To Help the Allied War Effort, These Scientists Got Drunk on Nitrogen

During the extreme violence and bombings of World War II, England called on its citizens to do what they could to help. That meant food rationing for everyone and long hours working in factories for some. For a small group of scientists in London, however, it meant putting their lives on the line while doing math—lots and lots of math, sometimes while drunk. This group helped make the Allied landings on D-Day possible. John Burdon Sanderson Haldane, who went by JBS or simply “the Prof,” led a team of geneticists working out of a lab at University College London. Helen Spurway, his partner in life and in using mathematics to examine the inheritance patterns of salamanders, was the lab’s co-pilot. The two lived in the lab during the day and at the bar across the street at night. When the evacuations of London began, followed by the bombings that developed into the infamous Blitz, the university tried to close its doors to force all of its people to safety. It tried, but Haldane and Spurway snuck their way in anyway. With their blackout curtains drawn firmly against the probing eyes of not only Nazi bombers but also administrative officials on the hunt for rebellious scientists, Haldane and Spurway began to recruit others who had stayed behind. Among them was Edwin Martin Case, a researcher from Haldane’s past who had already proved his brilliance and, by coming to the center of the Blitz, also proved his mettle. When the Allies’ submarines started going down in alarming fashion—the American USS Squalus, the British HMS Thetis and the French Phénix, all within three weeks of each other in the summer of 1939, and all in training accidents—they were forced to realize they had no idea what they were doing underwater. But Haldane did. He and his team of downtown rebels had started studying the physiology with the most easily scheduled test subjects they could find: themselves. By 1940, the experiments were full speed ahead. On Friday, April 19, Case, hunched into a sphere, balanced a steel ball bearing precariously on a toylike scoop. He was determined to transfer the ball bearing into the correct hole. With a solid plunk, the metal sphere found its home just before the single minute allotted for the task ran out. Dropping the fiddly scoop, Martin began to pick up the bearings with his fingers instead. That way was much easier. Case was curled inside the smallest hyperbaric chamber at Siebe Gorman, a British diving equipment manufacturer, for the fourth day of testing. He passed the “ball game” sideways to Haldane, who was also bent over by the white tubular walls. The already small space was constrained further by equipment, pads of paper, stopwatches and two breathing apparatuses for use on the way back up. This particular chamber contained no lights, because it could go deep enough that electricity might spark a catastrophic internal fireball. The duo had some small portable electric lamps inside, but most of their vision was extracted from meager bulbs pressed from the outside against the tiny portholes of the darkened tube.