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# A Scientist's Nazi-Era Past Haunts Prestigious Space Prize

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By LUCETTE LAGNADO

Every year since 1963, the Space Medicine Association has given out the Hubertus Strughold Award to a top scientist or clinician for outstanding work in aviation medicine.



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Dr. Hubertus Strughold, dubbed the 'Father of Space Medicine,' in an early chamber designed to simulate the conditions in space. Some scientists want his name removed from a medical prize.

The prestigious 50-year-old prize is named in honor of the man known as the "Father of Space Medicine," revered for his contributions to America's early space program. The German émigré, who made Texas his home after World War II, is credited with work that helped American astronauts walk on the moon.

But it is what he allegedly did during the war that has fueled a bitter controversy.

Nearly 70 years after the end of World War II, the scientific community is still fractured over the legacy of Nazi science—a conflict underscored by the clash over the Strughold prize.

Dr. Strughold, a former scientist for the Third Reich, was listed as one of 13 "persons, firms or organizations implicated" in some notorious Dachau concentration camp experiments,

according to a 1946 memo by the staff of the Nuremberg Trials. The document referenced the infamous hypothermia, or "cold experiments," in which inmates were used, and typically died, as subjects exposed to freezing conditions.

For years, former colleagues and disciples have defended him, saying there was no evidence to conclude he engaged in atrocities. Other space scientists have argued that his involvement in Hitler's war machine should prevent any honors, including the eponymous prize, from being named for him.

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He was never tried at Nuremberg. In America, the U.S. Justice Department investigated him at several junctures but never found sufficient grounds for prosecution.



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Dr. Strughold headed a major aviation research lab in Nazi Germany before coming to the U.S. where he helped shape the space program.

During in his lifetime, Dr. Strughold himself repeatedly denied any involvement in the Dachau experiments or other atrocities. He told a Nuremberg investigator that he knew about the cold experiments but disapproved of such tests on nonvolunteers.

"I have always forbidden even the thought of such experiments in my Institute, firstly on moral grounds and secondly on grounds of medical ethics," he is quoted as saying in this Nuremberg report. His immediate family members are deceased.

Dr. Strughold, who died in 1986, became a revered figure in American science. He built an impressive career, helping to develop the first pressurized space craft cabin that made manned space flights possible. Doctors and scientists in the emerging field of space

medicine looked to him as a mentor and some affectionately called him by his nickname, "Struggie." They have remained loyal, despite allegations about his past.

To his defenders, Dr. Strughold was a "pure scientist." His legacy, they say, was to ultimately help America beat the Soviets to the moon.

"I certainly didn't have the feeling that he was a great deceiver," says Dr. Charles Berry, 89, a veteran of the U.S. space program who received the Strughold award in 1967. He strenuously backs Dr. Strughold, whom he came to know in the early days of the space program. "He would sit and talk to you and tell you about any of the subjects you were concerned about," says Dr. Berry.

But as more evidence surfaced in recent years about Dr. Strughold's wartime activities—including the disclosure by German scholars that his institute in Berlin had conducted experiments on young children from a psychiatric asylum—the doctors, scientists and astronauts who inhabit the rarefied world of space and aviation medicine have become embroiled in an anguished debate.

"He was not a war criminal," says Dr. Mark Campbell, a former president of the Space Medicine Association. "We would not have been where we are in space medicine without Strughold," he adds.

Dr. Strughold's critics argue that a scientific organization like SMA has no business awarding a prize that honors a man who held a senior position in the Third Reich and was possibly complicit in some of its crimes.

"I never thought that you could

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At Dachau, an inmate being subjected to high-altitude conditions.

prosecute Strughold, but that doesn't mean you have an award in his name," says Professor Robert Proctor of Stanford University, an authority on Nazi-era medicine.

Dr. Russell Rayman, a former Executive Director of the Aerospace Medical Association—an umbrella group that includes the SMA—has lobbied over the years to have the award stripped of the name. He offers a more stark appraisal. Dr. Strughold, he says, "was part of a big killing machine."

The ravages of World War II left the world trying to grapple with the enormity of the crimes that were committed, and pondering how to punish their perpetrators. The Nuremberg Trials, which took place

after the war, were intended to bring to justice the worst offenders, including doctors. Major corporations tried to come clean about their business relationships with Hitler's regime.

While the U.S. Justice Department has shrunk its Nazi-hunting arm in recent years, and prosecutions dwindled as suspected war criminals aged and died, roughly a half-dozen cases remain active. Meanwhile, historians and scholars, including many in Germany, continue to probe relentlessly into the country's dark scientific past.

Prof. Proctor believes that the dispute over the Strughold prize is analogous to a larger debate over what researchers call "eponyms"—conditions named after their discoverers. Several disorders and diseases were first identified by German scientists who worked for the Reich and yet still bear their names.

"What do we do with the legacy of Nazi knowledge? How do you honor or dishonor Nazi achievements and Nazi crimes?" asks Professor Proctor.

He cites the example of Dr. Josef Mengele, the notorious Auschwitz physician known as the Angel of Death. Prior to the war, Dr. Mengele had been an avid researcher. "Is it legitimate to say, 'for more on cleft palates, see Mengele, J., 1937?' " he asks.

The Dachau "cold" immersion experiments—whose brutality stood out even in the context of Nazi crimes—have long been a subject of discord in scientific circles. Some have argued the experiments were of no value, so flawed as to be useless. Others have said that despite the horrific means used to obtain the data, the information could still be useful.



Enlarge Image

Yad Vashem

There is no question, says Professor Robert Pozos, a hypothermia expert at San Diego State University, that the Dachau data seeped into scientific circles after the War, and was referenced in multiple scientific journals.

The conflict over Dr. Strughold began

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Nazi doctors submerged prisoners in freezing water to gauge ways to help downed pilots survive. Dr. Strughold's knowledge of, and possible involvement in, this type of experiment is the subject of intense debate.

with a single, cryptic remark he made at a conference during the war—a statement that has been studied, analyzed, parsed and dissected by scientists, historians and Nazi hunters

for years.

During the war, Dr. Strughold was director of the Aeromedical Research Institute in Berlin, a prominent research facility under the Luftwaffe, the German air force. In that capacity, he attended a 1942 medical conference in Germany. The highlight of the top secret meeting was a presentation on hypothermia or "cold" experiments that were performed on human beings; they were prisoners of the Dachau concentration camp.

The subject was of intense interest to Hitler's war effort. Germany was losing pilots who were shot down in the frigid seas of Northern Europe. Could they be rescued? What would it take to save them?

At Dachau, doctors submerged inmates, some in full pilot gear, in icy water tanks or else forced them to remain naked in frigid temperatures for hours. Their vital signs were monitored and they were observed for how long it took them to die. Some were exposed to scalding temperatures to see if they could be "rewarmed" back to life. Most suffered agonizing pain, and an unknown number perished. The Dachau "cold" experiments became an emblem of the cruelty of Nazi medicine.

In minutes from the "Cold" conference, Dr. Strughold was recorded as saying:

"With regard to the experimental scientific research, but also for the orientation of the Sea Distress service, it is of interest to know what temperatures are to be counted on in the oceans concerned during the various seasons."

Critics of Dr. Strughold and his award argue that his participation at the conference shows, at a minimum, that he was aware of some of the most perverse activities of the Third Reich.

Eli Rosenbaum, a senior human rights prosecutor at the Justice Department who heads its Nazi-hunting program, believes that "Hubertus Strughold encouraged the perpetrators of the now-infamous Dachau concentration camp freezing experiments" or at least signaled "the possible necessity of such repetition," he says. Mr. Rosenbaum is a 30-year veteran of the agency's Nazi-hunting arm.

David Marwell, a former Justice Department historian, recalls investigating Dr. Strughold back in the 1980s for the Nazi-hunting arm and being struck by the significance of his comment at the "Cold" conference.

"We know that he was present when results of the experiments were reported and that he made suggestions that could be interpreted as intended to make the experiments more useful and precise. He didn't stand up and leave or say this is outrageous," says Mr. Marwell, now director of the Museum of Jewish Heritage in Lower Manhattan.

After the War, the "Cold" conference minutes were featured prominently in the Nuremberg Trials. General Telford Taylor, the chief prosecutor, cited them in his opening statement, calling the Dachau experiments "sickening crimes."

Dr. Viktor Harsch, a German physician and author of a friendly biography of Dr. Strughold, says that while the scientist may have known about the Dachau experiments, the comment he made at the conference was very "general" and he doesn't believe it was necessarily related to human experiments.

There were a number of topics discussed, he says, and the remark could have

been about "meteorological," or weather, conditions. Dr. Strughold never joined the Nazi party, he points out, and "it was not in his nature" to support human experiments.

Other German authorities on Nazi medicine emphatically disagree. "He was sitting in the Luftwaffe ministry, he was the director of the Medical Research Institute—he knew exactly what was going on at Dachau," says Dr. Wolfgang Eckart, a professor at the University of Heidelberg and the author of a new book on Nazi-era medicine.

"A lot of people were not in the Nazi party," Dr. Eckart contends. "What is most important is what they did—what was their work for the Nazis?"

Adds Dr. Yehezkel Caine, a member of the aerospace medical group who wants the award eliminated, declares: "there is no way on this planet that anyone of Strughold's stature could have been where he was without being complicit."

Within the last decade, German scholars found that at least one set of human experiments—involving children—took place inside Dr. Strughold's own institute. The experiments were also confirmed by his biographer.

In 1943, half a dozen children 11 to 13 years old were taken from a nearby psychiatric facility known as Brandenburg-Goerden and brought over to the Institute. Once there, the children, most of whom had epilepsy, were subjected to "hypoxia," or oxygen deprivation experiments. They were placed in an altitude chamber and administered lower levels of oxygen to see if the conditions would trigger seizures.

In a book on Nazi medical practices between 1927-1945, author Hans-Walter Schmuhl, a German scholar, recounted in detail those experiments, explaining how the tests had initially begun on rabbits. He described how Dr. Strughold had several "vacuum chambers" and the children were subjected to experiments that simulated altitudes of nearly 20,000 feet. The children survived the research, which didn't end up triggering seizures—so the undertaking was deemed a scientific failure.

Even so, Dr. Schmuhl wrote that the scientists "knew from the animal experiments that young epileptic rabbits reacted...with violent, often fatal convulsions" and they "expected (and hoped) that the children would react like the rabbits."

Dr. Harsch says it is unclear whether Dr. Strughold authorized the experiments. But he was in charge, he acknowledges, and therefore bore responsibility for what happened. Brandenburg-Goerden was a center for euthanizing mentally ill patients and other so-called undesirables, including children. Their bodies were disposed of in a nearby crematorium.

Dr. Harsch, who heads the history committee at the German Society for Air and Space Medicine, says he informed his colleagues in 2004 about the experiments on children—a revelation that prompted them to eliminate the Strughold award they had given out since the 1970s.

Back in America, one by one, honors that had been heaped upon Dr. Strughold for his contributions to the space program have been discontinued as a cloud descended over his name. Brooks Air Force Base had named a library for him in 1977, but decided to remove Dr. Strughold's name in 1995 after Jewish groups raised objections. At Ohio State University, his image, part of a glass mural of medical luminaries like Marie Curie, was removed.

But the SMA remained loyal. It has continued to hand out the Strughold Award at a special luncheon held every spring.

Responding to pressure from some of its own members over the award, the association launched an investigation into the matter in 2006, says Dr. Campbell, a

former president. He and some colleagues examined the allegations against Dr. Strughold and pored through U.S. and German government records.

"Our response was, he was not a Nazi, he was not a war criminal, and no, we're not going to take his name off the award," Dr. Campbell says. That remains the association's position, he says, unless new evidence links him to atrocities.

Professor Eckart vehemently disagrees, saying the experiments on children were evidence of the kind of work performed at Dr. Strughold's institute. The children were "institutionalized patients," says Dr. Eckart, with no way to give consent. "These experiments were clearly criminal—the risk to the children was recklessly disregarded."

Following The Wall Street Journal's inquiries, both the Space Medicine Association and its umbrella organization, the Aerospace Medical Association, say they are now rethinking the Strughold award. The larger group, which is affiliated with the American Medical Association, stresses that the Space Medicine branch operates independently.

"Why defend him?" says Dr. Stephen Véronneau, a member of both groups. "I can't find another example in the world of honoring Dr. Strughold except my own association."

During a meeting on Nov. 14, Dr. Campbell made an appeal to uphold the award; Dr. Rayman countered that Dr. Strughold's known activities on behalf of Hitler's war machine made him unworthy.

The children's experiments were not mentioned. When contacted by the Journal, Jeff Sventek, the aerospace association's executive director, said the information was new to him.

Dr. Campbell, who was aware of the experiments, says that while wrong and inappropriate, they were "fairly benign."

"I don't defend these experiments," he says. "The question is did Strughold know" about the research. "Just because it was in the chamber in his institute doesn't mean he knew about it," he says.

Dr. Campbell is considering one solution: changing the award's name—but only if there is an agreement stating categorically that Dr. Strughold wasn't a Nazi or a war criminal.

That isn't likely to satisfy critics like Professor Proctor. "You can't whitewash history," he says.

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