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# A background of memories of working with Dr. Wernher von Braun, Krafft Ehrlicke and members of the Peenemunde group<sup>☆</sup>



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## ABSTRACT

In this paper I recall some of the experiences in having the great opportunity to work with Dr. Wernher von Braun, Krafft Ehrlicke, and other members of the Peenemunde Group, beginning in September 1951 who were developing the Redstone liquid propellant rocket at Redstone Arsenal, Huntsville, Alabama.

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## 1. Introduction

My opportunity to work with Dr. Wernher von Braun and other members of the Peenemunde group began on September, 1951, when through an extraordinary set of circumstances, I reported to the U.S. Army 9330 Technical Service Unit, stationed at Redstone Arsenal near Huntsville, Alabama. The 9330 TSU included a group of a hundred or so recent U.S. Army draftees, during the Korean War, who as “Army Special Personnel” were brought to Redstone Arsenal to work on highly classified missile developments.

We, as enlisted men, along with a number of Army reserve officers called back to duty and a small group of Government civil servants worked at the Arsenal's Army Ordnance Guided Missile Center (OMGC) Development Operations Division of which Dr. von Braun was the Technical Director, under the Army command structure.

In late 1950, the Hermes C-1, a ballistic missile planned for development with a 500 mile range, was transferred from General Electric to Redstone Arsenal.

To differentiate from the earlier Hermes C-1, the new missile's name unofficially first became Ursa then later, the Major. Finally on April 8, 1952, to clarify this situation, the name officially became the Redstone. Also, the Redstone's range was reduced to 200 miles. because of the weight of the intended nuclear warhead and the thrust level of the chosen available Rocketdyne liquid propulsion systems.

The Redstone was the first large liquid rocket developed in the U.S. based on German V-2 technology. The basic Redstone was 69.3 ft long and 5.8 ft in diameter. Initial propellants were liquid oxygen and alcohol.

The Redstone, through subsequent upgrades, launched the first U.S. Satellite, Explorer I, on January 31, 1958; the first American Astronaut, Alan Shepard, on a sub-orbital flight into space on May 5, 1961; and a second American Astronaut, Virgil Grissom on July 21, 1961.

The chronology of how the opportunity to work with Dr. von Braun and members of his team began well over a decade earlier.

<sup>☆</sup> This paper was presented during the 65th IAC in Toronto.

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## 2. My decade before Huntsville

In my growing up years, the Sunday newspaper comic strip, “Buck Rogers in the 25th Century,” during the late 1930s and early 1940s, had given me a fascination with the use of rockets as means of transportation through space and on earth. In 1942, as a 9th grade student, I built a small-scale model of a Buck Rogers rocket ship as a science project at Clark Junior High School in La Crescenta, California.

My father, Serge V. James, looked at my rocket ship model and wishing to give me a hopefully more scientific approach to my project, borrowed from the Glendale, California public library the only book they had on astronautics, “Rockets through Space” by P. E. Cleator written in 1936.

Suddenly, the forecasts of rocket travel in the 25th Century came back down to earth with Mr. Cleator's accounts of 20th Century research by rocket pioneers, Robert H. Goddard, Robert Esnault-Peltier, and Hermann Oberth, as well as the subsequent early interplanetary societies, the VFR German Rocket Society, the British Interplanetary Society, and the American Rocket Society.

Consequently, in early 1943, inspired by Mr. Cleator's book, I and five equally young colleagues at Clark Junior High School, John Cipperly, Charges Payne, Jim and George Fox, and Jim Hess founded the nucleus of today's Rocket Research Institute, Inc., (RRI) under the name of Southern California Rocket Society (SCRS). We quickly changed the name to Glendale Rocket Society (GRS) because we learned that earlier Bernard Smith and Robert Gordon had formed the California Rocket Society in 1940. I had been motivated to form our organization by the fact that private non-governmental organizations and individuals now were actively pursuing rocket propulsion systems development without waiting for the 25th Century.

It was ironic that I and my associates formed our organization without the slightest knowledge that almost exactly three months earlier, October 3, 1942, the first completely successful experimental A-4 (V-2) had been launched at Peenemunde. And perhaps even more ironic was that nine years later, I would be working with the same individuals who had conducted the October 3, 1942 completely successful A-4 launch.

The American Rocket Society publicized our student rocket society in “Astronautics, Journal of the American Rocket Society” (ARS) and I also joined the ARS as Junior Member Number 54 in 1945, with the encouragement of G. Edward Pendray, one of the founders of the ARS, and Cedric Giles, then former ARS President.

In reading “Rockets through Space”, I had been particularly intrigued with the mail-rocket research of a young Austrian engineer, Friedrich Schmiedl (1902–1994). On February 2, 1931, Mr. Schmiedl had launched the first “public” demonstration of rocket mail from the Schoekel mountain plateau in Steiermark, Austria, to the town of Radeburg with his “V-7” rocket that carried 102 covers and cards. This demonstration helped increase public awareness of a peaceful vision of the future with large mail cargo carrying rockets, at a time long before inter-continental ballistic missiles.

This experiment also raised funds for his research program, which continued until Austria was annexed by Germany. With similar fund-raising in mind for training and research, the RRI, from 1947 to the present, has conducted 52 rocketpost demonstrations for its research and education programs, carrying a total of over 77,000 commemorative envelopes for astrophilatelic collectors.

In the summer of 1950 I first met Konrad Dannenberg of the Peenemunde group when I went to work at the North American Aerophysics Laboratory (NAA) in Downey, California. Imagine my surprise and pleasure to be working on the U.S Air Force MX-770 Navaho project with an engineer from Peenemunde who actually helped develop the V-2, one of my great interests.

As Mr. Dannenberg had belonged to a German student rocketry group in the late 1930s and because I had been involved with the Rocket Research Institute since 1943, we also shared a common thread of enthusiasm for supervised student experimental rocketry.

Four summers earlier, in 1946, I had been fortunate to have a summer job at the Caltech GALCIT Jet Propulsion Laboratory, through the assistance of Dr. Theodore von Karman and Dr. Frank Malina. I became a JPL summer intern assistant test pit mechanic. I worked mostly on tests of the liquid monopropellant Nitromethane. However, I did spend several weeks with Charles Bartley's staff at the solid propellant test bay where they were testing the first room temperature castable solid propellants made from Thiokol LP-2 liquid polymer.

I still remember spending many lunch hour at JPL examining the complete V-2 that was placed on its side near the large oak tree located close to the JPL liquid rocket test area. Now in 1950, at NAA I was actually working with an engineer who had helped develop that V-2's rocket engine.

Moreover, through another lucky surprise, less than month into my JPL summer intern job, I had to request a week-long leave because, through a letter I had written to the Army as the representative of our young student rocket society, I had received an invitation from the U.S. Army to witness the launch of V-2, S/N 6, on June 27, 1946 at White Sands.

Through a non-inspiring bus trip from Los Angeles, I arrived in Las Cruces on the morning of June 27th and was met by an Army public relations officer. After his surprise of meeting a teenager, he drove me to the White Sands Proving Grounds Base Headquarters where I joined the other invited visitors.

After lunch in the officer's mess, we were told that the launch had to be delayed until the next day because of the pump on the liquid oxygen truck had broken and it would not be possible for another truck to arrive from El Paso before then.

That evening, I had an opportunity to meet a number of individuals who had come to witness the launch, including Robert Young of Aerojet, with whom I would work in years to come.

Early on the morning, of the 28th, without any escort, I walked over to the assembly hanger for the V-2s and marveled at the numerous V-2 bodies opened in half, like giant sea shells.

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