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FORCE FIN MAN

How Bob Evans Revolutionized the Dive Fin

By Mark McDermott

(Photos courtesy of Force Fin, except where noted)



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Meeting Force Fin's Bob Evans for the first time can, for the unprepared, take on the atmosphere of a cosmic encounter of the third kind. Bob's "much larger than this life" personality has endeared him to his diving "fan-base" around the globe who eagerly seek him out at dive shows, and the Society counts him as one of its greatest assets, supporters, and friends.

Starting life as an American in Paris, Bob has followed his dreams more than he has followed any career path. Along the way he matured into one of the leading underwater industrial artists of the 20th century. After four decades of often savage diving industry infighting, survivor Bob has carved a unique

place in modern diving history. As his industry scars heal and fade, and his Force Fins wing their way over and under the world's oceans, Bob's contributions are at last being acknowledged and recognized by his diving peers.

Recognition and acknowledgment from his artistic peers was secured long ago when his Force Fins were added to the permanent collection of New York's Museum of Modern Art. And even the Pentagon likes him! Well, sort of.

Here South Bay's Mark McDermott records a little history of Bob's Long Strange Trip.

—Leslie Leaney

Bob Evans won the war. But like many inventors, he lost a lot of battles along the way.

This is a story about fins. It is also about persistence, grave robbers, underwater mirrors, whackers, mussels, mentors, friendship, enmity, visionaries and the strange things that happen when machismo temporarily triumphs over technological good sense.

dusty road, by a small lake. The owner, an older man with a protruding belly, seemed keen to try the fins, but needed a wet suit to try out also. Billy squeezed the man into a small size Body Glove suit. Then Evans and the owner grabbed some Force Fins and headed into the stagnant, smelly shallow lake, having to wade into its center to find and swim-mable depth.



1982, March. Orlando, Florida – Billy Meistrell Jr., Robbie Meistrell, Bob Meistrell and Bill Meistrell in the Body Glove booth at DEMA. Note the Force Fins at the left of the picture.

But let's begin in a mucky little lake in rural Florida, circa 1981. Evans was on the far end of a great road trip with 18-year-old Billy Meistrell Jr., the son of legendary Body Glove co-founder Bill Meistrell. The pair were traveling the country in a very large old model Ford loaded to the gills with fins. They had been to several diving industry trade shows introducing Force Fins, a revolutionary new dive fin that Evans designed and Body Glove produced.

As Billy remembers the story, Evans was obsessed about a call he received from a dive shop in Florida. The owner, Evans said, wanted exclusive rights for the entire state.

"I asked, 'Bob, how many fins did this guy say he could sell?' Bob hadn't even asked," Meistrell recalled.

Nevertheless, the pair high-tailed it to Florida.

After much searching they eventually located the dive shop in a little shack down a

Once there Bob proceeds to demonstrate the virtues of the new fins but the store owner turns to him and says "I think I'm having a heart attack!" Evans had to tow the owner back to shore. Once recuperated the owner placed an on-the-spot order for three pairs of Force Fins. So much for the Florida exclusive!

At that time Evans was 31, and he was already an accomplished underwater photographer. But over the previous decade, he had taken up a side project. He used sculpting skills picked up as a child from his father, the artist Gordon Evans, and painstakingly constructed mold after mold to finally produce a dive fin unlike anything the world had seen before.

The fin imitated nature. Unlike the big, stiff rubber fins that came before it, the Force Fin's polyurethane body (called a blade in the industry) was flexible. When a diver's leg kicked down, the fin arced, setup a recoil, and rebounded to create



Purple Reigns in an underwater art form. A sleek Excellerating Force Fin in amethyst purple.



(Above and below) 2001, November. Fiji. Jean-Michel Cousteau testing the Force Fin OPS.



2001, May. Fiji. Ocean Future's Chief Diver, Don Santee, wearing SD1 Fab Force Fin.



2001, November. Fiji. Dr. Sylvia Earle using Tan Delta Force Fins.

its own thrust as it moved the diver's leg back up. Two other features also contributed to better, more efficient movement: the fin's foot pocket didn't cover the diver's toes, and thereby took stress off the cramp-prone foot and calf muscles, allowing a diver to use his or her larger quadriceps muscles instead. And the blade had a V-split, which created more efficient water dynamics. The water was channeled out directly behind the fin, bolstering propulsion, rather than off to the sides in an inefficient, spatula-like flow.

On top of it all, the Force Fin was a thing of beauty. Years later, the Museum of Modern Art in New York would add the Force Fin to its permanent collection. But from its very beginning, the fin's sleek, sculpted design attracted attention, albeit sometimes creating an irrational suspicion among divers that its form superseded function. It

seemed too pretty to be good.

BOB BY GOD

Force Fins have gone far since their early days. They are used by the most elite divers in the world, including the Navy Seals and Jean Michel Cousteau's Ocean Adventures expedition team. A Pentagon-funded study found the fins to be among the most efficient fins available. Engineers put Force Fins inside Boeing's wind tunnel to study lift factors, and the keel of Dennis Connor's *Stars and Stripes* vessel has a strikingly similar foil design.

Force Fins, after years of skepticism and even ridicule, have become the most widely imitated fin design in the diving industry. And although Evans has never won the wealth that his innovations should have earned him, he has in recent years been awarded some of the most prestigious honors in

the diving world. In 2005, the Academy of Underwater Arts and Science's awarded him its NOGI Award, known as the "Academy Award of Diving." In 2007, New York's Beneath the Sea non profit organization presented him its "Diver of the Year" award.

The capstones of Evan's career as a fin designer came about when Cousteau asked him to make a fin for his team. That fin, the OPS Force Fin, was used by the Ocean Adventure team in perhaps their most famous expedition, the 2004 "Voyage to Kure." The expedition film was shown on PBS and lead to the designation to Northwestern Hawaiian Islands, a 1,200-mile-long string of islands and atolls, as the largest marine reserve in the world.

"There couldn't be a higher honor," Evans said of Cousteau's use of his fin. "To me, he is the ultimate diver."

Evans was never trained as an engineer. Famed ocean engineer Dr. Phil Nuytten,

one most influential deep sea exploration pioneers of this age, has described Evans as "Bob by God" – an engineer, in other words, whose degree apparently comes from a power higher than education.

Evans unlikely journey began with observation. He was a photographer with a bent for invention, and he simply paid attention.

"You see an alligator or a water moccasin swim through the water? It glides," he said. "Or undulates. Whales undulate. Dolphins undulate. One day in my backyard, it was raining and I was watching the water and how it was going out to the end of a leaf blade. I thought to myself, 'Oh, look at water, and see what it wants to do: it wants to go the easiest route possible.'"

Evans, 58, endured a route that wasn't quite so easy. The dive industry broadly rejected his designs for many years, and even today misinformation lingers about their effectiveness. But like he did 26



1971, September 21. Annacapa Island, California. Bob Evans in his days as an underwater photographer. Photo courtesy of Bev Morgan. ©2008 All rights reserved.



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years ago in that lake in Florida, Evans has shown an almost crazed perseverance – and an ability to endure the muck – that has allowed both he and his fin to survive and finally triumph.

Former HDS Director Blair Mott, the chief diver for Cousteau's Ocean Adventures Team, said his first dive instructors back in the late 1980s would not allow him to use Force Fin because they didn't think they worked. Now he and the Cous-

less than rational – is actually not that unusual. It's similar to the decades long resistance surfers had to shortboards. The early shortboards were thought appropriate only for girls. Big heavy boards were viewed as more manly, despite their more limited performance.

Recently Force Fin received a call from a man vacationing on the Red Sea. He was from Santa Barbara but had always dismissed Force Fins. They were too pretty, he thought.

previously existed suddenly drops. "You put those fins on and that first feeling is freedom and mobility," Mott said. "We talk about it on the team here about fins being either boards you strap on your feet or an extension of your body. Force Fins fit the latter description... They do what we need to do."

"It's the most efficient fin ever made," Mott added. "And they look damned good. It's a work of art, isn't it?"

THE GRAVE ROBBERS

Gordon and Betty Evans were not your average parents.

Gordon was a WWII Marine who returned to his hometown of Hermosa Beach, married Betty, and utilized the GI bill to take off for Paris with his young bride and become a painter. Gordon studied at an art academy in the mornings and painted the streets of Montmartre in the afternoons while Betty learned French cooking. Bob was born in Paris.

They returned to Hermosa long enough to have two more children, but by the time Bob was eight the entire family moved again to Europe – this time to Italy, with five-year-old Susanne and two-year-old Jeanne also in tow.

"I guess it would seem strange now, but we didn't think twice about it at the time," Gordon said. "You just do it. I think it was the wife. If I hadn't a wife like that... Usually, once a wife gets perks, they don't want to move. But she was like, 'Let's go!' We both felt the same way. She was always ready for adventure or travel."

Betty, a culinary author who passed away in 2006, wrote about the experience in the preface of her Rome Cooking book many years later.

"We had the thought that Gordon could paint, we could visit the ruins, it could be unique experience for the children, and I could learn about Italian food," she wrote. "Finding a spot to rent was difficult... a local artist suggested we go see Irma. This lady lived in a tiny apartment on Via del Baubino. She greeted us at

her door in a lounging robe, cigarette in her mouth and a wine glass in her hand. 'You are artists and I will help you,' she said."

While in Italy, his parents helped Bob pursue his interest in archeology. The family made regular excursions to old Etruscan necropolises – the "cities of the dead" – located north of Rome. On one such expedition, while digging through the rubble, Bob found ancient pottery shards. As he exclaimed, Gordon and Betty ran to his discovery. "My dad pushed me out of the way," Bob said, laughing. "I'll never forget it. Once I found it, they pushed me out of there and my mom and dad started digging through this stuff."

They took bags of shards from the site and later reconstructed what turned out to be a piece of the famed Etruscan "bucchero" earthenware. Later, after they had returned to Hermosa Beach, 11-year-old Bob made his first molds. In his father's backyard studio at their new home on Valley Park Drive, he'd watched Gordon sculpt and learned the fundamentals of the process. He then built his own foundry and went to work, first producing Egyptian caskets and eventually doing a relief of the Etruscan tomb his family had discovered.

"He'd piddle around back there," Gordon said. "He had his little fire and make Egyptian caskets and stuff. He just took to it like he knew all about it... He was really good with his hands."

The Evans were a family that embraced experience and invention. Gordon, now 81, credits Betty with imbuing the children with an enduring sense of positivity. He recalled a time she attended a parent-teacher conference with Bob. He told the teacher he wanted to be an archeologist. The teacher told Bob that he couldn't even spell the word archeology, much less become one. "Just because he can't spell the word doesn't mean he can't be an archeologist," Betty bristled. "It didn't bother Bob one bit," Gordon said. "That's



1973, April. San Miguel Island, California. Aquanaut Scott Carpenter and Bob Evans after a dive at Wilsons Rock. Photo courtesy of Bev Morgan. ©2008 All rights reserved.

teau team use nothing but Force Fins for the hundreds of dives and thousands of underwater hours they log each year.

"To see almost the entire dive industry succumb to his philosophy and design, despite the fact that a lot of those same people laughed at it through the years, is both sad and good, in some ways," Mott said.

The saga of the Force Fin – how it initially failed to win the market it may have deserved for reasons that were

They seemed like a gimmick. Maybe they'd work for his wife, but not him. But then, in the middle of a sea on the other side of world, he found himself in the water with friends who were using Force Fins, and he found himself struggling to keep up with them. He wanted two pair shipped overnight, whatever the cost.

Mott said when guest scientists dive with his team and see Cousteau and his divers in Force Fins, whatever barrier



1971, September 21. Annacapa Island California. An unmasked Bob Evans poses for Bev Morgan with his Ocean Eye camera. Photo courtesy of Bev Morgan. ©2008 All rights reserved.

the kind of kid he was."

But Bob was also a very different kind of kid for Hermosa Beach. This was the early 1960s, when Hermosa was the epicenter for the exploding, exuberant beach culture. The Evans returned from Europe without much money, and Bob inherited a hand-me-down black leather jacket from a relative – not exactly beach fashion – that earned him the nickname "Hoedaddy" from other kids. His other nickname, "Speciman," derived from an incident at school. "I had an embalmed pigeon in my locker at Pier Avenue School, and a black widow spider," Evans said. "Someone spilled the beans about my embalmed pigeon. They came and opened my locker. 'Oh my God,' they said. 'What is an embalmed pigeon doing in an Egyptian sarcophagus in his locker?'" Then there was the science that went awry. "I had put abalone guts in a jar and stuck it in a window," Evans said. "Lo and behold, the sun shined on it, and lo and behold, gas built up in the jar, and lo and behold, one day the jar blew up and stunk up the whole room."

The friendship of a neighborhood teenager played a bigger role in Evans' future than he ever could have imagined. The boy's name was Harold Gudmundsson, and to young Bob he was unfathomably hip. "I could never thank Harold enough," Evans said. "He was older than me, so I really looked up to him. He had all the girls, he had a car... It's pretty amazing that he became friends with a little neighborhood kid, especially a weird one everybody called Hoedaddy."

Bob's attention soon turned from digging in the dirt to explor-

ing the watery parts of the world. Harold took him fishing and surfing and – most crucially – introduced him to diving. They'd drive together up to Palos Verdes and go snorkeling and spear fishing off what was then an unimaginably pristine coast.

"There were tons of garibaldi, lush kelp beds, and leopard sharks swimming around all over the place," Evans said. "It was unbelievably beautiful."

Gordon recalls Bob and another buddy showing up in the front yard one day with half a row boat. "It wouldn't even fit through the front gate," he said. "It was missing its back end... So we worked on it, put a rear end on it and a small gas motor. God, I remember going out in that thing up off Palos Verdes. It was like three guys in a tub."

Through Bob, Gordon would eventually learn to dive. The Evans always embraced their son's sense of exploration. They also accepted his penchant for collecting odd creatures, a menagerie of animals that included an exotic Amazonian eel, a tarantula, and various reptiles. For two years, Gordon took Bob to the Redondo breakwater a couple times a week with a 32-gallon container; they'd fill it with saltwater and red crabs, and take it back to the house to Bob's pet Octopus (which, after winning the county science fair while Bob was a high school student, made a nighttime escape from its tank and was discovered dead on the floor at Mira Costa high school). "He just loves to do things," Gordon said. "Like most kids. He's a dreamer, really. He has always had his own mind. I think a lot of kids do, but it gets knocked out of them."

THE ROAD TO INVENTION

Redondo Beach's Dive N' Surf shop has been a Mecca for watermen for nearly a half century. Bill and Bob Meistrell, the shop's owners, were twin brothers from Boonville, Missouri who migrated to California as teenagers in the 1940s. Their development

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FORCE FIN MAN

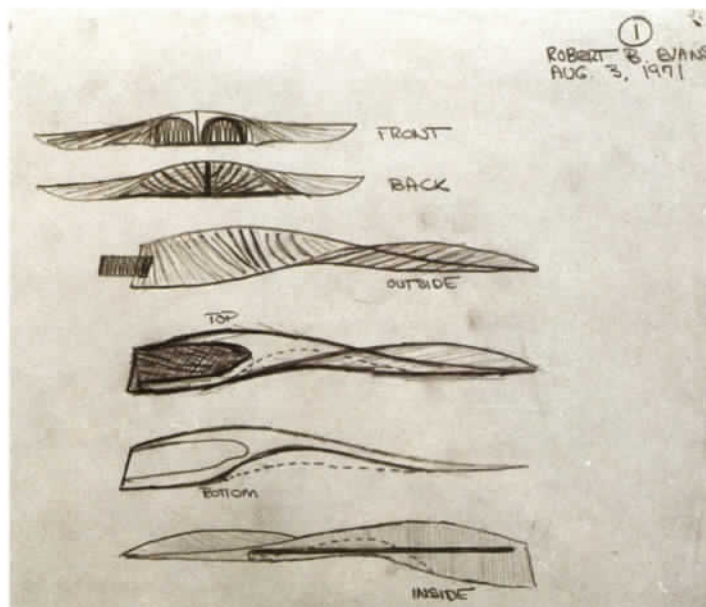
and improvements of neoprene wetsuits helped revolutionize surfing and diving. It's difficult to overstate what a crucial a development the wetsuit was – it quite literally opened up the ocean to millions of people.* At the same time, improved compression tanks and diving masks were making scuba diving a more accessible sport. In 1955, Bob Meistrell became one of the first divers in the world certified as a scuba instructor. The Meistrells become such legends that even Hollywood came calling. Lloyd Bridges learned from the them how to play a waterman on the famed *Sea Hunt* television show. His character even wore a Body Glove wetsuit.

As Evans got into diving, Dive N' Surf became a big part of his life. When he was 16, the Meistrell's hired him. Bob Meistrell remembers, in fact, hiring him six or seven times – and firing him five or six times. "We were making damned sure we didn't adopt him," Meistrell said. Bob Meistrell was consid-

ered one of the world's leading scuba instructors at that time. Evans had previously only snorkeled – called "free diving," without scuba tanks – and Meistrell became his scuba instructor. The two have a longstanding but mostly good-natured dispute about how exactly that instruction went. Evans claims he was required to do a 100-foot free ascent off Catalina Island, a claim Meistrell strenuously denies. "I don't know where the hell he came up with that one," Meistrell said. "I'd never make anyone do that. His memory is worse than mine."

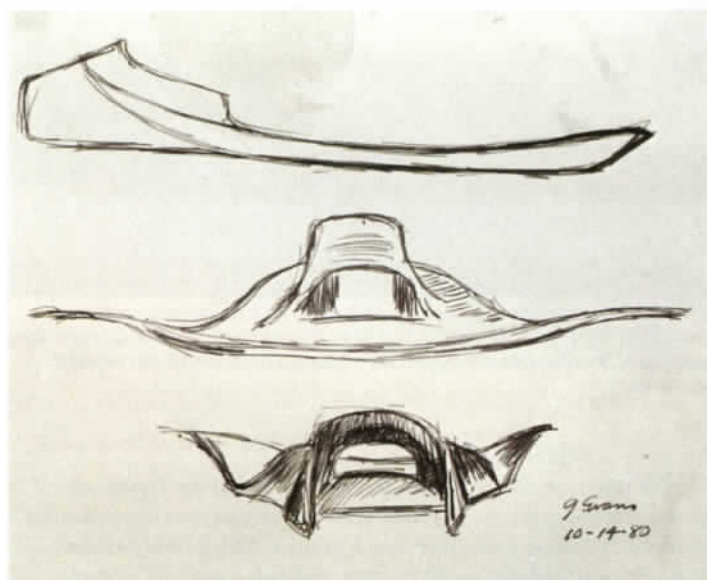
Evans and Meistrell's oldest son, Robbie, became close friends. They dived together almost every day. During the summers, when the Meistrells frequently took their yacht, the *Disappearance*, on excursions to Catalina, Evans was almost always on board.

"I tell you, I was the luckiest kid in the world," Evans said. "I was a kid with the Meistrells. I mean, c'mon. Big Jim Christiansen, one of the top spear



(Above) 1971. Bob Evans' first fin design drawings.

(Below) 1980. Gordon Evans drawings of the Force Fin prototype.



fishermen in the world, would be out there with his boat... All these boats with their big diesel engines running, for a 16 or 17 year-old kid, that was like heaven. I'll never forget, when we landed on the moon, I was with the Meistrells. Bob Meistrell was going over to Emerald Bay, we and we are all trying to move the antennae around, watching the guy on the moon bounce around and we are looking at the moon. God! The moon, the boat swaying, watching black and white TV and there we are on the moon. That was really something special."

"We used a wire coat hanger for an antennae," said Meistrell.

Evans was also among the

first American teenage kids ever to have the opportunity to explore the depths of the ocean. What he saw defied even his outsized imagination. He couldn't even describe to non-divers just how mind-bogglingly beautiful the underwater world was. This was exceedingly frustrating for the highly communicative Evans. Words would not suffice, so he hatched another idea. He decided to photograph it. The French diver and adventurer Jacques Yves Cousteau had not only played a key role in advancing scuba diving equipment, but he'd also helped develop underwater cameras. Evans spent an entire summer painting a home in

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1979. Santa Barbara, California. Bob Evans with Force Fin prototype at 28 Annacapa Street.

Gardena in order to save up \$300 – a small fortune for a teenager in the 1960s – to buy a Nikonos, the underwater camera developed by Jean de Wouters d'Oplinter and manufactured by Nikon, using patents purchased from Cousteau. ** Evans, who had formed a Oceanography club at Mira Costa, that used to show Cousteau's films and photographs, now had the ability to capture his own images. He and a Mira Costa student writer, Vance Scott, collaborated on articles for the school paper.

"What was happening is I was coming back and talking to people about what I was seeing underwater, and, you know, to describe what I was seeing was difficult because it was the first time we were seeing these things," Evans said. "The photograph was really a tool that allowed me to share with people what we were seeing underwater."

Evans' photographs of the Redondo submarine canyon attracted national attention, and through Dive N' Surf he met everybody who was anybody in the Southern California diving world. By the time he graduated from Mira Costa, he was free-lancing for several new dive magazines. He continued working at Dive N' Surf and also attended El Camino College, where he focused entirely on underwater photography. He was already showing a flair for invention. Among his early inventions was a solid aluminum tool made for pounding abalone – variously called an "ab pounder" or "wacker spoon" – that was intended to replace the flimsy bamboo spoons previously used. It was sold at Dive N' Surf and became popular also as an all-purpose meat tenderizer (the chef Julia Childs, an acquaintance of Betty Evans, is pictured using the wacker in one of her books).

Then there was the underwater rear view mirror, an invention the need for which Bob Meistrell felt was highly dubious. "Why do you want to look at things behind you? If somebody dives too close to me, I just kick them in the face as many times as it takes for them to get the message," he said. "You don't need to use a mirror." But Meistrell also recognized Evans potential. Even the wacker, whether it was a highly necessary tool or not, was made from an astonishingly beautiful mold. "He was always inventing things," Meistrell said. "So one day I said to him, 'Why don't you invent something useful?' Why don't make a new kind of fin?"

FORCE FIN FAMILY

Evans started thinking about fins in 1967. He'd been fascinated by them ever since he found a pair off Hermosa during his early diving days. He'd bought his first pair of Jet Fins, from Big Jim Christiansen. But there was little diversity or development in the fin market. In 1971, he decided to make a new fin.

"After years of swimming with those fins, I started thinking,

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1980, December. Santa Barbara, California. Bob Evans sculpting the Force Fin foot pocket master.

"God, there has got to be something better than this," Evans said. "So I started out making little models. Because I'd seen my dad, and helped him, in his studio, I knew how to make molds. You know, monkey see, monkey do. I started out with chicken wire and resin and newspaper and made some early prototypes." Meistrell remembered the first prototype he saw as "like something from the Black Lagoon." But Evans

persisted. Even after he moved to Santa Barbara to attend the Brooks Institute of Photography, he kept tinkering with fins. He also found another mentor.

Shortly after arriving, Evans sought out Bev Morgan, the diving legend who, along with surfboard maker Hap Jacobs had originally founded Dive N' Surf (Morgan, who also helped develop the wetsuit, brought the Meistrell's into the company in 1953 and then sold it to them

entirely in 1958). Like the Meistrells, Morgan was a self-taught inventor. His advancement of the dive mask ushered out the more cumbersome age of heavy gear dive helmets and, like the wetsuit, freed divers to truly explore the ocean. And like the Meistrells, Morgan was unstintingly kind and generous to the younger generation of dive enthusiasts. He hired Evans, first to paint the bottom of his boat and later to do photography for his company. He also introduced him to the Santa Barbara waterman community.

"I thought, 'Man, I want to be like him,'" Evans said. "He was an inventor. He listened to music all day and worked in his shop and made diving helmets. He made a good life out of something he loved doing... He had a Mercedes Benz, a beautiful wife, a beautiful home. I think we all need role models."

After Brooks Institute, Evans owned his own production company for seven years, called La Mer Bleu, and became well

established as a photographer. His assignments included several National Geographic books, a series of Times-Life books, and several of Jacques Cousteau's "Living World" series. His own company spent seven years – and 850 dives – documenting how oil platforms functioned as artificial reefs. All the while, he kept experimenting with fins. One of the innovations he made that allowed him to push his design experimentation was how he made molds. Previously, molds were made from metal and could take six months to complete. He used plastic composites and made molds in less than a month, sometimes even in a few days. By 1980, Evans finally had his fin. When describing its unusual characteristics to his girlfriend at the time, he even found a name for it. "I told her, 'The thing keeps going on my foot and I can't kick it off,'" Evans said. "The harder I kick, the more it shoves onto my foot. She said, 'Why don't you call it

BOY GLOVE FOUNDERS BOB AND BILL MEISTRELL

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A circa 1950s homemade fin by Body Glove's Bill Meistrell is shown with an Amber Excellerating Force Fin with Ruby Red whiskers.

Force Fin."

He approached the Meistrells with the idea of helping him bring the product to market. It was an entirely new direction for Body Glove, which at that point still only produced wetsuits. Still, the Meistrells invested a few hundred thousand dollars, which at that time was a very significant amount of money for what was clearly a risky venture. "Besides the money, it was just a big change for us," recalled Billy Meistrell Jr. "It was going away from something you are good at." It meant creating a brand new production process to make a product not only unlike anything Body Glove had made, but also completely different from any other fin already on the market. "There was no doubt he had created a very unique mold," Billy said. But this new mold, as well as the use of polyurethane, also presented new challenges for mass production.

The first model of the Force Fin was so unusual it didn't even include a foot strap. Evans said this characteristic was at the very heart of his design. "It dawned on me, really, the psychology of a fin," Evans said. "If you've got a hammer, you anticipate its going to pound a nail in the wall. That's its job. And the fin is to propel us through the water. But in reality, what we are doing – with the other fins – is we are helping propel

that fin through the water. It is not propelling us through the water. And so my proof of the pudding for so many years has been if you have a good design, take the strap off. Because if the fin is doing what is supposed to be doing, and that is pushing you forward through the water, theoretically it shouldn't come off your foot. Whereas if you are pushing the fin through the water and it doesn't have a strap, it comes off immediately."

Bill Meistrell Sr. soon convinced Evans that Force Fin needed a strap, even if only for body surfers. Evans spent two years essentially living at Body Glove's former plant in Hermosa Beach helping work out the kinks in the production process (Evans to this day owns and uses the senior Bill Meistrell's former drill press, an aged machine he regards almost tenderly for its connection with his former mentor). The Force Fin scored some early successes, particularly when the Sharper Image included it in one of that company's first catalogues. They sold \$900,000 in Force Fins, and the product was praised nationally in *Esquire* magazine. "We were off and running," Evans said.

For financial reasons neither the Meistrells nor Evans wish to delve into, they became estranged from each other shortly after this initial success. After four years of litigation,

Evans obtained full rights to Force Fins from the Meistrells and founded his own Force Fin company in 1985. Around the same time, Evans met his future wife, Suzanne Chess, whom he credits with helping focus his attention even more fully on fins. She worked for a video production company and showed up at his Santa Barbara shop one day, looking to make him a client. Evans had at least a half dozen different projects going on – including his fins, a photography project for the Cabrillo Museum, and a wide-ranging effort called The Mussel Company through which Evans was trying to find uses for the millions of mussels attached to the oil platforms off Santa Barbara.

"The Mussel Company was making dog biscuits out of mussels, we were grinding them, we were putting them in outer space to see if we could get them to open up easier, we were microwaving them," Evans said. "We were trying

all sorts of stuff with mussels." The very first time they met, Susanne started organizing Bob. "I took out a pad of paper and started listing the projects and organizing the projects," she remembered. Bob was immediately smitten. "I put a love stamp in her car window, thinking, 'Well, maybe she'll get the idea.'"

BARNACLES

For 22 years, Force Fin has been the little company that could. Despite the fact that the dive industry ignored, then denigrated, then copied Evans' design, Force Fin has steadfastly expanded its range. Evans has now made 33 different types of fins, all the while quietly building a loyal following that includes many of the world's greatest divers and swimmers. They have become the preferred fin among American military special forces as well as the Navy Seals, in part because of a study the Navy funded at the State University New York



1998. Sapphire Blue Tan Delta Force Fins.



1990, August. Channel Islands, California. HDS co-founder Skip Dunham wearing experimental Extra Force Fin with a fin blade that was bolted on. Diving author and photographer Chris Swann is to his left.

in Buffalo in the early 1990s. Evans caught wind of the study and Susanne made a Freedom of Information Act request in 1993. They heard nothing back for many months, and then a huge package suddenly showed up at their Santa Barbara shop. It was the study, in its entirety. It showed how the fins outperformed 35 other types of fins, requiring less energy to use and thereby helping swimmers both with speed and endurance. As Bob and Susanne paged ecstatically through the hundreds of pages of technical data in the study – including charts showing lactic acid and oxygen consumption levels of swimmers using different fins – the phone rang. A military lawyer – a JAG officer – was on the other end. He apologized to Susanne. The information she requested had to remain confidential.

"But we have the study right here," she said.

Aghast, the JAG officer told her she should send a letter certifying that all the copies of the study had been destroyed. She didn't say a word.

"You are not going to do that, are you?" the lawyer said.

"I don't think so," Suzanne responded.

Bob, meanwhile, was gone before she could even get off the phone.

"I ran out the door like a jackrabbit," he said. "I was thinking the FBI is going to be showing up at any moment. I've seen too many movies like that, so I was going to every Xerox place in town. I even went to the post office and mailed one to my dad. There it was: lo and behold, we performed better than all our competitors."

Not only has the superior functionality of the fins been established as scientific fact, but the Force Fin has been recognized as art. As the MOMA booklet that accompanied the fin's introduction into the museum's collection in 1995 noted, "...the 'Force Fin' is an example of highly efficient water-sports equipment as well as a poetic design statement." Gordon and Betty Evans attended the MOMA opening. "All my friends were saying, 'I can't believe he made it into MOMA before we did,'" Gordon said, laughing.

Betty also was able to see something that she had hoped for in her son before she passed away. Years ago, he finished his studies at Brooks Institute one class shy of a degree. He was too busy to return for a

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semester so he actually attended graduation. In photos with fellow graduates he held a potted plant instead of a diploma. "I had to have something to hold," he said. "I told Mom not too worry, I'd get an honorary degree some day." And that is exactly what occurred. In 1997, he not only was awarded an honorary degree but was asked to speak at commencement. He was honored by the notion until he realized he'd have to speak not only to the graduates, but also their parents. He was panicking the morning of the ceremony, when he had an idea while in the shower.

"I was in the shower that morning and we had an earthquake," he said. "I said, 'I've got it.' I got everybody to stand up, turn around, and give their parents thanks. That took the heat off of me... Then I pulled out a disposable camera and said this is what it's come down to, to me, with photographs. You know, it's not your camera, and your equipment. It's your eyes and what you learned at school. Then I got my degree and got the hell out of there."

Everything, it seems, has come full circle in Evans' life. After surviving many years when it seemed the company could disappear at any time, the rise of another technology – the Internet – enabled Force Fin to truly escape the threat of being crushed by their larger, more corporate competitors. With the Web, the company could finally control its own distribution.

"It was like the Berlin Wall falling down for me, because we were no longer in the grips of this controlling dive industry," Evans said.

The Force Fin family also added another key member. One day Bob and Susanne were eating in a restaurant in Santa Barbara discussing the needs of their business, which was growing by leaps and bounds. Susanne remarked that what they really needed was a waitress, someone who knew how to handle orders and deal with customer service.

A waitress named Vicki Hiebert came to the table. "Are you guys divers?" she asked. "Because my dad is into diving."

"Who is your dad?" Bob asked.

"Big Jim Christiansen," she responded, who happened to be the man who sold Bob his first pair of fins twenty years earlier. "We both looked at her simulta-

neously and said, 'Do you want a job?'" Susanne recalled.

When Evans received the NOGI award, he was almost too baffled to talk, but he knew enough to bring his two guardian angels, Susanne and Vicki, up to the podium to receive the award with him.

"I was so nervous I didn't even know who I was or where I was," Evans said. "All I knew was the most important thing was to bring Susanne and Vicki up on stage to share it with them, because without them I would not be receiving that award."

And after years of struggle – "It's been hurdle after hurdle," he said – a sense of peace and accomplishment has finally settled upon Evans. He still gets riled when a fin enters the market that blatantly apes his designs but no longer lets it eat at him. He acknowledges in the past often stewing bitterly to the point of distraction. There were times, he said, when it felt like he was surrounded by enemies – dive magazines dismissed the worth of his fins, even as other fin designers began to appropriate his ideas and steal from his potential profits.

"I think I took it too personally," Evans said. "When I read about other innovators, my life is not any different than what they went through. So if you plan on being at the head of the pack, be prepared to have chunks and pieces taken out of you. It's going to happen. That is what makes you tough after time."

Where once he used to dwell on such issues, he now tries to keep moving forward. "I don't need to be thinking about all that negative stuff," he said. "When your head is in shit all the time, all you see is shit. You need to wipe it away and look at the horizon. I felt like I was a trash collector for five years of my life." As he has proven time and again, when Evans' focus is creating, he is a force to be reckoned with. Like most inventors, his gift – and perhaps his curse – is his ability to single-mindedly focus. "It's like being in a boat and listening to the girls on the rocks playing those harps," he said. "It's what Ulysses did – put cotton in the ears of his crew so they couldn't hear the mermaids playing their harps. It's a good analogy for life, because there is so much distraction from working, for creating, you really have to keep your eye on the ball."

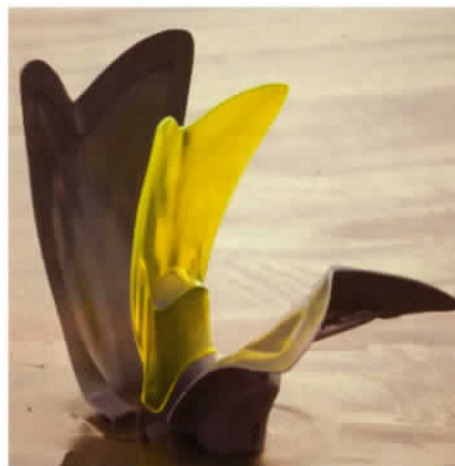
(Right) 1995. Santa Barbara, California. Bob Evans with prototype fin winglets. Photo by Chris Kostman.



(Below) 2006. Las Vegas, Nevada. Bob's wife Susanne Chess and Vickie Christiansen-Heibert flank him after he received his NOGI Award.



(Left) 1995. Amber Tan Delta Force Fin shown in production mold 39 and 40.



(Below) 1999, August. Fab Force Fin SK1's.





(Above) 2008. Front end view of the SD1 Foil Force.



(Right) 2000. Bat Wings on Launch Pad Force Fin.



2000. Cousteau Fab Force project prototypes.



1998. Ruby Red Tan Delta Force Fin.

Evans and the Meistrells have also made their peace. After Bill Meistrell, Sr. passed away last year, Evans attended his memorial and spoke eloquently and emotionally about what Bill and his family have meant to him. Billy Jr. now has one of Bob's early fin molds displayed above the door in his office.

Meistrell said part of the key to Evans' success is his ability, and willingness, to make mold after mold in search of just the right design (Evans has made more than 1,000 molds thus far). He said he still marvels at just how beautiful Evan's fin designs are, but also noted that part of Evans' legend within the dive industry is also his large-hearted personality. Evans has actually become one of the more beloved, if somewhat controversial, figures in the diving world.

"When he goes to industry shows, I think some people buy his fins as much because they want a piece of Bob as much as because they want to swim in them," he said.

Bob Meistrell, Sr. gave Force Fins his ultimate compliment.

"That's all I use on the boat," he said. "It is."

He also expressed his enduring affection for Evans. "Bob is a little bit weird, but weird like me, so I like him," he said. "He's a very caring guy, too. And totally out of control."

Evans said that Force Fins wouldn't exist without the Meistrells. "If it hadn't been for them putting up the money to get the project started, I would never have been able to get the product off the ground," he said. "They put a lot of faith in this project.... And I really think Robbie deserves a lot of credit. He really believed in the fins. They loved me, but they put the energy into this because of Robbie really loving the fins."

More than anything, however, Evans is grateful for the friendship the family gave him. "The Meistrells have always been open, loving people, with everybody, not just me," he said. "But I really did get more attention and time with them, and I'm really thankful for that."

After being awarded the NOGI, making MOMA, and essentially finding himself unexpectedly respected within an industry that long shunned him, Evans said he now feels a responsibility.

"It gives me a chance to be able to speak up for diving and for all the individuals who came before me and who will pass after me,"

he said. "It's kind of like someone handing you a torch. It gives me an acceptance, like winning a gold medal. Until then, you are nobody – what are you going to do, go around bragging about all you are going to accomplish?"

And if he has learned anything, it is this: young people should follow their passions, then seek out mentors.

"If young kids see someone they admire, they should reach out to them," he said. "You will be surprised how open people actually are... I don't think people realize sometimes how people who have accomplished things have done so because other people have helped them, so they are willing to give time to anyone and help them along, too."

The other lesson is to buckle down and prepare for the long haul, because things won't necessarily be easy. Sometimes you have to swim through the muck.

"My wife and I, we call ourselves barnacles," he said. "Barnacles are pretty tough little hombres. Every day, they survive the crashing waves, the sand, and the grit. We hold on. We don't let go, me and Susie." 🐙

The Author

Mark McDermott is a writer and editor with *Easy Reader* magazine in Hermosa Beach, Calif. He has a strong connection to the sea and was formerly a commercial fisherman in Alaska.

* See "Wet Suit Pursuit: Hugh Bradner's Development of the First Wet Suit," by Carolyn Rainey, *Historical Diver Magazine*, Vol 9, Issue 1, Winter 2001

** See "The Nikonos Story, Jean de Wouters d' Oplinter, the Forgotten Inventor of the Nikonos," by John Nue-schwander, *Historical Diver Magazine* Issue 30, Winter 2002

This is an edited version of the original article, which appeared in *South Bay People*, to whom the Society is grateful for their kind permission to reprint it. The Society wishes to acknowledge the generous assistance of author Mark McDermott in the reprinting of his article.

Further details on Bob Evans and his Force Fin can be found as follows:

- www.adventurecorps.com/what/forcefins/index.html
- <http://personalpages.tds.net/~hwirth/nd/index.html>
- http://www.forcefin.com/FF_PAGES/FF_wisewords/articles/harry_wirth_artofdesign2000.htm

IN-DEPTH WITH BOB EVANS



After reading through Mark McDermott's article I decided to make contact with Bob and ask a few questions to round out parts of the Force Fin story. The following interview was conducted in June 2008. Due to space restrictions in the *Journal* I could not cover everything I wanted to. However, a lot more information on Bob and Force Fin can be found in Chris Kostman's 1996 interview published in the last copy of *Aqua Corps Magazine*. That issue, #13, came out in February/March 1996, and featured Bob on the cover. It is an interesting insight as to how Bob and Susanne were doing 12 years ago during a very difficult period for their company. The Society received a box of issue 13 when *Aqua Corps* shut down, and these uncirculated copies are now available from the HDS, as advertised on page 32.

—Leslie Leaney



(Above) 1982. Force Fins on the production post cure rack.

(Top) 1992, April. Santa Barbara, California. Bob Evans in his research trailer shaping Rip Force Fin for body surfing.

LL: Mark McDermott's article covers a lot of ground. I'd like to cover a little more. When you separated from Body Glove in 1985 how did you get production started again?

BE: That was an exciting time. Susanne and I were newlyweds and ready to take on the world. Body Glove was on an exponential roll and Force Fin sort of diverted their attention away from where they were going. By luck, or providence, Tariq Kadri tracked us down. He has his own company, Kadri and Associates. He was buying Force Fins from Sharper Image to give as corporate gifts. Together we put together a plan to move forward with the Force Fin project, bought the rights and Force Fin inventory back from Body Glove, and ran forward. Along the way, Lad Handleman drove up to our Anacapa Street warehouse – four doors from the beach – and introduced us to Brian Chang, the Singaporean shipbuilding magnate. Susanne, Brian, Tariq and I have owned and managed Force Fin since.

LL: You mention your fathers input in your early designs. Was there anyone else involved early on?

BE: Early on in the Force Fin project, maybe 1979, when I was still working on the prototypes, I had the good fortune to meet Jimmy Gray. I met him through his mother, June Gray. June was a caretaker on the Gherini's property on the East End of Santa Cruz Island. My sheepdog, Mag-



1980. Santa Barbara, California. (L-R) Rick Williams, Bob Evans, and Jimmy Gray at 28 Annacapa Street.

gie, had puppies on my dive boat, *Haik*, while we moored in Scorpions Cove. June saved me and probably the puppies too. She volunteered her son, Jimmy, who was head of fabrication for Bev Morgan at Diving Systems International, to help me with my fin project. Jimmy and I

worked side-by-side, shaping Force Fin molds, for over 10 years. Jimmy was a genius, mathematically, philosophically, and with his hands. I was very lucky to have him as a teacher. He worked for me for a reasonable rate, a six-pack of beer a day, and a promise that one day I would

pay him a bonus, which I was able to do shortly before he died.

LL: *I saw your fins in the New York Museum of Modern Art (MOMA) last year. It was a surprise. How did MOMA initially get their hands on your fin?*

BE: Paola Antonelli, Curator for the Department of Design and Architecture at MOMA, came upon our fins through the "Design in America" exhibits at the Patrick and Haggerty Museum of Art, at Marquette University, in Milwaukee. Professor Harry Wirth, from the Department of Design and Architecture at Northern Illinois University, had organized the exhibit, which featured Burt Ratan, Eric Buell, and me as paradigms of American design ingenuity. Ms. Antonelli featured our Tan Delta Force Fin in their "Mutant Materials Exhibit," and in a letter dated April 22, 1998, I received notification from MOMA that the Tan Delta Force Fin was to be included in the permanent design collection. This week, (first week of June 2008) I received a letter from the Director of MOMA that my wife and I are complementary Lifetime Members. I am very honored.

LL: *Quite a few of diving's A - List are Force Fin fans. How did you get the product in to their hands? Does Force Fin "sponsor" any divers?*

BE: Dr. Sylvia Earle and Lad Handleman were the first to recognize Force Fins. They wrote my first testimonials. During the 1980s and 90s we ran a very successful testimonial campaign in *Underwater USA* and *Skin Diver Magazine*, featuring testimonials from real divers' in Force Fins, including Dr. Paul Auerbach, Fred Calhoun, Phil Nuytten, Bob and Bill Meistrell, Captain Billy Deans, Val Darkin, Dr. Nagaharu Okuno, and on and on. The deal was they had to have purchased and dove Force Fins of their own accord for at least one year before submitting their testimonial. If we chose to use the testimonial we paid \$150 honorarium, which most donated to their favorite charity, and they then had fins for life. The fact is, the A-List divers are intelligent, and anyone who takes the time to think about their fins can only dive Force Fins.

LL: *A few folks are surprised that you accepted the Presidency of the Academy of Underwater Arts and Sciences (AUAS). What is the story behind that?*

BE: Hillary Vidders needed to step down as AUAS President to take time to heal from the loss of her son Jordan. She recommended my appointment to the board and I accepted. When offered a challenge, you must step to the mat. Hillary still coordinates the AUAS Zale Parry Scholarship and continues to give me support. As President of the Academy of Underwater Arts and Sciences, I stand as the representative of all NOGI recipients - the world's top underwater scientists, artists, educators and mentors. The NOGI is the most coveted award in diving, and our Fellowship includes the most influential Ocean people. We have a world-class management and board that includes Dr. Paul Auerbach, Bill Hamilton, Bob Hollis, Mel Lillis, Bob Meistrell, Phil Nuytten, Harry Shanks and Armand Zigahn. We're putting on a great party in Las Vegas. We're bringing in Dr. Hannes Keller from Switzerland as our keynote speaker. Wyland will perform a great painting for us. How could I refuse?

AQUA CORPS MAGAZINE

Issue 13, Feb/March 1996

Force Fin's Bob Evans interview, Fin Flashback by Dr. Sam Miller, The Hydrodynamics of Fins, Mark V helmet diving by Jim Boyd, Graham Hawkes - WASP, JIM, MANTIS, O2N2 Nitrox by Dr. Bill Hamilton, Nohoch cave system, Cocklebiddy cave system, Guadalcanal, Tekkie BCD review, Peter Readey interview, Fieno review, UWATEC Atlantis 1 available, aqua corps Forum - Is Deep Air Dead?, Joe Odom, Bret Gilliam, Incident reports, Chris Newbert interview, Paul Watson and Sea Shepherd, and more.

The Society has a very limited supply of mint uncirculated copies of this highly sought-after technical diving magazine. This issue was the last one published. 96 pages, full color, \$20. CA residents add \$1.55 sales tax. \$5 domestic postage. For overseas postage contact HDS office at hds@hds.org. Limited supply. First come, first served.





1980. Santa Barbara, California. Mentor shaper Jimmy Gray with ML Force Fin master.

LL: You have already achieved a great deal by focusing on just one product. What do you see in the future for Force Fin?

BE: We've put together a great team at Force Fin. Most of our staff has been here since the beginning. Big Jim Christiansen's daughter, Vickie manages everything impeccably well. Blair Mott, Jean Michel Cousteau's Chief Diver, is working with us now. I would like to move it to the next level of distribution, from

custom-made fins to those that are mass-produced. We're working on that – around five million fins a year are sold worldwide, so there is a lot of room for us to grow.

As for me, I am enjoying working on my photography, diving, and applying my design time to making ships more efficient, as well as working on current-generating devices. My plan is to do for ships and energy what I did for fins. 🐼

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