

Chapter 2



Hannes Keller

Hannes Keller and the 1,000-Foot Dive

*A fool is a man who never tried
an experiment in his life.*

— Erasmus Darwin

Hannes Keller is a Swiss version of the mad scientist, a mathematical genius with unruly hair, a Cheshire cat smile, and mischievous eyes that crinkle up when he laughs about the next wild scheme he has in mind.

His wild schemes are numerous. For example, he attempted to design a better deep sea diving suit and designed, instead, the tight-fitting ski suit that eventually adorned the bodies of Spider Sabich and the Swiss Olympic ski team. He once premiered a pianist who couldn't speak, he said, but who would play from unpublished manuscripts by Mozart and Beethoven. Keller circulated the rumor that the manuscripts had been given to the pianist years before by some obscure Russian count who had found them in his attic. Then, in a Zurich concert hall which was jammed with music lovers and music experts from all over the world who were curious about such a find, Keller took the stage at intermission and announced that the compositions were really those of the pianist. The whole exercise, Keller said, was to prove that music critics didn't really know what they were talking about. Great talents exist, he said, whether critics recognized those talents or not.

Keller's biggest schemes, however, had to do with diving and deep ocean exploration. In the late 1950s, he made a 750-foot dive to the bottom of a Swiss lake using something that resembled an upside-down garbage can. While *Life* magazine, the press and other media from around the world waited on the boat for him to surface, they talked about how his technology would revolutionize

undersea exploration and boost the offshore search for oil. Meanwhile, Keller, deep in the lake and out of sight of everyone, was literally sick from fear, trying to figure out how to cut the weights off the inverted garbage can so that he could rise to the surface again.

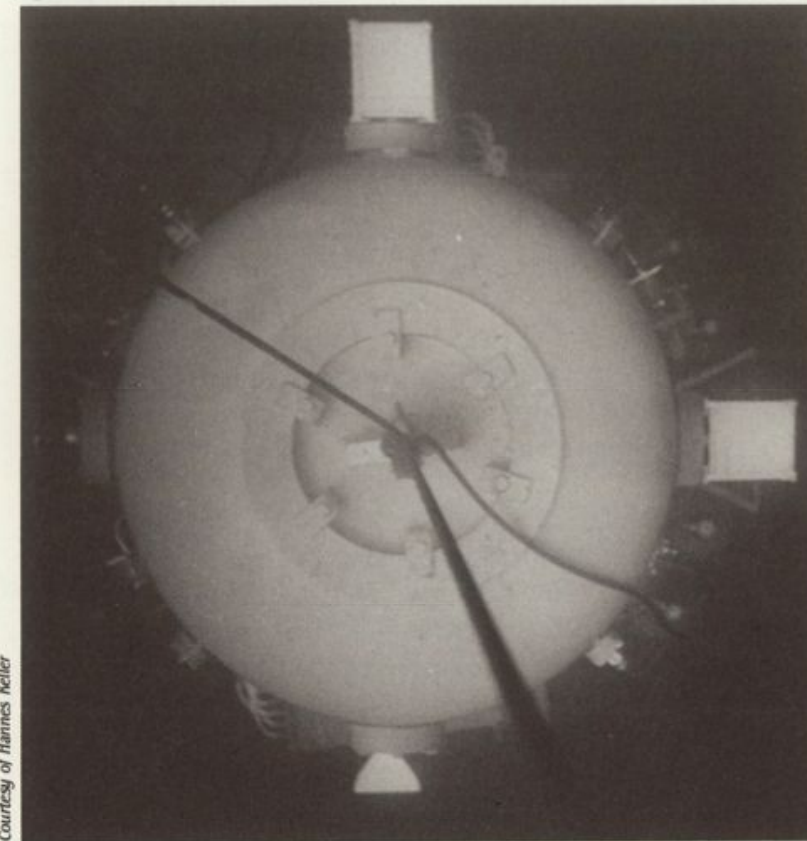
Scientific exploration is sometimes like that. Giant leaps forward for mankind do not always involve complicated technologies, but sometimes only someone willing to try something new and take the risks. In the field of diving, Keller was the human guinea pig of all time. He constantly pushed himself to go deeper, faster, by using the deep-diving formula worked out by Dr. Albert Buehlmann of the Zurich Hospital. Finally Keller got deep enough and every oil company in the world began to watch what he was doing. Deep-diving technology and oil exploration go hand in hand because oil platforms do not normally go in water where human hands cannot reach valves and flanges.

In 1962 Keller and Buehlmann announced that they were ready to make a dive to the incredible depth of 1,000 feet. No one believed it at first, but then Shell Oil agreed to finance the experiment and the dive was on.

Buehlmann, a longtime researcher of the effects of pressure on the human body, had worked up an unusual plan wherein the diver would make a very rapid descent to the bottom, faster than anyone had ever dived. During the ascent a variety of gases would be switched on at various depths to facilitate a return to surface pressure. The gases themselves were kept a secret, but the rumor was that one of them was argon. Keller and Buehlmann stood to earn a lot of money from the oil companies for their formula, so they were not broadcasting the particulars from the rooftop. By the time the dive took place, the mounting curiosity had finally given way to chicanery. Keller believed someone had drilled one of his air tanks during the night to get a sample of the chemical contents inside.

In 1969, seven years after that famous dive, Dick and I went to Switzerland to research Keller for a book that Dick was writing about the Swiss adventurer's life. At that time, Keller was still a national hero in Switzerland. He had done a thing long before anyone had ever considered doing it and no one had yet broken his 1,000-foot record. It was like having Neil Armstrong land on the moon while the Wright brothers were trying to get their first airplane off the ground. The 1,000-foot record, unbroken until June 1975, meant that Keller was about 13 years ahead of his time.

While the 1,000-foot dive attracted attention for its success, there remained the awful fact that two people had died during the course of it. Dick was the logical writer to explore what actually happened during the dive because he had been one of the safety divers. He had, in fact, been credited with saving Keller's life.



Atlantis diving bell underwater during descent.

Courtesy of Hannes Keller

The dive itself took place off Catalina Island, California, in the deep ocean trench that lies just off the island. Keller's vehicle was the diving chamber *Atlantis*.

On the day of the dive, the press and a few members of the public gathered aboard a surface vessel. Two safety divers prepared themselves for any emergency that might arise. The divers were Dick Anderson and Chris Whittaker. In retrospect, no one could figure out why there were only two safety divers, but hindsight is always sharp when a disaster occurs.

British photojournalist Peter Small was Keller's diving companion. When all was ready, the two of them got into the chamber and the hatch was closed. The *Atlantis* was hoisted over the side of the support ship and made a rapid plunge to the bottom. At 1,012 feet the divers opened the bottom hatch, walked out several feet from the chamber and planted the Swiss and American flags on the bottom. Then they quickly returned to the chamber to be hauled back up. Keller says they both knew that they would lose consciousness when they opened their masks to breathe the air in the chamber, but they had been instructed that they

would regain consciousness later on as they were being hauled to the surface. Therefore, in spite of the temporary effects, they were to open their masks anyway.

As it happened, Keller opened his mask first and immediately passed out. Then, said Keller, Small took one look at his unconscious friend and froze. When the chamber was raised, Small eventually lost consciousness anyway, but he wasn't breathing the air inside the chamber. Somewhere along the way he began to embolize, the air bubbles inside his body expanding as the outside pressure decreased.

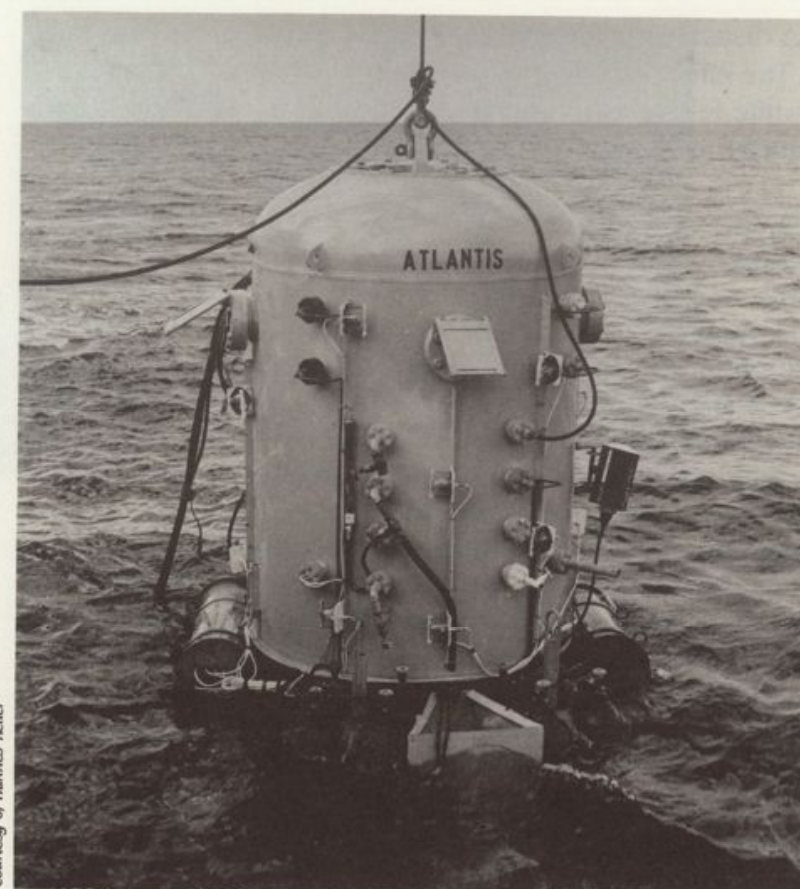
When the diving chamber reached just about 200 feet, the surface crew noticed it was not pressurizing properly. If they continued to hoist the *Atlantis* back to the surface, they ran the risk of giving both divers either a bad case of air embolism or the dreaded bends. The surface team, at this point, was unaware of Small's condition.

Dick and the other safety diver, Chris Whittaker, were dispatched to investigate and make sure the bottom hatch was closed. They swam to the chamber, checked it thoroughly, found the hatch closed and went back to report to the surface support team what they'd seen. On the way up, Whittaker inflated his buoyancy vest and at the surface, someone noticed that his nose was bleeding. Dick indicated that they had seen nothing wrong with the diving bell, but was told the chamber was not pressurizing, therefore, something had to be wrong. Since they were the only safety divers available, Dick prepared to dive again. Whittaker was ordered out of the water. Instead, he took his diving knife, slashed his vest to deflate it and followed Dick back down to the chamber.

This time Dick could see bubbles escaping from the bottom hatch of the *Atlantis*. Going around the entire circular seal, he discovered what may have been the tip of a swim fin, caught in the hatch and holding it open a fraction of an inch. This would have been apparent on the first dive, but for some reason the diving chamber was not pressurizing at the time Dick and Whittaker were viewing the bottom hatch.

Dick motioned to Whittaker for his diving knife, and Whittaker gave it to him. Dick used the blade to push the obstruction clear of the seal. The hatch closed completely, but the seal still leaked. Dick pulled down on the hatch and motioned for Whittaker to swim to the surface, to give the signal for the chamber to be hauled up while Dick stayed and held the hatch to make sure it sealed. Whittaker signaled that he got the message and started up.

Dick waited and waited. His decompression meter was entering the red zone, meaning that he had overstayed his limits and might get a good case of the bends if he ascended without stopping near the surface for decompression. Fortunately the leak had stopped because the different pressures inside and



Courtesy of Hannes Keller

The Atlantis diving bell being lowered off Catalina.

outside the chamber had shifted. Dick went straight for the surface. He didn't have the air to decompress, so there was no stopping on the way up. There is a theory that some people get the bends less easily than others. Dick appeared to be one of those people, because once on the surface, he showed no signs of decompression sickness whatsoever.

The minute Dick surfaced, however, a crewman asked him the horrible question: "Where's Chris?"

Chris Whittaker was never seen again.

The chamber was hauled the rest of the way to the surface with the hatch successfully sealed. Keller regained consciousness and began an intensive resuscitation attempt on Peter Small, but the British photojournalist was dead by the time they got the hatch open. Keller suffered no ill effects at all.

The Keller dive was an awful paradox. It was a success because one man had made a 1,000-foot dive and lived, proving that the mysterious mixture of gases

had worked. It was also a disaster because of the deaths involved. No one knew whether to cheer or boo. The effect was the same as if Neil Armstrong had landed on the moon and lived, while fellow astronaut Buzz Aldrin had not made it back to Earth. In that case, would the moon landing have been considered a success or a failure?

In the case of Keller's dive, no one knew for sure. Some press reports called him Hannes *Killer*, while others denounced him for not sharing his secret gases and dive formula with the scientific community. However, soon after the dive, Buehlmann had, indeed, published the details of Keller's dive, although few people had ever read the paper. Scientific papers tend to circulate only among scientists who know where to find them.

The diving community ignored everything and called Keller a hero. So did the Swiss. However, upon investigating the accident, the Los Angeles coroner's office credited Dick for saving Keller's life. So, Dick was a hero also.

Dick's book project meant conducting many interviews, and there were many conflicting stories that caused him a lot of second-guessing and creative headaches. While Dick and I were in Switzerland, he talked with Keller's associates and friends and I listened to the sublime wonders of Keller at his Steinway piano. He was, and is, a magnificent pianist.

The book on Keller was never finished because Dick felt he couldn't sort out the absolute facts of the dive without question. I continued to correspond with Keller over the years, and in 1973 I saw him again, when he came to California for a large diving congress in Anaheim. Since this was his first visit to America after the days of the 1,000-foot dive, I invited some people to my home to meet him, including Scott Carpenter, the U.S. astronaut who, at the time, was an aquanaut in the Navy *Sealab II* program; Dr. Joe MacInnis, who was to be the first man to dive underneath the North Pole; Paul Tzimoulis, publisher of *Skin Diver Magazine*, and also Goldy McJohn, my neighbor who was also the piano player in the Steppenwolf rock group.

Keller and I decided to play the piano for our guests, and once we got going we couldn't stop. He played Beethoven and Bach and I played Brahms and Liszt. We played Schumann and those wonderful nocturnes of Chopin. His performance was breathtaking. No one spoke or moved after we stopped. They had witnessed the passion in Keller that spills out into his music, much as it does into his adventures. I have since learned that adventurers often have a deep love for artistic things like music—because art is an extension of a consuming curiosity. The art of the great masters is immortal because the curiosity reaches genius proportions and emerges amid ordinary thinking as a shining light in the world.

The last time I saw Keller, at the beginning of 1981, he was building deep-diving chambers to be used in the North Sea oil fields, diving suits, instruments



Keller with the computers.

for decompression and other devices for deep-sea diving operations. From there, he transferred into the challenging world of computers, designing an unusual software package that translates one language into another. Keller's "Witchpen" software corrects spelling even as a person types into a computer. It is, Keller said, the first computer program of its kind. These two inventions have created an international business for "Hannes Keller Witch Systems" with subsidiaries in Germany and the U.S.

At his main office in Zurich, Keller keeps a grand piano so that he can play his classical music while his staff of 12 assembles the softwares of his design. For Keller, designing something no one else has thought of before represents the ultimate challenge and he continues to mix this challenge with his art.

That his 1,000-foot record was not broken for 13 years after his *Atlantis* experiment, Keller has never stopped to consider. A world record was not his interest.

"When I do something I try to be good and do a professional job, and always remember that 50 percent of my business is fighting the inevitable risks," he said. "But I would feel utterly ridiculous if I tried to be the record-setting mad scientist for the rest of my life. Actually, I want to have an interesting life, that's what I want. I am the man looking for the right mix of all to get me into the depth of life. That's really my thoughts on life, so that at the end of it, I can say it was worth it to have had it."

Suggested Reading

Robert Marx, *Sea Fever* (Doubleday & Company, Inc.: New York, 1972).