaeology proper, which is now every bit as painstaking as land archaeology, and at its best, a major underwater engineering project. Unfortunately, as Mr. McKee puts it, 'because of the expense, only the most important sites will be dealt with in this manner, the others left untouched'. He might have said 'ought to be left untouched' but he had already mentioned the difficulties of legal protection and enforcement earlier in the book and delivers a lusty verbal cuff on the ear to the M.O.D. on page 248. I felt that more might have been said on the legal situation and archaeological institutions in various countries.

The book is valuable and absorbing reading for the growing numbers of divers, who at work or recreation, will find by accident or design the bones of history beneath the sea and for whom the book contains several messages, including the gospel of 'Wedded Bliss' twixt diver and archaeologist.

Obviously 'History Under the Sea' is intended for a wider market and the non-diver will gain additional

insight by reading of Mr. McKees own diving experiences with the Southsea Branch of the B.S.A.C., which convey a sense of personal participation in the search for the Solent wrecks of the Boyne, Royal George and Mary Rose, and again in Hayling Bay in the chapters on submersion land surfaces. If the inclusion of much writing, in the first person singular, about the Solent, area appears to impart a slightly parochial flavour to a world-wide subject, this is balanced by the offering of a great deal of original material, serving to illustrate the diligent research which must precede the quest for specific historic wrecks or ancient underwater sites in any part of the world. Anyway, this particular bias, logically rooted in McKees research into the origins of marine archaeology and 'who really invented the the "steamer" should enhance the books' Transatlantic appeal.

Not merely another history book; not an archaeological tome, tabulating types of amphora; not a text book on the anatomy of underwater excavations, nor a poetic saga of the dangers of the deep, 'History Under the Sea' is a readable, closely reasoned, cool appraisal of the underwater history scene. A professional archaeologist, even if a diver, would be unlikely to have written such a book, for the professional is very often a modest specialist in one period of history, often uninterested or even unaware of events outside his period, whilst the imaginative and forthright McKee unashamedly cuts great swathes through the whole field. He gives us in one handy packet the cream of many more specialised books and in most of his judgements of events and attitudes is pretty well on target, in as far as my experience of other but parallel projects leads to similar conclusions.

Thank you, Mr. McKee, and despite your statement on page 252 that 'in any profession only the top ten per cent. are really any good' your book deserves to be widely read. R.H.G.

T.F.R. TIES

ALL people who were employed on the salvage of the Aer Lingus Viscount Aircraft off Tuskar Rock in 1968 are eligible to buy these special ties on application to Lt. Nicholson, H.M.S. *Reclaim*. There are only a few left and orders will be dealt with in rotation. The cost is 15/6 each.

Sub-Aqua Day, Horsea Island 1969

by Sub.-Lt. B. N. DUTTON, S.D., P.T., R.N.

SUNDAY morning at 0700 was fine and clear, but over Portsdown Hill the rain clouds could be seen to be gathering. There was no doubt at all, that rain would be with us before the end of the day. However, there was no time for wondering, and still a number of minor preparations to be completed. Sentries, car park attendants, and all the cinema equipment had to go to the Island.

The rains came at about 0930, and the skies seemed to open up but there was still some time to go before the first visitors were due so there was still some hope. However, there was a very cold north wind, that was to remain throughout the day, sometimes gusting up to gale force when squalls passed close by.

Visitors started coming soon after eleven and immediately made themselves at home. A refreshment tent had been set up in a field overlooking the lake with the idea that visitors who had travelled long distances could relax, but the cold really made this impossible. Soon the visitors were watching the preparations and enjoying them as much as the displays that were to follow. The D.U.K.W. Crew, of their own initiative, started entertaining the younger element early, and soon the lake echoed to the whistles, which were on the life jackets, and the calls of the children.

Frantic last minute preparations by the Standard Dressers completed and the Island was open to visitors. Most of the visitors seemed to head for the standard diving area, which provided some amusement. One diver was seen to bob to the surface like a balloon, which is the image almost everyone has of a standard diver.

Displays provided by the Special Boat Section, Royal Marines, of canoeing, canoe rolling, and attack procedures were very well presented. The commentary on these items was concise and very clearly understood by the visitors, enabling them to enjoy the items presented to them.

The C.D.'s qualifying provided the fast dressing display with a fast time of 1 minute 34 seconds. Other items of interest were the J.S.B.D.S. display, welding, S.A.B.A. swims, and the cinema which provided a very good 'smog locker' as well as films of great interest to the public.

A new innovation and the final items of the day was a competition between the clubs for a trophy

(the H.M.S. *Vernon* crest mounted on a very nice stand) to be competed for over two events. The events selected were the 800 metres fin swim and a relay. The two events proved to be quite an attraction for the visitors. The 800 metres swim in wet suits (one swimmer competed without this 'luxury' Brrrrrrr fins, mask, snorkel, and weight belt, was won by John Bevan of the Southsea Club B.S.A.C. in the time of 12 minutes, 40 seconds, a time that will set a standard for C.D.'s surface swimming for some time to come. The relay was won by the Aquatic Club and the overall winners of the competition were the Southsea B.S.A.C. The competition provided such interest, that I feel that it will become a bigger attraction in the future when all the clubs get the message.

One question that always seems to be on the lips of R.N. Divers, 'Is it worth it?' This you may be able to answer by asking yourself two questions. 'Are the visitors enjoying their opportunity to meet the Navy?', and 'Are the Navy putting over their message to both commercial and divers of the dangers involved'. If you can say 'yes' to both questions then there can only be one conclusion, it is worth the effort. To all the people both service and civilian who made this day possible, and my task easier, thank you!

Bomb Disposal Officers Reunion Dinner

A dinner for serving and retired officers of all three services who are qualified in Bomb Disposal is tentatively planned for the 12th September 1969. It will be held in the Royal Engineers Mess, Brompton Barracks, Chatham.

Total number 120. Mess Undress or Dinner Jacket. Cost about 35/-. Some overnight accommodation may be available.

Any C.D. or M.C.D. officer who would like to attend please contact Lt.-Cdr. H. Parker, R.N., Ministry of Defence (Navy), Room 122D, Enslleigh, Bath, Somerset, who will advise officers interested when the date, and other details are confirmed.

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Letters to the Editor

Sir,

Superintendent of Diving kindly sent my Naval Assistant a copy of the Summer Magazine, in the expectation that I might be interested in the account of the R.N. participation in SEALAB III.

Indeed I am very interested, and I had heard from other sources how well Lieutenant Lafferty and Petty Officer Clark were doing. Roll on the next report of their exploits.

Commander White also said in his letter:—

“For the record I served with the First Sea Lord in *Aurora* in 1939-41. I was a Leading Seaman—Captain of S.2 twin four inch and Boys’ Instructor for Lieutenant Le Fanu the Boys’ Divisional Officer. He passed me out for Petty Officer on the bridge of *Aurora* off Narvik between air attacks.”

This is of course a long time ago; a few of your more aged readers may actually have heard of World War II, but how many know who won it, I wonder?

Fortunately my memory is quite clear on this point and I am happy to be able to inform your curious public that World War II was won by Leading Seaman White and Lieutenant Le Fanu.

My Chalky colleague has not said anything about his diving activities at that time. Perhaps he wasn’t on the team then, but I know that I was plunging around all over the place. Those were the days of brass tiffers, Bootneck type boots made of lead and tweaks on the rope, which in my case generally meant ‘I want to come up, pull me up’.

As I recall, the chief object of our dips was BOOZE. For instance, one of our wobbly friends sustained a near miss when anchored in Gutter Sound (Scapa) which caused the bottom of the wardroom wine store to fall out. Needless to state, *Aurora’s* team was on the job in a flash and our first man down, Speakie Loe, the G.I., saw a sight for sore eyes and parched throats.

On another occasion in Malta, when we were recovering from a punch-up with a minefield, the Army rang me up one morning to say would I kindly salvage three 4.7 inch twins from the *Maori* (sunk during the night) so that they could mount same on Ricasoli Breakwater. If we could fix it in the next hour or two that would be fine with them. Well, we didn’t actually get the gun mountings up in that time-scale, but we did have a look at the job and picked up two bottles of a rather posh Claret and a

case of Blue Label.

And so finally, victory was assured. Well, fairly finally, and in that connection Commander White and I stand ready, if detailed off to volunteer, to win World War III for you lot. But not for long as we are coming to the end of our eighth five and getting near that lovely Terminal Grant. As Tennyson said more or less—

Sunset and even star,
And one clear call for us.
And may there be no moaning at the bar
When we step on the bus.

You say you are short of contributions. If you are really desperate, you can print this.

And here’s 10/- for your next five issues.

Yours respectfully,
M. LE FANU,
General Manager, R.N.

The Editor,

Dear Sir,

Unless your reviewer of ‘Farming the Sea’ is either a psychologist or a sociologist (in which case, he is just getting his own back, and good luck to him!) I must complain at what looks like wilful misunderstanding almost from the first paragraph to the last. Particularly the last, for here he suggests I ought to have advised divers not to ‘rob other people’s pots, creels or traps’. Who does he think I was writing for—the readers of the ‘Parkhurst Gazette’?

Yours sincerely,
ALEXANDER McKEE.

NOTICE TO MARINERS

Dear Sir,

With reference to your amendment in the last issue may I take the liberty in pointing out that the navigator has probably saved me a great deal of pain and unannounced visits in his error of going East instead of West. (I owe him a drink). As for the unfortunates that found themselves stuck somewhere in N.E.2 instead of N.W.2 I suggest you have a drink on him!

May I please impose and take space to say thank you for the ‘stray’ greetings cards that have reached me from so many ‘out of touch’ friends. Also save postage by wishing all friends, old, new and prospective, success in the days to follow.

If by chance there is one that knows one, I am seriously interested in purchasing a volume of 'Jane's Fighting Ships', 1937-38 or preferably 1938-39.

I will not attempt to mention individuals at this stage of the game, it would be impossible. At the

same time—Corkhead or Steamer—if you have a 'Coffee Pot' on your arm you are welcome at, 'The Ox and Gate'.

TAFF PACKER.

All Quiet on the Western Front

THE Western Fleet Clearance Diving team returned from Christmas leave on 6th January, to what was to be an extensive period of seabed searching lasting the best part of two months. The period started with the normal 250 feet continuation diving training in Scotland which also included the age old problem of getting rid of Christmas leave headaches and cobwebs. On the 13th January, however, the team was required to go to Cardigan Bay together with H.M.S. *Iveston* where sea bed searching 'exercises' would take place. It was during this time that the problem of coping with strong tidal conditions, no visibility and the very jumbled bottom posed itself yet again. The normal techniques of sea bed searching were all tried at varying times and for one reason or the other failed to produce the right answer and it was in the last fortnight that a search technique using 300 feet of light jack stay and two unmarked swimmers was evolved. I do not think anyone on the completion of these 'exercises' was sorry to see the end of Cardigan Bay although one person in the team at least will be returning on August 23rd to marry one of the local girls.

On completion of the Cardigan Bay frolic, the team went to Cawsand Bay for exercise Razor Sharp where the hospitality shown by the Portuguese ships was literally overwhelming.

A further period was spent in Scotland working-up new members of the team to 250 feet and yet again R.A.E., Farnborough asked for our services to carry out ejector seat trials at Glenfruin. All this of course was interspersed with visits to Portland for the usual exercises with Flag Officer Sea Training.

May found the team in Falmouth once again working for Farnborough where an extremely cordial liaison was made between the R.A.F. Marine Craft Unit and ourselves.

Currently, the team is employed upon evaluation of the one-man R.C.C./T.U.P. which entails 'willing volunteers' being loaded in the one-man pot, driving around the country with the chamber at varying depths and then being transferred under pressure to the main chamber. There has understandably been a slight reluctance among the willing volunteers to

come forward to give their services but this has been cured in the traditional Service manner by starting with the most junior and working up the list. Many members are now much slimmer than they were.

With the reductions in the Mediterranean, the long forecast for the W.F.C.D.T. appears rosy and includes exercises in Greece and Turkey as well as an M.C.M. exercise near Den Helder. It goes without saying that between then and now anything can happen.

Dave Lardner left the team and the Navy on the 13th May in the true traditions of the C.D. branch, frantically giving '4 and 2' to get back on his feet.

One final note, the Officer in Charge's relief has arrived and the run down period/work-up period has started.

'Divers welcome'

Mrs. S. W. Ayre

invites you to stay at

'The Deeps'

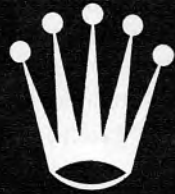
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