Gage Sitte

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Dr. Stuart

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***Introduction***

“We choose to go to the moon in this decade and do the other things, not because they are easy, but because they are hard, because that goal will serve to organize and measure the best of our energies and skills, because that challenge is one that we are willing to accept, one we are unwilling to postpone, and one we intend to win, and the others, too.”[[1]](#footnote-1)

35th President of the United States of America, John F. Kennedy, challenged American citizens to lift their eyes beyond the clouds above them and to accomplish a feat that seemed unrealistic. Landing a man on the moon would finally push the United States’ NASA program ahead of the Soviet Union’s own space program. The Americans were significantly behind their enemy, the Soviet Union, and Kennedy challenged Americans to finally thrust ahead of the Soviet Union by this goal of landing a man on the moon. Though Americans were thrilled that Kennedy was challenging the Communist at a game they were clearly winning, many would not know that a former greater foe would be the deciding factor in the success of landing a man on the moon, Nazi Germany. This paper argues that Nazi scientists helped the United States land a man on the moon because Nazi scientists created the first well developed rockets, Nazi scientist surrendered themselves and their knowledge to the American forces during the end of World War 2, and Nazi scientist became fully dedicated to the United States’ cause and success in the race to space.

***The Nazi Rockets***

During World War 2 Nazi Germany was fully dedicated to developing the most awesome and dreadful weapons the world had ever seen. Infamously known for the development of a systematic way of killing millions of people in the concentration camps, Germany would also develop several types of rockets. With all the combined experiments, knowledge, and vision that were held within these Nazi scientist, it would all lead to the ultimate goal set forth by President John F. Kennedy nearly 25 years later. In a last ditch effort to swerve Great Britain into submission; Germany launched over 1,300 V-2 rockets into London in a seven-month period.[[2]](#footnote-2) When Londoners went out to see the damage they found that about 6,000 people had been killed by the V-2 rockets.[[3]](#footnote-3) Though this did cause personal pain to families the V-2 rockets failed to even puncture through the determination of the British people. Though the V-2 rocket was insignificant in its death power, the rocket, and all those preceding it, in a scientific sense was an astonishment to all and drove fear into anyone who would first witness the rockets for himself or herself.

The man behind the V-2 rocket, and most of its predecessors, was a man by the name of Wernher von Braun. At the age of 10 years old, Wernher von Braun was asked what he wanted to do with his life. Von Braun’s response was, “I want to help turn the wheel of progress.”[[4]](#footnote-4) This statement by a younger Von Braun has been used to explain Braun’s complete fasciation with science and space. Born in 1912, Von Braun came from a family of tradition, his father working as a civil servant during the reign of Kaiser Wilhelm II in Germany.[[5]](#footnote-5) In 1930, Wernher von Braun went to Berlin and began classes in engineering in the Technical University.[[6]](#footnote-6) Von Braun attended the university at a time when many young and vigorous men began to dream about space travel and how to accomplish that goal.[[7]](#footnote-7) A new society for space travel had been created, its title was *Society for Space Travel*, or VfR and Von Braun joined the society immediately.[[8]](#footnote-8) The group allowed Von Braun to meet influential leaders in space travel and met the man who sparked his interest in rocketry Hermann Oberth.[[9]](#footnote-9) The relationship then turned into apprenticeship as Oberth took Von Braun under his wing, teaching Von Braun all that he knew about rocketry.[[10]](#footnote-10)

Von Braun and many other friends of Oberth began to create small rockets made out of scrap and found that many were unsophisticated and very dangerous.[[11]](#footnote-11) Through this trial and error in rocketry, Von Braun got the attention of many locals, press, and even the German army.[[12]](#footnote-12) The German army became fascinated with rockets because it allowed them to go around the disastrous Versailles Treaty that resulted from the end of World War 1. The Versailles Treaty limited the size at any time of the German army, but the Treaty makes no mention of the use of rockets by Germany as either being limited in quantity or against the treaty.[[13]](#footnote-13) German army officials began to attend many spectacles, in civilian clothes, of the launching and testing of the homemade rockets made by Von Braun and many other rocketeers.[[14]](#footnote-14) They were impressed with the group being able to create the rockets with little to no financial assistance but were alarmed at the lack of documentation detailing the design of each rocket and the improvements that were made from one rocket to the next.[[15]](#footnote-15) The German army gave the group 1,360 marks to design and launch a rocket off at the army artillery range, with the promise that if a successful launch happened the army would continue to fund their work with rocketry further.[[16]](#footnote-16)

In August of 1932, Von Braun, and 2 other rocket enthusiasts met with Captain Walter Dornberger, who had been commissioned by the German army to examine the launch of the rocket.[[17]](#footnote-17) It was a huge disappointment for Von Braun and the rocketeers. The rocket rose about 100 feet, turned horizontally and crashed into nearby trees.[[18]](#footnote-18) Von Braun refused to give up on his dream and continued his experimentation with rockets despite the failure of the launch in front of the German army. In October of 1932, just a couple of months after the disastrous rocket demonstration in front of German army officials, Von Braun went to work for the German army at Versuchstelle Kummersdorf West, which was an experimental station.[[19]](#footnote-19) Von Braun’s job was to experiment with rockets and how best to improve them, but was not aware that his advances in rocketry would be used in such a devastating way later during the war. Von Braun would later state; “We needed money for our experiments, and since the German army was ready to give us help, we did not worry overmuch about the consequences in the distant future… We were interested in only one thing—the exploration of space. Our main concern was how to get the most out of the Golden Calf.”[[20]](#footnote-20)

It was during this time that on January 30, 1933, Adolf Hitler took power and became Chancellor of Germany.[[21]](#footnote-21) Years later, when many began to question Von Braun and his role in the Nazi party Von Braun replied that he was “naïve, disinterested in politics, and except for the final year or two of the war, isolated from the intolerance and brutality that defined the Third Reich…[and] space travel was the passion that defined his life.”[[22]](#footnote-22) Though many may look at Von Braun and define him simply as a Nazi, it must be seen that to someone who was so dedicated to space travel that Nazi Germany was really the ideal place to drive for that goal. The Nazi cause and space travel were not mutually exclusive because “… If any nation or power could put men into space, it would be one with a clear national purpose, with a vision of its place in history, and with the will to make it happen.”[[23]](#footnote-23) Not only was Von Braun a member of the Nazi Party, in 1940 Von Braun became a member of the SS. “…SS Himmler had sent [someone] with the order to urge me to join the SS…I had no alternative but to join…After receiving two letters of exhortation….I finally wrote my consent…Two weeks later…SS Himmler had approved my request…and had appointed me [lieutenant].”[[24]](#footnote-24)

At the same time it must be understood that Von Braun knew enough about what Hitler was doing with prisoners of war. Some prisoners of war were used to build the rockets he was designing. “Inmates lived in a concentration camp called Dora, a branch of Buchenwald, and they faced beatings, malnutrition, and exhaustion from overwork.”[[25]](#footnote-25) It will never be fully understood what exactly Von Braun knew and when he knew it but Von Braun knew of the use of concentration camp workers for building his many rockets.[[26]](#footnote-26) Von Braun did complain on many occasions about the use of concentration camp workers but not because it was against his morality but that using “unskilled, disloyal, abused, and sickly laborers” was taking its tool on the rockets because of the numerous human errors that were occurring through the use of concentration camp prisoners.[[27]](#footnote-27)

Von Braun’s group began to develop rockets that brought all knowledge about rockets together. These rockets were called A-1 and A-2 and were one foot in diameter, 4.6 feet tall and were liquid fueled.[[28]](#footnote-28) The A-1 was so flawed that less than a second after being fired for launch it burst into a ball of flames and disintegrated.[[29]](#footnote-29) The cause of the failure was that the gyroscope, which kept the rocket stabilized, was placed in the nose of the rocket and therefore was imperfect.[[30]](#footnote-30) Wernher von Braun later stated about the A-1 “…it took us exactly one-half year to build—and one-half second to blow it up.”[[31]](#footnote-31) The A-2 rocket placed the gyroscope in the middle of the rocket and in December of 1934 Von Braun successfully launched two of these rockets.[[32]](#footnote-32) At this same time Von Braun submitted his doctoral dissertation, which was about Constructive, Theoretical and Experimental Contributions to the Problem of the Liquid-Fueled Rocket.[[33]](#footnote-33) Von Braun’s dissertation was accepted and immediately classified secret by the German Army and was never published until after 1945.[[34]](#footnote-34)

After the success of the A-2, Von Braun and the German Army began to take serious efforts into an even better designed rocket. Von Braun began working on the A-3 rocket that was a mammoth compared to either the A-1 or A-2 rockets.[[35]](#footnote-35) Both the German Army and the Luftwaffe began to contract with Von Braun’s team, with the Army giving the group 6 million marks and the Luftwaffe 5 million marks to further develop rockets and to build a new test facility in Peenemuende.[[36]](#footnote-36) With the German army now giving large amounts of money to fund the rocketeers, the Army now wanted the group to create specific weapons that could be used for the army’s purposes.[[37]](#footnote-37) The new rocket vision would consist of; “[the rocket] would be over forty-five feet long with a diameter of more than five feet. It would have tail finds and a spread of almost eleven and one-half feet.”[[38]](#footnote-38) The new rocket, to be named the A-4, would also need twelve tons of liquid fuel and a motor generating twenty-five tons of thrust and reach 3,350 miles per hour with a range of 172 miles.[[39]](#footnote-39) But before this could be developed, Von Braun finished the A-3 rocket and it was a disaster.[[40]](#footnote-40) At this time, early 1939, the Luftwaffe dropped out of the rocket facility because of the financial burden that was being placed on them through the costly adventure of rocket development.[[41]](#footnote-41)

On March 23, 1939, Von Braun had his most important meeting thus far, he was to brief the Fuhrer, Adolf Hitler, on Germany’s Army’s rocket program.[[42]](#footnote-42) Adolf Hitler seemed unimpressed with the demonstrations that were presented to him, but he had good cause. The rocket program was costing millions of marks and had devoted years of work and still no viable rocket had yet been produced that could be put into battle.[[43]](#footnote-43)

Finally, in October of 1939, just a few weeks after Hitler and Soviet leader Joseph Stalin invaded and divided Poland, Von Braun’s team successfully launched three A-5 rockets, which was an improved version of the A-3.[[44]](#footnote-44) Though this improvement was a huge success, Adolf Hitler stopped all financial backing for military projects that would not be complete within a year. [[45]](#footnote-45) The military then diverted funds secretly to keep the rocket program afloat until Hitler would open funding at a later date.[[46]](#footnote-46)

After 2 complete failures of the much-awaited A-4 rocket, a 3rd attempt proved to be the final key to the lock. On October 3, 1942 the A-4 rockets 3rd attempt at success proved that the rocket could be made and was so well designed that it hits in target with accurate precision.[[47]](#footnote-47) Later that evening while the group was celebrating, Walter Dornberger addressed the crowd saying; “We have invaded space with our rocket, and for the first time…have used space as a bridge between two points on earth; we have proved rocket propulsion practicable for space travel. To land, to sea and air may now be added infinite empty space as an area of future intercontinental traffic.”[[48]](#footnote-48) It can be said that when the A-4 rocket splashed into the Baltic Sea, its intended target, the hopes of that group no doubt turned upward and space travel was no longer seen as a far off hope, but rather something they could almost grasp.

Though the hopes had turned to furthering the rocket, the reality turned downward. Hitler and Germany began serious cutbacks in money to research while Hitler was loosing hundreds of thousands of soldiers in his invasion of the Soviet Union.[[49]](#footnote-49) In 1943 both Minister of Armaments Albert Speer and leader of the SS Heinrich Himmler came to witness the launch of more A-4 rockets.[[50]](#footnote-50) Then, Hitler seemed to turn to desperation for success. In mid 1943, Hitler began examining all the projects he had canceled earlier to see if any had potential in changing the course of the war.[[51]](#footnote-51)

Von Braun had been summed by Hitler to give a presentation on his rocket experiments and accomplishments.[[52]](#footnote-52) While a projector displayed films of the successful firing of the A-4 rocket, Von Braun gave a speech of what advances were being made in the rocket field.[[53]](#footnote-53) Adolf Hitler was so moved that Albert Speer wrote about the meeting; “Without a trace of timidity and with boyish sounding enthusiasm, Von Braun explained his theory. There could be no question about it: From that moment on, Hitler had been finally won over.”[[54]](#footnote-54)

Von Braun’s speech had been so well presented that the A-4 project received a top-priority rank from Hitler himself.[[55]](#footnote-55) The A-4 then gained permission for mass production, but it can be said that Hitler did may not have seen this as the end all be all that could save the crumbling 3rd Reich. Hitler may have been willing to try anything at all to try to swat off the allies with the best plan presented.[[56]](#footnote-56) Dornberger, who was with Von Braun when he presented to Hitler, said that; “During the meeting, Hitler went beyond hope to enter a realm of unreality.”[[57]](#footnote-57) “If we had had those rockets in 1939 we should never have had this war,”[[58]](#footnote-58) Hitler would exclaim during the meeting, which adds to Dornberger’s thoughts.

Around this time British forces began to become aware of the secret facility at Peenemunde. In August of 1943, with the approval of Winston Churchill, a forty-five minute bombing raid on the facility with direct orders not to destroy the facilities but to kill the scientists inside.[[59]](#footnote-59) The raid was a failure, out of the 4,000 people who lived and worked there around 170 had been killed, and another 500 who were killed were prisoners of war from either Poland or Russians.[[60]](#footnote-60) Things only got worse for the rocketeers. Three weeks after Von Braun had a secret meeting with SS Himmler, who tried to persuade Von Braun to hand over the rocket program from the Army to the SS which Von Braun denied, Von Braun and several other scientist were all arrested by the Gestapo, on the grounds that the scientists were more dedicated to space flight over developing rockets for the use by the Third Reich.[[61]](#footnote-61) Von Braun realized that he had been played into a game between the Army and the SS and was released two weeks later through the testimony of Wlater Dornberger and the intervention of Alber Speer.[[62]](#footnote-62)

Though seen as the wonder weapon that would save Germany from ultimate defeat, the V-2 was seen as nothing but a thorn in the shoe for the allied countries. “…Production never topped 700 a month, which would have corresponded, at most, to a single good-size air raid every few weeks. By contrast, without benefit of wonder weapons, the Allies’ bomber forces carried out 363 such raids on Berlin alone.”[[63]](#footnote-63) Winston Churchill would later state, “…the average error was over ten miles. Even if the Germans had been able to maintain a rate of fire of a hundred and twenty a day, the effect would have been the equivalent of only two or three one-ton bombs to a square mile per week.”[[64]](#footnote-64) Even Churchill’s scientific advisor believed that this must be a mind trick being played by the Germans because it was hard for him to imagine then wasting away resources for such an ineffective weapon.[[65]](#footnote-65) But Churchill must have seen the V-2 as a bigger threat for he approved of the bombing raid that had tried to destroy the facility that was creating it.

When Laus Philip Schenk Court von Stauffenberg, and co conspirators, tried to assassinate Hitler with an exploding brief case, SS Himmler took control of all military aspects, which included Von Braun’s rocket development program.[[66]](#footnote-66) Finally, on September 8, 1944 Von Braun’s A-4, changed to V-2 through Minister of Propaganda Joseph Goebbels’s machine in relation to Hitler’s term Vengeance weapons[[67]](#footnote-67), fell onto London and began the V-2 siege.[[68]](#footnote-68) When soldiers came back from the front line on the Western front they said that the V-2 was the only thing that was keeping Germany afloat and that it was a great success. Von Braun replied; “It’s a success…but we are hitting the wrong planet.”[[69]](#footnote-69)

Not much later after the beginning use of the V-2, the scientists at Peenemuende began to hear the loud cracks of the cannons from Soviet soldiers. They all began to realize that soon the Soviets would literally be at their doorstep and so they decided to act. Their choice of action, if it failed, would lead either to the Soviet work camps or be charge by the Nazi government. But it was choice they all made unanimously. They chose that they would surrender to the Americans.[[70]](#footnote-70)

***Surrendering to the Americans***

By 1945 Nazi Germany knew that its time had come to a closing. Soviet soldiers were quickly closing in on the eastern front while American forces made their way slowly but surely to the western front liberating parts of France as they went. Though the German Third Reich was collapsing around Von Braun and his rocket division, Von Braun desperately tried to hold his group together until they could be captured. The rocketeer group knew that they had two choices and Germany began crumbling into pieces one, be captured by the Soviets and surely shot or two, surrender to the Americans in hopes of continuing their knowledge.[[71]](#footnote-71)

In January 1945 von Braun and the rest of the scientists at Peenemunde knew that certain defeat of the German Third Reich was near. Von Braun called a meeting and held a straw poll of what should be done.[[72]](#footnote-72) It was unanimous, the scientist and all other workers would not wait at Peenemunde to be captured by the Soviet Army, and instead they would start evacuating towards Western Germany to be taken prisoners by the American army.[[73]](#footnote-73) To keep up the charade that von Braun and his team were not plotting to surrender, von Braun began traveling around Germany buying any building that could be used to store things, house personnel and so forth.[[74]](#footnote-74) On the morning of March 12, 1945 von Braun was sleeping in the back seat of his car while his driver, because of von Braun’s insistence on traveling to keep up the charade, drove off the autobahn going 60 miles per hour.[[75]](#footnote-75) Von Braun woke up while the car was flying through the air and threw up his arms to protect his head, resulting in his shoulder being crushed and his arm being broken in two places.[[76]](#footnote-76) While Von Braun lay in the hospital for 3 weeks he desperately wished that the Americans would soon arrive.[[77]](#footnote-77)

On April 1, 1945 Dornberger, who was still putting up the charade at Pennemunde for von Braun, received an order from SS officer Kammler who ordered 500 members of the rocket project to Oberammergau.[[78]](#footnote-78) This put von Braun’s plan into a very dangerous situation. If the group were to move to the location that Kammler had stated they would certainly be captured by the Soviets, ending their chances of furthering rocket development and their lives. But if they did not move they risked being shot directly by the SS for disobeying an order.[[79]](#footnote-79) The group decided to move, hoping the Americans wouldn’t be too far behind.[[80]](#footnote-80) Von Braun at this time had his entire upper right body in a stabilized cast and therefore was given special accommodations for travel.[[81]](#footnote-81)

As Von Braun lay in a hospital bed wondering if at any moment an SS officer would walk in and shoot him, he was awakened from a morphine induced sleep from a fellow rocketeer who was stating that the French troops had arrived from the West and the Americans from the South.[[82]](#footnote-82) It was clear that von Braun and his group desperately wanted the Americans to arrive first. Then on May 1st, 1945 German radio announced that the Fuhrer had died fighting Russians in the streets of Berlin.[[83]](#footnote-83) Hitler of course did not die fighting off Russians in the streets of Berlin, Hitler had shot himself, but none of this really mattered to von Braun or his team because simply the Fuhrer was dead, therefore dissolving all loyalty pledges. Von Braun instantly talked to his commander of the V-2 about surrendering to the Americans. Dorberger replied; it is time “…to put our baby [the rocket] in the right hands.”[[84]](#footnote-84)

As the Americans began to get closer and closer Von Braun sent his younger brother Magnus to see if he could get into contact with an American division. Magnus did in fact make contact with American forces but in order to prove that Magnus wasn’t simply crazy, the Americans wanted proof, and so seven men (including Von Braun) from the presumed 500 were sent to tell the Americans that indeed they wanted to surrender themselves and their knowledge to General Eisenhower.[[85]](#footnote-85) Von Braun would later state of his arrive to surrender to the Americans; “I didn’t expect to be treated as [a war criminal]. No, it all made sense. The V-2 was something we had and you didn’t have. Naturally, you wanted to know all about it.”[[86]](#footnote-86) When one looks at a photo of the Von Braun brothers, just a few hours after surrendering, you do not see a face of failure or despair. Instead one sees hope, a future, and hopefully the stars as these two brothers hoped to reach one day.[[87]](#footnote-87) (See Picture 1) Von Braun and his team were treated in a sense like royalty after they had surrendered. At the camp in Germany, where the Americans were keeping them at, the group created a library, orchestra, English lessons, technical lessons, and plays.[[88]](#footnote-88) It was also at this time that many began to see the immoral side of Von Braun. As Von Braun began talking in English with some of the Americans that were in charge of the camp some seen Von Braun completely consumed by whether or not his rockets flew and hit their target, whether it be the moon or homes in London.[[89]](#footnote-89)

When June of 1945 rolled around it seemed that everything was going to unravel. With the divisions of Germany going into hands of the United States, Britain, France, and the Soviet Union, it became a race of getting Von Braun and hundreds more into safe territory where Soviet captures of the rocketeers would be impossible as Soviet soldiers were advancing.[[90]](#footnote-90) It was during this time of great movement that many also saw how Von Braun saw the United States and his hope of living there one day. Von Braun was seen and felt as unswerving in his 100% absolute loyalty to his new captures.[[91]](#footnote-91) This came at a time when Soviet soldiers began blasting radio calls saying that any Nazi scientist who defected to the Soviet soldiers would be granted huge sums of money, houses and so much more.[[92]](#footnote-92) Von Braun desperately tried to persuade younger people not to fall into the Soviet trap of lies, but a handful did go to the Soviet side.

Finally in late July 1945 the Joint Chiefs of Staff under President Harry S. Truman approved a plan of evacuating about 150 German rocketeers to the United States.[[93]](#footnote-93) On September 18, 1945 Von Braun and 15 others got on a plane at Orly Airport in Paris, France to fly to the United States of America.[[94]](#footnote-94)

The time had finally come. For nearly 2 years Von Braun had put his entire efforts into making sure that his beloved rocket program would not be destroyed along with Germany and the Third Reich and up till September 1945 it seemed that he had succeeded. Von Braun was now in a country in which he had dreamed of coming too ever since it was clear Germany was going to be defeated in the Second World War. Von Braun also worried about how he and his rocketeers would assimilate into American culture and what visions he could achieve there.

***American Assimilation and Landing a Man on the Moon***

Von Braun’s first few weeks in America were anything but wonderful. Von Braun got severely sick with what he thought was jaundice but it was actually hepatitis.[[95]](#footnote-95) But that did not stop Von Braun from going right to Washington D.C to the Pentagon where he talked with top generals for 5 days straight.[[96]](#footnote-96) Besides the generals that Von Braun talked with and President Harry S. Truman no one in the country knew that the United States was bringing Nazi scientists into the states.[[97]](#footnote-97) But as Von Braun left D.C. for the southern states it began to ponder on him what life in America would be like? Would Von Braun’s goals be achieved here? Von Braun had bet everything he had on that it would.

The Nazi scientists were sent to Fort Bliss in El Paso, Texas.[[98]](#footnote-98) These were miserable times for the group. Daily wages were nothing. The men couldn’t go out without escort by the U.S. military, most of them didn’t have their families with them and it seemed as though coming to America was a huge mistake. *Time* magazine would later say; “Once it had them, the U.S. hardly knew what to do with the German rocketeers…”[[99]](#footnote-99) By the time the scientist contracts were up by November 1946 the U.S. military finally realized that these men knew much more about rocketeer then previously thought. New five year contracts were drawn up, wage increases were nearly doubled, and families were now allowed to come to live with them as well.[[100]](#footnote-100) Finally in 1947, Von Braun was allowed to go public with a speech at the local El Paso rotary club in which he discussed the future of rockets for space flight, and they gave him a standing ovation.[[101]](#footnote-101)

In February of 1947, Von Braun was given approval to fly back to Germany to marry his first cousin.[[102]](#footnote-102) The newly wed couple found some unexpected guests at their wedding. The United States military had placed guards around Von Braun and his wife in order to make sure that the Soviets would not try to kidnap him while Von Braun was so close to Soviet borders.[[103]](#footnote-103)

In 1950 things changed for the better for Von Braun and the Nazi, or newly Americanized, scientists. The scientist now had a new home in Huntsville, Alabama.[[104]](#footnote-104) Von Braun wasted no time with spreading his ideas to his new home area. Von Braun gave a speech at the Kiwanis club where he showed for the first time his designs and thoughts on how to get to the moon.[[105]](#footnote-105) This may have backfired as many began to question the sanity of Von Braun with his desire to go to the moon.

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