

While Bret Gilliam worked with great white sharks off Guadalupe Island in Mexico, this 18ft, one-ton female swam up to him and posed less than three feet away, while he was outside the cage.

Interview with Bret Gilliam

—Trailblazer & Founder of TDI

Interview by Andrea Murdock Alpini
Photos courtesy of Bret Gilliam

If you love scuba diving, deep dark waters, decompression procedures and mixed gas theory, you must have heard the name many times: Bret Gilliam, a revolutionary trailblazer in the dive world. Over the past few decades, he has changed the way scuba diving is practiced.



PHOTO COURTESY OF BRET GILLIAM

Bret Gilliam being inducted into the AUAS Diving Hall of Fame in 2012

Bret Gilliam is a kind of living anecdote, a man with a thousand dive stories. Recently, I had the chance to sit and talk with him and hear some

of his tales. We discussed hyperbaric medicine, diving records, the scuba industry and the future of closed circuit rebreathers (CCR) as well as open circuit. What follows is the condensed version of

the interview. For the full-length version, please go to: xray-mag.com/content/interview-bret-gilliam-founder-tdi

Nothing appears as it really is. Gilliam is a kaleidoscope; getting inside his point

of view requires time. So, take a deep breath and plunge into the mystic world that is Gilliam's life, in which submarines, sea vessels, humpback whales and ocean exploration merge into one.



BRET GILLIAM



COURTESY OF BRET GILLIAM



PHOTO COURTESY OF BRET GILLIAM

Bret Gilliam and his father Gill diving in the Bahamas in 1959 (far left). He started diving in Key West at the age of eight—it set the path for his entire career; Dr Mendel Petersen of the Smithsonian Institution, George Tyson, Dr Alan Albright, Bret Gilliam and Dave Coston excavating the wreck of the *Santa Monica* off the island of St John in 1972, with their early proton magnetometer (left); Gilliam operating a recompression chamber for NOAA in 1988 (right)

in the growing field of technical diving, electronic dive computers, rebreathers and other technological advances. He was inducted into the Diving Hall of Fame by the Academy of Underwater Arts and Sciences (AUAS) in 2012 as a recipient of the NOGI Award. Currently,

he serves as a consultant to businesses in the dive industry as well as a litigation strategist and diving/maritime expert witness.

AMA: *What was the dive that changed your way of seeing scuba diving? I mean, a dive that was like an epiphany, a dive that changed your point of view in technical matters...*

BG: I began diving at age eight in 1959 in Key West, Florida. My father had introduced me to snorkeling and we watched the first television episodes of *Sea Hunt* that year. That show inspired me to take up diving, and my father allowed me to sign up for some of the first dive training offered in that era. I started my first business in 1961 at age ten, trapping fish to sell to the Key West Aquarium and to several others. I was making good money with my fish sales, and my little company was successful. That launched my initial involvement in diving, and I was hooked.

AMA: *Can you describe the golden era of scuba diving, which you lived through? Was it a heritage?*

BG: The dive industry was constantly evolving, and some incredible growth began in the early '70s. Professional dive facilities were created, as well as modern dive vessels, expanded certification training, astounding advances in equipment design, exotic dive travel... industry growth was superb. We began to see the decline in the late '90s as younger participants were not as attracted to diving as a sport. Since about 2003, we have seen

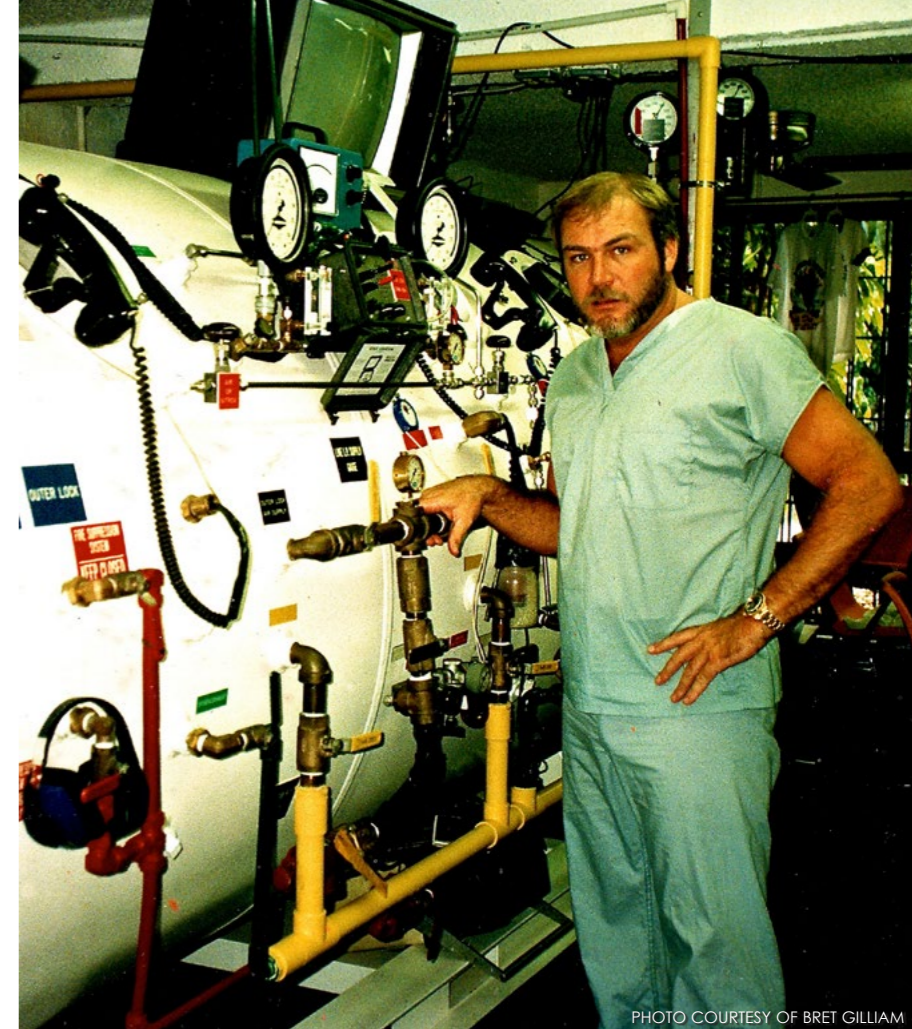


PHOTO COURTESY OF BRET GILLIAM

successful entrepreneurs.

His papers have been published by the International Society of Aquatic Medicine (ISAM), Divers Alert Network (DAN), Undersea and Hyperbaric Medical Society (UHMS), National Oceanic and Atmospheric Administration (NOAA), and South Pacific Underwater

Medicine Society (SPUMS). He was also a contributing author and editor on the topic of "Diving Emergency Medicine" in the reference textbook, *Prehospital Trauma Life Support*, published by Mosby Lifeline, used by physicians, nurses, DMTs, EMTs and paramedics.

Gilliam's awards include NAUI's Outstanding Contribution to Diving Award (twice) and Beneath the Sea's Diver of the Year, as well as international recognition for his film work and photography. He is listed in the *Who's Who in Scuba Diving*, published by Best Publishing, and was inducted into the internationally prestigious Explorers Club as a "Fellow National" in 1993. Gilliam has twice held the world record for deep diving on scuba and has been a leader



PHOTO COURTESY OF BRET GILLIAM

Bret Gilliam on a film project for *National Geographic* in the Virgin Islands in 1977

the dive industry decline.

The leadership in the industry has also suffered, and with the current state of financial decline and the effects of the pandemic, I do not have a good feeling about the future. I sold the last of my dive companies in 2005, and it was the best decision I made. I am still involved in high-end book publishing and legal consulting. Many of us from the era developed very sophisticated and efficient business models in all segments, but many lacked the entrepreneurial skills and vision to achieve long-term success. When I sold the last of my companies, the aggregate value was about US\$80 million. That's almost beyond belief today.

AMA: *As a captain, you have been merged with the sea, from the surface to its deepest points. What does the ocean or the sea represent for you?*

BG: From my earliest experiences in life as a kid, the ocean has drawn me in. I learned to swim before I could walk and became an experienced snorkeler as a



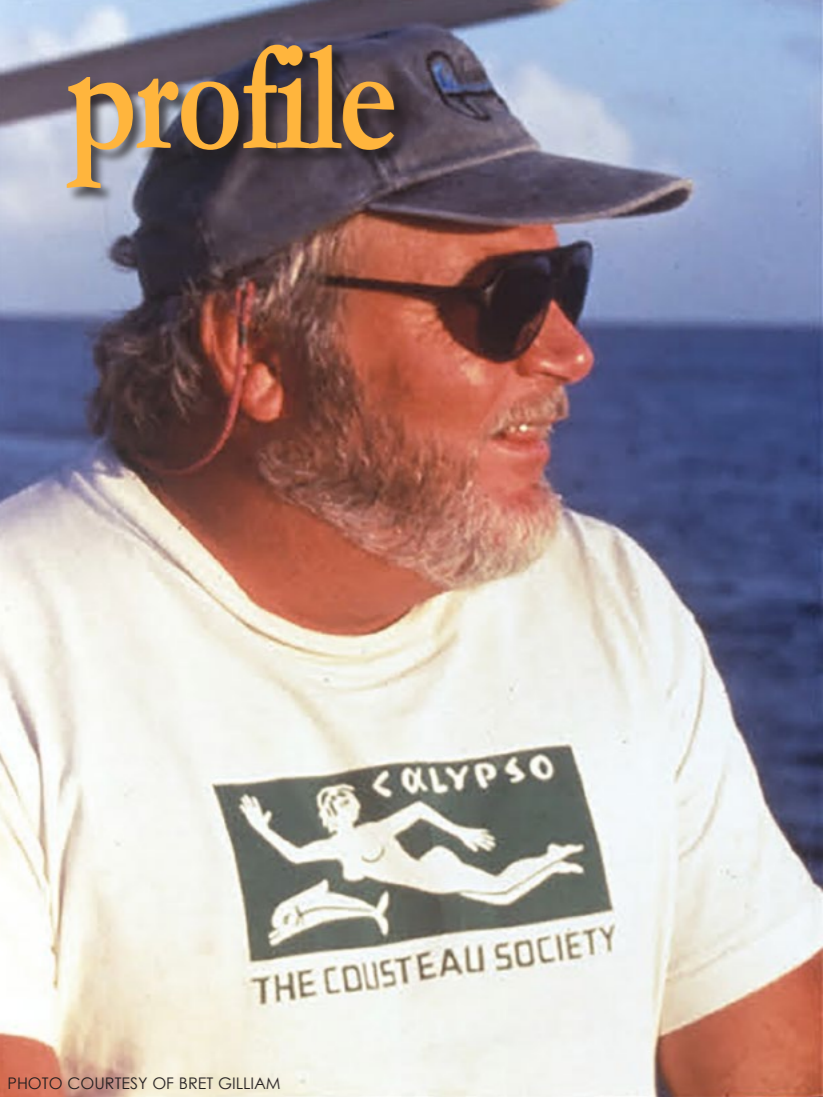


PHOTO COURTESY OF BRET GILLIAM

Bret Gilliam aboard the *Calypso*, filming with Jacques-Yves Cousteau (left)

later became the manager of their company. I was lucky enough to work with some of the best professionals in dive research, including early work on decompression algorithms, physiology, dive treatments, saturation habitats, deep submersibles, and a seemingly endless list of other projects. For the last 50 years, my career path has been professional diving and vessel operations worldwide.

AMA: Who was the most influential person you have met in scuba diving?

BG: Dick Bonin was an ex-Navy diver and then went on to found Scubapro. His insight, knowledge, expertise and wonderful personality bonded us. His mentorship was invaluable. We

both made a fortune in diving. We were friends and colleagues for nearly five decades—a true pioneer, and I was so honored to know him.

AMA: *Becoming a member of the Explorers Club and being inducted into the AUAS Diving Hall of Fame are great honors... When did you receive them?*

BG: I was inducted into the Explorers Club as a Fellow National in 1993, its highest honor. I was also voted into the AUAS Diving Hall of Fame in 2012 as a recipient of their NOGI

Award. I'm truly grateful.

AMA: *Exploration, as a pursuit, was once just for a select few, now the word is sometimes abused in conversation. How do you interpret this concept?*

BG: I have been involved in worldwide exploration for decades and had the privilege of working with so many amazing people. I have been a member of the Explorers Club for nearly 30 years and greatly admire the organization's contributions. But there are a lot of folks out there that do not actually meet the criteria. It seems that many are more concerned with sewing a patch on their jacket or pumping up their supposed qualifications...

AMA: What are the "must-have" books for a dive library?

BG: *The Silent World* by Cousteau, anything by Stan Waterman, *Sea Change* by Sylvia Earle, *Fifty Fathoms* by Blancpain, *Diving with Safety* by Bev Morgan, and *Silver Seas* by Ernie Brooks.

AMA: *What was your professional relationship with Tom Mount like? Can you describe how the masterpiece, Mixed Gas Diving: The Ultimate Challenge for Technical Diving, was born?*

BG: Tom and I met in 1972 and immediately established a close relationship. Tom was one of the most skilled divers I

Bret Gilliam, Dick Bonin (founder of Scubapro) and Bill Walker outside the first location for V.I. Divers, Ltd in 1974

had ever met, and we had so much in common. Ken Loyst of Watersport Publishing asked me to do a sequel to *Deep Diving*, and that was a bestseller, so we collaborated on *Mixed Gas Diving*.

AMA: *When did you get the idea to study the physiology of oxygen and its effects in scuba diving theory?*

BG: It was crucial to our survival to be able to manage the extreme depths we worked in and to have a full understanding of the potential hazards. There are many aspects of diving physiology that were complicated and presented special challenges. The management of the oxygen exposure and issues of oxygen toxicity were at the top of our list of hazards.

I was mentored by a diving medical officer who brought me in to run the Navy recompression chamber on the ship. This led to a six-month period with him covering virtually all foreseeable contingencies.

Oxygen was just one of our daily considerations in dive planning. Back in 1971, 50 years ago, we had to deal with so many subjects, which directly affected our dives, that it really concerned the ship's officers. But we used our practical experience and accessed medical references to make certain that we could deal with narcosis, oxygen toxicity, HPNS, work of breathing from the regulators at extreme depths and so many other issues.



PHOTO COURTESY OF BRET GILLIAM

Again, back in that era, we routinely worked deep on air, and our standard PO₂ limit was 2.0; that was modified to 1.6PO₂ in the '70s. But we needed to get deeper and switched to heliox below 300ft. Overall, we were completely comfortable with the dive plans we created, and the Navy was extremely pleased that we could get the filming done at such extreme depths.

There is no question that our project was extremely high priority due to the Cold War tactics of submarine operations. In essence, we were considered expendable. So, we concentrated on adapting our dive plans, equipment, decompression procedures and contingency planning to stay alive. We finished the project way ahead of schedule, and I was released from further military service. Fascinating times!

AMA: *How have human factors influenced your technical thoughts on deep diving?*

BG: The underlying science and physiol-

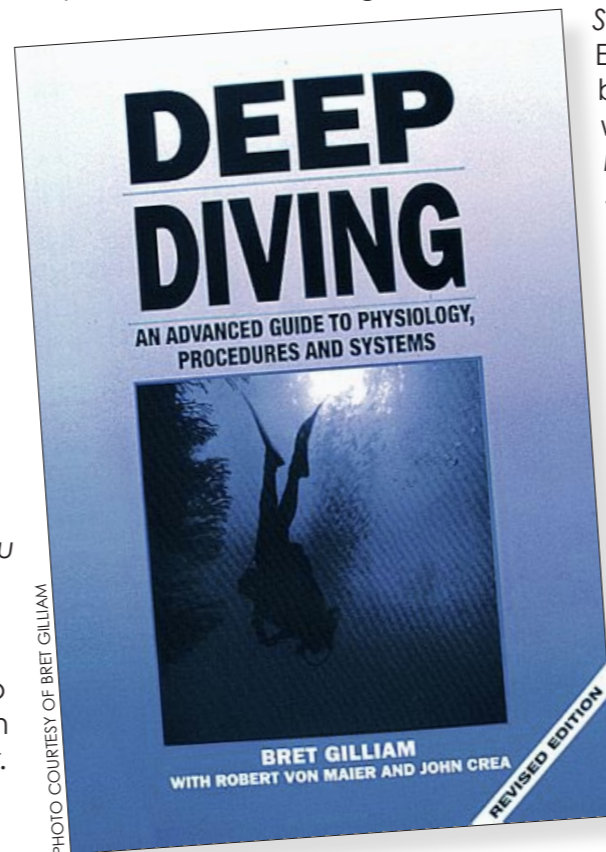


PHOTO COURTESY OF BRET GILLIAM

Deep Diving, by Bret Gilliam, published by UNKNO

Dick Rutkowski (left) developed the first nitrox training courses when he founded IANTD. Tom Mount, Billy Deans and Bret Gilliam were all founding partners; The custom dive tables created for Gilliam by Randy Bohrer when they started *The Deep* project in 1989 (right)



PHOTO COURTESY OF BRET GILLIAM

Rebreathers have a place in many areas of diving, but they also are expensive for most divers, require extensive training and practical experience, and many specialty manufacturers have had trouble staying in business. I am all for innovations and technological advancements. But there has been a high incident rate for both injuries and fatalities within certain technical diving segments, and this needs to be recognized and resolved.

AMA: Hyperbaric medicine has grown up fast during the past few decades. You have been involved in this field for 50 years. Can you give us an overview about how hyperbaric medicine has influenced scuba diving from the past to the present

day? How do you see the future of this field?

BG: The research and development of procedures and protocols in the treatment of divers has been extraordinary. And the knowledge and expertise of the hyperbaric medical experts have been equally distinctive. Working with guys like Dr Tom Neuman, Dr Paul Cianci, Dr Bill Shane, Dick Rutkowski and others was so valuable. I think so much has been accomplished that a new level

of excellence has been achieved.

What worries me today is that so many hyperbaric facilities and field chambers have been shut down for financial reasons. The future is a bit unknown and how the diving medical treatments will emerge with far fewer hyperbaric facilities is a bit unnerving.

AMA: What does "freedom" stand for you—in relation to scuba diving practice, of course?

BG: My entire professional career was in diving, and I owned my companies, so I did not really have to answer to anyone. I tried to use the best judgement I could for training, safety, boat operations, etc, and allowed my diving customers the freedom to make their own decisions for diving based on experience.

Many dive operations were very restric-

tive and put rules in place that made no sense to well-experienced divers. My companies were different. We allowed decompression dives. We had no limits on depth. We allowed our diving customers complete independence based on our evalua-

tions of their training and experience.

Many of our customers did three to five dives per day in an era when most divers were limited to one or two.

The Cayman Islands restricted all dives to 100ft or less—no deco, no nitrox, no dive

PHOTO COURTESY OF BRET GILLIAM

Gilliam's Proprietary Tables

First edition: Randy Bohrer to Bret Gilliam's specifications to 500 fsw. Produced in 1989.

Depth (fsw)	Decompression Stop (ft./min.)												
	120	110	100	90	80	70	60	50	40	30	20	10	Total
300								1	3	4	8	13	29
350							1	3	4	7	10	20	45
400						2	3	3	7	8	14	29	66
450					2	3	3	6	7	11	19	42	93
500			1	2	3	3	6	5	10	15	26	57	128

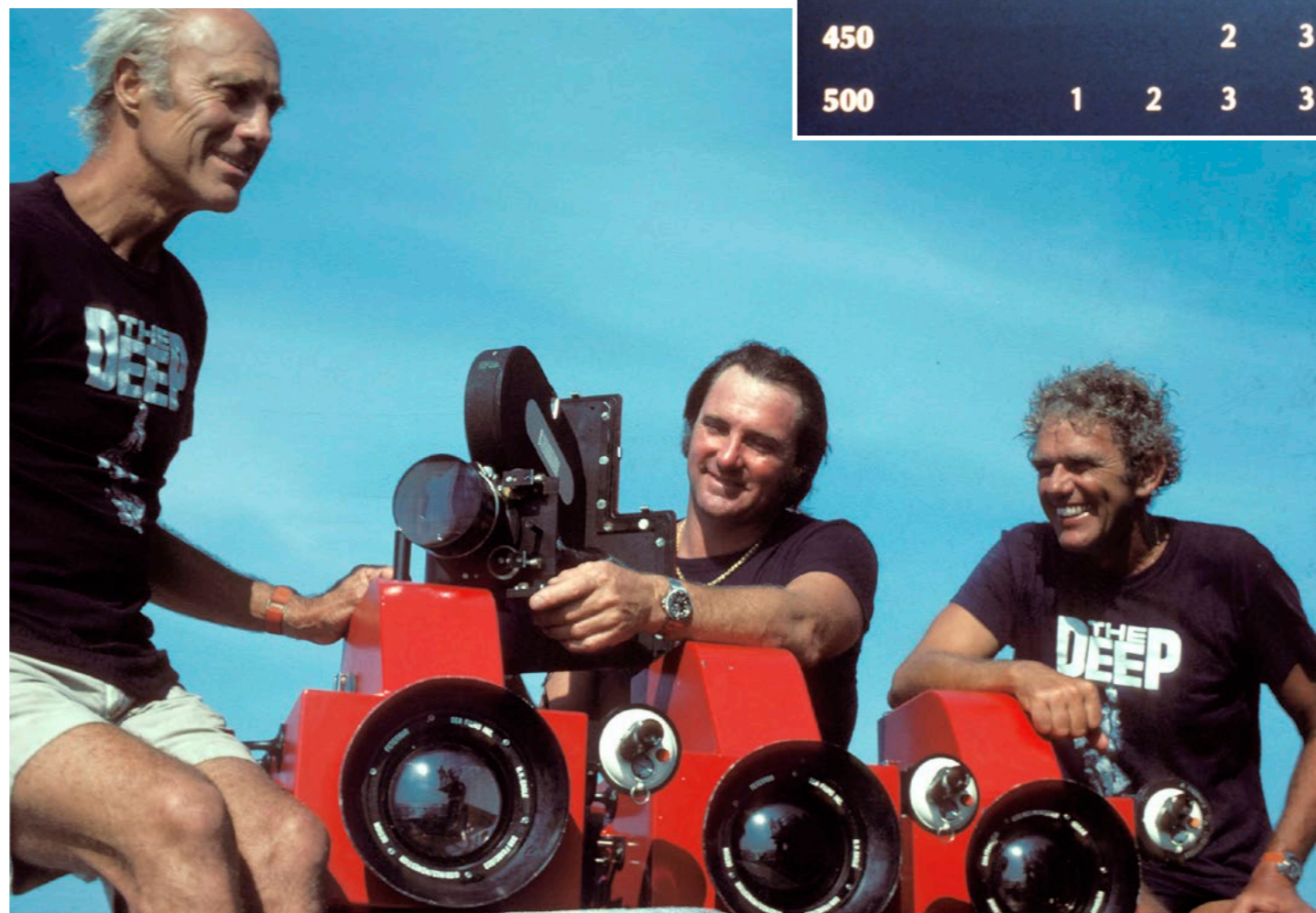


PHOTO COURTESY OF BRET GILLIAM

Stan Waterman, Al Giddings and Chuck Nicklin on location filming *The Deep* in 1976

computers, and your second dive could not be deeper than 50ft. All divers were herded into groups with no independent diving allowed at all. It did not make for a positive customer experience for most divers, and it drove thousands of divers to abandon the Caymans and other areas.

Freedom is good if such procedures and practices are well thought out and practical. It worked well for me and my companies. When I founded Ocean Quest International in 1988, we averaged nearly 1,000 dives a day with our customers. That's over 4,000 dives a week. It was the largest dive operation in world history.

AMA: Al Giddings was the only American scuba diver on board the first Italian expedition on the Andrea Doria wreck. What was the professional relationship you had with him?

BG: Al and I met in 1971, and I became the distributor of his underwater photog-





In this photo taken by Bret Gilliam, a humpback whale in Tonga comes over to visit him.

Bret Gilliam surfacing from a 2,500ft dive in a deep submersible in 1992



PHOTO COURTESY OF BRET GILLIAM

raphy line in the Caribbean called Giddings-Felgen. Great products! Then, I did some early movie work with him before we started work on *The Deep* in 1976.

The list of his movies that we worked on is amazing. Al was THE go-to underwater film guy, with such hits as *The Deep*, *The Abyss*, *Titanic*, *Never Say Never Again*, *True Lies*, *The River Wild*, and scores of documentaries and television series, including the ABC *Ocean Quest* series in the mid-1980s.

Al Giddings was editing the final underwater footage for *Titanic*, which would be released a few months later in 1997. We ended up at dinner with his neighbor actor Dennis Quaid that night at Al's estate in Montana. Amazing man and a wonderful mentor!

AMA: If you had one choice, what would be your favorite dive?

BG: I started working with whales in the mid-'60s and have been emotionally attached to them ever since. My favorites are humpbacks. They have a friendly gregarious nature, and I love filming them. I freedive, holding my breath, for almost all dives. We found out, decades ago, that humpbacks do not like exhaust bubbles and simply disappear if you come anywhere near them.

But the whales seem thoroughly happy if I simply freedive with them. I can routinely hold my breath between three and four minutes and get down to 150ft or so. The whales get curious as to why a human is so deep and come over to check me out. I have been truly blessed over my life to spend so much time with whales all over the world.

"Have you ever seen the rain?" Getting the correct answer to

this question is not easy—just ask Alice in Wonderland if you wish. By the way, have you ever meditated on the real meaning of the question? If you want to understand the deeper meaning beyond the words, continue reading the extended version of this interview at: xray-mag.com/content/interview-bret-gilliam-founder-tdi. If not, take the "left hand pill" (like the choice Neo faced in the film, *The Matrix*) and you will immediately step out of the "reality" beneath the words. ■

Based in Italy, author Andrea Murdock Alpini is a technical diving instructor for TDI, CMAS and ADIP. Diving since 1997, he is a professional diver focused on advanced trimix deep diving, log dives with open circuit, decompression studies, and research on wrecks, mines and caves. Diving uncommon spots and arranging dive expeditions, he shoots footage of wrecks and writes presentations for conferences and articles for dive publications and websites such as ScubaPortal, Relitti in Liguria, Nautica Report, SUB Underwater Magazine, ScubaZone, Ocean4Future and InDepth. He is also a member of the Historical Diving Society Italy (HDSI), and holds a master's degree in architecture

and an MBA in economics of arts. He is the founder of PHY Diving Equipment (phidiving.com), which specializes in undergarments for diving, as well as drysuits, hoods and tools for cave and wreck diving. Among other wrecks, he has dived the Scapa Flow wrecks heritage, Malin Head's wrecks and the HMHS Britannic (-118m), Fw58C (-110m), SS Nina (-115m), Motonave Viminale (-108m), SS Marsala (-105m), UJ-2208 (-107m) and the submarine U-455 (-119m)—always on an open circuit system. His first book, *Deep Blue*, about scuba diving exploration (in Italian) was released in January 2020 (see amazon.it). For more information on courses, expeditions and dived wrecks, visit: wreckdiving.it.

BRET GILLIAM

