

PhunDay Paper – Kieran Downes

(note: this is a scaled-down version of a longer paper – asterisks indicate parts that have been removed from the original.)

Actually, it *is* rocket science:

The military, the media, and the Americanization of Wernher von Braun

Tall, blue-eyed and handsome, Wernher von Braun was a dashing fellow. His far-reaching interests included poetry, music and art, but from an early age, his true passion was space travel. As a young man his remarkable abilities with physics, mathematics and engineering were revealed in detailed sketches of futuristic space vehicles with elaborate life support and gyroscopic navigation systems. In the late 1920s, he found his calling among a group of like-minded engineers and enthusiasts experimenting with rockets. His accomplishments and skill in the field of rocket science eventually brought him to the United States following the end of the Second World War, where he helped to design and engineer the rockets that launched the first American astronauts into space. So great and infectious was his enthusiasm that the Walt Disney Company hired him to produce a series of films about space travel and rocket technology for young audiences across the nation.¹

During the Second World War, von Braun led a group of German rocket scientists and engineers operating from a secret facility in the Northern German city of Peenemünde. There, von Braun and his team designed and built the world's first ballistic missile. Christened the "V-2" by Nazi Minister of Propaganda Joseph Goebbels as part of the *Vergeltungswaffen* or "revenge warfare" program, the missile terrorized London and the Low Countries of Europe in 1944 and '45, causing thousands of Allied civilian

¹ Biographical details, including photographs and drawings can be found in Ernst Stuhlinger and Frederick Ira Ordway. *Wernher von Braun, crusader for space : an illustrated memoir*. (Malabar, Fla.: Krieger Pub. Co., 1994).

deaths – upwards of 5,000 in London alone.² Mass production of the V-2 took place at an underground factory known as Mittelwerk, an offshoot of the notorious Dora concentration camp. Slave laborers brought from as far away as Auschwitz toiled in the dank tunnels and workshops under the brutal direction of the SS. Thousands of these laborers – Jews, political dissidents, prisoners of war, and others – died from disease, starvation and abuse at Mittelwerk. Others were executed, often publicly, as suspected saboteurs.³ While the details about his activities in the Nazi Party are vague, it is known that von Braun became a member in 1937, and held an honorary rank in the SS.

At the time of Germany's surrender in the spring of 1945, von Braun was one among many "persons of interest" for whom the United States was actively searching in the rubble of that ruined country. As Allied forces occupied Germany from both east and west, hundreds of German scientists and engineers were "captured" by both the United States and the Soviet Union, clandestinely ferried out of the country, and eventually put to work on various technical projects for the emerging superpowers. Established in the summer of 1945, a top-secret project known as Operation *Overcast* called for the capture of von Braun and hundreds of his colleagues from Peenemünde and elsewhere for purposes of "temporary military exploitation." Of the 350 German scientists mentioned by name in the order, 100 were the so-called "rocket-men," whose pioneering work had resulted in the development and deployment of the V-2. Along with the scientists and technicians themselves, components for 100 of the V-2s were shipped to the United

² Geoffery Brooks, *Hitler's Terror Weapons: from V-1 to V-2* (South Yorkshire: Leo Cooper, 2002) 13.

³ Andrew Dunar and Stephen Waring, *Power to Explore: a history of Marshall Space Flight Center, 1960-1990, NASA Historical Series* (Washington, D.C.: National Aeronautics and Space Administration, 1999), 9-11.

States for reassembly and testing.⁴ Less than two years after the missile's first successful strike against London, a V-2 again rose into the sky under the watchful eyes of von Braun and his team – this time over the U.S. Army's White Sands Proving Ground in New Mexico.⁵

Prior to his arrival in the United States, various offices of the U.S. Army's intelligence wing attempted to reconstruct von Braun's past, and his activities in the Nazi Party and the SS, in order to judge the threat he posed to national security. These efforts yielded little if any reliable information. As the accomplishments and promise of the space program marched forward in lock-step with growing fears of Soviet scientific and technical dominance, questions regarding his past, and the pasts of many of his colleagues, fell by the wayside. Von Braun became a celebrated public figure in the United States, going before Congressional Committees as an expert advisor, making television and film appearances, giving interviews for *Time*, *LIFE*, and *US News & World Report*, and authoring books about space exploration for young adults. Eventually, his association with the V-2 in the United States, and the alleged atrocities surrounding its manufacture, became both more obscured and, in the eyes of the media, less significant.

In the last twenty years, as declassification and the Freedom of Information Act make documents related to von Braun and his colleagues available to the public, scholars are revisiting *Overcast*, and the backgrounds of German scientists and engineers brought to the United States under its auspices. In light of what has been revealed since his death,

⁴ Frederick Ordway and Mitchell Sharpe, *The Rocket Team* (Cambridge: MIT Press, 1982), 287.

⁵ The first successful V-2 strike against London took place on the 8th of September, 1944, and the first test of a V-2 in the United States on the 16th of April, 1946. Dennis Piskiewicz, *The Nazi Rocketeers: dreams of space and crimes of war* (Westport: Praeger, 1995), 173; Wernher von Braun, Frederick Ordway and David Dooling, *Space Travel: a history* (New York: Harper & Row, 1985), 123.

von Braun's past is more questionable, and his treatment in the American media during the Cold War is thus more intriguing.

The goal of this paper is to explore the formation of von Braun's public persona through the American media during the period following the Second World War. By examining articles, as well as declassified documents maintained by various departments of the U.S. Army regarding von Braun and his colleagues, I will demonstrate that von Braun's natural savvy, the Army's inability to construct a complete picture of his past, and the media's willingness to forego probing questions as the Cold War intensified were key to his unique process of "Americanization" – a process impelled by powerful technological, political and social forces active during the Cold War era.

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[The] alteration of documents and reports produced by the Joint Intelligence Objectives Agency (JIOA) and the Office of Military Government U.S. (OMGUS) [two agencies responsible for vetting reports on scientists and engineers slated for inclusion in the *Overcast* program] appears to have been the subject of some concern and confusion within the U.S. military government in Germany. Original directives to the military governors of United States occupied zones, approved by President Truman on May 11, 1945, imposed severe travel restrictions on all German citizens, including civilians. In addition, these directives established procedures and guidelines for denazification that barred any individual deemed as more than a "nominal participant" in the Nazi party or support of the party from virtually all public or private employment in Germany:

Persons are to be treated as more than nominal participants in Party activities and as active supporters of Nazism or militarism when they have (1) held office or otherwise been active at any level from local to national in the party and its subordinate organizations, or in organizations which further militaristic doctrines, (2) authorized or participated affirmatively in any Nazi crimes, racial persecutions or discriminations, (3)

been avowed believers in Nazism or racial and militaristic creeds, or (4) voluntarily given substantial moral or material support or political assistance of any kind to the Nazi Party or Nazi officials and leaders. No such persons shall be retained in any of the employment categories listed above because of administrative necessity, convenience or expediency.⁶

The directives also specified the obligation of the military governor to arrest all suspected war criminals, including all members of any branch of the SS, and to make no differentiation between or afford "special consideration" to any of the detainees regardless of "wealth or political, industrial, or other rank or position."⁷

Further correspondence between officials within OMGUS shows disagreement regarding how to proceed with the initial security reports filed for von Braun and other scientists. In 1948, an assistant executive officer in Wiesbaden sent a memorandum to the Commanding General of the Army's European Command regarding the "re-evaluation" of the security reports for the scientists and technicians participating in *Project Paperclip*. While allowing for the possibility of denazification of the scientists, the memorandum suggested that appearance before a denazification board was not sufficient to transform a scientist "from a security threat to a denazified person." The memorandum also pointed out that if the organization responsible for issuing travel visas to German citizens saw fit to deny exit permits to such "insignificant people" as the fiancées or wives of American soldiers, then a scientist, "if he is to be transferred to America to work on extremely important projects vitally affecting the welfare and security of the United States, should be judged at least as strictly." Finally, the memorandum notes that if rules established by the State and Justice Departments define a scientist as a security threat, then "this headquarters should not revise or change its

⁶ U.S. Army, "Directive to Commander-in-Chief of U.S. Forces of Occupation Regarding the Military Government of Germany," Stack area 390, row 40, RG 165, National Archives; May 11, 1945.

⁷ Ibid.

opinion of subject scientists merely to circumvent the rules set forth by the State and Justice Departments."⁸

The same day, a memorandum in response was issued by the OMGUS headquarters in Berlin establishing a different set of criteria for determining the security threat posed by an individual scientist that made a significant distinction:

"Security Threat" as understood by Military Government personnel is a politically descriptive adjective which, in the spirit of Occupation Denazification directives, estimates an individual's past history and reaction to political stimuli; "Security Threat" as used by the Department of the Army is a technologically descriptive adjective which estimates an individual's danger to American national defense if his knowledge in his specialty were at the disposal of unfriendly powers.

A Nazi background, the memorandum concluded, should not necessarily have anything to do with a security threat assessment applied to a scientist or engineer.⁹

Regarding matters of scientific and technical research and research institutions, the directives required the governor to prohibit all research activities and close laboratories that were not "considered necessary to the protection of public health." But any "laboratories and related institutes whose work has been connected with the building of the German war machine" were to be initially safeguarded, their personnel held for "technological investigation," and their equipment thereafter removed or destroyed. Additionally, these same directives allowed the governor to use his "discretion [to] make . . . exceptions as you deem advisable for intelligence or other military reasons."¹⁰ Taken alone, these directives suggest that individuals such as von Braun should have been subject to arrest and travel restrictions based upon his membership in the SS and his

⁸ Office of the Military Government For Hesse, "Re-evaluation of Security Reports for Paperclip Specialists," stack area 390, row 40, RG 260, National Archives; May 12, 1948.

⁹ Office of Military Government of Germany, Berlin, "Re-evaluation of Security Reports for Paperclip Specialists, dated 12 May 1948," stack area 390, row 40, RG 260, National Archives; May 12, 1948. Emphasis in original.

¹⁰ Ibid.

participation in the rocket program. It is clear from subsequent events, however, that he was not.

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Though rarely singled out at first, towards the end of 1946 von Braun began to make more frequent appearances before the media. In 1947 the *El Paso Times* lauded the setting of a new speed record with the V-2, but the same day another *Times* article raised suspicion regarding the increased failure rate of V-2s in the United States over the rates observed by the Germans during the war. Regarding the failures, von Braun was on hand to answer reporter's questions, "smiling blandly" and breaking into a "wide grin" while discussing the evacuation of Peenemünde at the end of the war. Though initially curious regarding the failures, the reporter devotes the bulk of the article to von Braun's miraculous experiences, from skirting death during a surprisingly accurate early V-2 test in Poland, to the car accident off a "60-foot cliff" that left his arm in a sling for his first meeting with American Intelligence officers in the spring of 1945. A photograph of a smiling and well-dressed von Braun accompanies the article.¹¹

"New Peenemünde rises on Rio Grande's Banks" read the headline of a profile from 1947, describing von Braun as the "boy wonder" of German rocketry who received high awards from Hitler for his invention of the V-2. Project *Paperclip* was mentioned by name, its purpose described as "milking" the German scientists for what they knew about rocketry and to put them to work on American projects. Though mostly admiring

¹¹ The speed record, set in December 1946, was 5000 feet per second. The failure rate at the White Sands Proving Grounds where missile tests were conducted was 33 per cent compared to the less than 5 per cent failure rate in Germany. Both stories appeared in the *El Paso Times*. Art Leibson, "V-2 Tests 33 Per Cent Successful [sic]," *El Paso Times* (6 December 1946), pg. 1; Anon., "V-2 Rocket Sets New Speed Record," *El Paso Times* (6 December 1946), pg. 1. Both articles were located at the National Archives in College Park, Maryland, RG 319, stack 270, box 657A.

of the scientists' and engineers' accomplishments, a degree of suspicion runs through the description of their "confinement" at Fort Bliss, and the possibility that their motivations may be subversive.¹² Indeed, in the earlier years of von Braun's stay in the United States, he and other German scientists and engineers were closely watched by Army Intelligence and rarely allowed to travel without a security detail.

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Just over a month after the launch [of *Sputnik*], von Braun was featured on the cover of LIFE magazine, surrounded by models of rockets and satellites. A profile described his family as "thoroughly Americanized."¹³ Journalist George Barrett called von Braun a "Prophet of the Space Age" who was "once bitterly hated by the free world" for his work on the V-2. "But Fate," Barrett states, "ever quixotic, has now made him vital to this country's security." He was vital enough that although he was free to travel inside the United States, von Braun was not allowed outside of the country without an intelligence escort to "ward off any attempts at kidnapping." Although described as having the look of "a cherubic Mephistopheles," von Braun was portrayed as anything but dangerous or suspicious. He discussed his time in Germany with a nostalgic tone, noting the irony of disagreements between the Air Force and the Army in the American missile program, which mirrored his experiences with German Army Ordnance and the Luftwaffe at Peenemünde. Barrett described von Braun as having become "almost

¹² Hanson W. Baldwin, "New Peenemünde Rises On Rio Grande's Banks," *New York Times* (22 Jun 1947), p. 103.

¹³ Ralph Crane, "The Seer of Space," *LIFE* (18 Nov 1957), available at <http://www.life.com/Life/space/giantleap/sec2/seer.html>, accessed on April 14, 2004.

completely Americanized." His membership in the Nazi Party and the SS, as well as Project *Paperclip*, are not mentioned.¹⁴

In 1960, von Braun's life became the subject of a film from Columbia Pictures entitled "I Aim at the Stars." The von Braun of the film was a visionary hero whose true passion, in spite of his contribution to the Nazi war effort, was space exploration. One reviewer noted that anyone hoping for light to be shed on von Braun's "complex motivations" was unlikely to be satisfied with "I Aim at the Stars." The review offered a uniquely critical commentary on the mystery of von Braun's character, and faulted the film for sticking to the generally accepted story: "In the way of examination of the ethical reasoning by which the fabricator of the Nazis' deadliest missiles is now warmly accepted on our side, the film is conspicuously fuzzy and takes its stand on the none too certain ground that Dr. von Braun's driving interest from boyhood was simply to develop rockets that could reach out into space."¹⁵ It was one of few occasions in which suspicions of von Braun's background and role in the Nazi Party were voiced in the press during this period.

Despite von Braun's extensive public exposure as a spokesman for the space program and expert before Congress, it was "I Aim at the Stars" that brought him the greatest amount of undesirable attention. At the premiere of the film in Munich, protesters complained that the film "whitewashed" von Braun's past. Uncharacteristically defensive, von Braun stated rather bluntly that, while he felt "sincere regrets" for the victims of the V-2 strikes, "there were victims on both sides," and that it was his duty to

¹⁴ George Barrett, "Visit With a Prophet of the Space Age," *New York Times* (20 Oct 1957), p. SM14.

¹⁵ Bosley Crowther, "Screen: About von Braun," *New York Times* (20 Oct 1960), p. 42.

aid his country in fighting the war.¹⁶ The opening of the film in New York prompted a small protest, with some picketers holding signs denouncing von Braun as a Nazi.¹⁷ The controversy would inspire an anonymous comedian to add an unofficial tagline to the title of the film: "I Aim at the Stars, but sometimes I hit London."¹⁸

None of this, however, slowed von Braun's ascent. At the end of October, 1957, he received the Army's highest civilian award – quite an honor for an organization that "would have been happy to shoot [him] a dozen or so years ago."¹⁹ He received numerous honorary degrees and other commendations from all over the world, including the "Boss of the Year" award from the National Secretaries Association of Middletown, Ohio in 1961, and a degree in "Humane Science" from Wagner College in 1965.²⁰ Ongoing success with further rocket tests, including the Saturn rockets that would eventually carry American astronauts to the moon, helped to solidify his position as an authority on all rocket and space travel-related issues. Between 1955 and 1968, *US News & World Report* conducted no fewer than four interviews with von Braun on moon voyages, space travel, and the progress of the American rocket program. Short descriptions of von Braun's background changed slightly but significantly each time: in 1955, he was noted as having "directed Germany's V-2 rocket work in World War II"²¹; in 1964, he was the "German-born scientist [who] helped develop Germany's rocket

¹⁶ Anon., "Film on von Braun Has A Stormy Bow," *New York Times* (20 Aug 1960), p. 15.

¹⁷ Anon., "Missile Film Picketed," *New York Times* (20 Oct 1960), p. 42.

¹⁸ John Noble Wilford, "NASA's Planning Chief," *New York Times* (2 Mar 1970), p. 27.

¹⁹ Anon., "Army Decorates Missiles Expert," *New York Times* (31 Oct 1957), p. 14.

²⁰ Anon., "Von Braun Cited as Good Boss," *New York Times* (16 Apr 1961), p. 86.; Anon., "Von Braun, at Wagner, Praises Space Program," *New York Times* (7 Jun 1965), p. 43.

²¹ Anon., "Space Travel: When It Is Coming. . . What It Will Be Like," *US News & World Report* (18 Oct 1957), p. 36-38, 41-42.

power in World War II"²²; in 1966, "a driving force in the space program" who "has been a pioneer in rocketry for three decades."²³

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It is conceivable that loopholes and confusion created by the military's governance directives, along with the willingness of Army Intelligence use those loopholes and otherwise reinterpret the guidelines established by JIOA and OMGUS relative to the *Paperclip* specialists, had more to do with von Braun's entry into the United States than an absence of sympathetic or strong feelings in support of Nazism on his part. By establishing differing definitions for security threats based upon technological or political factors, the U.S. military created an atmosphere where individuals such as the scientists and engineers at Peenemünde would be subjected to contradictory analyses: they had both technological skills that would be dangerous in the hands of an enemy, and political affiliations that would be dangerous to the security of the United States. The fact that von Braun and his colleagues were allowed to enter the United States suggests that in weighing the political and technological threats, the technological threats were deemed more significant.

In von Braun's case, this was also facilitated by the inability of the responsible agencies of the U.S. military to piece together a clear picture of his past political activities. Though he was subjected to extensive interviews by JIOA and OMGUS officials, who had initially concluded he was a security threat to the United States, it is unclear from the Army's correspondence whether von Braun ever underwent

²² Anon., "What's Happening In The Race To The Moon," *US News & World Report* (1 Jun 1964), p. 54-57.

²³ Anon., "A Man On The Moon In '68?" *US News & World Report* (12 Dec 1966), p. 62-67.

denazification. But as late as October of 1947, the deputy director of JIOA filed a memorandum stating that von Braun, while not a war criminal, was considered a security threat, in spite of the fact that he was already employed in the United States. A full analysis of his background, the memorandum stated, was not possible because he was evacuated from the Russian Zone of Germany.²⁴ Other documents obtained from the National Archives suggest that neither OMGUS nor the War Department's intelligence bureau were ever able to assemble a complete picture of von Braun's activities prior to his capture.²⁵ More than a year after von Braun had entered the United States, the Office of the Deputy Director of Intelligence for the European Command of the U.S. Army issued a memorandum stating that "it cannot be ascertained by this office what the reasons were which caused von Braun to become a member of the SS. Neither can it be determined whether his positions in the SS were honorary, required by the Nazi party, or desired by von Braun. No records of his arrest have been located."²⁶ FBI investigations into von Braun's background in the decades following his arrival in the United States appear to place greater emphasis on ensuring that he was not a Communist than investigating his role in the Nazi Party or the SS.²⁷

Within the context of this confusion and disagreement inside the U.S. military regarding how to proceed with the security evaluations, as well as their inability to paint a

²⁴ Joint Intelligence Objectives Agency, "Exploitation of German Scientists," stack area 270, row 89, RG 319, National Archives; October 13, 1947.

²⁵ Office of the Military Government of the United States, "Revised Security Report on German (or Austrian) Scientist or Important Technician," Stack area 270, RG 319, National Archives; September 18, 1947.

²⁶ Office of the Deputy Director of Intelligence – European Command, "Report on von Braun", Stack area 270, RG 319, National Archives; June 25, 1947.

²⁷ "Although investigations were generally favorable and indicated that Dr. VON BRAUN was anticommunist, information was developed that he received an honorary SS Commission as a Lieutenant and had been a member of the National Socialist Party (Nazi)." Federal Bureau of Investigation, "Dr. and Mrs. Wernher von Braun, July 30, 1969," stack area 270, row 89, RG 319, National Archives.

complete picture of von Braun's past, it is not surprising that the American media came to rely on von Braun's own words as its primary source for stories about his life. What is surprising, however, is that as more information about the atrocious crimes and villainy of the Nazi Party came to light in the United States, the media seemed to grow less concerned with the German scientists already living in their midst. Books such as Shirer's *The Rise and Fall of the Third Reich*, first published in 1950, chronicled in staggering detail the day-to-day operations of Hitler's government and the power of the Nazi Party over virtually all aspects of German civilian and military life by the onset of the Second World War. From his and other histories that were available during this period, it is clear that no individual in the German military or affiliated with the military-industrial complex of Nazi German could rise to the sort of prominence enjoyed by von Braun without being a Party member, and likely an active one. Though the U.S. military took measures to suppress detailed biographical information about the scientists and engineers brought to the United States through Project *Paperclip*, voluminous other sources of information could have easily allowed any journalist to piece together, at the very least, a set of questions for von Braun and others that may have complicated what ultimately came to be seen as their "whitewashed" histories. Yet during the Cold War period, only in certain isolated incidents did such questions arise in the media.

In the late 1980's and early 90's, with the space program having fallen from its earlier prominence, and declassification revealing new details about the German scientists, the true complexity of the issue came to light in the United States and Europe. A celebration of the fiftieth anniversary of the first successful launch of the V-2 was planned in Germany in 1992, but was cancelled under pressure from British and German

protestors. A member of the British Parliament, the grandson of Winston Churchill, noted in a letter to the German Ambassador in London that "civilized nations do not celebrate weapons systems."²⁸ The controversy inspired columnist Wayne Biddle to revisit the relationship between von Braun and the V-2. "When marketing the legacy of Wernher von Braun," he wrote, "historians fall into two groups: those who applaud him as a space pioneer and those who condemn him as a Nazi. The delicate fact that he was both has not tended to knit the two groups together."²⁹

Perhaps more than any other treatment of von Braun in the media, Biddle's short column captures the central contradiction of his persona. The scholarship of authors such as Hunt, Pizskiewicz and Bower leaves little room for von Braun to evade his Nazi past, but the work of historians such as Frederick Ordway, Ernst Stuhlinger and von Braun himself make it equally difficult to condemn him outright as a war criminal. But von Braun's treatment in the media also suggests larger forces at work – forces he and others were able to use nimbly to deflect questions or suspicions regarding his responsibilities at Mittelwerk and connections with the Nazi Party.

The American military-industrial complex that emerged at the end of the Second World War couldn't have asked for a better spokesperson than Wernher von Braun. Not only did he possess phenomenal technical and engineering abilities, as well as detailed knowledge of the German rocket program, he was particularly adept at public relations, exhibiting a level of comfort with the press and a way with words that any politician would envy. His purposeful and energetic embrace of American culture was certainly no accident, and his shrewdness evident in his utilization of public enthusiasm for rockets

²⁸ Stephen Kinzer, "German Plan, Then Cancel Celebration of a Nazi Missile," *New York Times* (29 Sept 1992), p. A1.

²⁹ Wayne Biddle, "Science, Morality and the V-2," *New York Times* (2 Oct 1992), p. A31.

and space travel, military and political support for technical development, and institutional confusion about his past. His personality, family life and commitment to visions of the future made him, in spite of his German heritage, the quintessential American at a time in American history when this was of paramount importance.

Even during his early days in the United States, references to von Braun in the media rarely, if ever, identified him as being connected with the Nazi government, much less his Party membership and SS rank. As the Cold War progressed, journalists used terms like "German-born", "formerly German" and "German rocket expert" to describe von Braun, eventually preferring "top rocket expert" or simply "Director of the Marshall Space Flight Center," with no reference even to the fact of his being German. When Nazism did come up, von Braun was always *working for* Nazi Germany, rather than being identified as a *part of* Nazi Germany. With national security taking center stage, it is as though the media ceased being interested in anything beyond the wonders of his contributions to the safety, security and technical success of his adopted America.

In some ways, von Braun's story mirrors that of the physicists who developed the first atomic bomb at Los Alamos, and whose post-war research was funded by the military. In both cases, lingering questions regarding "who used whom" remain. Like some physicists who participated in the Manhattan Project and who continued doing military-sponsored work during the Cold War, von Braun claimed that he used the German Army's resources and interest in rockets to further his own desires to develop a rocket that could travel through space. The fact that the V-2 was used to bombard

London was, as he suggested, not his responsibility, just as the physicists who created the atomic bomb could not be held responsible for its use against Japan.³⁰

But more troubling than the employment of the V-2 as a weapon is von Braun's role in the atrocities at Mittelwerk. In spite of the work of Hunt, Piszkiwicz and Bower, the full extent of von Braun's knowledge and participation in the crimes committed there may never be fully known. During the 1980's, histories of the space program such as Walter McDougall's *the Heavens and the Earth* (1986) and Frederick Ordway and Michael Sharpe's *The Rocket Team* (1982) tended to downplay the potential responsibilities of scientists such as von Braun. In the case of Ordway and Sharpe, bizarre suggestions are made about how prisoners of war and other slave laborers may have seen working on V-2s as an *improvement* over their otherwise miserable circumstances.³¹ More recent histories of the space program, including Andrew Dunar and Stephen Waring's *The Power to Explore* (1999), acknowledge that questions about von Braun's past, and that of his fellow German rocket experts remain unanswered and troubling – but they go no further. In the popular press today, von Braun is treated with a much greater degree of skepticism than he ever was during his life in the United States, but even these references are few and far between. His legacy appears firmly rooted in the golden age of the American space program, and his past mysterious enough that substantial challenges to that legacy are unlikely.

³⁰ For further discussion of the role of physics and physicists in the development of military technology, and the use of military funding for physics research during the Cold War, see Paul Forman, "Behind quantum electronics: National security as basis for physical research in the United States, 1940-1960," *Historical Studies in the Physical and Biological Sciences*, **18** (1987): 149-229.

³¹ Ordway and Sharpe, *The Rocket Team*, 38-39.

That the Cold War national security apparatus, in conjunction with the media, enabled von Braun to escape the questions of his past and become the hero of the American space program was brought into rather sharp relief while doing research for this paper. As I was photocopying articles at the library, a middle-aged woman also making copies noticed the images in some of my articles, and asked if I was writing a paper about satellites. When I explained that I was writing about Wernher von Braun, the Nazi inventor of the V-2 missile who was brought to the United States after the war and put in charge the American space program, her response, without any irony, was "Wow - isn't it great all the things we got out of World War II?"