HDSUSA 2003 Conference Proceedings
A Brief History of Diving in Tarpon Springs
Behind the Japanese Mask - The Strange Journey of Ohgushi’s Peerless Respirator
HDS-USA 2004 Conference

Banning’s Landing
(Near the site of the Sparling School of Deep Sea Diving)
Wilmington, California
September 25, 2004

Emile Gagnan and the Aqua Lung
Phil Nuytten, President, HDS Canada
A presentation covering the latest research on Gagnan, including many new facts and details on the man who co-invented the Aqua Lung. Several examples of early Cousteau Gagnan regulators will be available for inspection.

The Commeinhes Scuba Apparatus
Philippe Rousseau, Vice President, HDS France
A paper covering the history of this little known French scuba apparatus that is very similar to the Cousteau Gagnan Aqua Lung. It reached a depth of 53 meters off Marseille in June 1943, which was around the time that Cousteau did his first sea dive with the Aqua Lung. A unique opportunity to learn about the history of the equipment and inspect a rare working model.

A Brief History of American Underwater Photography
Sid Macken, HDS-USA E.R. Cross Award Recipient
A paper highlighting some of the pioneers of American underwater photography, and examples of their work, including C.F. Barton, J.E. Williamson, W. Beebe, Fenimore Johnson, E.R. Cross, Jerry Greenberg and others.

More than Nine Lives
Norma Hanson, Women Divers Hall of Fame inductee
Working with her husband Al, Norma had a 40+ year career as a deep sea diver. Her recently published book on their diving adventures is almost sold out. Norma will present an overview of her career illustrated by rare photographs and footage, including recently discovered underwater TV footage of Al cutting himself out of a diving dress and making a free ascent.

There will be exhibits of rare equipment and a special exhibit relating to the career of E.R. Cross. Conference tickets are $25 including lunch.

HDS-USA Conference Banquet will take place the same evening at the Marina Hotel, San Pedro.

Guest Speaker Andreas B. Rechnitzer, Ph.D.
The Genesis of Scientific Diving in America
Banquet tickets are $55, seating is limited

Save $5 with a Combined Conference/Banquet ticket for $75

Tickets available from the HDS office at 805-692-0072 or by email at hds@hds.org.
Conference Hotel is the Marina Hotel, Port of Los Angeles/San Pedro, located on the water front. HDS Conference rooms rate is $99 plus tax. Early reservations are strongly recommended. Call 310-514-8945. Visit the hotel online at www.marinahotelsanpedro.com
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HISTORICAL DIVER Volume 12, Issue 2, Number 39 3
A Brief History of Diving In Tarpon Springs
by Nick Toth - page 19

As arguably the most famous diving community in America, the inhabitants of Tarpon Springs, Florida have a rich and colorful immigrant history to call on. As the grandson of renown Greek machinist and helmet maker, Anthony Larios, Nick Toth has stayed true to his roots and become an authoritative ambassador for Tarpon Springs. Under the tutelage of his grand father, Nick committed to keep the tradition of helmet building alive in his community. In doing so he learned of the history of the immigrant Greek divers and the unbroken family chain of this father-to-son industry. In this paper Nick traces the origins of the Tarpon Springs divers back to the Dodecanese Islands of the Aegean Sea. He explains the shallow water harvesting of sponge by the hooking method, and the traditional free breath-hold diving methods. With the introduction of the diver’s helmet and compressed air pump work in deeper water was achievable, but at a terrible cost to the diver. An estimated 10,000 divers were killed between the mid 1800s and early 1900s. By 1905 the first divers began to appear in Tarpon Springs and, Nick tells of the expansion of the community and the economy that grew. He also provides details about his own family and how he selected an unusual career that honors his family’s Greek heritage.

Behind The Japanese Mask. The Strange Journey of Oghushi’s Peerless Respirator
by Nyle C. Monday - page 25

As one of the world’s most obscure pieces of diving equipment, Oghushi’s Peerless Respirator has drawn the attention of investigative diving historians around the globe. Prior to the establishing of the various international Historical Diving Society groups, most of what was known about the equipment in the English speaking world came from a 1970 article in Triton Magazine by Captain W.O. Shelford. This was primarily based on an English language sales catalog for the apparatus. The origin of this surprising scuba equipment dates back to the early part of the last century in Japan. Presenter Nyle Monday has an interest in both the history of Japan and the history of diving, so he was well suited to the search for more details of this invention. In 1996 Nyle’s early research was published in Historical Diver Magazine. The article generated correspondence from various international members, with the most intriguing information coming from HDS Russia’s Dr. Alexander Sledkov. In reviewing the diving equipment inventory in the Saint Petersburg Naval Museum, Dr. Sledkov located an original Oghushi mask and has accumulated a wealth of information regarding the use of the Oghushi system in the Soviet Union. Acknowledging Dr. Sledkov’s vital contributions to this paper, Nyle takes us back to the Deane era of the Sevastopol wrecks of the Crimean War, the introduction of Wantanabe Riichi, the discovery of various patents, and a 1922 eye witness account of the equipment in use in the Australian pearl fields by Surgeon Lieutenant G.D. MacIntosh R.N.. Plus more. This paper perfectly illustrates the co-operation between, and contributions by, various HDS members from different international Societies, all of whom receive their due credit. It is an example of the highest ideals upon which the HDSUSA was founded.
The romance of sponge diving is captured in this postcard image from Tarpon Springs, Florida. For more information on early sponge diving, see Nick Toth’s paper on page 19.

OTHER FEATURES

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Editorial

A change in the editorial tide

As has been well recorded in the pages of this journal, the editorial staff has a constant battle to try and keep the production of the magazine on schedule. The reasons for this are familiar to those who have stuck by the HDS during its formative years: too much work, too few qualified volunteers and too many other Society responsibilities for Andy Lentz and I to attend to. It has been a 12-year battle. The magazine always eventually gets out, but seldom on schedule, and both Andy and I feel that the recording of American diving history deserves better. So, we are making some changes and setting some goals, which will require the support of all involved in the administration of the Society.

First, Andy has resigned from his volunteer position of Office Manager and volunteer bookkeeper. By the end of this financial year his involvement with the Society will be purely as Production Editor for this magazine. Secondly, we have recruited some extra help for the magazine, with Kent Rockwell assisting me with the content, and Steve Barsky relief-pitching for Andy. The production of this issue is done solely by Steve, while Andy is working on the next issue. Hopefully this “two-issues-at-the-same-time” production schedule will get us back on track by the end of the year. Thirdly, although I have edited every issue of this magazine, I have no training in this area, and the same is true for my position as the Executive Director of the Society. Everything is a best faith effort as each position competes with the other for full attention. The end result is that neither job is done correctly, which is a constant frustration for me, and everyone hoping for a better magazine and a more efficient Society.

In the coming months I shall be working with the Board of Directors on a plan to hire someone to eventually replace me as your editor. Once a replacement editor is hired, I will be able to fully concentrate on the Executive Director’s position.

Readers will no doubt notice that in this issue we have only published two presentations from last years conference. The reasons are as follows. One of our scheduled speakers, Ralph White, had to cancel at the last minute due to a work commitment with Advisory Board member James Cameron. We were fortunate enough to have John Broadwater replace Ralph, but John’s presentation on the diving operations on the Monitor were “on the fly,” and no paper was submitted or prepared. Tracy Robinette was another speaker, but he lost his Powerpoint presentation the evening before the Conference opened, and was not able to resurrect it. Tracy’s presentation was also “on the fly,” but continuing ill health has prevented him from re-compiling his notes into a printable paper. We all wish Tracy a full and speedy recovery.

HDS Note Card

The Society is pleased to reintroduce a series of note cards featuring original historical diving images. The cards are produced to the Society’s normal high standards and are blank inside, and can be used for any occasion. This first historical image is of a deep-sea diver talking to two young children. It is scanned from an original color print circa 1900, and carefully reproduced on 80 lb. cover stock using the latest color reproduction technology.

The cards come in boxes of 10, with white envelopes, and are limited in supply. Card dimensions are 7” x 5” and mail domestically with a standard US Mail 37-cent stamp.

Boxes of 10 cards and envelopes are $15 each, plus $4 domestic p&p. CA res. add 7.75% sales tax. Discounts apply for bulk orders. 4 to 6 boxes are $14 each, 7 to 10 boxes are $12 each, and 11 boxes and above are $10 each, plus p&p. Contact the HDS office at hds@hds.org or 805-692-0072 for p&p details. All proceeds benefit the HDS-USA.
Kent "Rocky" Rockwell Named Associate Editor

We are pleased to announce the appointment of Kent "Rocky" Rockwell, to the position of Associate Editor of *Historical Diver Magazine*. Rocky became interested in scuba diving in 1955 while studying *National Geographic Magazine* articles. By 1958, TV's *Sea Hunt* series had forged his desire to dive and in 1959 he taught himself to skin dive in the Genkai Sea, off the western coast of Kyushu, Japan. He undertook formal scuba training with the Kappa Diving Association, on nearby Brady air base, and quickly developed an interest in the vintage scuba equipment used in WWII. Little did he realize that the tools, parts, and manuals he collected back then would one day serve him in authoring *Historical Diver Magazine*’s "Scuba Workshop" column.

In 1964 Rocky moved to Las Vegas, Nevada, and joined Whamco Divers, eventually buying the store from its owner, Harry Wham, in 1973. He established himself as a freelance commercial diver working in, and under, some pretty amazing desert locations. During the period from the early 1970s to the early 1990s he pursued his interest in professional motorcycle racing and WWII aircraft restoration. But his mask and fins were always in his travel bag.

A chance meeting with Leslie Leaney at the Pomona, California, Great Western gun show in 1993, introduced him to the Historical Diving Society, and he became a Charter Member in December of that year. From that day forward Rocky has been a strong volunteer supporter of the HDS and its’ goals. Over the years he has represented the HDS at numerous dive shows, military gatherings, and dive club meetings. He recently served on the Board of Directors for a five-year period, leaving that post to join the staff of *Historical Diver Magazine*.

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LETTER FROM THE CHAIRMAN

A Force of One

I would like to take this opportunity as the Chairman of your Board of Directors to thank the previous Board of Lee Selisky, Howie Doyle, Bob Wohlers, Kent Rockwell, and Jim Cunningham, for providing us with their guidance and energy to help stay the course of your Society. I’d like to welcome your new Board members Bob Hollis, Vickie Christiansen-Hiebert, Bob Wohlers, Mark Young, Tom Maddox, and Bernie Chowdhury, and thank them for bringing to our Society their expertise and enthusiasm to continue moving the Society forward in these most challenging post 9/11 times.

As we all know, the post 9/11 world is a far different place. This is especially true for non-profit organizations, such as the HDS, that have no significant source of revenue other than what they receive through membership dues and sponsorships. This makes support from individual members like you extremely important. Well, you may ask your self, “Can one member really make a difference?” Absolutely! I’m sure you have seen those military recruiting ads for the “Army of One.” They realize that an effective fighting unit is made up of many individuals who, when they each give it their best, can overcome any obstacle. The same is true for the challenges our Society is facing right now. Our membership is made up of thousands of individuals who, when united in a common purpose, can do.

At our last Board meeting we discussed how we could best serve you and our Society. We all agreed that our efforts should be directed towards making the Society strong and fully capable of providing you, the member, with the benefits of membership. After some discussion, the answer was clear: “Grow the Membership.” Not only would a significant increase in Society membership improve the Society’s financial picture but we would also reap the added benefit of furthering the interest in and appreciation for the history of diving.

So with your Board’s marching orders directed at growing the membership, we appeal to and challenge you to become our “Force of One.” If each of you were to bring in just one member to the Society, the difference would be extremely significant.

Your Board has its eyes firmly fixed on the horizon. With your continued support, our Society’s future will continue to be bright and all of us will celebrate the history and experience of diving together.

Dan Orr
Chairman of the Board

Never doubt that a small group of thoughtful, committed citizens can change the world.
Indeed, it is the only thing that ever has. - Margaret Meade

Naval Forces Under The Sea
A Look Back, A Look Ahead

The Naval Forces Under The Sea Symposium was held in March 2001. The symposium provided an opportunity to highlight the U.S.N.’s significant developments in science & technology related to diving, special warfare, and submarine research and rescue. It also presented a speaker’s program featuring living icons of U.S.N. Undersea Warfare from the past 60 years. Sponsored by the United States Naval Academy & Office of Naval Research, it records practically every word of every presentation, including numerous images. It’s a historical record of U.S.N. diving & submarine rescue, including Naval Special Warfare origins.

Casebound, 350 pages, full color. $58 plus $12 domestic p&p. CA res. add 7.75% sales tax. For overseas p&p contact HDS office at hds@hds.org or fax 805-692-0042.
The Black Prince and the Sea Devils: The Story of Valerio Borghese and the Elite Units of the Decima Mas by Jack Greene and Alessandro Massignani.

In this exciting new volume, Jack Greene and Alessandro Massignani, provide readers with a new, well documented account of a fascinating era of diving history. The title The Black Prince and the Sea Devils gives some hint of its content. It might be thought of as two books contained in a single binding. On one hand the volume details the history of Decima Mas and the Italian underwater effort from their earliest origins in 1915 through 1945, and even beyond. At the same time, the reader is provided with a comprehensive biography of Valerio Borghese, the “black prince” himself. While much of the former story has been told in the past, the dramatic life of Borghese, particularly pertaining to his postwar activities, has seldom (if ever) been presented in English. The authors drew their information from an impressive array of sources, including letters, interviews, published materials, and archives in at least half a dozen countries. It is evident that the authors have made a thorough survey of the literature, and uncovered a great deal of new information. It is a “must buy” for HDS members with an interest in military diving, and a fine addition to any diver’s library. - Nyle Monday, Historical Diver Magazine.
The Board of Directors is pleased to announce that the recipient of The Historical Diver Magazine Pioneer Award, 2003, is Lad Handelman.

Lad Handelman was raised in the shadow of Yankee Stadium in New York. He quickly learned about survival on the mean streets, partly because, "... I was the only Polack member of an Italian street gang." Lad credits the Boys Club for providing him a window to a healthier option, which turned out to be leaving town. At the age of 16 he crossed the country and ended up in San Pedro, California. After failing miserably as an orange picker and magazine salesman, he began what was to become his life adventure: working on the open ocean. Lad recently recalled that he "knew nothing about engines or the sea and even less about taking orders." After a failure as a lobster boat deck hand he became a diver's line tender, but quickly figured out that he was on the wrong end of the hose. Using a Desco mask and a garden hose, Lad became a self-taught diver, and began diving for abalone from a 16-foot skiff. After an almost fatal first dive in heavy gear his learning curve was "slow but sure." Following four years of picking abalone he finally realized his dream by becoming one of Barney Clancy's legendary Black Fleet divers, in Santa Barbara, California.

In 1962 the doorway to an even larger dream opened up to him. Hugh D. Wilson invited Lad to join forces with Walter "Whitey" Stefens and himself in the formation of General Offshore Divers, which became the world's first commercial helium diving firm. The firm was acquired by Union Carbide in late 1964 to form subsidiary Ocean Systems, Inc.

Preferring independence to security Lad and fellow divers Bob Ratcliffe, Kevin Lengyel and Gene Handelman left Ocean Systems Inc. and in 1965 formed the first California Divers company (Cal-Dive). As President, Lad's role was go out and get diving contracts for the new company. With neither business experience nor capital, trying to compete with corporate giants like Union Carbide and Westinghouse was not easy. It was 14 months before tiny Cal Dive got its own first job. However, that job launched both Lad and Cal Dive.

Cal Dive's small group of independent helium divers came to the attention of Canadian-based diver Phil Nuytten. In 1965 Nuytten and Cal Dive joined forces and formed Canadian Divers, Inc. (Can-Dive) with Nuytten as President and CEO.

In 1969, financier Matthew Simmons entered the picture, and under his guidance Cal Dive and Can Dive sold stock to venture capital groups and became Oceaneering International. Lad became Oceaneering's President and CEO. Shortly thereafter, Worldwide Divers of Morgan City merged into Oceaneering, with D. Michael Hughes becoming Oceaneering's Chairman, and Johnny Johnson its Vice President.

With Lad as President the company's revenues skyrocketed from $600,000 in 1969 to $52,000,000 in 1975, as Oceaneering expanded globally and pioneered underwater technology and many of today's industry standards. By 1979 Oceaneering had become one of the largest diving companies in the world and an industry leader, with company shares trading on the stock exchange.

A business disagreement saw Lad leave Oceaneering and, with partners, resurrect a new Cal Dive. With Lad as Chairman and Don Sites as President, the new Cal Dive succeeded and expanded, reaching $15,000,000 in revenue by 1983. The company was then acquired by Diversified Energy Inc. Lad continued with Cal Dive until retiring in 1985 due to a skiing accident that broke his neck.

The accident left Lad confined to a wheelchair, but did not remove him from the bustle of the commercial diving business. He now serves as a member of the Board of Directors of the west coast's primary oil field diving contractor, DiveCon. In 1990 he co-founded the Marine Mammal Consulting Group with Peter Howorth. The Group has become a leader in its field, offering wildlife mitigation services for governmental agencies, indus-
trial and military projects. In 1993 Lad co-founded and became a director of two hyperbaric service companies providing hyperbaric oxygen therapy equipment and services to various hospitals.

Lad’s accomplishments in the industry have been recognized by the awarding of the 1990 Association of Diving Contractors John Galletti Award, and in 1999 he was inducted, along with George W. Bush, Red Adair, and J. Ray McDermott, into the Offshore Energy Hall of Fame, as an Industry Pioneer.

In 1994 he became a founding member of the Historical Diving Society’s Advisory Board, dispensing wisdom in the early years as the Society made its first steps as a non-profit. He continues to host various HDS events, and provides his home and resources to the Society on a regular basis.

His other non-profit involvements are as the Chairman of the Outlook (Wheelchair) Group of Santa Barbara, an Advisory Committee member for Santa Barbara City College Marine Diving Technology Department, and a member of the Board of Trustees of the United Boys & Girls Clubs of Santa Barbara, where has been a constant leader and promoter of that worthy cause.

In a recent interview Lad noted, “I grew up in a tough neighborhood in the Bronx and many of my friends ended up in jail or dead. The Boys Club saved my life and made me a productive citizen.”

For a man who never even graduated from high school, Lad Handelman still continues to exemplify what is achievable in America with pure determination and will power. - Leslie Leaney

Details of Lad’s career can be found in The California Abalone Industry, A Pictorial History, by A.L. “Scrap” Lundy, and The History of Oilfield Diving, An Industrial Adventure, by Christopher Swann.
E.R. CROSS AWARD

2003 HDSUSA E.R. Cross Award Recipient: Andy Lentz

The Board of Directors is pleased to announce that the recipient of the 2003 E.R. Cross Award is Andy Lentz. In announcing the award the Board makes special reference to the thousands of volunteer hours Andy has contributed to the Society over the years.

Andy started snorkeling in the mid 1950s and became a certified diver in 1969. He became a PADI Assistant Dive Instructor and was also a member of the Santa Barbara County Sheriff’s Underwater Search and Rescue Team. His interest in underwater photography took him under the Caribbean and to Hawaii, and he added kayaking to his list of water borne activities.

In 1995 he was one of a team of students from Santa Barbara City College who replaced Steve Chaparro as production editors for Historical Diver Magazine. After producing one issue with the team, Andy volunteered to take over the whole of production. Working with Leslie Leaney as Editor, Andy produced every issue of this magazine from number 4 to 38 by himself. He also produced the highly acclaimed 40 page HDS Hans and Lotte Hass Film Festival program.

As a former Vice President of Santa Barbara Bank & Trust, Andy also had a strong background in financial administration. In the Summer of 1995 he joined the HDSUSA Board of Directors and volunteered to become the Society Treasurer and, by default, the Society bookkeeper. In this capacity he established the standards that the Society continues to operate under and managed to keep it afloat during the early years with timely financial advice. At different times he has also volunteered to serve as Executive Director and Office Manager, all the while carrying out his Production Editor duties as well.

In 1997, after surviving for five years in Leslie’s spare bedroom, the Society moved into a professional office space in Goleta. Andy stepped forward to volunteer to run the office and, as a volunteer, operated the day to day office business of the Society. He recently retired from this position after eight years of service, but continues on as voluntary bookkeeper.

Besides being the voice on the end of the HDS phone line, Andy has met many members through his volunteer work manning the HDS booth at shows all around America. He has done this for 10 years.

In his various HDS capacities, Andy has worked with divers overseas to establish several international HDS groups. His service in assisting with the formation of HDS Russia and HDS South East Asia & Pacific was rewarded with a Honorary Lifetime memberships in those organizations.

The Board of Directors recognizes Andy’s investment of thousands of uncompensated hours volunteering to help the HDS grow during its formative years, and congratulates Andy on a well deserved recognition for many, many, many, jobs well and generously done.

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By Bob Kirby

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The Board of Directors of the HDS-USA is pleased to announce that Kim and Dale Sheckler are the recipients of the HDS Nick Icom Award. Nick Icom personally presented the Award to Kim and Dale at a special ceremony at The Scuba Show in May 2004.

The Award was established to recognize individuals, companies, groups and museums who have supported the HDS motto, "Preservation Through Education" by promoting the importance of diving history to the public. It is named after pioneer diver, instructor, and historian, Nick Icom, who for the past 60 years has documented, displayed and lectured with his Museum of Diving History.

Kim and Dale are the publishers of California Diving News and producers of The Scuba Show, which is held annually in Long Beach, California. The Scuba Show was established in 1987 and each year Kim and Dale have provided complimentary space to Nick Icom so he could display part of his expansive collection of historic diving equipment. Over a period of 17 years thousands of divers got to see the unique historical display. For many of them, a visit to Nick Icom's Museum of Diving History at The Scuba Show is their first, and sometimes only, encounter with the equipment that launched recreational diving in America.

By providing Nick with a venue to display his equipment, Kim and Dale created an annual meeting place for divers interested in history. It became the moss-back divers hang out and if you were looking to meet pioneer divers from the 1940s or 1950s, Nick's booth was the place that you would most likely find them.

Kim and Dale were also involved in providing the HDS with its first exposure at a recreational diving show. This was in 1994, when the Society had a small countertop display of membership applications and copies of Historical Diver Magazine on display in Nick's museum. Other beneficiaries of Kim and Dale's interest in history are the California Wreck Divers, who also exhibit items recovered from many wrecks scattered along the California coast. Our congratulations to Kim and Dale, who have actively supported the preservation of diving history since 1987.

MORE THAN NINE LIVES
By Al and Norma Hanson

This is a magnificent personal accounting of the deep sea diving careers of Al and Norma Hanson. It covers Al's work in abalone, harbor, salvage, construction and commercial diving. The book will be of great interest to any scholars of West Coast maritime history as well as international Society members who wish to learn more of American diving history through a firsthand account. Norma also donned a helmet and joined Al, working as husband and wife team. Together, they gained international attention as a tourist attraction when they demonstrated the art of deep sea diving under a glass bottom boat at Catalina Island. Their careers also involved working for Hollywood films, including Disney's 20,000 Leagues Under The Sea. The Hansons are well known and respected divers, and this unique book is the result of their combined memories of an amazing journey through adventures over the last half century and more. 703 pages, hard bound with an illustrated dust jacket, it contains numerous photographs. Note: The book price is mis-printed on the dust jacket at $29.95. The actual price is $40. Please remember this. Please clearly indicate which shipping option you wish when ordering. $10 domestic Priority Mail, $6 domestic Media Mail. CA Res add 7.75% sales tax of $3.10. Contact HDS office at hds@hds.org or Fax 805-692-0042 for overseas rates.

Limited Edition—500 copies only
California Classic Dives

The California Classic Equipment Group will be putting on a Classic Diving Display at 10:30 am on Sunday, September 26, 2004, at Bannings Landing in Wilmington, CA. This is the day immediately after the HDS 2004 Conference at the same location and attendees and the general public are welcome.

The group has some very interesting equipment, including Japanese, Italian and Chinese helmets in addition to domestic models. They have an extremely informative visual display of regional diving history, and group co-organizer Charlie Orr has accumulated a wealth of information and images on the history of diving operations around Los Angeles Harbor.

Dorothy Barstad produces the group’s excellent newsletter, The Com Line, and several group members will be assisting with the HDS Conference on Saturday. To find out more about the group and its activities log on to www.calclassic.org, or contact Charlie at neverbent@aol.com or 310-834-7051.

HDS UK Conference

The HDS UK will be holding their annual Conference on Saturday October 23, 2004 at Hull Royal Infirmary. Speakers are George Wookey: 100 Fathoms Down - the story of a Royal Navy record dive and a life of adventurous diving. David Challis: Jerimiah Murphy, West Indies salvage diver, 1855-1895. Michael Jung: Sabotage! German military diving from the beginning of the eighteenth century to 1945. Stéphanie Chanvallon: The Development of Fins, a study of invention and evolution. For information contact info@thehds.com.

Wrecks of D-Day

HDS Italia magazine editor Francesca Giacché is part of a team from the Ippocampus Club that was scheduled to undertake a historical scientific expedition to Normandy on the 60th anniversary of D Day. The expedition will make the first Italian underwater documentary on the wrecks from the Normandy landings. We hope to be able to publish a report on the expedition in a future issue.

No Industry Awards Gala at DEMA

For the second consecutive year, DEMA has decided not to participate in the Diving Industry Awards Gala, and will host a party for its Reaching Out Awards instead. Having carefully reviewed all aspects regarding the staging of this year’s Gala in Houston, the two remaining Gala Committee partners, the Academy of Underwater Arts & Sciences, and the Historical Diving Society, have decided not to produce a Gala this year.

As we go to press, the HDS plans to present some of its awards at the HDS Conference Banquet, on September 25, in San Perdo, California. The Academy may also present some of their awards at this event.

Scuba Workshop issue #38 correction

Missed, during final proofing of our last issue, was the accidental deletion of the final sentence in Kent Rockwell’s Scuba Workshop article on the Australian Porpoise scuba. This should have read: “Diving the Porpoise was a delight, as the tank rode comfortably and the regulator produced mass quantities of air at the slightest demand - not too bad for a 47-year-old regulator. I’m certain the earlier CA1 would breathe just as effortlessly. ‘Well done Mr. Eldred.’”

Ice Diving History

Peter Brueggeman of Scripps Institution of Oceanography has researched and written a history of ice diving in Antarctica. Diving Under Antarctic Ice: A History, is well illustrated and can be found at wwwrepositories.cdlib.org/sio/techreport/22

U.S. Navy Information Wanted

USN Diver Subic Bay WWII
My grand father, seaman 1st class George W. Colinger was part of a navy Fire Fighting Salvage and Rescue Unit that cleared Subic Bay in the Phillipines at the end of WWII. He was a hard hat diver and I am looking for any information on the operation at subic Bay.

Kip Colinger, via email
kipclon@hotmail.com

USN Diver 1946 A- Bomb tests
Charles Gaerke was a USN diver who photographed some of the sunken vessels from the A bomb tests in 1946. He is trying to locate any shipmates from thatat time, particularly Tom Sullivan, Aubrey Bradbury, LeRoy Brown, Eugene Barry, Gene Gaglorida, Keith Cook, Lt. J.G. Bill Schell and Chief Roy Roberts.

Contact Charles through Reminisce Magazine, 5400 S. 60th Street, Greendale, WI 53129-1404
Silver Seas
A Retrospective
by Ernest H. Brooks II

Winner of the 2003 Hans Hass Award for Literature and Arts

As the former president of the Brooks Institute of Photography, Ernest Brooks II has played a crucial role in developing the skills and careers of several of today’s top underwater photographers. This book contains magnificent images from Ernie’s 40+-year career, many of which have never been published before. The foreword is by Jean-Michel Cousteau. “Since my career began, in 1956, I’ve continuously searched for subjects that aesthetically bespoke man’s presence underwater,” stated Ernie when asked to explain his affinity for creating stunning imagery from the primordial marine environments that so intricately connect us to our evolutionary ancestry. In this volume, the master photographer, often referred to as “the Ansel Adams of underwater photography,” brings together those images that most powerfully speak to the enduring spirit of life underwater. Many of these photographs today are in the permanent collections of major museums in America and abroad. Accompanied by his own recollections from a lifetime of adventure and exploration, these magnificent silver photographs embody one man’s lifetime pursuit of his art and the discovery of the true purpose of his journey: to provide the inspiration for the preservation and protection of our marine environments.

Hardbound 12" x 12" with dust jacket, 120 pages, Black & White Quad Tone on Ultra Premium Paper, 50 plates with additional inset images.

$145 plus $12 priority or $6 media rate domestic P&P. CA residents add 7.75% sales tax. For overseas p&p contact HDS office at fax 805-692-0042 or hds@hds.org

Silver Seas is proud to sponsor the work of the Historical Diving Society
Navy Diver Memorial?
In the recent months conversations at different levels have sprung up concerning a diver memorial at the old site where NEDU and DSDD were located at the Gun Factory. (I think it's now a parking lot). There is a lot of interest in erecting an 8 to 10-foot tall MK-V Jake, in bronze, at the site of the old school and NEDU. There are differences in size and exact location but generally everyone thinks it's a good idea. The concept needs a bit of polishing but the effort has to start someplace, and this email and some notices in other diving journals might serve to alert everyone who would have an interest to start down the road that will lead to this diver memorial.

If you will take the time to forward this email to those who attended DSDD or those who worked at NEDU we might well get the ball rolling towards having this big Jake erected where the unit and school were located. If we find that enough folks think it's a good idea then we can take the next step.

I don't believe we would have much trouble raising the money but that effort is yet to come. Get this forwarded to the folks you think might have an interest. Your thoughts ladies and gentlemen. Contact me at robert.barth@navy.mil or (850) 230-3116.
Bob Barth, via email
Naval Experimental Diving Unit
Panama City, Florida

The Oath of Secrecy
The HDS Germany contribution to Historical Diver No.38 caught my attention. I am the first to admit that when divers form a unique group (such as the Aberdeen Amphibians in the 1940s) there is a bond forged which remains throughout our lives.

I was taken aback however to read that regarding their activities, members of the German wartime 'Unter Wasser' sabotage group feel compelled to abide by the "Oath of Secrecy" regarding their activities sworn to one of history's greatest mass murderers and his Nazi movement. Surely after 60 years the past can be opened up for the purposes of diving historical record, a much more worthy aim than allegiance to a discredited dictator who not only fooled the world but his own country.

Michael Jung is to be commended for his investigative work.
Ivor Howitt
New Zealand

Borghese, Bekker, Eco and Adams from James Vorosmarti, Jr.
Over the years, Jim Vorosmarti has diligently sent in items of interest to HDS members which have ended up in our "Pending" file. With Kent Rockwell coming on board to help with the magazine we are finally able to start sorting out many of our files and are able to liberate into ink some of Jim's contributions.

Here are some literary references and some books that should be of interest to readers of HDM.

The Naval Institute Press reprinted the English language version of J. Valerio Borghese' book The Sea Devils, (Italian title Decima Flottiglia Mas, 1950) as part of their Classics of Naval Literature series. It was printed in 1995 and is available from them.

Another book I have had since it was published is Einzel - Kampfer auf See by Cajus Bekker, published in the German language by Gerhard Stalling, Oldenberg in 1968. It is a history of the German frogmen and manned torpedo riders in WWII. I bought it because it mentions a German navy medical officer, Armin Wandel, who was in my diving school class and submarine school class and who had been a medical officer during WWII. He was the medical officer for some of the German divers when they took over La Spezia when the Italians surrendered. He had albums of pictures of the base, equipment, diving ops., etc., and of the destruction of the base when the Allies got close. I have no idea whether the pictures survive somewhere, but it would be interesting to find out. He died, I believe, in the early '80s.

The Island of the Day Before by Umberto Eco contains a whole chapter (Chapter 25, Technica Curiosa) with the topic, including the design of a submarine, a bell which was on his fictional ship, which sounds in design, very much like Kessler's bell design of 1616. Elsewhere in the book he describes a fictional diving mask.

James Vorosmarti, Jr.
Rockville, Maryland

Australian Scuba Workshop
Once again, kudos to Kent Rockwell for his fine Scuba Workshop article on Ted Eldred's Australian Porpoise single hose regulator. We aren't often exposed to

MAIL

Some mail may have been edited.

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information on foreign regulators. For those of us who service our own gear it’s nice to be able to compare what we know with the technical differences of regulators for other countries. Keep the articles coming.

Mark Howell
Los Angeles, California

Ted Eldred. Credit Where Credit’s Due.
I think giving Ted Eldred the credit he deserves is a very good thing, as with the many other divers the HDS honors. Keep up the good work.

Steve Taylor
Salt Lake City, Utah

Now is the Time. Northwest Working Group
I would like to contact other members in the Northwest to see about forming a working divers group. Divers in Washington, Oregon or Idaho would probably be within the geographical limits, due to travel time.

I own some gear and am always looking for more. More especially, I’m looking for people that have other gear that want to get together to make demo dives and dives that would promote the history of diving. Anyone who’s interested can call me at the number below or email at rndiver@hotmail.com.

Tim King via email
rndiver@hotmail.com
360-691-3605

Dutch Diving Helmet
Thank you very much for placing the article on the Dutch Diving helmet your magazine. I recently received very important news which I wish to share with HDS members.

As you know there are several companies around the world who are using plastic shallow water helmets for underwater tourism. According to my knowledge these activities are based on personal interpretations of how to use these helmets. Accidents have already occurred as there was no standard procedure to operate them. This has now changed!

Based on my experience with both standard and shallow water helmet diving, I wrote a manual intended to be used by buyers of my helmet, to give them basic knowledge of diving laws and how to use the helmet and how to prevent accidents.

A few months ago I also offered this manual to PADI Europe of which I am brass helmet diver specialty instructor already. Because this was a complete new way of activity, they had a feed back with PADI USA. Finally PADI approved my specialty which means that I am the world’s first PADI Underwater Walk instructor!

I am proud on this title (it is the result of 25 years of hard working) but this title is not as important as the impact this will have on this new developing activity. By structuring the theoretical and practical knowledge necessary for this activity I hope it will be safer for tourists. I also hope this will encourage tourists to get interested in the world’s diving heritage.

Kees de Jonge.
Holland

Thunderball regulators
I am interested in receiving any information on a regulator manufactured in the early 1960s. A U.S. manufacturers produced a single hose dive regulator with a square (with slightly curved sides) chrome plated demand valve. They were used in the James Bond film "Thunderball," but probably had problems as I never saw one in the "flesh" and I think they were only made for a short time. I believe they had a label on them saying Dolphin and I think they were made by Sportsways or possibly Healthways. I have often wondered about these regulators and would be grateful for any information.

Peter Jackson via email
pj@diving.force9.co.uk
Sussex, England

Military Divers Forum
The Homeland Security Policy Institute Group, Inc. (HSPIG) is a California Nonprofit group and we have incorporated into our website a “Military Divers” Forum, which allows prior military divers a location to register their names and duty stations as well as photographs, stories, reunions etc. The Forum is searchable which allows a diver to locate an old buddy by duty station or name. It also allows for other diving links such as the Historical Diving Society, which is linked. The site can be located at www.hspig.org. The Forum is located on the left side of the entry web page. Just click on and go. We hope that this may be of some interest to non military HDS divers also.

LT. Thomas Barnes DV, USN/USCG (ret), via email tbarnes@hspig.org
Whittier, California
A Brief History of Diving In Tarpon Springs
by Nick Toth

Behind The Japanese Mask. The Strange Journey of Oghushi’s Peerless Respirator
By Nyle C. Monday

Conference organizers, John Gallagan, Leslie Leaney and Kent Rockwell

Sponsored by
Florida Scuba News
Sea Pearls
Underwater Magazine
A BRIEF HISTORY OF DIVING IN TARPON SPRINGS

by

Nick Toth

The story begins in Greece. Sponges were described by Aristotle and mentioned in both Homer’s *Iliad* and the *Odyssey*. For several centuries the epicenter of sponge diving has been the Dodecanese Islands. Dodecanese is a derivation of the Greek word for twelve. The Dodecanese Islands are the twelve southeasternmost Greek Islands in the Aegean Sea. In the world of sponge diving, the most prominent of these islands are Kalymnos, Symi and Halki. For centuries the inhabitants of these islands dove for sponges using only the most primitive of methods. The divers traveled out to sea in a small boat containing only four to six divers. They had nothing more than a large flat stone, which had a hole at one end allowing a rope to be passed through it. This was the extent of their diving gear. The diver, who worked naked, jumped overboard holding onto his stone. The stone carried him to the bottom where he would harvest as many sponge as possible while holding his breath. Each stone weighed about thirty pounds and the diver worked in depths up to ninety feet.

In shallower waters another ancient method of harvesting sponge was used. In Greece, this method is called “harpooning.” In this country it is referred to as “hooking.” This method consists of a small boat with one man serving as the oarsman and another man standing on the bow with a long pole with a hook attached to it. This method works best in shallow water with high visibility. In the Florida Keys this method of sponging can still be observed.

In the mid 1800s, a revolution came to the sponge industry of the Dodecanese. A set of Augustus Siebe’s diving gear showed up on the Island of Symi. Soon this equipment was being reproduced by Symiot craftsmen using blacksmith tools and a forge. This new method, which consisted of a diving helmet and diving suit connected by a hose attached to a compressor on the boat, was referred to as a “Skafandro” by the Greeks.

When this new method of sponging was introduced, there were more than 300 sponge boats in Kalymnos alone. These boats would typically stay at sea for six months of the year, leaving port just after Easter and returning home in the fall. They would not only ply the waters of their immediate islands, but would also harvest sponge off of the coast of North Africa.

Each boat carried between six and fifteen divers. Using this new method of harvesting sponge, the divers would go down to depths greater than 200 feet. They could now stay down for much longer periods of time and harvest far greater numbers of sponge. The tragedy in all of this was the lack of knowledge concerning dive tables. The result of this lack of knowledge was death and paralysis for a majority of these early divers. More than half of all of the divers that went out to sea between the mid 1800s and early 1900s did not return safely home. During this period more than 10,000 divers died and another 20,000 suffered cases of paralysis. It wasn’t until the 1960s that proper decompression procedures were routinely observed.

I will now tell you a little bit about Tarpon Springs, before the Greeks came. Tarpon Springs is a small community bordering the Gulf of Mexico in West Central Florida. The Anclote River runs through Tarpon Springs, as well as several miles of meandering bayous. It has been said that the city received its name while one of the early settlers was standing on the banks of Spring Bayou, in the heart of the city. A large Tarpon jumped into the air and the settler cried out, “See the Tarpon in the Springs!”

In the late 1800s Tarpon Springs was primarily a resort town, catering to mostly rich northerners from the states bordering the Atlantic. Sponging, however, was already occurring in the waters northwest of Tarpon Springs. The early non-Greek settlers were “hooking” the sponge in shallow waters from their small boats in a fashion similar to that of the Greeks before the introduction of the diving helmet. Sponges were also being harvested in the Florida Keys, Cuba and the Bahamas.

The presence of sponge did not go unnoticed by a man
named John K. Cheyney. Cheyney was a wealthy banker from Philadelphia who saw the presence of sponge as an entrepreneurial opportunity. His most noteworthy contribution to Tarpon Springs and the sponge industry was his vision of making the city the commercial center of the sponge industry. The man credited with bringing the first Greek divers to Tarpon Springs was John Cocoris.

Greek Arrival in Tarpon Springs

The Greeks arrival in Tarpon Springs was driven by conflict. In 1898 the Spanish-American War was under way, and it drove all of the hook sponge boats from the Florida Keys to Tarpon Springs, thus fulfilling John Cheyney’s vision. Cheyney knew John Cocoris and offered him a job in the sponge business. Cocoris envisioned a more productive method of harvesting sponge than was possible with the “hooking” method. A few years were to pass before John Cocoris’ vision materialized. However, on June 18, 1905, the first sponge boat equipped with an air compressor and suited divers left Tarpon Springs and headed out into the Gulf. According to legend, the boat was full by the end of the day and headed back to port.

With such an encouraging result, John Cocoris sought to bring as many divers and crew to Tarpon Springs as possible. Advertisements were placed in newspapers in Greece and word spread throughout the Dodecanese of great opportunities available in the New World. For the divers of the Aegean, being able to work the shallower waters of the Gulf, appealed to them greatly, as opposed to the deeper and more hazardous waters with which they were accustomed. By the end of 1905, the migration of the spongers had begun.

According to George Frantzis, author of the book Strangers at Ithaca, five hundred young spongers arrived from the Dodecanese Islands, all of them men. None of them brought family with them. At that time the population of Tarpon Springs was about three hundred. Immediately, the newly arrived Greeks became the majority. Needless to say, this did not go over well in some quarters. The early Greek immigrants suffered from considerable prejudice and discrimination. These Greeks, accustomed to adversity, persevered and flourished. As the early Greek immigrants settled into their new surroundings, they began to bring their families over.
More and more Greeks arrived through the years. Today, Tarpon Springs, with a population of about 22,000, has an estimated 7,000 to 8,000 citizens of Greek origin.

**Spongers in the New World**

As more immigrants arrived they became spongers in the “New World.” Although many hook boats were in use, they were slowly replaced by dive boats. The earliest dive boats were rather small, primarily in the thirty-foot range, and were sail powered. This limited size and mobility created the need for larger schooners to bring supplies to the boats and to haul the sponges back to port for processing and sale. By using this method, the spongers could stay out in the Gulf for six months at a time.

Typically, these early spongers would make two trips per year; from January until June and from July to December. In the late teens or early 1920s the first diesel engine was installed on a sponge boat by Anthony Lerios. With this innovation the boats built were much larger; typically 42’ to 45’ in length. Now the sponge boats had more mobility, range and storage capacity. Slowly the schooners disappeared, giving way to the larger vessels. By the late 1930s, there were two hundred such boats built in the boatyards of Tarpon Springs, plying the Gulf of Mexico. The sponge boats no longer stayed out at sea for six months at a time. Now the boats could stay out for a few months at a time or even less if they filled their boats with sponge.

Another change brought about by the introduction of the diesel engine was the modern air compressor. Since the 1860’s, sponge boats used hand-cranked air compressors mounted on the decks of the boats. Crewmen would take turns spinning the large cranks or cast iron wheels to keep air pumping through the hose down to the diver below. The new compressors ran off of the power take-off pulley of the engines. This system also created more deck space because they were mounted below decks in the engine room.

Perhaps the greatest boon to productivity that was brought about by the motorized vessels was their ability to follow the diver as he worked the sponge beds. This is referred to as “live-boat diving” or “fishing the diver.” The boat is not at anchor. The diver is followed by the boat, working into the current in a zigzag pattern across the Gulf bottom. A propeller guard, which acts as a protective cage around the prop, keeps the hose from becoming entangled. The live-boat method has become the preferred sponge diving technique today. Over the years, the sponge fleet has grown progressively smaller.

Some years, red tide would infect the sponge beds. Other factors have also reduced the number of boats and divers in Tarpon Springs. The difficult nature of the work...
and the inherent dangers of commercial diving did not appeal to the children and grandchildren of those early immigrants. Many have gone on to other less dangerous and better paying occupations. Slowly the chain has been broken. Today, fewer than a dozen sponge boats ply the waters off of Tarpon Springs. The sponge are still there and hope remains that the industry will survive.

The Toth Family

Now I would like to tell you about my family’s part in this story. I am the grandson of Anthony Theofilos Lerios, who was born on the Greek Island of Kalymnos on December 3, 1891. His father, my great grand father, Theofilos, was a well educated man who loved the sea and became a boat captain. He married Kalliope Theodosiou, of a highly respected family, and together they had five children. Anthony was the eldest. When Anthony was five years old, the family moved to Constantinople, now known as Istanbul, Turkey. It was there that Anthony received his education. He was called Tony, and was a gifted student who loved school with all his heart. Tony’s love of knowledge and education continued throughout his long life. He found great enjoyment in reading a variety of books, reference manuals and journals. He could often be found reading, cover to cover, medical journals, mechanical engineering publications, encyclopedias, as well as all Greek and American newspapers available.

He was well informed regarding the history of Greece, the great Greek philosophers and current issues of the United States and Greece. With such a varied supply of knowledge and information, Tony could easily jump from subject to subject, and he looked for opportunities to have lively discussions with his friends and family. Under great protest, Tony was taken out of school and put to work. While still in Constantinople, at the age of 14, he worked as an apprentice in one of the largest shipyards where the great ocean liners were built in his day. It was here he learned to build and repair steamship engines which powered the enormous ships of the early 1900’s. This training would serve as a foundation for his tremendous knowledge base and would provide him with valuable information he would rely on for many years to come.

By the age of 19, Tony was an accomplished machinist and engineer. His talents were widely regarded and recognized by many in the industry. At the youthful age of 20, he was asked by the owners of one of the largest shipyards in Constantinople to manage their business. However, before being able to take advantage of this great opportunity, Tony had to make a difficult decision.

Tony began to fear for his safety as rumors began to spread about Turkish soldiers drafting young Greeks into their army. If drafted, Tony feared he would be forced to fight in the Turkish Army against his Greek countrymen. He returned to Kalymnos for a brief visit. Then he boarded a ship bound for New York.

On July 7, 1913, Tony stepped onto Ellis Island. An official tapped his shoulder, asked his name and said, “You are free to go.” A week later he arrived in Tarpon Springs, joining his father, Theofilos Lerios, and his brother, Nicholas, who had arrived in 1910 or 1911. Bringing their love of the sea with them to the new country, Tony’s father and brother had already joined the sponge diving industry, eventually becoming boat captains. Tony’s father, Theofilos, passed away in 1919 and is buried in Cycadia Cemetery, in Tarpon Springs.
Tony soon began working in one of the local machine shops owned by the Tulamaris and Kaminis families. His talents were quickly recognized. If a part to a machine couldn’t be found or if a needed tool didn’t exist, Tony would study it, draft his ideas on paper and begin to build it. Nothing could stop his mind from finding a solution to a mechanical problem. In addition to repairing just about anything, Tony could completely outfit a new vessel, installing engines, shafts, propeller guards, compressor systems and anything else that was not made of wood on a boat.

In the late teens or thereabouts, Tony decided to open his own machine shop. It was only natural that it should be located near the Sponge Docks and on the river. He found a suitable location on the Anclote River, just off of Alternate U.S. 19, then known as Eagle Street. This is the same location where I continue the operation of the business today.

As the sponge industry in Tarpon Springs grew, more and more boats joined the great fleet of vessels. The boat captains of this growing fleet relied on the expertise of my grandfather to keep their boats running. Tony was known for the unparalleled level of knowledge and craftsmanship he brought to the sponge diving industry; from outfitting new vessels to maintaining the fleet of diving boats to creating his beautiful diving helmets. Many captains would not leave port without having Tony check their boat. If a boat happened to break down far from home, Tony would race to fix it. In an interview with George Billiris, owner of the St. Nicholas Boat Lines and longtime sponger and sponge merchant, he had this to say about my grandfather: “I’ve seen him work as much as 48 hours without sleep to get a boat back on line. A lot of people had a lot of faith in him. In the old days, Tony Lerios literally kept the fleet going. Without him I don’t think it could have survived.”

As a young boy, I would visit my grandfather’s machine shop. My fascination with the machines and tools used by my grandfather intensified as I grew older. While I was still very young, probably only ten or eleven years old, my grandfather would take my hands and place them on the control wheels of the lathes. He would then place his hands over mine and gently turn the wheels so that I could feel how much of a “cut” I could take on different types of metals. This is how I learned to use the lathes in the shop. He was a very patient and intuitive teacher. I began to work at the machine shop on weekends, slowly exposing myself to the vast knowledge and experience of my grandfather. I sometimes thought of pursuing other professions. After graduating from the University of...
Florida, I considered going into a field where I could use my Greek language skills. Instead I chose to work with my grandfather. I was fascinated by his ability to solve problems and intrigued by all of the stories he would share with me.

Today, I operate the small shop on the Anclote River which was built by my grandfather, father and me. I also continue to craft the sponge diving helmets my grandfather skillfully designed years before.

As you gaze upon the brass and copper diving helmet that is here, it shines and illuminates in all directions, reminding us of the past and all the hardships and toil of the many Greek men who came to America seeking a better life and a brighter future for their families. The light reflecting from the helmet also shines toward the future; a future filled with hope and pride in continuing the legacy handed down to me by my grandfather, Anthony Lerios.

This paper is based on stories told to me by my grandfather, as well as my own experiences and conversations with people involved with the sponging industry. I also used information from the books *Bitter Sea* by Faith Warn, *The Bellstone* by Michael N. Kalafatas, and *Strangers At Ithaca* by George Frantzis.

The author, Nick Toth is the grandson of famed Tarpon Springs metalsmith Anthony Lerios. Nick continues to keep his grandfather's traditional helmet building techniques alive, and received the 2003 National Heritage Fellowship Award from the National Endowment for the Arts in recognition of his work. Details of Nick's award can be found in Historical Diver number 37, page 19.

*A tender removes a diver's helmet. Note the sponge bag and rake in the diver's right hand, circa 1920s.*

The author, Nick Toth is the grandson of famed Tarpon Springs metalsmith Anthony Lerios. Nick continues to keep his grandfather's traditional helmet building techniques alive, and received the 2003 National Heritage Fellowship Award from the National Endowment for the Arts in recognition of his work. Details of Nick's award can be found in Historical Diver number 37, page 19.

Copper and brass diving helmets in 2.75:1 scale. Siebe Gorman, Galeazzi and Italian style. Butoscopic So.Ri.Ma. chambers. Submarine models. www.masuccisub.it masuccisub@inwind.it

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Scale models. SINALUNGA - SI - ITALY
Behind the Japanese Mask:  
The Strange Journey of Ohgushi’s Peerless Respirator  
By Nyle C. Monday

The third version of the Ohgushi apparatus.

It is a great pleasure to be given the opportunity to speak here today at the HDS-USA’s 2003 Conference. Perhaps the greatest function the HDS has served since its beginnings eleven years ago is the bringing together of divers, scholars and ordinary people who are interested in the history of the development of diving equipment. This history is still being written, and every person in this Society – great or small – has a part to play in its writing. Although you see standing before you only one person, there are actually many others behind me you cannot see. In particular, there is Dr. Alexander Sledkov (“Sasha”) who really set this in motion when he attended last year’s conference in Santa Barbara and quite literally amazed the audience with the story of diving in the former Soviet Union, a story which few, if any of us, had heard before. Sasha had read a paper I wrote a number of years ago about the Ohgushi Respirator, and told me things which neither I, nor anyone I knew, had heard about that unique apparatus, and my talk today is actually largely co-authored by Dr. Sledkov. Additionally, in the years following my original article, I received an outpouring of information from all over the world. Everyone had bits and pieces of the story, but like the blind men trying to describe the elephant, we each only knew our own little part of the tale. Today I will attempt to begin to put these pieces together, and although there are still many questions to be answered and much history to still be revealed, I hope that you will find it of interest, and perhaps it will lead to more discoveries just as the original article did.

Diving equipment, like all other human inventions, is the result of a perceived need. In their effort to explore and work in the alien world of the sea, mankind has engaged in a continuous effort to find ways to go deeper, stay longer, and work more efficiently. Often these developments took place in isolation, with similar ideas appearing in very different geographical locations with no apparent communication of ideas. This sort of parallel development is not uncommon in any field, but often, for
historical or other unknown reasons, the story of work done by one nation or individual may become world famous, while similar work done by another may remain unknown for generations – or perhaps forever. Such is certainly the case in regards to diving technology, and we are just in the first stages of a new dawning of exchange, in this case between the West and the former Soviet Union. Many old perceptions will no doubt be changed as the open exchange of ideas and history between the two regions begins. The story of the Ohgushi Respirator is just a minor first step in this direction.

Watanabe Riichi, the man whose name appears on all known patents for the Ohgushi Respirator, was a pearl merchant who was not content with the diving equipment available to his employees. In the early days of the Twentieth Century, the only diving gear commonly available to commercial divers was the surface-supplied helmet usually worn with a closed dress. While this equipment was efficient for many types of underwater work, it was not particularly well suited for jobs that required a great deal of mobility. Moreover, the smaller-framed Japanese divers employed by Watanabe found the great weight of traditional heavy gear to be an additional handicap. Watanabe felt that if he could develop a type of diving gear that was lighter and simpler to operate, his workers would be able to pick even more shell.

Watanabe was apparently not especially knowledgeable about either diving gear or its manufacture, so he enlisted the assistance of a friend, Ogushi Kanezo. Ogushi (also romanized as “Ohgushi”) was a blacksmith or machinist, and it does not appear he had any particular expertise with diving equipment either. But, between the two of them they developed around 1916 a truly innovative type of gear unlike almost anything seen before. Patents are known to have been taken out in Japan, Great Britain, number 131,390, the United States, number 1,331,601, Italy, the number of which is unknown, and France, number 496,716.

The Ohgushi Respirator was a mask-type device. The mask itself was designed to cover only the eyes and nose, the mouth being left uncovered. This required that the diver inhale through his nose and presumably exhale through his mouth. The mask consisted of a rubber form not unlike today’s diving mask, but it was all but completely covered by an outer metal sleeve designed to strengthen it and hold it rigid. Metal rings were attached to this casing; two at the top and two at the bottom, to which rubber bands were fastened. These bands were hooked together at the back of the diver’s head to hold the mask securely in place.

In its original configuration, the mask had a side-mounted valve (Type 1) that was manually operated by

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AQUA LUNG
FIRST TO DIVE
A promotional booklet for the Ohgushi apparatus was printed sometime around 1918.

the diver each time he wanted a breath. This resulted in the diver having only one hand free for working; a not very satisfactory arrangement. Two other valves were later developed to overcome this obvious handicap.

On what we shall call the Type 2, an air-filled rubber bulb on the end of a flexible tube was used. The bulb was held in the diver’s mouth, and he could open the flow of air by biting down on it.

In its final version, Type 3, the Ohgushi apparatus had a metal “duck bill” attached to the bottom of the mask which, again, the diver bit down upon to open.

The Ohgushi apparatus was, therefore, utilizing a truly early type of demand valve, but not an “automatic” demand valve such as our regulators today.

A good deal of practice must have been necessary for divers to get used to the “bite then breathe” sequence, and one can easily imagine a diver engaged in some sort of underwater labor forgetting which orifice to breathe through!

Air could be supplied either directly from the surface, or from a single or double set of high-pressure cylinders, or a combination of the two. A publication on the Ohgushi gear illustrates a four-cylinder reciprocating hand pump that was said to be capable of supplying air to a diver down to 375 feet. In the American patent, Watanabe states that “a bag or tank…of any suitable size and form” may be carried on the divers back, and an illustration of one such tank states it has a capacity of 1000 cubic liters. Either the surface supply hose or the connection from this tank led into an apparently flexible secondary air reservoir fastened in the front of the diver’s waist. Of this Watanabe says, “…by providing the secondary reservoir and thereby varying the pressure within the main [back] reservoir to suit the surrounding pressure the operator is enabled to go to a greater depth of water than would be possible without said secondary reservoir.” Finally, the diver’s air supply passed from this waist reservoir through a hose to the valve on the mask. A weight belt consisting of about 12 kg of lead was worn to assist the diver in submerging, and a heavy cotton or canvas dress, open to the water, was worn to protect the diver from coral and sharp rocks, completing the rig.

Simply designing equipment was not the same as manufacturing it, and it appears that for this purpose Watanabe turned to another individual who would play an important role in taking the Ohgushi Respirator to places far beyond the land of its birth.

Kataoka Kyuhachi, born in 1884, was a true professional in the diving field. His interests lay not only in the equipment itself, but also in the actual use of the gear, primarily in salvage operations.

In 1918 he founded the TOKYO SENSUI KOGYO KABUSHIKI KAISHA (“Tokyo Diving Industry Company, Inc.”). This company’s name was rendered in English in its own publicity as the “Tokyo Submarine Industrial Company” but is, in fact, just a slightly different translation of the same Japanese terms.

There are two known addresses for this company. In the American patent, dated May 8, 1918, its address was given as No.11, Nakano-Cho, Kyobashi-Ku, Tokyo, but on the British patent dated June 15th of the same year, and on some of the company’s own literature, it was given as No.13, Kobiki-Cho, Kyobashi-Ku, Tokyo.

During this period, the company produced a small booklet titled, Key to the Treasury of the Deep: Ohgushi’s Peerless Respirators, Unrivalled in the World. The “discovery” of a copy of this publication in England, and the subsequent publication of an article about it by Capt. W. O. Shelford in the January 1970 issue of Triton magazine provided the first exposure of this equipment to the Western diving community in at least half a century. Unfortunately, the present location of the booklet is unknown to the authors. Yet even from this mere glimpse at the Ohgushi Respirator, it is apparent that Kataoka took a good idea and made it even better. The Type 3 air valve, which is clearly illustrated in the booklet and subsequent article, was personally developed by him, and gave the diver the
immense advantage of being able control his flow of air while keeping both hands free for work.

The new equipment drew the attention of diving professionals all over the region. The pearl industry, in particular, found that it was well suited to their needs, and shortly after 1918, according to some Japanese sources, the Torres Straits Pearlers Association (TORESU KAI-KYO SHINU GYO KUMIAI) offered to purchase the patents for the Ohgushi gear for the sum of 7,000 English pounds.

This sale eventually failed, however, allegedly because the famous British maker of diving equipment, Siebe Gorman, somehow intervened.

In 1920, an organization called the NANKAI SANGO SAISHU SHA, or “South Sea Coral Collecting Company” was founded in Japan. The purpose of this organization was not only to serve as a supplier of Ohgushi equipment to divers, but also as a source of training in the use of that apparatus. For unknown reasons, however, the Ohgushi Respirator never became a major technology in the pearl industry outside of Japan. Whether this was the result of the alleged interference of Siebe Gorman or some other factor remains something of a mystery.

And it was not only the British who were taking notice of the advanced nature of this gear. In 1921, an article by Umberto Cugia di Sant’ Orsola appeared in the Italian magazine La Marino Mercantile Italiana which made even greater claim for the Ohgushi equipment based on his observations of the unit being used to collect coral off the island of Shikoku.

“The deep sea divers of Japan are using the most advanced underwater apparatus, which is the machine built by Mr. Watanabe. Mr. Watanabe has put together simplicity, low cost, and safety, all combined into a simple mask that looks more like common sunglasses. With this apparatus we can go to depths never before reached—greater than the records set by skilled and trained deep sea divers at 200 and 220 meters. The large helmet has been taken away which often caused dangerous events. Also taken away is the cumbersome suit of cloth and rubber. Everything is reduced to impressive simplicity and practicability. In a few seconds’ time to attach the rubber bands of the mask behind the head and ears, and throw on a backpack of two steel tanks which have 500 litres of air at 150 atmospheres of pressure, the deep sea diver can readily enter the water. The teeth bite a mouthpiece with a spring attachment to control the air needed by the lungs, and the exhalation exits between the mask and the face. With a little bit of practice the pressure of the teeth automatically gives the amount of oxygen [sic.] needed, and it soon becomes instinctive.”

The author goes on to tell how divers used a cable
powered by an electric winch to travel to the bottom and to raise them at the end of a dive. Ascent was rather rapid, according to the article, with the rate being about one meter per second with a brief two second stop at two meters to decompress. Indeed, based on his observations and the information given to him by the Japanese divers, the Italian goes so far as to state that “the apparatus of Mr. Watanabe has turned on its head the principles of all theories regarding the relation between the human body and hydrostatic pressure.” Although this seems to be a reoccurring theme, time has shown it not to be the case.

He also notes that due to the difficulty of refilling the air tanks locally, coral divers most commonly use a special high pressure pump which can supply air from the surface by hose to six working divers at once. In reading many of these early reports, the modern student cannot help but wonder how familiar the writers of these articles were with the physics of diving, and what documentation they had, if any, for the records they cite.

The Ohgushi Respirator continued to attract attention worldwide, and in 1922 Surgeon Lieutenant-Commander G. D. MacIntosh of the Royal Navy published an account of a demonstration of the equipment which he witnessed in the South Seas:

“While on Thursday Island recently, several officers of the HMS Fantome were enabled to witness a demonstration of a new diving appliance, the invention of a Japanese named Ohgushi.

Thursday Island being the headquarters of one of the largest pearl fisheries in the world, anything connected with diving is of real interest to the majority of the inhabitants, and practically all the pearlers and the divers themselves were unanimous in their praise of the apparatus.

As it would appear to revolutionize many of our ideas on diving in general, it occurred to me that a short description of the appliance might be of interest to naval medical officers, especially to those who have enjoyed the doubtful privilege of a trip to the bottom of Portsmouth harbour in the ordinary service dress with, in some cases, the added and still more doubtful pleasure of being blown up between the bilge keels of the diving tender.

The apparatus is simplicity itself, consisting merely of a metal, rubber-padded framework, with a glass front which fits over the diver’s face very much in the same way as a pair of motor goggles, except that the nose is covered by the mask, the lower border of which fits across the upper lip, leaving the mouth exposed. It is secured in position by rubber bands which fasten behind the head.

At one side of the mask, about the level of the eyes, the air pipe is attached, air entering the mask through a valve which normally is closed. An attachment on the lower border has a [horizontal] “Y”-shaped projection which goes between the diver’s lips, and when he closes his teeth on the two separated limbs of this, the valve is opened and air flows into the mask. Air is breathed in through the nose and exhaled through the mouth. The experienced diver takes on an average three breaths a minute.

No special dress is required, and most of the divers wear a kind of woollen overall and rubber-soled shoes. A 20 lb. weight is attached to the hips. Air is supplied to the diver from a compressed air chamber, the pressure in which is regulated according to the depth at which the diver is working.

No pumping hands are required, as with the ordinary...
diving dress; one man keeps an eye on the pressure gauge to see that the requisite pressure is maintained, and one attends to the life-line.

The advantages claimed for the apparatus are:

1. Its extreme simplicity.
2. Not being hindered by a cumbersome dress, the diver can work much more freely and quickly.
3. There is no risk of injury to the diver if he is turned upside down, and no risk of being blown up.
4. It is claimed that there is no danger to health, even from continuous work.
5. Lastly, and most important of all, the depths attainable are far in excess of any that could be reached in the ordinary dress. The times of descent and ascent are incomparably faster, and it is claimed that there is entire immunity from caisson disease.

Why there should be this immunity, or whether it is due to the fact that the body is not surrounded externally by a layer of air under high pressure, is not quite apparent at first sight, but seemingly it is so, as the apparatus has been in use in Japan for some considerable time now without any case occurring. Moreover, the divers, even when ascending from great depths, do not make stops on the way, but come direct to the surface.

In one demonstration here a diver descended in two minutes to forty-five fathoms, remained twenty minutes on the bottom, and ascended in three minutes. The time for ascent from thirty fathoms laid down in the [British Naval] Diving Manual is thirty minutes, and though this, of course, is meant to err on the side of safety, the difference is very striking. The greatest depth so far attained with the appliance is sixty-two fathoms. Its most apparent disadvantages are that it is not very suitable for work in extreme cold, and in waters such as these it does not afford the same protection against sharks. If a diver in the old dress saw a shark near him, he stretched the wrist-band of his dress, and the rush of bubbles generally did the rest; with the Ohgushi mask, of course, this cannot be done. The advantages of such an apparatus for naval work, especially the under-water fitting of ships, would seem to be many, and as so little practice is required, almost any man could be a diver."

While this no doubt provided good sales publicity for the Ohgushi Respirator, it would ultimately prove to be just another of the many faulty theories about diving physics which were accepted as gospel at one time or another. One wonders how many individuals could spend twenty minutes at 270 feet then surface in three minutes without any decompression and still survive to tell the tale. Moreover, the maximum depth of 372 feet with such relatively primitive gear also seems remarkable, to say the least.

Kataoka Kyuhachi, however, was not content with making others wealthy with the Ohgushi equipment. He decided to put the gear to work for himself, and embarked on a number of high profile salvage operations, the first of which appears to be that of a vessel referred to as “the Angicom ship” which had sunk at Palau in the Caroline Islands in 1908. Financed to the tune of two million yen, his company began salvage operations in May 1918. It was not an easy task, although the depth was only about 60 feet, as the six month operation was plagued with bad weather and unfriendly natives. Even so, the fifteen man salvage team, working underwater in continuous three-hour long shifts, managed to recover all the machinery on board and most of the hull, piece by piece.

The Ohgushi Respirator is also known to have been used by Kataoka’s crew during the salvage of the Norwegian ship Calendar during 1918-1919. This ship sank outside the entrance to the harbor at Nagasaki, and necessitated work at a depth of around 200 feet. The extreme depth of this wreck presented a major obstacle, yet the

*The Ohgushi apparatus was used in the salvage of many ships, including the Yasaka Maru.*

*S.S. Yasaka Maru (10,932 g.t.).*
Ohgushi equipment functioned extremely well, and the project did much to build upon its already growing reputation.

The next object of the company’s attention was the P. & O. Steam Navigation Co.’s ship Nile. The Nile was a 6,702 ton cargo ship built in 1906 by Caird & Company of Scotland. Carrying a cargo of pig iron, sulphate of ammonia and cotton, she was on her way from London to Kobe, Japan, via the port of Moji.

On January 11, 1915, however, she met her fate on the fog shrouded rocks off the island of Awashima. Using the Ohgushi Respirator, Kataoka and his crew managed to salvage a fair amount of the cargo, despite having to work at a depth of 120 feet, adding to his reputation as well as to his bank account.

Yet, this was still not the ideal salvage operation which Kataoka hoped for, and by 1922 he began doing research on the wreck which would bring his golden dreams to life—the Yasaka Maru. The Yasaka Maru was a 10,932 ton vessel built by the Kawasaki Shipyard at Kobe. Completed on October 27, 1914, she was added to the fleet of Japan’s largest and most prestigious line, the Nippon Yusen Kaisha (NYK), to be used on their European route. Unfortunately, it was to be a short-lived career. The First World War began a few months before her launch, and she soon found herself traveling through hostile waters on a regular basis. Her path through the Mediterranean was prime hunting ground for German U-Boats and Japanese shipping, as members of the Allied powers, was fair game.

As the Captain of the ship, Yamawaki Takeo was certainly aware of the danger as he proceeded on the homeward leg of his voyage. What he could not know was that lying in his path, near Port Said, was the U-38 under the command of Captain Max Valentiner.

Valentiner was already building a reputation as a submariner, and that reputation was not a good one. At a time when most submarine attacks took place on the surface after giving fair warning to the victim, Valentiner was already launching his attacks without warning. This was definitely the case when he came across the Yasaka Maru on the afternoon of December 21, 1915. The first inkling the liner had of the presence of a U-boat was at 2:35 p.m., when a torpedo suddenly struck her port bow. Captain Yamawaki, who had a reputation for efficiency and organization, calmly assembled the passengers and crew on the deck and within three minutes was already loading the lifeboats. All 282 people were safely loaded, with Captain Yamawaki not leaving his ship until her boilers exploded at 3:24 and she began her plunge to the bottom. The lifeboats were then gathered together and began to row to the southeast, finally being picked up by
the French destroyer Laborieux around midnight. While there was no loss of life, the Yasaka Maru did carry its entire cargo to the bottom of the sea, and it was this cargo – including a shipment of British gold sovereigns valued at 200,000 Pounds Sterling – that attracted the attention of Kataoka Kyuhachi. Others had considered the possibility of salvaging this vessel, including Joseph Peress, but no one actually made the attempt until Kataoka took up the task.

In preparation for the salvage attempt, Kataoka formed a new salvage company, the NIPPON SHINKAI KOGYO SHO (“Japan Deep Sea Industry Co.”) and brought together a team of experts. Among the divers and others he recruited for the job were Yamauchi Jutaro, Ishii Kenkichi, Oba Tatsuzo, Shindo Wakamatsu, Akamine Saburo, Toe Seisho, and Nagao Fukutaro. In 1925 Kataoka and his crew sailed to Egypt on board the Shuho Maru.

Once there, they chartered another ship, the Colonel, to use as a salvage vessel and set off to locate the Yasaka Maru. Because the sinking of the ship was well documented, the vessel was located soon thereafter, and diving operations began on April 29th of that year. It was not to be a simple task.

The wreck was located in the open sea under 70 meters of water. Yet the Ohgushi Respirator lived up to its promise, and salvage operations proceeded at a moderate rate. Even so, the project was not without its cost and one diver was lost in the process. By the time the salvage project was completed on August 8th, after 68 days of actual diving, Kataoka and his crew managed to retrieve 99,991 of the gold coins, a stunning success for both the NIPPON SHINKAI KOGYO SHO and for the Ohgushi Respirator.

The crew arrived back in Kobe, Japan, on September 26th amid a tremendous blizzard of public acclaim, and Kataoka found himself something of a star. He received
many invitations to speak, and probably just as many proposals from around the world for new salvage projects – one of which apparently came from the Soviet Union.

About seventy years earlier, in March of 1854, England and France had been at war with Imperial Russia, and by the end of that year they had successfully landed at Balaclava, in the Crimea. This small port became the base for British operations in their siege of Sevastopol, which lay about 8 miles to the northeast. The Russians had blocked the inner harbor by sinking vessels at the entrance, so the English fleet was forced to anchor in the unsheltered outer roads of the S-shaped bay. Among this fleet was the British steamer Prince, a 2,710 ton ship built that same year and chartered by the British Government from the General Screw Shipping Company. The Prince had transported the 46th Regiment of Foot to Balaclava, but also had on board her the whole of the winter clothing stock for the Army in Crimea – some 40,000 uniforms, coats, socks and underclothing. She had also transported a crew of divers who were to clear the entrance to the inner harbor for the British, and all of their diving equipment was also on board.

On November 14th, at about 5:00 in the morning, a tremendous gale hit the fleet as it rode at anchor. Because of their exposed position, the ships were hit with the full force of the storm. The Prince, which was secured by two small anchors, quickly had her cables parted, and as they attempted to start their steam engines, her masts fell tangling the screws with their rigging. She was quickly hurled onto the rocks, breaking in two almost immediately, and soon pounded to pieces. Out of a crew of about 150 men, only one midshipman and six seamen survived.

In all, eight ships were lost as a result of the storm, but actual cost to the British was to be far higher than the loss of those ships. In the ensuing months, a tremendous number of British troops were lost due to illness and exposure, which eventually would kill more men than actual combat.

By the 1920s, the newly formed Soviet government began to take a renewed interest in the Prince. It was not the now long-decayed uniforms and munitions which drew this interest, but rather a persistent rumor that the Prince also carried the pay for the entire expeditionary force, some 60,000 gold sovereigns valued at between 200,000 to 500,000 Pounds Sterling. The fledgling nation needed capital, and the prospect of simply lifting this amount of gold off the seafloor was naturally appealing and seemed a simple way to swell the coffers of the state. Such things always appear simple to those who have no knowledge of what salvage operations entail.

The Soviets did have some resources to draw upon. The diving school at Kronstadt had been established in 1882, and was turning out a stream of qualified divers. The First World War demonstrated the need for divers and other salvage experts, as well as crews trained in submarine rescue and recovery. Yet the Soviets could not openly conduct this salvage as a state-sponsored enterprise, so the United State Political Board (OGPU – later to be known as the KGB) established in November 1923 the “Expedition for Underwater Works of Special Purpose in the Black Sea”, or EPRON.

It is unclear who initiated the contact, but by 1926 a contract was signed between EPRON and Kataoka’s NIPPON SHINKAI KOGYO SHO to undertake the salvage of the gold on board the Prince. Under this agreement, the Japanese firm was to get 40% of the recovered gold, but were to leave their diving equipment with EPRON at the close of operations.

It was not until 1927 that the entire Japanese crew, consisting of Kataoka and around thirty divers, was assembled. They set to work quickly, blasting rock obstructions on the bottom and hauling them away with a huge winch.

Among the first objects recovered were the Prince’s two anchors, and eventually the exact location of the wreck was determined. Her boilers were located and parts of her engines were also recovered. Also found were several diving helmets belonging to the lost salvage divers who were to clear the harbor at Balaclava back in 1854.

The Ogushi Respirator lived up to its reputation in the course of the operation and no doubt EPRON personnel had the opportunity to be trained in its use.

But all of this hard work was to no avail, and by November 1927 – the date when the Japanese contract expired – the hard working crews had only manage to retrieve 7 gold coins. In accordance with their agreement, Kataoka and his crew were given four gold coins and sent on their way, leaving all their diving equipment behind. Many years later it was learned that the failure to recover the gold was not due to lack of skill on the part of the divers, or by the equipment that they used. Rather, documents from the Bank of England revealed that the
gold had been taken off the ship during a stop prior to its sailing to Balaclava.

At this point, the trail of Kataoka Kyuhachi and the Ohgushi Respirator begins to grow cold. No doubt the financial loss Kataoka suffered on the Prince operation was a tremendous one. Although we know he lived until 1958, we are still attempting to find out about his subsequent activities. The Ohgushi Respirator, too, seems to have fallen out of the limelight in the land of its birth, and it is not known how much longer it was produced.

Thanks to the fine research of Dr. Sledkov, however, we are beginning to learn more about its rebirth in the Soviet Union. Some clues have been with us for many years, such as the mention of the mask under the name “Reydow” or “Raid” in Stelzner’s classic German text on diving Tauchertechnik. But now, through Dr. Sledkov’s researches in various governmental archives in Russia, we are beginning to find manuals and other materials covering the use of the respirator, as well as actual examples of the gear in the hands of the Russian Navy to this day.

The illustrations we have so far seem to show a mask identical to those used by the Japanese, and at this point we do not know if all the masks used in Russia were from the original group obtained from Kataoka, or if they were subsequently manufactured, with or without modification, in the Soviet Union. I’m sure there are still many surprises in store for us.

This research is still ongoing, and Dr. Sledkov has recently published the second issue of the Journal of the HDS Russia, providing much more information about the Ohgushi Respirator after the 1930s. I urge all of you to support his work, and the work of our other fellow students of diving history in Russia, by purchasing a copy.

I would like to extend his thanks and appreciation to the many individuals who have helped supply the pieces which have come together to form this tale. This was a project which truly displayed the spirit of international cooperation which the Historical Diving Society, in all its national manifestations, was intended to encourage. In particular, I would like to single out the following: Tetsu Nozawa, Hironao Tanaka, and Masumi Izutani of Japan, Izumi Cummings, Guy Power and Dr. Silvano Colombano of the USA, Peter Dick of UK, Michael Jung of Germany, and Faustolo Rambelli of Italy. Special thanks also go to Leslie Leaney of the HDSUSA for his encouragement in this project. Thank you for your kind attention.

The author, Nyle Monday is a former Director and Secretary of the Historical Diving Society USA. His specialist field is Japanese diving history and his research has been published in various international publications.
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Dr. Michael D. Curley Named President of Divers Alert Network

Divers Alert Network (DAN) has named career Navy officer and research psychologist Michael D. Curley, Ph.D., as its president and chief executive officer. The appointment became official in June. A search committee selected Dr. Curley to replace Dr. Peter B. Bennett, who retired as president and CEO of DAN in June 2003 after having founded the organization and leading it for 23 years. Prior to joining DAN, in 2003 Dr. Curley operated as a consultant through his Connecticut-based company, the Curley Team, which specializes in research, studies and analyses. Dr. Curley was an active duty naval officer from 1977-2002. He has worked as research psychologist in the Diving Medical Department, Naval Medical Research Institute, Bethesda, Md.; research psychologist, human factors engineer, Navy Experimental Diving Unit, Panama City, Fla.; research psychologist in the Diving Medical Department, Naval Medical Research Institute, Bethesda, Md.; and head of Performance Physiology Division, Behavioral Sciences Department. He has co-written for publication or helped make more than 100 presentations; he also has penned 20 technical papers for the Naval Experimental Diving Unit. In 1978, Dr. Curley graduated from the U.S. Navy’s Diving Medical Officer Course, and in 1983 he earned designation as saturation diving officer. He supervised 11 research saturation dives (depths to 1,106 fsw) and more than 700 experimental, non-saturation dives using mixed gas or 100 percent oxygen for breathing. As an experimental diver on saturation, oxygen exposure, decompression table development and equipment test dives, Dr. Curley personally accomplished more than 400 dives.
The Bellstone
The Greek Sponge Divers of the Aegean
by Michael N. Kalafatas

For centuries, the young men of the Dodecanese Islands earned their living by diving for sponges. They would descend to the bottom of the sea on just a single breath of air, using as a weight and rudder a flat, marble diving stone called a “bellstone.” This ancient technique known as “naked diving” was used until the deep sea diving dress was introduced into the sponge fishing industry in 1863. This new diving suit allowed the diver to remain underwater for long periods of time, increasing his productivity a hundredfold, but it also brought a dramatic change to the biomechanics of diving. Instead of working on just one breath of air, the diver was supplied a continuous stream of compressed air from the surface pump. If he surfaced from the depths too quickly he would suffer “the bends.” Between 1866 and 1895 on the island of Kalymnos alone, 800 young men died of the bends and 200 more were paralyzed. Michael N. Kalafatas’s grandfather, born on the island of Symi, witnessed these events.

In 1995, Kalafatas discovered an epic poem entitled “Winter Dream” written by his grandfather, Metrophanes Kalafatas. The poem, composed a century earlier in Greek, recounts the plight of sponge divers confronted with this new technology. Michael had the poem translated, and using it as his own bellstone, dove into his family’s past and into the history of diving. His research carries the reader from the Dodecanese Islands in the nineteenth century to Constantinople and the Black Sea as well as to contemporary Tarpon Springs, Florida, and Melbourne, Australia, the far-flung outposts of the Greek sponge-diving diaspora. Michael’s historical journey is not only a deeply personal one, but one that also celebrates the families, history and culture of the Greek sponge divers.

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Our second quarter shows started at New Jersey’s Beneath The Sea (BTS), held one week after the Explorer’s Club 100th Anniversary Dinner in Manhattan. HDS was not able to attend this year’s Club function but several members did and by all accounts it was a spectacular event. Beneath The Sea again proved to be a very successful show for the Society. Our local rep, Bob Rusnak, was “loaned” out to run the BTS/HDS Museum of Diving History which drew the usual interested throngs. Greg Platt and Jill Leaney ran the HDS Silver Seas booth with support from Jerry Tackas, Kathy Rusnak and Wayne Collins, while Lenny Spurgen provided chauffeur service when it was all over. Ernie Brooks was also on hand to sign copies of his book, Silver Seas, a Retrospective. Like the HDS, BTS is a non-profit corporation and has been providing a valuable service to the New York area divers for 28 years. Last year the Society’s Bob Rusnak received the organization’s Beneath The Sea Medal for his work, and this year Society Executive Director, Leslie Leaney, was awarded The Diver of the Year Award for his service to diver Education.

A month later the HDS booth arrived at Chicago for the Our World Underwater show. Gregg Platt and Bob Rusnak did the set-up and were assisted by Jerry Lang and Jerry Powell. Vintage scuba enthusiast Dan Barringer from Oregon was a visitor as were several local members. Jim and Susie Joiner of sponsor company Best Publishing had their usual packed booth, but said that this was probably their last show as they were selling the Diving Book Division of Best Publishing. They do however expect to be at DEMA assisting the company’s new owners. (At press time there were eight interested buyers, but no final decision has been made.) Ernie Brooks and Leslie Leaney were also at the show, but sadly missing was HDS stalwart Tom Squcciarini, who passed away last year. Bob Rusnak provides a touching remembrance of his friend, who was one of the Society’s most loyal members, in this issue. Next year’s Chicago show will cover five days in January and it remains to be seen if the HDS can support a regional booth for that duration of time.

During May the Society appeared at six different events. John Kane represented the Society at the Symposium honoring Dr. Peter Bennet’s career at Duke University in North Carolina. HDS UK’s Dr. John Bevan gave a paper on the history of deep diving, and a report on the Symposium will appear in the next issue of this magazine. On the same weekend Kent Rockwell exhibited at the USN Swimmers School Reunion at Coronado, California, and then joined up with Leslie Leaney for the SEALAB Reunion in San Diego. The following weekend the Society displayed at the ADC Western Chapter Conference in San Diego, while at the same time, on the opposite coast, John and Gayle Gallagan of Brass Hat Diver represented the Society at Fort Lauderdale’s Ocean Fest in Florida. A week later the booth was in California for the Long Beach Scuba show, where Nick Icorn presented his HDS Diving Heritage Award to show organizers Kim and Dale Scheckler. Among the many HDS visitors were Bernie Campoli, Norma Hanson, Leslie Jacobs, and Ralph White.
The Diving Locker at Gloucester Maritime Center

Long time HDS member Paul Harling has been very busy with his New England Underwater Working Equipment Group, which operates out of the Diving Locker at the Gloucester Maritime Heritage Center. During 2003 the Center hosted 5,608 visitors from every state in the union, including Washington D.C., and all but four Canadian provinces. International visitors came from 34 foreign countries on all continents, including a visitor who had just returned from Antarctica. High school student Charlie Waller volunteered for the group, which was then able to keep the locker open seven days a week through the summer.

Several new items have been added to the display including an Aquala dress, Viking dry suit, two O’Niel suits, a DESC0 helmet, a WWII U boat crew mans leather suit and a USAF T-1 partial pressure suit that was used in the rescue of a diver from the St. Lawrence Seaway project in the late 1970s.

Arnie Pettiglio has upgraded the working air tanks but the facilities for doing demonstration classic helmet diving were not fully operational. However, after a 54 year hiatus Paul did get to reactivate his first piece of diving gear, which was a converted WWII gas mask. Paul and his group welcome any members headed their way and they can be reached at 987-381-0470.
The Society annual Rally and Awards Dinner will be held on November 5, 6 and 7, in Southern Australia. Details of the event will be sent to Society members in the near future.

Members are invited to send in nominations for the Society's Ted Eldred Award, which is open to any person who has achieved in the field of diving history in the region. Nominations are also being invited for the Society's Member of the Year Award, which is presented for the member who has best fulfilled the Society's aims.

The recent story on Reece Discombe has produced a link between the American respected diver E.R. Cross and Reece. HDS-USA member Sid Macken, who has produced various videos and articles for the American Society, met up with Reece on a visit to Vanuatu. Sid had received the Society's E.R. Cross Award and was in regular contact with Cross until the latter's death in 2000. In conversations with Reece, he learned that Cross had maintained a correspondence with Reece, although the two had never met. Reece showed Sid some of the Cross letters that he had kept in his files. Cross was a founding member of the HDS-USA Advisory Board and it is known from visits by HDS-USA staff that he kept a huge archive of correspondence that is believed to still be located at his home in Washington. Maybe there is a file on Reece among them.

In June the Undersea Hyperbaric & Medical Society held an international meeting in Sydney. This drew together several UHMS members who are also members of the various international HDS groups, and we were pleased to welcome HDS-USA Chairman Dan Orr, NASA astronaut and HDS-USA member Mike Gernhardt and Dr. David Elliot, OBE, from the HDS-UK, among several others.
HDS Exclusive. Signed Copies of *Call To Adventure*, by Hillary Hauser

The Society has recently acquired several new copies of this book written and individually signed by one of diving’s foremost female writers. Hauser was part of the Skin Diver magazine team during the latter part of the last century and has written several books on diving, as well as articles for over 25 different magazines. In this book she tells of the adventures in the careers of some of diving’s most influential international leaders and historic figures: Hannes Keller, Jack McKenney, Dick Anderson, Ed Link, Jacques Yves Cousteau, Joe MacInnis, Ron and Valerie Taylor, Carleton Ray, Sylvia Earle, Eugenie Clark, Rodney Fox, Glen Miller, Jean Michel Cousteau, Bob Ballard, John Lilly, Bob Marx, and Chris Newbert. Their adventures cover a wide range of experiences from the great white sharks of Blue Water White Death, to life under the Arctic ice and dredging for gold in California. The book is well illustrated with images from photographers like David Doubilet, AI Giddings, Jack McKenney, Carl Roessler, Ron Taylor, Bob Evans and others.

Soft bound 8 1/2 x 11 inches, 1987, 208 pages, with color and b&w photos, glossary, index, and signed by the author. HDS special price of $10, plus $4 domestic p&p. For overseas p&p contact the HDS office at hds@hds.org.
Breathing Underwater is the true story of a small group of daring men who set out to conquer the continental shelf by learning to live and work at the bottom of the sea. It’s also well-known diving “Hall of Famer” and prominent Canadian Dr. Joe MacInnis’ own story of his participation as a young medical doctor in this great adventure.

In this incredible account, you get to dive with Jacques Cousteau, Prince Charles, Walter Cronkite, Prime Minister Pierre Trudeau and filmmaker James Cameron. As well you get to spend time in the U.S. Navy’s Sea Lab in the Pacific, MacInnis’ Sub Igloo under the arctic ice and America’s “Inner-Space Station” in the Atlantic.

MacInnis recreates these undersea voyages as only he can... with skill and dedication and attention to the smallest detail.

The book is lavishly illustrated by the work of international award-winning Canadian artist Glen Loates, and celebrates an incredible undersea odyssey of discovery by an international group of diving pioneers.

Dr. Joe MacInnis has written a total of six books on the ocean, which include Saving the Oceans, Titanic: in a New Light, and Fitzgerald’s Storm. He has also written numerous articles for National Geographic, Scientific American, and dozens of popular and technical journals. His new book is a must-have for historical diving buffs or just plain old armchair adventurers, and we are pleased to recommend it. Breathing Underwater will be available in October 2004 (no, our advance copy isn’t for sale!). To order contact Historical Diving Society – USA or Historical Diving Society – Canada.

ADVANCE PRAISE FOR BREATHING UNDERWATER

"Joe MacInnis writes of a time when the oceans’ depths were a vast unknown and a few brave souls were pushing the boundaries of human capability to shine light into that darkness. In eloquent prose, he has captured the golden age of undersea exploration."

—James Cameron, Academy Award-winning director of Titanic

“Breathing Underwater is not only a riveting memoir, it’s an indispensable record of the men and the machines that changed forever our relationship to the sea.”

— Peter Benchley, marine conservationist and author of Jaws

“A compelling, poetic book about an undersea era of courage and brilliance.”

— Jean Michel Cousteau, ocean explorer and marine conservationist
New Boat and Wreck Diving DVD

Hammerhead Video recently announced the release of its latest DVD, *The Simple Guide to Boat and Wreck Diving*. Filmed by Steve and Kristine Barsky, this 45-minute program contains extensive information on diving from large charter boats, small boat operations, wreck diving gear, and wreck exploration.

The program includes diving adventures filmed aboard the Truth Aquatics boats of Santa Barbara, the *Lois Ann* out of San Diego, and in the Bahamas. Equipment was provided by Diving Concepts, Inc., Diving Equipment Specialties, DUI, and Trelleborg-Viking.

The underwater portions of the wreck diving program were shot on the “Sugar Wreck” on the Bahamas Bank and the wrecks of the *Yukon* and *Ruby E*, off San Diego’s Mission Bay.

The video is an ideal supplement to any training agency’s educational programs or as a standalone introduction for new divers who are interested in learning about these specialties prior to enrolling in training.

Steve Barsky shot the underwater footage using a Gates housing for his 3-chip Sony video camera. The program was edited in Final Cut Pro and mastered using DVD Studio Pro software.

*The Simple Guide to Boat and Wreck Diving* has a suggested retail price of $17.95, and is now available directly from Hammerhead Video at www.hammerheadpress.com. Retailers can purchase the video direct from Hammerhead Press at (805) 985-4644, or through distributors such as AquaPress in the UK, Dive New Zealand in New Zealand, and in the U.S. through National Divers, Pacific Books, and Trident.

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We would like to give belated recognition to the 75th birthday of Lotte Hass, which was in November 2003. It is often forgotten that as diver and underwater photographer, Lotte is known to many as The First Lady of the Sea. She took her first underwater photographs in the River Danube in 1949. We present these images in salute to the early career of an amazing woman.

Lotte Hass is a famous underwater photographer, author, and adventurer. She is also a wife and mother.
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HDS France published the third issue of their magazine, L’ICHTYOSANDRE, on March 2004. The following is a brief summary of three book reviews from the contents.

Books of today and yesterday, reviewed by Patrick Ponot.

**18 Meters Deep** The story of a film by Jacques Yves Cousteau, Philippe Tailliez and Frederic Dumas. Editions Durel of Paris, 1946. 39 pages of text and 59 pages of photos. It is noted that this book is dedicated to Commandant Yves Le Prieur. The story begins in 1937, with Philippe Tailliez already passionately interested in underwater exploration. We discover how Tailliez initiates Jacques-Yves Cousteau to the world of spear fishing. Their days are filled with building underwater weapons. From these happy days is born a long friendship. In 1938 Frederic Dumas observes Philippe Tailliez hunting and joins Cousteau and Tailliez. This meeting is the beginning of a long story of the team that Philippe Tailliez baptizes The Sea Musketeers. Separated because of the war, the team reunites in Toulon, during the German occupation, and they start to film 18 Meters Deep. This book is published in 1946, telling the stories and anecdotes of the making of the film. Even though the only name on the cover is Jacques-Yves Cousteau, the authors mentioned on the title page are the trio Cousteau, Tailliez and Dumas. Another anecdote of this edition is one of the authors name is spelt wrong. We see Taillez instead of Tailliez. We are told that the proofreader only saw his mistake when it was being printed. We have never seen the edition with the name corrected. So check yours out. This book exists in hardback and softback.

**The 'Feminine' National Navy. From 1943 onwards**
*By Lucile Clemens-Morisset. Editor Alan Sutton.*


At first they were simply auxiliaries, but women really became engaged in the French forces during WWII. In 1943 they were recognized as full military personnel. Even though the integration into the army and air force was relatively easily accepted, the National Navy was very attached to its traditions, and the marines were reluctant to accept the "Navy in skirts."

During the last 60 years female personnel have relentlessly fought to be accepted, and little by little won their place in the Navy. This book is punctuated with testimonials from the women who have chosen a military career and at the same time kept the sensitivity of mother and female. From ambulance personnel in 1944 to feminine gun marines in the year 2000, the book also covers the careers of women going through the diving school and pilot training for planes and helicopters.

**The Yellow Submarines. The History of Deep Water Exploration, by Dominique Girard.**

Publisher Editoo.com in Paris, 2002. 282 pages, illustrations in the text. So why are they yellow? Simply so they can be seen. This is quite the opposite of their military counterparts who want to be discreet and anonymous. The Yellow submarine is dependent on surface support, but is light, easily manipulated when in the water. For over 50 years the Yellow submarines have become an indispensable tool for oceanographers, biologists and geologists, the oil industry, naval archeologists and even a few travel agents. The author, Dominique Girard served for twenty years in the navy, and more than half that time in submarines.
The history of long distance swimming is almost always associated with one specific and dangerous trial: swimming across the English Channel.

The first person who crossed the English Channel was the English captain Matthew Webb, on August 25th, 1875, covering the distance in 27 hours and 45 minutes.

Crossing the English Channel is not a one-person trial. In attempting to achieve this, the swimmer must have a big team behind them, giving support. Among modern teams there are, a nutritionist, a biochemist, a psychologist, and, of course, a trainer. There are also the family members who will be giving support and encouragement.

Crossing the Channel should be taken seriously, since every training is an endurance test that helps the swimmer get to the final victory. The swimmer’s personal habits, determination and willpower all need to prevail against natural forces and adverse conditions. All these create a great tension in the swimmer. Even with a hard training, unexpected conditions can arise that create serious situations which can jeopardize the best preparation and the greatest of dreams. Even the most accomplished swimmer depends upon the capabilities of their team and the expertise of the ship’s captain. These can make the critical difference between success and failure in crossing the Channel.

The English Channel is located between Dover, England and Calais, France. It is 33 km long at its narrowest part when measured in a straight line. Crossing the Channel is considered “the Everest” of the open water swimmer because of the difficult conditions that combine in this region. The swimmers encounter an unstable climate, currents, cold water, and tidal surge, which all add to the high degree of difficulty in accomplishing a crossing.

In the history of Mexican open water swimming, only 12 men and two women have conquered this water Everest.

In 1953, Damian Piz became the first Mexican to successfully swim the English Channel. Piz crossed the 34 kilometers of the English Channel in 15 hours 23 minutes. In 1955 he made a second journey covering the route in 15 hours 8 minutes, knocking 15 minutes off his previous time. As time went by training methods improved and in 1999, the Mexican swimmer Javier Gutiérrez, crossed the Channel in 8 hours 16 minutes.

Currently, the list of Mexicans who have crossed the English Channel has grown to 14 people. Among them are two women, Elizabeth Hernandez and Nora Toledano. In total 582 swimmers have successfully swum across the English Channel. Of these 402 were men and 180 were women.
Historical Diving Helmets from the Central Naval Museum in St. Petersburg
by Georgy Rogachev & Alexander Sledkov

Denayrouze, France, circa 1882 - 1884

This is the third early Denayrouze helmet that we are displaying from the Naval Museum collection and it has our inventory number of 9259. This helmet is the standard 3 bolt style. The very early 1872 Denayrouze helmet we showed in issue number 34 had an interrupted thread neck seal on a 12 bolt breastplate, and the one we showed in issue number 35 had a three bolt neck ring with a 12 bolt breastplate. This helmet would seem to be the style that the Russian Navy copied, and added a handle to the top, much the same as Draeger and other German manufacturers did. There is a small hook directly under the bolt at the back of the breastplate which we have not noticed on any other helmets. This may have something to do with securing the chest weights. There is a large dent on the top of the helmet.

Front view showing two lower lashing eyes and a right side spitcock.

Right side view showing the exhaust control, spitcock, and the hook on the breastplate beneath the back bolt. Also note the flattened crown of the bonnet.

Back view showing a large dent on the crown and also a circular patch where the speaking tube may have been.

Left side view showing a large circular patch where the inlet elbow for a Rouquayrol Denayrouze style demand unit may have been connected.
Due to the prevailing liability laws in America the HDS-USA does not conduct any in-water activities. Some American based divers have formed groups to restore, operate and preserve the classic equipment of America's rich diving heritage. These groups often contain divers 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, a sad situation that the HDS-USA is forced to endure. This column is produced solely for the interest of our readers. Please consult the HDS-USA disclaimer at the front of this issue.

Classic Brass Hat

Brass Hat Diver. Robert Weathers attended the Brevard Regional Hyperbaric Center's event in Melbourne, Florida, on April 24, 2004 putting on a great display of vintage dive gear including helmets, pumps, double hose regulators and dive-related literature. This was a great hit with visitors and Robert is much appreciated for his efforts. Next up, we had a great time working with the Tradewinds Foundation for the kids at Joe DiMaggio Cancer Center. This included an actual dressing and dive demonstration in a MK-V, along with a dive display of scuba, helmets and pumps. The pleasure of working with these young people gave us our greatest reward and gives us a clear focus to the future of diving and Brass Hat Diver's role in diving history.

Our next event was National Marina Day at Harbor Town Marina in Dania, Florida, on August 14, 2004. We performed heavy and shallow water gear demonstrations along with displays of helmets, pumps and double hose regulators. Other activities include AMO Star Center Safety Demonstration, Junior Angler Fishing Clinic & Derby, Coast Guard Auxiliary Safety Inspections, Family Bar-B-Q, and Face Painting by Rose. This was a great opportunity to photograph vintage gear in action.

Again we would like to thank all the local divers who volunteer and help with these events. If you're new in the area and/or would like to get involved with vintage gear diving give us a call or stop by. H.Y.B. Diving 5851 SW 21st Street West Hollywood, Fl. 33023. www.brasshatdiver.com

British HDS Working Equipment

Covenham Reservoir, Lincolnshire, England. May 15, 2004 saw the annual HDS “equipment testing day,” and we couldn't have asked for better weather. At Covenham, diving is done on a concrete slipway with water depths gently sloping from zero to 14 metres. The slipway is around 15 metres wide and there is a floating jetty allowing the surface attendant to follow the diver into deeper water. The reservoir is used by the local sports diving club in Grimsby and boasts many underwater features to improve compass navigation. Ty Burton, accompanied by his father Cyril, made the long trip with their prime objective being to test his Siebe Gorman 6-bolt helmet and single cylinder pump. I took along my own equipment, but with a few exceptions, we dove Ty's gear as it worked so well. Other long distance travellers included Michael Cocks, Geof Smethurst, Ernie Croft along with Paul and Carol Farr. Some others were more local like Jerry and Cynthia Lewis and, of course, my wife Jane. In the five hours we managed to “dip” ten people including several members of Grimsby & Cleethorpes BS-AC who had come along to watch. Late in the day, diving was suspended while local Grimsby Diving Club Member, Peter Wardle, tried his homemade open diving helmet. (Pete, a specialist stainless steel fabricator, made the collapsible diving ladder for the Northern Working Equipment Group). The helmet, made from stainless steel, is fed from a 15 litre cylinder on a standard backpack with a standard sports diving first stage. One of the low-pressure ports had a standard direct feed
hose attached to a gate valve on the front of the helmet to allow the diver to increase or decrease the airflow. With final checks done, Grimsby BS-AC club chairman Ted Greaves bravely tested the helmet first, quickly followed by Peter himself. For the first attempt, the helmet worked well but some modifications are needed for a second trial. Once again, the day at Covenham proved too short. I think everyone involved had a good day and we all took home those amusing scenes of Pete and Ted testing the home made helmet. - Phil Thurtle.

Treasure Coast Working Equipment Group

We missed the last few issues, so this should update our activities over the last year. We had a great time at Oceanfest in Fort Lauderdale in May 2003 followed by our rally at Jules Undersea Lodge in Key Largo which had a great turnout. Our friends at Morse Diving once again gave us some prizes to hand out. The HDS-USA conference was in Key Largo in October and we assisted with the diving event at the Jules Undersea Lodge the next day. A total of 14 divers were put in to the water wearing two different Mark V rigs. It was the first time for many of them and everyone had fun. We were featured on page 34 of the October 2003 issue of Sport Diver magazine, which resulted in many interested people contacting us. In December we brought a Morse commercial helmet to a Marine Archeological Council (MAC) meeting at the Lighthouse Dive Shop, in nearby Pompano Beach, and explained its function, and Dave Kaplan did a wet demonstration in a Miller Dunn type 3. In April 2003, Rocco Galleta of Industrial Divers got together with Marc Cohen, to do a presentation in front of the Fort Lauderdale Marine Historical Society at Fort Lauderdale City Hall. The topic of the night was the original salvage attempt by hard-hat divers in 1900, to save the SS Copenhagen, which ran aground on a reef off of Pompano Beach. After a month of unloading her cargo of coal, she was declared a loss and settled into the ocean, where she now lies in 30 feet of water. In 1994, the Copenhagen became a Florida Underwater Archeological Preserve and is a popular spot for recreational divers to visit.

We brought a bunch of vintage gear with us, along with a slide and video presentation and it was the best attendance the event had to date. Thanks to Mike Russo for helping to take photographs. We intend to go out and dive the Copenhagen and some other wrecks. Some diving helmets and knives showed up at the annual Dania marine flea market in April, and we will probably be doing a presentation at Oceanfest next year. We might do some display and/or demonstration with the Wreckers Museum in Key West and have been asked to help out with a diving museum in the central Florida Keys. I have been in touch with several of the other working equipment groups about putting on a national rally sometime in 2004, or 2005. Any ideas for a location will certainly be taken into consideration. We would like to have it hosted in a different area each year as a possible annual event. Contact Marc Cohen at 954-565-9754.
California Classic Equipment Divers.

On May 1, 2004 students, instructors, CCED members and guests gathered to enjoy the Open House at the College of Oceanecering's (C.O.O.) San Diego campus. Tours of the facility, classic and modern dive demonstrations followed by a delicious barbecue lunch rounded out the day-long event. It is hard to believe those eleven members of the CCED donned 180 pounds of dive gear to get their chance in the tank, in addition to tending in the hot sun. Harold "Frogman" Nething highlighted the day by dressing out in Mark Howell’s vintage scuba gear and making his first dive in SCUBA in over 50 years. Jocko Robinson dove his Chinese TF 12YC-4 helmet for the first time, and everyone enjoyed trying out the old Schrader MKV. Members Mark Howell, Jocko Robinson, Al Pilkington, Brad Speer, Ken McElvain, Ben Briggs, Kevin Monahan and Charlie Orr shared chores diving and tending. C.O.O. instructor Bob Cave, AKA “The Cork,” demonstrated how to do an “explosive ascent.” His students gave him a lot of good natured ribbing when he claimed it was done on purpose to show them what not to do. Late afternoon found everyone in the shade of the dive tanks enjoying a cold drink and already making plans for the next dive in San Diego. www.calclassic.org

Northeast Diving Equipment Group

The Northeast Diving Equipment Group got off to a good start in 2004 with our annual visit to the Epcot aquarium at Walt Disney World in Orlando, Florida on January 27-31. A dozen members participated Tracy Riley who made her first heavy gear helmet dive, and at the bottom of the aquarium was surprised when her husband of 19 years was in his commercial helmet rig and presented her with her wedding ring (that had been removed "for safe keeping") and over the comms they renewed their wedding vows. Much to the delight of the crowd of Disney spectators, they did a wedding dance in heavy diving gear! Following the Disney dive, we paid a visit to helmet collector Leon Lyons in San Augustine on the way back up north to winter again. We next appeared at the New Jersey Beneath The Sea scuba show where member Don Buskirk brought in his rapidly expanding collection of helmets, including a newly built Desco MkV and a variety of Russian hats. Rick Blake dove his new MkXII rig. Adjacent to the dive tank was the Wyland art exhibit, and the artist was intrigued by our diving gear. He asked Rick to see his MkXII helmet, and after examining it, Wyland autographed the helmet with an indelible marker (that signature has since been lacquered over to preserve it). The site for the Memorial Day Working Equipment Rally had to be changed at the last minute to Dutch Springs, near Nazareth, Pa., when our regular venue, Willow Springs, did not have its insurance in place in time for the event. In spite of short notice (complicated by a very badly timed web site server crash), the turnout was excellent, with visitors from the Netherlands, Canada and California. The Labor Day Rally is scheduled to return to Willow Springs, though we may schedule future “fun dives” at Dutch Springs, that has an excellent facility. Our web master Rick Blake has been very busy with revenue projects and has had problems restructuring the new www.hardhatdivers.org website and getting the 2004 galleries up and functioning, though that should be resolved by the time you read this. Jim Boyd

Dennis Takacs in Vince Scarponi’s Desco MkV. The other diver is Ray Tucker in Jim Boyd’s Aquadyne AH2.

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Hawaii Vintage Scuba Dive

On July 8, 2004, Roger Miller and Lisa Kassnel went diving in Hawaii with vintage scuba gear. Diving from the dive boat Mo'olio in Honolulu, their first descent was a 100 ft, 30 minute swim to the deck of the Sea Tiger wreck, a small freighter sunk in 1999 for purpose of providing a dive site for the Voyager Submarine Company's tourist submarines. The Sea Tiger is the deepest regularly visited wreck in Hawaii. Over 189 ft. long, this retired smuggling vessel lies in a protected area off Waikiki, and can often be dove when other dive sites are washed out due to weather. Depth: 80 ft. to pilothouse, 100 ft. to main deck, and 120 ft. to a sandy bottom. Their second dive of 45 ft. and 50 minutes was on Kaiser Reef, a mostly coral formation. Lisa dove a rebuilt Voit Trieste, with spg, 1961 Voit twin 50s, vintage yellow Aquatic Pinna Nautilus fins, vintage Voit mask, Dacor depth gauge, and an older Bodyglove short suit. Roger wore twin 72s on the wreck dive, with a DA Aqua-Master, and a single 72 on the second dive. As always, his favorite vintage White Stag full power fins, Healthways Seaview mask, and an old Scubapro Depth gauge went along for the ride. The dive boat Mo'olio is owned by Dive Oahu, where Roger currently works. The photos were taken with Olympus digital cameras, Stylus 400, and Camedia C-5050. [http://www.diveoahu.com/](http://www.diveoahu.com/)

For details of regional rallies, meetings, etc., contact the following groups:


**New Jersey, Northeast Diving Equipment Group.** Jim Boyd, organizer. Phone (973) 948-5618, [www.hardhatdivers.org](http://www.hardhatdivers.org)

**Colorado Working Equipment Group.** Contact Ross Boxliter, Phone (970) 278-0738 e-mail: dypedyr@cs.com

**California Classic Equipment Divers.** Charlie Orr, organizer. Phone (310) 834-7051 [www.calcclassic.org](http://www.calcclassic.org)

**Florida's Treasure Coast.** Marc Cohen (954) 565-9754.

**California Central Coast Working Equipment Group.** Scrap Lundy, organizer. Phone (805) 963-4151

**MOAV South East Texas.** A Non-Profit Corporation. Bill Gronvold. Phone (281) 861-6478 or moavbilly@moav.net

**New England Underwater Working Equipment Group.** Paul Harling organizer. 551 Washington Street, Gloucester, MA 19030

**Dutch Working Equipment Group.** Kees de Jonge at helmduiken@chello.nl or Bert Dodde at info@divingheritage.com

**Brass Hat Divers.** [www.brasshatdiver.co](http://www.brasshatdiver.co)

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**Between the Devil and the Deep by Murray Black**

As one of the early pioneers of commercial oil field diving, Murray Black was an industry leader with an abundance of natural bravery. After graduating from E.R. Cross’ Sparling School of Deep Sea Diving Murray progressed through the ranks of the colorful abalone divers and eventually founded DIVCON. His adventures took him under the world’s oceans and around the globe.

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

**AMERICA**

DESCO US Navy Mark V stated to be dated 2-2-45. Appeared complete with some tinning. No bids on an opening bid of $5,500

DESCO pot. Stripped to copper and brass. Serial # low 400s. $1,625

Miller Dunn Divinhood style 3. Appeared to retain most of its original coating. Cracked port glass. $3,901


A. J. Morse & Son Inc, 3 light commercial with several repairs. Stated year of manufacture 1918, $6,000.

A.J. Morse Diving Equipment Co 2 cylinder pump #1138 in ash chest. Appeared in excellent condition. Stated as being manufactured in March 1909. (When the company was A.J. Morse & Son Inc.) No bids on an opening bid of $5,000.

Morse Diving Equipment Co. Mark IIII pump, stated as dated 1941, in ash chest. Appeared unused. Missing the two gauges. $6,000.

Morse Diving Equipment Co. 4 light commercial helmet #6363, stated as being manufactured on 5/26,1949 and sold to the Canadian National Railway. No bids on an opening bid of $3,500

A. Schrader’s Son, New York 4 light commercial. Heavy patina, comms conversion. Looked like a retro fit from a bolt neck ring. Stated date of 1890. $8,500

Snead cast iron shallow water helmet. second style. Appeared to be in good condition. $1,585

Swindell mixed gas. Appeared to be in good condition. $1,803

**GERMANY**

Hagenuk of Kiel, 3 bolt with heavy patina. Appeared complete. Located in Greece. FTMR $3,505

**KOREA**

KIM three light. Hand formed bonnet, straight solder. No tinning, retaining manufacturers tag. $1,515

**BOOKS etc.**

Bouton. La Pearle. 1925 first edition $250.

Davis. A Few Recollections of an Old Lambeth Factory and its Vicinity including some Odd Notes. $1,099

Davis. Deep Diving & Submarine Operations. 5th Edition. $179

Davis. Deep Diving & Submarine Operations. 9th Edition. #998 of 1500. $178

Davis. Deep Diving & Submarine Operations. 9th Edition. No slip case or d/j. $196

Grossett. Down to the Ships in the Sea, w d/j. $125

Hass, Lotte. Girl on the Ocean Floor, w d/j. FTMR $111

Lyons. Helmets of the Deep. w d/j. $811

Lyons. Helmets of the Deep #728 of 900, w d/j. No bids on opening bid of $750

Martin. The Deep Sea Diver Yesterday, Today, and Tomorrow, w d/j. $227

Meier. Up For Air, no d/j, ex lib. FTMR $197

Schenck & Kendall. Shallow Water Diving for Pleasure and Profit, w d/j $125


Young. The Man in the Helmet, w d/j, $175, another, $250
Vintage Scuba Equipment

Regulators and Tanks
Dacor R-3 $178, $118, $36, R-4 $139, $96.
Desco Mask $78, $169, $121.
Healthways (57) Scuba $100, $132, w/ tank $153, (61) $36, Scubair (63) $12, (300) $45, $16, (J) $17, $22
Nemrod Snark III $284, $161,
Northill $500, $497
Scott Hydro-Pak bag/pack/regs in orig. boxes $446
Siebe/Gorman Proto rebreather $288
Sportsways Malibu $45, $59, Navy Unit II, $21, $41, Orca $36, Dual Air $463
US Divers Jet Air $147, $266, AM Aqua-Matic $250, $138, DW Mistral $266, AM Aqua-Master $355, $132,
Military Non-Mag Aqua-Master $375
Voit Trieste $233, $276, 50 Fathom $141,

Spearguns
Healthways Doublette $138
Western Jet CO2 gun $422

Fins
Churchill Voit fins & mask w/ box $272
Cressi Rondine $31, $15, $9
Scubapro Jet Fins $36

Masks
US Divers Aqua-Lung Pro Mask $26

U/W Camera
Calypso, mint condition $631
Leica 35mm housing $668
Rolliemarin with camera $1100
Sea Hawk III Housing $303

Accessories
Nemrod Weight belt $25
Pirelli Dry suit $193
UDT Compass Tritium $132
US Divers Capillary type depth gauge $78
Kids Surf Lung snorkel $94

Books/Manuals/Catalogs/Brochures
1938 Compleat Goggler $608
1950s Sea Net 16mm film U/W Spearfishing $123
1950s Desco catalog $72
1954 Northill, first year, $68
1958 Lloyd Bridges TV Guide $14
1961 Dacor Dart $24
1961 Healthways $13
1963 Navy Dive Manual $17
1964 Voit $68
1965 Scubapro $135
1966 Voit (James Bond cover) $229
Murray D. Black, a pioneer of the oil field diving industry, died on March 21, 2004, aged 74. When Murray Black told his father, a successful lawyer, that he wanted to become a commercial diver, he was cut off without a penny. To earn the money to go to the Sparling School of Deep Sea Diving in Los Angeles, the only commercial diving school in the world, Murray got a job washing dishes on a government construction contract in the Aleutian Islands.

On arriving at the school, he discovered to his dismay that the breastplate of the U.S. Navy Mark V helmet, the equipment Sparling used for training, would not fit over his head. Trial and error revealed that if he put it over the back of his head first, then pulled it over the front, he could "just get it on."

In 1952, there was no oil exploration off California, and drilling in the Gulf of Mexico was still in its infancy. Furthermore, on the West Coast, the established divers had the salvage and construction work locked up. For a graduate of Sparling who wanted to stay in California the only way to make a living as a diver was to go into the abalone shell fishery. When the owner of a small fleet of abalone boats came to the school looking for new divers Black signed on. By the end of his first year he had made $10,000 – a good income in the 1950s – and was working for himself.

The leap to oil fields diving came in 1956 when a drilling contractor in urgent need of a standby diver sent Black to a rig in the Santa Barbara Channel. A week later, he called Black to another drilling vessel, to recover a piece of equipment that had gone overboard in 160 feet of water. He was paid the eye-opening sum of $400. Black thought he was on the road to El Dorado.

In the next three months, he made a grand total $180 which he split with someone else.

Fortunately, a sudden upsurge in drilling led Charles Isbell, a highly experienced diver, to ask Black to join him. In September 1956, in Santa Barbara, Isbell, his tender, and Black formed a joint venture called Associated Divers. As founding members, they brought in some of the best divers on the West Coast.

All the work was in deep water, and all of it was done on air. From 1956 to 1958, Black made 125 working dives to over 200 feet, and in 1957, he dived to 312 feet on a sewage sludge line. In 1959, Black and Isbell obtained a contract with Richfield in Peru, where Associated installed the world’s first underwater completion's, a production method in widespread use today. Individually, Associated Divers was very profitable - the members were averaging $50,000-60,000 a year - but it was structurally unsuited for expansion, and there was constant tension among the group. In 1962, Black left to form his own company, Divcon.

In March 1963, Divcon became the second company in the world to use helium, after its competitor General Offshore Divers. General Offshore conserved helium by breathing from a demand valve in the helmet. Black took the U.S. Navy approach of recirculating the gas. How-
ever, rather than using the highly caustic Shell Natron to scrub the carbon dioxide as the USN did, Black mounted two disposable Sodasorb cartridges, made for hospitals, in a vertical canister behind the helmet. It was cumbersome, and it looked crude, but it worked.

Towards the end of 1963, Divcon obtained a contract with Shell on the Glomar II, off Point Reyes north of San Francisco. The Point Reyes lease, with depths of over 300 feet, was the deepest yet explored. The following January, Black and two other divers, Walter Thompson and Hugh Hobbs, each made a dive to 370 feet, with bottom times of from 23 to 36 minutes.

In 1964, Black received an urgent call from Libya. The Glomar V had been shut down for 23 days at a cost of $30,000 a day. The Libyan Atlantic oil company was desperate to resume operations. Thirty-six hours after stepping on board Black had the rig drilling again. Delighted, the oil company asked him to take over the diving contract, and Black and four of his Divcon team moved to Tripoli. With the search for offshore oil about to go global, the move could not have come at a better time.

A month or two after the start of the contract, Libyan Atlantic announced that the Glomar V would move into 525 feet of water. Could Divcon go that deep? All Black could say was, "We'll try."

Through Dr. Albert Behnke, who had been advising Divcon on an informal and unpaid basis, Black managed to get the U.S. Navy helium tables extrapolated from 410 feet out to 525 feet. It was just as well that he did. Shortly after arriving on location, the vessel dropped the marine riser, the pipe that connected the vessel to the blowout preventer on the seabed. Recovering the riser, which was now in several pieces, and straightening out the mess required eight dives. Black and Thompson both made a dive to 525 feet, almost certainly, the deepest working dives ever made in heavy gear.

In February 1965, Divcon made the first dive on a drilling rig in the North Sea. When the company won a second contract in the North Sea, Black moved his headquarters to London. In 1966, Divcon obtained a contract in the Persian Gulf for the first of its Seatask lock-out diving bells. In two years, the company's turnover skyrocketed from $23,000 a month to $580,000 a month. By most estimates, it was the largest diving company in the world.

In June 1967, after being bought by International Utilities, a Toronto conglomerate, Divcon moved to Houston. Growth continued at a frenetic pace. The company had offices and operations in England, Nigeria, Australia, Mexico, Iran and Libya, a staff of 259 - half of whom were divers - and an engineering affiliate with offices in Houston and London.

Divcon had reached a size where managers and accountants were assuming increasing importance, foreshadowing the almost total replacement of the original diver-entrepreneurs that would eventually occur throughout the industry. In 1969, Black resigned.

The remainder of his life was spent consulting for various marine businesses, operating a successful marine drilling and blasting firm in Florida, on public service activities and big game safaris.

"The World's Greatest Diver," as Black delighted in calling himself, believed that he was the luckiest guy in the world. He lived just long enough to see his autobiography, Between The Devil and the Deep, published.

He is survived by his wife, Margaret, four children, eight grandchildren and two great grandchildren.

Chris Swann

More details on the career of Murray Black can be in Historical Diver Vol. 9, issues 2 and 3. Voices From The Deep, An Interview with Murray Black, by Leslie Jacobs.
In Memorium
Tom Squcciarini

Tom Squcciarini was born in Sayville, Long Island, New York, on September 20, 1958. We often hear the term used “the unsung hero,” and Tom fit that description to a tee. Tom left New York after high school and went to college in Michigan where he was pursuing a medical career. It was here that he was married to Sheila and he lived there until his death in 2003. He was just 44 years old.

I first met Tom not through diving, but through the sport of hydroplane racing, in which he was very active. We were both at a boat race in Michigan where he was involved in a pit crew for another team. As I live on Long Island, and Tom was originally from there, we got on well together and talked about all the old boat races he used to attend. From that first meeting when ever I needed help with my own race equipment, Tom was always there for me, and others, even though he was involved with another team. Tom just loved to help everyone. Sometime around 1996 I found out he was very involved in another sport: Scuba diving. The topic of our conversations moved on from hydroplanes to diving, with a special interest in vintage equipment. One day Tom called and told me about a group of enthusiasts he had located that were doing dives with USN MK V helmets. This was the Northeast Diving Equipment Group, and Tom and I attended one of their rallies, which quickly put us in touch with the Historical Diving Society. This was the start of a close friendship between Tom, myself and the Historical Diving Society.

Tom loved the dive shows and volunteered to man the HDS booth at Chicago’s Our World Underwater and New Jersey’s Beneath the Sea. On his breaks from the booth he would disappear for a while and would later come back with new members, and start to sell them books on diving history and other HDS items. His biggest thrill was finding old dive equipment and working out deals to obtain it. Most of the equipment he located was donated to museums or put on display at the local shows. He always said it was the search for the diving equipment that excited him. Once he obtained the equipment, he would just give it away.

Tom made friends easily and was a great spokesman for the HDS. Between the two shows he worked over the years, he never remembered to submit an expense report for his fuel or lodging expenses. There was always some kind of excuse like, “I forgot,” or “I lost the receipts” or something along that line. He was a very, very, generous man.

We often read in Historical Diver Magazine about diving pioneers and some of the famous name divers. When I think back over the years of how Tom supported diving and the HDS, I feel he should be listed as the “behind the scenes supporter.” I would compare him to the stunt person who never gets the recognition that the actor who he is doubling for gets. In may ways Tom was the “unsung hero” of the HDS.

At this year’s Our World Underwater show I realized just how much he was missed. Many that attended the show asked, “Where’s Tom?” I kept expecting him to come running through the isle with that Squcciarini smile saying, “I just signed up another member!”

Tom is survived by his wife Sheila and daughter Laura. He will be dearly missed by his many diving friends in the Northeast Diving Equipment Group and the Historical Diving Society.

Bob Rusnak
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