guardian.co.uk

Obituary

Konrad Dannenberg

A V2 rocket engineer in Nazi Germany, he later worked on the US programme that took man to the moon

Nigel Fountain
The Guardian, Tuesday 10 March 2009

As a postwar scientist with the National Aeronautics and Space Administration (Nasa), Konrad Dannenberg was honoured for his work on propulsion systems for the US 1969 moon landing. As a wartime rocket engineer, Dannenberg was one of those employees of the Nazis whose efforts were illuminated by what Winston Churchill called, in May 1940, the "lights of perverted science". As a survivor, Dannenberg, who has died aged 96, had been one of the last of more than 100 rocket scientists, led by the father of the US moon landing Wernher von Braun, who were despatched by the US Operation Paperclip from ruined Germany, via Le Havre, to the security of Fort Bliss, Texas, in November 1945.

Albert Einstein was among those who protested to the Truman administration about the Germans' arrival. As for their colleagues left behind, many ended up working for the Soviet rocket programme. Five years earlier Dannenberg had been transferred from the Wehrmacht to the Peenemünde missile centre on the Baltic sea island of Usedom. There he worked on propulsion for the V2 rocket, and from 1943 on production drawings. On 3 October 1942, the V2 was successfully tested, and, reaching a height of 53 miles, brushed the edge of space. It provided what Dannenberg saw as the outstanding launch of his life. And, as he said a decade ago, it was "clear that it would be used by the military".

Indeed it was. The "V" was for Vergeltungswaffe, vengeance weapon, and the V2 (the world's first ballistic missile), like the V1 - ancestor of the cruise missile - never had any other practical purpose, as Dannenberg would have well known. But then, recalled the scientist, the Wehrmacht "was the only rich uncle with enough money to pay for the things we wanted to do".

In 1943 an RAF attack on Peene- münde focused production of the V2 and V1 to Mittelwerk (central works), an underground factory, near Nordhausen on the southern border of the Harz mountains and hell on, or rather under, earth. The civilian director of V2 production was Arthur Rudolph, who would become the co-ordinator of the US programme which, in 1969, delivered Neil Armstrong and Buzz Aldrin to the moon. Mittelwerk's workers comprised 60,000 largely Soviet, Polish and Jewish slave labourers from the adjacent Dora camp complex. "Compared with Dora," a new arrival told Jean Michel, a French Dora inmate in September 1944, "Auschwitz was easy."

Some 5,789 V2s would be produced (and sometimes sabotaged) between August 1943 and liberation by the US 3rd armoured division in April 1945. The first V2s hit Paris, Antwerp and Chiswick, in west London, in early September 1944. Just under 3,000 civilians were killed by V2s in southern England (and more than 6,000 by V1s) before the last V2 hit Orpington, in London, on 27 March 1945. Some say that 20,000 people died producing V-weapons at Mittelwerk; Michel put the figure at 30,000. With the V2, Hitler had told von Braun: "We will force England to her knees." It had been a mistaken investment, von Braun later concluded.

"This slavery, this unspeakable sum of suffering, misery and death, Michel wrote in his

book Dora (1979) "... made possible the conquest of space." It was people like Peenemunde-based Dannenberg, (unlike SS Major von Braun, he was not a Nazi party member), who embodied this paradox.

Dannenberg was born in Weissenfels, near Leipzig in Saxony-Anhalt, in eastern Germany. He grew up in Velber, near Hanover, and graduated in mechanical engineering from the Technical University of Hamburg. The teenager's interest in rocketry had been kindled by a Hanover lecture by the Austrian pioneer Max Valier, who worked with Fritz von Opel on rocket cars and was blown up by a rocket engine in 1930. Valier's protege was the rocket engineer Rudolph.

Dannenberg stayed at Fort Bliss until the late 1940s, as the US military evaluated the V2. He then moved to the Redstone Arsenal, near Huntsville, Alabama to work, under von Braun, on the Redstone and Jupiter missile programmes. Thirteen years after the V2 scientists' arrival in the US the Redstones were deployed - in West Germany.

In September 1957, the Soviet Union launched Sputnik, the world's first satellite. It was not until January 1958 that a Redstone took the US Explorer satellite into orbit. In the ensuing years, what is now commonly seen as the myth of a Soviet technological lead was fostered by von Braun and exploited by John F Kennedy in his 1960 presidential campaign. In 1960 Dannenberg became deputy manager of the Saturn programme at Nasa's Marshall Space Flight Centre in Huntsville and, in May 1961, JFK set his "end of the decade" moon-landing deadline. Eight years later it was a Saturn V, the world's largest rocket, which took the Apollo 11 astronauts to land on the moon.

By then, Dannenberg was working on space station design; he retired in 1973. With urgency ebbing from the space race, awkward questions about Operation Paperclip were resurfacing. In the early 1980s Rudolph's role in the Dora camp horrors was exposed. A deal was done, Rudolph renounced his US citizenship and resettled in West Germany in 1983. Two years later, Dannenberg was one of more than a score of sometime German scientists who petitioned President Ronald Reagan to have Rudolph's US citizenship restored. Von Braun had died in 1977; Rudolph, who saw the moon landings as a German victory, died 12 years ago.

After his retirement, Dannenberg became a highly respected educator at the US Space and Rocket Centre in Huntsville. "He personally engaged with thousands of young people," Ed Buckbee, a former Nasa spokesperson, told the Huntsville Times, "taking his time to share with them his experiences of flying into space ... He was truly an ambassador for space."

Huntsville's mayor told the paper that: "Dannenberg's leadership and vision lifted our city, our state and our country to heights that had never before been achieved."

Dannenberg's first wife, Ingeborg, predeceased him. He is survived by his wife, Jackie, his son, Klaus Dieter Dannenberg, from his first marriage, and two grandchildren.

• Konrad Dannenberg, scientist, born 5 August 1912; died 16 February 2009

• This article was amended on Thursday March 12 2009. The V2 rocket engineer in Nazi Germany who later worked with Nasa was Konrad Dannenberg, not Dannenburg as it was misspelt in part of his obituary. This has been corrected.