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Stuhlinger: German Rocketeers find a New Home in Huntsville  
GERMAN ROCKETEERS FIND A NEW HOME  
IN HUNTSVILLE

Dr. Ernst Stuhlinger

My wife and I are two of about seven million Germans who, during the past three hundred years, left their home country, crossed the Atlantic Ocean, and found a new home in America. And we are two of about 60 million Americans living in this great country today who can trace their descent from German ancestors. The professional backgrounds of those who came to the shores of the American continent cover a wide range, and so do the circumstances under which they began their voyage, as well as the ways in which they built a new existence, but for all of them, the most decisive reason why they came to America was the quest for freedom--freedom from a dictator and from political oppression, freedom from religious persecution and intolerance, freedom from the pressure of overpopulation and its consequences, such as poverty, hunger, epidemics, unemployment, and crowded living spaces. Certainly, there were also secondary reasons, but the overriding motive for Germans who emigrated to America was the desire to live in freedom.

Some of the immigrants achieved great fame. Earlier in the 19th century a German by the name of Eisenhower settled in the United States; his grandson became supreme commander of the American armed forces during World War II and then President of the United States. Another 19th century immigrant from Bavaria by the name of Levi Strauss secured his place in history and in the hearts of millions of people in a different way; he invented, produced, and sold the all-time best seller in clothes--blue jeans. Rather than enumerate further highlights in the long history of German immigration in America, and present statistics about the flow of travelers from Germany who came here to stay, I would like to reach back into my own history and describe how it happened that my wife and I can be with you today.

While we talk about millions of immigrants who came to this country in search of new homes, we should not forget that each and every one of them, except the small children, had to make a personal decision to leave his or her old country. All of them had to part with relatives and friends, with a country whose language they understood and spoke, and whose thousand-year-old history was the background for their own histories. Immigration statistics alone do not tell of any of those innumerable thoughts, rational and emotional, which roam through the minds of those who are about to migrate.

In my own life, dreaming about traveling to another country began very early. For years, it was Africa or America--Africa because of its fabulous wild animals, America because of the unlimited opportunities available to those who were ready

to accept them. When I was a schoolboy during the late 1920s, my friends and I avidly read books about America. Most of them were adventure books; they told of the Indians, of the early settlers in the wild western territories and the various gold rushes; they told of the great railroad projects that won the west, of Henry Ford's fantastic success with the automobile, of the endless wheat fields in the midwestern plains, the cotton pickers in the south, the big cities and the enormous skyscrapers. One of our teachers had gone to America as a young man; he began as a dishwasher in New York, bought an old jalopy, and traveled to the west coast. Whenever we schoolboys did our work to his satisfaction, he told us of America, of its unlimited spaces and endless highways, of the heartwarming friendliness and hospitality of its people, of the fairy tale landscapes in the Yellowstone Park with Old Faithful, the bears, and the buffalo, the Painted Desert with its petrified tree trunks, the gigantic cacti in Arizona and the magnificent Pacific coastline, and he planted in us a seed of love for this marvelous country. After four years in America, he returned to Germany, went to the university and became a high school teacher, but whenever he began to talk about America, a happy smile lit up his face.

After my school years I first had to learn a profession. Then, I thought, would be the time to make further plans. When I was 25, World War II broke out and put an end to all personal planning. After a short time, Germany was at war with almost all of its neighbors on the continent.

I remember the day in December 1941 when Japan attacked the American fleet at Pearl Harbor, resulting in the United States' entry into the war. For many, perhaps most people in Germany at that time, and during the rest of the war, the attitude toward America was different from the attitude toward all other members of the Allied Forces. The constant flow of emigrants from Germany to the United States during the previous 300 years, the large number of relatives and friends which German citizens had in America, the familiarity of many Germans with customs and events and even with cities and landscapes in the United States, and the total absence of any mutual territorial claims between the two nations, simply did not leave much room for hostile feelings. This situation could not be changed much in Germany by the government's very negative war propaganda against the United States, nor was it even much influenced by the heavy air raids by American bombers on German cities.

During the late 1920s a young boy named Wernher von Braun lived in Berlin; he built and launched an unending sequence of rockets, some soaring straight up, some propelling rocket cars, and some exploding upon ignition. He also began writing articles for his school newspaper about rockets to the moon and to Mars.

When he was 14 years old, he decided that he would devote his life's work to the opening of the heavens for human travel. At 18 he joined and was soon made

director of the Society for Space Travel in Berlin. In 1932, the year before Hitler came to power, the German Army offered von Braun a contract to help army ordnance develop a rocket as a weapon of defense. This program led to the establishment of the rocket development center at Peenemuende on the Baltic Sea where the A-4, later called V-2, was developed. In 1943, the SS under Heinrich Himmler assumed control over production and deployment of the still unfinished rocket. Against the recommendations and the attempts at resistance of von Braun and his commanding general, Walter Dornberger, V-2 rockets were first launched against Paris and London on September 8, 1944.

Even before the end of the war, the Allies had knowledge of the work going on at Peenemuende. Several air raids were undertaken against Peenemuende by British and American bomber fleets. When the war in Germany came to an end, special task forces, under the leadership of Colonel (later General) Holger Toftoy, established contact with von Braun and many members of his Peenemuende team. General Eisenhower made a strong recommendation to his government to bring von Braun and a number of his co-workers to the United States in order to secure their expertise for American industry and the American armed forces, and also to assure that they would not fall into Russian hands. President Truman agreed with the proposal, and thus began the largest postwar technology transfer in human history.

The American government and the U.S. Army simply invited von Braun and a small number of his co-workers to come to America to continue their rocket development work under the auspices of Army Ordnance, leaving it up to the individuals whether they wished to accept or reject the offer. The Soviet authorities, eager to acquire rocket experience and know-how, proceeded in a different way to reach their goal. They first established a rocket research institute, named Institut Rabe, in Bleicherode in the Harz Mountains. Enticed by good salaries and plenty of food--rarities in war-torn Germany at that time--many of the former Peenemuende employees and other engineers and scientists joined the institute and worked on rocket research and development. One evening in October, 1946, the Russians threw a big party for all the employees with "plenty of vodka" as one of the scientists later described. At four o'clock the next morning, Soviet soldiers appeared at the apartments of the sleepy Germans, loaded the engineers and scientists and their families and some furniture on trucks, took them to the nearby railroad station, and shipped them off to Soviet Russia, brushing aside all complaints that this kidnapping violated their contractual rights. During the same night, similar kidnappings took place in Berlin, Jena, and other German cities. In total, about 5,000 German citizens were abducted and transported to Russia during that night. The German "rocket slaves" as they called themselves were stationed in isolation on a lonely island, Gorodomlija, north of Moscow, where they had to carry out development work on rocket components. Seven years later, they were allowed to return to their native Germany.

How different was the fate of von Braun and his 126 co-workers who were invited by the U.S. government to continue their work in the United States! The story of how first contacts were made between the advancing American troops and a small group of Peenemuenders, including von Braun, in an alpine resort where they had been held virtually captive by the SS, has been told numerous times. Interrogations by American technical experts followed, which soon resulted in concrete plans to find and contact other Peenemuenders who during the final chaotic phases of the war had been spread all over the country. The government granted to Colonel Toftoy for his "Project Fireball" permission for 126 individuals to be extended invitations and to prepare for their transport to the United States.

My own experience in this sequence of events was quite typical. It reflects many of those human and personal aspects that governed our thoughts when we suddenly faced the possibility of emigrating to America, leaving all the misery and hopelessness behind, and working in a peaceful environment and without the pressure of a violent dictatorship on the development of powerful precision rockets that one day might enable men and women to travel to their neighbors in space. However, we would also face the necessity to leave our relatives and friends and our country at a time of utter distress when it was so obvious that almost everything that makes up a normal nation had to be rebuilt; production and distribution of food, apartments and houses, streets, cities, bridges, railroads, a postal system, legal authorities, educational institutions, welfare organizations, hospitals, health care systems, a functioning government, a stable economy, relations with neighbor governments, and with other nations. Most important, perhaps, would be the need for Germany to find its way back into the community of respected nations and to heal the wounds that Germany's Nazi government had left all over the world.

In that situation, would it be right to leave Germany and to start working for a nation with which Germany had been at war only recently? Like many of my colleagues at Peenemuende, I had been moved with my laboratory to a place in the middle of the country late in 1944 when Russian forces began to proceed toward North Germany and Peenemuende. The place where I stayed, Stadtilm in Thuringia, was overrun by American forces in May 1945. Even with the first tanks, some civilians arrived who knew my name and whereabouts from earlier contacts with Peenemuende groups in Frankfort on Main. I was told to stay in that little town until I received further directives from American officers. In June, I was told to move toward the west. Although no reason was given, I knew why I had to move; that part of Germany had been assigned to Russian occupation forces. So I moved to Tuebingen in Germany's southwest, then under French occupation, a city where my parents lived, and where I had studied at the university. I even found employment at my alma mater as a research associate in

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the Physics Department, and prepared for an academic future when, in October 1945, an American officer arrived and offered me a contract to come to America to work with von Braun and other colleagues on rocket projects. I asked for a week's time to think it over, which the officer immediately granted.

A week of intense thinking began, mixed with many talks with my parents, friends, relatives, and colleagues at the university, and all the aspects of emigrating under those special circumstances were considered and discussed. Would it be right to leave the country at this time? Would we rather be needed at home, where the gigantic task of reconstruction was waiting for every able-bodied young man? Could we hope that our move to America, and our willingness to live and work with our former enemies might help build a bridge, however tenuous at first, from people to people, and convince our American colleagues that not every German was an ardent Nazi? Could we hope that Americans would accept us as co-workers and take us at face value, in spite of all the war propaganda that had painted a very different picture of Germans? Could we hope that we would work as colleagues in a joint program of developing modern rockets and promoting space flight? Could those of us who had families be joined by their wives and children soon? Could we hope to be permitted to send gift packages to our loved ones at home where hunger and deprivation were still rampant? There were questions with no end.

Emigrating to any other country on the globe would have been a different prospect for us young German scientists and engineers in 1945. To go to America did not simply mean a change of country, or a switch in loyalty. Compared with European nations, America was a young nation, a land in which the idea of freedom, together with the striving for progress and for equal rights for everyone had moved closer to reality than everywhere else. In this process of making democratic ideals work, a nation of remarkable economic strength and political stability had come into existence. The powerful flow of German emigrants to America during the past 300 years has certainly contributed its share to this development. Emigration of young German engineers and scientists to America after World War II would not merely be a move into another country; it would be a step in a natural demographic evolution, an expansion from one nation into another one to which that nation had been related for 300 years by strong ties of kinship in body and mind. When the American officer returned to my home in Tuebingen in October 1945, I happily accepted his invitation and signed up for the voyage across the Atlantic.

Von Braun and a handful of his co-workers were transported to the United States by airplane in September 1945. The rest of his team arrived between late 1945 and the summer of 1946 by military ships. The group was given a home in the barracks of a former Army hospital annex at Fort Bliss on the outskirts of El Paso, Texas

In many respects our situation was unusual. We had entered the country without passports or visas, but with the knowledge and approval of the President. Called officially "Project Paperclip" in Washington, we had no legal status; we were not permitted to move freely outside our camp. For lack of a better designation, we called ourselves PoPs, Prisoners of Peace. Once every week, groups of four of us, each group escorted by a sergeant, were allowed to go shopping in El Paso, to have dinner in a restaurant, to see a movie, and to return to the barracks. Those of us who had learned English at school taught those who had not, with the result that a made-in-Germany accent prevailed in the English of the Paperclippers for the rest of their lives.

Our commander, Major Hamill, saw himself confronted with a difficult task. Years later, he told us during an old-timers' reunion, "Throughout my military career, I had been taught that a soldier has to out-smart, out-wit, out-trick, and out-fox the enemy at every opportunity. The Germans had been our bitter enemies for years while I received my military training. Now, I suddenly found myself surrounded by 127 Germans for whose well-being I was responsible. None of my military books told me how to tackle and resolve the many conflicting situations that arose during those years at Fort Bliss. Looking back, I'm happy and proud that we made it! Considering all the wonderful things that came out of those rough beginnings in Texas, I feel privileged that I had been chosen to be your commander!"

Our main task in Fort Bliss and nearby White Sands was to help put together and launch several dozen V-2 rockets whose parts had been shipped to the United States from Germany after the war. All of these rocket flights carried scientific instruments to study the high atmosphere and the space beyond; over a total time span of almost seven years, between 1945 and 1952, they provided a rich harvest of new knowledge of the upper atmosphere, the ionosphere, the earth's magnetic field, cosmic rays, and ultraviolet and X-rays from the sun. We had expected that we would be asked to design and build, on the basis of our Peenemuende experience, advanced and new rockets for further exploration of space beyond the atmosphere, and possibly also as weapons for defense. However, the official thinking at that time was that no military conflicts were to be expected in the future that would require military rockets, and nobody--except some forward-looking scientists at Fort Bliss and at a few other scientific installations--thought of rockets for space exploration at that time. So, no development project was assigned to the Paperclip specialists at Fort Bliss. We spent most of our time indulging in self-chosen studies of future rocket and space flight projects. Contacts with American citizens were almost non-existent, but about one year after the last members of the team had arrived at Fort Bliss, the families of the married men were brought over from Germany. We were allowed to buy second-hand cars and to travel in the vicinity of El Paso and later even to more distant

Stuhlinger: German Rocketeers find a New Home in Huntsville places, and we began to see and to appreciate the beauty of this land with its endless, colorful prairies, its majestic mountain ranges, and its unbelievably blue skies that seemed to extend right into infinity. However, we still had almost no contact with the people of America.

That situation changed almost abruptly in the fall of 1949; dark clouds began to form over the skies of Korea, with two immediate consequences. First, the Beaumont Army Hospital in Fort Bliss, in need of its annex for expected war casualties, asked the Paperclippers to vacate the barracks and look for another home. Second, the Army saw an urgent need for a ballistic rocket missile, and asked the former Peenemuenders to develop a missile similar to the V-2 as quickly as possible. Colonel Toftoy found a new home for "his rocket people" on the grounds of a former arsenal in Huntsville, Alabama, later to be called Redstone Arsenal. The group moved to Alabama during the summer of 1950. By that time, we had been joined by American civilian and military employees for a total strength of about 400. Immediately after the group's arrival, work on the new guided missile project, the Redstone short-range rocket, began.

The move to Huntsville was certainly the most significant event in the history of the German rocket team. First, it was definite proof that the American government intended to keep the team here and to assign important development projects to it. Second, the members of the team had become Civil Service employees of the government. Third, we were free to move around, to rent or buy houses, to join churches and civic organizations, to attend scientific congresses, to send our children to public schools, and even to start the lengthy procedures to become legal immigrants, to acquire "first papers" and eventually to become real citizens of the United States of America. It was a great feeling for us to really belong now to this country which we had come to respect and to love as a second home. This would certainly not mean that we would forget our first home with which we would remain connected through many visible and invisible ties, but the United States would now be our place to live and work; this would be the land and the people to whom we wanted to offer our loyalty as good citizens, just as millions of Germans had done before us.

It did not take us long to realize that Huntsville was indeed a wonderful new home for us. With almost every step, we were reminded of the lovely southern way of life about which we had read in books such as *Gone With the Wind*, the spontaneous hospitality and heart-warming friendliness of the southerners. Our neighbors called us by our first names and were eager to help wherever they could; there were no fences or walls between the houses; initial reservations that sometimes could be felt always changed quickly into curiosity and then into genuine interest and sincere friendship. There are some precious anecdotes typical of our early beginnings in the Deep South that will forever stick in our memories. One of Huntsville's prominent citizens, Wilson Smith, tells the story



how, as a young boy in 1950 he one day watched a moving van being unloaded in front of an empty house on his street. He ran back to his father and told him that a bunch of new people are moving into that house. "They look strange," he said, "and they speak a funny language. I believe they are Germans." "Uh, oh," father replied, "here goes our neighborhood to the dogs!" After a while the newcomers came over to say hello. "Hi," the man began, "my name is Wernher von Braun and this is my wife Maria. We are your new neighbors!" From that moment on, they were friends. Young Wilson became the playmate of young Iris von Braun. Years later Wilson married the daughter of another German newcomer, Heide Segewitz--"the best thing I ever did in my life," Wilson always adds when he tells the story.

Shortly after we had settled in Huntsville, some of us were invited to an evening lecture about the history of Huntsville, to be given by a young history professor at the Huntsville Extension of the University of Alabama, Miss Frances Roberts. After her talk, which dealt mainly with the dramatic events of the Civil War, one of the listeners asked: "How do you expect the City of Huntsville will accept and absorb this influx of rocket people from Texas?" After a little pause and a deep sigh, Miss Roberts answered, "Well, ninety years ago our city survived that invasion of Yankees from the north; we may hope that it will also survive the present invasion of rocketeers from the west." About 40 years later, after Huntsville's population had grown from 14,000 to about 170,000; after the little university extension had burgeoned into a fully autonomous university; and after Dr. Roberts, now a highly honored Professor Emerita, had become the most respected person ever connected with this university, the lady was asked how she feels now about that "invasion of rocketeers from the west." "Our city," she replied, "has grown in steps. By far the most decisive step came when von Braun and his crew moved here from Texas in 1950. Just everything began to grow in leaps and bounds! The population, stores, housing projects, schools, churches, streets, the cultural life, the symphony orchestra, the wealth of the city, and of course, our university. It was just marvelous!"

Among the first contacts von Braun made after his arrival in Huntsville were visits with the Mayor, with the Chamber of Commerce, and with industrial leaders. Painting a very positive picture of the fast growth of Huntsville as a consequence of the obvious interest of the Armed Forces and the U.S. government in rocketry, and also in the potential future development of space flight and space exploration, he tried to encourage Huntsville business leaders to make aggressive plans for broad economic growth of their city. In particular, he pleaded for opportunities for advanced education. Dr. Roberts remembered his untiring efforts during an interview in 1988. "Von Braun really understood academic needs," she said. "He knew how important a rounded education is, a proper balance between science, humanistic subjects, and technical courses. He could formulate his thoughts so beautifully, and he talked so that everybody

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would follow him and believe what he said." Von Braun's efforts toward the establishment of an autonomous university in Huntsville bore its first tangible fruit after he had given a speech to the state legislature in Montgomery in 1961 where he asked for, and promptly received, the amount of three million dollars for an academic research institute attached to the university extension. Eight years later, Huntsville had its own full-size, autonomous university.

While the city of Huntsville grew and expanded in every sense of the word—in population, industrial productivity, economic strength, cultural activities, educational opportunities, health care facilities, and links to other important centers in the country and in the world, so did the families of the scientists and engineers who had arrived here in 1950. Some of us, including me, had come to the United States as bachelors. On my way from El Paso to Huntsville in the spring of 1950, I took a detour through Stuttgart in southern Germany where I knew of a young lady who was living there. She bravely agreed to take the big step across the Atlantic with me, so Huntsville became the place where our married life began. Our three children were born and raised here. They are now living far away from their home town, but all three come here to visit several times each year.

One of the early personal needs many of us felt after our arrival in Huntsville was the acquisition of a house. Our salaries were modest, and none of us had any assets when we arrived in the United States. The bank in Huntsville, headed by Mr. Spragins, was willing to give us loans so that we could obtain larger FHA loans. However, as a careful and prudent banker, he wanted to be sure that each of us had a bank account of at least \$5,000, a sum that was several times higher than even the richest among us could show. Being used to solving problems that involved the manipulation of large numbers, we quickly thought of a way out of this dilemma. Several of us pooled our possessions together, and as soon as the magic sum of \$5,000 had been reached, one of us put it in his bank account, showed it to Mr. Spragins, received his approval of the FHA loan, and began building his house. Then he took the \$5,000 from his account, gave it to the next colleague in line who was soon able to begin building his house. In this fashion, a considerable number of us newcomers were in the fortunate position of owning a house at a relatively early time. Years later, we began telling Mr. Spragins what we had done. He quickly interrupted and said, "Fellows, do you really think I did not know what you were doing? But I trusted you. During my long banking career, I had no client whom I would have trusted more than I trusted you!" His words made us really proud.

From 1950 until 1960 the von Braun team remained under Army control as part of the U.S. military establishment. During that time, the number of team members grew to more than 4000 men and women, not counting the large

number of contractor employees who worked with us. The Redstone, Jupiter, and Pershing missiles were developed and built; the first satellite of the free world, Explorer I, and the first probe to the close vicinity of the moon, Pioneer 4, were launched in cooperation with the Jet Propulsion Laboratory; the first American astronaut in space, Alan Shepard, was carried through a ballistic trajectory by a modified Redstone rocket. In 1960, President Eisenhower decided that the Army's rocket development group, headed by von Braun, should be transferred to the newly created National Aeronautics and Space Administration. The group would continue to occupy its offices, laboratories, test stands, and workshops in Huntsville, but it would report to the NASA Administrator in Washington under the name of George C. Marshall Space Flight Center in Huntsville. We felt deeply honored and gratified by having our Center named in memory of General Marshall. After a brilliant career as a military leader, he became Secretary of State after the war. He created the Marshall Plan which was so decisive in breaking down the wall of hatred that still existed at that time between nations. No other person had done as much as General Marshall to help the European nations, including Germany, find their way back to normal existence after the terrible ravages of war. President Eisenhower, in his address at the dedication of Huntsville's Marshall Center, said, "He was a man of war, yet a builder of peace." General Marshall was the only professional soldier ever to receive the Nobel Peace Prize.

The first project the von Braun group began developing after its transfer to NASA was the family of Saturn rockets. Saturn V, the largest of the Saturn series, was to launch the 18 American astronauts on their six Apollo missions landing on the moon between 1969 and 1972. Wernher von Braun left Huntsville and joined NASA Headquarters in Washington early in 1970. In 1972, he terminated his work at NASA and joined Fairchild Industries as Vice President for Engineering. His life ended in June 1977. On many occasions, he had said, "The happiest years of my life were spent in Huntsville." Many of his team members would gladly share that statement.