

HISTORICAL DIVER

The Official Publication of The Historical Diving Societies of Canada, Germany, Mexico, Russia and the U.S.A.

Volume 16 Issue 1

Number 54, Winter 2008



Charles Hubbel Hawley and his Visionaire Mask

- HDS 2007 Tarpon Springs Conference •
- Heart of Oak: George Wookey, RN • The Japanese Divers of California •
- Bel-Aqua Dry Suits in Canada • Germany's First Combat Swimmers •
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HISTORICAL DIVER

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Number 54, Winter 2008

FEATURES

CHARLES HUBBEL HAWLEY AND HIS VISIONAIRE MASK

BY SAMARA HAWLEY MERRILL..... 10



Sam Merrill presented this paper on her father at the 2007 HDS Conference.

Charles Hawley spent many years designing scuba equipment for himself, and eventually for the diving public with the VISIONAIRE and the FLOMATIC 800 masks. This industrious inventor applied his natural talent and love for scuba diving to solving an early

problem some new divers had faced ... namely, breathing through both their mouths and noses as is done on dry land.

On the Cover

Charles Hawley and his dog are framed by photos of prototype Visionaire Masks. Photos courtesy of Samara Merrill.

HEART OF OAK: GEORGE WOOKEY, R.N.

BY NYLE C. MONDAY..... 18



In the Royal Navy, George Wookey served his entire adult life as an able bodied seaman, a submariner and a qualified navy diver. His diving expertise led him into legendary exploits aboard the salvage vessel

HMS *Reclaim*; first with the search for the submarine HMS *Affray* and then with a record setting deep dive to 600 feet that earned him the Order of the British Empire (OBE).

THE JAPANESE DIVERS OF CALIFORNIA

BY SCRAP LUNDY.....23



Scrap Lundy was the first 2007 Conference speaker. He gave his much-anticipated talk on the once-thriving abalone industry. Scrap's talk encompassed the abalone trade, the traders and their equipment, and the abalone animal in detail. He backed up his talk with a

PowerPoint display of rare and faded photographs gleaned from years of research and travel.

ARTICLES

| | | | |
|---|----|--------------------------------------|----|
| Editorial..... | 3 | HDS-USA..... | 31 |
| 2007 Legends of Diving..... | 4 | HDS-Canada..... | 32 |
| In the Mail..... | 5 | Hans Hass Institute..... | 34 |
| Corrections..... | 7 | For the Record..... | 36 |
| 2007 HDS Fund Raiser & Raffle Winners..... | 8 | Scuba Workshop..... | 38 |
| 2007 HDS Tarpon Springs Conference..... | 9 | Lanphier-Morin Chamber Patent..... | 40 |
| HDS Tarpon Springs Conference in Color..... | 25 | Auction Reports..... | 42 |
| 2007 The DEMA Show..... | 26 | Classic Diving Equipment Groups..... | 44 |
| 2007 NOGI Awards Gala..... | 27 | In Memory, Ralph White..... | 47 |
| USS <i>Squalus</i> Helmets..... | 28 | In Memory, Arthur C. Clarke..... | 49 |
| Helmets of the Deep..... | 29 | In Memory, James D. Watt..... | 50 |
| Books in Depth..... | 30 | In Memory, Bert Kilbride..... | 51 |
| | | Classifieds..... | 52 |

Editorial

With this issue we present two of the speaker's papers from the 2007 Conference held late last fall in Tarpon Springs, Florida. This was, by all accounts, a great event and a virtual repeat of the 2005 Conference.

You will enjoy Samara Hawley Merrill's excellent article on her father's adventures in scuba manufacturing and Scrap Lundy's talk on early alone divers. George Wookey's life of underwater adventure is ably told by Nyle Monday, and several smaller articles contain interesting historical content.

Following this issue of *Historical Diver*, number 54, I will turn over the reins of HDM editorship to an experienced professional staff. I am extremely proud of having been offered the editorial position and proud of the hard work it took to bring *Historical Diver* magazine back on schedule. I'm sure you readers realize the monumental effort it takes to build a quality magazine from the ground up ... every two months. This has been a collaborative effort with a miniscule staff.

My singular personal goal, for the past 15 volunteer years, has been (and still is) ... with no hidden agenda ... the support and promotion of the HDS. I have never taken advantage of my position(s) within the society and have paid my own way to do research and writing for the magazine. My personal gain ... I have had the thrill and joy of helping the HDS grow and prosper and have become friends with many heroes of my youth. I have made a lot of new friends as well, and it is to you readers that I have strived to provide a quality magazine.

I have proudly supported my Scuba Workshop column and its articles and, to some extent, it was the realization that I spend as much time building one magazine as I do one Workshop article and that has led to this change. Both jobs, editor and writer, are full-time professional exercises within themselves and doing both while trying to make a living outside of the HDS has been challenging. I cannot do all three well and thus must choose to concentrate on what I do best (or where my heart leads). I will step down from my full time editorial position and hopefully can continue to provide you with interesting and informative writing.

Working with Andy Lentz and Steve Mehan, our talented graphic artists (production editors), past and present, has been a special pleasure, and both have become historical enthusiasts along the way. Andy, architect of this magazine, had raised the standards of this product quite high. Stepping into his shoes was a daunting task for Steve whose passion and talent in graphic design has led to what I consider his crowning achievements and the best looking issues ... numbers 49, 51 and 52. I look forward to the new team's magazine and I'm sure they will strive to raise the bar still further. Steve and I will be watching.

My association with the Historical Diving Society has been an interesting adventure indeed.

— Kent Rockwell, Editor



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Legends of Diving 2007 Portage Quarry

BY JEFF RICE

August 10th -12th was the second annual Legends of Diving Weekend at Portage Quarry in Bowling Green, Ohio. The Friday night "Meet and Greet" found some 80 people looking forward to meeting with diving legends Zale Parry and Sam Lecocq.

Saturday started with give away prizes and an early dive. Throughout the weekend over \$10,000 in prizes were given away. Mares alone gave away 150 silicone masks and a complete set of gear while Scooby Doo gave out masks and snorkels to the children.

Zale greeted the group and assured them she would sign autographs during the weekend. She spoke of her current passion of cleaning the waters in which we dive while some 50 people waited patiently to speak with Zale and collect her autograph.

Sherry Lantz introduced Sam and Debbie Lecocq, and told of how they had been reunited at last years Legends event. She told of her time spent working with Sam and how she appeared in the Sportsways film.

The Saturday afternoon highlight was a dive on the sunken Hansa airplane with Zale. Over 50 divers signed up and got their picture taken with her. At 5:00 pm another record dive attempt was made and is still holding at 300 total divers and the trip for two to Belize was given away thanks to the generosity of the Belize Tourism Department.

Saturday night Sam showed the *Sportsways Waterlung* film and Zale showed the *Damsel in Distress*, as well as footage of her in various movies. The main feature was the *Creature from the Black Lagoon* and, at the height of the film, Tom Briggel, dressed up like the creature, appeared to the delight of the crowd.

On Sunday Alec Pierce spread out his *Sea Hunt* memorabilia while Zale talked about the TV series and the many fan letters they received. A lucky fourteen year old, Shelby Berry, had her picture taken with Zale and a Northhill regulator; the type Zale used on the cover of *Sports Illustrated* in 1955. Thanks to Zale many people left the quarry with treasured memories.



Jerry Powell and Zale Parry.

PHOTO COURTESY OF JERRY POWELL

Prizes were given away throughout the afternoon and vintage dive gear was displayed and for sale. Bryan Pennington, from Vintage Double Hose, gave away a Royal Aqua-Master regulator in the original box, with the sale slip.

With the close of the event many people were making plans to return next year.



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In the Mail

HDM Issue # 53

We received our official HDS SEAP copy of your latest *Historical Diver* magazine #53 last week and I must compliment you again on the fine work you do in producing it. It is an excellent read and the item on Ted Eldred's 02 "Porpoise" looked very good indeed. As was Keith Gordon's article on Don Ross. I also saw the Slovenian dive museum article by my dear friend Phil Thurtle in the UK, came up very well. I have now passed the magazine on to Jeff Maynard for archiving at HDS SEAP.

Des Williams
Australia

It's Christmas in February! What a pleasant surprise to find the latest (No. 53) in the mail, my congratulations on a great issue.

Andy Lentz
Santa Barbara, Calif.

Just finished reading Leslie Jacobs' "Voices of the Deep" featuring two local heroes, Bud Weiser and Torrance Parker and hope to see more of this type in future issues. As is the past, Leslie does a great job interviewing the people that made commercial diving what it is today and has a knack of asking the right questions.

I would also like to compliment HD Editor and consider this last issue (#53) one of the best to date.

Charlie Orr
Wilmington, Calif.



Regulator Help

I recently purchased a small collection of double hose regulators and one was very unusual. This regulator was made in Japan, probably in the late 1940s or early 50s and it may have been made by Kawasaki Heavy

Industries (the label is in Japanese and I haven't been able to translate it). The regulator has many features similar to the early "Aqua-Lungs," including the small 7/8" inch hose bosses and the removable exhaust port with the angled back port. The yolk screw has an unusual spring loaded knob that prevents accidental loosening. I have not removed the bottom box but it appears like the diaphragm has a riveted plate similar to early Aqua-Lungs. I have never seen or even heard of this type of regulator before and any information would be greatly appreciated.

Dan Barringer
Selma, Ore.
dan@vintagescubasupply.com



Thanks, Dan, for providing the clear photo of the regulator label. We can indeed translate the Japanese for you. The top line's literal translation reads: "Kawasaki Type Inside Water Respiration Equipment." Of course this is Kawasaki MODEL Underwater Breathing Apparatus. The bottom row reads "Kawasaki Aircraft Industries Company, Limited." This is indeed a rare regulator and I can remember seeing brand new copies of 1949 French scuba gear for sale in the Diamaru Department Store in downtown Fukuoka, Japan in 1960. Right along side 1961 copies of U.S. Diver's yellow tanks, Aqua-Master regulators and all the rest of the newer gear.

— Editor

Canadian Development of the Multi-Tissue Decompression Computer

Phil Nuytten's excellent article, found in HDM issues #51 and #52, has resolved something that has been bugging me for the past 40 years.

On a short visit to London in 1967, I went browsing in an Oxford Street technical bookshop and came across *Decompression of Compressed Air Workers in Civil Engineering*, edited by R.I. McCullum. At 42 shillings it was (for once) within budget and it turned out to be a very good buy, as it covered diving generally and was packed with information from an International Working Party, held in London in 1965.

(Continued, next page).

In the Mail

One of the papers, in the session headed Current Research, was entitled Pneumatic Analogue Computer Control of Decompression by R.A. Stubbs and Surgeon Lt. Cdr. D.J. Kidd (it was presented by Dr. R.S. Weaver). The content was technical, but mostly understandable in the context of Haldane's use of various body tissues compartments and from reading the rest of the papers, as I had fortunately come from a research background, although not in diving.

At least it was understandable as far as it went, as it really gave very little away. But at the end were a number of graphs showing the results of various trials and one grainy picture of what appeared to be a number of Bourdon tubes connected together with a dial presentation, seemingly calibrated logarithmically. It was obvious how the device probably worked, but there was no explanation in text other than the picture caption "Figure 43. The Mark IIIP Computer".

I would have liked to have chased it up, but I was living abroad (international communications could be very slow in those days) and while the bibliography mentioned two Canadian Forces Medical Reports in 1965, they were military and probably unavailable to me anyway. As it is Phil's excellent article has now, finally, added some long

missing pieces of the jigsaw. But then this is one of the great things about the HDS worldwide.

I admit that my first thought when I saw that original picture, was that it could not work for more than one or two submersions in sea water, as small bore Bourdon tube wrist depth gauges were notorious for malfunctioning from an accumulation of salt crystals. The paper however, mentioned any number of trial dives with the Mark IIIP and a Mark VS. While Dr. Weaver began the subsequent discussion, "This sturdily built computer has been taken three hundred feet in water and was structurally safe ..." I am certain that Dr. E. H. Lanphier, then Assoc. Prof., Dept. of Physiology, State University of New York at Buffalo, will not mind me quoting his opening question to the discussion, "With minor modifications, this could actually be used to control decompression?" Well done Phil.

Peter Dick
Editor Historical Diving Times



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Corrections: HDM Number 53

A few minor glitches have appeared in issue number 53. In fact, we totally missed sending the issue to our proof readers in the final rush to get copies to the ADCI show; something that most publications won't brag about. For those eagle-eyed readers who caught these errors did you notice we re-introduced the tiny HDS logo at the end of most articles?

— Editor

Page 9: In the "Coming Events" box the date for The Scuba Show held in Long Beach, California should be June 21-22, 2008. If you use the old date you will arrive a month early according to Dale Scheckler.

Page 10: We forgot to credit DESCO with the pictures Ric sent of the incredible MK V Helium Helmet production. You will hear more of this HDS/DESCO project and bear in mind that there are only a limited number of helmets remaining. DESCO's Bill Pelky is rapidly transferring all data to a new website for you convenience. Keep in touch with <http://www.ussqualusheo2.net/>

Page 21: With the mention of "mitre valves," in the right-hand columns first sentence, the asterisk denotes a following comment to be found at the top of page 23. However, that asterisk vanished in production.

Page 26: The photo caption, that vanished, pointed to the Pirat Restaurant to the right of the museum building and Phil Thurtle descending the white-sided diving ladder in the harbor to the left.

Pages 30 and 31: We misspelled Bret Gilliam's name as well as Bev Morgan's and Paul Humann's. We had intended to place an image of

Bret's book cover (*Diving Pioneers & Innovators: A Series of In-Depth Interviews*) on page 30 as well and so include it here.

Page 45: The *Hurricane* magazine referred to in the text is actually a stunningly beautiful enameled metal sign as can be seen by the chips in the coating.

Page 51: At the end of the first of the two-part article in the Scuba Workshop column the words — "the lack of" — were cut off when we truncated that article to fit the page. The last

sentence should read, "The only warning,

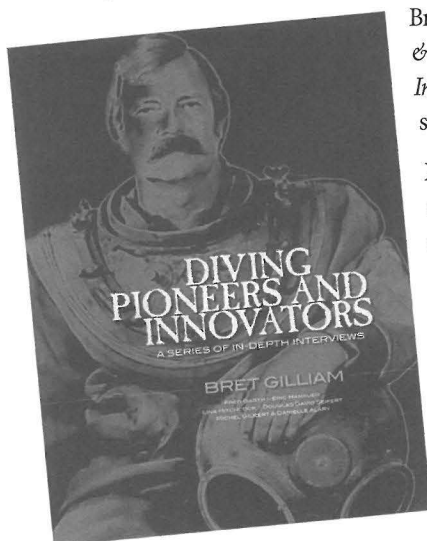
if you're paying attention, would be 'the lack of' the slow increase in the breathing bags volume and the slight exhaust of gas bubbles from the exhaust valve at around every third breath." (As is the nature of semi-closed rebreathers.)



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HDS 2007 Raffle Winners



The Society 2007 Raffle was drawn by Advisory Board members Zale Parry and Rodney Fox at DEMA Orlando, on November 3rd. Our congratulations to all the winners and our thanks to everyone who participated in this important Society fund raiser.

DESCO USN Mark V helmet — Keith Sterner, Fla.

Aqualung Mistral — David Johnson, R.I.

USN Mark V Knife — Cabot Manton, N.Y.

Deep Diving & Submarine Operations — Pat Coughlan, Ireland.

Sea Salt by Stan Waterman — Phillip Janca, Tex.

Hold Your Water by Wyland — Steve Whitford, Mass.

Hard Hat Divers Wear Dresses by Bob Kirby — Bryce Merrill, La.

Shark Man by Rodney Fox — David Ball, Calif.

Shark Man by Rodney Fox — Daniel Kuspit, Mass.

Scuba Diving Safety by Dan Orr and Eric Douglas — Ralph Wilbanks, S.C.

Diving In High Risk Environments by Steve Barsky — Ted Barnes, Mass.

Call to Adventure by Hilary Hauser — Alan Nestlinger, Calif.

Between the Devil and the Deep by Murray Black — Eugene Cleary, Alaska.

Los Angeles County Manual 1954 by Bev Morgan — Thomas Hicks, Ind.

Los Angeles County Manual 1954 by Bev Morgan — Ron Warren, Calif.

Russian Diving History by HDS Russia — Chris Webb, Tenn.

Russian Diving History by HDS Russia — Andrew Corker, Calif.

HDS 2007

Tarpon Springs Conference

BY KENT ROCKWELL

October the 26th through the 28th, of 2007, found beautifully clear and cool weather in Tarpon Springs, Florida. On that Friday evening of the 26th the City of Tarpon Springs hosted members of the Historical Diving Society with a traditional Greek welcoming reception at the famous Greek Sponge Docks...and like the 2005 reception it was a much anticipated event (see HDM issue 46, page 13 for a brief history of the Greek Sponge diving community). Welcomed by Beverly Billiris, Mayor of Tarpon Springs, the evening provided long tables of superb local Greek cuisine, fine drinks and, to the delight of the assembled guests, Greek dancing and music by groups of young townspeople dressed in beautiful Greek costumes of bygone days. We had plenty of time to visit with local Greek friends from the 2005 Conference and distant HDS members from across the country. If you could only attended the evening reception you would still consider your trip money well spent.

We again stayed at the Hampton Inn and Suites located several miles away on the main highway. However, bus transportation was provided and no one missed the events or sight seeing.

Our HDS Conference commenced the following morning at the city's Performing Arts Center located in the Tarpon Springs' City Hall. HDS members and guests perused the HDS booth and several displays while waiting for the Conference to begin. The HDS booth had limited copies of both Bret Gilliam's new book on interviews with diving pioneers and Chris Swann's masterpiece on the history of oilfield diving. Of note was Samara Merrill's display of her father's Visionaire Mask and its many prototypes presented as the feature article in this issue.

HDS President Leslie Leaney emceed the event while the city's Mike Raysey and Marc Jump once again handled the audiovisual support. Scheduled for the 2005 Conference, but delayed due to illness, Santa Barbara based Scrap Lundy began the conference with his interesting account of the advent, harvesting and demise of the California abalone industry. As his talk was provided "off-the-cuff" his story is paraphrased in this issue. Scrap was followed by film-maker Tom Lowe with his PBS documentary, *The Sponge Divers of Tarpon Springs*. It was interesting to compare the adventures of the abalone industry with that of the Greek's sponge diving community. Lunch followed and then the afternoon session began with Leslie announcing Bret and Chris's new books and then Leon Lyon's update of his progress and the substance of his much-anticipated upgrade of his

book *Helmets of the Deep*. Sam Merrill's well-received presentation followed. Sam provided stills and film clips from her dad's pioneering days developing the famous Visionaire Mask in upstate New York. Lastly, Carl Roessler, HDS-USA Board of Director, presented images of his almost lifelong obsession with the GWS (great white shark). Carl was the earliest proponent of the "liveaboard" dive boats (clean linens, air-conditioned comfort and a glass of wine with dinner while the floating hotel took you to the best diving spots in the world) and ran excursions for some 25 years. His website, www.divexpert.com, is a must visit and his biography touches on a life well lived.

At the conclusion of the Conference HDS workers made a mad dash for the Westin Innisbrook Golf Resort to set up for the awards banquet and dinner. Guests were already present as we set-up. My adventurous companion during the Tarpon Conference days, Zale Parry (see HDM issue 52 featuring Zale), was our guest speaker and her talk and slide show, *Wooden Tanks and Live Sharks*, left the audience smiling with admiration. Many of Zale's images of her days with the TV series *Sea Hunt* and of her co-worker, actor Lloyd Bridges, have never been shown to audiences. We are all thankful that she worked so hard on her first-class PowerPoint display for our Conference guests.

Three awards were presented at the Conference Banquet. The *Historical Diver Magazine* 2006 Pioneer Award was given to pioneering underwater archaeologist and gentleman explorer Dr. George Bass. It was a pleasure talking with Dr. Bass about his famous Bronze Age shipwreck excavations. Tarpon Springs resident Nick Toth received the HDS 2006 E.R. Cross Award for his sterling service in providing the backbone of our two Tarpon Springs events, while Sandy Lydon and Tim Thomas were awarded the HDS Nick Icorn Diving Heritage Award for 2006 for their work in presenting the Convergence 2006: The Abalone Connection (celebrating the connection between Monterey Bay [this years 2008 Conference location] and Minamiboso, Japan. All three of these awards and their recipients are featured in HDM issue 52.

Sunday once again found lucky guests sharing in a Greek diving experience. Greek sponge boat, Greek dive gear, and Greek tenders out-fitted various HDS members for a real Greek diving experience. Photo opportunities abounded and memories of this day will be long lasting. The rest of the day was spent eating and shopping along the Sponge Exchange waterfront and then many of us embarked on the voyage (by auto) to Orlando for the DEMA Show.



Charles Hubbel Hawley and His Visionaire Mask



Charles Hubble Hawley.

**BY SAMARA HAWLEY MERRILL AND CHARLES HUBBEL HAWLEY
PHOTOS COURTESY SAMARA MERRILL AND FAMILY © 2007**

Charles Hawley, or “Chuck” as he was called by his friends and family, was my dad. He was a very unique father who was always “tinkering” with something or inventing something new.

As a child, I thought this was rather odd, as none of my friends’ fathers were like my dad. They all had normal 9-5 jobs and normal “Wally Cleaver” houses and families. But our home was different. It was designed by dad and was a flat roofed, passive solar Japanese house, complete with rice mat floors, shoji

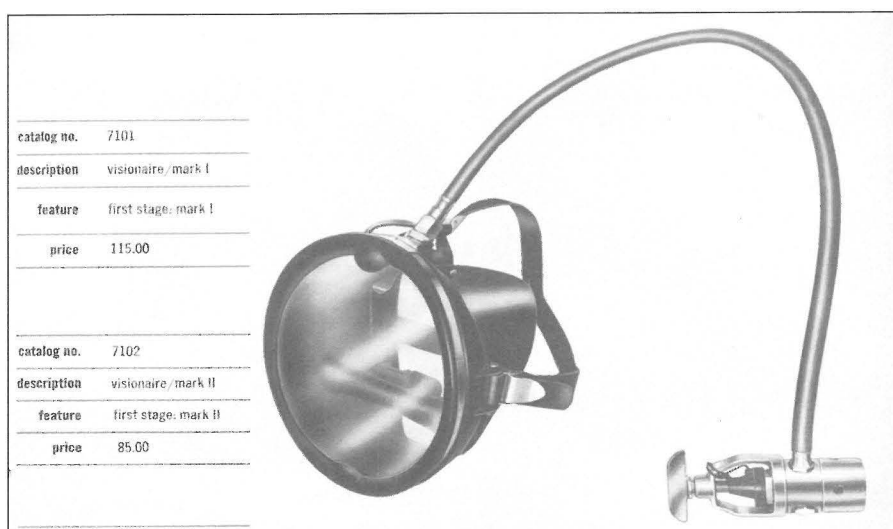
screens on the windows and a dining table a foot off the ground.

I think dad really loved being different. He loved the outdoors, he loved nature, he loved machines, and he loved the water. So naturally, he got into the newly evolving sport of SCUBA diving. He spent many years designing scuba

equipment for himself, and eventually for the diving public with the VISIONAIRE and the FLOMATIC 800 masks. Unfortunately, and as is all too often the case, it took me almost 50 years to learn to appreciate the many talents he had. Although as a child I watched dad dive in lakes and helped him in the garage occasionally, I really came to appreciate him and his love for scuba after he had passed away in 1990 and after I became a diver myself in 1991. This is when I really got to know my father. But I'll start at the beginning to give you a peek first into the life and then the engineering designs of an amazing dad, adventurer and engineer.

Charles Hubbel Hawley was born on April 28, 1921 in the city of Syracuse in upstate New York. His family roots go back hundreds of years in the upstate area, and he always loved it there. He especially loved the outdoors and visiting the Adirondack Mountain region. He grew up the third of four boys, and they spent many days camping, fishing and enjoying the great outdoors as a family. Beginning in his earliest years, dad was usually quiet, mostly thinking and rarely talking. He was constantly designing things in his head and then drawing his ideas on any paper handy. His first loves were airplanes and motorcycles. He loved assembling model airplanes and carving or building his own designs. As a teen, he got his first motorcycle and modified the forks and headers to be the first hill climbing bike (that he knew of) in that era. That was dad; always remaking something to be better or different to suit his needs. He continued to do that all of his life. If it was mechanical or had an engine, he could make it better, or at least he tried to.

He started college at Syracuse University New York, majoring in engineering, but with WWII starting, he interrupted his schooling to serve his country as a bombardier. He flew many missions in Europe, and was shot down over Germany and captured. He spent 18 months in a POW camp in Bonn, Germany. Understandably, he didn't talk much about



Top left: Patent prototype mask. Top right: Early prototype mask. Middle left: Patent prototype with single hose regulator. Middle right: "Dad in full gear patent prototype. Bottom: 1965 Scubapro Ad.

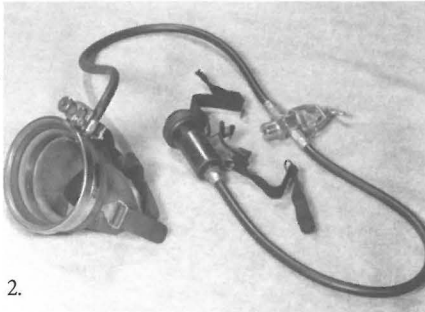
his experiences there, but he did tell me about a few failed escape attempts he participated in, as well as the plays they would put on for entertainment.

Dad would read anything he could get his hands on, and the library they had in prison camp was not very large. He even memorized the libretto to Gilbert & Sullivan's "Mikado" just to pass the time. I can still hear him reciting to us kids; "To sit in solemn silence in a dull dark dock, in a pestilential prison with a life long lock, awaiting the sensation of a short, sharp shock from a cheap and chippy chop-

per on a big black block!" (It took me ages to memorize that!) While in prison camp, his favorite package from home was a yoyo. Once he got one, everyone was writing home to their families for one. I also remember him telling me that they would play "cowboys and Indians" on imaginary horses, with imaginary guns. They would act it all out; shooting each other, dying on the ground, riding off into the sunset, and the guards would watch in amazement and puzzlement! I can just see them doing this to pass the time. In a recent email from my sister she told me part two of



1.



2.



3.



4.



5.



6.



7.

1: Double hose demand mask combined with Aqua-Lung Regulator. 2: Half face mask with single hose regulator. 3: Patent prototype with double hose regulator. 4: Flomatic 800 \$29.95. 5: Hawley with pan mask. 6: Pan mask with gear. 7: Pan mask from the side.

one of the cowboy's stories — they actually made their own hobby horses out of sticks and wood and they'd "hitch" them to a post outside the barracks. Well, just for fun one time they piled manure under some of the horses. (Don't ask me where they found the manure). And that *really* puzzled the prison guards — and it cracked up the POWs.

After returning home from the war, he again entered Syracuse University to continue his engineering degree. He married his childhood crush from three doors down, Nanette Smith McCormick. Nan and Chuck had grown up best of friends, and in fact, she had actually married his best friend, John 'Duke' McCormick. But just a few months after their wedding (which took place an hour before he was shipped out) Duke, an Army Air Corp Pilot, was shot down during the raids over the Ploesti oil fields and killed. Several years later, dad convinced mom to marry him. I believe it was late in the 1940s that dad became interested in SCUBA, although it could easily have been earlier than that. I don't really know what sparked the interest, but knowing his love of nature and the outdoors, his love of water, and his curious nature, it just seems to make sense that he would want to be a part of this newly emerging sport. He always subscribed to magazines like *Popular Mechanics* and *Popular Science* so he may very well have picked up his interest from there.

Once again dad had an idea: he wanted a mask that was different than anything in existence at the time. His goal was to design a mask that was easier to learn with by breathing as we normally do: through our nose, not our mouth. He also wanted easier breathing than the conventional double hose regulators of the era. He worked on his designs and prototypes by modifying existing masks and then testing them in the Syracuse University pool and then local lakes in the area. Then, once again, the country went to war: this time, with North Korea in 1950. Dad's college studies were interrupted and he served again as a bombardier for his country. When he returned

home in 1953, going back to school was out of the question. (He didn't want to jinx the country into another war!) He now had a wife and two children to support. So his dream of a college degree in engineering ended. It was at this time that he went back to designing a new and innovative way to breath underwater. Dad continued to work his whole life as an engineer and designer.

After numerous years and countless hours of design modifications, he finally perfected his design and submitted it for a patent in November 1957 (when I was a mere 4 months old). Four years later, his patent was finally granted on November 21, 1961 for a mere \$10,000. Patent # 3009462 was issued for his Breathing and Viewing Apparatus. This was the humble beginnings of what evolved into the Visionaire Mask. It was eventually sold worldwide by Sports Industries, Inc. (later known as Scubapro). Its humble beginnings,

however, were through dad's own company, Visioneering Unlimited in 1964. We produced the masks as a family business in our garage. We each had a specific task: I got paid a nickel for every strap I put on, my sister Lorie got a nickel for the buckles on the straps, and my sister Rusty got a nickel for the exhale port vents and 2 cents for trimming the straps. My brother Jay; well, he got paid a lot for that time, \$5.00 an hour, for the dirty jobs like grinding the flanges off the rubber pieces shipped to us from Italy and removing the protective coating by dipping the masks in a drum of Toluene, along with many other tasks. I remember him coming into the house absolutely black, covered from head to toe in black rubber shavings! And the Toluene, we had no idea it was so toxic!

We did this for two summers. These early "home" version masks are easily distinguished from the Scubapro versions because on the

outside ring, in the 12 o'clock position, there was a sticker labeled "Visioneering Unlimited". The later Scubapro models have "Scubapro" actually stamped (embossed) into the metal. If you happen to own one that isn't stamped "Scubapro", then you have one of the early home versions!

After much consideration, in 1966 dad sold the manufacturing rights and tooling to Sports Industries. Scubapro continued selling the mask through the early 1970s. It was not a big seller to the public due not only to the cost of the mask (it was quite expensive for its day at a base price of \$120.00 plus the cost of any accessories) but also because of the prevailing popularity of the single hose regulator and separate mask combination. The mask was primarily used by salvage and commercial divers for use in contaminated water and with voice communications. It also sold to abalone and gold divers, the U.S.



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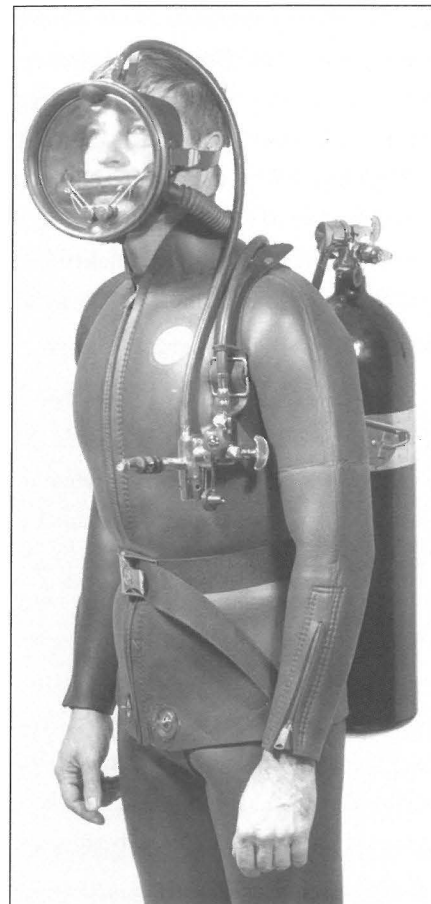


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Over three decades of diving innovation



Top: Multiple prototypes, various patent design variation prototypes. Right: This photo shows the full face demand mask.



Air Force for use in Vietnam and the British Navy ordered 300 for its divers. It was chamber tested by the French Navy early in 1969 to a depth of 350 meters (approx. 1140 feet) which exceeded the world's diving record of the day of 1026 feet.

The story goes (and you know how family stories can sometimes change over the years) that after dad sold the mask rights, he was offered a job by Gustav Dalla Valle, president of the very young company of Sports Industries, as their head engineer to oversee the making of the Visionaire Mask and the development of new equipment. The thought of picking up our whole family and moving to California was not something my parents, who were deeply rooted in the upstate New York region and very connected to family there, wanted to do; especially for a small, relatively unknown company in a very relatively unknown sport. Although, it makes me wonder now if dad had known what that "little unknown company" was going to become, if his choices would have been different. I could have become a "California girl" and a diver from my earliest years. But that was not to be.

Dad actually had two mask designs that were sold to the public, one being the Visionaire (more technical details later) and the other

called the Flomatic 800 (a half-face version of the Visionaire). The Flomatic 800 mask had very limited production, and was only produced from 1966 - 1968. It still utilized the patented design, but at a cost of \$29.95, was much more attainable for the general public and recreational diver. It boasted many of the same benefits as the Visionaire, such as: easy breathing, reduced air consumption, mask squeeze elimination, no lens fogging, difficult to flood, easy to clear, greater field of vision, and unlike the full face version, the Flomatic permitted independent and safer buddy breathing by inhaling through your nose and exhaling through your mouth while your buddy used your second stage. No passing the regulator back and forth.

I've only seen one Flomatic 800 mask in existence actually, and that belonged to one of dad's old diving buddies. I sure wish I had that mask now! The Flomatic 800 was promoted as "a great new advance in SCUBA safety and comfort" and, "The unique breathing system for the hydro age," by Flomatic Corporation in North Hoosick, New York. It was also the last mask dad designed. After the failure of that venture with Wilbur Rice, the president of Flomatic Corporation, dad no longer designed dive equipment. He

continued working as a mechanical engineer for manufacturing plants until he retired. But he always loved diving, and would get phone calls from people occasionally asking him to retrieve something they dropped in the lake; glasses, watches, wallets, boat engines — you name it. He'd dive for it.

Now let's go back to the creation of the "underwater breathing and viewing apparatus." After the basic design of the mask was patented, the Visionaire began to evolve. What started as half face prototypes then changed to a full face mask with the Visionaire, and then eventually went back to a half face version with the Flomatic 800.

The humble beginnings: the Visionaire Mask design first made its debut in 1956 in my mom's kitchen. The first successful prototype of the full face Visionaire was actually made from two Revere Ware pan lids. Dad felt that durability was important, and that stainless steel was the way to go, so he would buy my

mom all new stainless steel cookware, and take all but one of her lids to cut and form into his mask designs. He left her the largest lid to use on all of her pans. I can still see mom cooking, moving the large lid from one pot to another. She was a very patient and supportive lady.

This stainless steel version was dad's first full face version of the mask. My brother says it was always the best mask dad ever made. It worked so well and breathed so easily. I could tell you more in depth details about the concept and design of the Visionaire, but I think at this point it would be better to give you the background of the mask in dad's own words: (From the writings I've found in his files, probably written in the early 1970s).

"The design of the Visionaire Mask was started in 1956 in an effort to develop an underwater breathing unit which would be a marked improvement over anything which existed at that time. The standard unit then was the double hose regulator with the single hose

two stage units just beginning to make their appearance. All these units back then, and even today, have their demand regulator contained in its own separate chamber with either a hose or a restrictive port through which the air must be delivered for breathing. The advent of the venture action greatly aided the transfer of the air through these passages. However, the effort to initiate the valve was still considerably more than that of normal breathing."

He continued, "The approach to the design of the Visionaire was based on the premise that first the demand regulator should be physically part of the mask covering the face so as to eliminate any restrictive passage through which air would have to pass. Second, that the demand regulator should be more sensitive to make breathing effort closer to normal. Third, that inhaling through the nose is more normal for the average person.

Although there are several ways to increase the sensitivity of the demand regulator, the

most direct was to increase the area of the diaphragm. To locate a large enough surface on a face mask without restricting vision was the problem. At this point it became quite obvious that the mask lens could ideally serve this purpose. All that would be needed was a flexible rubber membrane as a seal between the lens and the mask body. Even the lens of a partial face mask had a larger area than the diaphragm of a standard regulator and naturally, making a large lens full face mask would greatly increase this difference. To illustrate the reduction of breathing effort, the Visionaire lens-diaphragm has a diameter approximately three times that of the standard Scubapro regulator. Therefore, it has an area approximately nine times that of the standard regulator. Both use the same valve mechanism, the Visionaire needs correspondently less breathing effort to initiate the valve. Using the lens had an added bonus because increasing the size of the lens not only made breathing easier, but it also increased the field of vision."

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Top: Dad diving with Mae West used as a BC and weights welded to tank frame. Left: Prototype mask with pressure gauge. Right: Bubble mask.

"To arrive at the optimum design, quite a few different masks were constructed to test every conceivable arrangement. The original design concept proved to be the most satisfactory. This has a pivotal hinge on the periphery of the lens with the valve lever placed diametrically opposite so that the maximum lens travel is utilized. This arrangement made it possible to use the standard tilt or down stream valve without any major modifications. For Visionaire, the down stream valve was chosen because it could be readily designed to direct

the influx of high velocity air against the inner periphery of the mask so as to dissipate the air stream energy. This greatly reduced any blast effects around the eyes and face."

"The first test masks were partial face; inhaling through the nose and exhaling through the mouth was mandatory. With the full face design, inhaling can be through either the nose or mouth. However, exhaling is still through the mouth only. A lip exhale tube is an integral part of the molded rubber mask body and is provided with exhale check

valves on both sides of the mask. Although nose inhaling and mouth exhaling is not a completely normal method of breathing, it still is not a difficult technique to develop. In fact, experience has shown that it is only the diver who has become accustomed to a mouth piece regulator that seems to have any difficulty.

The novice just beginning with the Visionaire seems to master the breathing technique quickly. Mouth breathing can be performed when necessary, such as when heavy exertion demands it. This is accomplished by removing the lips from the tube to inhale and replacing them on the tube to exhale. A question frequently asked by those first seeing the Visionaire is, "Why not eliminate the exhale tube like all the other full face masks?" The Visionaire would lose several of its important features by doing so. First of all, with the lens-diaphragm area so great, the pressure created by the forward motion would be sufficient to cause a free flow condition without the lip tube. Although there are ways to prevent this condition, they either greatly increase breathing efforts or add to the complexity of the mask. Also, by not exhaling into the main mask chamber, the result is a completely CO₂ and fog-free mask. The lens remains clear at all times and the breathing air is always fresh. These features are too important to eliminate. In addition, the mask is automatically depth compensated. Not having to be constantly equalizing mask pressure, as is the case with mouthpiece regulators, makes for much more enjoyable diving."

"There is another important feature of the Visionaire resulting from the sensitivity of the diaphragm acting lens. It is difficult to flood and easy to clear. When the seal between the mask skirt and the face is broken, very often no water will enter the mask. The flow of air out of the opening will prevent the water from entering. Even when the entire mask is pulled away from the face, it must be moved surprisingly far before flooding will take place. Even then, clearing is relatively simple. After

the mask is again sealed to the face and with the head in an upright position, the chin tab is pulled with one hand to make an opening under the chin and with the other hand the lens is depressed. The incoming air will clear the mask almost instantaneously. It is also best to exhale through the nose at the same time to remove any water that might have entered the nose before resuming breathing.”

“The Visionaire is readily adapted to the standard communications systems because speech can be easily performed. Either the standard throat mike can be used, or a mike can be mounted within the confines of the mask. The latter can result in a clearer audio transmission. Where communications are of prime importance, the lip tube can be converted into a mouth cup and a mike installed in one of the exhale ports. This gives more freedom to the lips for speaking.”

“As the mouth cup seals the mouth from the main breathing chamber, a secondary single hose regulator is plugged in the other exhale port to retain mouth breathing when necessary. There are a number of special order custom accessories available for the Visionaire Mask. In addition to the mouth cup version and the auxiliary plug-in secondary regulator, which can also be used on the standard lip-tube Visionaire for those who might feel that inhaling and exhaling through the lip tube is desirable, there are the following: A lens mounted externally operated nose clamp for those who cannot clear their ears by pressurizing the mask. A snorkel that plugs in one of the exhale ports Inverted tank pack.”

I was extremely excited to find all of my father’s writings, photos and notes documenting this thought process behind the design of the Visionaire. And to think that they almost went to the garbage dump. Luckily I saved them and felt that someday I would have the time to go through the numerous boxes of papers and binders that were in storage after my parents’ deaths. I’m a packrat like

my parents — an ingrained need to preserve family stories and history. Once these are lost, you can’t get them back. Since my diving career did not begin until after my father’s death, it was a good thing I wasn’t able to get to these boxes of papers for many years, or I may never have saved them. When I began cleaning out some of these boxes in my attic, imagine my surprise as I read and understood the papers he’d left behind. Because his older brother, Harold Hawley, was a professional photographer, we have all of these photos preserved of many different prototypes, with dad as the model. What an incredible family legacy to leave us with.

That brings us to the present day and how all of this came to the attention of the HDS. I happened to meet Bob Owens, a member of the Historical Diving Society and owner of Down South Divers, Ltd. at a trade show in Raleigh, N.C. I was working for DAN (Divers Alert Network) at a booth just a few spaces down; when I noticed he was there with a display of old diving equipment. Knowing I had a large box of old diving equipment of my dad’s, I walked up to Bob and introduced myself. I asked if he had ever seen or heard of the Visionaire. He said he had — and at that point I began to tell him the history behind it. Bob has restored and cleaned up most of the prototypes I had and he takes them to trade shows for the Historical Diving Society. Our whole family is delighted that what we considered to be old junk, is actually something the diving community is interested in.

What a wonderful legacy for my father to have his work and his designs out amongst the public, helping to educate them about the early beginnings of a sport that has grown much larger than I think my dad ever imagined it would. I and a few other divers have actually used the Visionaire in a pool, and after over 40 years, it still works great. Our family goal is to someday find a permanent display for dad’s work. Until that time, however, it can be seen at various shows with Bob, or if you’re ever in Durham, N.C., visiting the DAN corporate



Another view of the bubble helmet.

office, I have a display of masks and photos by my desk that I’d be more than happy to show you. Every morning that I come to work, I get to see my dad and the legacy he left us. He never dreamed his masks would end up on display in various places, and I think he’s smiling down on me in amazement, his youngest daughter that was the “girly” one of the three daughters.

“It’s been my pleasure, dad, to get to know you and to bring your incredible designs and ideas to the attention of the diving world. As children, we called you ‘Charles Hubbel Bubble Hawley’ because you made bubbles underwater. None of my friends’ dads did anything like that. That made me feel special and unique — but that’s only because YOU were special and unique! I think back now, and if I had one wish, it would be to have been able to take one dive with you.

As a young child, I would sit on the bow of the boat or on the dock and watch for your bubbles. I’d even snorkel along a little bit. But we never were dive buddies. Maybe in the next life we can do that together? I’ll have to wait and see. Until then, I will continue to educate the public by displaying the vast and interesting mask designs you left us.”

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Heart of Oak

George Wookey, R.N.



George Wookey being dressed in for a dive.

BY NYLE C. MONDAY
PHOTOS COURTESY DAVID STRIKE

One of the saddest aspects of documenting the history of diving is noting the passing of the pioneers in the field. While they often pass mostly unnoticed by the world at large, their contributions are recognized by those of us who have come to appreciate the importance of their accomplishments. As the philosopher once said, "Being remembered may be the only form of immortality we humans can achieve." If this is the case, George Wookey has definitely achieved that status.

George Alan Moreley Wookey was born on October 31, 1922. At the age of 16 he joined the Royal Navy as a Boy Seaman. The early years of his service were spent serving on board submarines in the North Atlantic, but by 1944 he had become qualified as a diver. As the war ended he continued this work, receiving a commission in 1948 and ultimately instructing X-Craft crews at the Royal Navy diving school at HMS *Defiance*.

Wookey's first high profile operation was the search for the submarine HMS *Affray* in 1951. The *Affray* was a WWII-era diesel submarine that had set out on April 16th of that year on

a simulated war mission. Aboard the sub were 75 officers and men, including a class of 23 junior officers undergoing submarine training and a contingent of Royal Marines. The Captain of the vessel was given the task of conducting a clandestine landing of these Marines by collapsible canoes somewhere along the southwest coast of England. By noon the next day, however, all radio traffic suddenly ceased and no more was heard from the sub.

The Royal Navy quickly mobilized its salvage and rescue assets to begin the search for and, hopefully, the rescue of the *Affray* and its crew. Included in the flotilla which set out on the hunt was HMS *Reclaim*, on which George Wookey was serving as a Diving Officer. For 59 days, the search went on. All together, thirteen sonar contacts made and each was checked out by lowering a diver. Although many uncharted wrecks from the recent World War were found,

the *Affray* continued to elude the searchers. The task was made more difficult by the fact that the captain of the submarine was given the latitude to conduct his exercise in a very large area, which made the search that much more difficult since the searchers had no exact knowledge of where the *Affray* might have been. Finally, on June 14th, another sonar contact was made, this time in a deep submarine channel north of the island of Guernsey.

The *Reclaim* anchored over the site, which lay in water over 300 feet deep. A diver was sent down and briefly caught sight of the handrail of a vessel before being swept away from the wreck by a swift tidal current. While waiting for the tide to slack, the salvagers aboard *Reclaim* decided to try using a new underwater camera they had aboard to see if they could get a clearer idea of what they had found. The operators of the camera — one of whom was the famous

Commander "Buster" Crabbe — managed to get the contraption over the side. When the device reached the wreck the searchers on board *Reclaim* were rewarded by a clear image of the vessel's name on the hull — it was the *Affray*. While the current was having the same effect on the camera as it had on the diver, the viewer's topside did get a glimpse of what was probably the cause of the sinking. The snorkel tube of the submarine was broken off at the base. Subsequent investigation carried out by divers, the use of a Galleazi observation chamber and the underwater camera, led to the conclusion that the main snorkel induction valve was in the "open" position and this, combined with the broken snorkel tube, resulted in uncontrollable flooding and the loss of the sub. Eventually, in November 1951, work on the wreck was suspended.

The loss of the *Affray* led to renewed interest by the Royal Navy in deep water



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The record breaking dive team. George Wookey is standing in the back row, third from the right.

rescue and salvage. A submarine rescue bell, of the same type used during the rescue of the submarine *Squalus*, was purchased from the United States, and Wookey and the other divers from the HMS *Reclaim* experimented with it down to depths of 500 feet. By June of 1956, Wookey was also experimenting with a new one-man observation chamber. Some 37 dives were made with this device off the west coast of Scotland and in the fjords of Norway, reaching depths between 400 and 1,060 feet.

These one-atmosphere machines were not the answer to all problems, however. Ultimately, men needed not only to reach these depths, but also be able to accomplish work while they were there. This seemed to mean that a flexible diving suit would be the best solution, but deep diving of this type was still in its infancy.

On August 28, 1948, Petty Officer Wilfred Bollard set a world record by diving to a depth of 535 feet in Loch Fyne. Diving off the *Reclaim*, Bollard had used a Siebe Gorman helmet fitted with a Davis Injector system and a helium mixture. Wookey must have felt that this limit could be pushed further still, and on October 12, 1956, he set out to break this record. Again diving from HMS *Reclaim*, he descended on a simulated submarine rescue mission to the depth of 600 feet in Sørkjorden, Norway. Wookey remained on the bottom for three minutes and then began the lengthy process of decompressing. His first stop was at 400 feet, where he remained for five minutes, then made subsequent stops every twenty feet. A decompression chamber with an assistant, Able Seaman Geordie Clucas, was waiting at 220 feet,

and when Wookey reached that level he was taken inside and his helmet removed. This chamber was then slowly raised in ten foot intervals until it rested on the deck of the *Reclaim*.

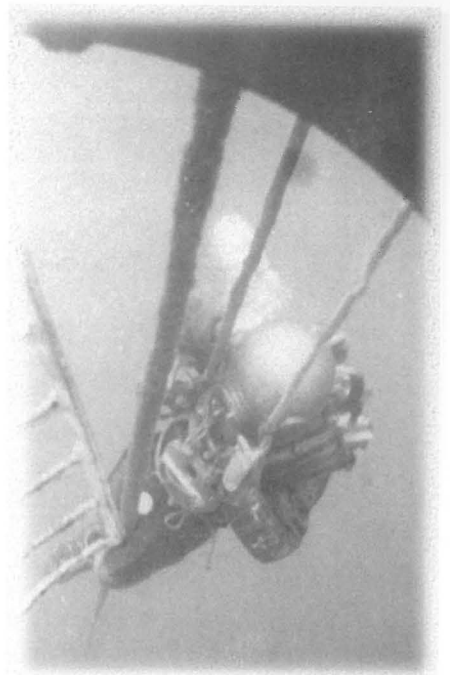
The journey was not yet over, however, for when Wookey undogged the hatch to the chamber he was hit by the unmistakable pains of the bends in both his arms and his back. He was quickly hauled out of the submersible chamber and in to a deck chamber and immediately put back under pressure. Five hours later, he emerged with no permanent damage. As a result of this feat, Wookey was appointed a Member of the Order of the British Empire (OBE). Despite this landmark work, the Royal Navy soon determined this type of deep diving to be too dangerous and suspended the operations.

In 1957, Wookey found himself assigned to the Fleet Diving School on Malta. During this period he found himself involved in a number of projects, both naval and civilian. Among other things, he was involved in investigating the sunken British submarine P-36, which had been wrecked in an air raid on the harbor on April 1, 1942. He also worked with the Italian archaeologist Piero Nicola Gargallo in investigating some giant marble pillars which had been found off the coast of Marzamemi, Sicily.

Wookey's next assignment was back in England, where he became qualified in mine and bomb disposal work. He was attached to the Army on Benbecula, Scotland, where he assisted in recovering Corporal missiles which were being test-fired out to sea. His weekends off were occupied with searching for the wreck of the S.S. *Politician*, a near-legendary ship which was sunk in 1941 with nearly 50,000 cases of whisky aboard. This

famous wreck kept the nearby island of South Uist well lubricated for months, and in fact there is a hole at Askernish, the local golf links, named in honor of the ship. According to local lore, every chimney and rabbit hole on the island was crammed with this liquid treasure. Compton Mackenzie later wrote a book about it titled *Whiskey Galore!* and in 1949 a film based on that book (titled *Tight Little Island* in the U.S.) was released. The *Politician* had apparently not given up all her treasure, however, and it is reported that Wookey managed to recover dozens of bottles in the course of his explorations.

1961 found Wookey on a clandestine operation of a different sort. A Russian spy trawler had gone down off the Isle of Yell in the Shetland Islands, and Wookey was sent to the region undercover to see if he could locate the ship and try to recover anything of value to intelligence. To his surprise, he found the wreck on his first dive sitting



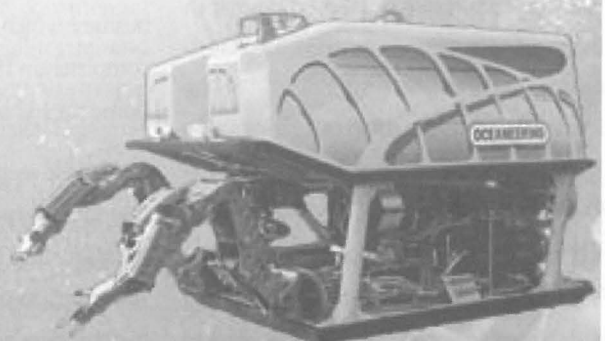
on the bottom of 90 feet of clear water. He apparently was able to recover some sensitive equipment for the Royal Navy.

Following this adventure, Wookey found himself in demand in a number of far-flung



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George diving standard navy dress. Note chest weight and hose and line tie-offs.

places. First he was loaned to the Royal New Zealand Navy. Commanding the diving vessel HMNZS *Manawanui* he undertook a survey of the oyster and mussel beds for the Fisheries Department. Next he returned to Malta, only to be loaned to the Jordanian Army, for which he trained personnel in diving and demolitions. With all this traveling and few hopes for promotion, Wookey decided it was time to move on to something new, so he soon resigned his commission and in 1966 found himself a civilian for the first time in his adult life.

Although retired, Wookey's life did not settle down. After spending a few years in

Malta, he sailed for New Zealand. After a multitude of adventures, including having his boat commandeered by police in the Red Sea and nearly being boarded by pirates off Indonesia, he made landfall in Freemantle, Western Australia. Here he set up a diving business which he ran until he finally retired completely in 1984. Ultimately he settled in a home on 162 acres of land at Witchcliffe.

It would seem that the world had forgotten this diving pioneer, but with the founding of the Historical Diving Society and its affiliates in various countries, a new appreciation of his work developed. In 2004, George Wookey

was a guest speaker at the Historical Diving Society (UK) conference held in Hull that year. This, in turn, led to the decision of the Norwegian HDS to celebrate the fifty-year anniversary of the record-setting dive at Bergen, the town nearest to which it took place. Wookey and his wife, Patrice, attended the 2006 event, along with the former Captain of the *Reclaim*, LT. Cmdr. Morty Drummond, and Ron Maitland-Flanagan, another diver who took part in the operation. In the course of the event a bronze plaque was unveiled commemorating the historic event and honoring the man who achieved it exactly fifty years earlier.

George Wookey passed away on March 21, 2007 at the Busselton Hospice in Western Australia. While the man himself is gone, his story and his achievements remain in the memory of diving historians, the pages of publications like this one, and on a small bronze plaque on a rock overlooking a cold fjord in Norway. In this way, George Wookey has surely secured his immortality.



Bibliography:

"Deep Diving Record." *Science* Vol. 124 (December 7, 1956), p.1141.

"Deepest Diver." *Time* Vol. 68 (October 29, 1956), p.59.

Hoole, Rob. "HMS *Reclaim* - A World Record-Breaker." *Naval Review* Vol. 94 (November 2006), [Reprinted in the *Historical Diving Times* 40 (Winter 2007), p.5-8]

"Lieutenant George Wookey - obituary." *The Daily Telegraph* [London] (April 6, 2007).

"Philoctetes Was Here." *Time* Vol. 76 (December 19, 1960) p.57.

Valentine, Reg. "George Wookey's Deep Dive - The Bergen Commemoration." *Historical Diving Times* Vol. 40 (Winter 2007), p.9-10.

Wookey, George & David Strike. "One Hundred Fathoms Down!" *Classic Diver* [Australia] 42 (Winter 2007), p.12-15.

The Japanese Divers of California

by Scrap Lundy

Scrap was the first 2007 Conference speaker and gave his much anticipated talk on the once thriving abalone industry. Scrap is the author of the definitive book on abalone diving. The California Abalone Industry — A Pictorial History by A.L. "Scrap" Lundy which was published in 1997 by Best Publishing Company. Scrap's talk encompassed the abalone trade, the traders and their equipment, and the abalone animal in detail. He backed up his talk with a power point display of rare and faded photographs gleaned from years of research and travel. As Scrap's talk was off-the-cuff, so to speak, we present the following from notes taken at the conference and references from his book.

— Editor



Diver is Delmar Reviea. Photo taken by Glen Bickford; circa 1938.

The picturesque Monterey coast was the idyllic setting for the Japanese abalone packaging plants. Offshore, helmeted divers harvested the abundant shellfish called *conchas nacara* or the California abalone. Shipped to northern restaurants and across the Pacific Ocean, the abalone provided a rich food source. However, though the records are scarce, it was the Chinese who first farmed the tidal zones commercially in the early 1850's. By 1853 hundreds of Chinese workers dried and packaged the meat for shipment back

to China where government control had banned their taking. Until 1900 no state regulations controlled the commercial harvesting of abalone in California and the result, not too surprisingly, was a rapid depletion of all species of abalone.

San Diego became the next and largest supplier of abalone but, by 1888, the Chinese fishing industry began to dissolve and the last record of Chinese abalone fishing was in 1905.

In 1898, Japanese immigrants modestly restarted the abalone industry with the more efficient helmet diving gear and their products sold principally to northern California restaurants. The demand for abalone "steaks" became so strong that, in the late 1920s, a second industry was started by caucasians some 130 miles south in Morro Bay. Eventually, the range of abalone harvesting would stretch from San Francisco in the north to Mexico at its southern end.

Of particular interest to the Conference audience was the diving gear first used by the Japanese and, more significantly, the evolution of that gear in the transition from abalone diving to oil patch diving. In 1898, three Japanese divers arrived from Japan with deep sea suits. The diving gear was

manufactured in Japan and was patterned after the mid nineteenth century Siebe Gorman Company equipment exported to Japan in 1878. In that same year Mankichi Masuda made Japan's first heavy gear abalone dive in the gear from England.

While the helmet assembly and pumps always came from Japan other pieces of gear were obtained or made locally. When the heavy U.S. Navy or commercial diver's suits proved unsuitable Japan sent over



Diver is Bill Pierce. Photo taken by Glen Bickford; circa 1936.

soft and flexible suits. Chest and back weights, of around twenty pounds each, hung over the diver's shoulders by ropes and were the customary change from U.S.

rigs where a weighted belt was used. This equipment remained unchanged until 1945, when ex-navy gear provided the first comm units from the MKV system. However, it must be said that the Japanese helmets were of slightly smaller volume and lighter weight, making them ideal for those spending hours moving about the bottom.

With the availability of the DESCO full face mask, light weight gear started to appear. Phil Widolf used one with an attached hood and in 1946 was the first to employ swim fins and then his new mask. His Widolf mask was a beautifully cast bronze affair with a simple five-armed spider head harness. In 1962, abalone diver Dan Wilson modified his Japanese abalone helmet with the addition of the second stage from a Sportsways single hose regulator in the front and a fitting for the Sportsways first stage on the belly valve. With this equipment he had a

poorman's Heli-Ox rig and dove it to 400+ feet to prove its worth. As a result Phillips Petroleum decided to give him a try in the oil fields and history was made. Meanwhile, Phil Widolf modified his mask with a single hose scuba regulator and the result was a reduced demand for air and a much smaller compressor and volume tank. This was the start of the modern light weight commercial demand helmets.

Scrap skillfully outlined the years following the initial Japanese involvement, the men who lived and died harvesting abalone, the boats they used and success or failures they endured. He even described the eight species of abalone and the five types considered worth picking up. Conference members thoroughly enjoyed Scrap's talk and many had questions during the lunch break.

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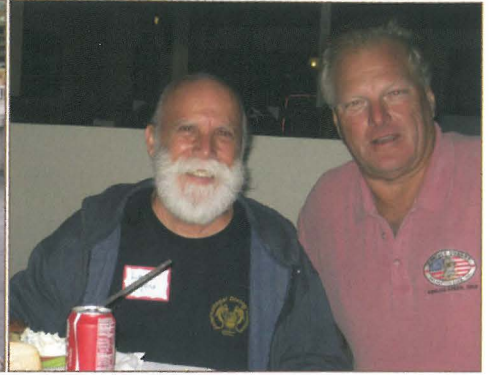
2007 HDS Conference in Tarpon Springs, Florida



Leslie Leaney, Mayor Beverly Billiris and Nick Toth go over the schedule for the 2007 HDS Tarpon Springs Conference.



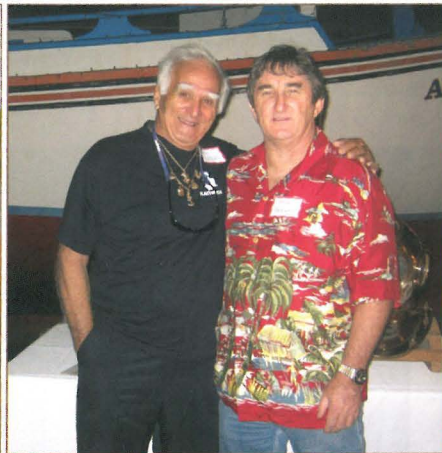
HDS members Charlie Orr, and Mark and Laurie Howell enjoy the evening festivities.



Leon Lyons and Jeff Rice discuss local cuisine.



Kristine Barsky with used Greek sponge helmet.



Phil Fatolitis and HDM editor Kent Rockwell.



Sam Merrill.



Kent Rockwell and Zale Parry relax at the Greek Sponge Docks.



HDS members Jerry Powell, Mark and Laurie Howell with Greek sponge diver Tasso Karistinos.



California Wreck Diver Ben Briggs examines sponges.



Greek sponge diver Tasso Karistinos and tender Lady.

PHOTOS ©2007 KENT ROCKWELL.

The DEMA Show 2007 Orlando, Florida

The DEMA Show, held on October 31 through November 3 of 2007, featured a new addition to diving history. DEMA and HDS-USA teamed to host a museum display booth to promote the history of recreational diving. This year, the TV series *Sea Hunt*, whose pilot show aired in 1957, was the chosen subject and was very well received by DEMA show visitors.



Left to Right: DEMA Executive Director Tom Ingram admires Decades of Diving booth; Leslie Leaney welcomes free-diving record holder Bob Croft to the HDS; HDS Director Carl Roessler with old friends Kay and Rodney Fox.



Left to Right: Bev Morgan, Phil & Don Slack and Zale Parry relax at DEMA; HDS members Bob Rusnak, Tom Ingram and Wayne Collins; Rodney Fox and Zale Parry pull the winning MK V helmet ticket.

PHOTOS ©2007 KENT ROCKWELL

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2007 NOGI Awards Gala

On November 1, 2007 over 150 elegantly dressed people filled the ballroom at the Rosen Centre Hotel during the cocktail reception of the NOGI Awards Gala. The Gala was sponsored by The Academy of Underwater Arts and Sciences in association with the Wyland Foundation, The Women Divers Hall of Fame.

The Gala emcees were TV's *Deep Sea Detectives* Rich Kohler and John Chatterton.



Left to Right: Zale Parry presenting Sarah Courbis with the 2007 Zale Parry Scholarship; Bill High received his NOGI for Distinguished Service from Mark Gresham; Bev Morgan presenting Bob Meistrell with the NOGI for Sports and Education.

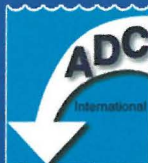


David Doubilet receiving the Wyland ICON Award from Dr. Phil Nuytten.



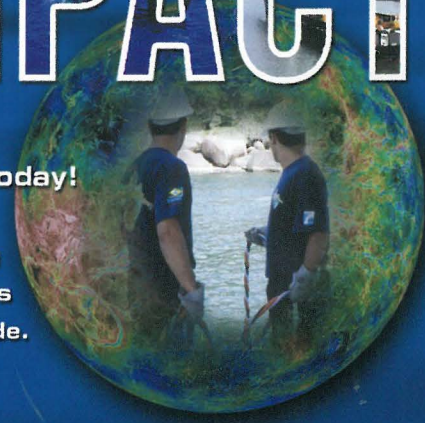
Wyland and Rodney Fox with his ICON Award.





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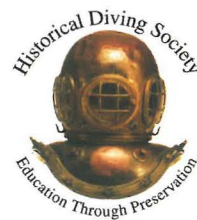
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Since 1937

USS *Squalus* Mark V Helium Helmets



Due to the increasing size of the USS *Squalus* HEO2 page on descocorp.com we have decided to spin it off onto its own website. Go to <http://www.usssqualusheo2.net/> where we will be transferring all of the info and pictures.

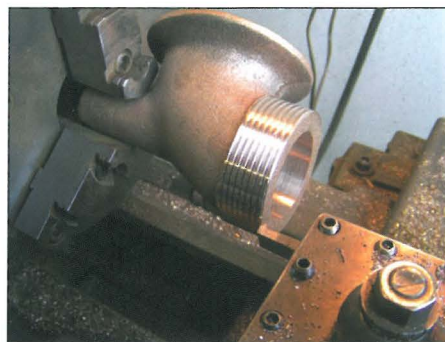
DESCO has been commissioned by the Historical Diving Society USA to produce 26 US Navy Mark V Helium Helmets to commemorate the successful salvage of the USS *Squalus*. This operation was the first practical use of Helium Oxygen diving, and was the culmination of years of research by the US Navy and civilian experimenters. The 26 helmets also commemorate the 24 crewmen and two civilians who were lost when USS *Squalus* sank during a training dive May 23, 1939. (See HDM #50, p. 6 & #53, p.10)



1) Pattern rack.



2) New canisters.



3) Machining a canister elbow.



4) Machining the front frame.



5) Buffed bonnets cut.



6) Breastplate assembly.



7) Assembling the parts.



8) Nearly completed helmet and breastplate.



9) The finished helmet and breastplate.

These helmets are the third commemorative series produced for the HDS. Each helmet in the issue will bear a special USS *Squalus* Commemoration tag, and will be numbered 1-26 to 26-26. The production run will be offered first to HDS members who were purchasers of previous commemorative helmets issued by HDS. Any helmets not claimed by the previous commemorative helmet purchasers will be offered to general HDS members. To obtain one of the remaining helmets contact Ric Koellner at 414-272-2371 or diveq@execpc.com.

http://www.descocorp.com/uss_squalus_mark_v_helium_helmet.htm

PHOTOS COURTESY OF DESCO.



Helmets of the Deep



TOA, Japan
California, USA, Conversion

On page 28 of HDM issue 52 we ran a photo of a TOA helmet that was part of the ADCI Hall of Fame exhibit at Santa Barbara Maritime Museum. We described the helmet as probably being modified by Al Hanson. Shortly thereafter we received a letter from member Jim Robertson, an edited version of which follows.



One helmet that caught my eye in your ADCI exhibit was a reworked TOA Sensuki commercial air hat, which you had also listed in issue 51 as a probable Al Hanson - modified helmet used in West Coast work. I recognized this hat right off as one of two T.S.K. air hats owned and used by Los Angeles-based diver Lee Hixon. Both hats were identical models but this one was Lee's personal one and stood out as being unlike anything I had seen up to that time. His other helmet had the look of a standard Kirby Morgan modification with Quitner air control, two-spring rear exhaust, screw-in Lexan ports, etc., but Lee told me that "his" hat he had done himself.

An extended inlet tube ran around the left side from the main gooseneck to the "star" handled control valve. The front breastplate straps were fitted with staple-shaped lashing brailes of 1/4" brass rod, rather than the more common circular rings. A USN MK V telephone receptacle and complete frontal

exhaust system were also installed, the banana tube having been heavily scooped with a wheel grinder at the top edge to accommodate the side port. The Japanese single-spring exhaust was retained at the rear. This dual exhaust feature was to facilitate working in various positions.

The entire helmet and breastplate were painted a thick coat of yellow, which by 1977, was weathered to nearly white. Many years earlier Lee had bought both these helmets for \$120 each from Arjona Industrial & Marine Supply in Ensenada, Mexico — who had been a major outlet for TOA and Yokohama gear on the Pacific coast. By the time I entered the picture and started working for Lee as an aspiring diver, the helmets were up to about \$650 each. At that time, Lee worked occasional diving jobs (mixed) in with his tugboat operations. Diving work, especially in the

oil patch, was extremely hard to secure on the west coast during the 1970s. Lee mused to me about the good bread that those two "Jap hats" had helped him earn throughout the years, but he also went on to tell me, in truly "expressive" terms, how rotten the diving business was, and that, "Anyone who wants to be a diver is nuts!"

I am planning to come up to the Museum and will keep an eye out for this old hat. No doubt there are some folk out there who know more than I do about this helmet's past and can straighten out my account. As far as I know though, what I have laid out is at least a foundational part of the story, which hopefully can add to this old helmets value as a piece of diving history.

Keep up the tremendous work.

Jim Robertson, HDS #990

It is uncommon to learn of a used helmet's provenance unless it comes straight from the actual diver or company. This was not the case with this TOA as Charlie Orr of California Classic Divers found it listed in a classified advert in his local newspaper. Jim's contribution provides a welcome and valuable history to this unusual piece of west coast diving equipment.

— **Leslie Leaney**



Dragon Sea

By Frank Pope

BY NYLE MONDAY

Occasionally, a book about a lesser-known shipwreck provides readers with something truly new and unexpected. Frank Pope's recent book, *Dragon Sea*, is just such a case.

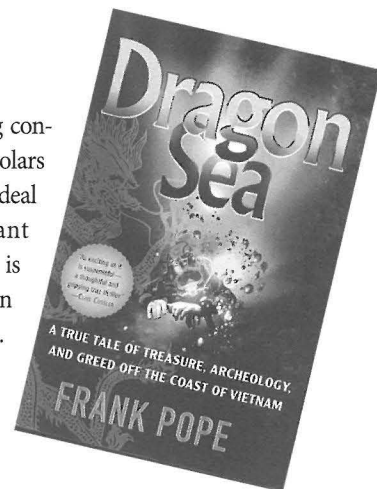
The subtitle, *A True Tale of Treasure, Archeology, and Greed off the Coast of Vietnam*, really sums the book up very well. It is a complex story of a complicated archaeological operation carried out in the South China Sea, some 22 miles offshore from the town of Hoi An and five miles northeast of the Cu Lao Cham Islands. Discovered by fishermen, this wreck turned out to contain the largest cache of Vietnamese ceramics ever found, writing a new page in not only Vietnamese history, but also the history of

trade in Southeast Asia. Written by a participant in the recovery effort, *Dragon Sea* is an engrossing tale of the realities of work in the open ocean. Readers who are familiar with the oil fields of that region may see a number of familiar names, for most of the divers who worked on the project were veterans of that trade. Even Reg Valentine, one of the stalwarts of the HDS in Great Britain, appears briefly in the pages as a participant in another shipwreck recovery.

This volume does differ from many of the other books in this genre simply because it explores the intricate relationship between the academic world of archaeology, the bureaucracy of governments and the cowboy mentality of the treasure hunter. The "smash and grab" school of treasure hunting, on land and under the sea, is dying due

to increasing concerns of scholars that a great deal of important information is being lost in the process. This has led to increased legislation throughout the world to protect cultural properties. Yet governments, while citing these high-minded concerns, are seldom interested in sharing the economic burden of carrying out an expensive archaeological "dig",

(Continued, Page 37)



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HISTORICAL DIVING SOCIETY U.S.A.



2007 Conference

The Tarpon Springs Conference again drew members from across America to the famed Sponge Docks for the city welcoming reception. Mayor Beverly Billiris was present at several Society functions over the weekend. Leon Lyons was an additional speaker at the Conference giving an update on the second edition of his book. The Society booth had the recently released books by Chris Swann and Bret Gilliam, and sold out of all available copies. HDS Chairman Dan Orr brought the DAN Board of Directors to the evening banquet where Bev Morgan turned up and bumped into friends Bob Kirby, Chris Rebuck, Scrap Lundy, and Steve and Kristine Barsky. Famed local sponge diver Tasso Karistinos was the successful bidder on the deep sea diving helmet donated by Jim Caldwell and auctioned off at the Banquet. Dr. George Bass received the *Historical Diver* Magazine Pioneer Award (as reported in HDM #52) and our ever-graceful Banquet speaker, Zale Parry, took us behind the Hollywood scenes of her diving career.

DEMA 2007

This DEMA marked the launch of the "DEMA Decades of Diving" booth which is a partnership between the Society and DEMA to promote the history of recreational diving. DEMA Executive Director Tom Ingram and HDS President Leslie Leaney came up with the concept to display articles that were introduced into diving in a series of decades. This year it will be items and equipment that appeared in any year that ended in "8." For example, an original French Scaphandre Autonome CG 45 regulator, first imported into the USA in 1948, will be on display at this year's 2008 "Decades" booth. For 2007 the theme was the 50th Anniversary of the *Sea Hunt* TV pilot conceived by Leslie and Kent Rockwell and exhibited by Bob Rusnak and Wayne Collins. Several items

of equipment connected to the show were on display and classic *Sea Hunt* episodes played on a flat screen monitor above the booth. Visitors included former free diving world record holder Bob Croft, John Chatterton, Richie Koehler, Stan Waterman, Wyland and Dr. Sam Miller. At the HDS booth Zale Parry and Rodney Fox drew the HDS raffle with Zale pulling the winning ticket for the DESCO USN Mark V helmet. Winner Keith Sterner, of Port Orange, Florida, was driving home from DEMA when he got the call that he had won. He returned and picked up his helmet within three hours of the drawing.

Donations

At the end of 2007 the Society sent out a letter requesting donations to assist with our programs. Several members responded and their contributions are recorded elsewhere in this issue. We appreciate their generosity to the cause.

Co-operative agreement with ISDHF

HDS Director Carl Roessler is an inductee in the Cayman Island's International Scuba Diving Hall of Fame (ISDHF), and a member of their Board. Carl felt that several areas of operation were similar between the Society and ISDHF, and with input from several HDS Directors drew up a co-operative agreement between the two organizations. This agreement is similar to the Affiliation Agreement that several international HDS groups have signed, but is more general in terms of co-operation with no membership benefits attached. Several HDS Advisory Board members are also inductees in ISDHF including Daniel Mercier of France, who was inducted earlier this year.

2008 Conference

In 2006 the Society invited the ADC Western Chapter to join us at our Conference in Seattle. As a result both the Conference and Awards Banquet were sold out to capacity. Following that event HDS Director Tim Beaver and ADCI Western Chapter Chairman Fred Aichele expressed an interest in having the two organizations work together again. The HDS was invited to participate in the ADC 2007 Western Chapter meeting in Santa Barbara to discuss another joint event. As the HDS Conference currently switches from East to West coast alternate years, the 2008 Conference was scheduled for Monterey, California, on October 17 - 19, the weekend before DEMA 2008, in Las Vegas. That was not a good time for ADC members to convene so it was moved to April 18-20. This shortened the lead time to put the Conference together, and drove most of the promotion onto the HDS web site (in prior years the magazine and bulk mailing were the main promotional vehicles). Fred Aichele has organized the Conference hotel on ADC's behalf while Nyle Monday and Sid Macken (who organized the Seattle Conference) have put together the speakers program. Tim Thomas agreed to host the Conference at the Monterey Maritime Museum and as we go to press ticket sales are going well.

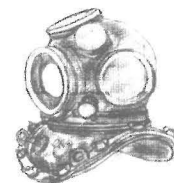
www.hds.org

Thanks to contributions from Peter Winkler and now Patricia Shannahan, the web site is gradually being overhauled and new features are being added. As each section is completed the web site will gradually surpass this magazine with updated information on HDS happenings. However, it will not replace *Historical Diver*. The majority of recent emails concern the second edition of Leon Lyons' book, *Helmets of the Deep*, and the website is updated at least once a month with new information.



HISTORICAL DIVING SOCIETY CANADA

Bel-Aqua Watersports Inc.

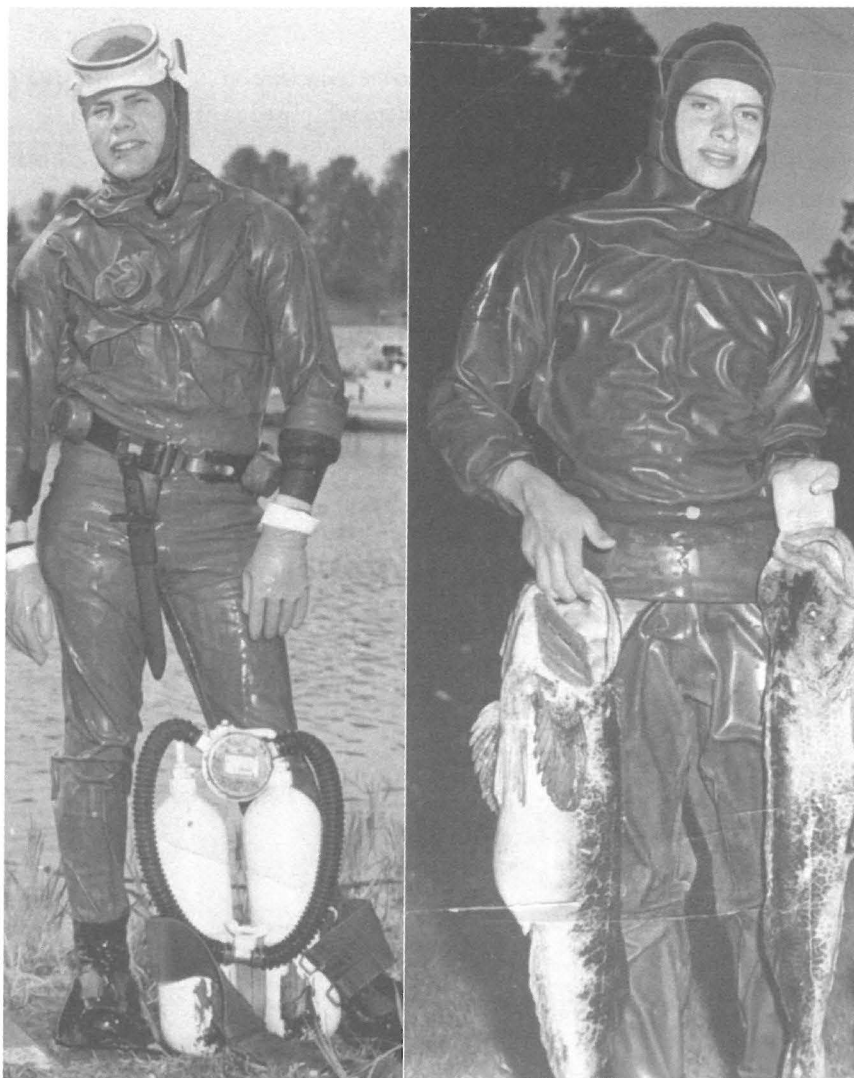


In a July, 2007 letter, HDS member Don Russell asks HDS-Canada president Phil Nuytten about the history of the Bel-Aqua dry suit he was wearing on page 31 of Historical Diver magazine. Phil's answer includes two neat vintage photos from 1953.

Hi, Don!

Gosh, sorry to be so very long getting back to you, but I just noticed that there was a message! I haven't had much time to poke around the forums over the past few months....

Bel-Aqua Watersports Inc. was founded and owned by Bill Barada of Santa Monica, CA. Bill's day job was as a fireman and he was one of the founders of a popular skin diving club called the Sea Lancers of Santa Monica. He was an avid skin-diver (breath-hold) and spearfisherman in the late 1940's, and had tried some surplus UDT "frogman" suits (these were made under military contract by U.S. Rubber) but found them very poorly cut for swimming and almost impossible to keep leak-proof. He and several friends built their own versions out of gum rubber hospital bed sheeting and Bill's were so good he wound up taking orders for suits that he hand-built at home. This soon expanded into the "Bel-Aqua" company — first in a small shop and later at a larger shop on West 54th Street in Los Angeles.



Left: Cam Porteus (Vancouver Skin Divers Club) wears a "Ply-a-Bel" front-entry Bel-Aqua suit. Whytecliff, B.C. Photo: Jim Willis, 1953.

Right: A very young Phil Nuytten with a two-piece (waist entry) "Ply-a-Bel" Bel-Aqua suit. The waist seal is single-ply rubber and is quite fragile: note patch in center. Photo: Jim Willis, 1953.

His original suits were back entry, then front entry, then two piece (waist entry), with the front entry by far the most popular. He was soon ordering batch lots of calendared, vulcanized rubber and had it pigmented a trademark dark green. By 1952 he had convinced US Rubber formulators to develop a two-ply material that was gum rubber on the inside (white) and a rubber/plastic compound on the outside (green). He called this material "Ply-a-Bel" when it was introduced in early 1953. I remember it well, because I ordered my first suit from him in '53 and they were sold out of front entries in the

new material — so I could have the old single-ply in front entry or the new stuff in a two-piece suit. I didn't like two-piecers because the waist seal material was very thin and fragile on the better suits (like the Pirelli) and thick and hard to seal in the lesser models (like U.S. Diver's "Seal Suit"). I liked front entries but decided to go with the new material in two-piece. The alternative was to wait — which, because I was a kid, was no alternative at all!

In 1957, Bel-Aqua introduced a radical new wet-suit design patterned after a bullfighter's garment and called it the "Toreador" design. It was an incredible breakthrough for us guys up in the Pacific Northwest, the divers in the Northern Great Lakes and the New England guys. For the first time, we could use

custom-made, really form-fitting wet suits instead of dry suits. Bel-Aqua made them in 3/16" Rubatex material and sold them in kit form — it didn't take any of us long to figure that you could get Rubatex in 1/4" and use the same Toreador pattern.

In 1957, I opened the first skin-diving shop in western Canada in Vancouver, B.C. and called it "Vancouver Divers Supply" (not terribly original!) I ran it after school (high school) and on weekends. I was a dealer for Bel-Aqua and used to talk to Bill quite often. He had branched into accessories to go along with the original "Bel-Aqua snorkel": speargun

stuff, masks, fins, etc. He became very interested in U/W photography and bought himself a 16mm Bell & Howell and a Sampson housing — I had a 16 mm Bolex in a Bolex housing and we had many good “discussions” on which was best!

Oh, yes, I should mention the ill-fated “Ply-a-Foam.” The “skin-two” Rubatex was quite fragile (no nylon lining in those days) and tore easily — particularly since the early suits were “pull-overs” (no zippers) that required your buddy pulling to get you out of the skin-tight suit — it was not unusual to tear an arm off the suit if he wasn’t careful. Bill figured the answer was to glue his dry suit material to the Rubatex foam neoprene. He called the new material “Ply-a-Foam.” It was not the answer. It was not even an answer, it was a dud. It was nearly impossible to keep the neoprene glued to the gum-rubber and if it didn’t delaminate, the suit was stiff as a board — like wearing a suit of armour! Not a winner at all.

Bill made a number of trips up to the Northwest, to film, and it was always a pleasure to see him here or on my frequent trips to California. Later, Bill decided to sell the business — around 1958, I believe. He cut a deal with Swimaster’s Dick Bonin for “Bonny” to buy the highly respected Bel-Aqua name, but I don’t think the deal was ever finalized.

Around that same time, the company that had carried out manufacturing as an OEM (original equipment manufacturer) for Bel-Aqua decided to enter the sales-end themselves, with their own version of the Bel-Aqua line of products. They called their new company “Aquala.” This led to some disagreeable stuff (this is really more the Barada family’s private affair now and not something I have any right to expound or conjecture on).

Bill Barada was a true pioneer in the dry suit business — he was a good author as well, writing tons of stuff for *Skin Diver* magazine, *Waterworld*, etc. He wrote a couple of diving how-to books and ghost wrote another and also collaborated with Lloyd Bridges on *Mask and Flippers* — a book rushed out to capitalize on the *Sea Hunt* craze of the late 50s.

Sorry this is so long, but it’s hard to scrunch some of this stuff down. By the way, I have about a dozen Bel-Aquas and Aqualas from that period — all the different types. The distinctive smell of that “Ply-a-Bel” rubber always brings back a lot of memories.

P.S. Historical Diver readers:

The above was a response to an inquiry on Bel-Aqua that was posted to me on the “Vintage Double-hose” forum. Editor Kent (Rocky) Rockwell thought it was interesting, and asked if he could run it in HDM. I said sure, but that it was just from memory, and might not be exact. Just a couple of things that may be of interest to readers: Bill Barada was inducted in the Diving Hall of Fame and received his NOGI in 1967. The next year, he and his wife Harriet embarked on a marathon journey with car and trailer, criss-crossing America, coming up to Canada for some memorable times and finally settling down in Florida.

Bill died in 1998, and though he had written a number of books, as mentioned, he never did an autobiography and that is a real shame. If there ever was a skin diving pioneer who deserved a book, or at least a full monograph, it was Bill Barada.

Regards
Phil Nuytten

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Germany's First Deployment of Combat Swimmers In 1915

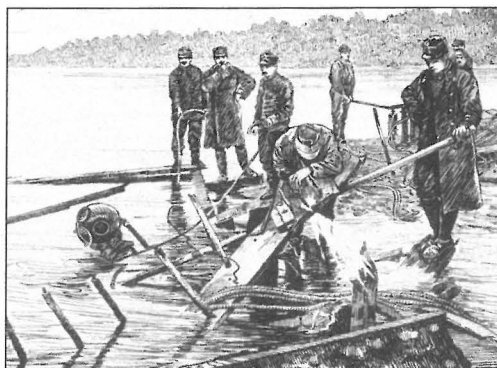
BY MICHAEL JUNG
TRANSLATION FROM THE GERMAN
BY JURGEN W. STEPHANY & KENT ROCKWELL

Deployment of swimmers and divers for military offensive operations has existed for hundreds of years. Ancient Rome, for example, used a professional diver's guild as mercenaries. Their military importance of how to swim was copied from their adversary ... the Germans.

Although the use of combat swimmers has a long tradition, the use of special equipment did not exist until the discovery of a method for curing Kautshuk (or better known as India rubber). Called vulcanizing, the process was discovered by Charles Goodyear in the year 1839. By combining heat and sulfur; the sticky substance was converted into a tack free and durable material. From this waterproof substance a light weight and flexible sheet material was eventually produced and this could be used to manufacture cold water suits.

The German military introduced their first lightweight swimsuit at the beginning of World War I. In the fall of 1914, the engineering research department of the Garde Engineering Battalion tested the new rubber suits which, like the heavy gear divers suits, covered the entire body. They were soon produced for both the working divers and the combat assault swimmers.

During the First World War it was thought that the first official assault by "Frogmen" took place in the waters of Pola Harbor when, on November 1, 1918, two Italian naval officers — Raffaele Rossetti and Raffaele Paolucci — sank the 21,000-ton Austrian battleship *Viribus Unitis* with the loss of some 300 sailors. These two officers, riding on the back of a modified torpedo, delivered its warhead to the enemy ship underwater. Largely unknown, however, was that some three years earlier German sappers conducted an in-water mission off the town of Kauen, a fortress city



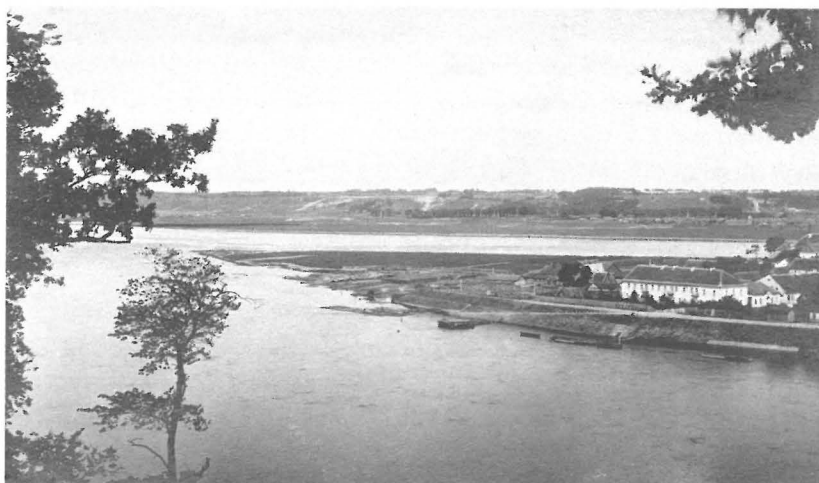
Top: Helmet diver in action with an underwater torching company.

Bottom: A frogman wearing oxygen regenerating equipment made by the HAG Company in 1915.

on the Memel River in North Eastern Europe. In 1915, these swimmers, from the 2nd Reserve Engineering (Demolition Experts or Sappers) Company in Stettin, trained in the Rhine at a bend in the river between the cities of Mainz and Wiesbaden. They were equipped with a one-piece waterproof suit that included a flotation sack and a belt with pockets to carry explosives and detonators. Integrated into the suit and boots, as flippers were unknown at the time, were small pockets for the storage of lead weights of different sizes to allow for neutral buoyancy. Their faces were covered with oxygen masks which allowed the frogmen to swim to and from their targets fully submerged. Their oxygen rebreathers were developed by the firm of HAG (Hanseatischen Apparatebau-Gesellschaft) in Kiel. Construction

was similar to the 1905 patent held by Henry A. Fleuss and Robert H. Davis (Pat. No. GB 190513604). One difference was that the swimmer could admit oxygen directly into his suit from the 100 bar cylinder if needed and then by opening a separate valve he could breathe from his suit. His exhaled air was recycled through a scrubber canister to remove the CO₂ and, alternatively, could be released into the suit or the water. An additional air-cleaning tank was attached to the back of the suit and patented DE 331.364.

Fortress Kauen is located in the middle of the country of Lithuania on the rivers Memel and Neris, some 100 kilometers west of the capital Vilnius. The second-largest city in Lithuania, with its strategically important central railroad connections, Kauen was heavily defended by the Russian Army. The German offensive against Kauen began on Aug. 6, 1915. After ten days of fearsome fighting, the Germans destroyed not only the fortress but satellite fortifications. This left only a Russian observation steamer anchored above the Neris River delta. On the night of August 17, five sappers and their leader, Sgt. Schäffer, using the newly issued swimming gear, entered the water. Randolph Kugler, an expert on the history of German combatants in the 20th century, talked with Sgt. Schäffer after the attack on the ship. Schäffer explained, "We could not use conventional firepower because the Russian vessel was blocked by a peninsula with a monastery on it. Artillery fire was not an option because of the Geneva Convention (of 1864) and so that left the new assault swimmer group. Each man received a waterproof tin box with approximately 50 blasting charges and detonators in it. The assault team roped together because of the strong current and made its way toward the target. Only absolute silence promised success. The only light for orientation was an occasional flare shot into the night sky to light up the target. Originally, the idea was to mount the explosives on both sides of the ship but due



Left: The enclosed diving suit was watertight and served as a breathing air sack at the same time. Right: The mouth of the Memel River where the underwater action took place in 1915.

to the strong current an alternate method was chosen. Fortunately, the team got a hold on the anchor chain and could attach their charges to strategic parts of the ship. One load was attached to the engines condensation pipes while others were mounted to the stern section around the ships screw.

Wire and ropes were used to secure the explosives in place. After finishing their mission

the team individually swam down river toward shore. From there they observed their work. With a couple of big bangs the ship was out of action."

This assault was the first proof of the suitability of this new kind of warfare. Unfortunately, other swimmer operations are unknown in World War I. In WWII, the German navy again participated in underwater warfare.

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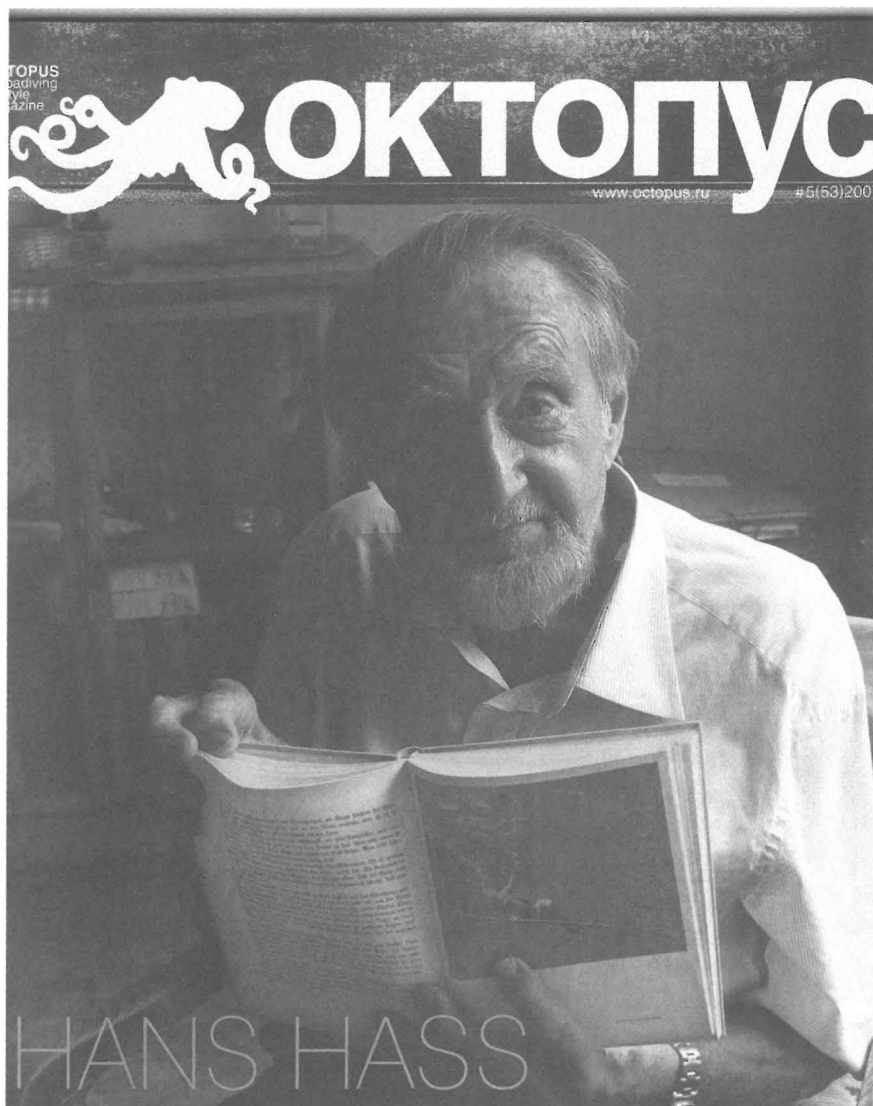
Recent Published History

A listing of recent articles on diving history and related subjects appearing in other publications. Please send submissions to the Publisher, at the Society address on page 1.

"Dräger's Portable Recompression Chamber," by Jeff Maynard. Following on from Jim Vorosmarti's article in HDM #50. HDS SEAP *Classic Diver* #44. www.classicdiver.org.

"*Carpathia* divers complete big expedition. International technical diving team recovers items from *Carpathia* located in 156 meters of water 225 miles from Lands End, UK." A news item in *DIVER* magazine, November 2007. www.divernet.com.

"Hans Hass. An overview of his career," by our Russian member Svetlana Murashkina, who was put in contact with Hans Hass through the HDS office. Color cover portrait of Hans taken at his office in 2007. The article includes a good representation of classic photos in both color and black and white. Text is in Russian and copies of this expansive publication are difficult to come by in America. *Octopus Scuba Diving Lifestyle* magazine, issue # 53, 2007. www.octopus.ru.



Svetlana Murashkina's *Octopus* cover story of Hans Hass.

"Reminiscing: 1963, a Momentous Year in Oil Patch Diving," by Bob Christensen. Former HDS Director and longtime Bev Morgan associate Bob Christensen recounts his personal observations and experiences from this important period in oil field diving history. *Offshore Diver* magazine, Issue #4, 2007. www.offshorediver.com.

"A Diver's Fantasy Land." A glimpse at part of the display of Leon Lyon's collection of diving helmets and related items. Five full-color photos from around Leon's home provide a taste of what can be expected in the forthcoming second edition of his *Helmets of the Deep* book. *Underwater* magazine, November / December 2007. www.underwater.com.

"Joe Vidrine. An interview with diver and flange skillet inventor Joe Vidrine." *Offshore Diver* magazine, Issue #4, 2007. www.offshorediver.com.

"*RUBIS*," by Jean-Maurette and Christophe Moricéau. Diving on the wreck of the French submarine made historically famous by J.-Y. Cousteau's early Aqua-Lung film about her. *DIVE Pacific*, Issue 103, December/January 2008. www.Dive-Pacific.com.

"How To Maintain Your Classic Diving Helmet," by Chris Gabel. Maintenance of a USN Mark V diving helmet. *Underwater* magazine, November/December 2007. www.underwater.com.

Dragon Sea, continued from page 30.

and academic institutions seldom have any money to finance them either. This means that the private sector is about the only source of money available. Ultimately, governments seem more interested in getting as big a share (if not all) of any conceivable profits as possible, as do the private backers of these projects; leaving the scholars to scramble for historical information before the recovered materials disappear into museums and auction houses. Much of this book is concerned with the uneasy alliance between these three forces, all of which had a role in the Hoi An recovery.

While this volume is a great adventure tale, it also holds a special appeal for those readers interested in the more technical aspects of diving. Interestingly, one of the features of this operation that sets it apart from most underwater archaeology projects was the commercial saturation techniques used. Indeed, rather than use volunteer and student labor commonly used on most such projects, commercial divers (most of

whom had never done this sort of work underwater) were hired from the off-shore oil fields of Southeast Asia. The entire project was an interesting mix of scholarly and commercial interests. For those of us who only have second-hand experience with commercial dive operations, the book provides a great deal of insight into the stresses and strains between the divers, the operators and the financial backers. Time means money to the latter group, but expediency does not always take into account the lives of the men doing the actual work. Conversely, for those of us with experience in archaeology, the concerns of the academic side to secure information as well as artifacts will seem very familiar.

Dragon Sea is not without its minor drawbacks, however. Although it is well illustrated with line drawings, this reviewer would like to have seen some photographs included. While the author does a great job of describing the people, equipment, etc., a few good photographs would have done a great deal to bring the reality of the project to life. Considering the fact that many of the recovered ceramics were auctioned off,

photographs of some of the retrieved objects (at least) would have been a natural inclusion. Unfortunately, line drawings do not communicate the true beauty of these artifacts and perhaps makes it more difficult for the reader to understand what the fuss was all about.

All in all, Mr. Pope is to be congratulated on an excellent book on an unusual topic. It is certainly a book that kept this reviewer coming back for more. Some readers may find the ending somewhat of a let-down, but perhaps that is because it was a let-down for the actual participants as well. Even so, *Dragon Sea* is a fine adventure yarn and a worthy addition to the library of anyone interested in history under the sea.

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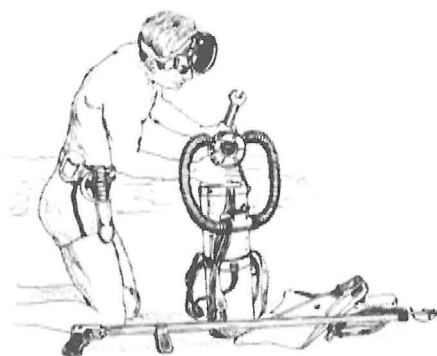
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SCUBA WORKSHOP

An Offer He Couldn't Refuse

BY STEPHEN K TAYLOR HDS-SEAP



Marlon Brando, in the film *The Godfather* said, "Make him an offer he can't refuse!" In 1960, the inventor of the first commercially successful single hose SCUBA, Australian gas engineer, Ted Eldred, felt he had been made that offer. The bank seemed to know, before he did, that he was going to be bought out, and his capital was not available to him anymore. Faced with competition that was willing to dump cheap equipment on the market, he sold the business he had built from scratch.

His Porpoise SCUBA had found high praise in Arthur C. Clarke's 1955 book, *The Coast of Coral*. The incredible breathing performance of the first Porpoise had been improved since then, with over 300 liters of air being vacuum assisted to the hard working diver. The Porpoise was designed to be modular in nature and over 12,000 units were made. The Porpoise "hookah," had outsold the SCUBA by 3:1, as compressed air was hard to find in those early days. The new Porpoise soon meant the end to the diving helmets being used in Australia's pearling industry in the north, and contributed to its eventual obsolescence. The modular design made changing from hookah to SCUBA extremely simple, so investing in a hookah and then up grading to SCUBA was very economical. After Ted sold his company, he was able to pay off his debts, but remained as an employee with the company for two more years. Depressed over losing ownership of his invention, he just walked away, without even a



Tony Eldred presentation: John McCormick, Steve Taylor, Tony Eldred with his "new" Porpoise and Tony Gregory.

single example of his work. Ted did have a few boxes of parts, but over the years, what was left was given to friends who needed to repair their Porpoises. With over 12,000 units being produced, it is hard to imagine that only about 30 prized examples still exist today and few of those still work.

Before Ted passed away, Australian HDS member Tony Gregory commented that he would like to find a Porpoise for Ted. It was a challenge, because Porpoises are cherished by collectors, and even those who seemed not to prize them so highly, suddenly became protective, whenever the idea of selling them was mentioned.

When Ted died, the opportunity was lost. Ted left behind a son, a daughter and several grandchildren. Partly because of the efforts of HDS members Jeff Maynard and Des Williams to recognize Ted's achievements, Ted's family became more aware and appreciative

of what he had done. A new opportunity was now available, to restore a Porpoise SCUBA to the Ted Eldred family. His son, Tony Eldred, was also a diver and had dived a small, specially made, Porpoise that Ted made for him, when he was just a boy. Tony had even used the Gagnan-designed Mistrals, left behind by Arthur C. Clarke, in 1954.

The early Porpoise SCUBA used German-made IWK cylinders,

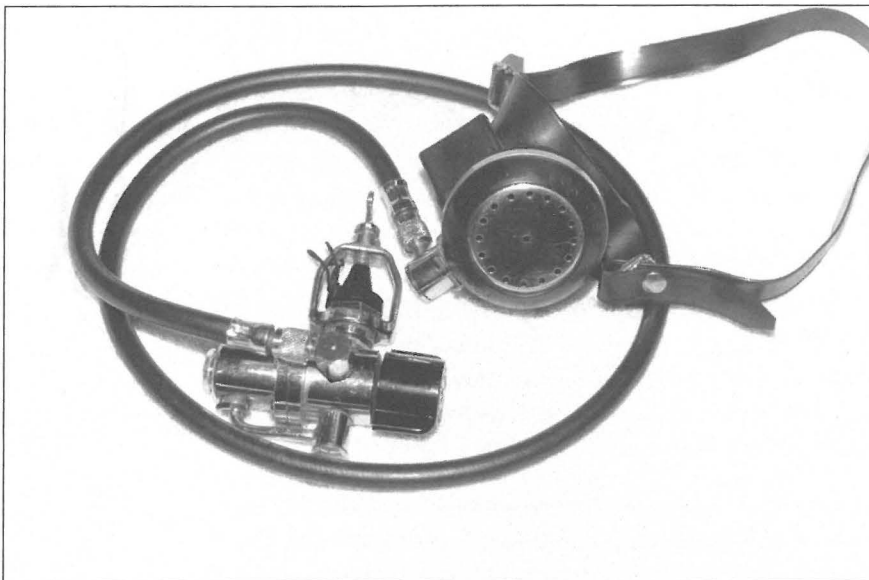
which were economical and almost indestructible. However, the rare valves used on these early cylinders are hard to maintain, as the parts are completely unavailable. For this and other reasons, it was decided to re-create the last model Porpoise sold by the new company Australian Divers Spiro Pty., Ltd. That model used an American 72 cu. ft. cylinder, with a U.S. Divers valve and back pack. These are easier to find and easier to service.

The idea was to make a working Porpoise SCUBA, which would include some parts actually owned by Ted. Ted had left behind a Porpoise Universal first stage reduction valve, the flag ship of his line. This was the balanced first stage that could deliver the air required by the Royal Australian Navy, and was unmatched by any SCUBA in the world at that time. The second stage was the problem. HDS magazine *Historical Diver* editor Kent (Rocky) Rockwell was the answer. Rocky had one of the few demand valves that were left, and that was not


a part of a complete Porpoise. Rocky quickly mailed the needed part to Australia. When I asked about a price he said, "For Tony, no charge!"

John McCormick, another member of HDS in Australia, provided the Australian Divers marked steel 72, tested and inspected at SCUBA Repairs, his Melbourne business. Tony Gregory, who had originated this idea, has begun to fabricate new parts, to allow him to restore Porpoise SCUBA and these were vital to the project. Tony produces the unique exhaust valves and diaphragms required by the Porpoise. He also makes the early model harnesses which have become so recognizable, with the release and publication of Porpoise pictures, from Ted's collection.

Finally, the last model Porpoise was complete, and Tony Eldred was made an offer he could not refuse. Tony had helped with the project, by allowing me to search the last remaining box of parts that Ted had left behind. These parts made the project special. It was not just a Porpoise, but one which his father had designed and, if only in part, had actually owned. So what was the offer he could not refuse? Tony was offered a free dinner, and the presentation of this special Porpoise — provided, he would have that



The last Porpoise.

dinner with the guys who made it possible. The presentation occurred at The Sportsman Club in Mordialloc (Melbourne) on October 15th. It was the first annual general meeting of the newly reorganized Historical Divers Society, (SEAP). What a great start to a new chapter for HDS in Australia. 



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Lanphier-Morin Chamber Patent

BY JAMES VOROSMARTI, M.D.

On December 22, 1970 a patent was issued to Edward H. Lanphier and Richard A. Morin for a Horizontal Wet-Dry Pressure Chamber. The new design was given the patent number 3,548,516 and was assigned to the United States of America as represented by the Department of the Navy. The application had been submitted on December 23, 1968.

The patent "concerns a means and method for accommodating experiments on personnel or equipment at very high pressures in a water environment wherein a water volume is maintained at one end of a pressure chamber and an air volume is maintained horizontally adjoining the water volume in the same chamber. No structure is introduced or necessary to divide the two volumes, an air-water interface being maintained in a horizontal plane by pressure conditions in the air volume of the chamber." This was neatly accomplished by the application of simple physical laws as will be evident.

A glance at Figures 1 and 2 shows the chamber in two configurations. The first is a chamber with two compartments and the second shows a double chamber. These are not different from other chamber configurations. What is totally different and is the key to this patent, is that both figures show water in one end of the chamber separated from the air space by a double barrier, the upper portion of which (22) overlaps the lower portion (23) with an air-water interface between them (25). These barriers, since the differential pressure between them and the air space is small, can be made of glass or Plexiglas to allow visual contact between the air and water spaces. They are held in place by a seal similar to a narrow bicycle inner tube which is filled with water. They can be steadied by pads welded to the chamber walls at appropriate intervals. The distance between the upper and lower barriers can be adjusted to provide a space large enough for divers to enter the water or can be completely closed.

To prepare the chamber for in-water experiments water is admitted to space (17) through inlet (29) until the required depth of water is reached in the space between the two barriers. Exhaust (32) is then opened to allow the air to escape from space (17). Then gas is admitted to space (18) through inlet (26) and the pressure is increased with concurrent addition of water to the wet area to keep the water level (25) at the desired height. Pressurization is continued until all air is exhausted from space (17) and the exhaust valve is then closed. This allows the pressure in the air space to be decreased to atmospheric to allow divers, support personnel or equipment to be introduced into the chamber.

The usual configuration of a research chamber complex consists of two or more horizontal chambers with a vertical chamber, or "wet pot", situated below and connected to one of them. The main disadvantage of this type of complex is that it is both expensive and requires more robust supports for all the chambers. There is little communication between the chambers for sampling and electrical communications involve adding through hull penetrations. There is also little

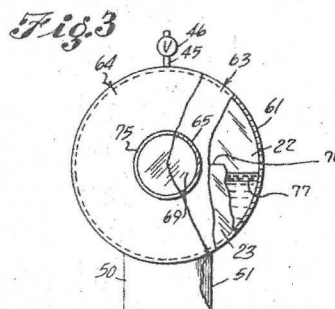
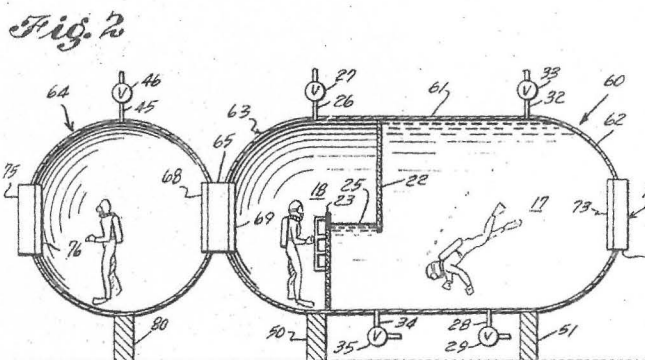
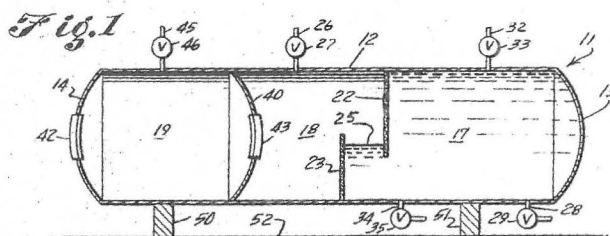
Dec. 22, 1970

E. H. LANPHIER ET AL

3,548,516

HORIZONTAL WET-DRY PRESSURE CHAMBER

Filed Dec. 23, 1968



Edward H. Lanphier
Richard A. Morin
INVENTORS
BY *C.E. Ventrone, Jr.*

FIGURE 1.

room for horizontal movement in the water and does not provide for easily done experimentation with the subject diver in reference to a zero point in the water column (no work can be done to investigate the effects of positive or negative breathing on the diver or equipment). The air-water interface in a horizontal chamber provides such a zero reference point very simply. This also allows easy balance between the diver and equipment and the measuring apparatus, which is very difficult and many times impossible in a wet pot. In addition, the wet pot has the added inconvenience of requiring a hatch and hoists or ladders to move equipment and divers between it and the chamber above. The movable barriers offer another advantage in that, in case of dives requiring minimal space in the air

section the barriers can be moved so that more of the total volume of the chamber is filled by water, decreasing the amount of gas required for pressurization. The transparent barriers provide a much better view of the diver and equipment than is possible in a standard wet pot. If there is a problem the diver can easily exit or be quickly removed from the water. Measuring apparatus can be maintained dry in the air space at the same pressure as the diver obviating the need for special housings, hull penetrations or access hatches.

A chamber in the configuration shown in Figure 2 was built and has been in use at the Center for Research and Education in Special Environments in the medical school at the State University of New York in Buffalo, since the early 1970s. It has been used extensively for work on respiratory physiology in the water and breathing equipment design. The chamber is pressure rated to 5,600 fsw (2500 psi, 170 ATA) and is presently man-rated by the Navy to 1000 fsw. The volume filled by water can be as much as 355 cubic feet. It is equipped with lights (exterior light pipes), fire suppression, and all the other systems needed to operate safely and to do human and equipment evaluations.

I was a Research Fellow in the Department of Physiology when the chamber was built and installed and had the privilege, along with Chuck Smith, a former Navy diver, of making the first manned dive in it. It was to be a 100 fsw dive just to check some of the interior equipment. All went well until, during decompression, the rate of decompression slowed and stopped. Through the ports we could see the topside crew was very upset and we were asked via the intercom if we were all right. When we answered "yes" they showed obvious relief but gave us no explanation of what was happening. The decompression finally continued uneventfully. When we surfaced we found the cause of the problem. As the decompression slowed the technicians had noticed a strong smell of burning and feared a fire. What had happened was that one of the aviator's breathing masks and hose (BIBS) for oxygen breathing had been sucked through an exhaust over which a guard had not yet been installed and had gotten stuck in the exhaust muffler atop the chamber. This was filled with steel wool and the mask and hose had temporarily blocked the exhaust until it ignited and burned away, along with most of the steel wool. Nothing remained of the mask and hose except the metal parts.

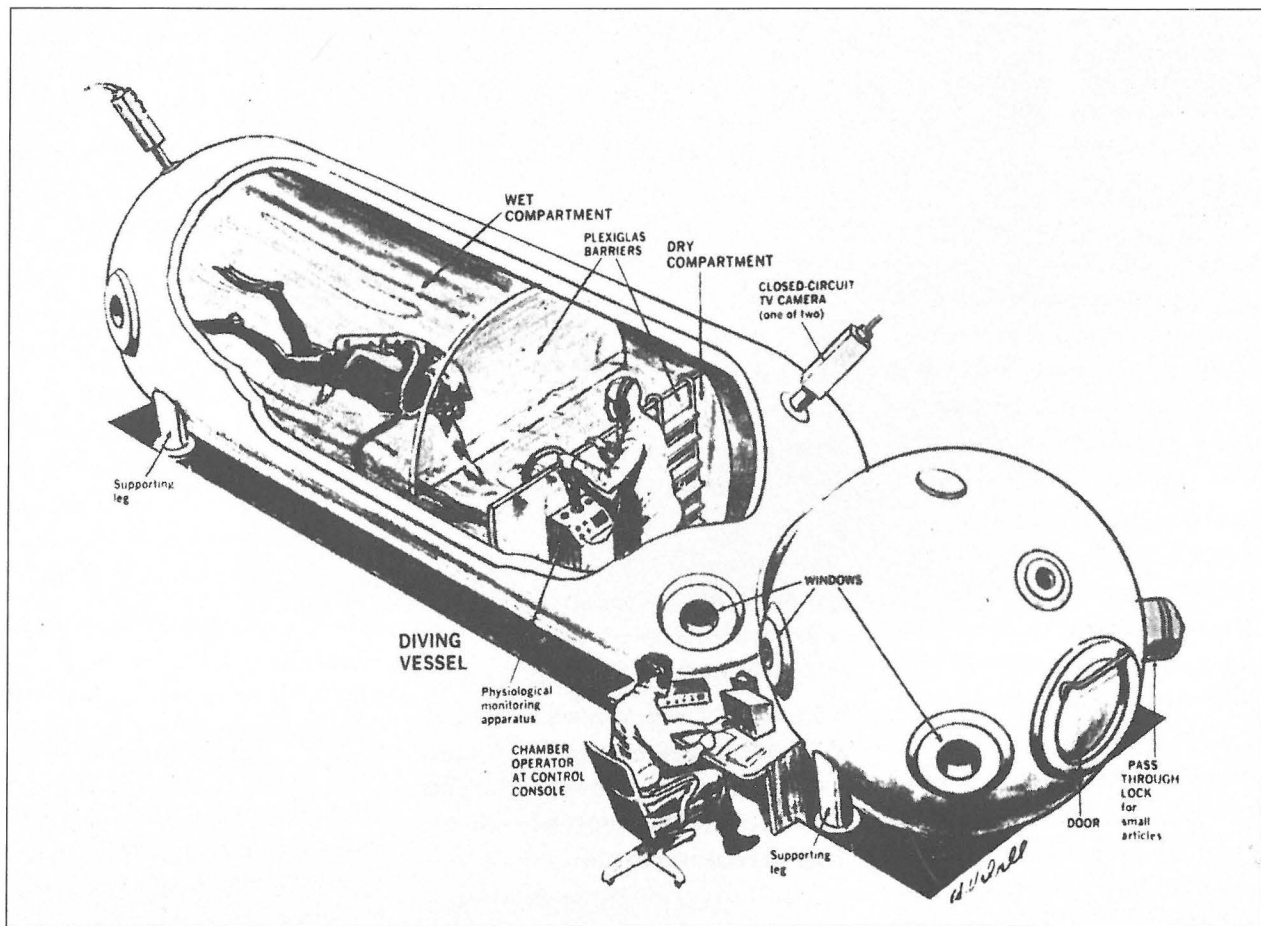


FIGURE 2. Drawing found in *MAN•WATER•PRESSURE*, volume II, by J.M. Canty, E.H. Lanphier and R.A. Morin. Chamber was built for the State University of New York at Buffalo. (Reprinted courtesy *Popular Science* c 1970 by Popular Science Publishing Co., Inc.)

Internet Auctions

The HDS-USA and HDM are not responsible for any errors in descriptions, listings or prices. Items that Failed To Meet their Reserve (FTMR) have their highest bids listed.

Internet auctions and sales during recent months. Prices are rounded to the next highest dollar. The content of this column is provided in good faith by members for general interest and is not a definitive guide. Vendors' opinions of what items are, and what condition is, are not consistent.

Helmet Auctions

AMERICA

DESCO, Browne Bob Kirby Commercial, dated 2001, serial #438. Appeared to be in unused condition. Lot included radio, boots, and weight belt. Sold \$5,000 (Photo).

DESCO, USN Mark V, date 3-25-43, serial # 211. Stated as all matching numbers. Early small volume model. Complete original tinning and in very good original condition with patina. Missing one flange nut, and chin button of exhaust. Sold \$6,375 (Photo).

DESCO, USN Mark V, date 4-4-44, serial # ?. No tinning but appeared to be in good condition and complete. This helmet had a very low Buy It Now price of \$1,140. That coupled with a seller location of Ukraine was enough to keep any knowledgeable bidders away and it closed with no bids.

DESCO, USN Mark V, breastplate date 6-6-45, serial # 2978, mismatched with a Schrader, USN Mark V bonnet. The pairing appeared complete, with no tinning and showed well. The lot included old dress and weight belt. Located in Canada. FTMR at \$9,100.

Lindbergh Hammar Helium recirculator, circa mid to late 1960's. Stated as serial number 1. These helmets were assembled in Carpinteria, California, and the auction listing referenced an article in issue # 18 of this magazine. Lot included an old dress. Sold \$6,101.



Left: Browne helmet, right: DESCO helmet.

Miller Dunn Style 3 Divinhood. Stripped to copper and brass and in good condition. Sold \$4,827.

Morse, USN Mark V, serial # 5169, WWII. The number and date on the manufacture's plaque had been filed off. No tinning but appeared in very good complete condition. Failed to sell at Buy It Now price of \$8,750.

Schrader, USN Mark V, date 08/43, serial # 8483. (Or possibly 848B) With tinning and appeared complete in good condition. Lot included radio, boots, & knife. Failed to sell at Buy It Now price of \$9,500.

Schrader, USN Mark V, date 09/43, serial # 626B. With complete original tinning and dark patina. Appeared to be very good original condition. Lot included dress and weight belt. Withdrawn early at \$4,350.

Swindell / Advanced 200 helmet with neck dam. Good condition. Sold \$2,400.

Swindell / Advanced air helmet with neck dam. Good condition. Sold \$1772.

JAPAN

Sensuiki Co., Tokyo, 3 light, missing straps, nuts, exhaust, & non-return. Three panel bonnet construction with tag. Stated as being from the estate of John Wayne. Sold \$1,285.

Kimura Ironworks, Nagasaki, 3 light, three panel bonnet helmet. Appeared to be in unused condition with heavy patina. Complete with tag. Located in Japan. Sold \$2,600.

TOA 3 light. Complete with tag and in good condition. Located in Australia. Sold \$2,702.

UK

Siebe Gorman & Co. Ltd. 12 bolt, serial # 6185, stated as matched. No tinning, no comms, with good patina. Located in Ukraine and payment by wire transfer only were warning signs for bidders, but the item received 15 bids and sold for \$810, several thousands of dollars under its market value. All indications were that it was a fraudulent listing.

Siebe Gorman & Co. Ltd. 6 bolt, serial # 12,423 on serial # 12,318. No tinning but appeared in very good complete condition. Stated as previously owned by USN diver Boots Servario. Sold \$5,533.

Siebe Gorman & Co. Ltd. 12 bolt, serial # 14,771 on serial # 15,798. No tinning but appeared complete. Bail-out connection on breastplate. Stated as used in Netherlands during WWII. No bids on an opening bid of \$5,000.



Scuba Auctions

VINTAGE SCUBA

US Divers (RENE Sports) twin 71.2 tanks, hydro 7/53 with K-bar, J-valve and bands. \$1231. (See photo)

SCUBA ACCESSORIES

Asian red rubber swim mask, circa 1940-1950, black tubing harness. Excellent cond. \$205. (See photo)

Nemrod "Crucero" series IV speargun s/n 00005, missing spear shaft. \$829.

Nemrod "Crucero" series IV speargun w/ spear shaft. Complete and excellent cond. \$543.

US Divers cork handled stainless knife and leather sheath, stamped "Made in France". \$225.

Viking back-pak aluminum plate with yellow nylon harness. \$112.

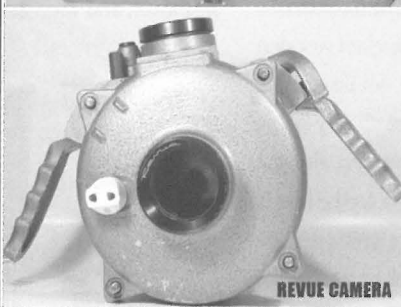
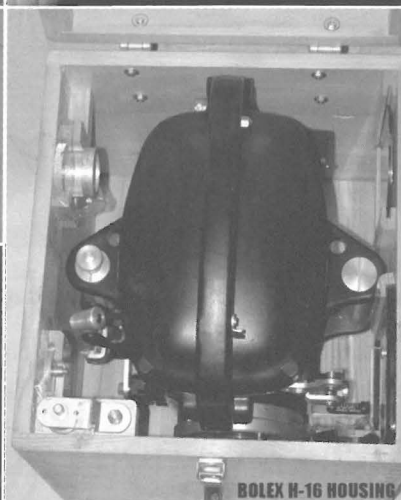
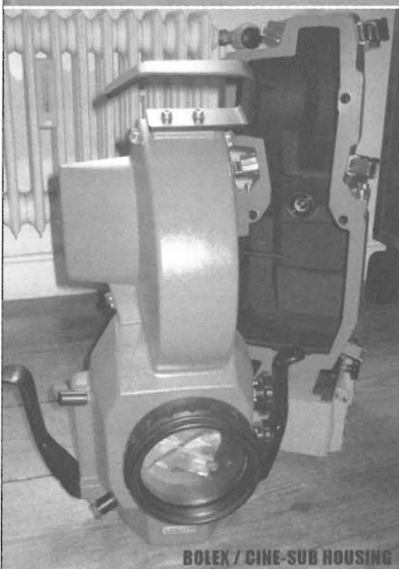
Voit Porta-Sub sea scooter, very clean, did not meet minimum of \$760. (See photo)

UNDERWATER CAMERAS

Calypso camera (serial #610), lens, lens shade and instruction book. \$899.

Calypso camera (serial #1535) and lens. Very good condition. \$620.

Calypso camera (serial #2985) and lens, original Calypso flash, Calypso Photo lens cover, Calypso manual, S.O.S. flash bulb mesh bag, original French Lafayette light meter and 22 1/2 volt battery.



Bolex H-16 housing by CineSub for Bolex Rex 5, EL, or EBM with 400 foot magazine. \$1151. (see photo)

Burns and Sawyer Battery case. \$100.

Hans Hass Rolleimarin housing, flash unit, canvas carry case and accessories. \$1,725.

Ikelite Housing for Nikon/ Nikkormat SLR camera, new in original box with all instructions. \$298.

Revue housing for Exa 35mm camera. \$295. (See photo)

BOOKS, FILMS & EPHEMERA

Aurora SEALAB III model kit, missing major piece. \$280.

Cousteau book, 1942 French edition *Par Dix Huit Metres De Fond*. \$2,125.

Divair manual, very late edition after company buy-out. \$67.

Fighting Sea Monsters, 1930s movie card featuring Col. John D. Craig. \$42.

Healthways "Automatic Harpoon Gun" brochure, 1949 brochure, very rare. Exc. \$90.

OUR NAVY magazine, 1944, featuring Navy Diving & Salvage History article. \$52.

Sportsways 1973 equipment catalog. \$48.

US Divers 1973 equipment catalog w/ J.Y. Cousteau on cover. \$34.

Voit 1966 equipment catalog w/ James Bond's Thunderball cover. \$180.

U/W CAMERA HOUSINGS

Bell and Howell 16mm movie camera in Hydrotech (Toggweiler) housing. \$315.

Bolex H-16 housing, badly peeling paint, included wooden case and accessories. \$500.

Bolex H-16 housing, camera w/ 10mm Switar lens, wooden case and accessories. \$25

Bolex H-16 housing, appeared to be nearly new condition. \$975.

Bolex H-16 housing, original wood case and accessories, appeared to be nearly new condition. \$1875. (See photo)

Classic Diving Equipment Groups

who are members of the HDS-USA. The activities of these groups are not official HDS-USA functions and the HDS-USA is not involved in any of the activities of these groups. This column is produced solely for the interest of our readers. Please consult the HDS-USA disclaimer at the front of this issue.



Hyperbaric-Hypobaric

BY JANICE RABER
PHOTOS © JAN RABER

Against the gray November sky, a mass of bubbles erupts on the dark surface of the Hudson River.

Three divers, dressed in traditional heavy gear emerge from the depths hauling a heavy silver object onto the riverbank. As they lose the buoyancy of the water, the cumbersome gear weighs them down, slowing their progress. The object they're carrying is a sealed aluminum hyperbaric chamber bearing a resemblance to an enclosed sedan seat. It is flanked by two ancient wooden oars, like those from an old whaling boat. While the chorus of an old sea shanty keeps time, they carry the heavy burden along a muddy path to an old red barn. In the barn's dim light a diver reaches into a lower storage compartment of the chamber and removes a vintage 1920s divers hand operated air pump. He attaches a hose from the pump to a valve inside the compartment and begins pressurizing the chamber.

Fade to outside and the divers, carrying the now unencumbered oars, walk back down the path to the riverbank and disappear beneath the rivers black water. Meanwhile, inside the barn the chamber opens. A cloud of mist disappears to reveal the figure of a beautiful water nymph wearing a dress of golden mother of pearl and delicate sandals with sea urchin heels. She walks the same path down to the



Left, Director Paul Etienne Lincoln, helps suit up Wayne Collins in the Mark V, assisted by Bob Rusnak. John Chominsky, right, waits for his helmet.

riverbank. Kneeling on the rocks by the waters edge, her eyes filled with sadness, she reaches into her sack and removes a living sponge. She raises it to her lips, kisses it tenderly, as if to a lost lover, and then gently releases it into the water. Fade to black.

The scenes were for the film production *Hyperbaric-Hypobaric* and needed vintage diving equipment and able divers. Director and screen writer, Paul Etienne Lincoln contacted Historical Diving Society member Bob Rusnak, who in turn enlisted the help of divers Wayne Collins, John Chominsky and yours truly, Jan Raber, to transport the needed equipment up to Garrison, New York. It seemed like an easy thing, just filming divers coming out of the water. They would not really be diving. Clad in gear from three continents, one diver would wear an Italian Galeazzi Helmet, the second a South American commercial helmet, both relics from the 1930's, and the third a U.S. Navy Mark V. There had been no mention of carrying a large object out of the water and across several yards of lawn in heavy gear.

While it all sounded pretty simple on paper,

in reality the "behind the scenes" activity had problems. To begin with, the first shot required that a diver completely submerge to create the bubbles on the water's surface. John volunteered and had to go some distance off shore to find water deep enough for the proper effect. While doing

this, the helmet's neck seal proved faulty and it began to leak chilly water into his suit. Not one to complain, John did it twice, because the first time he was not fully submerged. Little did he know that he would be sloshing around in that suit for a good part of the day!

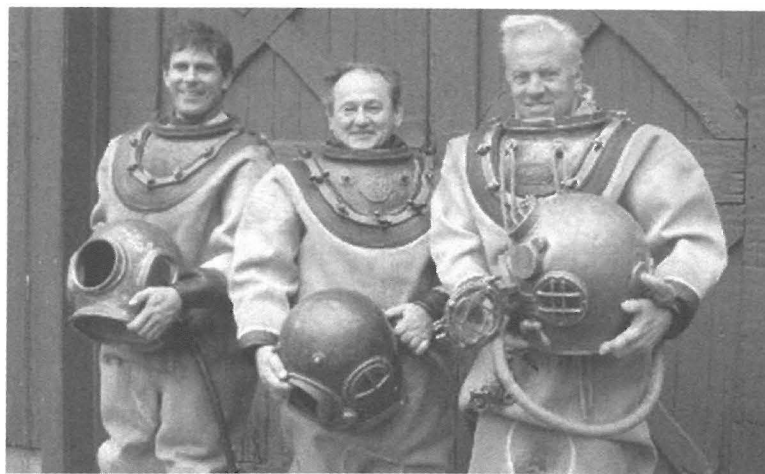
Getting the aluminum chamber to the water was reasonably easy because there were small wheels on its bottom, no one was wearing heavy equipment and it was down hill. It got complicated after that.

The "aluminum hyperbaric chamber" was supposed to be fully submerged and the divers were to lift and carry it out of the water. With no way to vent the air it should float like a cork. However, when we lowered it into the water, it began to fill up, not through the chamber seals, but in separate compartment on the bottom. In a short time it bottomed hard in about eight inches of water some ten feet from the shore and was almost impossible to move. It was clear we would need strong arms just to get the thing out, never mind submerging it. The Director was becoming frustrated, but not totally discouraged. He had a vision to

fulfill. Local people were rounded up by the director's wife, and film producer, Marissa Ferrarin. With a lot of pushing, shoving and lifting from behind (out of camera range) we managed to get it back on land. In between the inches of movement we got the film "takes."

So it went: divers appeared to be lifting and walking. CUT. Everyone was in the water, lifting and shoving for real. STOP. Camera rolls, as divers again appear to be lifting and walking. CUT. More strong-arm assistance. STOP. Camera rolls, and so on. CUT. Take a break. We all needed it, including the ever patient camera man, Sandro Carino, who spoke only French and politely ignored our grunts and groans throughout all of this. Each of our brainstorming ideas, suggestions, and the director's instructions had to be interpreted through his camera's eye.

Once on land it was quite a distance to the barn and the wheels were only slightly helpful in the muddy grass. Wayne, John and the third diver, a struggling actor named Luca Perucci, took off their helmets and we all assisted in moving the draining chamber to the barn. We suited them up again and prepared for the scene of actually car-



Top photo: L-R Luca Perucci with a South American Sponge Diving helmet from the 1930s-40s made in Chili. John Chominsky holding the Galeazzi made in Italy in the late 1930s. Wayne Collins has on the US Navy Mark V from 1943.

rying it into the barn. This went a little faster as the ground was slightly harder and the wheels proved their worth. The rest of it, I am happy to say went rather smoothly. The scenes with the lovely sea nymph, played by French actress and mezzo soprano, Nicole Renaud, were filmed with ease. Wayne, wearing the Mark V, was the first to carry the oar proudly down to the water. After the day's ordeal, the oar felt as light as a feather. (He is claiming star status now and will be happy to sign autographs.)

The Way the World Learns to Dive®



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Fast forward five months and the film's premier in the Alexander and Bonin Gallery in Manhattan. Thanks to the expert editing of Sandro and Paul, the hard hat diver scenes are absolutely fantastic and really set the mood. They take up about a third of the film and play an integral part of the whole production. The story is based on Undine's Curse — about a mythical water nymph with a mortal lover who professes his "every waking breath would be a testimony of his love." She finds him unfaithful and cursed that should he fall asleep, he would forget to breathe. Eventually, exhausted, he sleeps and his breathing stops. Even Marissa, Paul's wife says, in her charming British accent, that how this is all drawn into divers bringing a hyperbaric chamber out of the Hudson River is "somewhat complicated." Paul writes that *Hyperbaric-Hypobaric* investigates a poetic metaphor for the way memory is altered as a result of extremes in atmospheric pressure prior to falling into a coma as a consequence of Hypoxia.

The incredible gallery exhibit encompassed all aspects of the film and detailed studies of respiration in a very artistic way. It incorporated a multi-faced bubble form based on the model of a human breath and cast in ure-



Bottom photo: Bob Rusnak, actress/soprano Nicole Renaud, John Chominsky and Wayne Collins at the film premier. Hyperbaric Chamber behind them.

thane, a larger-than-life-sized etching on glass of an atmospheric diving suit, 300 clear engraved chain links each inscribed with the Latin name of a species in the evolutionary chain and a magnificent clear acrylic accordion that Paul himself had created. Speakers for the music in the film were hidden in shells suspended from the ceiling in the theater. For a better explanation than that you would have to see the film and the exhibit. The whole experience was all very enlightening and fascinating.

For information on the Alexander and Bonin Gallery visit www.alexanderandbonin.com or call (212) 367-7474.



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In Memory Ralph White 1941-2008

BY EDWARD C. CARGILE

We lost one of the true pioneers in diving ... Ralph White. He was an innovator, an experienced cameraman and a leader. Ralph White was born on Aug. 28, 1941, in San Bernardino, Calif., and grew up on the Big Island of Hawaii. He passed away on February 4, 2008, from a sudden illness. He was 66.

White had extensive experience as an underwater cinematographer. He proved his professionalism as Unit Director and other film production positions. His range of knowledge about diving and deep submergence was extensive.

He joined the U.S. Marine Corps and served with a parachute testing unit. His sense of adventure prompted him to volunteer for the elite Marine Corps Force Recon.

White was a knife-fighting instructor, became a master jumper and was one of the first parachute jumpers to film other jumpers during free falls.

In 1962 White pioneered the technique of para-scuba jumps, parachuting into water. As part of his Marine Corps Force recon training, White became a proficient diver. He went through military scuba training conducted by UDT Instructors at the Landing Force Training Unit in San Diego.

After his discharge from the Marine Corps, in 1966, White started a parachuting school in Lancaster. He was a freefall cameraman for the TV show *Ripcord*; and he photographed the World Parachuting Championships for ABC's *Wide World of Sports*. White made over 2,900 parachute jumps. He was co-inventor of the Bell Camera Helmet used for filming skydiving sequences.



Ralph White skydiving.

White had more than 45 years of experience in filming and photographing the ocean with over 400 television and motion picture credits to his name when he began filming television commercials.

He did extensive in-flight photography for the North American Aviation (which became Rockwell International) Test Flight Facility and underwater filming on several undersea projects for Rockwell International. He was an underwater still photographer and cinematographer on the Rockwell International deep undersea research submersible *Beaver IV* and worked on the support crew. Three other notable divers were part of that project were Dr. Andrea B. Rechnitzer, Joe Thompson and Ed Cargile. White filmed Cargile and Thompson locking out of the *Beaver IV*. Other Rockwell International projects White filmed and worked on included high-speed underwater vehicles, diver transport vehicles and diver performance tests.

White was an underwater cinematographer and editor for Bill Burrud's popular TV series *The Challenging Sea*, *Treasure*, *Islands In The Sun*, and *Animal World*. He was a field producer and cameraman for the Alan Landsburg television series; *The Amazing Animals* and *That's Incredible*. White was cameraman for

the television show *Man In The Sea*, produced by Col. John D. Craig; on *The Aquanauts* (1964), *Wanderlust* (1966), *Islands In The Sun* (1967), and the *Ron and Valorie Taylor's Great Shark Stories* (1978). He was co-host with Jack Douglas and the underwater cinematographer for the television series *Journey To Adventure* (1971).

His underwater cinematography assignments included many documentaries, such as *Loch Ness* (1976), *The Hydro Thermal Vents of the East Pacific Rise* (1978), *The Breadalbane Adventure* (1983), *Discovery of the Wreck of the R.M.S. Titanic* (1985), *The Beebe Project* (1986-99) and *Sharks* (1991).

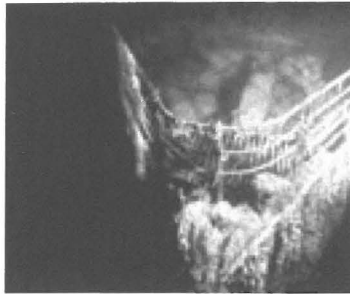
He shot the first underwater footage of blue whales, sperm whale pods and minkie whales in the waters off Sri Lanka. His other film credits include documenting the behind-the-scenes making of the motion pictures *The Deep*, *Tora-Tora-Tora*, and *Valley of the Dolls*.

For many years Ralph White used deep submersibles as transportation and a shooting platform to film some of the deepest and largest shipwrecks in the sea.

His films challenge the deep submersibles; the complexities of mounting special still and cinema cameras, along with powerful lights, to document what man has lost on the bottom of the sea.

As Director of Photography and Motion Pictures, White worked with Dr. Bob Ballard to document the expedition that found the wreck of the RMS *Titanic* in 1985 at a depth of 12,600 feet.

White was Director of Submersible Operations and Deep Underwater Imaging, and



**Top: White aboard a submersible.
Bottom: The bow of the *Titanic*.**

motion picture cameraman on the French Expedition using the manned deep submersible *Nautilus* during dives to the *Titanic* in 1987 and 2000. Over 1,800 artifacts from the *Titanic*'s debris field were recovered. During this expedition, White qualified as co-pilot of the *Nautilus*.

In 1991, White was Director of Photography and Principal Cinematographer for the Russian-Canadian-American Expedition that filmed the *Titanic* on the world's largest motion picture format, IMAX. The resulting spectacular IMAX film was *Titanica* (1992). White's footage from this expedition was also used for the television special *Titanic: Secrets Revealed* (1998). The Soviet deep submersibles *MIR I* and *MIR II* were used for the filming operation. He was the second person hired for the major feature film by Jim Cameron, *Titanic* (1998). White was Expedition Leader and Cameraman for the Academy Award-winning feature film.

One of his biggest challenges occurred in 2001, when White obtained stereoscopic 3D-HD-TV footage of the *Titanic*. This footage was then converted to 70mm film for presentation in IMAX theaters. White was Operations Supervisor of the *Medusa* ROV for Jim Cameron's 3D-HD-TV film spectacular

IMAX film about the *Titanic*, called *Ghosts Of The Abyss*. He was Technologies Coordinator for Cameron's live broadcast from the deck of the ship for the Discovery Channel's *Last Mysteries of Titanic*.

He was also the Deep Sea Imaging and Guest Wreck Expert for the History Channel's *Titanic's Last Moments*.

White made 35 dives in three deep submersibles down to the *Titanic*. He was part of the *Titanic* Expeditions in 1978, 1985, 1987, 1991, 1992, 1995, 1999, 2000 and 2001.

For more than 25 years, White was a contract cinematographer for the National Geographic Society. His work with the National Geographic Society included the search for the Loch Ness Monster and diving through the ice to find a sunken ship 123 miles from the North Pole (the *RMS Breadalbane*). With National Geographic cameraman Emory Kristof, Ralph White pioneered the development of advanced remote cameras, 3-D video, H.D.T.V., and deep-ocean imaging and lighting systems.

His assignments for National Geographic included *Loch Ness*, *Surguga Bay*, *Wild Horses*, *Reptiles*, *Sharks*, *The Beebe Project*, *Ring of Fire*, *Exploring Siberia's Lake Baikal*, *Deep Sea Geysers*, *Monterey Canyon*, *Discovering the Titanic*, and *The Great Whales*.

White was involved in many feature films as Director of Photography, Unit Director, Technical Advisor, Writer and other positions. As Chief Executive Officer for White-Pix Production, White was an independent film and video producer of television programs, commercials, sales and industrial films.

He was active in several professional organizations: Associate Member of the Deep Submersible Pilots Association; Fellow of the Explorers Club (1982-2008); the Adventurers Club (President, 1982), The Academy of Underwater Arts and Sciences (Vice President, President and Chairman of the Board), and

several photographic societies. White also commanded the Los Angeles County Sheriff's Department Photographic Unit.

For his contributions to diving and deep technology, Ralph White has received many awards and honors:

A Knight of the Military and Hospitaller Order of St. Lazarus, a Knight of the Order of Constantine, and the recipient of the Cross of Scotland for his filming and conservation accomplishments.

Best Cinematography Award for a Documentary at the World Television Festival in Cannes, France (1966).

Grenoble Film Festival Gold Medal (1966).

Emmy Award for Best Documentary on the National Geographic Society's *The Great Whales* (1977).

Golden Eagle Award (1977).

Cindy Award (1977).

Golden Halo Award (1984).

Certificate of Merit from the *Titanic* Historical Society (1985).

Titanic Gold Medal by the Oceanic Navigation Research Society (1987).

NOGI Award for Arts from the Underwater Society of America (now presented by The Academy of Underwater Arts and Sciences) (1992).

Chapter Chairman of the Explorers Club (1994-1996).

Lowell Award from the Explorers Club (2000).

Inducted into the California Wreck Divers' Hall of Fame (2001).

Explorer In Residence, the Canadian *Titanic* Society

Life Member, the U.S. Navy Salvage Divers Association

Ed Cargile is a Program Manager, Engineer, Commercial-Military Diver and Submersible Pilot. He is a Writer (with over 1,740 published articles and four books), and a Business-Marketing Consultant.

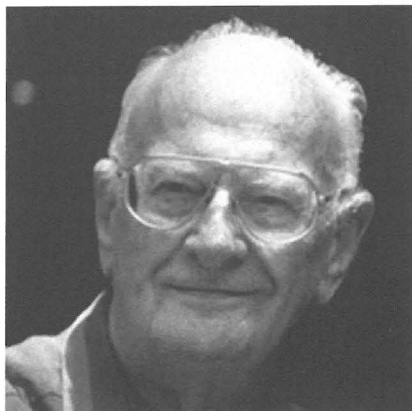
In Memory Arthur C. Clarke 1917-2008

British science fiction writer Sir Arthur C. Clarke died March 19, 2008 in his adopted home of Sri Lanka at the age of 90. Since 1995 the author was largely confined to a wheelchair by post-polio syndrome. He died at 0130 local time (2000 GMT) of respiratory complications and heart failure, according to his aide, Rohan De Silva. The author had married in 1953 and was divorced in 1964. He had no children.

Until his health declined, Arthur C. Clarke was an expert scuba diver in the waters around Sri Lanka. He first became interested in diving in the early 1950s, when he realized that he could find underwater, he said, something very close to the weightlessness of outer space. He settled permanently in Colombo, the capital of what was then Ceylon, in 1956. With his partner Mike Wilson he established a guided diving service and school for tourists and wrote vividly about his diving experiences in a number of books and novels, beginning with *The Coast of Coral* (1955, 2007), *The Reefs of Taprobane* (1956), *Boy Beneath the Sea* (1958), *The First Five Fathoms* (1960), *Indian Ocean Adventure* (1961), *Dolphin Island* (1963), *The Treasure of the Great Reef* (1964, 1974), and *Indian Ocean Treasure* (1964) just to name a few.

Sir Arthur achieved his greatest fame in 1968 when his short story *The Sentinel* was turned into the film *2001: A Space Odyssey*. His visions of space travel and computing sparked the imagination of readers and scientists alike.

A farmer's son, Sir Arthur was born in Minehead on the Somerset coast of England on December 16, 1917. His interest in science fiction stemmed from the pulp magazines left by American sailors and he began writing



Arthur C. Clarke.

stories for fanzines during his teens. Sir Arthur was educated at Huish's Grammar School in Taunton. His family's lack of wealth stymied his university ambitions, so he took a job as an auditor.

He was a radar specialist in the RAF during the Second World War, an experience that would later be dramatised in the novel *Glide Path* (1963). After leaving the forces he was finally able to take his degree and graduated with a first from King's College, London. He became a member of the British Interplanetary Society and worked on the very first development of telecommunications satellites.

He is credited with formulating the geostationary orbit, an orbit at the same speed as the earth's rotation and known as a "Clarke orbit." When asked why he never patented his idea for communication satellites, he said: "I did not get a patent because I never thought it would happen in my lifetime." According to the astronomer Sir Patrick Moore, he forecast men on the moon by 1970. "I'm sure we would not have had men on the moon if it had not been for Wells and Verne," he told the US Congress in 1975. "I'm rather proud of the fact that I know several astronauts who became astronauts through reading my books."

Sir Arthur's detailed descriptions of space shuttles, super-computers and rapid communications systems inspired millions of readers. He was the author of more than 100 fiction and non-fiction books, and his writings are credited with giving science fiction a human and practical face. Sir Arthur sold his first story to *Astounding Science Fiction* in 1946. His first novel, *Prelude to Space*, was written in a 20-day period in 1947, but it wasn't published until 1951, by which time he had a strong reputation as a short story writer. After moving to Sri Lanka he became a full-time writer. He continued writing a book every two or three years over the next two decades, as well as short stories, articles and two "scientific autobiographies." He wrote three *Odyssey* sequels which followed on from the film's variation on the plot rather than the novel's. He then presented a pair of television series of sci-fi adventures. He was also known for his long-running correspondence with C.S. Lewis in the 1940s and two of the visionary authors' letters were published in 2003.

"Sometimes I am asked how I would like to be remembered," he recalled recently. "I have had a diverse career as a writer, underwater explorer and space promoter. Of all these, I would like to be remembered as a writer. Arthur C. Clarke's accolades included a CBE, a knighthood, a Nobel Peace Prize nomination, a distinguished vice-presidency of the H G Wells Society and the highest civilian award from his adopted home country of Sri Lanka.

This is a compilation of various and multiple Internet sources, book jacket biographies, the Triton magazine article of November-December 1963 and Sir Arthur C. Clarke's own writings.

In Memory James D. Watt 1951-2007

The community of underwater photographers has lost one of its guiding lights, as James D. Watt has succumbed to lung cancer after a 15-month battle. Though only 56 years old at his passing, James Watt has left behind an enduring legacy of powerful artistic accomplishments, and equally fervent friendships. Jim lived on the big island of Hawaii.

Watt owned and founded Oceanstock.com. Born in 1951 in Los Angeles, Calif., he started scuba diving in 1965 at the age of 14. His early marine experiences included commercial diving projects as well as operating commercial fishing and charters boats.

In 1982, started to photograph the marine environment and had developed into a successful wildlife photographer. Many of his images have been published in more than 300 books and magazines worldwide. Jim traveled the world in search of subjects which included right whales in Patagonia and great white sharks in Australia's southern ocean. Jim's wildlife art prints are displayed in many marine parks, museums and well over 2 million homes worldwide.

I initially met James Watt when he signed on to one of Island Dreams' first Wakatobi excursions. This was during the "good old days," when the already arduous journey culminated in a 22-hour boat transfer from Kendari to Wakatobi on a rusty cargo ship. Jim was my roommate at Wakatobi in a tiny non air-conditioned, room crammed with ice chests and photo gear. When not spending five hours per day underwater, we had plenty of time to share ideas and to begin to come to know one another.

Before the journey, Jim made a big point of explaining to me that he had not joined



the trip to pursue photography, but because he was burned out on working and needed a vacation. All that was quickly forgotten as our first Wakatobi day dawned and Jim was out the door on the fly shooting topside photos of pristine beach and palm trees. He went on to create artfully composed images of local fishermen, baby sharks and amazing sunsets, and some of the finest underwater images every produced at Wakatobi.

Our friendship began in the age of film, but Jim signed on to my following year's Wakatobi tour, when we both showed up with Olympus 3040 point and shoot cameras. He also brought with him one little plastic Inon submersible housing, just produced, which we proceeded to fight over for the rest of the trip. James Watt immediately saw the budding potential of digital, and the future of photography.

Jim was the first of the professional underwater photographers to boldly abandon his complete line of Nikon gear, as he switched to Canon and that innovative company's first forays into digital SLR's. His first housing was a beautiful German job, custom produced for him at no small expense. I looked over his shoulder as he made its first dives on an exploratory cruise to Irian Jaya on the original *Kararu* liveaboard. It was exciting to perceive Jim's palpable joy as he explored the

possibilities of instant photo feedback, while finally exceeding the austere limitation of 36 exposures per dive.

Due to his well-honed skills and prescience regarding digital, James Watt effectively gained a five-year jump on the rest of the professional wildlife photography world. Jim even posted "how to's" on the Internet U/W photo chat boards, explaining why it would work, and exactly how he did it.

In Houston, Jim graced the SEASPACE Film Festival on multiple occasions, and presented some of the most valuable underwater photography technique workshops that were ever offered. His presentations to the Houston Underwater Photographic Society contained even more advanced content and precious insight. It is a poignant sadness for us all that Jim's advancing illness and the rigors of chemotherapy forced him to cancel, at the last moment, his long-awaited participation in SEASPACE 2007. This is a man who will be missed by so many.

James Watt was a professional wildlife photographer of exceptional talent, a highly skilled technician, and an artist of great creativity. Watt had no fear of sharing the bounty of his vision. Along with his infectious smile, warm way with the local Indonesian children, his love of adventure travel, a good joke, a savored drink, general *joie de vivre*, it is Jim's sharing and caring spirit that I will always remember, and strive to hold alive in my own heart.

Good diving brother Jim ... we miss you greatly already. But you will not be forgotten. With much love and respect, words by Ken Knezick of Island Dreams and mini-bio on the Ocean Stock website. <http://www.wattstock.com>.

In Memory Herbert "Bert" Kilbride 1914 - 2008

Herbert "Bert" Kilbride, age 93, died in Etna, Calif., on January 8, 2008. He was born March 8, 1914 in Springfield MA, to the late Thomas and Sylvia Duquette Kilbride. Bert moved to South Florida in 1945 and was in the construction business. He moved to St. Croix, USVI, in 1956 and moved to the British Virgin Islands (BVI) in 1964, living there until 2005.

Bert called himself the "Last Pirate of the Caribbean." He was a diver for almost a century and a treasure seeker for over five decades. He was an inventor, a builder, a contractor, and an entrepreneur. He bought and developed two barren islands and owned a SCUBA diving tour business for 30 years. In the 1960s he created the "Resort Course" for the beginners interested in SCUBA diving. It is now taught worldwide under the name "Introductory SCUBA Course." In 1987, he was awarded the NOGI Award for SPORTS/ EDUCATION for the creation of the resort course. He was made the "Receiver of Wrecks" by Queen Elizabeth in 1967 and called a "Pirate" by others in the BVI Government when he would not produce a map of the shipwrecks he had found on Anegada Reef (138 wrecks). In the 1990s, the



photo by Ted Huemmler

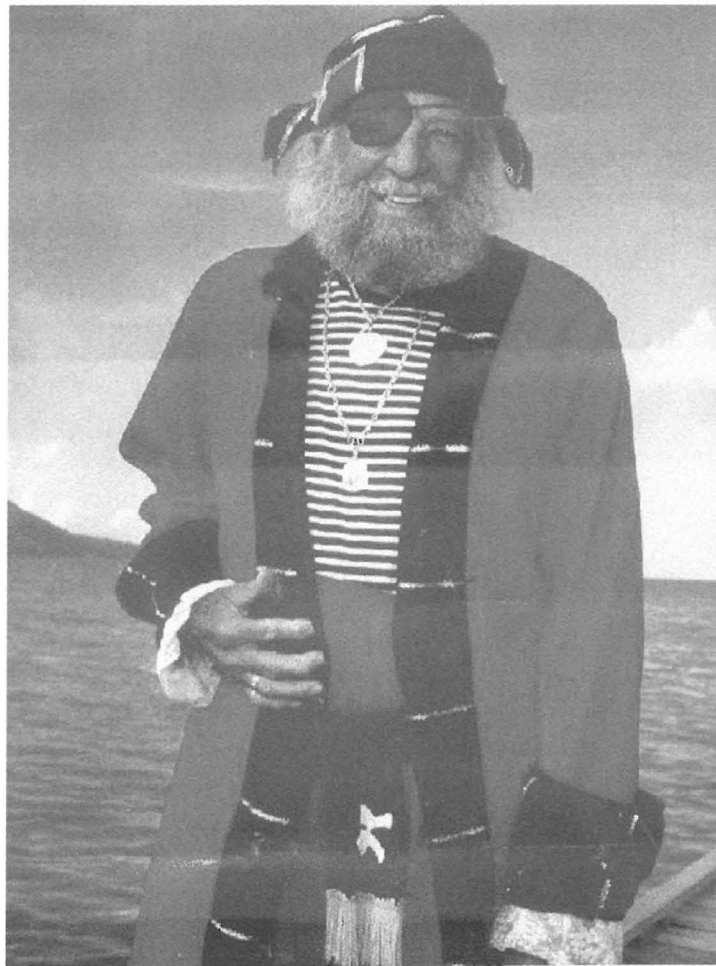


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governor of the BVI called him a "Living Legend" in his speech on the radio. In 2004, for his 90th birthday, *Guinness Book of World Records* proclaimed him the "Oldest Scuba Diver" in the world.

Bert is survived by his wife of 20 years, Gayla, his sons Gary, Burt, Michael, Patrick (wife Linda), James (wife Susan), Tyrel Kilbride and step-son, Dan Valls; daughters, Ellen Christopher and Jeanie Mesler; grandchildren Patrick, Christina, Kathleen, Maureen, Ryan (wife Catlin), Katie, Jacob, Shaun and Dylan Kilbride, Lloyd Christopher, Bryan and Kimberly Mesler and Kelly (husband Jorge) Nunez; great-grandchildren Ben Vennard, Brianna Marshall, Spencer Christopher, Sean, Christopher and Kailyn Nunez; his brother, George Kilbride; and his sister, Sylvia O'Connor. He is further survived by numerous nieces and nephews and their families, other relatives and many friends. In addition to his parents, his brother Everett preceded him in death.

There was a "Celebration Of His Life" held on March 9, 2008 in the South Florida area and a "Gathering of His Friends" on Saba Rock in the British Virgin Islands in the late afternoon on his birthday March 8th, 2008.

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Reviewed in HDS Vol. 14, issue 3. This 230-page book documents the hardhat divers of the British Columbia waters. Richly illustrated with many period pictures. Priced at \$25 with US postage. Call Bruce Lanham at #650-898-9663 or e-mail boblanham1@comcast.net

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INFORMATION WANTED

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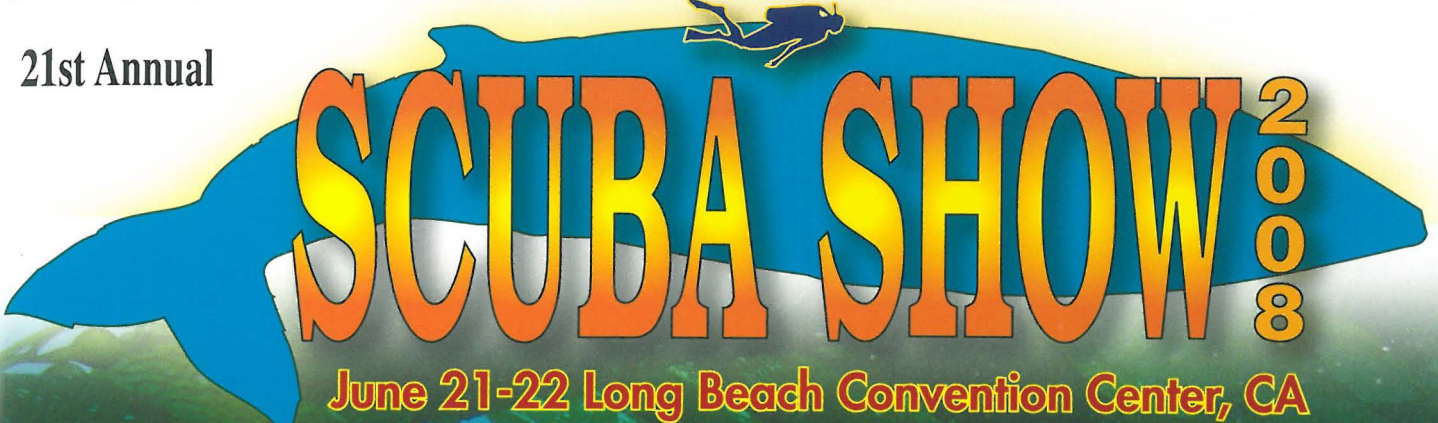
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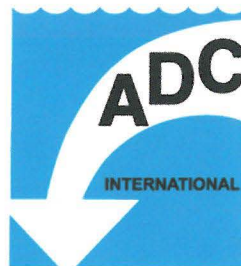
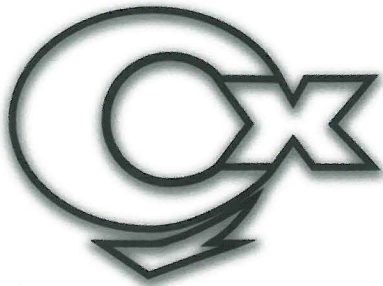
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