WERNHER VON BRAUN: THE FATHER OF MODERN SPACE FLIGHT—A CHRISTIAN AND A CREATIONIST

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Abstract

The life and work of Wernher von Braun, the father of modern space flight, is reviewed, focusing on his achievements and his creationist world view. A staunch supporter of creationism, he openly made his views known about his conclusion that the universe is clearly designed by an all-powerful God and that the creationist world view should be taught in the schools alongside the evolutionary world view. His life shows evolutionists that creationism is an entirely inadequate explanation for the reality around us, and that a theistic world view, where God is not only the Creator but also Sustainer, is a defensible position.

Introduction

In 1934 a twenty-two-year-old who was to change the world of science forever received his Ph.D. in physics from the University of Berlin. For security reasons, his dissertation bore the nondescript title "About Combustion Tests." This important theoretical discussion and experimental investigation of the injection, combustion, equilibrium and expansion phenomenon involved in liquid fuel rocket engines was even then recognized as critical for the future. Called the father of modern space flight, von Braun's work probably more than that of any other single scientist brought about the space age (Bergaust 1976).

An account of von Braun's career is a history of the American space program (von Braun 1971). His accomplishments are legendary. The recipient of the Certificate of Merit, National Health Agency; the State of Alabama Academy of Honor; the Order for the Merit of Research and Inventions of Paris, France; American Society of Mechanical Engineers' Man of the Year Award; Associated Press Man of the Year in Science Award; Smithsonian Institution Langley Medal; and the Federal Cross of Merit medal from the Republic of West Germany, 1972, are only a few of his prestigious honors. His scores of honorary academic degrees include Doctorates from Notre Dame University, Emory University in Atlanta, and the University of Pittsburgh.

His Science Work

One of the first persons to describe in detail the principle of a two-stage liquid fueled rocket was German physicist Hermann Oberth. In 1930 Oberth tested a small liquid filled rocket engine—and one of his assistants was eighteen-year-old engineering student Wernher von Braun. The son of a baron, von Braun was educated in Zurich, Switzerland and Berlin, Germany (Green 1966). As an adolescent, von Braun had become interested in rocketry and in 1930, at age 17, joined a group of Germans involved in a rocket club. Included in this club was Willy Ley and other prominent rocket scientists (Asimov 1972, p. 736)

His success became widely known, and in 1932 the German Army began openly supporting the team. When Hitler came to power in 1933, the success of their rocket work was widely recognized, and by 1938 a rocket with an eleven-mile range had been developed (Asimov 1972, p. 736). Von Braun soon had 80 scientists and technicians working for him at Peenemünde, in northwest Germany (Lamont, 1994). Under his leadership, the first true rocket—a missile which carries both its own fuel and oxidant—was successfully launched in 1942. This rocket is now known as the V-2, meaning the second model of the *vergeltung* (German for vengeance). The V-2 was the world's first operational guided ballistic missile, a technical coup achieved under von Braun's able direction. To achieve this, his team had to make significant progress in understanding aerodynamics, rocket propulsion and guidance systems.

Although von Braun at first supported the German war effort, he soon became disenchanted with Hitler's policies and war aims. As a Christian and a creationist, he believed that all men and women were brothers and sisters who descended from Adam and Eve. Thus, he could not accept Hitler's racial theories and soon began to voice opposition against his policies, especially the war. Even before this, Hitler's suspicions of him and the German government's interference with his programs delayed the development of the V-2. Eventually Heinrich Himmler tried to take over the program, widening the gap between von Braun and his government even further. When, beginning in September of 1944, thousands of V-2 rockets attacked the civilian populations of London, Paris and elsewhere, von Braun objected. As a result he and his top aides were jailed near the war's end. Before the war ended, he was released because Hitler realized that without him, the program could not progress. He soon fled Peenemünde with his entire team and their families—some 5,000 people—and surrendered to the Americans in the spring of 1945. He was one of the 118 "paper clip scientists" and the over 4,500 German army technicians who were brought to the United States in about 1945-1946. About 90 men, ". . . about the entire German staff at the rocket-weapon base. . ." were transferred in September of 1945 alone *(New York Times,* Nov. 18, 1945). The story of his escape to America is well known:

> In the spring of 1945, in the closing days of the war in Europe, a young German walked up to an American soldier in Bavaria and announced: "We are a group of rocket specialists. . . . We want to see your commander and surrender to the Americans." The soldier was startled, but brought the man to see his commander. By September, the German scientists were on their way to the United

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> States. Among them was an imaginative young visionary who wanted to fly to the moon—Werner von Braun. He had been largely responsible for the development of the world's most successful rocket up to that time—the German V-2 (Gourlay, 1962, p. 48).

The American space program was thus largely a transplant of the German program. When von Braun arrived in America in 1945, he and his German associates continued their research on captured German V-2 rockets, first at Fort Bliss, Texas, and then at White Sands, New Mexico. Once in the United States, he gained the trust and respect of his fellow scientists and his new boss, the American government, winning numerous loyalty and patriotic awards for his service to his new country (Holmes 1962).

He soon became the leader of the Huntsville, Alabama scientists that placed America's first satellite—Explorer I—into orbit on January 31, 1958 (Greene 1966). Asimov states that von Braun ". . . might have preceded Sputnik if he had been given the go-ahead, but he was as hindered by the American policy under Eisenhower as he had been hampered by German policy under Hitler" (1972, p. 736). In fairness, it should be stressed that his problems in the United States were for different reasons than in Germany, and include lack of support for his space program. The Soviets' coup in achieving the first successful satellite was an enormous embarrassment to the Americans, and did much to encourage the development of von Braun's goals for the American space science program. After this, von Braun's success was phenomenal.

Also critical to von Braun's success was his enormous dedication. Holmes (1962, p. 107) concluded that von Braun ". . . must certainly rank among the most single-minded men in recorded history." With great devotion, he pursued for 35 years the idea of building rockets for space travel. Although he was forced in his early career to build weapons rockets, he realized that this was the only way that he was able to obtain the needed support to develop the technology and hardware for his dream, a space program (Gourlay, 1962). It was only in America that he was able to fulfill his dream to use rockets for the good of humanity in space exploration and by putting up satellites. The incredible importance of satellites for our way of life includes communications, weather information, scientific research, as well as military purposes. One of the major reasons for the success of the Gulf war was because of the use of space satellites.

Between 1950 and 1955, von Braun directed the development of the Redstone, the first American operational ballistic missile. A modified Redstone served as the first stage of the rocket that launched America's first artificial satellite, Explorer I, into space. In 1959, von Braun and his team also placed Pioneer IV, the USA's first interplanetary probe, which traveled around the Sun, in space. In 1960 he supervised the development of the Saturn liquid fuel rocket which eventually provided the basis for manned space flight—taking Neil Armstrong and his crew to the moon. Project Apollo was probably the peak of the American space program—and Wernher von Braun was at the center of it all.

The Scientist as Creationist

Dr. von Braun was also an active creationist, a Lutheran who over the years wrote "a good deal about his Christian faith," and gave "a number of speeches on the subject" (Bergaust 1976, p. 109). An open supporter of creationism, he concluded that it is "a viable scientific theory for the origin of the universe, life and man" (quoted in Segraves, 1973, p. 7). In a letter he wrote in support of the two-model approach, which was read to the California State Board of Education by Dr. John Ford on September 14, 1972, Dr. von Braun stated:

> For me, the idea of a creation is not conceivable without invoking the necessity of design. One cannot be exposed to the law and order of the universe without concluding that there must be design and purpose behind it all. In the world around us, we can behold the obvious manifestations of an ordered, structured plan or design. We can see the will of the species to live and propagate. And we are humbled by the powerful forces at work on a galactic scale, and the purposeful orderliness of nature that endows a tiny and ungainly seed with the ability to develop into a beautiful flower. The better we understand the intricacies of the universe and all it harbors, the more reason we have found to marvel at the inherent design upon which it is based.
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> While the admission of a design for the universe ultimately raises the question of a Designer (a subject outside of science), the scientific method does not allow us to exclude data which lead to the conclusion that the universe, life and man are based on design. To be forced to believe only one conclusion—that everything in the universe happened by chance—would violate the very objectivity of science itself. Certainly there are those who argue that the universe evolved out of a random process, but what random process could produce the brain of a man or the system of the human eye? (Segraves 1973, pp. 7-8)

He adds that those who argue that science has been unable to prove the existence of a designer

> . . . admit that many of the miracles in the world around us are hard to understand, and they do not deny that the universe, as modern science sees it, is indeed a far more wondrous thing than the creation medieval man could perceive. But they still maintain that since science has provided us with so many answers, the day will soon arrive when we will be able to understand even the creation of the fundamental laws of nature with a Divine Intent. They challenge science to prove the existence of God. But, must we really light a candle to see the Sun? (Segraves 1973, pp. 7-8)

His beliefs regarding the importance of studying God's creation—to learn more about God the Creator—are vividly expressed in the following words:

> The more we learn about God's creation, the more I am impressed with the orderliness and unerring perfection of the natural laws that govern it. In this perfection, man—the scientist—catches a glimpse of the Creator and his design for nature.

> The man-to-God relationship is deepened in the devout scientist as his knowledge of the natural laws grows. (Bergaust 1976, p. 113)

When asked if he felt our new scientific "enlightenment" and traditional Christian beliefs are incompatible, von Braun confidently answered,

> I consider it one of the greatest tragedies of our times that this dangerous error is so widely believed. . . . By not telling the children about nature's mysteries, its infinite number of unexplained and unexplainable miracles, we deny them the most important dowry for their future life. . . . By adoring our own scientific achievements we kill humility, the mother of any true scientific progress. . . . (Bergaust 1976, p. 111)

Relative to the modern church-state conflict in America, von Braun openly stated,

> There is no reason why God cannot retain the same position in our modern world that He held before the natural sciences began to pierce through the wall of dogma erected by the Church. (Bergaust 1976, p. 112)

He was especially impressed by Paley's watch hypothesis, an von Braun's own words vividly reveal how important the design argument was to him.

> I have discussed the aspect of a Designer at some length because it might be that the primary resistance to acknowledging the "Case for Design" as a viable scientific alternative to the current "Case for Chance" lies in the inconceivability, in some scientists' minds, of a Designer. The inconceivability of some ultimate issue (which will always lie outside scientific resolution) should not be allowed to rule out any theory that explains the interrelationship of observed data and is useful for prediction.
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> Many men who are intelligent and of good faith say they cannot visualize a Designer. Well, can a physicist visualize an electron? The electron is materially inconceivable and yet, it is so perfectly known through its effects that we use it to illuminate our cities, guide our airliners . . . and take the most accurate measurements. What strange rationale makes some physicists accept the inconceivable electron as real while refusing to accept the reality of a Designer on the ground that they cannot conceive Him? I am afraid that, although they really do not understand the electron either, they are ready to accept it because they managed to produce a rather clumsy mechanical model of it borrowed from rather limited experience in other fields. . . . (Segraves 1973, p. 8-9)

And von Braun also stressed that relative to the above views he hoped that

> More scientists will get off their ivory towers and publicly say what I am saying here . . . with all the modern means at our disposal, with schools, churches, educational institutions, press, radio, and television, they should tell the world that religion and science are not incompatible; that, to the contrary, they belong together. (Bergaust 1976, p. 112)

He believed that the two-model approach should be presented in the schools, and his own words vividly reveal the depth of his conviction (Segraves 1973, pp. 9-10). He also stated that

> We in NASA are often asked what the real reason was for the amazing string of successes we had with our Apollo flights to the Moon. I think the only honest answer we could give was that we tried to never overlook anything. It is in that same sense of scientific honesty that I endorse the presentation of alternative theories for the origin of the universe, life and man in the science classroom. It would be an error to overlook the possibility that the universe was planned rather than happening by chance. (Segraves 1973, pp. 8-9)

And von Braun added that the two major realities of human existence are

> . . . the laws of creation and the divine intentions underlying the creation. Through science man attempts to understand the laws of creation; through religious activities he attempts to understand the intentions of the Creator. Each approach is a search for ultimate truth. (Bergaust 1976, p. 112)

He did not argue, as many do today, that science and religion should be separate and not mixed, but on the contrary, he concluded that,

> Science in its drive to understand the creation, and religion in its drive to understand the Creator, have many common objectives. Nevertheless, there have been conflicts in the relationship between science and religion. . . . Personally, I find this state of affairs unsatisfactory, for I wish to regard the Creator and His creation as an entity. . . . [To von Braun] science and religion are like two windows in a house through which we look at the reality of the Creator and the laws manifested in His creation. As long as we see two different images through these two windows and cannot reconcile them, we must keep trying to obtain a more complete and better integrated total picture of the ultimate reality by properly tying together our scientific and religious concepts. (Bergaust 1976, p. 114)

His Religious Views

In the authoritative and definitive biography of von Braun, Bergaust recorded a conversation he had with von Braun in which the rocket scientist openly stated,

> We cannot live without ethical laws and some belief [that they are from God]. . . . More than ever, our survival depends upon adherence to some basic ethical principles. . . . It seems to me that two stimuli are necessary to make man endeavor to conform to the accepted ethical standards. One is the belief in a last judgment, where every one of us has to account for what we did with God's precious gift of life on Earth. The other is the belief [that we] . . . can cherish the reward or suffer the penalty decreed in the Last Judgment. (Bergaust 1976, p. 110)

When Bergaust asked him about religion and science, specifically if "technological methods and religious beliefs are really compatible?" von Braun answered,

> While technology controls the forces of nature around us, ethics try to control the forces of nature within us. . . . I think it is a fair assumption that the Ten Commandments are entirely adequate—without amendments—to cope with all the problems the technological revolution not only has brought up, but will bring up in the future. The real problem is not a lack of ethical legislation, but a lack in day-to-day guidance and control. . . . When science freed itself from the bonds of religious dogma, thus opening the way for the technological revolution, the Church also lost much of its influence on the ethical conduct of man (Bergaust 1976, p. 111).

And, what did the Father of the American Space Program feel regarding the Bible? In his own words, he stated that the Bible was established as, "The most effective bulwark ever built against the erosive effects of time. . . . The Bible is . . . the revelation of God's nature and love . . ." (Bergaust 1976, pp. 115-116). Prayer too was critically important to von Braun. When asked when his need to pray was particularly strong, he stated,

> I certainly prayed a lot before and during the crucial Apollo flights, and I also prayed during the last days in Germany—when things collapsed all around me. Indeed, during those hours of decision, when we decided to surrender to the Americans, my anxiety was at the bursting point. I prayed then that our surrender would be accepted in good faith (Bergaust 1976, p. 117).

In summary, as Morris notes, von Braun believed that:

> Manned space flight is an amazing achievement, but it has opened for mankind thus far only a tiny door for viewing the awesome reaches of space. An outlook through this peephole at the vast mysteries of the universe should only confirm our belief in the certainty of its Creator. I find it as difficult to understand a scientist who does not acknowledge the presence of a superior rationality behind the existence of the universe as it is to comprehend a theologian who would deny the advances of science (Morris 1982, p. 110).

Von Braun died in Alexandria, Virginia on June 16, 1977, leaving the world a radically different place than existed when he was born on March 23, 1912 in Wirsitz, Germany.

Conclusion

A study of the history of western science has revealed that religion was the major motivation for many of the greatest scientists. A few examples are Newton, Copernicus, Galileo, Kepler and George Washington Carver. They realized that God reveals Himself both in the Scriptures and in His creation, and to get closer to God, it is incumbent upon the believer to study His creation. This is clear from the writings of the aforementioned and many other scientists. That this motivation is also important today for some scientists is best illustrated in the case of Wernher von Braun. Although he is by no means the only example, he was more open about his religious beliefs than many eminent religious scientists. Dr. von Braun knew the consequences of speaking out publicly for what he believed—and was willing to pay the price, both in Nazi Germany and in America as well. He was thus a good example of the wisdom of the Bible's words that we must obey God rather than man (Acts 4:29). Though this commandment may be difficult to keep in the short run, the life of Wernher von Braun proves its wisdom.

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LETTERS TO THE EDITOR

The Kouznetsov Controversy*

Questions have been raised about the writings of Soviet creation scientist Dmitrij A. Kouznetsov. The validity of his data and references have been challenged by critics (Larhammar, 1994, 1995). One article by Kouznetsov appeared in the March 1991 *CRSQ* and another in the June 1991 issue. Whether or not these articles have deficiencies remains uncertain. Be assured that all *CRSQ* material will continue to be evaluated and peer reviewed to the best of our ability.

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Past Editor and current
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*Editorial Comment: Dr. Kouznetsov was sent a letter offering an opportunity to reply. We have not received a reply and do not know whether Dr. Kouznetsov received our letter.