



SUICIDE MISSIONS: HUMAN GUINEA PIGS

Justin Rippy 10/03/07

Suicide Missions: Human Guinea Pigs is a documentary about scientific experiments performed on human test subjects. It is mainly about willing human guinea pigs needed to prove or disprove a theory about human capability; that is, the capacity for deep sea diving, to survive disease, to fly at fast speeds and high altitudes. The science and ethics of such experimentation is told through the personal stories of those who endured the experiments. The major subjects covered range from deep sea diving, biological warfare, and aviation.

The documentary consists of a patchwork of video footage of these events. It jumps from original black and white footage of experiments and color footage of post interviews to graphic animations explaining the science. The one consistency throughout is the intense voice of the narrator, whose admiration for the willing test subjects comes through in his language and tone. Marching drum beats add to the intensity as the narrator conveys the danger to which these subjects expose themselves in order to advance human knowledge. The sense of accomplishment, which accompanies the end of a segment, is conveyed through trumpets squeaking some patriotic tune.

The first subject covered is the innovative submersible suits developed and tested by Phil Nuyten for deep diving. Nuyten is a PhD and director of Nuytco Research, Ltd. The vanity one might perceive in his company's name is quickly replaced by admiration for the man once his story is told. In 1968, Dr. Nuyten became one of the first to dive 600 ft. and survive, but he was

not satisfied. In the late 1980's, he developed the "Newt Suit," which is 500 pounds of aluminum, titanium, and stainless steel. However, it becomes virtually weightless when submerged in the deep sea. The viewer gets to see color footage of Nuyten using the suit's electric thrusters to navigate deep waters. However, Nuyten's crowning achievement is the "Deep Worker 2000," and the number represents the amount of feet in depth this suit allowed him to dive. Nuyten's willingness to be the test subject for his own inventions comes from the feeling he experiences when first submerged. He says that when the water closes over you and you let go of that first breath, you discover that it actually works and you are still alive.

The next segment briefly discusses the history that thankfully led to the legal requirement of informed consent for test subjects. In the ancient world, we are told, it was common practice for POW's to be turned over to court doctors for experiments of human anatomy. Paintings of such horrors are displayed—thank goodness there was no footage available—as we are told that the human subjects were cut while still alive. It almost makes the thought of grave diggers stealing cadavers for experimentation seem less macabre. Apparently, medical knowledge being in its infancy, the good doctors thought that less knowledge about human anatomy would be discovered if the soul had left the body. It wasn't until the late 19th century that informed consent forms, detailing the risks involved, must be signed by the subject before experimentation became a requirement. This was, of course, one great leap from the "short, nasty, and brutish" description of life by Hobbes. However, the Nazis and Japanese soldiers in the 30's and 40's would take us several steps in the wrong direction.

The documentary focuses on the Nazis' experiments performed on the Jews at Auschwitz during the Holocaust. Black and white footage of the most offensive transgressions of morality are shown: young children, skin and bones, in a German laboratory along with mass burials of

starved, lifeless bodies. What was the reason for this sadistic project? German fighter planes were not as well pressurized as their British counterparts, so the Nazis wanted to know the limits of the human body. They would perform experiments on Jewish prisoners in a pressure chamber; the atmospheric pressure was reduced until the lungs exploded. When these and the other horrific “scientific” experiments came to light at the Nuremberg Trials, the Nuremberg Code was written in response to delimit the moral boundaries of experimentation on human subjects. The soft music of a symphony rises in the background as this chapter comes to a close.

The next segment covers Operation White Coat that began in the US military in 1953. The program was developed in response to the rising threat of biological warfare. Following the Nuremberg Code, the operation would take willing volunteers only and have an independent review board, but who would voluntarily subject themselves to injection of deadly viruses? The members of the 7th Day Adventist Church were willing to subject themselves to possibly deadly experimentation for the greater good of their country. Benjamin Rivera, one such volunteer, thought he was giving his life when he signed the informed consent form.

Sometimes the subjects would be injected with infectious bacteria. Within hours they would become ill. We see video footage of subjects lying on their beds in pain. Rivera described it as feeling as if his head was going to explode, which was accompanied by the fear of not knowing what tomorrow brought. Sometimes the subjects would inhale the biological agents in the form of aerosol, which is likely how the military would encounter biological warfare. Footage is shown of the subjects inhaling aerosol from one million liter stainless steel sphere tank known as the “eight ball.” Amazingly, no one died during these experiments with biological agents, and now the project continues at the USAMRIID. Operation White Coat is considered a model for the ethical conduct of research on human subjects. The contribution to

medical research that became possible due to the volunteers from the 7th Day Adventist Church is immeasurable. The documentary shows some pictures from the White Coat subjects reunion in 1998 where they are described as heroes, because they were jeopardizing their personal health for the benefit of the rest of us.

Rapid acceleration and deceleration presented major roadblocks to high speed and high altitude flights during the middle of the Twentieth Century. John Stapp would be the man with the vision and the courage to overcome this obstacle. The technology to fly at these speeds and altitudes was available, but the question was rather the human body could withstand it. Rapid acceleration and deceleration put too much gravitational force on the body. The standard amount of gravitational force thought to be full capacity of human body was 18 G's. Stapp built his "rocket sled" to see if he could raise this number by developing the proper restraints for the body. We see black and white footage of Stapp being propelled in his sled 200mph down a track into a water-break that decelerates him immediately with 35 G's of force against his body. This is a triumph because it is about double what the conventional wisdom stated. However, Stapp wasn't satisfied and continue to work on restraining devices to improve this number despite several injuries and the possibility of death. Slow motion footage shows his cheeks rippling like curtains as he propels 600mph into the water-break and withstands 45 G's and above. These experiments allowed for rapid acceleration and deceleration, but it also became the foundation for seatbelts in automobiles. Years later Stapp would visit the site where he accomplished his goals and say, "I've justified my existence."

High altitudes also presented problems for pilots. If the pilot had to eject, he would be dropping in an extremely thin atmosphere. The pilot could easily fall into a flat spin at such high resolutions that would prevent the heart from pumping blood. Stapp developed a helium balloon

to allow test jumps at high altitudes. The volunteer, Joe Kittenger, made two successful jumps at 75,000 feet where he was able to keep the fall stable. However, he would need to make a successful jump from over a 100,000 ft. We see footage of the helium balloon taking him up. Kittenger said he could not tell whether he was falling down or up, because there was no sense of air passing by him since it was so thin—not even able to put ripples in his clothes. The jump was successful and another major obstacle to human flight overcome.

The documentary did a good a job of showing the legal necessity of informed consent forms. Also, it mentions that the risks must be detailed. However, it could have done more to describe the requirements of Nuremberg Code as it relates to testing on human subjects. Though the documentary's coverage of Operation White Coat explains the necessity of such projects contribution to biodefense, it only mentioned that the threat of a biological attack still exists today. It would have been better to spend some time on the nature of the current threat and the major concerns of today.